

ST. PAUL &

PRIBILOF ISLANDS

ALASKA CENTRAL REGION LOCATION MAP

CENTRAL

BRISTOL BAY

SOUTHCOAST **REGION**

REGION

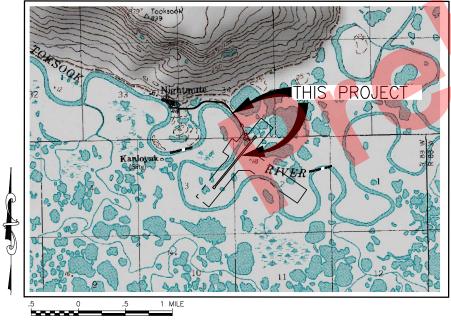
McGRATH

TALKEETNA SHEEP MOUNTAIN

LANCHORAGE

OF ALASKA

NOT TO SCALE



VICINITY MAP

T 4 N, R 89 W, SEC. 2 & 3 SEWARD MERIDIAN U.S.G.S. BAIRD INLET (B-7, B-8, C-7, C-8) ALASKA

CONSTRUCTION PLANS NIGHTMUTE AIRPORT

NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIRPORT IMPROVEMENT PROGRAM No. 3-02-0195-002-202X

> PRE PS&E **JANUARY 2024**

CONCUR DATE JOEL G. ST. AUBIN, P.E. REGIONAL CONSTRUCTION ENGINEER **APPROVED** DATE ONAL PRECONSTRUCTION ENGINEE **APPROVED** DATE **APPROVED** DATE PHILIP CHEASEBRO, P.E. PROJECT MANAGER

DEPARTME			
AND			
AND			
4111 AVIATION			
TITI AVIATION	REVISION	DATE	K

STATE OF ALASKA ENT OF TRANSPORTATION PUBLIC FACILITIES

CENTRAL REGION ON AVE., ANCHORAGE ALASKA 99502 PHONE (907) 269-0590

NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA PROJECT No. CFAPT00572

AIP No. 3-02-0195-002-202X COVER

01/29/2024

1 or 36

(INDEX		APPENDIX D	RAWINGS	ABBREV	TATIONS
	SHEET TITLE	SHEET No.	SHEET TITLE	SHEET No.		
	COVER	1	APPENDIX A		ADG AIRPLANE DESIGN GROUP AWG AMERICAN WIRE GAUGE	MIN MINIMUM MIRL MEDIUM INTENSITY RUNWAY LIGHTING
XXX RJB	INDEX	2	SURVEY CONTROL	NOT INCLUDED THIS REVIEW	AWOS AUTOMATED WEATHER OBSERVING SYSTEM BOP BEGINNING OF PROJECT	MITL MEDIUM INTENSITY TAXIWAY LIGHTING N NORTHING
hed By: By: ed By:	LEGEND	3	APPENDIX C		BRL BUILDING RESTRICTION LINE	NIC NOT IN CONTRACT
Designe Drawn Checked	ESTIMATED QUANTITIES	4	CONSTRUCTION SAFETY AND PHASING PLAN	AC1-AC23	BVCE BEGIN VERTICAL CURVE ELEVATION BVCS BEGIN VERTICAL CURVE STATION	NTS NOT TO SCALE OCOM COMMUNICATIONS LINE (OVERHEAD)
	PROJECT LAYOUT PLAN	5			CASC CRUSHED AGGREGATE SURFACE COURSE © CENTERLINE	OFA OBJECT FREE AREA OFZ OBJECT FREE ZONE
	DEMOLITION PLAN	6 - 7			CS CONTINGENT SUM	OG ORIGINAL GROUND
	SREB SITE PLAN	8			CY CUBIC YARD DIA DIAMETER	OHE ELECTRICAL LINE (OVERHEAD) OHW ORDINARY HIGH WATER
	ACCESS ROAD TYPICALS	9			DOT DEPARTMENT OF TRANSPORTATION E EASTING	PAPI PRECISION APPROACH PATH INDICATOR PC POINT OF CURVE
	APRON & TAXIWAY TYPICALS	10			EA EACH EEB ELECTRICAL EQUIPMENT BUILDING	PI POINT OF INTERSECTION
	RUNWAY TYPICALS	11 - 13			ELEV ELEVATION	PT POINT OF TANGENT PVI POINT OF VERTICAL INTERSECTION
	WIND CONE, SUPPLEMENTAL WIND CONE, & PAD TYPICALS	14	STANDARD	DI ANS	EOP END OF PROJECT ESCP EROSION AND SEDIMENT CONTROL PLAN	R RADIUS RD ROAD
	BARGE LANDING TYPICALS	15 – 16			ESMT EASEMENT EVCE END VERTICAL CURVE ELEVATION	REIL RUNWAY END IDENTIFIER LIGHTS REQ'D REQUIRED
	RIPRAP REVETMENT TYPICALS	17	SHEET TITLE	SHEET No.	EVCS END VERTICAL CURVE STATION	ROFA RUNWAY OBJECT FREE AREA
	SUPERELEVATION TRANSITION	18	CULVERT PIPE AND ARCH INSTALLATION DETAILS	D-01.02	FAA FEDERAL AVIATION ADMINISTRATION FF FINISHED FLOOR	ROW RIGHT OF WAY RPZ RUNWAY PROTECTION ZONE
	ACCESS ROAD PLAN & PROFILE	19 – 22	PIPE AND ARCH TABLES	D-04.22	FG FINISHED GRADE GB GRADE BREAK	RSA RUNWAY SAFETY AREA RT RIGHT
	RUNWAY PLAN & PROFILE	23 – 25	HEADWALLS CAST-IN-PLACE TYPE I	D-30.11	HDG HOT DIPPED GALVANIZED HMA HOT MIX ASPHALT	RW RUNWAY
	TAXIWAY & SEGMENTED CIRCLE PLAN & PROFILE	26	HEADWALLS PRECAST TYPE I	D-31.01	HP HORSEPOWER	SF SQUARE FEET SREB SNOW REMOVAL EQUIPMENT BUILDING
	PAD & WIND CONE PLAN & PROFILE	27	SIGN FRAMING AND POST SPACING	S-00.12	KV KILOVOLT LB POUND	STA STATION SY SQUARE YARD
	BARGE LANDING PLAN & PROFILE	28	BRACING FOR SIGNS MOUNTED ON SINGLE POST	S-01.02	LF LINEAR FOOT LS LUMP SUM	TN TON TSA TAXIWAY SAFETY AREA
	DRIVEWAY GRADING	29	POST MOUNTED SIGN OFFSET AND HEIGHT	S-05.02	LT LEFT MAINT MAINTENANCE	TW TAXIWAY
gwb.s	TAXIWAY AND RUNWAY INTERSECTION GRADING PLAN	30	LIGHT SIGN POST EMBEDMENT	S-30.05	MGAL THOUSAND GALLONS	TYP TYPICAL UGE ELECTRICAL LINE (UNDERGROUND)
Quantities	APRON AND SREB SITING AND GRADING PLAN	31	SIGN POST BASE AND FOUNDATION	S-31.02		
ex-Est (CULVERT PROFILE AND DETAIL	32			REFERENCE	DRAWINGS
over-Ind	APRON SITING DETAILS	33			SHEET TITLE	SHEET No.
00572-C	SREB GRADING DETAILS	34			SHELLIFIEL	SHEET NO.
Planset/(SIGN PLAN	35			51809 AS-BUILT SREB PLANS	S1 - S5
\civ3D\	SIGN DETAIL	36				
p 00572	ELECTRICAL PLANS AND DETAILS	E1 - E14				
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3/2024, x Projects						
1/29 Index						
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					STATE OF ALASKA DEPARTMENT OF TRANSPORTATION	NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA DATE: 01/29/2024
					AND PUBLIC FACILITIES	AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 SHFFT:
(BY D	TE REVISION	CENTRAL REGION 4111 AVIATION AVE., ANCHORAGE ALASKA 99502 PHONE (907) 269-0590	AIP No. 3-02-0195-002-202X INDEX 2 OF 36

LEGEND

DESCRIPTION	EXISTING	PROPOSED
AIRPORT PROPERTY BOUNDARY		
BOLLARD	0	•
BUILDING		
BUILDING RESTRICTION LINE	——— BRL ———	BRL
CENTERLINE (RUNWAY/TAXIWAY)		
COMMUNICATION LINE (OVERHEAD)	ОСОМ	—— осом ——
CONTOURS		100-
DETAIL CALLOUT		(1)
DITCH/SWALE	···	
ELECTRICAL LINE (OVERHEAD)	OHE	——— ОНЕ———
ELECTRICAL LINE (UNDERGROUND)	———— UGE ————	UGE
GEOTEXTILE, SEPARATION		~~~~~
GRADE BREAK	————· GB·———	————- GB ———
GRAVEL EDGE		
HAUL ROUTE (TWO WAY)		→
IDENTIFICATION BUBBLE		(ID)
LIGHT (RUNWAY)	(D)	0
OFA LINE (RUNWAY)		
OFZ LINE	——— OFZ ———	——— OFZ ———
ORDINARY HIGH WATER		
POINTS		101
RIP RAP		
ROADWAYS (EDGE, GRAVEL)		
ROTATING BEACON	======	─
RUNWAY PROTECTION ZONE	——— RPZ ———	RPZ
RUNWAY SAFETY AREA		RSA -
SEGMENTED CIRCLE		NOA
SIGN POST/MARKER		
SLOPE WITH GRADE		-2.0%
TAXIWAY SAFETY AREA	TCA	TCA
	——— TSA ———	—— TSA ———
THRESHOLD MARKERS/LIGHTS	ecco ecco	0000 0000
TIE-DOWN		
TOE OF SLOPE		
CUT		
FILL	_	• • • • • • • • • • • • • • • • • • • •
UTILITY POLE	-	-
WATER (SHORELINE, RIVER)		
WIND CONE	Ρ.	1



BY DATE REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION

4111 AVIATION AVE., ANCHORAGE ALASKA 99502

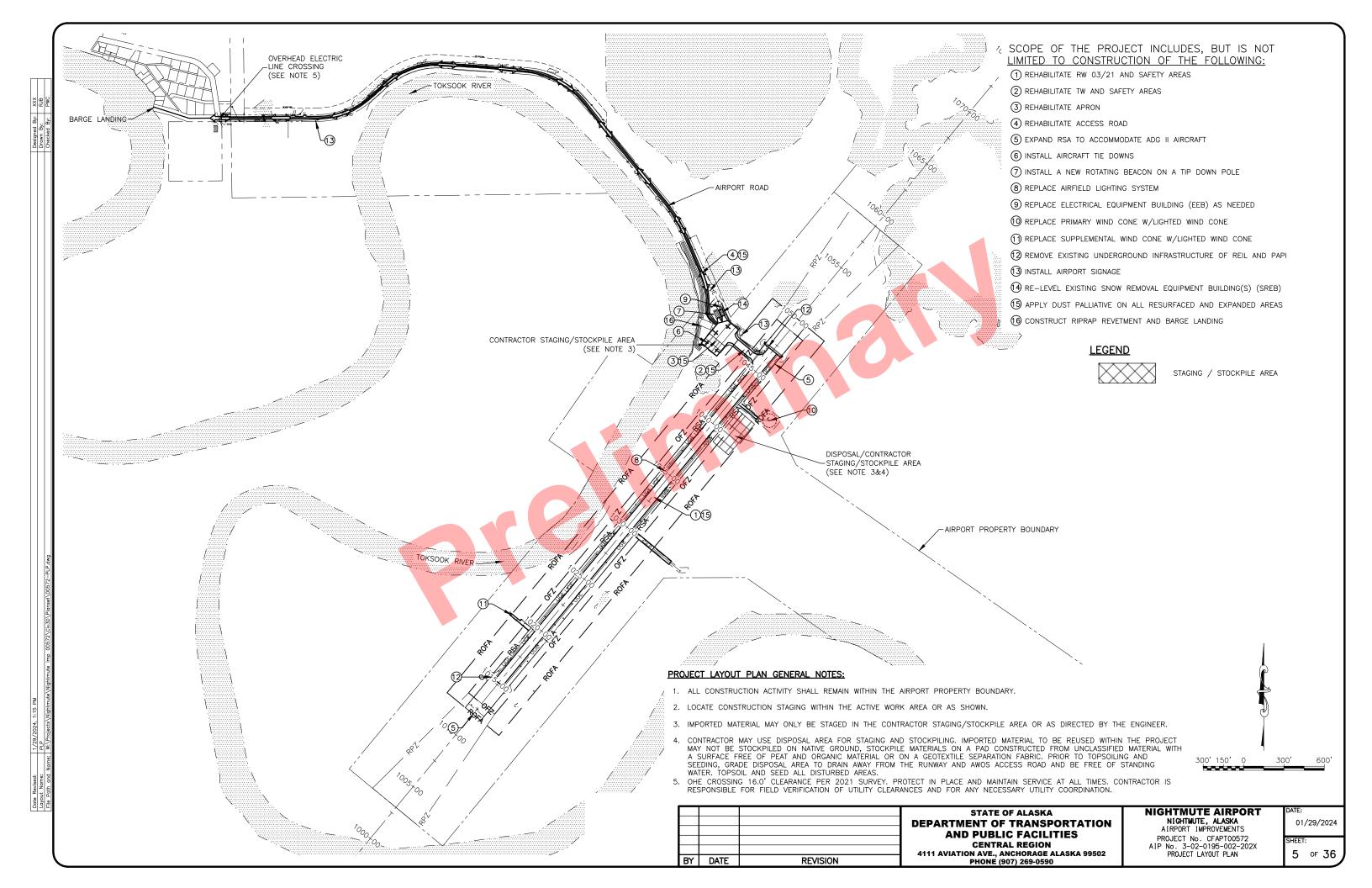
PHONE (907) 269-0590

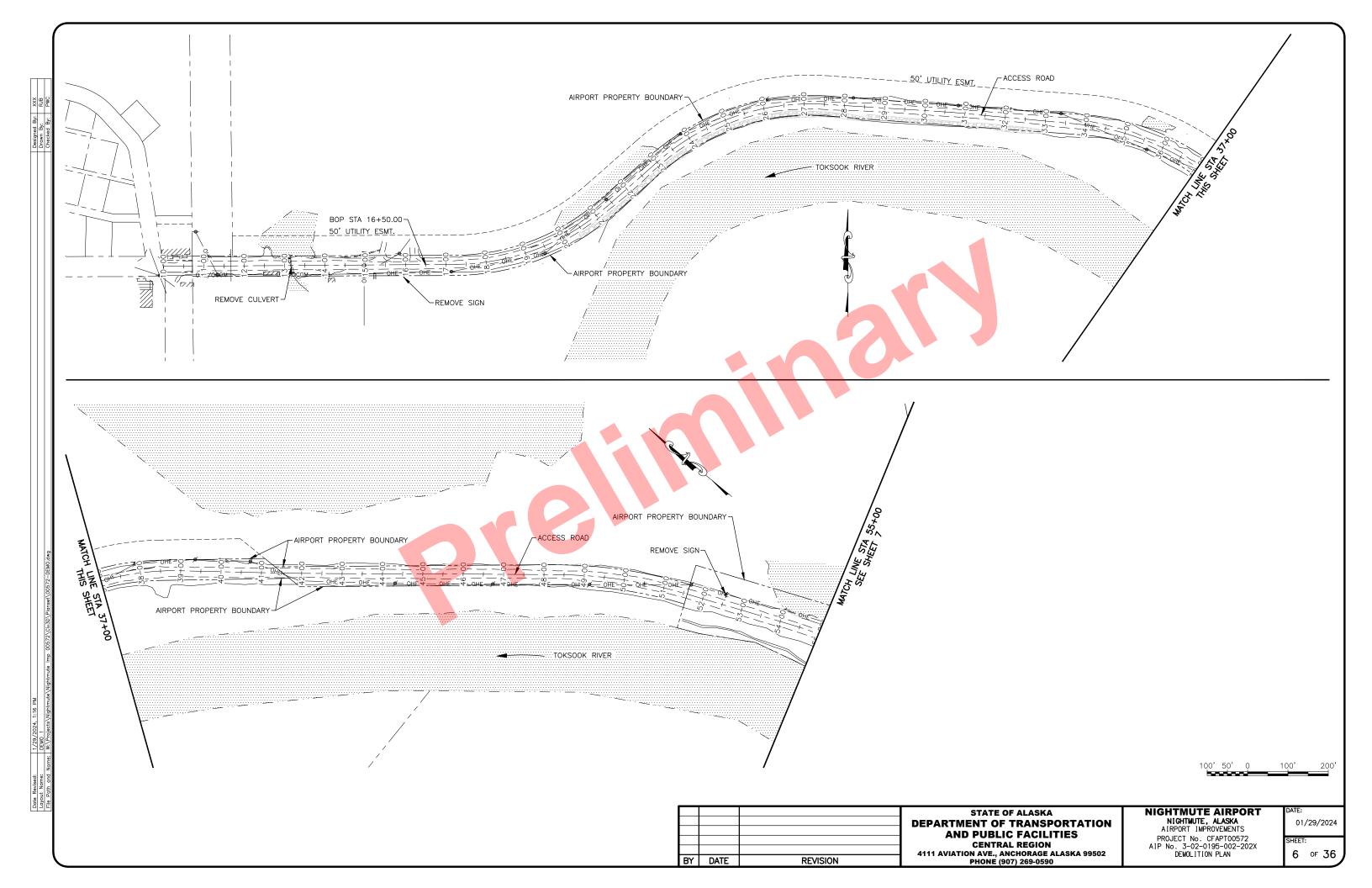
NIGHTMUTE, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. CFAPT00572
AIP No. 3-02-0195-002-202X
LEGEND

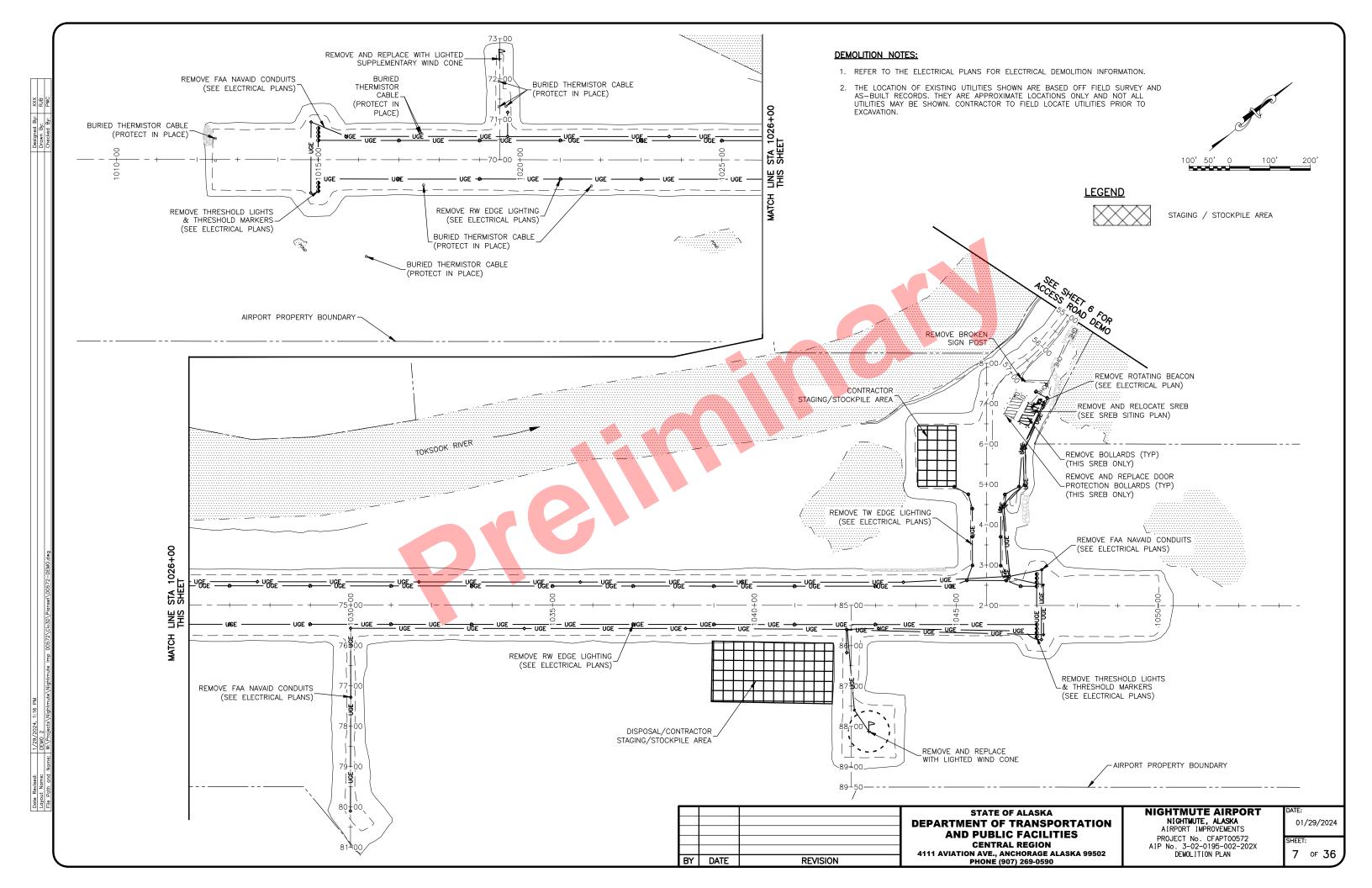
NIGHTMUTE AIRPORT

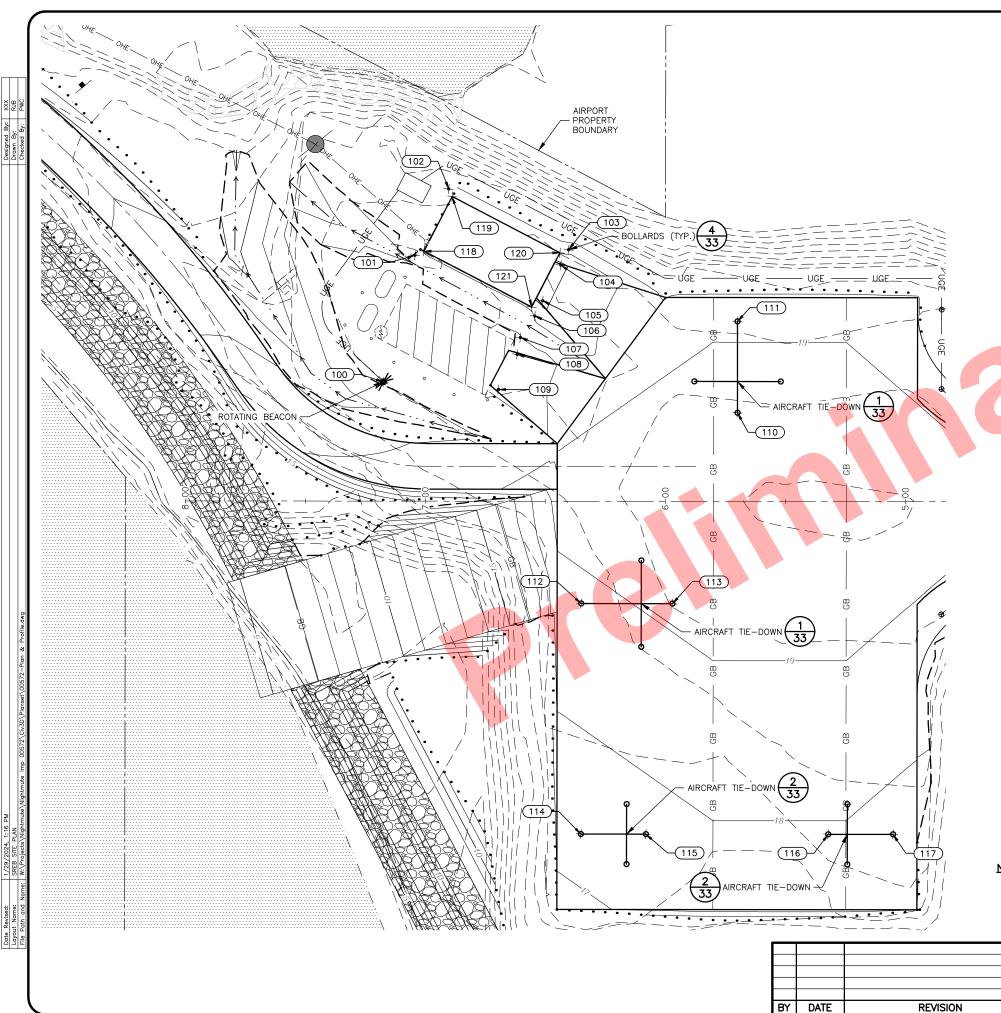
01/29/2024

	ESTIMATED QUANTITIES											
	No.	ITEM	UNIT Q	UANTITY	No.	ITEM	UNIT	QUANTITY	No.	ITEM	UNIT	QUANTITY
×mU	D701.040.0060*	CAA PIPE, 60-INCH, 12 GAUGE	LF	30	L125.020.0000	REGULATOR, L-828	EA	1	P650.010.0000	AIRCRAFT TIE-DOWN	EA	16
By: PW	D752.060.3020*	CONCRETE HEADWALL, TYPE II	EA	2	L125.030.0000	MEDIUM INTENSITY RUNWAY EDGE AND THRESHOLD LIGHT, L -861 AND L -861 SE	EA	43	P660.030.0000	REFLECTIVE MARKER, TYPE II	EA	85
Designed Drawn By Checked	F170.010.0000	STEEL BOLLARD	EA	9	L125.040.0000	TAXIWAY EDGE LIGHT, L-861T	EA	19	P660.070.0000	CONE, 18-INCH	EA	68
	G100.010.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	L125.050.0000	WINDCONE HANDHOLE, L-867	EA	3	P661.010.0000	STANDARD SIGN	SF	31
	G105.010.0000*	POST AWARD CONFERENCE	LS	ALL REQ'D	L125.070.0000	REMOVE RUNWAY AND TAXIWAY LIGHT	EA	59	P670.010.0000	HAZARD MARKER BARRIER, PLASTIC	EA	22
	G115.010.0000	WORKER MEALS AND LODGING, OR PER DIEM	LS	ALL REQ'D	L125.170.0000	SPARE PARTS	CS	ALL REQ'D	P671.010.0000	RUNWAY CLOSURE MARKER, VINYL MESH	EA	7
	G130.010.0000	FIELD OFFICE	LS	ALL REQ'D	L125.180.0000	TEMPORAY RUNWAY LIGHTING SYSTEM	LS	ALL REQ'D	P681.040.0000	GEOTEXTILE, REINFORCEMENT - TYPE 2	SY	122,000
	G130.020.0000	FIELD LABORATORY	LS	ALL REQ'D	L161.010.0000	ELECTRICAL METER CENTERS	LS	ALL REQ'D	P682.020.0000*	GEOTEXTILE, EROSION CONTROL	SY	22
	G130.040.0000	MEAL	EA	4,500	P151.030.0000	CLEARING & GRUBBING	ACRE	4	T901.020.0000	SEEDING	LB	299
	G130.050.0000	LODGING	EA	1,500	P152.010.0000	UNCLASSIFIED EXCAVATION	CY	61,000	T901.020.0000*	SEEDING	LB	4
	G130.060.0000	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EA	1	P152.010.0000*	UNCLASSIFIED EXCAVATION	CY	121	T901.030.0000	WATER FOR MAINTENANCE	MGAL	670
	G130.090.0000	ENGINEERING COMMUNICATIONS	CS	ALL REQ'D	P152.200.0000	BORROW	TN	3,650	T905.010.0020	TOPSOILING, CLASS B	SY	16,700
	G131.010.0000	ENGINEERING TRANSPORTATION (TRUCK)	EA	2	P152.440.0000	AREA GRADING	SY	28,300	T905.010.0020*	TOPSOILING, CLASS B	SY	206
	G131.025.0000	ENGINEERING TRANSPORTATION (UTV)	EA	2	P154.020.0000	SUBBASE COURSE	TON	29,900				
	G135.010.0000	CONSTRUCTION SURVEYING BY THE CONTRACTOR	LS	ALL REQ'D	P165.060.0000	RELOCATION AND REMOVAL OF STRUCTURES	LS	ALL REQ'D				
	G135.020.0000	EXTRA THREE PERSON SURVEY PARTY	HOUR	100	P167.020.0000	DUST PALLIATIVE	LS	ALL REQ'D				
	G135.050.0000	CONTRACTOR FURNISHED ENGINEERING TOOLS	CS	ALL REQ'D	P167.020.0000*	DUST PALLIATIVE	LS	ALL REQ'D				
s.dwq	G135.060.0000	CONTRACTOR FURNISHED COMPUTATIONS	LS	ALL REQ'D	P180.020.0000	RIPRAP, CLASS I	TON	710		ESTIMATIN	G FACTOR	S
Quantitie	G150.010.0075	EQUIPMENT RENTAL, DOZER 75-HP MINIMUM	HOUR	50	P180.040.0000	RIPRAP, CLASS II	TON	3,350	No.	ITEM		FACTOR
-Index-Es	G300.010.0000	CPM SCHEDULING	LS	ALL REQ'D	P299.020.0000	CRUSHED AGGREGATE SURFACE COURSE	TON	19,100	P154.XXX.0000	RECYCLED SUBBASE		2.0 TON/CY
2-Cover-	G700.010.0000	AIRPORT FLAGGER	CS	ALL REQ'D	P29 <mark>9.070.</mark> 0000*	CRUSHED AGGREGATE SURFACE COURSE STOCKPILE	TON	200	P180.020.0000	RIPRAP. CLASS I		1.46 TON/CY
nset\0057	G705.010.0000	WATERING FOR DUST CONTROL	MGAL	1,800	P299.020.0000	CRUSHED AGGREGATE SURFACE COURSE, RECYCLED	TON	14,400	P180.040.0000	RIPRAP, CLASS II		1.46 TON/CY
Civ3D\Pla	L101.020.0000	ROTATING BEACON, MEDIUM INTENSITY, L-801A	EA	1	P299.020.0000*	CRUSHED AGGREGATE SURFACE COURSE, RECYCLED	TON	470	P299.020.0000	CRUSHED AGGREGATE SURFACE COURS	-	2.0 TON/CY
00572	L103.010.0030	30-FEET HINGED BEACON TOWER	EA	1	P620.070.0000	TEMPORARY RUNWAY & TAXIWAY PAINTING	LS	ALL REQ'D	P299.070.0000	CRUSHED AGGREGATE SURFACE COURS		2.0 TON/CY
tmute Im	L107.010.0008	8-FEET LIGHTED WIND CONE, IN PLACE	EA	1	P641.010.0000	EROSION, SEDIMENT, AND POLLUTION CONTROL ADMINISTRATION	LS	ALL REQ'D	P299.XXX.0000	CRUSHED AGGREGATE SURFACE COURS		2.0 TON/CY
PM nute\Nigh	L107.011.0008	8-FEET LIGHTED WIND CONE, SUPPLEMENTAL, IN PLACE	EA	1	P641.050.0000	TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL BY DIRECTIVE	CS	ALL REQ'D	T901.020.0000	SEEDING	-,	2LB/1000SF
24, 1:15 tities	L108.010.2008	UNDERGROUND CABLE #8 AWG, COPPER, 5KV FAA TYPE C, L-824	LF	9,500	P641.060.0000	WITHOLDING	CS	ALL REQ'D	1901.020.0000	SELDING		2LD/ 10003F
1/29/20 Est Quan W:\Projec	L108.030.0006	#6 BARE COPPER GROUND CONDUCTOR	LF	9,500	P641.070.0000	SWPPP MANAGER	LS	ALL REQ'D				
Name:	L108.070.0000	GROUND ROD	EA	12	P641.110.0000	SWPPPTRACK	CS	ALL REQ'D				
out Name	L109.050.0000	INSTALLATION OF ELECTRICAL EQUIPMENT IN NEW OR EXISTING STRUCTURE	LS	ALL REQ'D								
Lay File	L110.030.1002	RIGID STEEL CONDUIT, 2-INCH	LF	280						TATE OF ALASKA	NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA	DATE: 01/29/2024
	L110.080.1002	HDPE CONDUIT, 2-INCH	LF	9,020				"	AND P	UBLIC FACILITIES ENTRAL REGION	AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X	SHEET:
	* = NON-PAR	RTICIPATING				BY DATE	REVISION		4111 AVIATION A	AVE., ANCHORAGE ALASKA 99502 IONE (907) 269-0590	ESTIMATED QUANTITIES	4 of 36





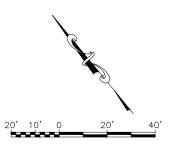




SREB & TIE-DOWN TABLE												
POINT #	STATION	OFFSET	DESCRIPTION									
100	7+17.49	49.68R	ROTATING BEACON									
101	7+04.42	102.43R	BOLLARD									
102	6+90.41	130.08R	BOLLARD									
103	6+40.45	104.78R	BOLLARD									
104	6+43.69	98.39R	BOLLARD									
105	6+51.22	83.52R	BOLLARD									
106	6+54.46	77.13R	BOLLARD									
107	6+60.45	68.21R	BOLLARD									
108	6+61.80	61.19R	BOLLARD									
109	6+69.60	46.55R	BOLLARD									
110	5+70.00	37.00RT	TIE-DOWN									
111	5+70.00	75.00RT	TIE-DOWN									
112	6+35.00	42.59L	TIE-DOWN									
113	5+97.00	42.59L	TIE-DOWN									
114	6+35.00	138.62L	TIE-DOWN									
115	6+08.00	138.62L	TIE-DOWN									
116	5+32.00	138.62L	TIE-DOWN									
117	5+05.00	138.62L	TIE-DOWN									
118	7+00.65	104.14RT	CORNER OF SREB									
119	6+88.90	126.97RT	CORNER OF SREB									
120	6+44.06	103.54RT	CORNER OF SREB									
121	6+55.79	80.91RT	CORNER OF SREB									



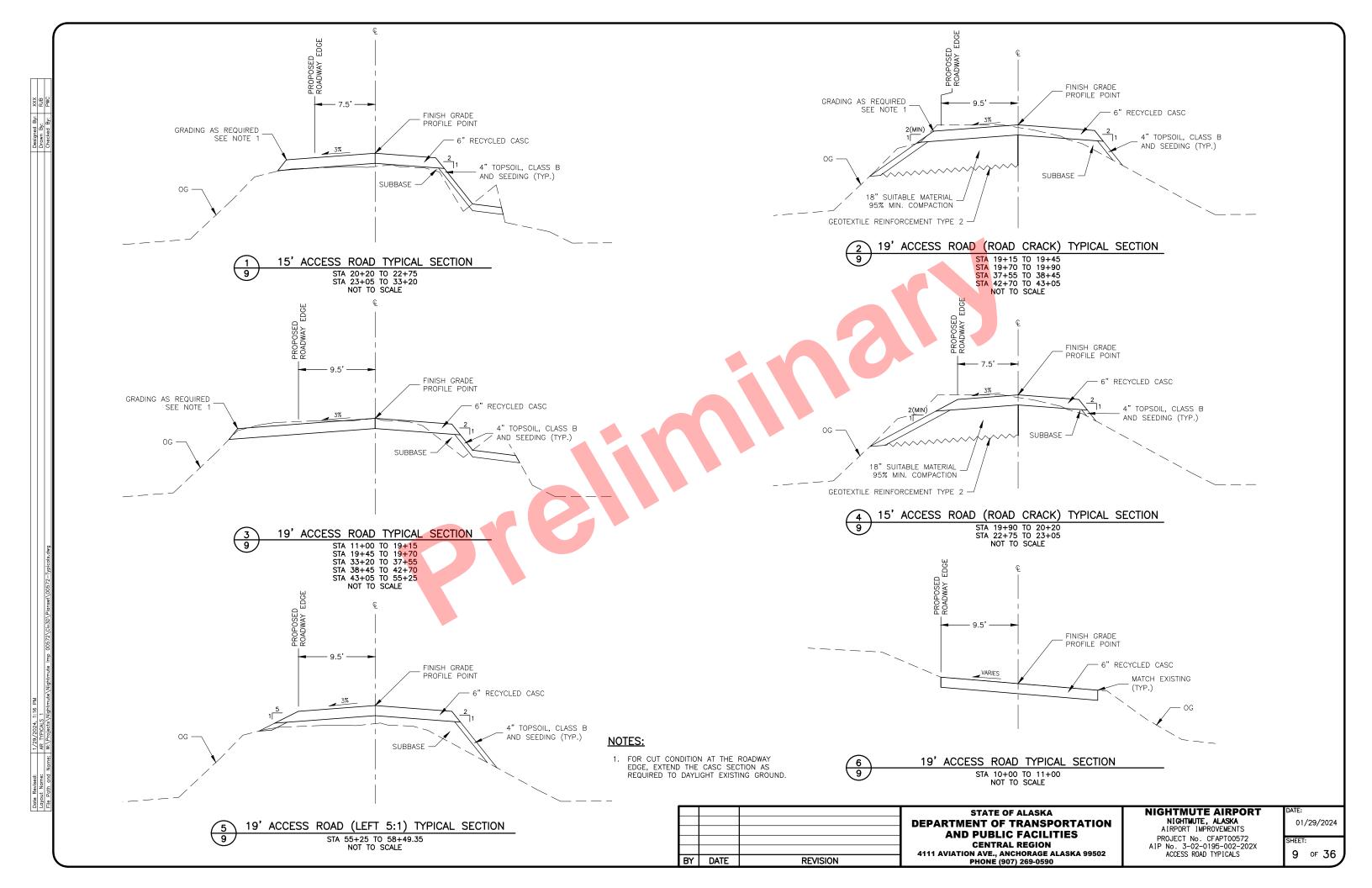
SEE ITEM P-165 FOR SREB TEMPORARY RELOCATION REQUIREMENTS. FIELD SURVEY EXISTING LOCATION OF SREB BEFORE RELOCATION.

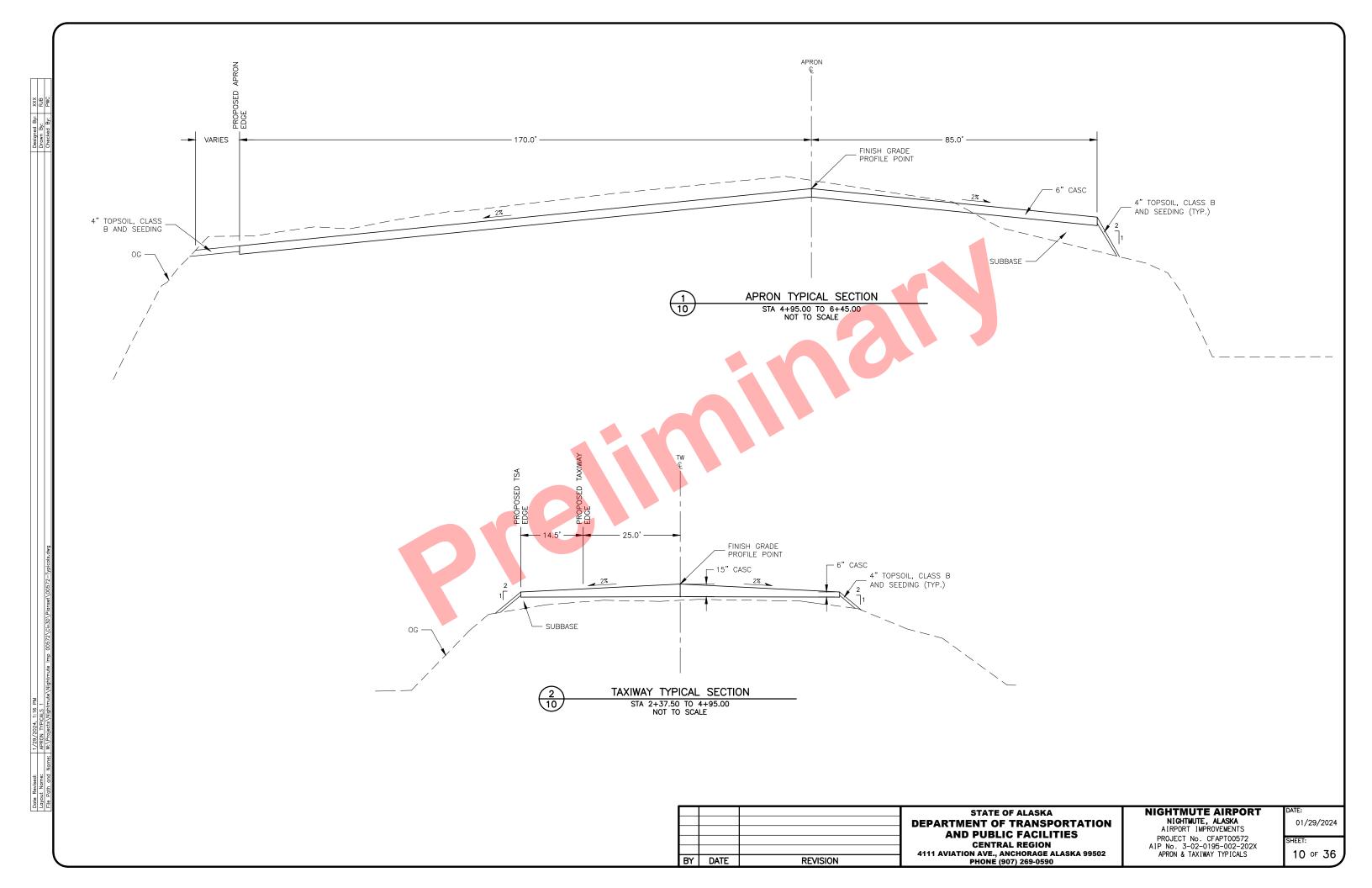


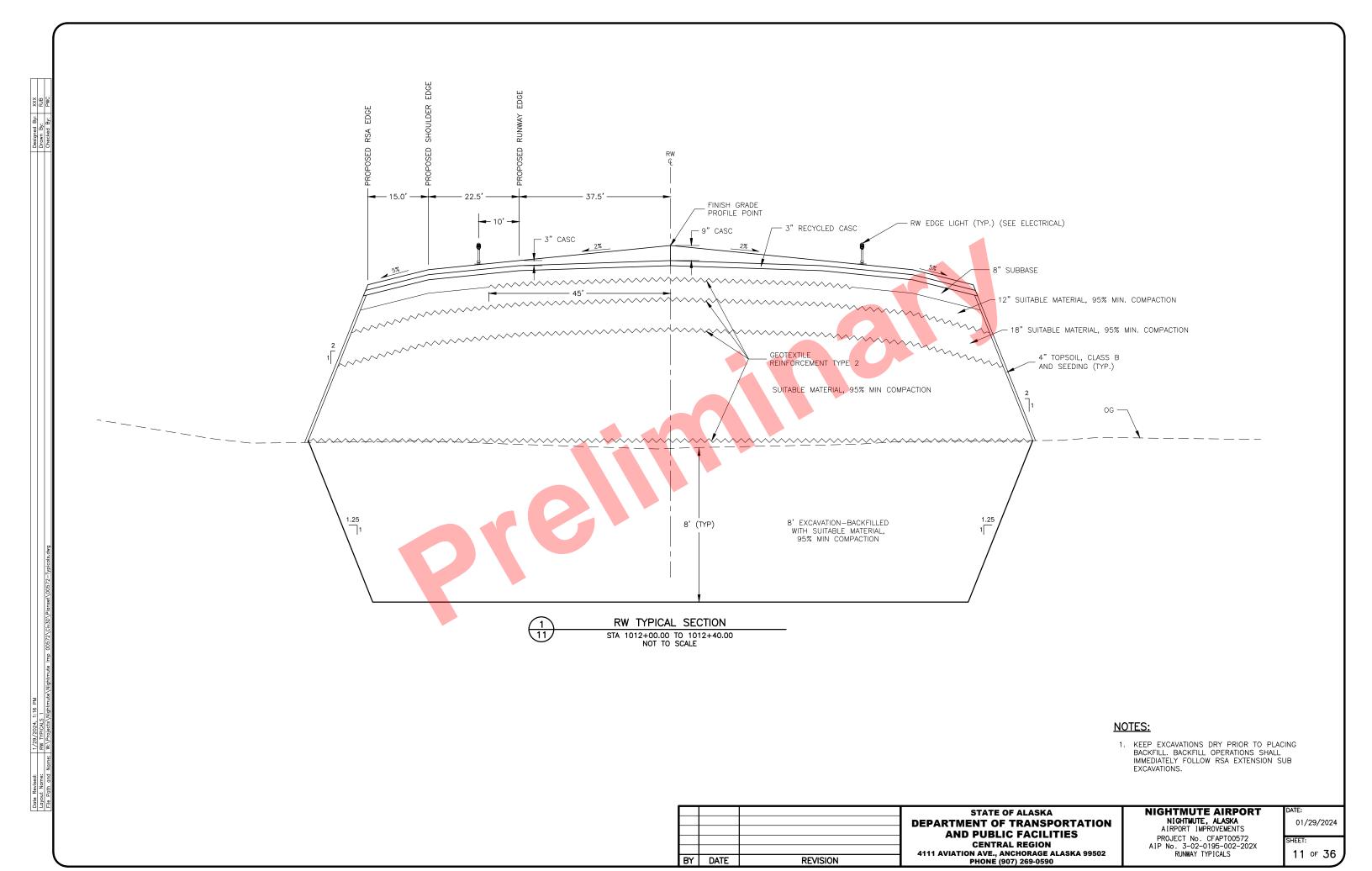
STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

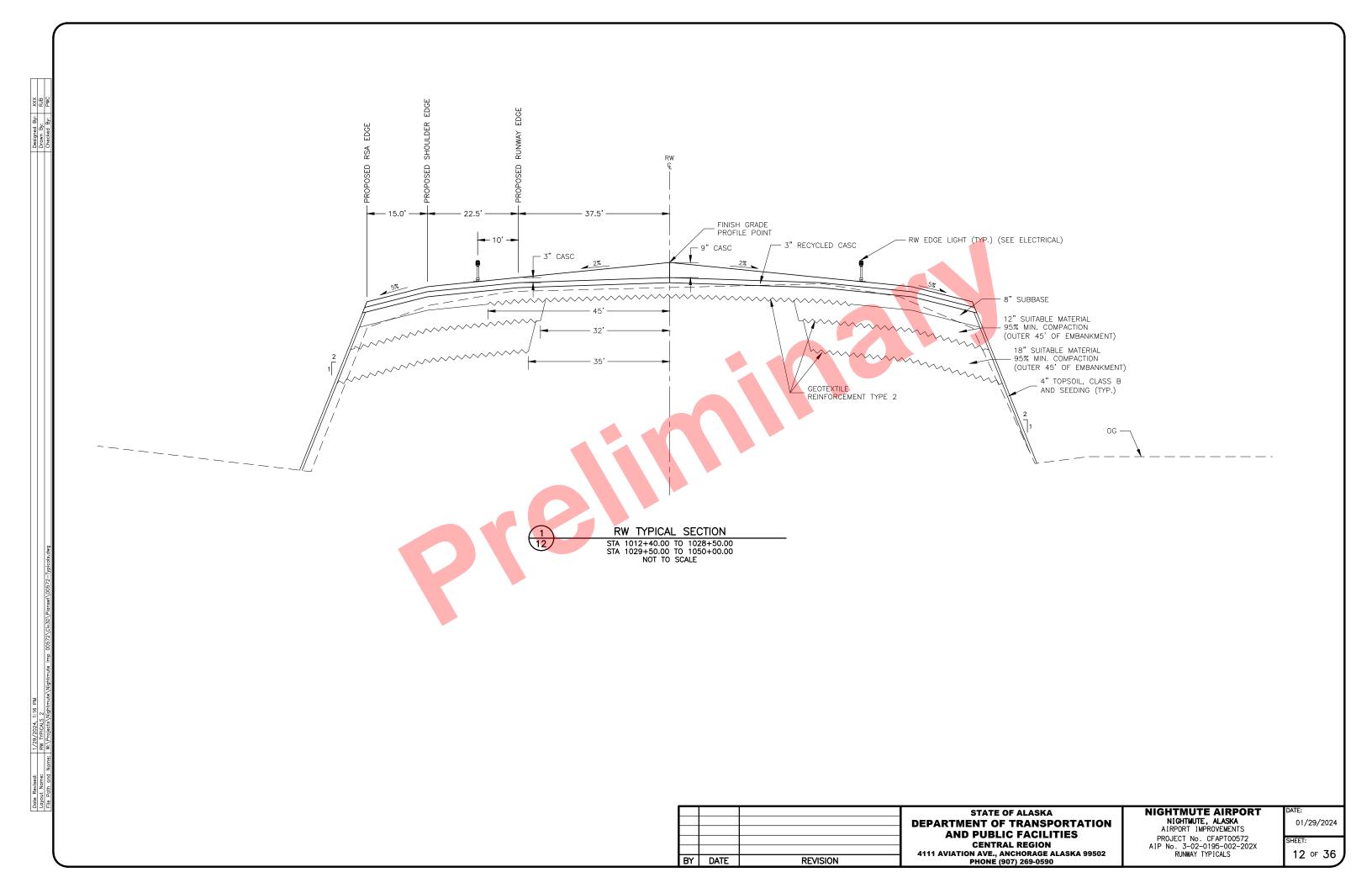
NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X SREB SITE PLAN

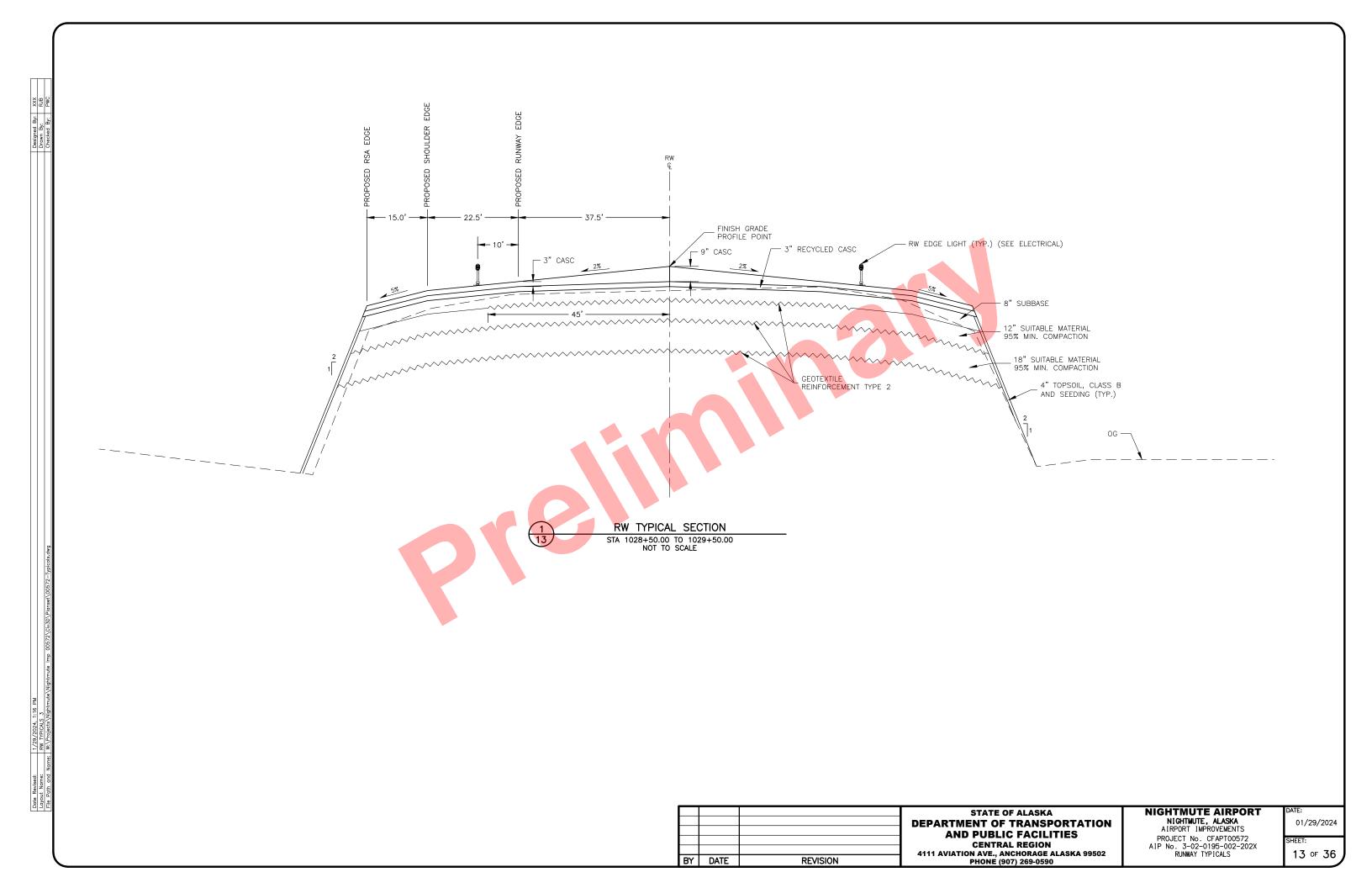
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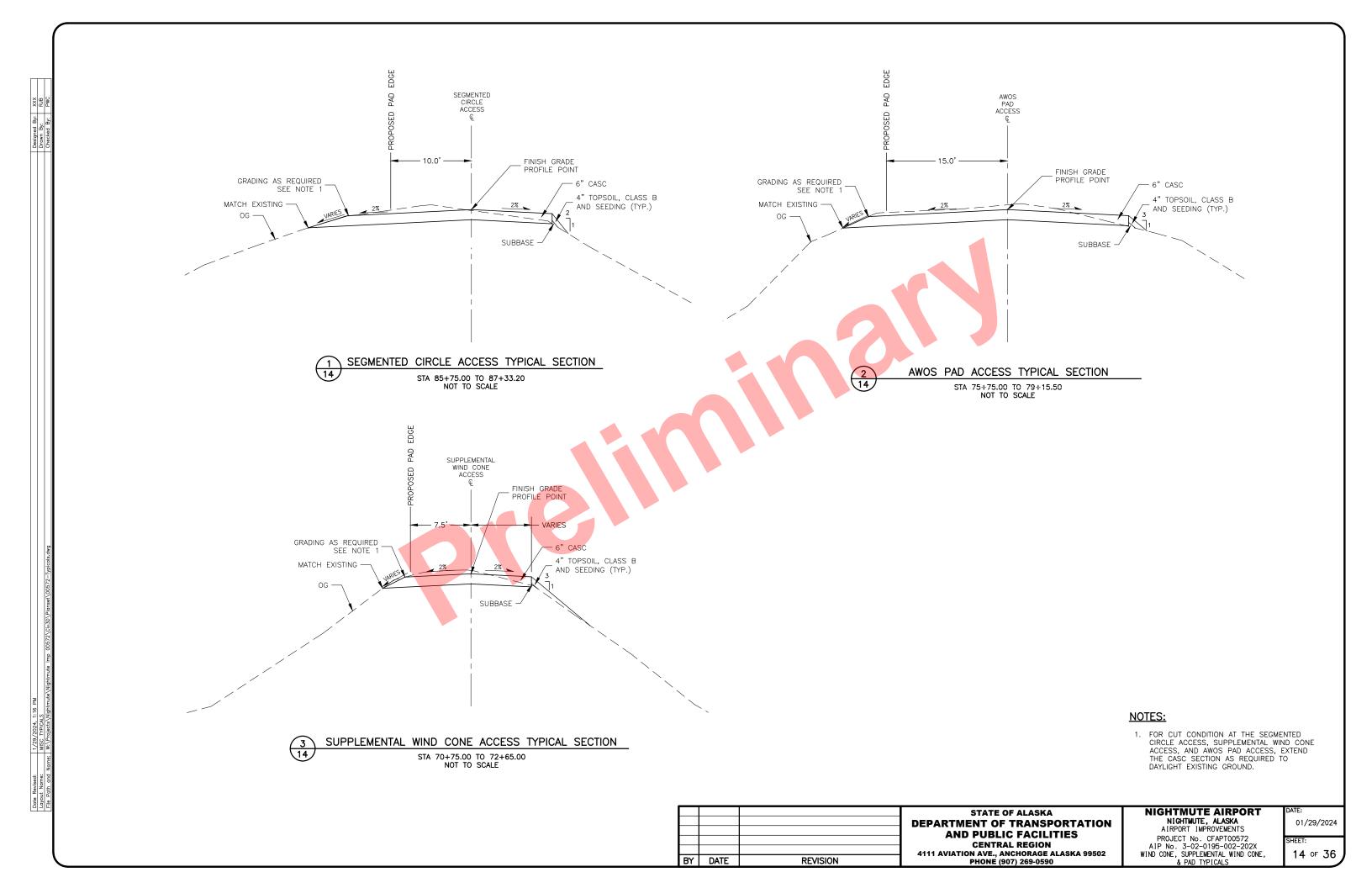


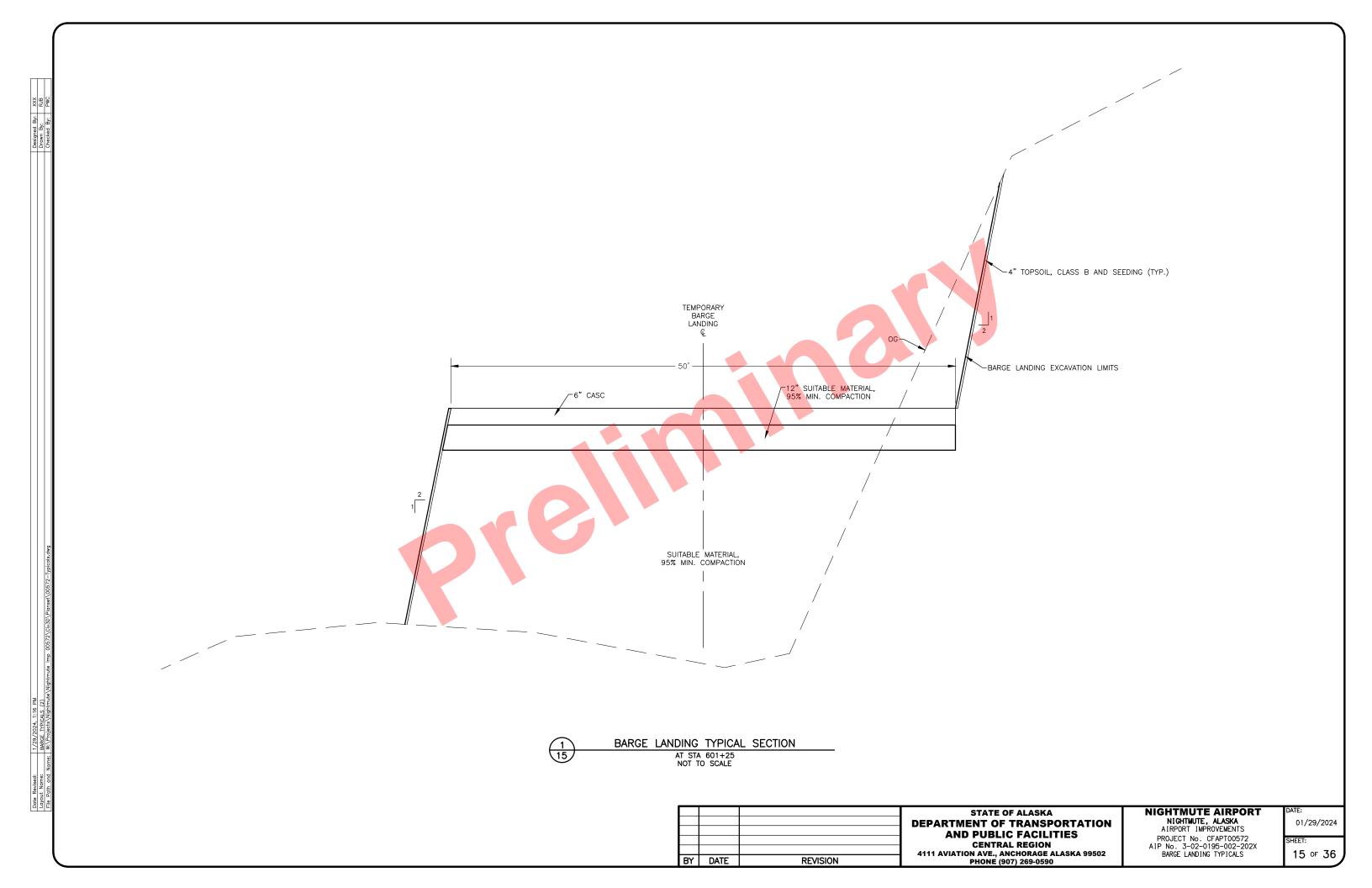


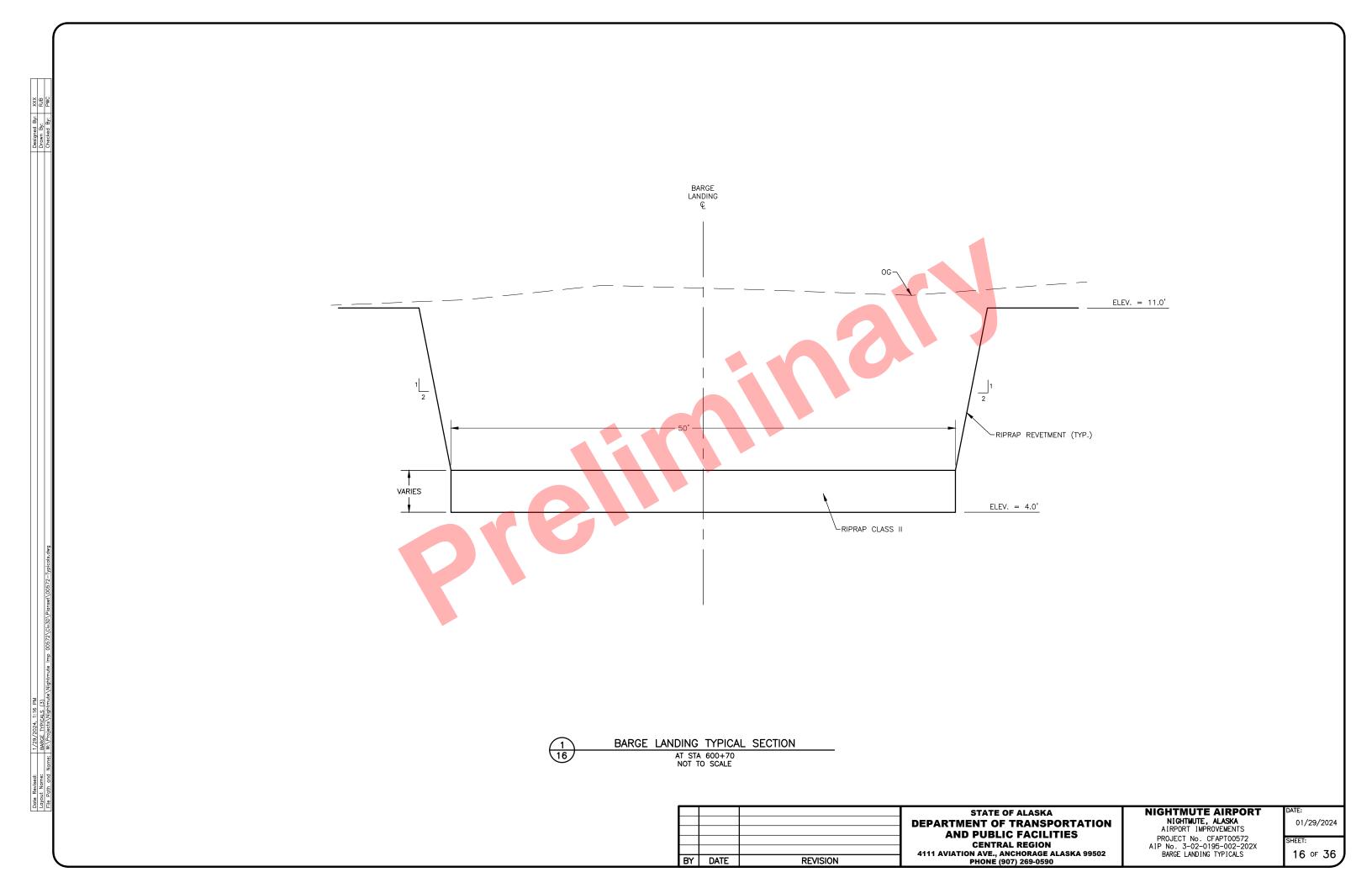


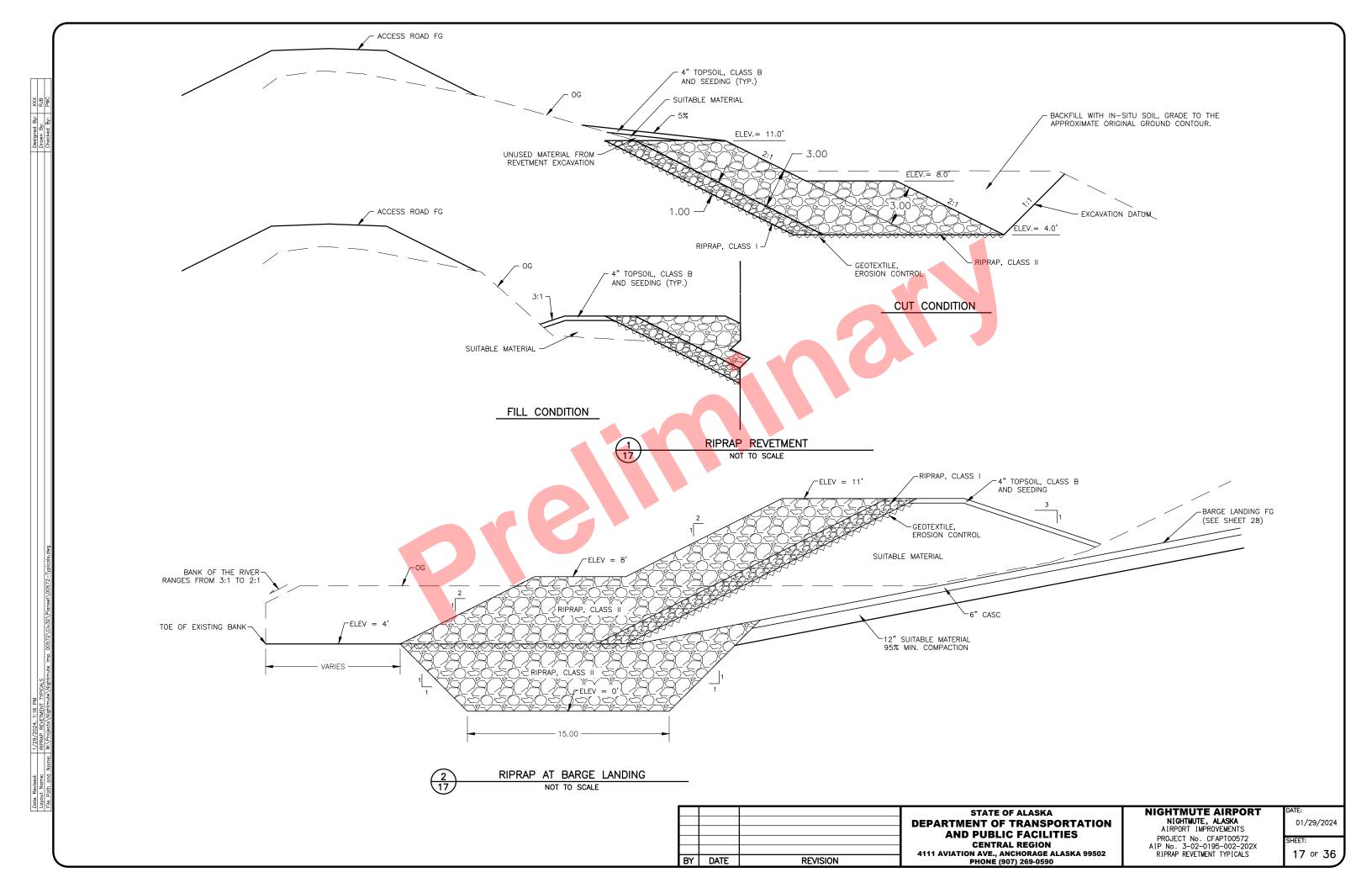


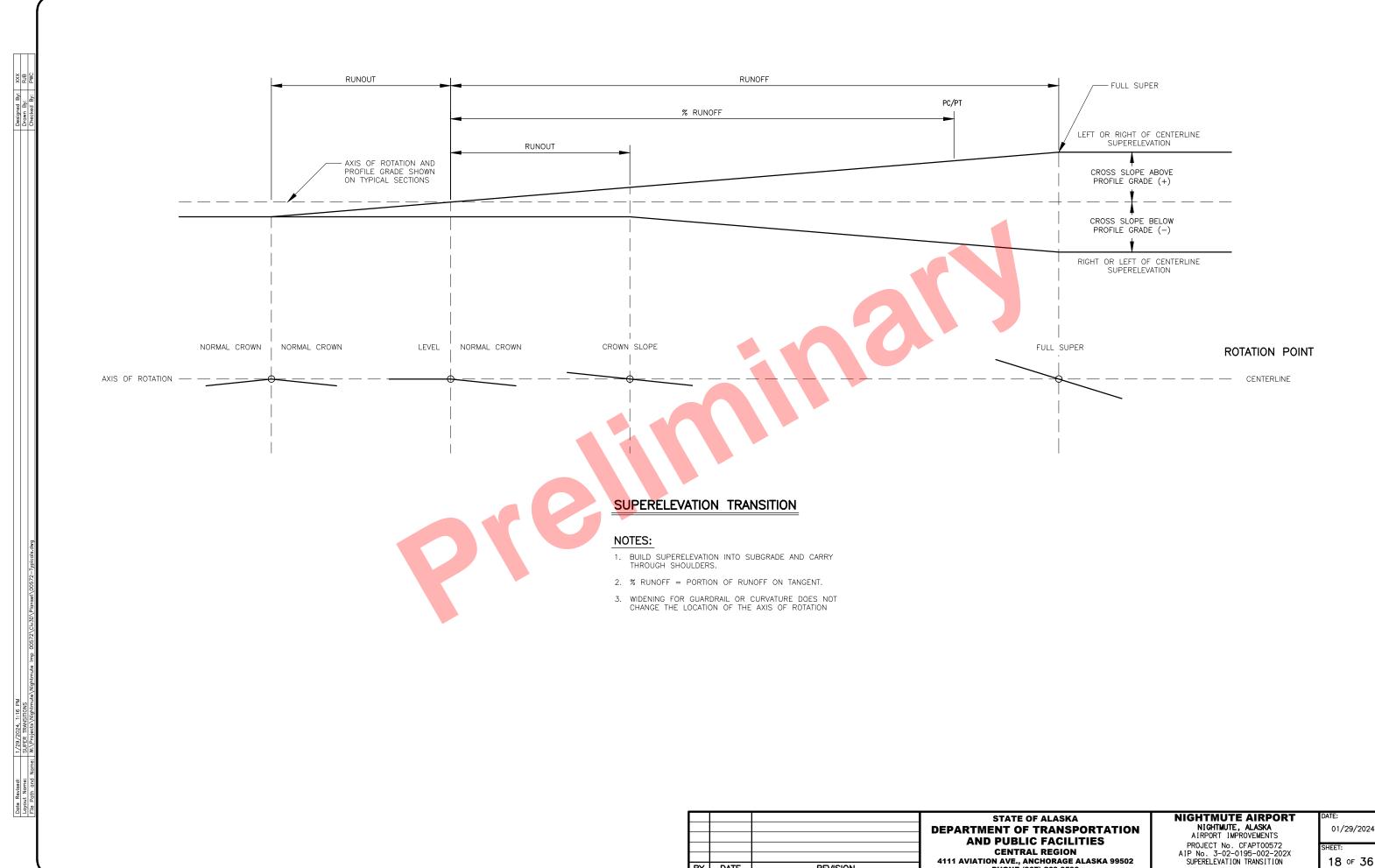










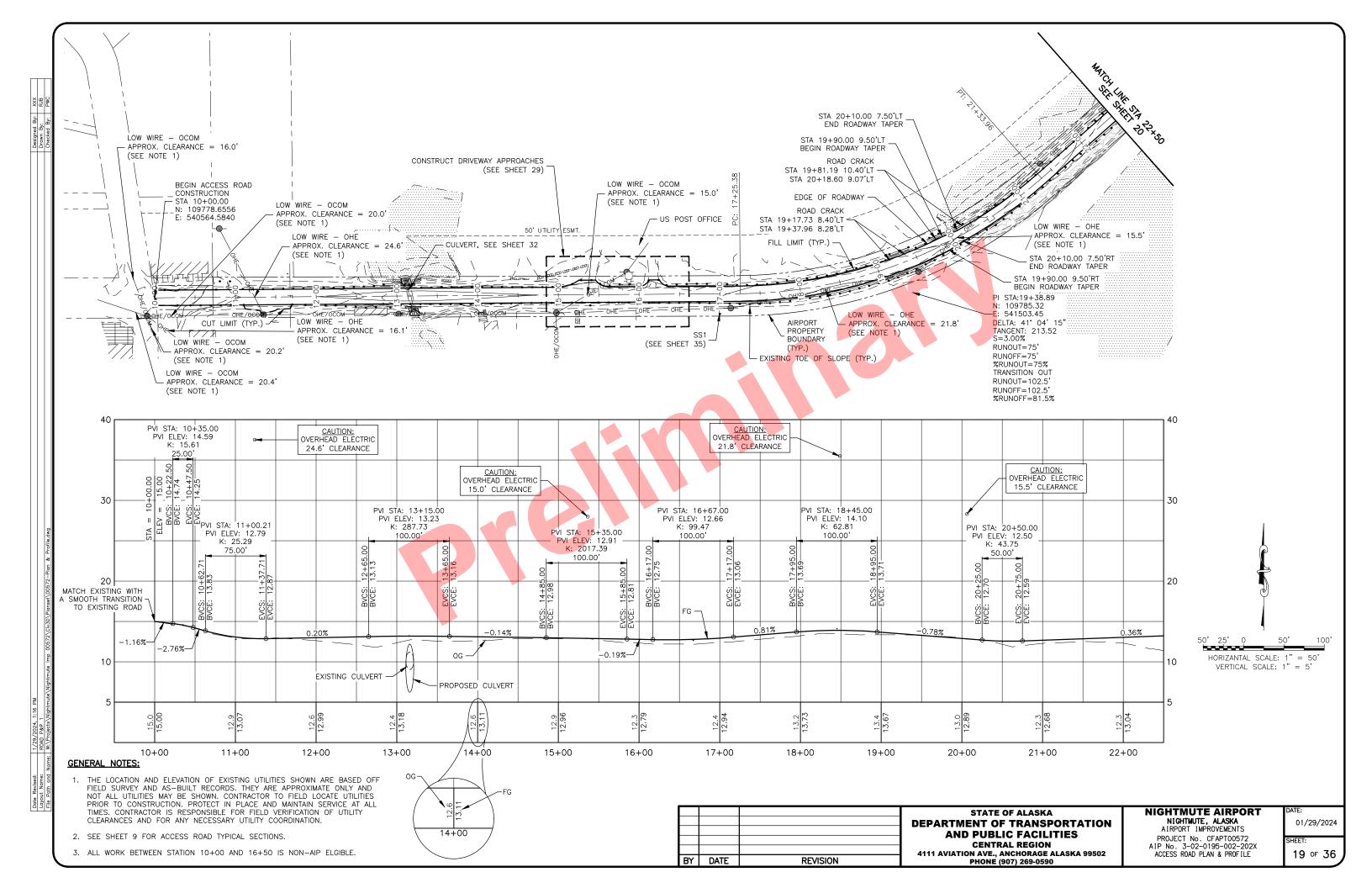


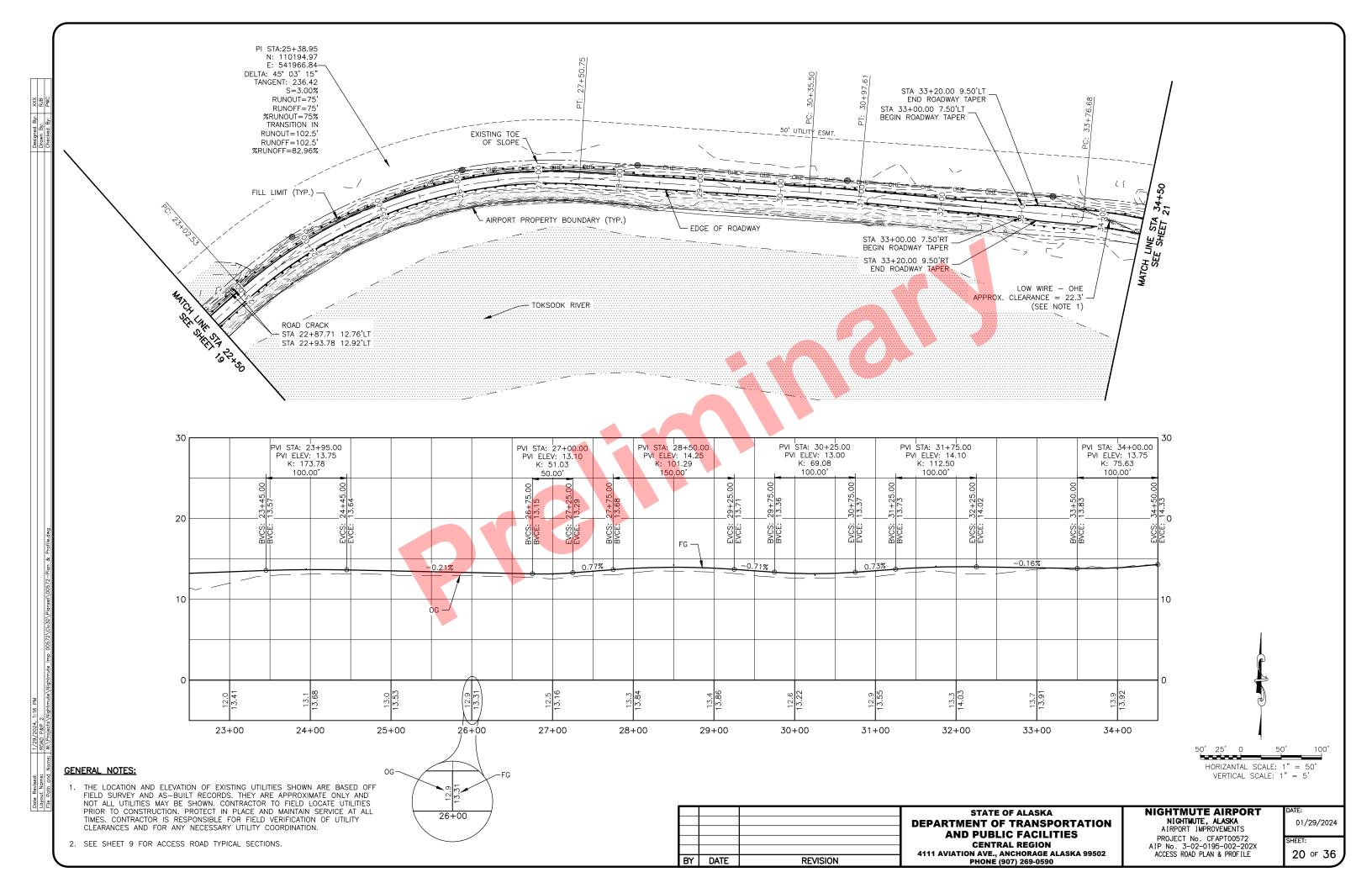
BY DATE

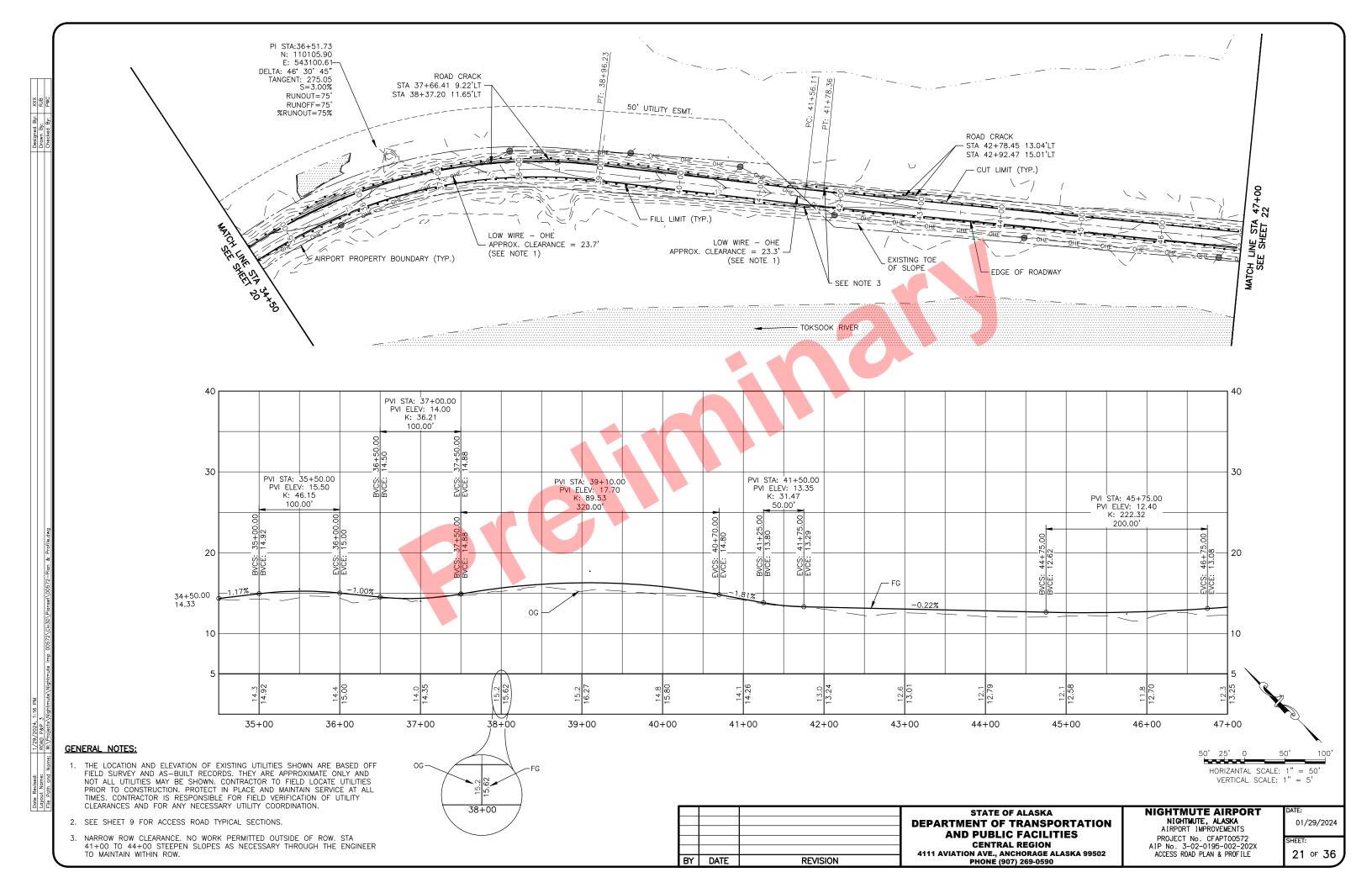
REVISION

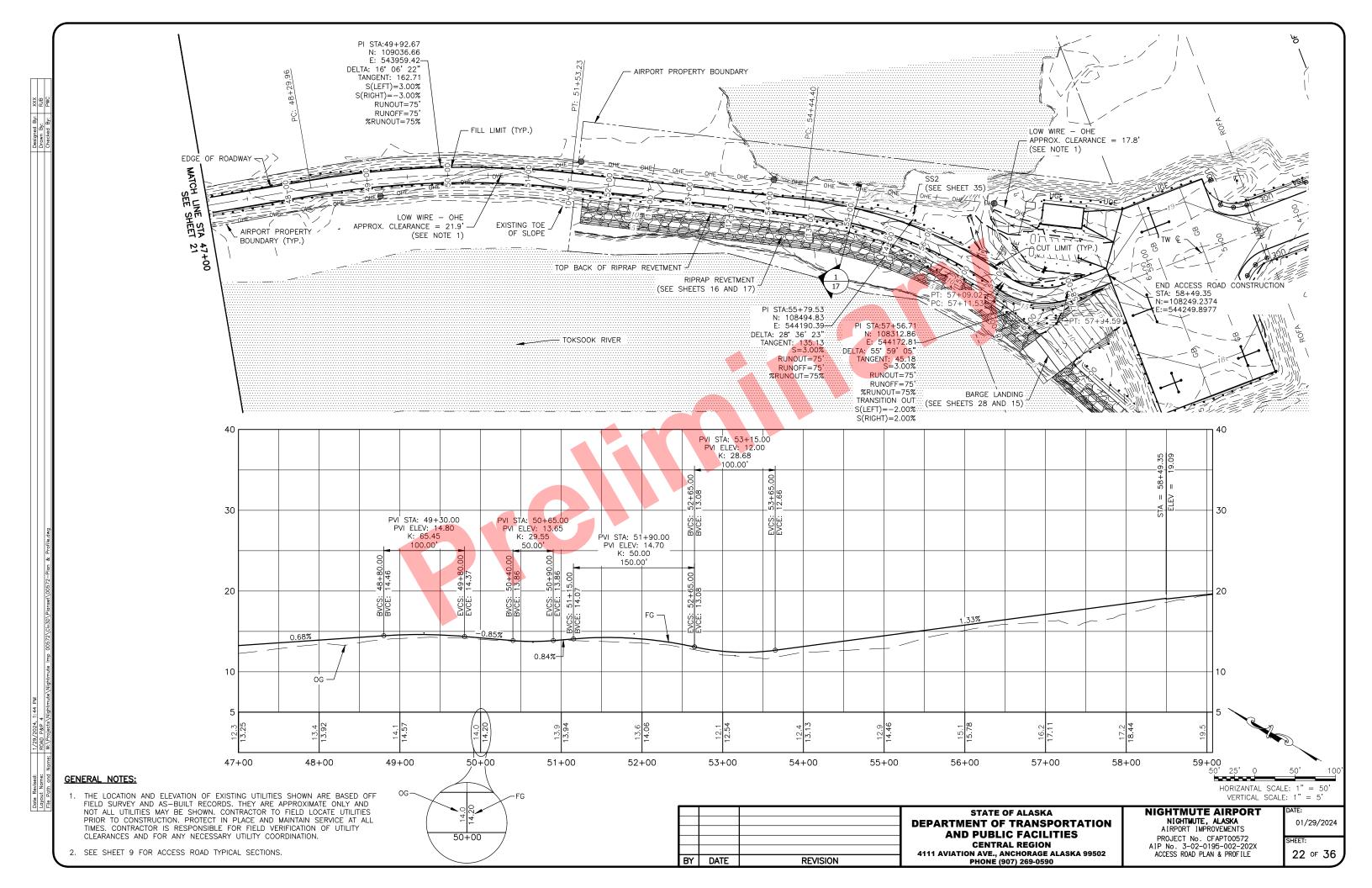
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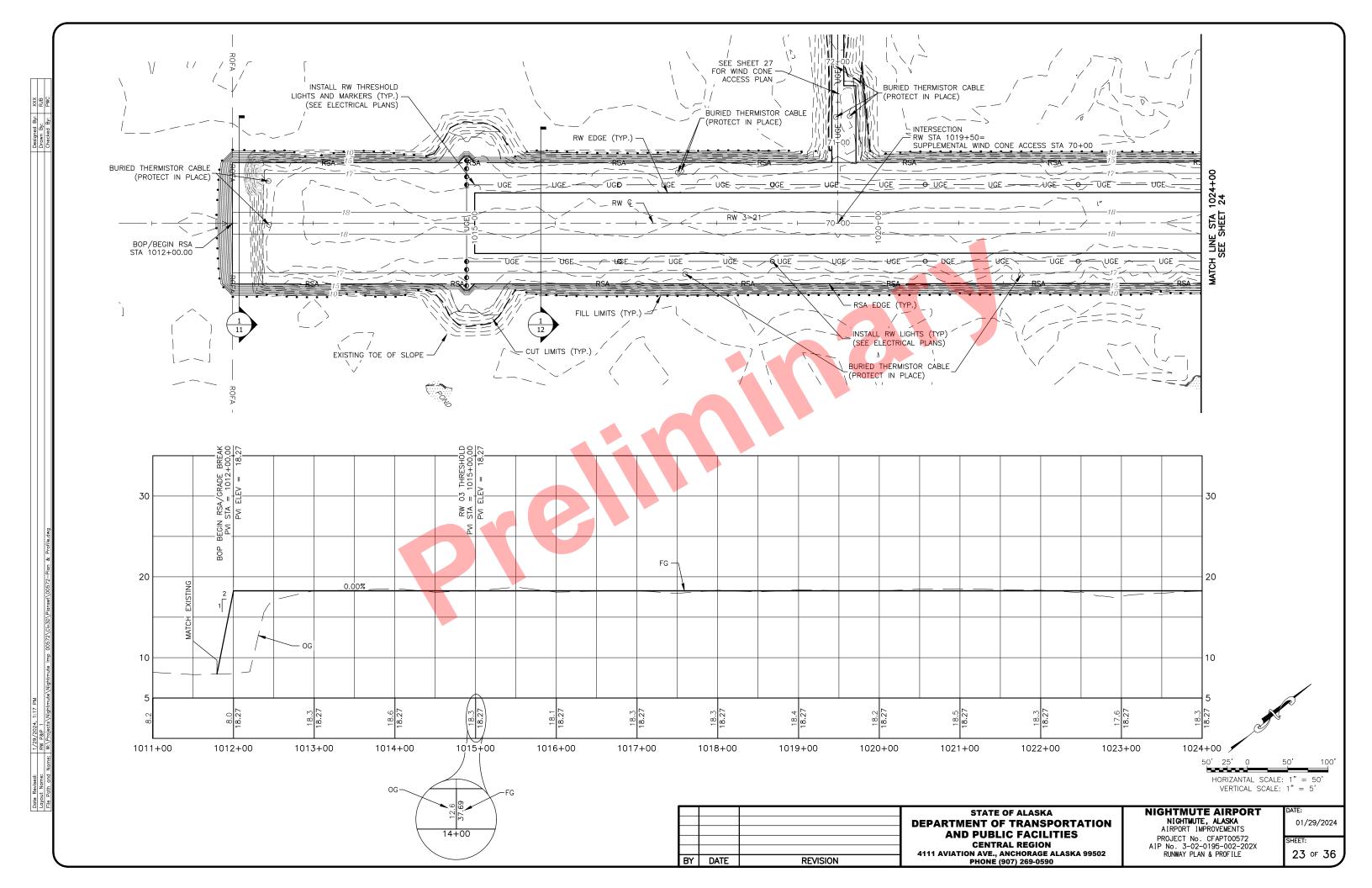
4111 AVIATION AVE., ANCHORAGE ALASKA 99502 PHONE (907) 269-0590

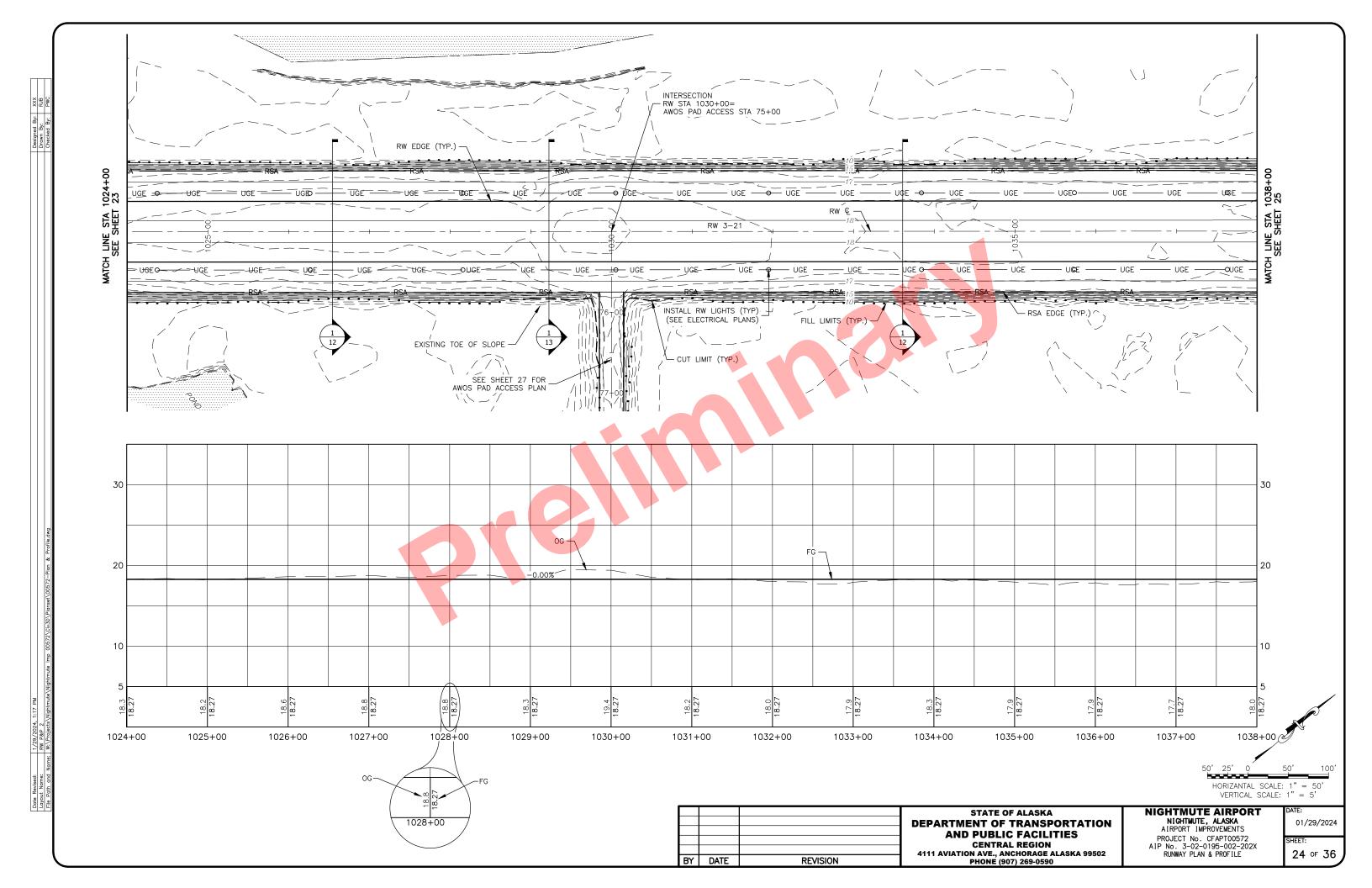


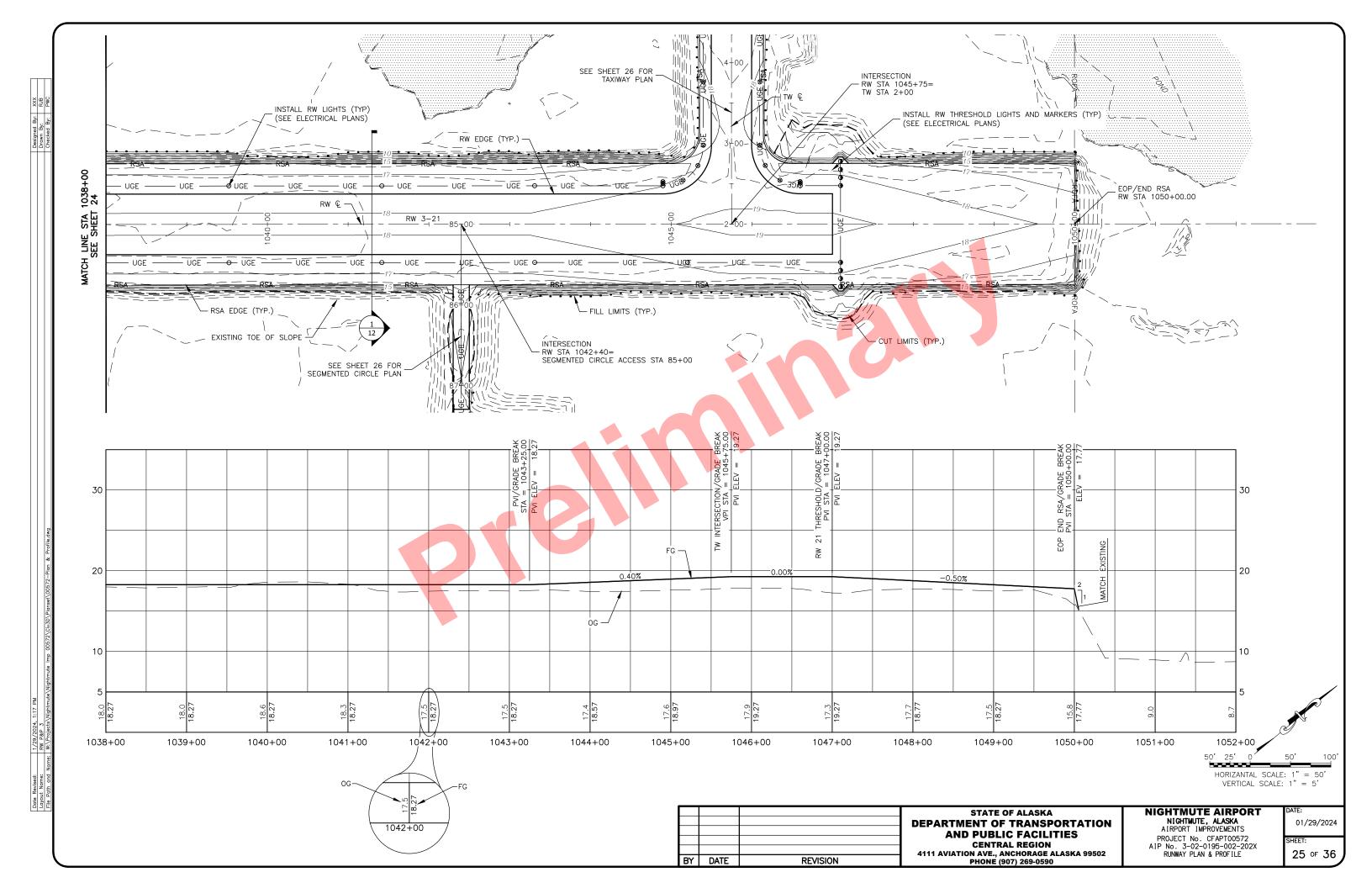


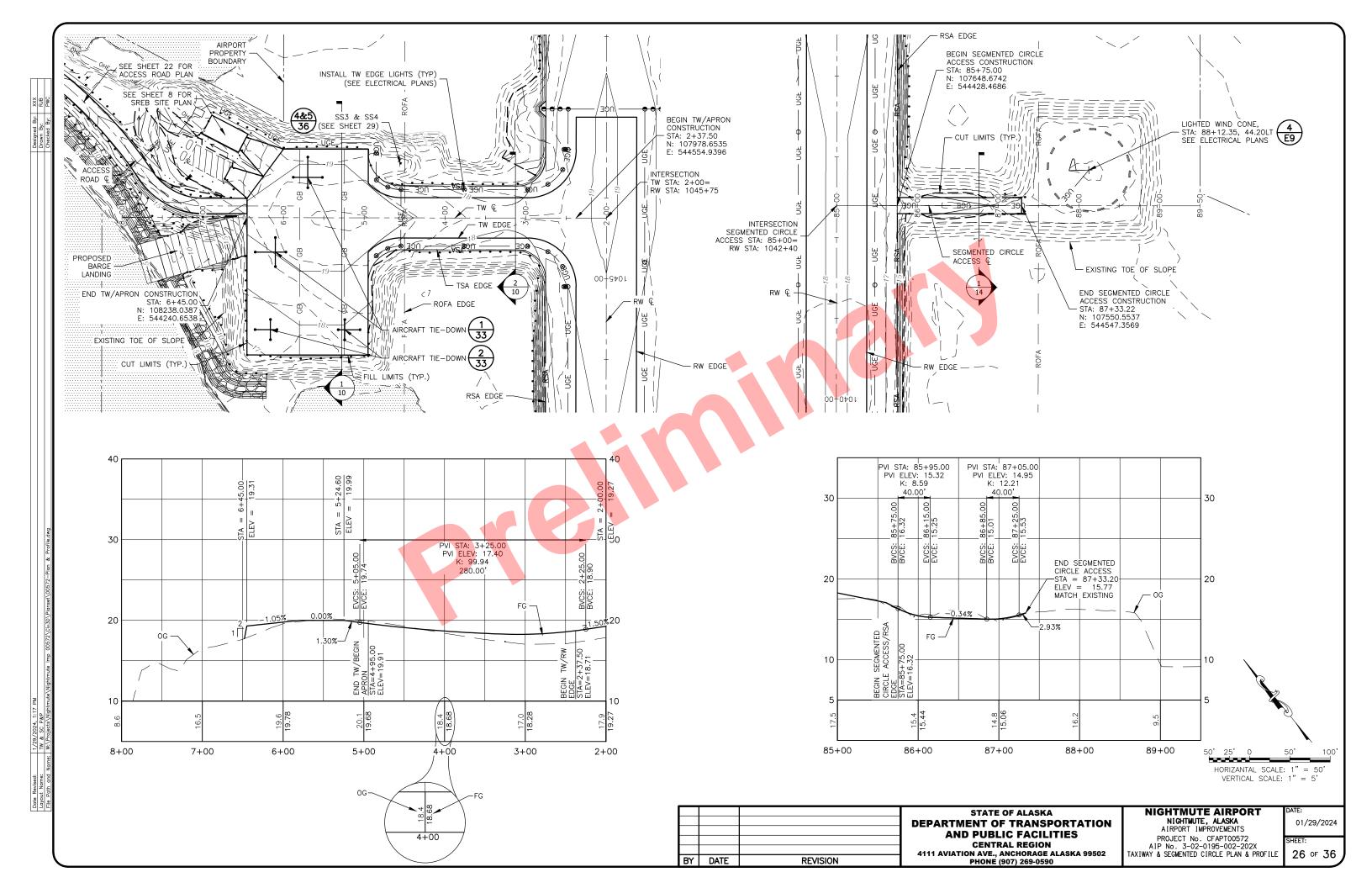


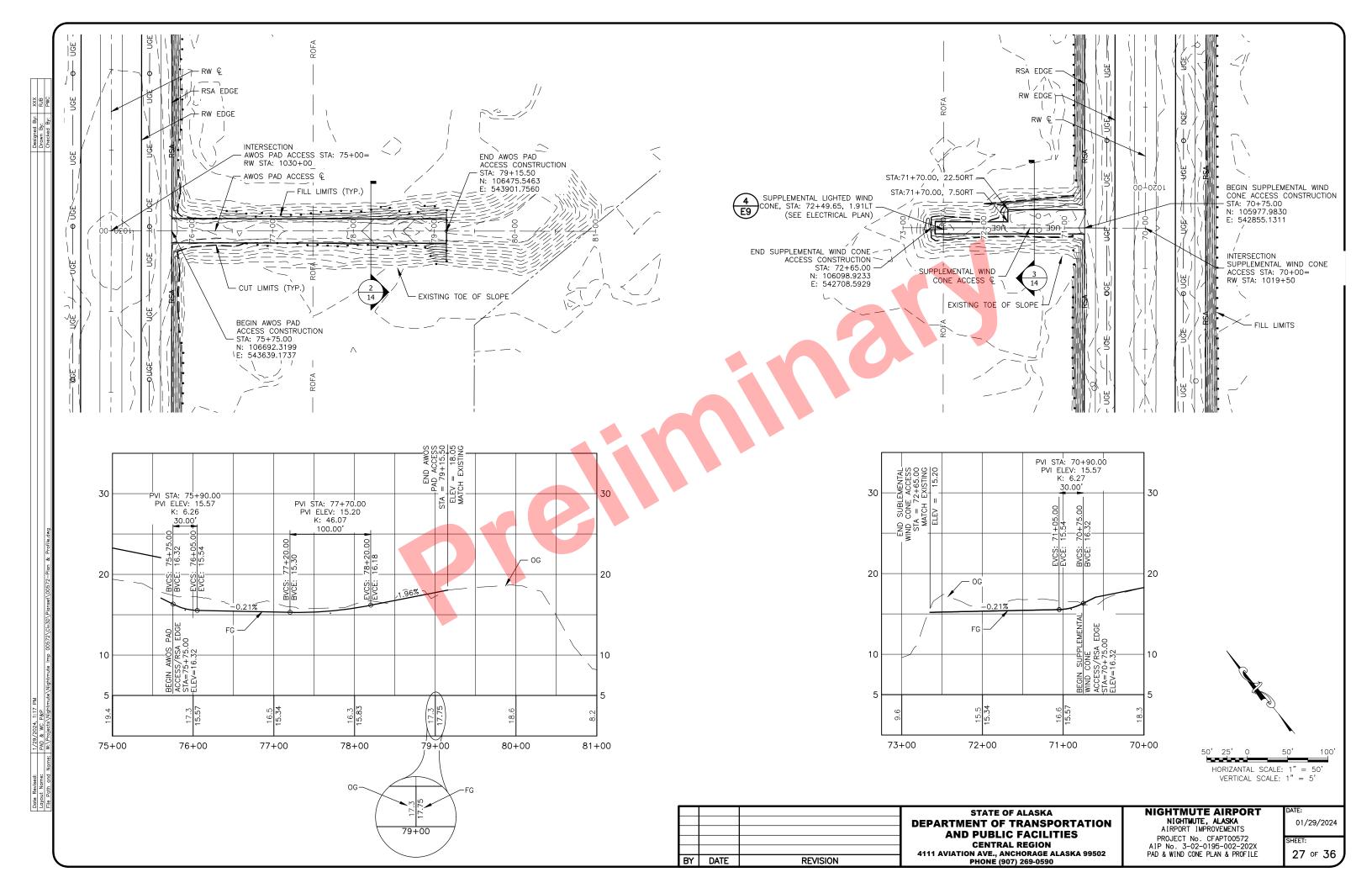


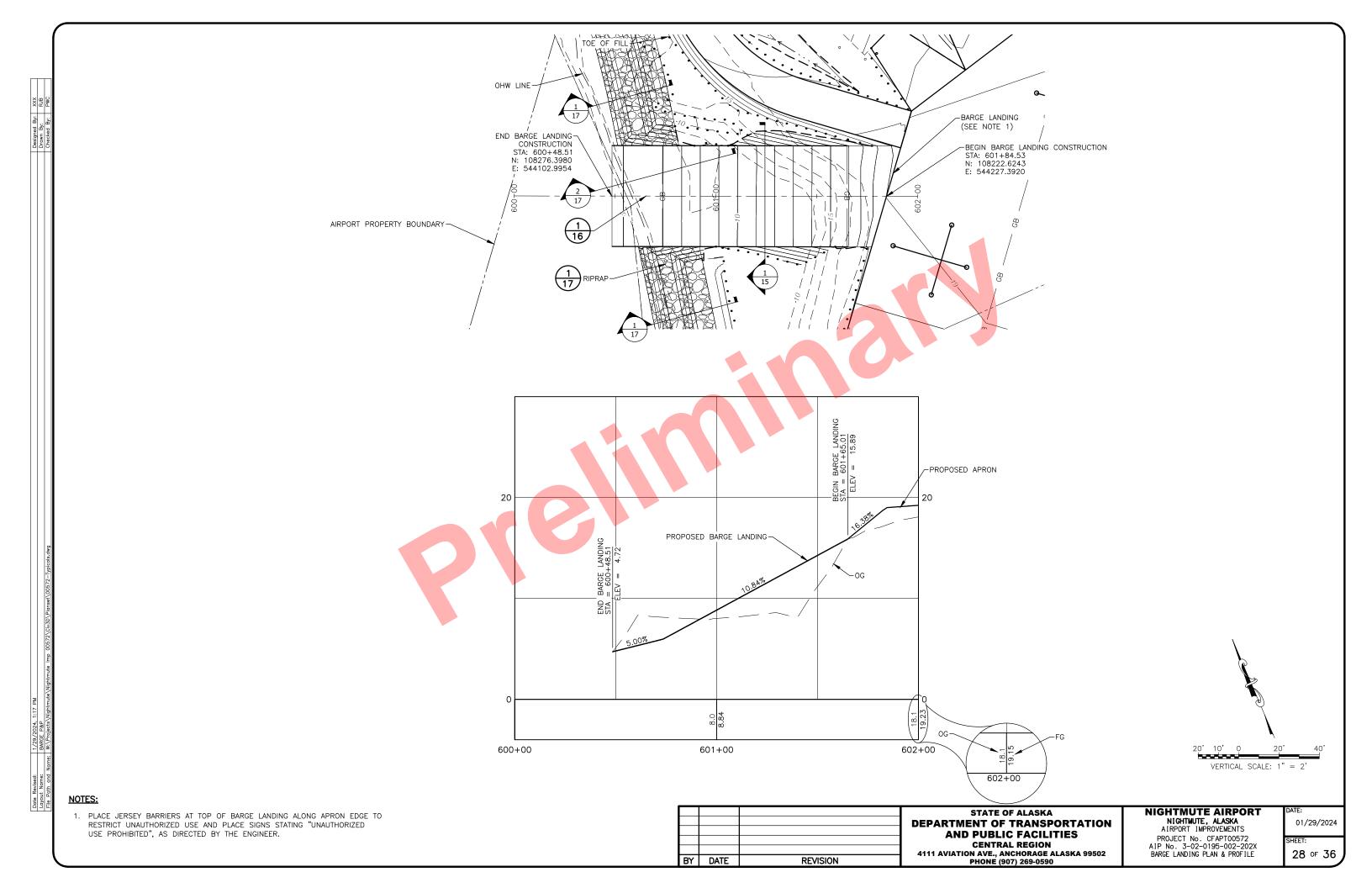


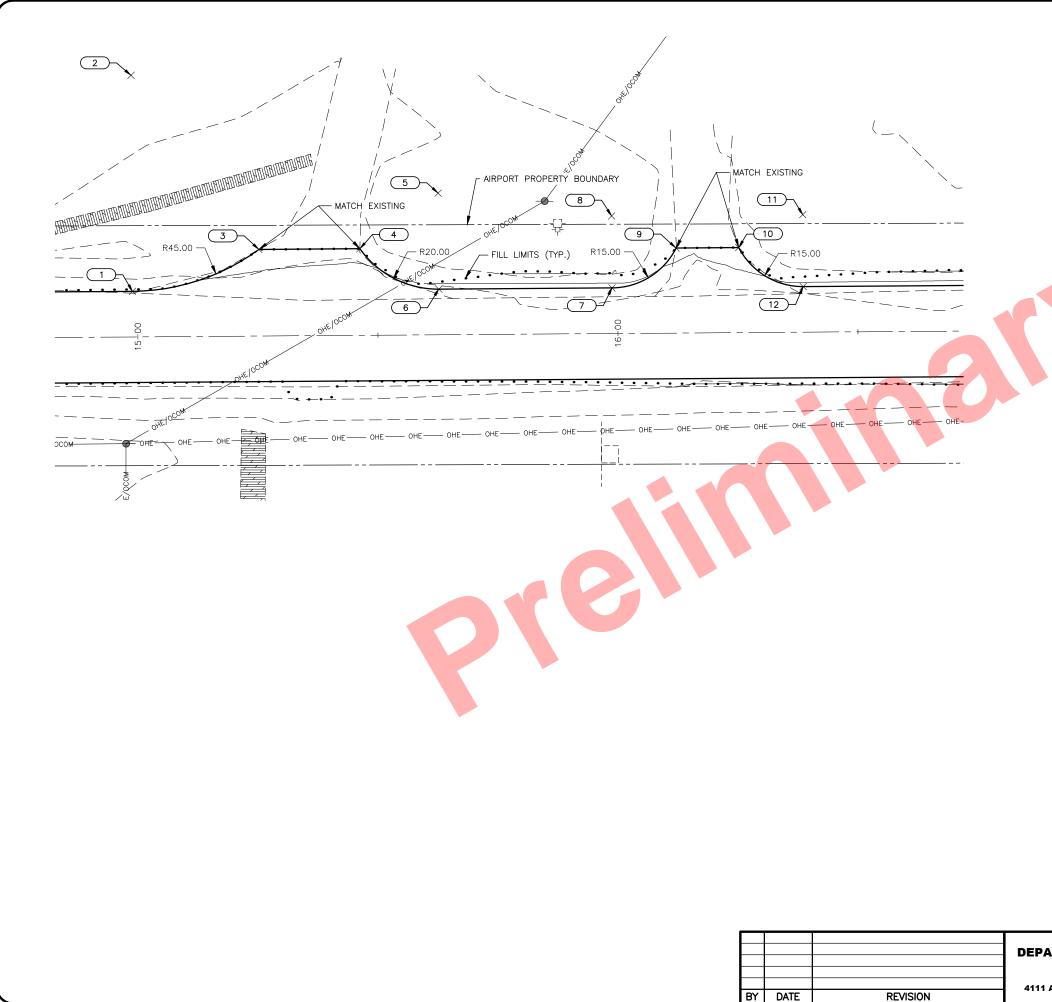




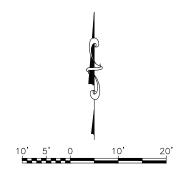








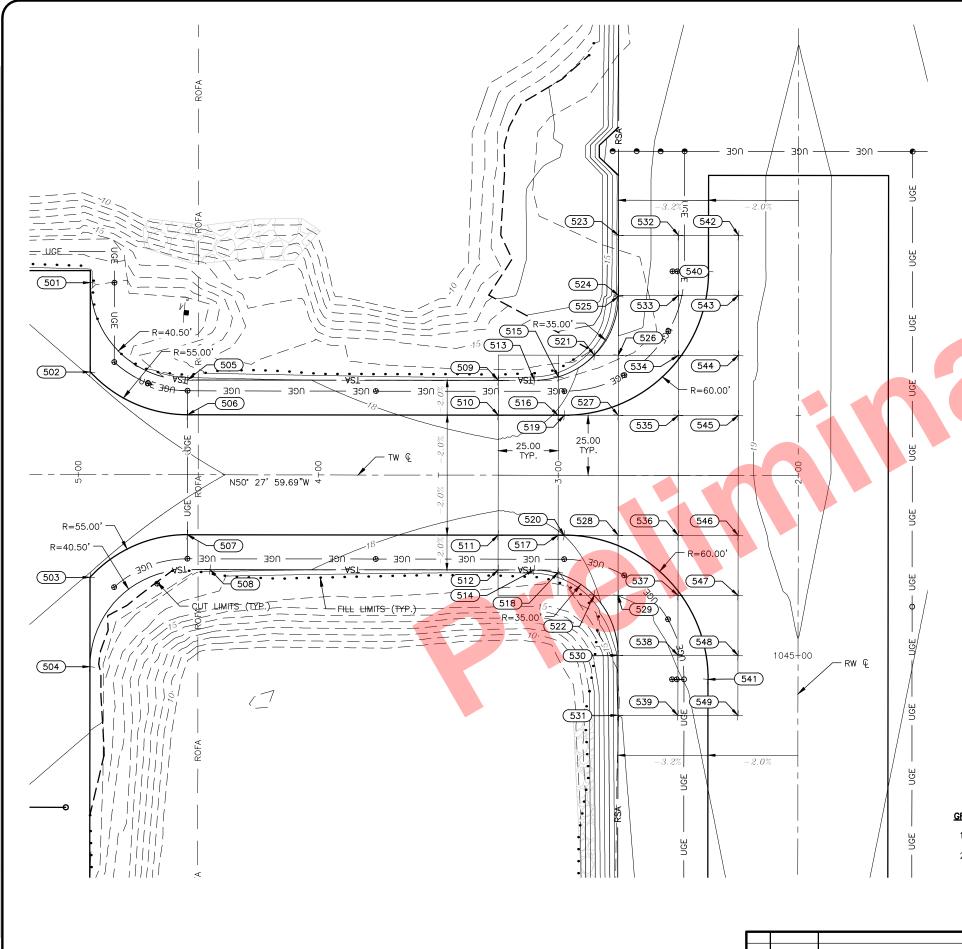
GRADING TABLE											
POINT #	STATION	OFFSET	DESCRIPTION								
1	14+98.95	9.50LT	12.68	EDDGE ROAD PC							
2	14+98.95	54.50LT	N/A	RADIUS POINT							
3	15+25.33	18.04LT	11.34	EDGE ROAD PT							
4	15+46.36	18.04LT	11.75	EDGE ROAD PT							
5	15+62.75	29.50LT	N/A	RADIUS POINT							
6	15+62.75	9.50LT	12.57	EDGE ROAD PC							
7	15+98.84	9.50LT	12.50	EDGE ROAD PC							
8	15+98.84	24.50LT	N/A	RADIUS POINT							
9	16+12.22	17.72LT	11.79	EDGE ROAD PT							
10	16+25.29	17.72LT	11.53	EDGE ROAD PT							
11	16+38.67	24.50LT	N/A	RADIUS POINT							
12	16+38.67	9.50LT	12.45	EDGE ROAD PC							



STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION** AND PUBLIC FACILITIES CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
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NIGHTMUTE AIRPORT NICHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X DRIVEWAY GRADING

01/29/2024

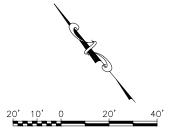


GRADING TABLE										
POINT #	STATION	OFFSET	ELEVATION							
501	4+95.00	80.00RT	18.41							
502	4+95.00	42.79RT	18.97							
503	4+95.00	42.79LT	18.97							
504	4+95.00	80.00LT	18.41							
505	4+54.50	39.50RT	18.51							
506	4+54.50	25.00RT	18.75							
507	4+54.50	25.00LT	18.75							
508	4+45.00	39.50LT	18.41							
509	3+25.00	39.50RT	17.51							
510	3+25.00	25.00RT	17.80							
511	3+25.00	25.00LT	17.80							
512	3+25.00	39. <mark>50LT</mark>	17.51							
513	3+10.00	39.50RT	17.72							
514	3+10.00	39.50LT	17.67							
515	3+00.00	40.96RT	17.87							
516	3+00.00	25.00RT	18.03							
517	3+00.00	25.00LT	17.98							
518	3+00.00	40.54LT	17.79							
519	2+97.50	25.00RT	18.06							
520	2+97.50	25.00LT	18.00							
521	2+85.01	50.00RT	18.12							
522	2+85.01	50.00LT	17.96							
523	2+75.00	100.00RT	17.32							
524	2+75.00	75.00RT	17.66							
525	2+75.00	74.50RT	17.67							
526	2+75.00	50.00RT	18.16							

GRADING TABLE										
POINT #	STATION	OFFSET	ELEVATION							
527	2+75.00	25.00RT	18.37							
528	2+75.00	25.00LT	18.27							
529	2+75.00	50.00LT	18.00							
530	2+75.00	75.00LT	17.50							
531	2+75.00	100.00LT	17.00							
532	2+50.00	100.00RT	18.27							
533	2+50.00	75.00RT	18.35							
534	2+50.00	50.00RT	18.47							
535	2+50.00	25.00RT	18.58							
536	2+50.00	25.00LT	18.51							
537	2+50.00	50.00LT	18.27							
538	2+50.00	75.00LT	18.05							
539	2+50.00	100.00LT	17.87							
540	2+37.50	85.00RT	18.54							
541	2+37.50	85.00LT	18.20							
542	2+25.00	100.00RT	18.77							
543	2+25.00	75.00RT	18.81							
544	2+25.00	50.00RT	18.87							
545	2+25.00	25.00RT	18.91							
546	2+25.00	25.00LT	18.84							
547	2+25.00	50.00LT	18.67							
548	2+25.00	75.00LT	18.51							
549	2+25.00	100.00LT	18.37							

GRADING NOTES:

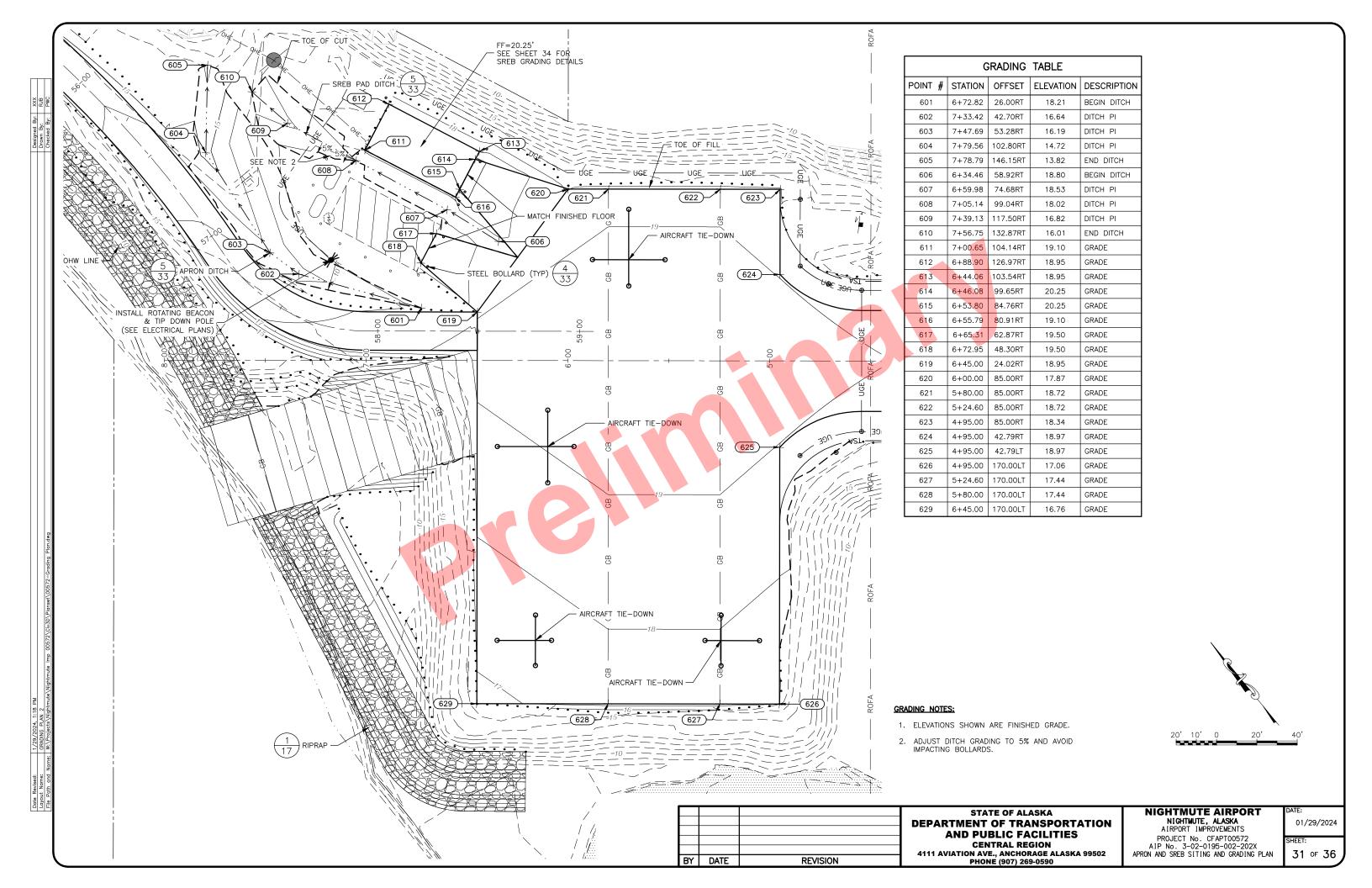
- 1. ELEVATIONS SHOWN ARE FINISHED GRADE.
- THE BASIS OF THE 25' GRADING GRID IS THE INTERSECTION OF THE RUNWAY CENTERLINE WITH THE TAXIWAY CENTERLINE. THE BEARING OF THE GRID IS N50' 27' 59.69"W.

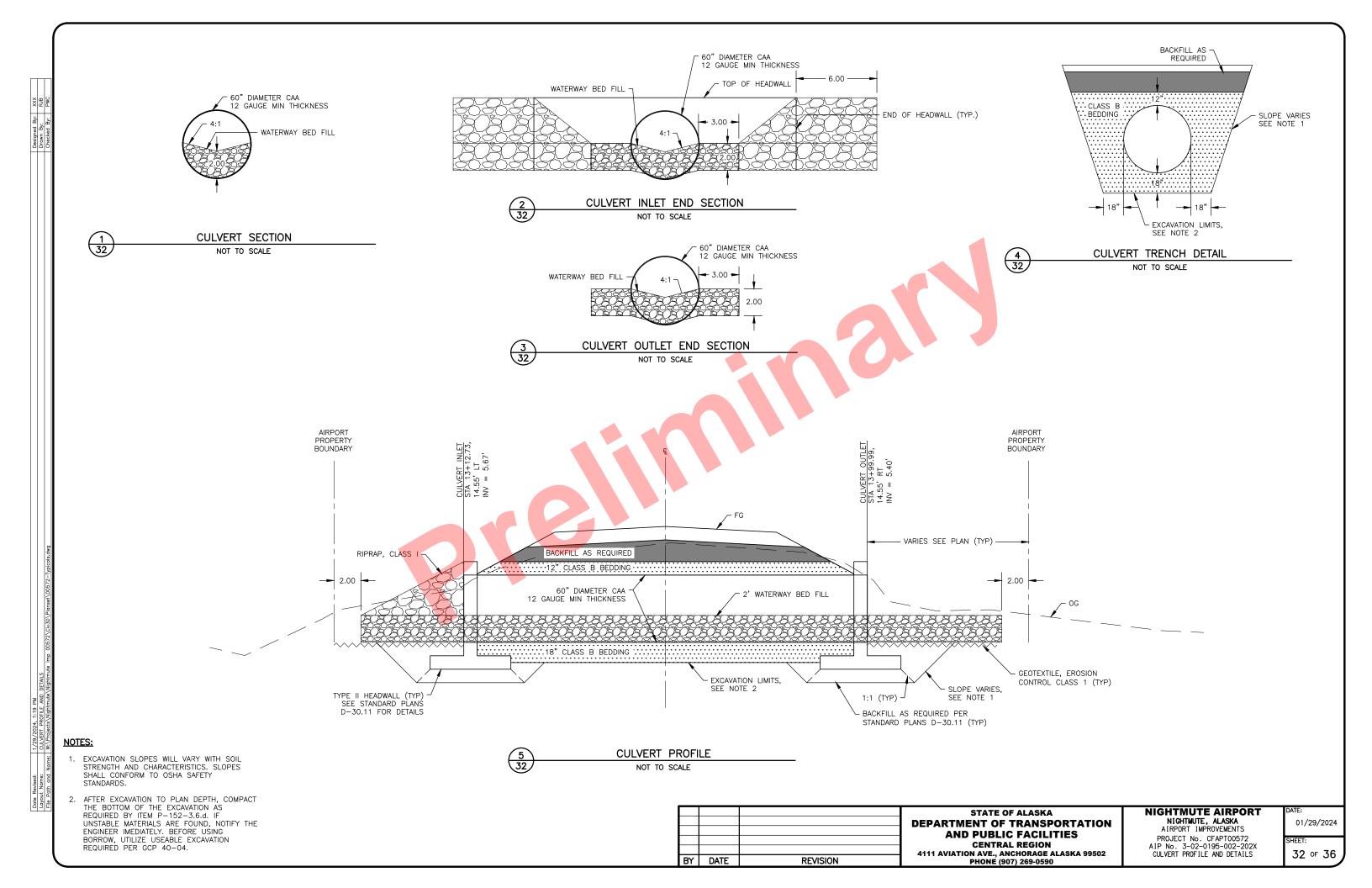


		STATE OF ALASKA
		DEPARTMENT OF TRANSPORTATION
		AND PUBLIC FACILITIES
		CENTRAL REGION
		4111 AVIATION AVE., ANCHORAGE ALASKA 99502
DATE	REVISION	BHONE (007) 260 0500

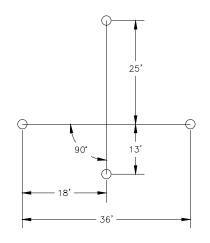
NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS

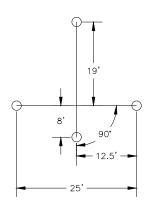
PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X TAXIWAY AND RUNWAY INTERSECTION GRADING PLAN 01/29/2024





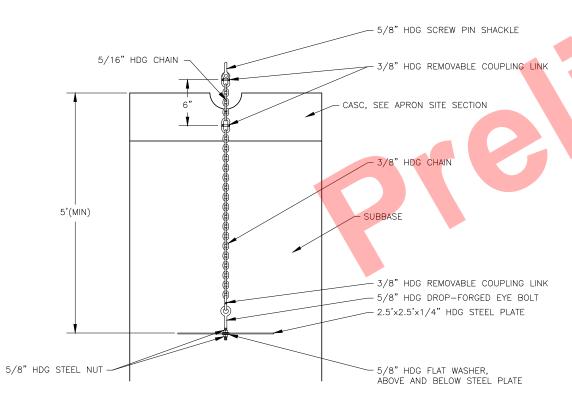




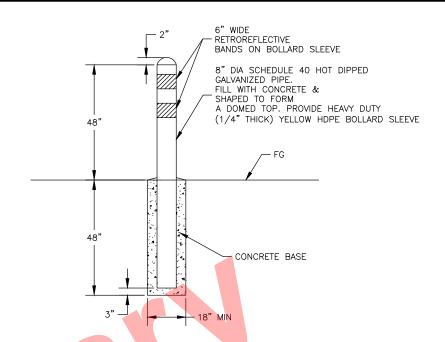


1 AIRCRAFT TIE-DOWN LAYOUT
33 SCALE: NTS



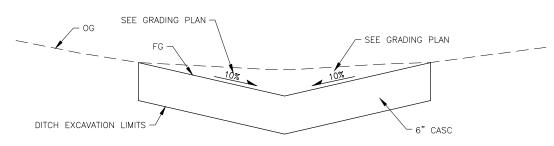






4 EXTERIOR BOLLARD DETAIL

NOT TO SCALE



NOTES:

1. DITCH SIDE SLOPES ARE 10% UNLESS OTHERWISE SHOWN ON THE PLANS. SEE SHEET 31.

5 APRON & SREB PAD DITCH DETAIL

NOT TO SCALE

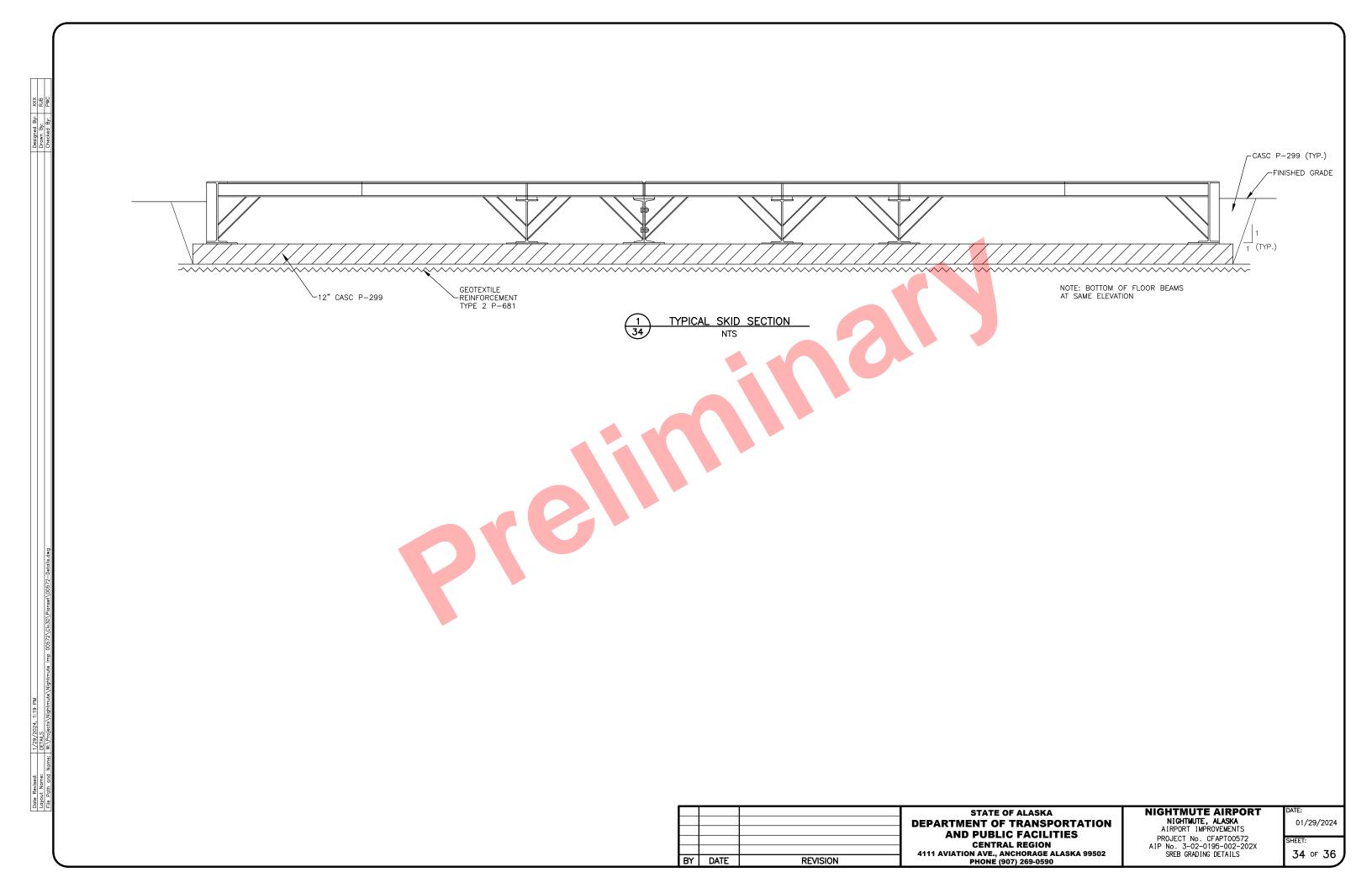
BY DATE REVISION

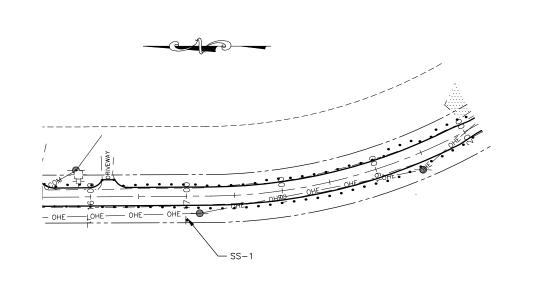
STATE OF ALASKA
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AND PUBLIC FACILITIES
CENTRAL REGION

AND PUBLIC FACILITIES
CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT NO. CFAPTO0572 AIP NO. 3-02-0195-002-202X APRON SITING DETAILS

01/29/2024 SHEET:

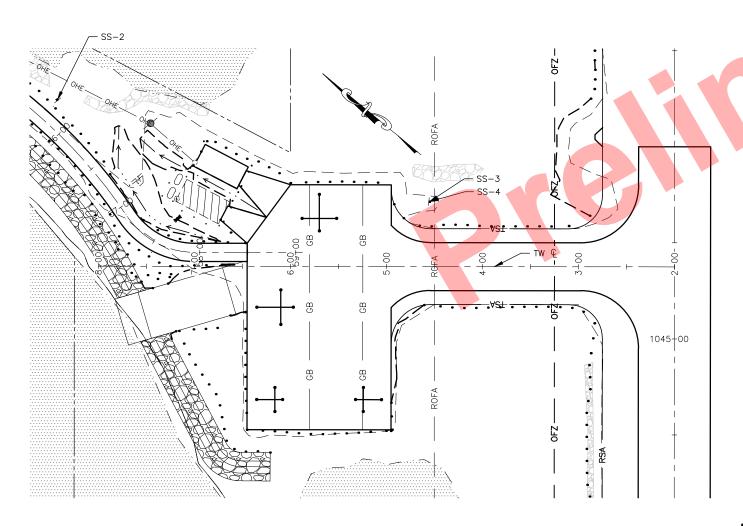




			AIRPORT	RT SIGN SUMMARY								
POST	07171011 1 055057	7.05	. 505115	0175 (1)	COLOR		AREA	SIGN	POSTS: NO.	FRA	MED	DEMARKO
NUMBER	STATION & OFFSET	TYPE	LEGEND	SIZE (IN)	LEGEND	BACKGROUND	(SF)	FACES	SIZE, TYPE	YES	NO	REMARKS
SS-1	ROAD € STA 17+00.00 25.00RT	R-2	SPEED LIMIT 20 MPH	24X30	BLACK	WHITE	5.00	w	1-2.5" STEEL SQUARE TUBE		Х	INSTALL SIGN HEIGHT PER ALASKA STANDARD PLAN S-05.02. INSTALL ON SLEEVE TYPE SOIL EMBEDMENT SEE ALASKA STANDARD PLAN S-30.05
SS-2	ROAD & STA 55+75.00 25.00LT	R-2	SPEED LIMIT 20 MPH	24X30	BLACK	WHITE	5.00	S	1-2.5" STEEL SQUARE TUBE		X	INSTALL SIGN HEIGHT PER ALASKA STANDARD PLAN S-05.02. INSTALL ON SLEEVE TYPE SOIL EMBEDMENT SEE ALASKA STANDARD PLAN S-30.05
SS-3	TW & STA 4+55.00 67.50RT	SPECIAL	SELECTIVE EXCLUSION	36X48	BLACK/RED	WHITE	12.00	NW	1-3.5" STEEL SQUARE TUBE		X	INSTALL SIGN HEIGHT PER ALASKA STANDARD PLAN S-05.02. INSTALL ON FRANGIBLE COUPLING SYSTEM WITH CONCRETE SIGN POST FOUNDATION SEE ALASKA STANDARD PLAN S-31.02 (SEE NOTE 1) SIGN SS-3 TO BE MOUNTED ON THE SAME POST AS SIGN SS-4.
SS-4	TW & STA 4+55.00 67.50RT	SPECIAL	AUTHORIZED PERSONNEL ONLY	42X30	WHITE	RED	8.75	NW	1-3.5" STEEL SQUARE TUBE		X	INSTALL SIGN HEIGHT PER ALASKA STANDARD PLAN S-05.02. INSTALL ON FRANGIBLE COUPLING SYSTEM WITH CONCRETE SIGN POST FOUNDATION SEE ALASKA STANDARD PLAN S-31.02 (SEE NOTE 1) SIGN SS-4 TO BE MOUNTED ON THE SAME POST AS SIGN SS-3.
NOTES:				•						•		

NOTES:

1. USE CONCRETE CONFORMING TO ITEM P-610 OF THE SPECIFICATIONS.

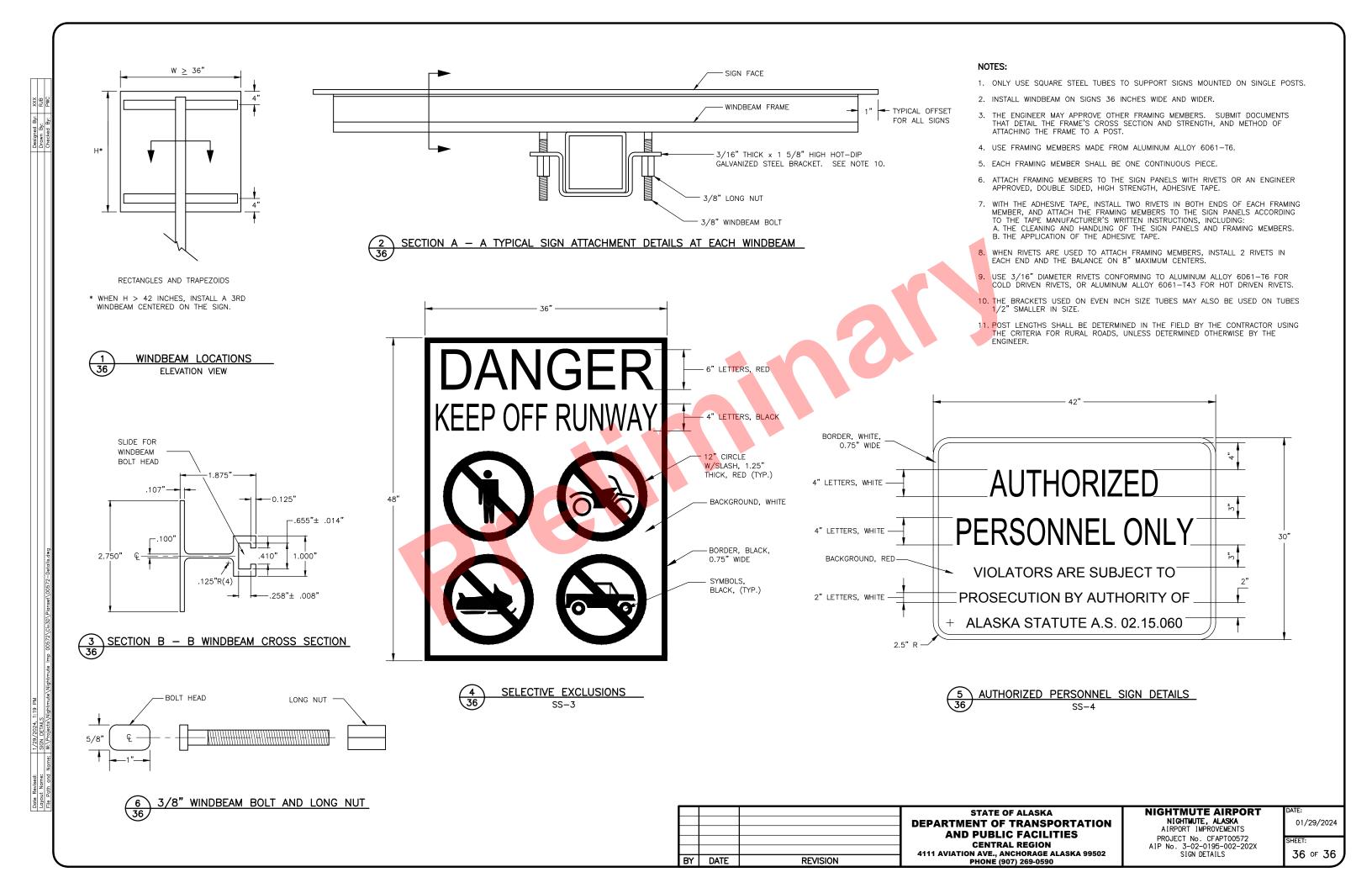


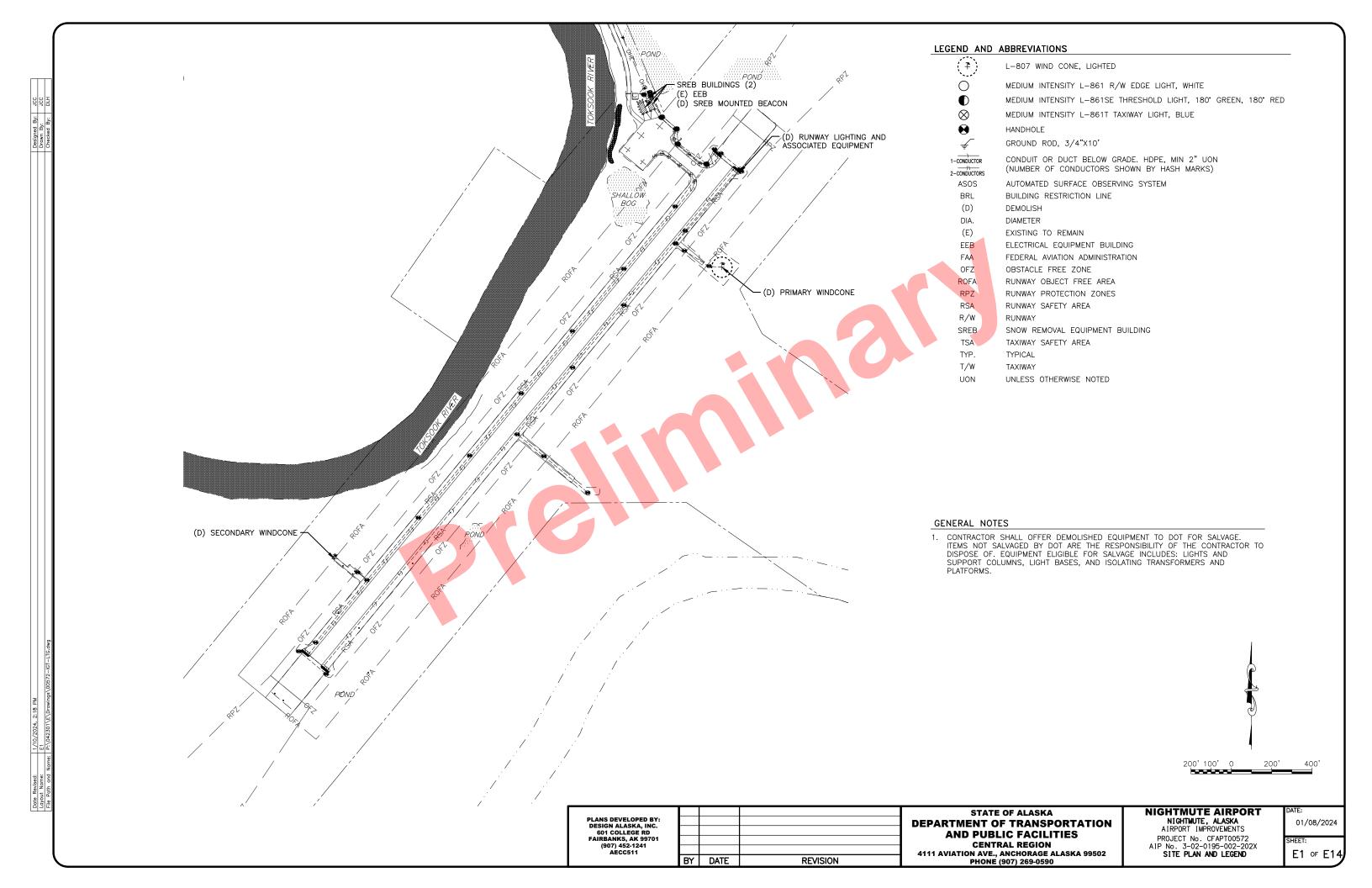
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			-
BY	DATE	REVISION	

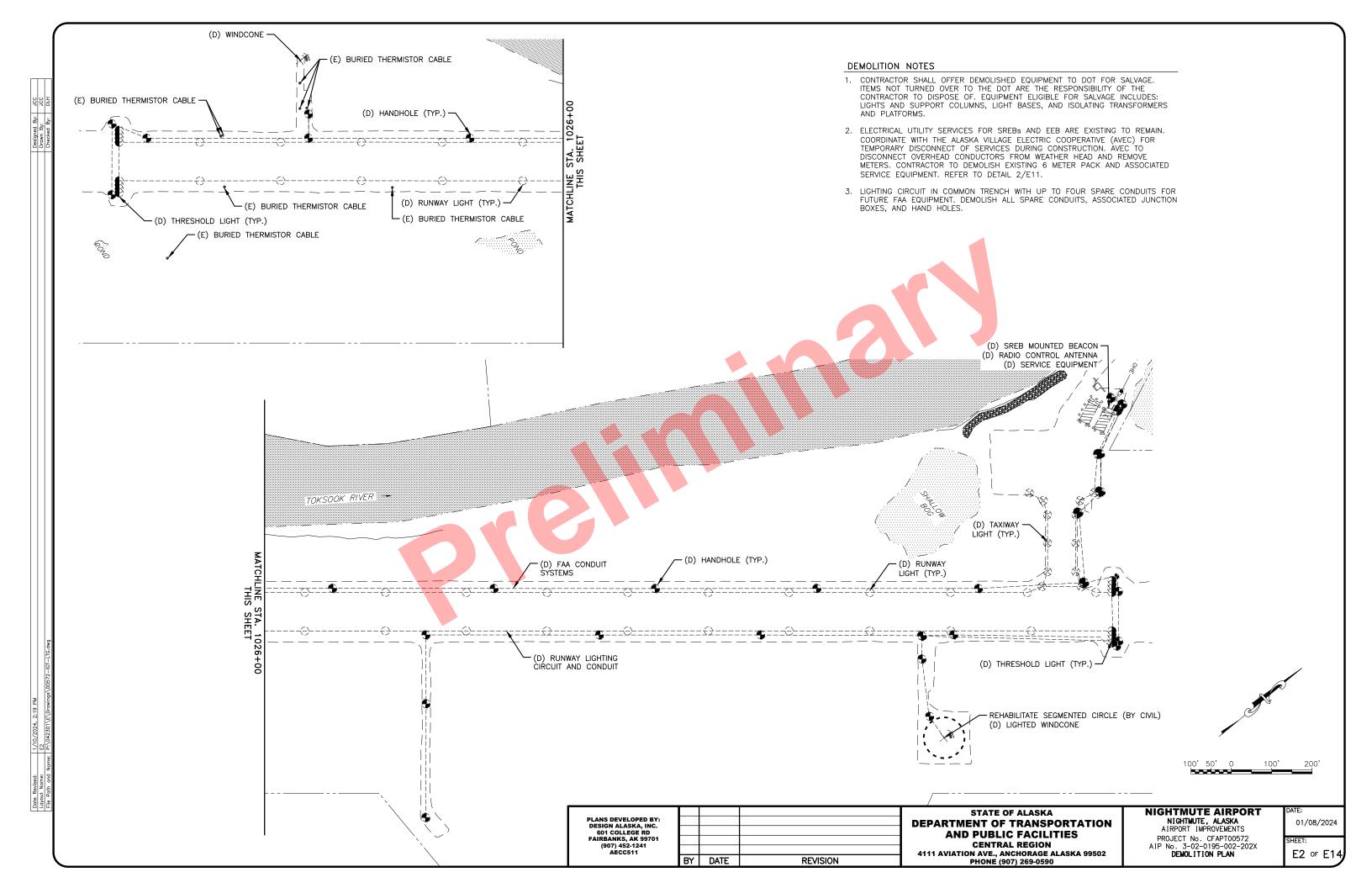
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES CENTRAL REGION
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

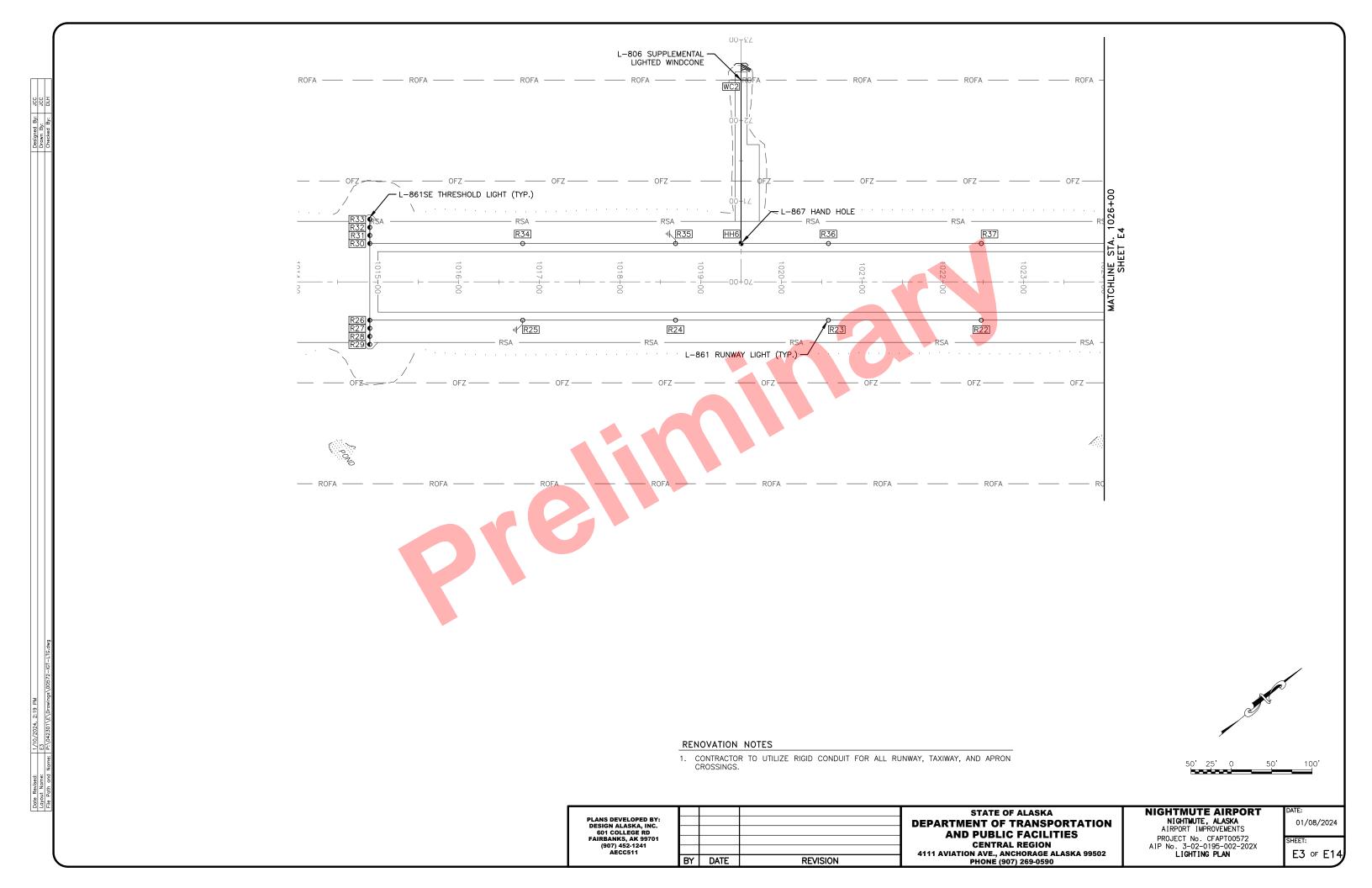
NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X SIGN PLAN

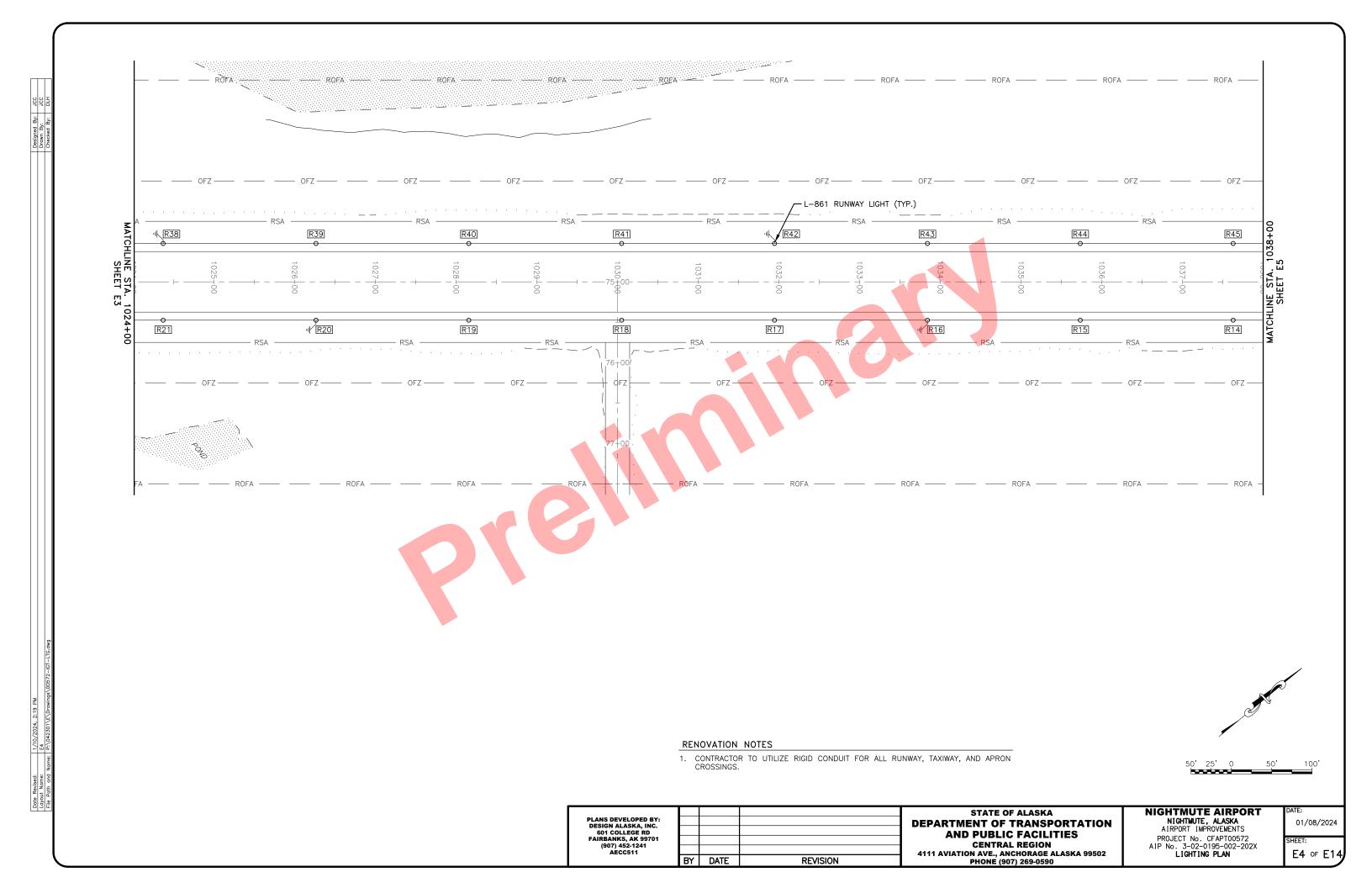
01/29/2024

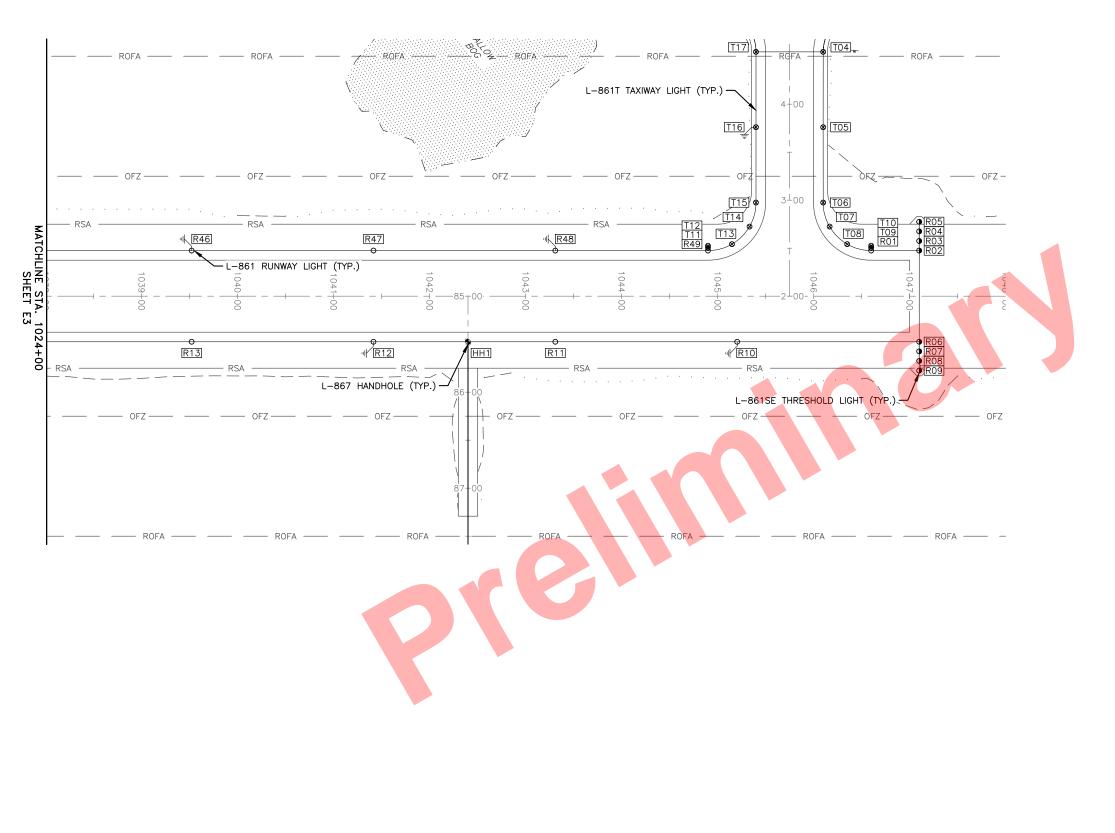






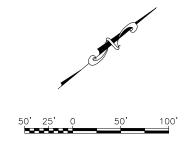






RENOVATION NOTES

1. CONTRACTOR TO UTILIZE RIGID CONDUIT FOR ALL RUNWAY, TAXIWAY, AND APRON CROSSINGS.



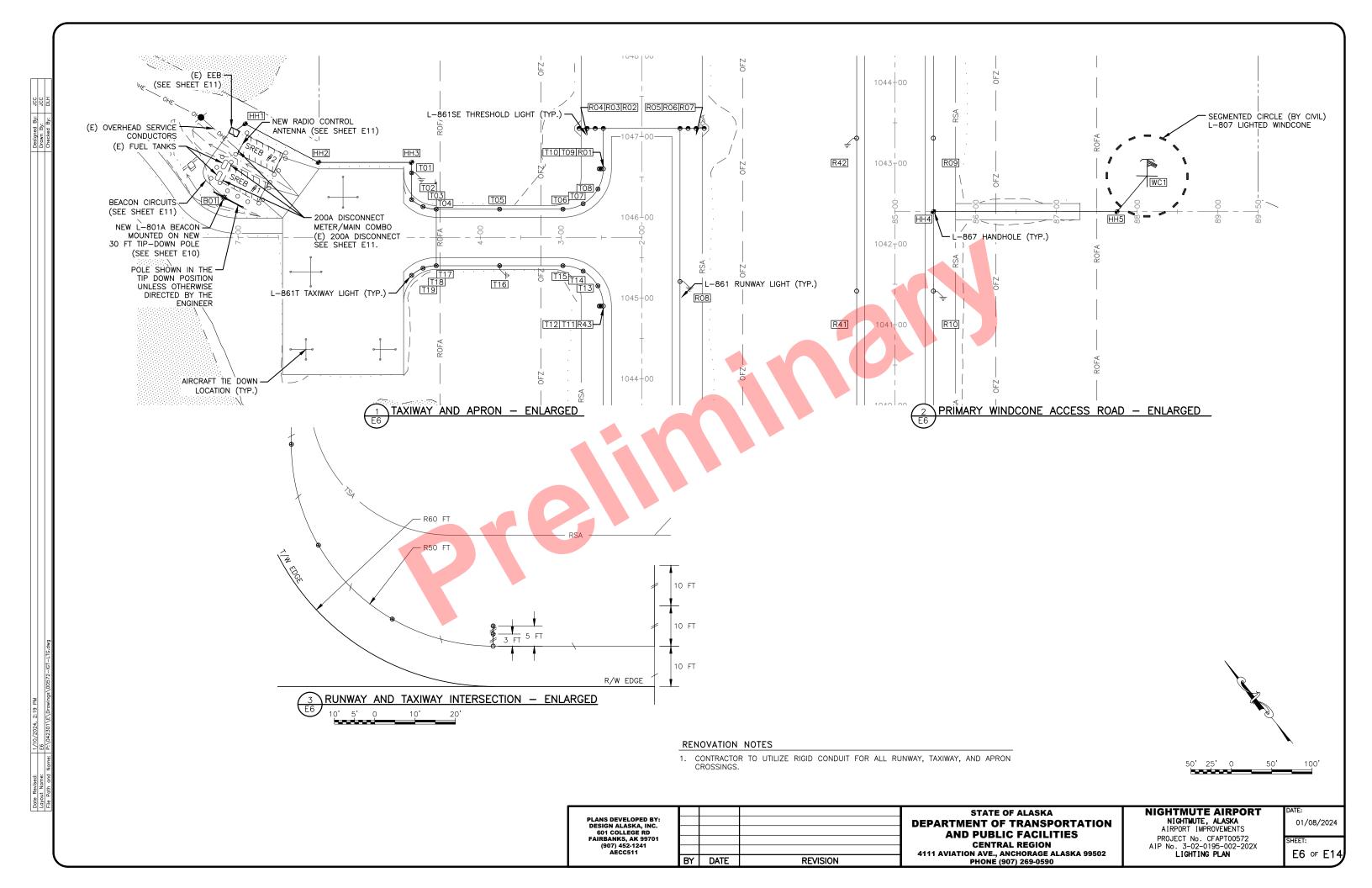
PLANS DEVELOPED BY:				DE
DESIGN ALASKA, INC. 601 COLLEGE RD				
FAIRBANKS, AK 99701				
(907) 452-1241 AECC511				4
	BY	DATE	REVISION	-

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
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4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X LIGHTING PLAN

01/08/2024 SHEET:

E5 of E14



	RUNWAY	03-21 LIGHTING	
LIGHT NO.	LIGHT	STATION	OFFSET
R01	L-861 EDGE LIGHT	'RW' 1046+60.0	47.5LT
R02	L-861SE 21 THRESHOLD	'RW' 1047+10.0	47.5LT
R03	L-861SE 21 THRESHOLD	'RW' 1047+10.0	57.5LT
R04	L-861SE 21 THRESHOLD	'RW' 1047+10.0	67.5LT
R05	L-861SE 21 THRESHOLD	'RW' 1047+10.0	77.5LT
R06	L-861SE 21 THRESHOLD	'RW' 1047+10.0	47.5RT
R07	L-861SE 21 THRESHOLD	'RW' 1047+10.0	57.5RT
R08	L-861SE 21 THRESHOLD	'RW' 1047+10.0	67.5RT
R09	L-861SE 21 THRESHOLD	'RW' 1047+10.0	77.5RT
R10	L-861 EDGE LIGHT	'RW' 1045+20.4	47.5RT
R11	L-861 EDGE LIGHT	'RW' 1043+31.0	47.5RT
R12	L-861 EDGE LIGHT	'RW' 1041+41.6	47.5RT
R13	L-861 EDGE LIGHT	'RW' 1039+52.2	47.5RT
R14	L-861 EDGE LIGHT	'RW' 1037+62.8	47.5RT
R15	L-861 EDGE LIGHT	'RW' 1035+73.4	47.5RT
R16	L-861 EDGE LIGHT	'RW' 1033+84.0	47.5RT
R17	L-861 EDGE LIGHT	'RW' 1031+94.6	47.5RT
R18	L-861 EDGE LIGHT	'RW' 1030+05.2	47.5RT
R19	L-861 EDGE LIGHT	'RW' 1028+15.8	47.5RT
R20	L-861 EDGE LIGHT	'RW' 1026+26.4	47.5RT
R21	L-861 EDGE LIGHT	'RW' 1024+37.0	47.5RT
R22	L-861 EDGE LIGHT	'RW' 1022+47.6	47.5RT
R23	L-861 EDGE LIGHT	'RW' 1020+58.2	47.5RT
R24	L-861 EDGE LIGHT	'RW' 1018+68.8	47.5RT
R25	L-861 EDGE LIGHT	'RW' 1016+79.4	47.5RT
R26	L-861SE 03 THRESHOLD	'RW' 1014+90.0	47.5RT
R27	L-861SE 03 THRESHOLD	'RW' 1014+90.0	57.5RT
R28	L-861SE 03 THRESHOLD	'RW' 1014+90.0	67.5RT
R29	L-861SE 03 THRESHOLD	'RW' 1014+90.0	77.5RT
R30	L-861SE 03 THRESHOLD	'RW' 1014+90.0	47.5LT
R31	L-861SE 03 THRESHOLD		57.5LT
R32	L-861SE 03 THRESHOLD	'RW' 1014+90.0	67.5LT
		'RW' 1014+90.0	
R33	L-861SE 03 THRESHOLD	'RW' 1014+90.0	77.5RT
R34	L-861 EDGE LIGHT	'RW' 1016+79.4	47.5LT
R35	L-861 EDGE LIGHT	'RW' 1018+68.8	47.5LT
R36	L-861 EDGE LIGHT	'RW' 1020+58.2	47.5LT
R37	L-861 EDGE LIGHT	'RW' 1022+47.6	47.5LT
R38	L-861 EDGE LIGHT	'RW' 1024+37.0	47.5LT
R39	L-861 EDGE LIGHT	'RW' 1026+26.4	47.5LT
R40	L-861 EDGE LIGHT	'RW' 1028+15.8	47.5LT
R41	L-861 EDGE LIGHT	'RW' 1030+05.2	47.5LT
R42	L-861 EDGE LIGHT	'RW' 1031+94.6	47.5LT
R43	L-861 EDGE LIGHT	'RW' 1033+84.0	47.5LT

R44	L-861 EDGE LIGHT	'RW' 1035+73.4	47.5LT
R45	L-861 EDGE LIGHT	'RW' 1037+62.8	47.5LT
R46	L-861 EDGE LIGHT	'RW' 1039+52.2	47.5LT
R47	L-861 EDGE LIGHT	'RW' 1041+41.6	47.5LT
R48	L-861 EDGE LIGHT	'RW' 1043+31.0	47.5LT
R49	L-861 EDGE LIGHT	'RW' 1044+90.0	47.5LT

TAXIWAY LIGHTING					
LIGHT NO.	LIGHT	STATION	OFFSET		
T01	L-861T EDGE LIGHT	'TW' 4+85.0	80.0RT		
T02	L-861T EDGE LIGHT	'TW' 4+85.0	46.9RT		
T03	L-861T EDGE LIGHT	'TW' 4+70.9	38.1RT		
T04	L-861T EDGE LIGHT	'TW' 4+54.5	35.0RT		
T05	L-861T EDGE LIGHT	'TW' 3+76.0	35.0RT		
T06	L-861T EDGE LIGHT	'TW' 2+97.5	35.0RT		
T07	L-861T EDGE LIGHT	'TW' 2+72.5	41.7RT		
T08	L-861T EDGE LIGHT	'TW' 2+54.2	60.0RT		
T09	L-861T EDGE LIGHT	'TW' 2+52.5	85.0RT		
T10	L-861T EDGE LIGHT	'TW' 2+50.5	85.0RT		
T11	L-861T EDGE LIGHT	'TW' 2+50.5	85.0LT		
T12	L-861T EDGE LIGHT	'TW' 2+52.5	85.0LT		
T13	L-861T EDGE LIGHT	'TW' 2+54.2	60.0LT		
T14	L-861T EDGE LIGHT	'TW' 2+72.5	41.7LT		
T15	L-861T EDGE LIGHT	'TW' 2+97.5	35.0LT		
T16	L-861T EDGE LIGHT	'TW' 3+76.0	35.0LT		
T 17	L-861T EDGE LIGHT	'TW' 4+54.5	35.0LT		
T18	L-861T EDGE LIGHT	'TW' 4+70.9	38.1LT		
T19	L-861T EDGE LIGHT	'TW' 4+85.0	46.9LT		

WIND CONE A		AND BEACON LIGHT	-S
LIGHT NO.	LIGHT	STATION	OFFSET
WC1	L-807 WIND CONE	'WC'88+12.4	44.2LT
WC2	L-806 WIND CONE	'SC' 72+50.0	0.00
HH4	L-867 HANDHOLE	'WC'85+47.5	0.00
HH5	L-867 HANDHOLE	'WC'87+75.0	0.00
HH6	L-867 HANDHOLE	'SC' 70+47.5	0.00
B01	L-801A(L) BEACON	'TW' 7+17.5	49.7RT

	LIGHTING HANDHOLES			
LIGHT NO.	LIGHT	STATION	OFFSET	
HH1	L-867 HANDHOLE	'TW' 6+91.2	140.8RT	
HH2	L-867 HANDHOLE	'TW' 6+00.3	93.0RT	
HH3	L-867 HANDHOLE	'TW' 4+85.0	93.0RT	

GENERAL NOTES

1. HANDHOLE LOCATIONS MAY BE FIELD ADJUSTED AS APPROVED BY THE ENGINEER.

PLANS DEVELOPED BY: DESIGN ALASKA, INC. 601 COLLEGE RD FAIRBANKS, AK 99701 (907) 452-1241 AECC511 BY DATE REVISION

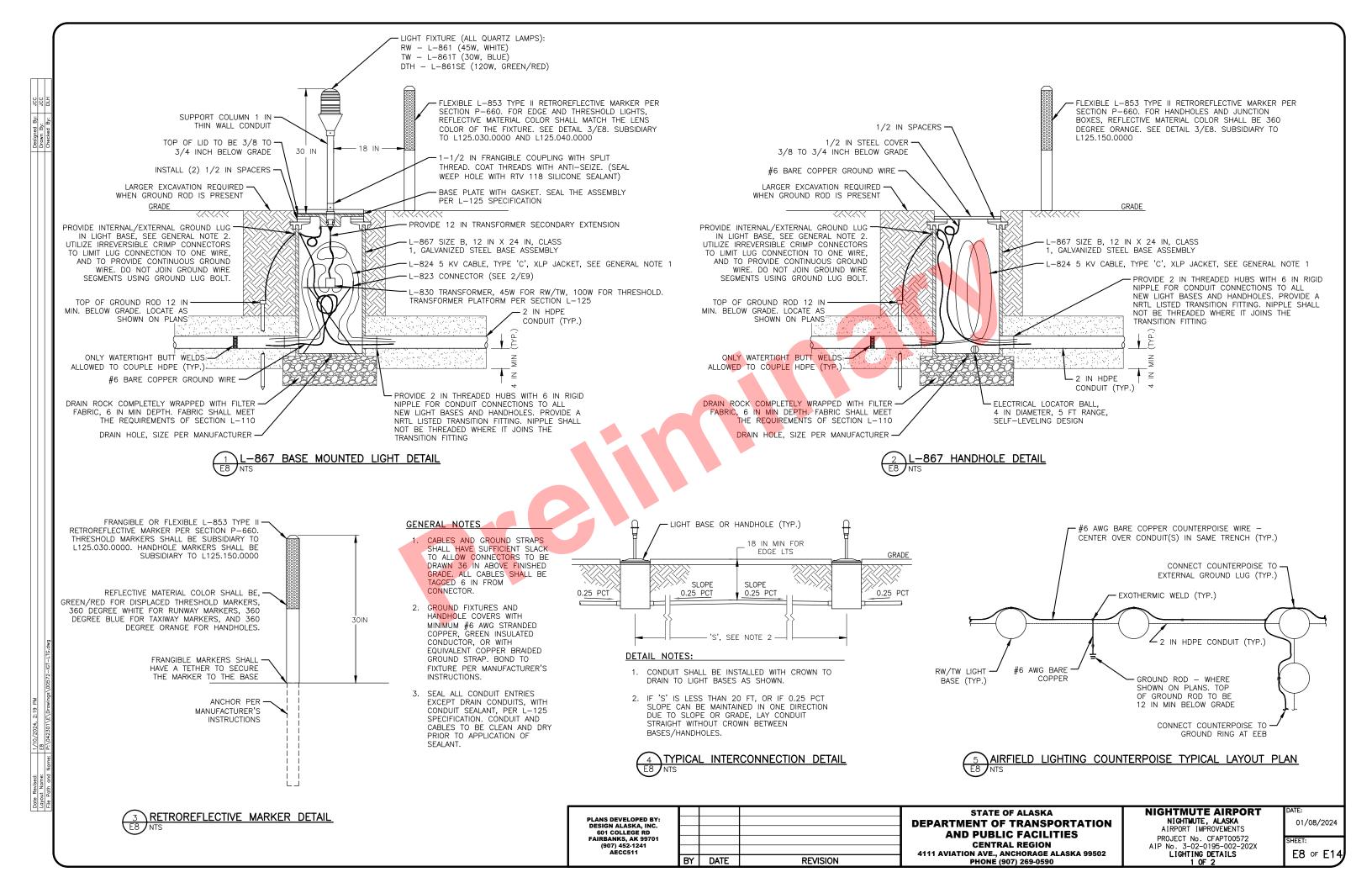
STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION** AND PUBLIC FACILITIES CENTRAL REGION

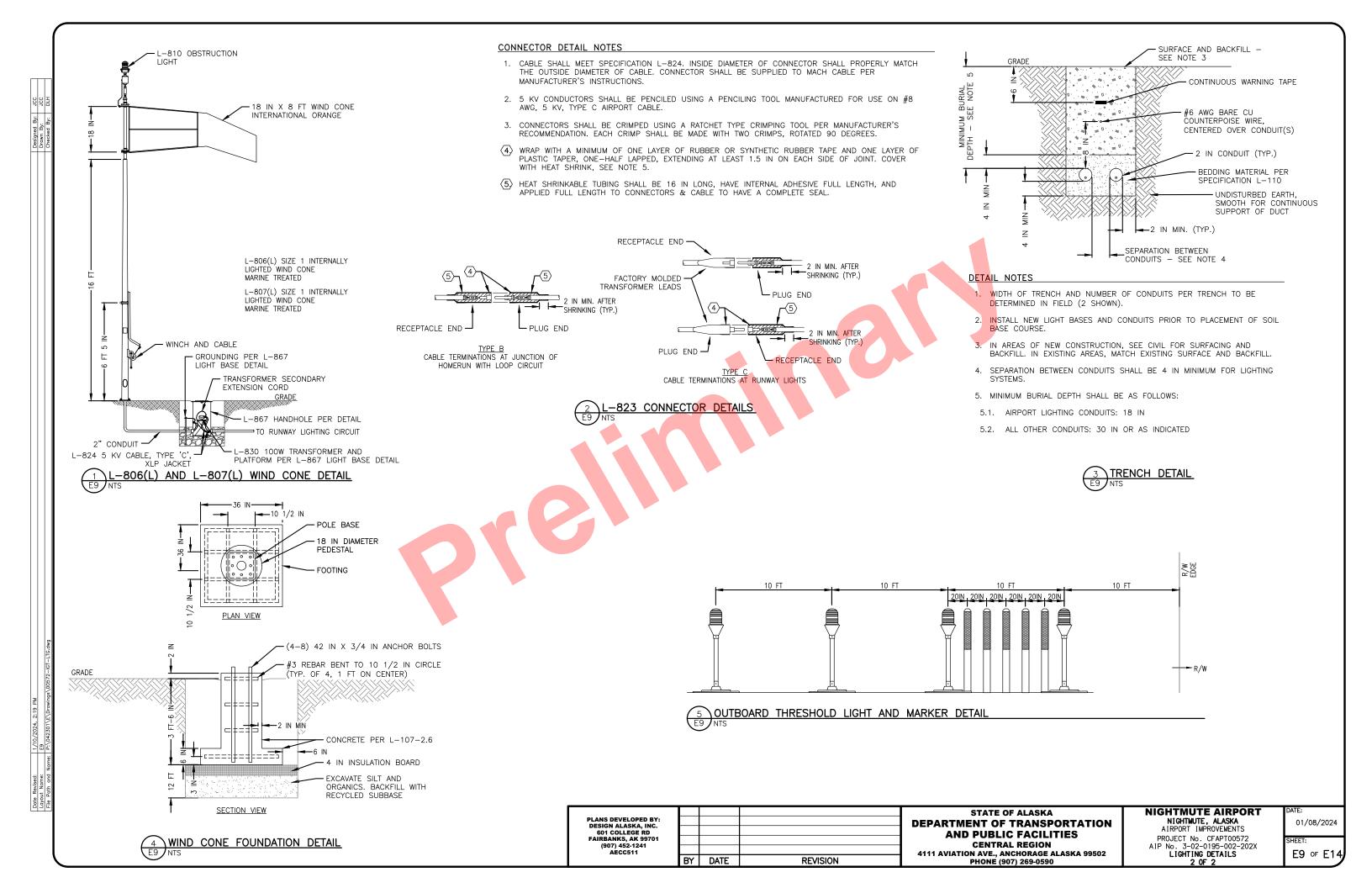
NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X LIGHT STATIONING 4111 AVIATION AVE., ANCHORAGE ALASKA 99502 PHONE (907) 269-0590

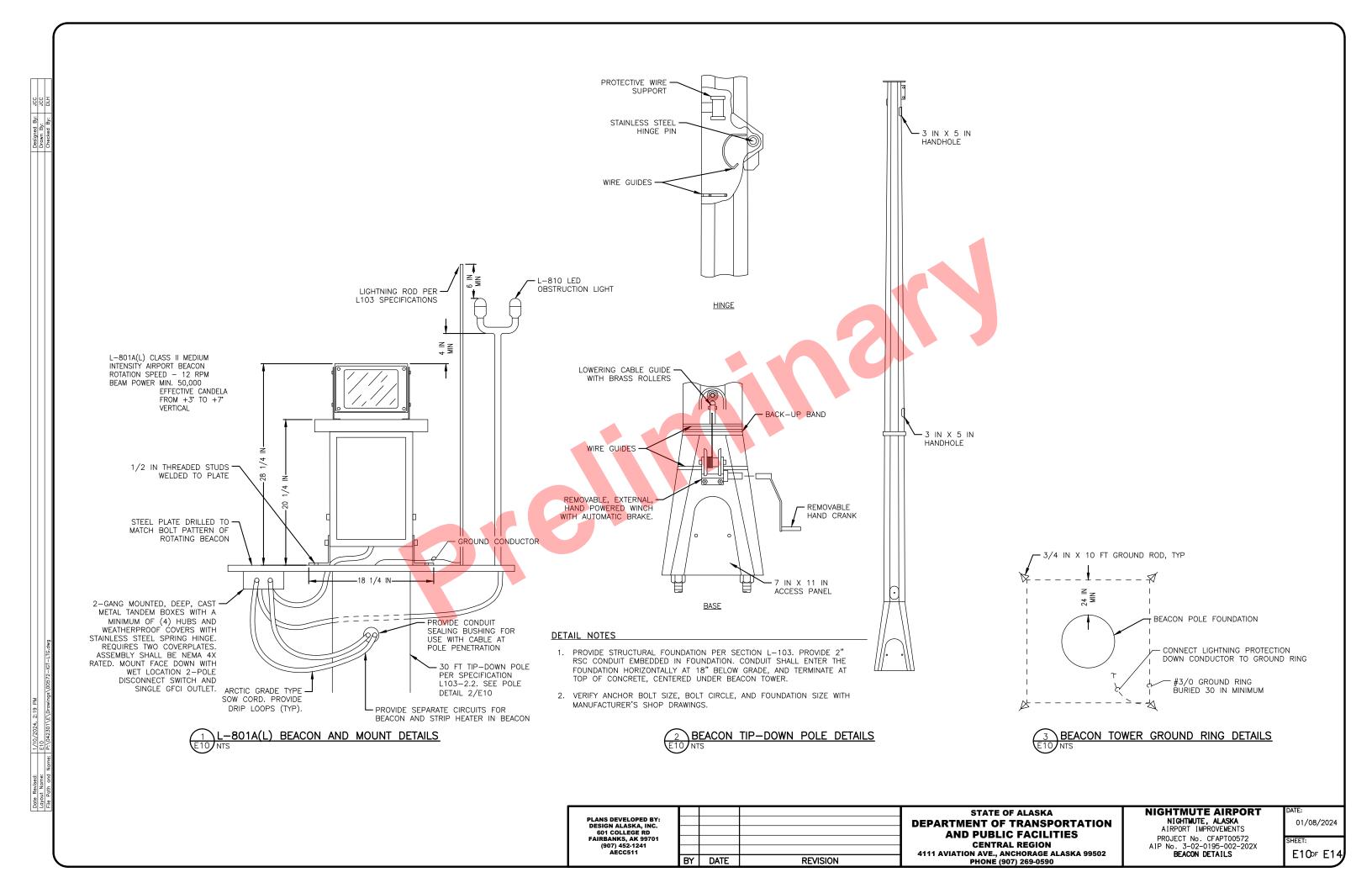
NIGHTMUTE AIRPORT

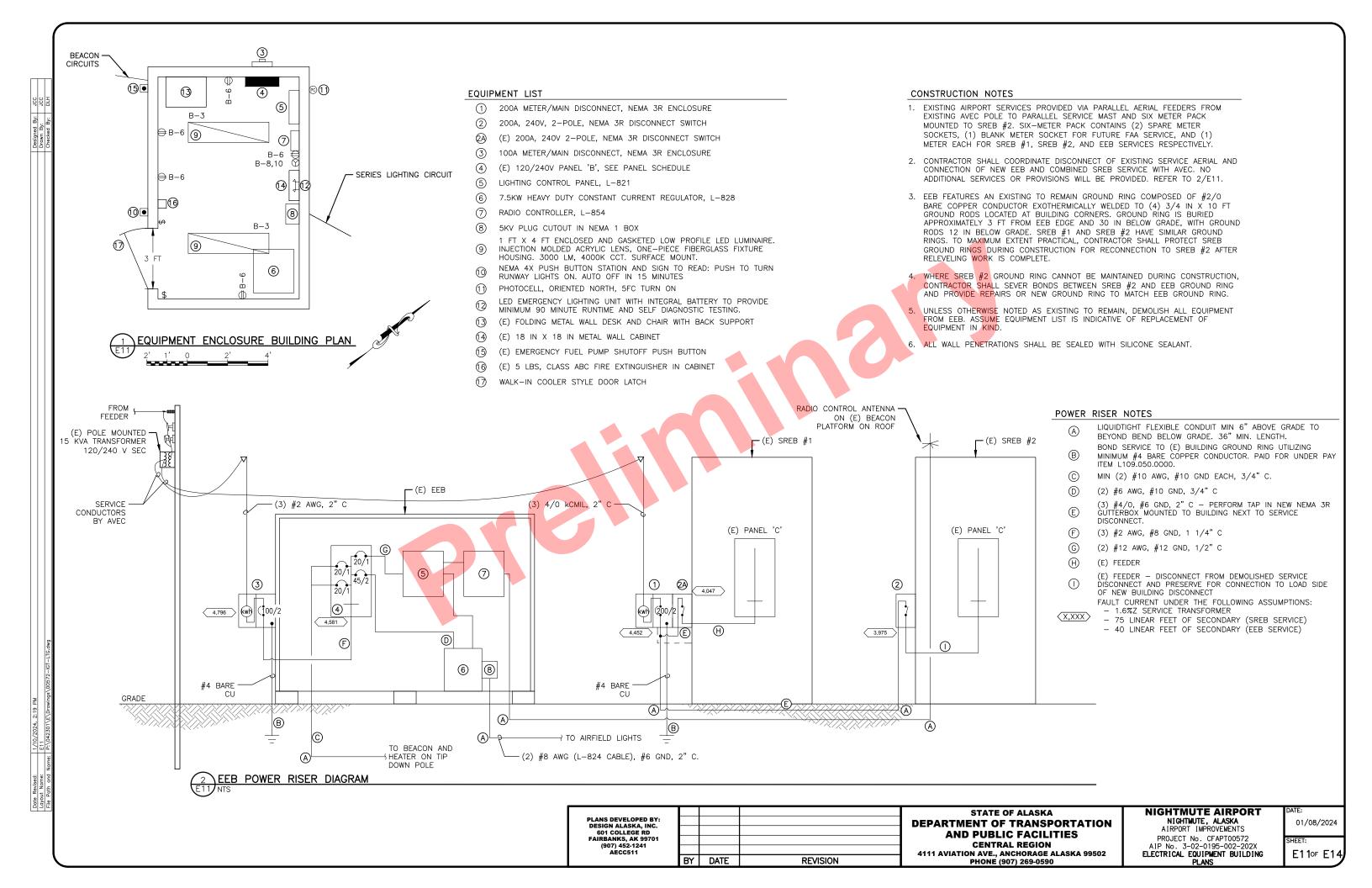
01/08/2024

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	Designed By:	CC	
	Drawn By:	200	
6,dwg	Checked By:	DLH	

(E) PANEL 'B' VOLTS: 120/240 V LOCATION: EEB A.I.C. RATING: 10,000 A PHASES: 1 MAINS TYPE: MLO SUPPLY: SERVICE MOUNTING: SURFACE WIRES: 3 MAINS RATING: 100 A POLE SPACES: 30 PANELBOARD FEEDER C/B RATING: 100 A ENCLOSURE: NEMA TYPE 1 NOTES: LOAD LOAD LOAD CKT CKT LOAD BUS TRIP P TRIP LOAD SERVED LOAD SERVED (VA) (VA) NO NO TYPE TYPE 1 1 20 LIGHTING CONTROL PANEL 500 Α 136 ROTATING BEACON AND MOTOR 20 2 ROTATING BEACON HEATER 3 1 20 ENCLOSURE LIGHTING 78 В 400 20 4 5 1 20 (E) BEACON RECEPTACLE R 180 Α 900 R REC-INTERIOR 20 6 7 1 20 SPARE EEB HEATER (2 KW) S В 1,000 С 20 2 0 8 9 2 45 7.5 KW RW REGULATOR 2,450 1,000 С 10 Α (E) FUEL DISPENSER 11 1,200 Ε 2,450 В Ε 20 12 13 -- PREPARED SPACE PREPARED SPACE 0 Α 0 14 15 16 0 В 0 17 0 Α 0 18 19 В 20 21 22 0 Α 0 23 24 В 0 0 25 26 0 Α 0 27 28 В 0 0 29 ---- 30 Α 0 0 CONNECTED LOAD CALCULATIONS: LOAD BALANCE CURRENT LOAD PERCENTAGE PHASE A 5.166 VA 50% 43.1 A 43% PHASE B 5,128 VA 42.7 A 43% 50% PHASE C TOTAL CONNECTED LOAD: 10,294 VA 42.9 A 43% NEC DEMAND LOAD CALCULATIONS: LOAD **FACTOR** TOTAL CURRENT LOAD PERCENTAGE L=LIGHTING X125% 78 VA 125% 98 VA 0.4 A 0% R=RECEPTACLES (NEC 220.44) 1,080 VA 100% 1,080 VA 4.5 A 5% C=EQUIPMENT (CONT.) X125% 2,400 VA 125% 3,000 VA 12.5 A 13% E=EQUIPMENT (NON-CONT.) X100% 6,600 VA 100% 6,600 VA 27.5 A 28% M=MOTORS (+25% OF LARGEST) 125% 170 VA 0.7 A 1% A=APPLIANCES (NEC 220.56) TOTAL DEMAND LOAD: 10,294 VA 106% 10,948 VA 45.6 A 46%

PLANS DEVELOPED BY:
DESIGN ALASKA, INC.
601 COLLEGE RD
FAIRBANKS, AK 99701
(907) 452-1241
AECC511

BY DATE REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION

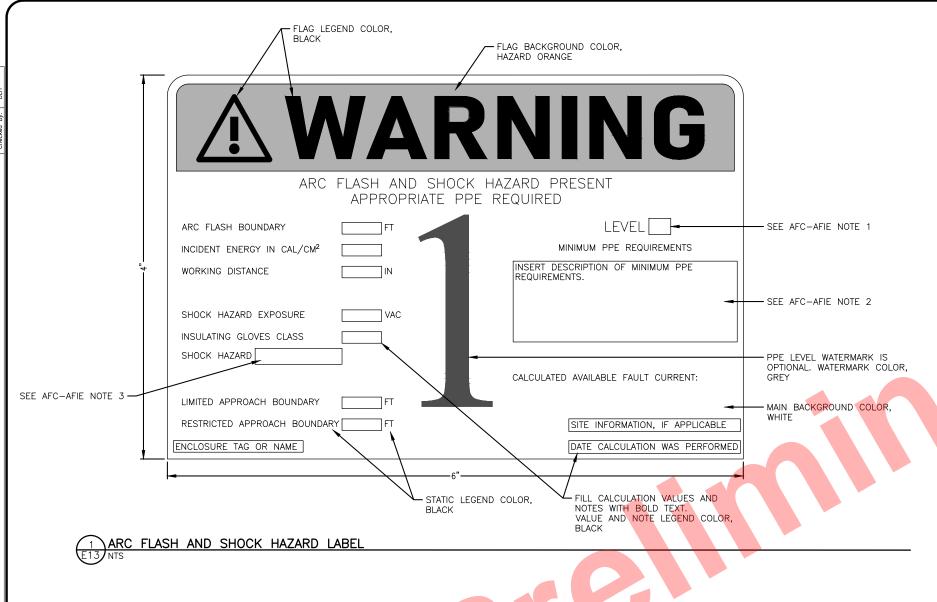
4111 AVIATION AVE., ANCHORAGE ALASKA 99502

PHONE (907) 269-0590

NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT NO. CFAPT00572 AIP No. 3-02-0195-002-202X PANEL SCHEDULES

01/08/2024

E120F E14



ARC FLASH AND SHOCK HAZARD LABEL (AFC-AFIE) NOTES

1. THE EEB AND SREB SERVICE DISCONNECTS SHALL BE LABLED WITH DOT&PF-DEFINED SITE-SPECIFIC PERSONNEL PROTECTIVE EQUIPMENT (PPE) LEVELS, AS DEFINED IN NFPA 70E 130.5(H)(3)(C). THE PPE CALORIE LEVELS PER SQUARE-CENTIMETER ARE:

- LEVEL 1: 0 TO 4.0 - LEVEL 2: 4.1 TO 8.0 - LEVEL 3: 8.1 TO 25.0

- LEVEL 4: 25.1 TO 39.9

- WORK PROHIBITED (WP): CALCULATED INCIDENT ENERGY EXCEEDS 40.0

2. MINIMUM PPE REQUIREMENTS FOR EACH PPE LEVEL DESCRIBED IN THE PREVIOUS NOTE ARE THE SAME REQUIREMENTS AS DESCRIBED IN NFPA 70E TABLE 130.7(C)(15)(C). THESE PPE REQUIREMENTS ARE TO BE USED AS THE SITE-SPECIFIC PPE LÉVELS.

3. PROVIDE DESCRIPTION OF EQUIPMENT CONFIGURATIONS IN WHICH A HAZARD EXISTS FOR EXAMPLE: "WHEN COVER REMOVED".

4. ALL REFERENCES ARE TO NFPA 70E 2021 EDITION.

ARC FLASH CALCULATIONS							
	METERBASE - SREB	SREB #1 DISCONNECT	PANEL 'C' (SREB #1)	SREB #2 DISCONNECT	PANEL 'C' (SREB #2)	METERBASE - EEB	PANEL 'B'
ARC FLASH BOUNDARY	19 IN	19 IN	19 IN	19 IN	19 IN	19 IN	19 IN
INCIDENT ENERGY	0.74 CAL/CM^2	0.66 CAL/CM^2	0.66 CAL/CM^2	0.65 CAL/CM^2	0.65 CAL/CM^2	0.58 CAL/CM^2	0.76 CAL/CM^2
WORKING DISTANCE	18 IN	18 IN	18 IN	18 IN	18 IN	18 IN	18 IN
SHOCK HAZARD EXPOSURE	240 VAC	240 VAC	240 VAC	240 VAC	240 VAC	240 VAC	240 VAC
INSULATING GLOVES GLASS	CLASS 00 (BEIGE)	CLASS 00 (BEIGE)	CLASS 00 (BEIGE)	CLASS 00 (BEIGE)	CLASS 00 (BEIGE)	CLASS 00 (BEIGE)	CLASS 00 (BEIGE)
LIMITED APPROACH BOUNDARY	42 IN	42 IN	42 IN	42 IN	42 IN	42 IN	42 IN
RESTRICTED APPROACH BOUNDARY	12 IN	12 IN	12 IN	12 IN	12 IN	12 IN	12 IN
PPE LEVEL	1	1	1	1	1	1	1
CALCULATION DATE	1/4/2024						

PLANS DEVELOPED BY: DESIGN ALASKA, INC. 601 COLLEGE RD FAIRBANKS, AK 99701 (907) 452-1241 AECC511 BY DATE REVISION

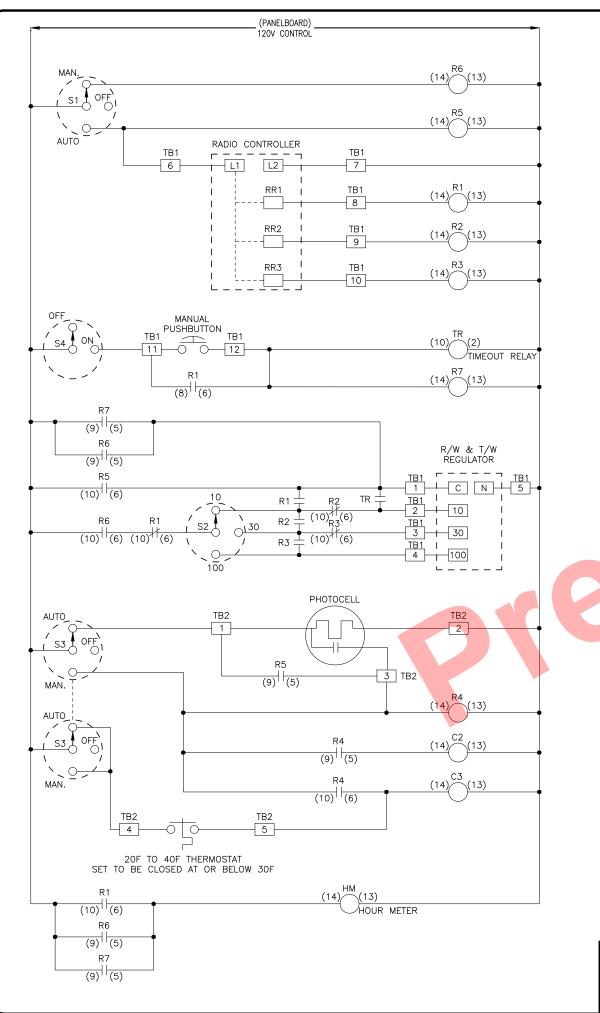
STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES**

CENTRAL REGION 4111 AVIATION AVE., ANCHORAGE ALASKA 99502 PHONE (907) 269-0590

NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X
PANEL ARC FLASH INFORMATION

01/08/2024

E130F E14



CONTROL EQUIPMENT

RELAYS RR1, RR2, & RR3 ARE INTERNAL IN THE RADIO CONTROLLER.

RELAYS R1. R2. R3. & R4 SHALL BE ENCLOSED. PLUG-IN TYPE WITH 10A. 120V. 60HZ CONTACTS, 120V 60HZ OPERATING COIL, SUITABLE FOR OPERATION AT -60 DEG F.

TERMINAL BLOCKS TB1, TB2, & TB3 SHALL HAVE TERMINALS RATED 30A, 120V, 60HZ.

CONTACTORS C1, C2, & C3 SHALL BE ENCLOSED, WITH 30A, 120V, 60HZ CONTACTS, 120V 60 HZ OPERATING COILS, AND BE SUITABLE FOR OPERATION AT -60 DEG F.

NOTES

THIS CONTROL DIAGRAM ASSUMES THAT THE RADIO CONTROLLER RELAYS ARE PROGRAMMED TO BE OPERATED "SEQUENTIALLY", SUCH THAT WITHIN A 5 SECOND PERIOD:

- RR1 IS ACTIVATED IF 3 PULSES ARE RECEIVED - RR2 IS ACTIVATED IF 5 PULSES ARE RECEIVED
- RR3 IS ACTIVATED IF 7 PULSES ARE RECEIVED

RELAYS SHALL BE GENERAL PURPOSE CONTROL RELAYS, UNLESS OTHERWISE NOTED.

TERMINAL NUMBERS AND RELAY CONNECTION NUMBERS ARE FOR REFERENCE ONLY AS-BUILT DRAWINGS ARE TO SHOW NUMBERS USED.

LIGHTING CONTROL SEQUENCE

1. MANUAL - AT CONTROL PANEL

SWITCH S1 - SET TO MANUAL 1.A.1. RUNWAY LIGHTS - ON

1.A.2.

TAXIWAY LIGHTS - ON WIND CONE LIGHTS - ON 100% INTENSITY

BEACON - ON 100% INTENSITY 1.A.4.

1.B. SWITCH S4 - ON

MANUAL PUSHBUTTON DEPRESSED 1.B.1. 1 B 1 RUNWAY LIGHTS - ON

TAXIWAY LLIGHTS - ON

WIND CONE LIGHTS - ON 100% INTENSITY 1.B.1.3.

1.B.1.4. BEACON - ON 100% INTENSITY

START/RESTART 15 MINUTE TIMER

1.C. SWITCH S2 - SELECT RUNWAY LIGHT INTENSITY, 10-30-100% IN MANUAL & TIME RELAY POSITION

2. AUTOMATIC - SWITCH S1 - SET TO AUTO

2.A. RADIO CONTROLLER

RELAY RR1 ACTIVATED

2.A.1.1. RUNWAY LIGHTS - ON 10% INTENSITY TAXIWAY LIGHTS - ON 10% INTENSITY 2.A.1.3. WIND CONE LIGHTS - ON 100% INTENSITY

2.A.1.4. BEACON - ON 100% INTENSITY

RELAY RR1 & RR2 ACTIVATED

2.A.2.1. RUNWAY LIGHTS - ON 30% INTENSITY

2.A.2.2. TAXIWAY LIGHTS - ON 30% INTENSITY

2.A.2.3. WIND CONE LIGHTS - ON 100% INTENSITY

2.A.2.4. BEACON - 100% INTENSITY

2.A.3. RELAY RR1, RR2, & RR3 ACTIVATED

2.A.3.1. RUNWAY LIGHTS - ON 100% INTENSITY 2.A.3.2. TAXIWAY LIGHTS - ON 100% INTENSITY

2.A.3.3. WIND CONE LIGHTS - ON 100% INTENSITY

2.A.3.4. BEACON - 100% INTENSITY

2.A.4. RELAY RR1, RR2, & RR3 DEACTIVATED BY INTERNAL TIMER

2.A.4.1. RUNWAY LIGHTS - OFF

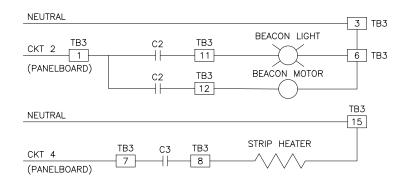
2.A.4.2. TAXIWAY LIGHTS - OFF

2.A.4.3. WIND CONE LIGHTS - OFF 2.A.4.4. BEACON - SWITCH S3 CONTROL

3. SWITCH S3 ALLOWS MANUAL OR AUTOMATIC OPERATION OFF THE ROTATING BEACON, AUTOMATIC OPERATION CONTROLLED BY PHOTOCELL OR R/W AND T/W LIGHTING SYSTEMS. THE THERMOSTAT OPERATES THE STRIP HEATER IN MANUAL & AUTOMATIC POSITIONS

4. EXTERNAL MANUAL PUSHBUTTON TURNS RUNWAY LIGHTS ON AT SWITCH S2 BRIGHTNESS LEVEL FOR 15 MINUTES (TIMEOUT ADJUSTABLE BY TIMER). PRESSING MANUAL PUSHBUTTON AGAIN WITHIN TIMEOUT PERIOD

5. SWITCH S4 WILL NOT OVERRIDE AUTOMATIC OPERATION BY THE RADIO CONTROLLER NOR MANUAL OPERATION AT THE CONTROL PANEL.



PLANS DEVELOPED BY: DESIGN ALASKA, INC. 601 COLLEGE RD FAIRBANKS, AK 99701 (907) 452-1241 AECC511 BY DATE REVISION

STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION** AND PUBLIC FACILITIES

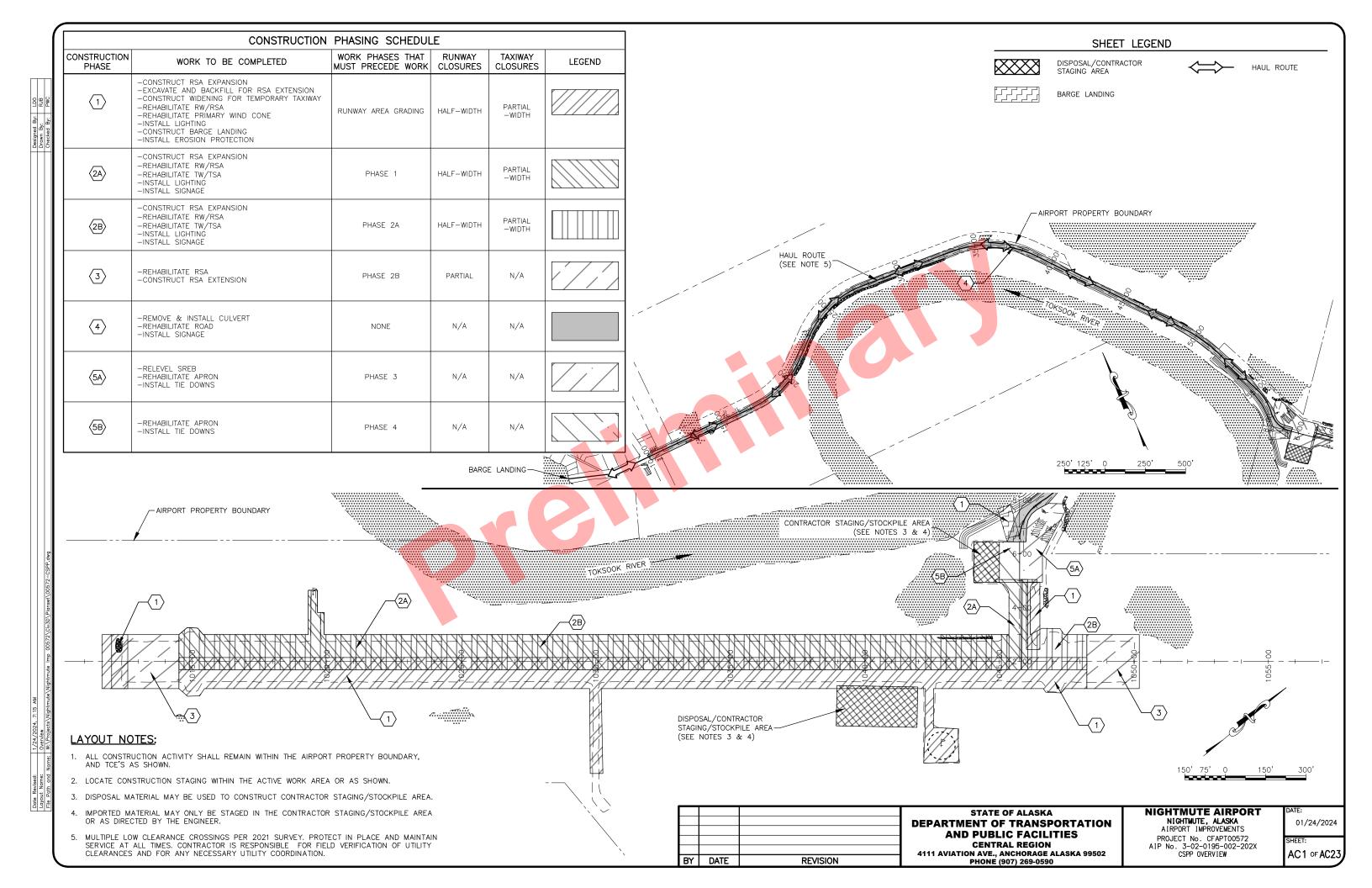
CENTRAL REGION 4111 AVIATION AVE., ANCHORAGE ALASKA 99502 PHONE (907) 269-0590

NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS

PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X LIGHTING CONTROL DIAGRAM PLANS

01/08/2024

E140F E14



GENERAL SAFETY REQUIREMENTS

- 1. SEE APPENDIX C OF THE SPECIFICATIONS FOR THE CONSTRUCTION SAFETY AND PHASING PLAN(CSPP) REQUIREMENTS. THE CONTRACTOR SHALL COMPLY WITH THE SAFETY REQUIREMENTS AS REQUIRED IN THE CSPP. ALL SAFETY RELATED WORK SHALL BE SUBSIDIARY TO THE CONTRACT AND NO ADDITIONAL PAYMENT WILL BE MADE.
- 2. THE CONTRACTOR SHALL SUBMIT A SAFETY PLAN COMPLIANCE DOCUMENT, PER FAA AC 150/5370-2. TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ISSUANCE OF A NOTICE TO PROCEED. IF THE CONSTRUCTION PHASING PLAN DIFFERS FROM WHAT IS SHOWN OR IF SUBSEQUENT CHANGES ARE MADE, SUBMIT A REVISION TO THE ENGINEER FOR REVIEW AND APPROVAL
- 3. THIS PROJECT WILL REQUIRE THAT PORTIONS OF THE RUNWAY, TAXIWAY, AND APRON BEING WORKED ON BE CLOSED TO AIRCRAFT OPERATIONS, NO WORK WILL BE ALLOWED IN AREAS THAT ARE OPEN TO AIRCRAFT OPERATIONS. DURING PHASES 1, 2A, 2B, 3, 5A, AND 5B, THE CLOSED PORTIONS OF THE RUNWAY AND TAXIWAY MAY BE USED AS A HAUL ROUTE. AIRCRAFT ALWAYS HAVE THE RIGHT OF WAY. ALL GROUND VEHICLES MUST YIELD TO AIRCRAFT AT ALL TIMES.
- 4. WHEN WORKING NEAR THE OPEN RUNWAY, EVACUATE ALL PERSONNEL AND EQUIPMENT TO THE SAFE ZONES DESCRIBED IN DETAILS 1 AND 2 ON SHEET AC20, 5 MINUTES PRIOR TO AND 5 MINUTES AFTER ALL ARRIVALS AND DEPARTURES. WHEN PERSONNEL AND EQUIPMENT CANNOT BE EVACUATED TO THE SAFE ZONES, THEY MUST EVACUATE THE RUNWAY SAFETY AREA (RSA) AND/OR TAXIWAY SAFETY AREA (TSA) AND MOVE AS FAR AWAY FROM THE RUNWAY CENTERLINE AS PRACTICAL DURING AIRCRAFT OPERATIONS. IN NO CASE CAN PERSONNEL OR EQUIPMENT BE INSIDE THE RSA, OFA, OR TSA DURING AIRCRAFT OPERATIONS.
- 5. DETERMINE THE TIMES OF SCHEDULED FLIGHTS INTO IGT AND ALLOW AIRCRAFT TO USE THE RUNWAY DURING THE SCHEDULED TIMES. THE CONTRACTOR SHALL MONITOR THE COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) AND PERFORM VISUAL MONITORING FOR UNSCHEDULED FLIGHTS. THE CONTRACTOR SHALL CLEAR THE RUNWAY ACCORDING TO NOTE 4 FOR ALL ARRIVALS AND DEPARTURES.
- 6. ALL CONSTRUCTION VEHICLES AND EQUIPMENT SHALL OPERATE A FLASHING YELLOW BEACON AND 3' X 3' CHECKERED FLAG WITH 1' X 1' ORANGE AND WHITE CHECKS WHEN WORKING ON THE AIRPORT. THE CONTRACTOR'S SAFETY OFFICER VEHICLE SHALL HAVE BOTH A YELLOW FLASHING BEACON AND A SEPARATE VISUAL AND/OR AUDIBLE SIGNAL (E.G., COLORED FLASHING BEACON OTHER THAN YELLOW, MEGAPHONE, AIR HORN, 2-WAY RADIO CONTACT, ETC) USED TO SIGNAL WORKERS TO CLEAR THE AREAS DESCRIBED IN NOTE 4 DURING AIRCRAFT ARRIVALS AND DEPARTURES.
- 7. KEEP AREAS WITHIN THE RUNWAY OBJECT FREE AREA (ROFA) AND ACTIVE TAXIWAY OBJECT FREE AREA (TOFA) LIMITS CLEAR OF CONSTRUCTION MATERIALS. REMOVE ANY DEBRIS FROM THESE AREAS WITHIN 15 MINUTES OF VERBAL NOTICE FROM THE ENGINEER OR ENGINEER'S REPRESENTATIVE.
- 8. CLEAR SAFETY AREAS AND OBJECT FREE AREAS AT ANYTIME DIRECTED BY THE ENGINEER.
- 9. DAMAGE TO FAA FACILITIES INCLUDING POWER DISRUPTION SHALL BE IMMEDIATELY REPAIRED IN A MANNER ACCEPTABLE TO THE FAA AT THE CONTRACTOR'S EXPENSE.
- 10. REMOVE MATERIAL STOCKPILES AND EQUIPMENT FROM OBJECT FREE AREAS DURING NON-WORK HOURS.
- 11. PROVIDE AIRPORT FLAGGERS WHERE CONSTRUCTION ACTIVITY IS CONDUCTED IN CLOSE PROXIMITY TO OPERATING AIRCRAFT AND WHERE THE ENGINEER DETERMINES A FLAGGER IS NECESSARY.
- 12. CONTRACTOR HAULING OPERATIONS ARE LIMITED TO THE HAUL ROUTES SHOWN ON THE PLANS. FOLLOWING CONSTRU<mark>CTION</mark> COMPLETION, THE CONTRACTOR IS REQUIRED TO RESTORE THE HAUL ROUTE TO ITS ORIGINAL CONDITION. TEMPORARY ACCESS ROUTES MUST BE REMOVED, AND THE GROUND RESTORED TO ITS ORIGINAL CONDITION.
- 13. THE CONTRACTOR MUST REPORT ANY SAFETY ISSUES TO THE ENGINEER UPON DISCOVERY. THE CONTRACTOR MUST TAKE IMMEDIATE ACTION TO RESOLVE SAFETY ISSUES AS DIRECTED.
- 14. IMMEDIATELY REMOVE ALL FOREIGN OBJECT DEBRIS (FOD) FROM ACTIVE SURFACES UPON DISCOVERY OR NOTIFICATION. FAILURE TO REMOVE FOD MAY BE CONSIDERED A SAFETY VIOLATION AS DETERMINED BY THE ENGINEER. STATION ADEQUATE CLEANING EQUIPMENT AT THE JOB SITE FOR IMMEDIATE CLEANUP OF ANY MATERIAL SPILLS ON ALL ACTIVE RUNWAY, TAXIWAY, AND APRON SURFACES.

RUNWAY STATUS CHANGE PROCEDURES

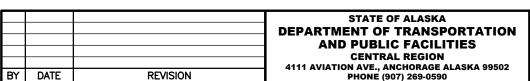
THE CONTRACTOR SHALL NOTIFY FAA (THROUGH THE ENGINEER) AT LEAST 45 DAYS PRIOR TO RUNWAY CLOSURES (PARTIAL OR FULL), RE-OPENING A CLOSED RUNWAY, INTERRUPTING SERVICE OR REMOVING AND DISPLACING A RUNWAY THRESHOLD BY EMAILING AN "AIRPORT SPONSOR STRATEGIC EVENT SUBMISSION FORM", FAA FORM 6000-26 TO 9-AJV-SEC-WSA@FAA.GOV.

FOLLOW THESE PROCEDURES ANY TIME THE STATUS OF THE RUNWAY, TAXIWAY, OR APRON IS TO BE ALTERED.

- 1. CONTRACTOR NOTIFIES ENGINEER OF UPCOMING CHANGE IN AIRPORT STATUS. PROVIDE 5 DAYS ADVANCE NOTICE.
- 2. AIRPORT MANAGER FILES NOTAM WITH FAA.
- 3. CONTRACTOR RECEIVES TENTATIVE APPROVAL TO CHANGE RUNWAY, TAXIWAY, OR APRON STATUS AT A SPECIFIC TIME
- 4. ON THE DAY OF THE CHANGE IN STATUS, A MEETING IS CONDUCTED WITH ENGINEER TO REVIEW SCHEDULE AND SAFETY PROCEDURES.
- 5. ENGINEER CLOSES RUNWAY, TAXIWAY, OR APRON TEMPORARILY FOR REQUIRED GRADING AND/OR NEW TEMPORARY MARKINGS, LIGHTING, AND BARRIERS
- 6. CONTRACTOR INSTALLS APPROVED TEMPORARY MARKINGS, LIGHTING, AND BARRIERS,
- 7. ENGINEER INSPECTS AND APPROVES MARKINGS, LIGHTING, AND BARRIERS.
- 8. CONTRACTOR IS PROVIDED NOTICE TO PROCEED WITH THE WORK.
- 9. CONTRACTOR CHANGES RUNWAY STATUS TO A NEW CONFIGURATION, OR CHANGES TO PERMANENT STATUS.
- 10. AIRPORT MANAGER SHALL CANCEL OR REVISE NOTAM WITH FAA WHEN NOTIFIED BY ENGINEER THAT WORK IS

GENERAL ELECTRICAL NOTES

- REFER TO SHEET AC1 FOR CONSTRUCTION PHASING SCHEDULE. DURING PHASES 1,2, AND 3 OF CONSTRUCTION. ELECTRICAL WORK WILL BE REQUIRED TO PROVIDE TEMPORARY LIGHTING TO SUPPORT RUNWAY AND TAXIWAY CLOSURES REQUIRED WITHIN THE PROJECT LIMITS FOR FACH PHASE OF WORK.
- 2. AIRPORT BEACON SHALL REMAIN OPERATIONAL DURING ALL PHASES OF CONSTRUCTION. MINIMUM OF ONE WIND CONE SHALL REMAIN FUNCTIONAL DURING ALL PHASES OF CONSTRUCTION.
- 3. PROVIDE TEMPORARY LIGHTING AS NECESSARY TO MAINTAIN RUNWAY AND TAXIWAY LIGHTING OPERATIONS UNTIL THE NEW LIGHTING SYSTEM IS INSTALLED AND FULLY OPERATIONAL. MAXIMUM RUNWAY LIGHT SPACING IS 200 FT. MAXIMUM TAXIWAY LIGHT SPACING IS 100 FT. CONTRACTOR MAY UTILIZE BATTERY POWERED TEMPORARY LIGHT FIXTURES, NEW LIGHT FIXTURES, AND/OR EXISTING LIGHT FIXTURES FOR TEMPORARY LIGHTING SYSTEMS. WHERE TEMPORARY CONDUCTORS OR CONDUIT ARE REQUIRED, THEY SHALL BE PER SPECIFICATION L-108 AND L-110 RESPECTIVELY.
- 4. ONCE TEMPORARY LIGHT SYSTEMS ARE NO LONGER NEEDED AND RUNWAY CLOSURES ARE COMPLETED, THE RUNWAY AND TAXIWAY LIGHTING SYSTEMS SHALL BE TRANSITIONED TO NEW SYSTEM OPERATIONS AND ALL TEMPORARY SYSTEMS REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR RELOCATION, REPAIR AND/OR REPLACEMENT OF EQUIPMENT AS NEEDED TO BRING AIRFIELD SYSTEMS INTO NORMAL OPERATIONAL PARAMETERS DURING THIS EFFORT.

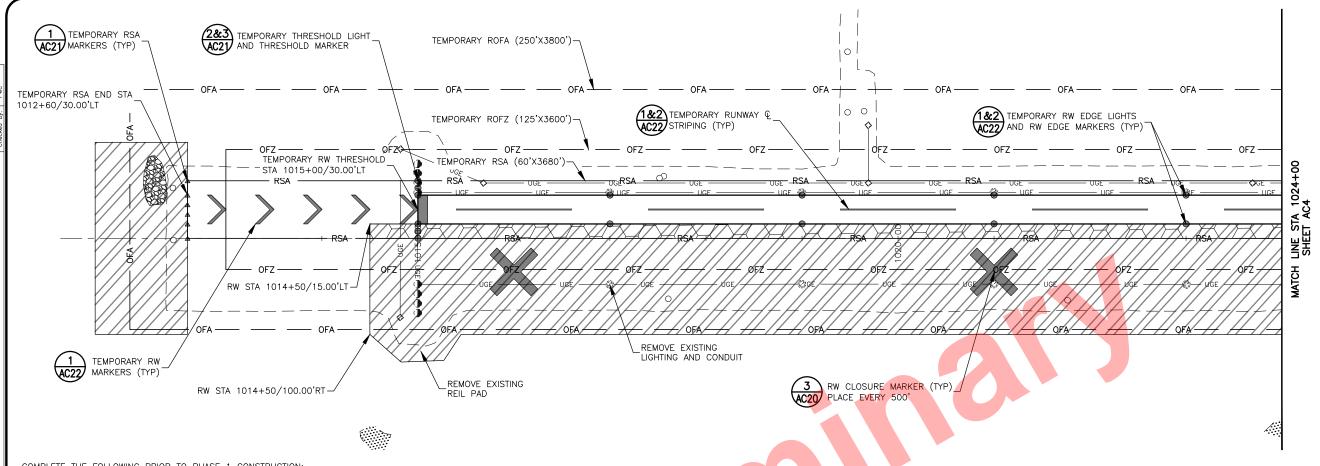


NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA

AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X CSPP NOTES

01/24/2024

AC2 of AC2



COMPLETE THE FOLLOWING PRIOR TO PHASE 1 CONSTRUCTION:

- COORDINATE THROUGH THE ENGINEER 45 DAYS PRIOR TO CONSTRUCTION TO ISSUE A NOTAM FOR HALF WIDTH OPERATION OF THE RW AND TW AND OTHER NOTAMS AS REQUIRED.
- REMOVE EXISTING LIGHTING FIXTURES THAT ARE WITHIN THE PHASE 1 TEMPORARY RW AND TW LIMITS AND BLIND FLANGE THE LIGHT BASES. COVER WITH CASC AND COMPACT THESE AREAS SUCH THAT BASES CAN SUPPORT AIRCRAFT TRAFFIC AND DO NOT PRESENT A HAZARD TO AIRCRAFT DURING REDUCED-WIDTH OPERATIONS
- GRADE THE TEMPORARY RW ACCORDING TO DETAIL 1, SHEET AC23
- GRADE THE TEMPORARY TW SMOOTH AND COMPACT WITH A 2% MAXIMUM GRADE IN ANY DIRECTION
- INSTALL TEMPORARY MARKINGS AND LIGHTING, SEE AC21
- INSTALL HAZARD MARKER BARRIERS (SEE NOTE 1)
- INSTALL BMP'S PER CONTRACTORS APPROVED SWPPP
- . COVER TEMPORARY LIGHTING CONDUIT WITH CASC IN AIRCRAFT TEMPORARY TURNAROUND AREAS AND AT AREAS WHERE HAULING OPERATIONS CROSS THE CONDUIT TO AVOID DAMAGE TO THE CONDUIT

COMPLETE THE FOLLOWING DURING PHASE 1 CONSTRUCTION:

- REMOVE EXISTING LIGHTING AND CONDUITS WITHIN PHASE 1 LIMITS
- REHABILITATE EXISTING RW AND RSA WITHIN PHASE 1 LIMITS
- CONSTRUCT RSA EXTENSION AND EXPANSION WITHIN PHASE 1 LIMITS
- CONSTRUCT TEMPORARY TAXIWAY EXPANSION WITHIN PHASE 1 LIMITS
- REHABILITATE PRIMARY WIND CONE AND AWOS PAD ACCESS WITHIN PHASE 1 LIMITS
- INSTALL PRIMARY WIND CONE
- REHABILITATE SEGMENTED CIRCLE
- INSTALL PERMANENT LIGHT CAN BASES AND CONDUIT WITHIN PHASE 1 LIMITS, BLIND FLANGE LIGHT BASES, COVER WITH CASC, GRADE AND COMPACT THESE AREAS SUCH THAT BASES CAN SUPPORT AIRCRAFT TRAFFIC AND DO NOT PRESENT A HAZARD TO AIRCRAFT OPERATIONS DURING PHASE 2A AND 2B HALF-WIDTH OPERATIONS.

COMPLETE THE FOLLOWING AFTER PHASE 1 CONSTRUCTION:

- SEED OR TOPSOIL AND SEED WITHIN PHASE 1 LIMITS PER CONSTRUCTION PLANS
- REMOVE BMP'S
- COORDINATE THROUGH THE ENGINEER TO UPDATE NOTAMS FOR PARTIAL CLOSURE OF RW 03/21

- 1. HAZARD MARKER BARRIERS SHOWN AT APPROXIMATE LOCATIONS. ADDITIONAL LOCATIONS, OR ADJUSTMENTS MAY BE REQUIRED. RELOCATE BARRIERS AS DIRECTED BY THE ENGINEER.
- 2. EVACUATE PERSONNEL AND EQUIPMENT FROM AREAS DESCRIBED IN NOTE 4 ON SHEET AC2 DURING AIRCRAFT OPERATIONS.
- 3. THE RW AND TW MUST NOT BE LEFT IN A HALF-WIDTH CONFIGURATION AT THE END OF THE CONSTRUCTION SEASON. FULL WIDTH RW AND TW MUST BE AVAILABLE FOR AIRCRAFT OPERATIONS AT THE END OF THE CONSTRUCTION SEASON.





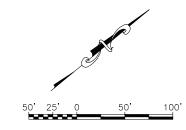


CONSTRUCTION PROHIBITED DURING AIRCRAFT OPERATIONS



TEMPORARY RW EDGE LIGHT & RW EDGE MARKER/TEMPORARY THRESHOLD LIGHT & THRESHOLD MARKER

RUNWAY CLOSURE MARKER

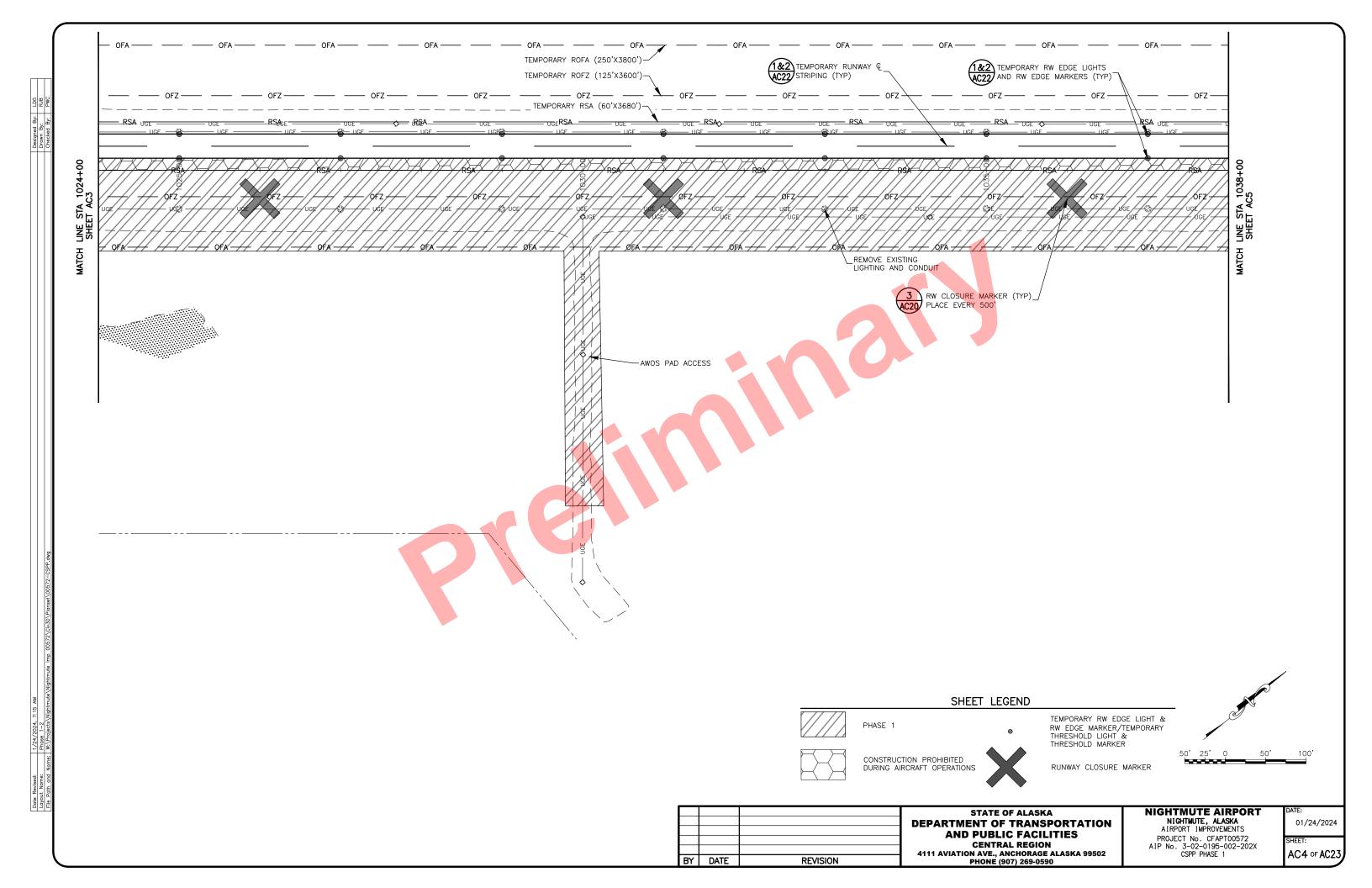


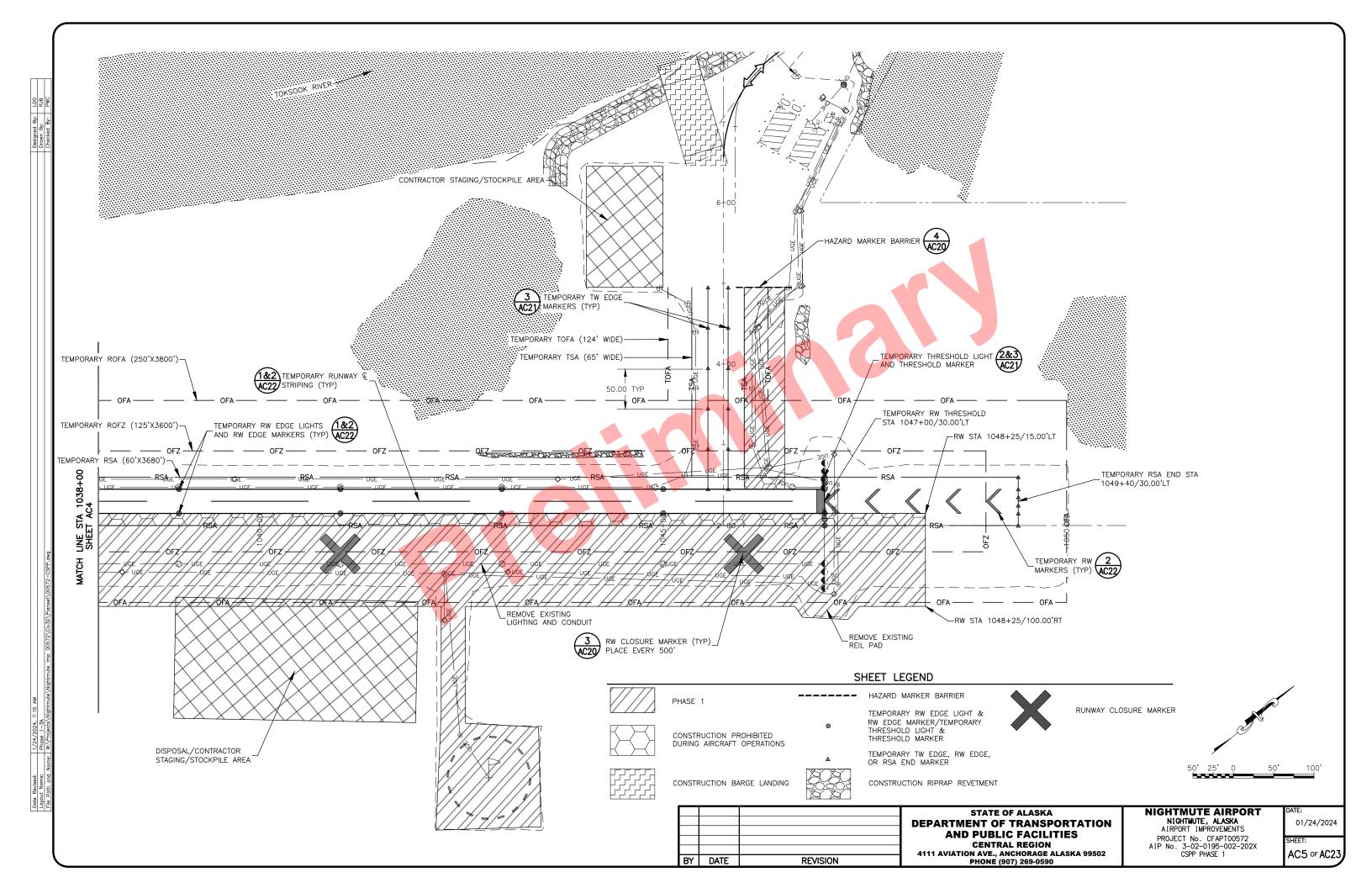
STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION** AND PUBLIC FACILITIES **CENTRAL REGION**

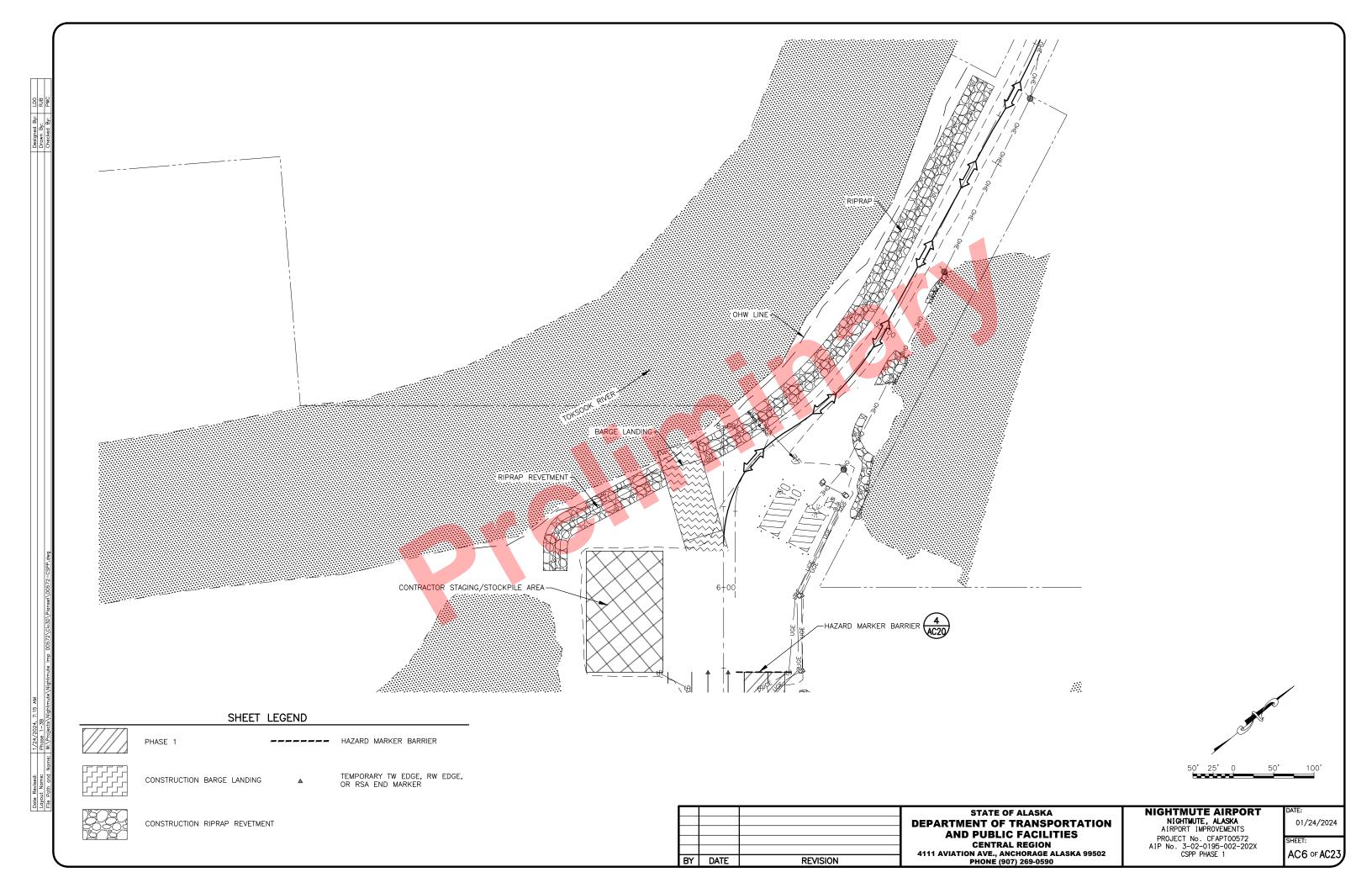
NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X CSPP PHASE 1

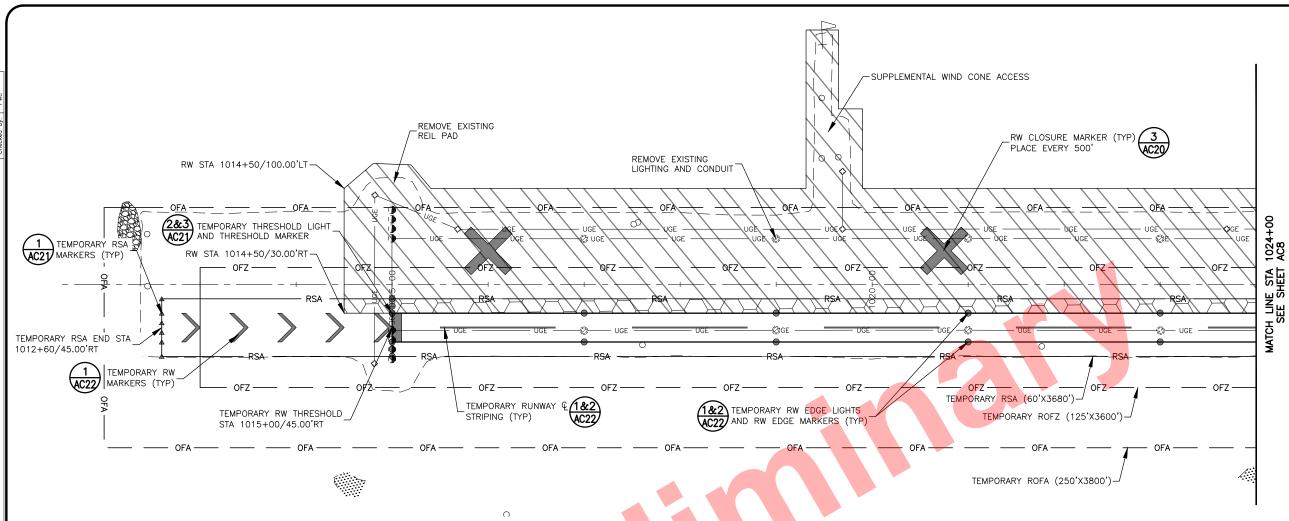
01/24/2024 AC3 of AC23

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COMPLETE THE FOLLOWING PRIOR TO PHASE 2A CONSTRUCTION:

- COORDINATE THROUGH THE ENGINEER 45 DAYS PRIOR TO CONSTRUCTION TO ISSUE A NOTAM FOR HALF WIDTH OPERATION OF THE RW AND TW AND OTHER NOTAMS AS REQUIRED.
- REMOVE EXISTING LIGHTING FIXTURES THAT ARE WITHIN THE PHASE 2A TEMPORARY RW AND TW LIMITS AND BLIND FLANGE THE LIGHT BASES. COVER WITH CASC AND COMPACT THESE AREAS SUCH THAT BASES CAN SUPPORT AIRCRAFT TRAFFIC AND DO NOT PRESENT A HAZARD TO AIRCRAFT DURING REDUCED-WIDTH OPERATIONS
- GRADE A TRANSITION BETWEEN THE TEMPORARY TW AND THE TEMPORARY RUNWAY THAT IS SMOOTH AND COMPACT WITH A 3% MAXIMUM LONGITUDINAL GRADE.
- INSTALL TEMPORARY MARKINGS AND LIGHTING, SEE AC22
- INSTALL HAZARD MARKER BARRIERS (SEE NOTE 1)
- INSTALL BMP'S PER CONTRACTORS APPROVED SWPPP
- COVER TEMPORARY LIGHTING CONDUIT WITH CASC IN AIRCRAFT TEMPORARY TURNAROUND AREAS AND AT AREAS WHERE HAULING OPERATIONS CROSS THE CONDUIT TO AVOID DAMAGE TO THE CONDUIT

COMPLETE THE FOLLOWING DURING PHASE 2A CONSTRUCTION:

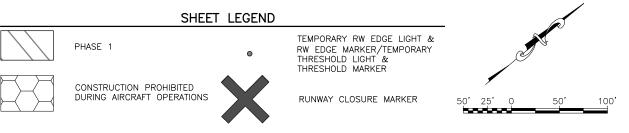
- REMOVE EXISTING LIGHTING AND CONDUITS WITHIN PHASE 2A LIMITS
- REHABILITATE EXISTING RW AND RSA WITHIN PHASE 2A LIMITS
- CONSTRUCT RSA EXPANSION WITHIN PHASE 2A LIMITS
- REHABILITATE SECONDARY WIND CONE ACCESS WITHIN PHASE 2A LIMITS
- INSTALL SECONDARY WIND CONE
- INSTALL PERMANENT LIGHT CAN BASES AND CONDUIT WITHIN PHASE 2A LIMITS, INSTALL PERMANENT FIXTURES FOR LIGHTS THAT DO NOT PRESENT A HAZARD FOR AIRCRAFT OPERATIONS DURING PHASE 2B AND 3 OPERATIONS, FOR ALL OTHERS, BLIND FLANGE LIGHT BASES, COVER WITH CASC, GRADE AND COMPACT THESE AREAS SUCH THAT BASES CAN SUPPORT AIRCRAFT TRAFFIC AND DO NOT PRESENT A HAZARD.

COMPLETE THE FOLLOWING AFTER PHASE 2A CONSTRUCTION:

- SEED OR TOPSOIL AND SEED WITHIN PHASE 2A LIMITS PER CONSTRUCTION PLANS
- REMOVE BMP'S
- COORDINATE THROUGH THE ENGINEER TO UPDATE NOTAMS FOR PARTIAL CLOSURE OF RW 03/21

NOTES:

- 1. HAZARD MARK<mark>er B</mark>arrie<mark>rs shown at approximate locations. Additional locations, or</mark> ADJUSTMENTS MAY BE REQUIRED. RELOCATE BARRIERS AS DIRECTED BY THE ENGINEER.
- 2. EVACUATE PERSONNEL AND EQUIPMENT FROM AREAS DESCRIBED IN NOTE 4 ON SHEET AC2
- THE RW AND TW MUST NOT BE LEFT IN A HALF-WIDTH CONFIGURATION AT THE END OF THE CONSTRUCTION SEASON. FULL WIDTH RW AND TW MUST BE AVAILABLE FOR AIRCRAFT OPERATIONS AT THE END OF THE CONSTRUCTION SEASON.



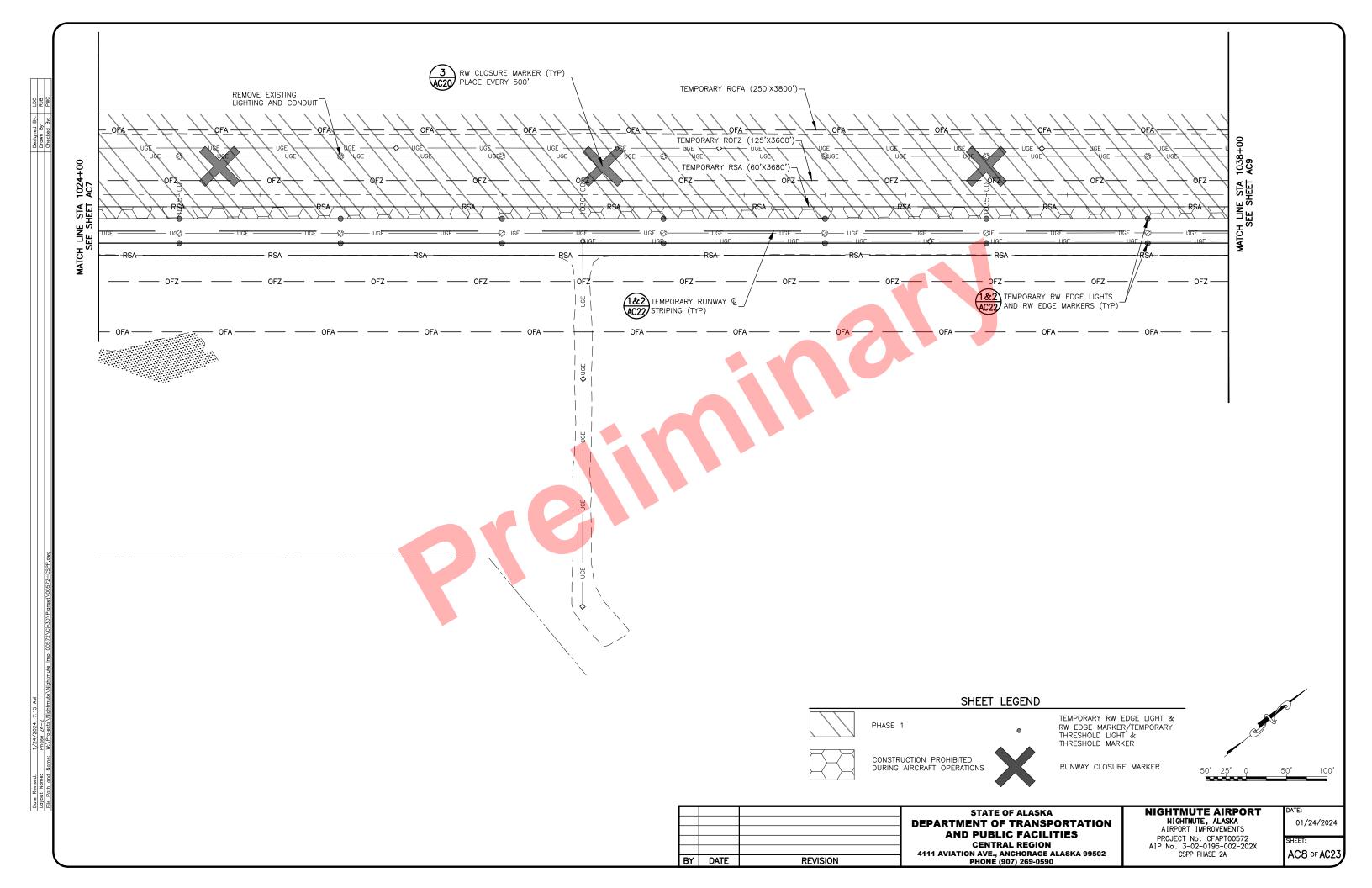
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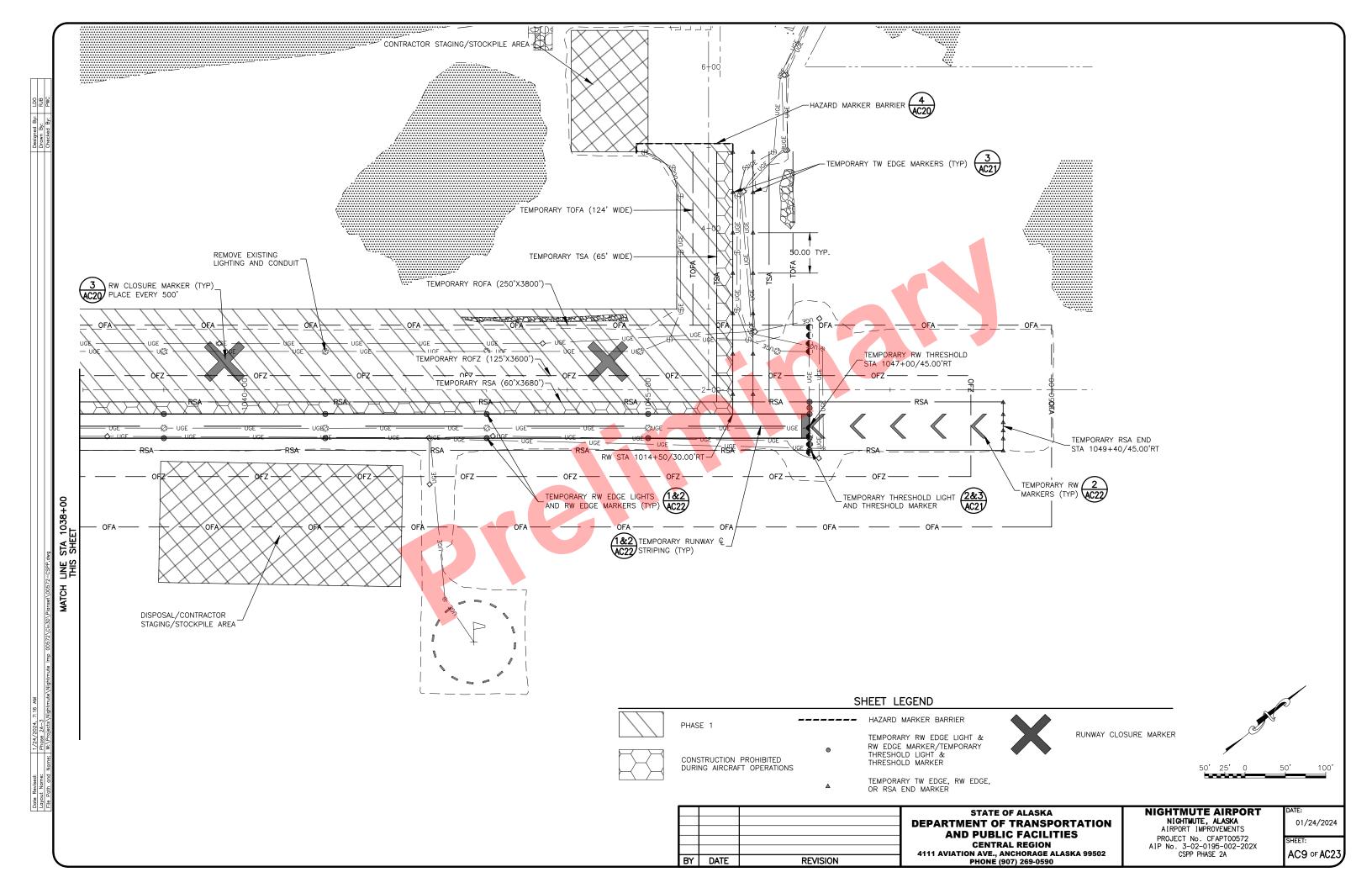
NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572

AIP No. 3-02-0195-002-202X CSPP PHASE 2A

AC7 of AC23

01/24/2024





COMPLETE THE FOLLOWING PRIOR TO PHASE 2B CONSTRUCTION:

- . COORDINATE THROUGH THE ENGINEER 45 DAYS PRIOR TO CONSTRUCTION TO ISSUE A NOTAM FOR HALF WIDTH OPERATION OF THE RW AND TW AND OTHER NOTAMS AS REQUIRED.
- INSTALL TEMPORARY MARKINGS AND LIGHTING, SEE AC22
- INSTALL HAZARD MARKER BARRIERS (SEE NOTE 1)
- INSTALL BMP'S PER CONTRACTORS APPROVED SWPPP
- . COVER TEMPORARY LIGHTING CONDUIT WITH CASC IN AIRCRAFT TEMPORARY TURNAROUND AREAS AND AT AREAS WHERE HAULING OPERATIONS CROSS THE CONDUIT TO AVOID DAMAGE TO THE CONDUIT

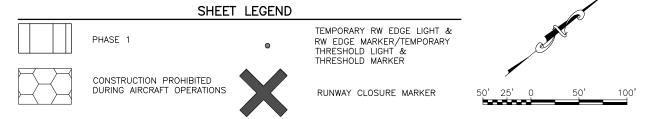
COMPLETE THE FOLLOWING DURING PHASE 2B CONSTRUCTION:

- REMOVE EXISTING LIGHTING AND CONDUITS WITHIN PHASE 2B LIMITS
- REHABILITATE EXISTING RW AND RSA WITHIN PHASE 2B LIMITS
- CONSTRUCT RSA EXPANSION WITHIN PHASE 2B LIMITS
- REHABILITATE SECONDARY WIND CONE ACCESS WITHIN PHASE 2B LIMITS
- INSTALL SECONDARY WIND CONE
- INSTALL PERMANENT LIGHT CAN BASES AND CONDUIT WITHIN PHASE 2B LIMITS, INSTALL PERMANENT FIXTURES FOR LIGHTS THAT DO NOT PRESENT A HAZARD FOR AIRCRAFT OPERATIONS DURING PHASE 2B AND 3 OPERATIONS, FOR ALL OTHERS, BLIND FLANGE LIGHT BASES, COVER WITH CASC, GRADE AND COMPACT THESE AREAS SUCH THAT BASES CAN SUPPORT AIRCRAFT TRAFFIC AND DO NOT PRESENT A HAZARD.

COMPLETE THE FOLLOWING AFTER PHASE 2B CONSTRUCTION:

- SEED OR TOPSOIL AND SEED WITHIN PHASE 2B LIMITS PER CONSTRUCTION PLANS
- REMOVE BMP'S
- COORDINATE THROUGH THE ENGINEER TO UPDATE NOTAMS FOR PARTIAL CLOSURE OF RW 03/21

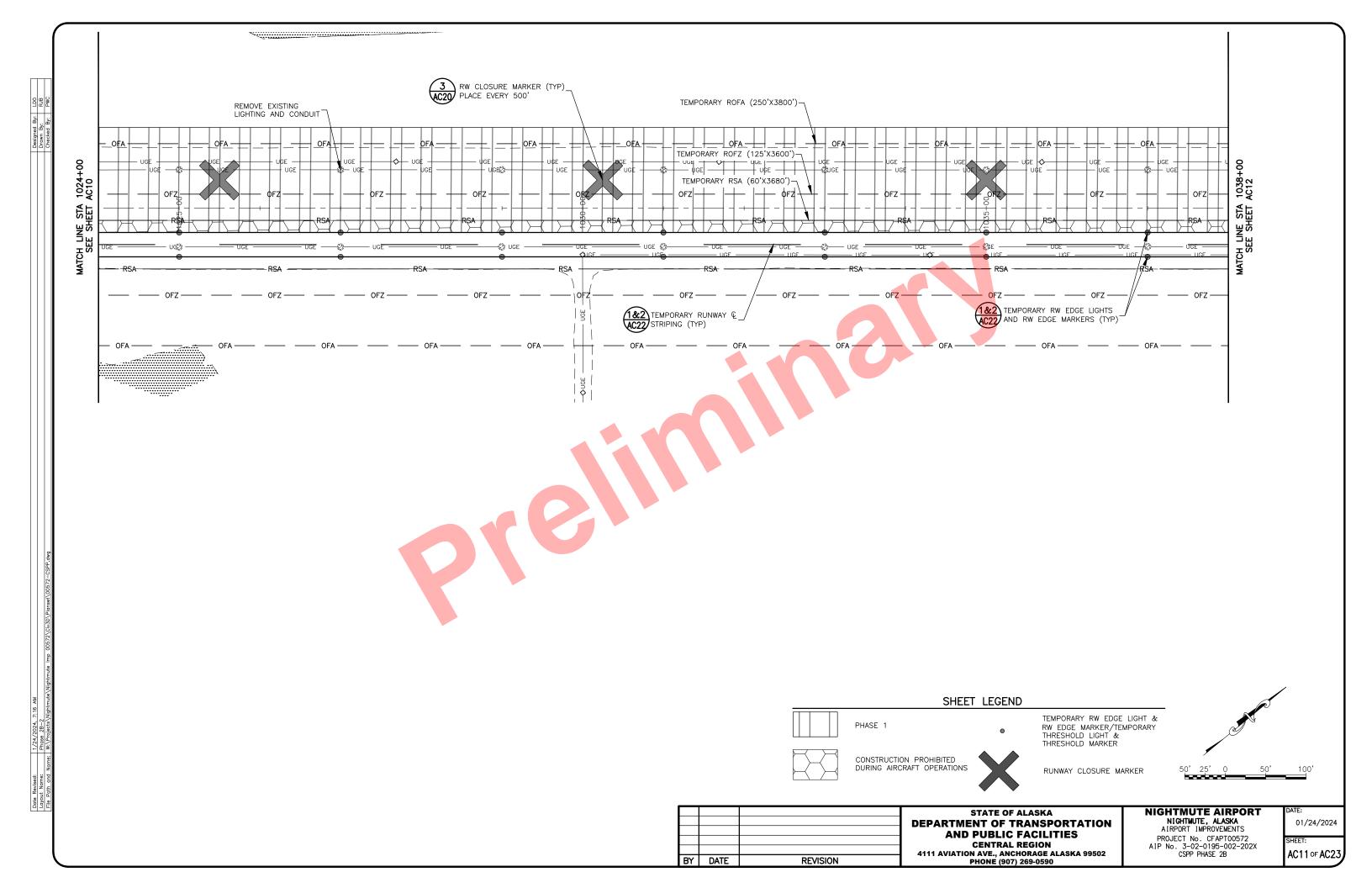
- 1. HAZARD MARKER BARRIERS SHOWN AT APPROXIMATE LOCATIONS. ADDITIONAL LOCATIONS, OR ADJUSTMENTS MAY BE REQUIRED. RELOCATE BARRIERS AS DIRECTED BY THE ENGINEER.
- 2. EVACUATE PERSONNEL AND EQUIPMENT FROM AREAS DESCRIBED IN NOTE 4 ON SHEET AC2 DURING AIRCRAFT OPERATIONS.
- THE RW AND TW MUST NOT BE LEFT IN A HALF-WIDTH CONFIGURATION AT THE END OF THE CONSTRUCTION SEASON. FULL WIDTH RW AND TW MUST BE AVAILABLE FOR AIRCRAFT OPERATIONS AT THE END OF THE CONSTRUCTION SEASON.

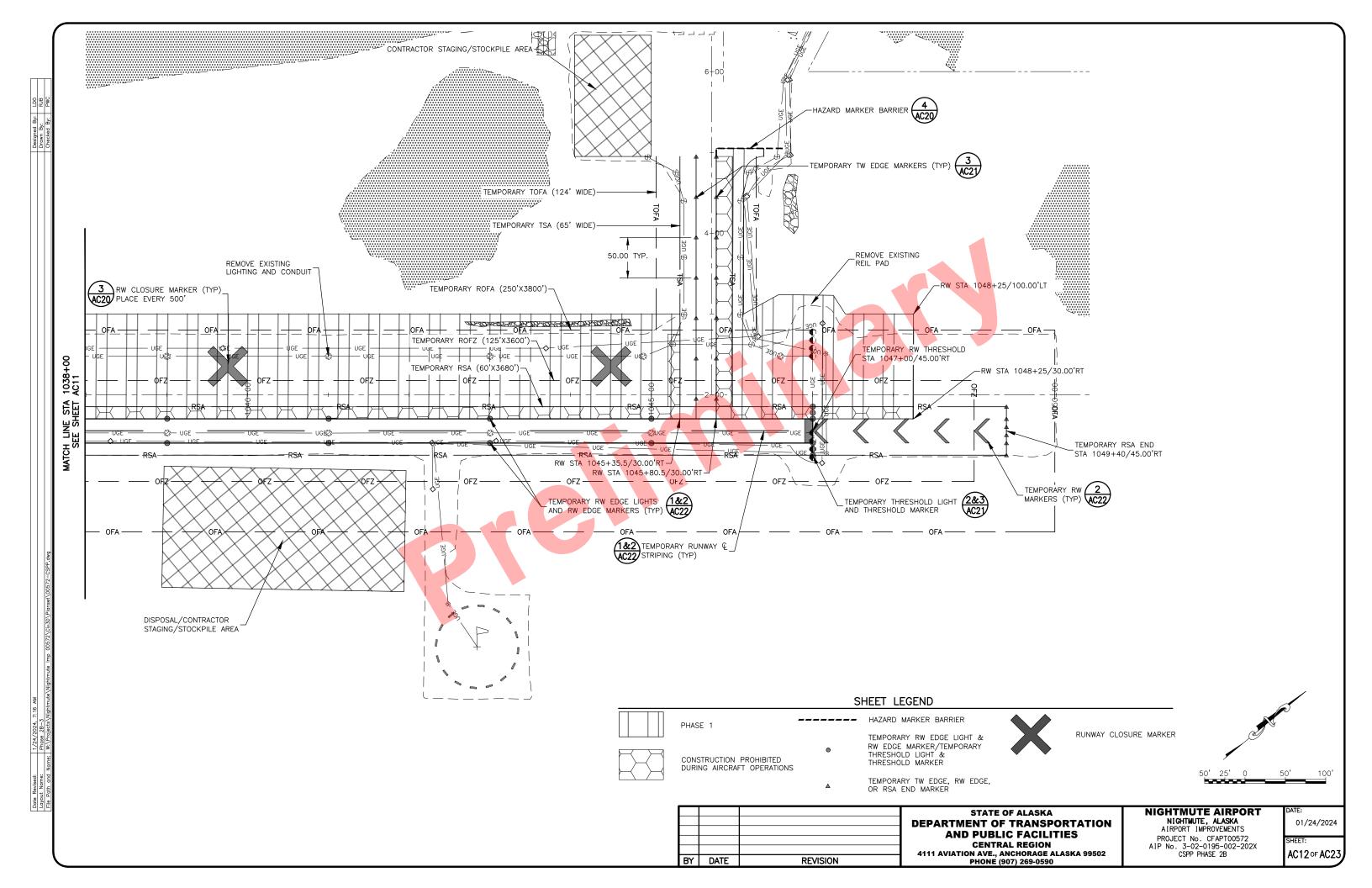


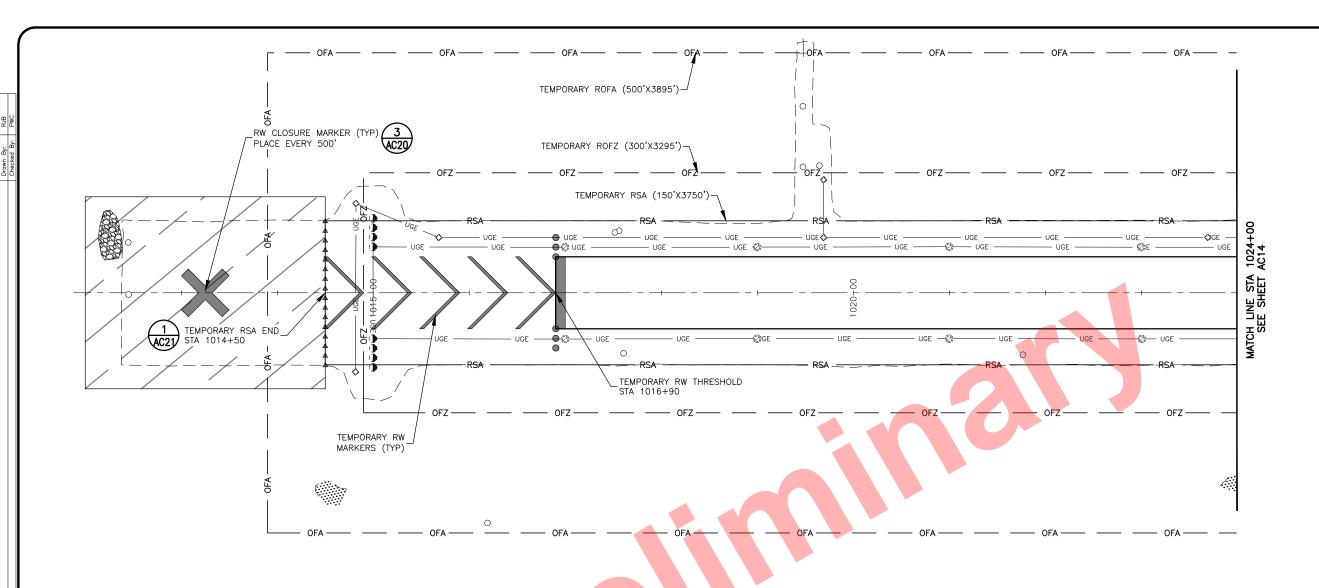
STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION** AND PUBLIC FACILITIES **CENTRAL REGION** 4111 AVIATION AVE., ANCHORAGE ALASKA 99502 BY DATE REVISION PHONE (907) 269-0590

NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572

01/24/2024 AIP No. 3-02-0195-002-202X CSPP PHASE 2B AC10 of AC23







COMPLETE THE FOLLOWING PRIOR TO PHASE 3 CONSTRUCTION:

- COORDINATE THROUGH THE ENGINEER 45 DAYS PRIOR TO CONSTRUCTION TO ISSUE A NOTAM FOR PARTIAL CLOSURE OPERATION OF THE RW AND TW AND OTHER NOTAMS AS REQUIRED.
- INSTALL TEMPORARY MARKINGS AND LIGHTING, SEE AC22
- INSTALL HAZARD MARKER BARRIERS (SEE NOTE 1)
- INSTALL BMP'S PER CONTRACTORS APPROVED SWPPP
- COVER TEMPORARY LIGHTING CONDUIT WITH CASC IN AIRCRAFT TEMPORARY TURNAROUND AREAS AND AT
 AREAS WHERE HAULING OPERATIONS CROSS THE CONDUIT TO AVOID DAMAGE TO THE CONDUIT

COMPLETE THE FOLLOWING DURING PHASE 3 CONSTRUCTION:

- REHABILITATE EXISTING RSA WITHIN PHASE 3 LIMITS
- CONSTRUCT RSA EXTENSION AND EXPANSION WITHIN PHASE 3 LIMITS

COMPLETE THE FOLLOWING AFTER PHASE 3 CONSTRUCTION:

- INSTALL REMAINING LIGHT FIXTURES
- SEED OR TOPSOIL AND SEED WITHIN PHASE 3 LIMITS PER CONSTRUCTION PLANS
- REMOVE BMP'S
- COORDINATE THROUGH THE ENGINEER TO CANCEL NOTAMS FOR PARTIAL CLOSURE OF RW 03/21 AND TW

IOTES:

- HAZARD MARKER BARRIERS SHOWN AT APPROXIMATE LOCATIONS. ADDITIONAL LOCATIONS, OR ADJUSTMENTS MAY BE REQUIRED. RELOCATE BARRIERS AS DIRECTED BY THE ENGINEER.
- 2. EVACUATE PERSONNEL AND EQUIPMENT FROM AREAS DESCRIBED IN NOTE 4 ON SHEET AC2 DURING AIRCRAFT OPERATIONS.

BY DATE

REVISION



STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION

AND PUBLIC FACILITIES

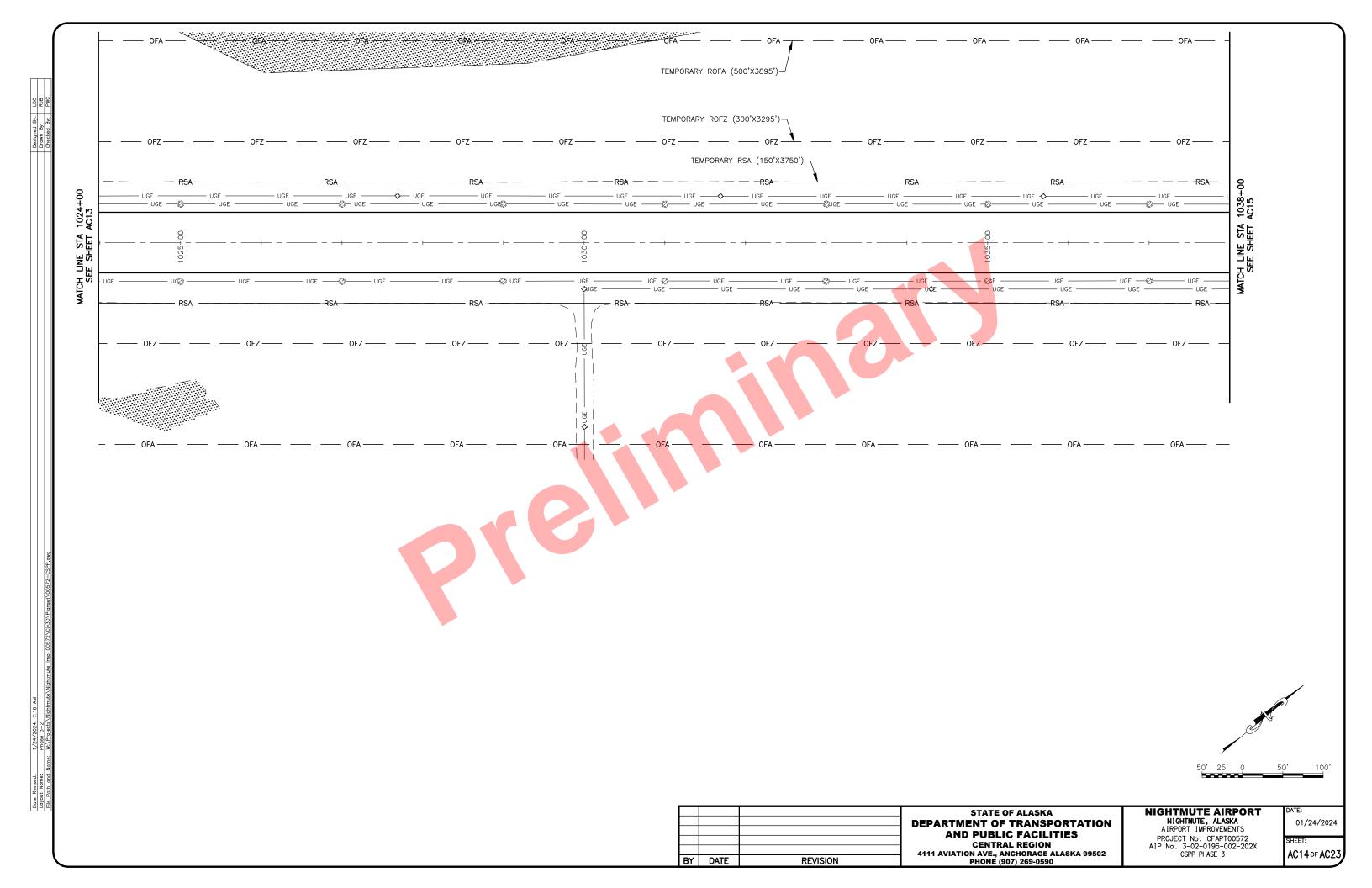
CENTRAL REGION

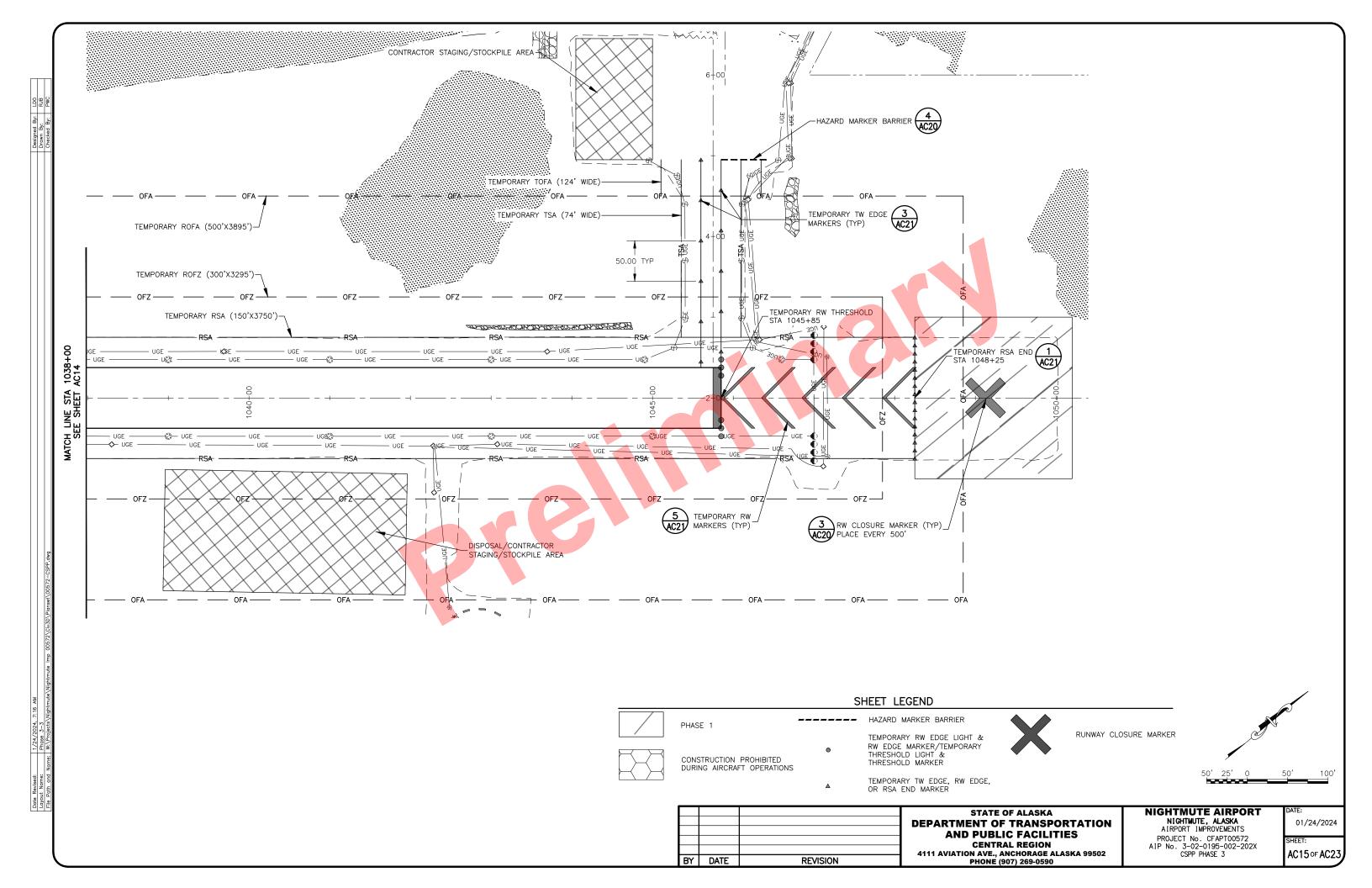
4111 AVIATION AVE., ANCHORAGE ALASKA 99502
PHONE (907) 269-0590

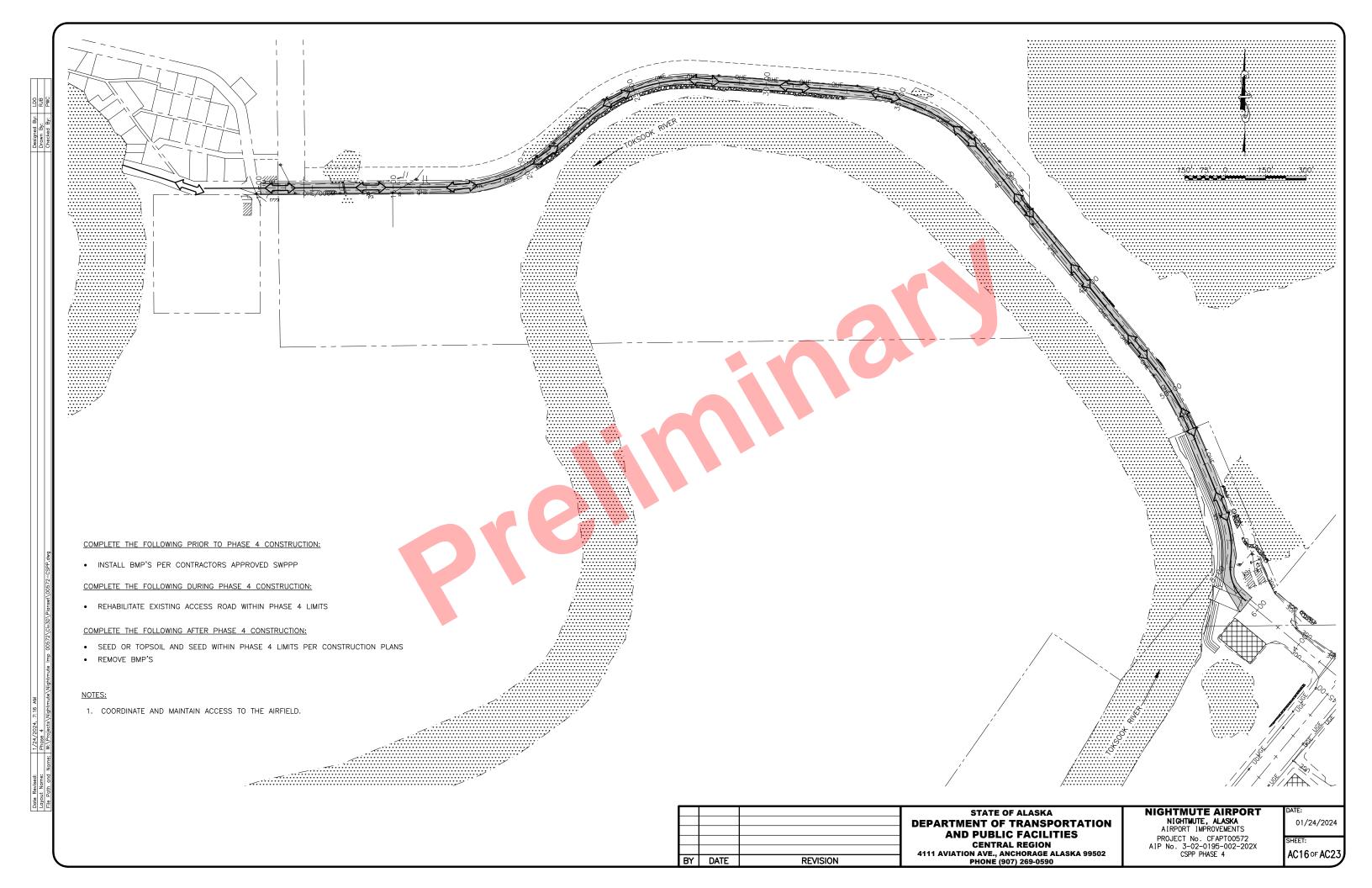
SHEET LEGEND

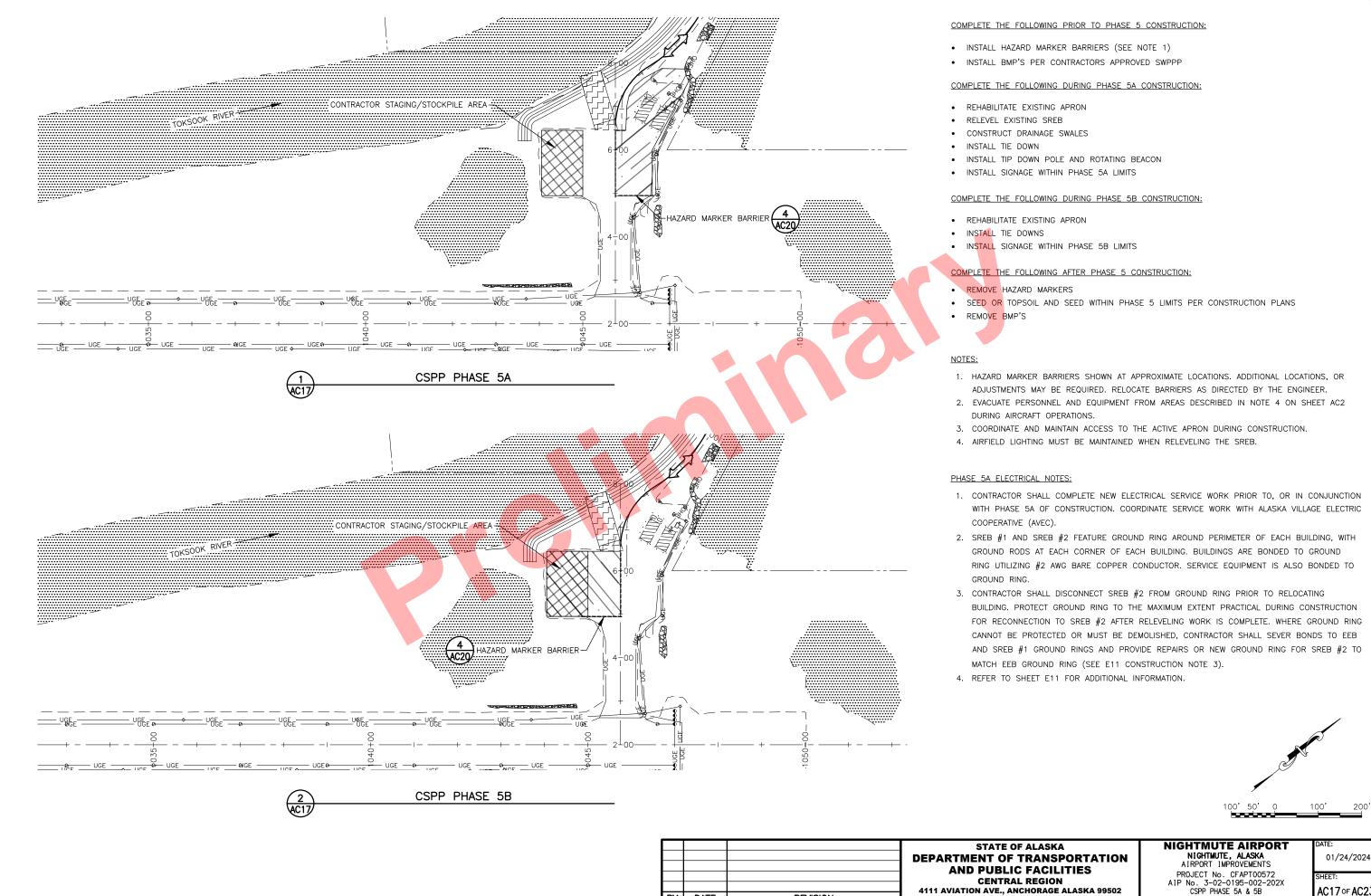
NIGHTMUTE AIRPORT
NIGHTMUTE, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. CFAPTO0572
AIP No. 3-02-0195-002-202X
CSPP PHASE 3

01/24/2024
SHEET:
AC13 of AC23







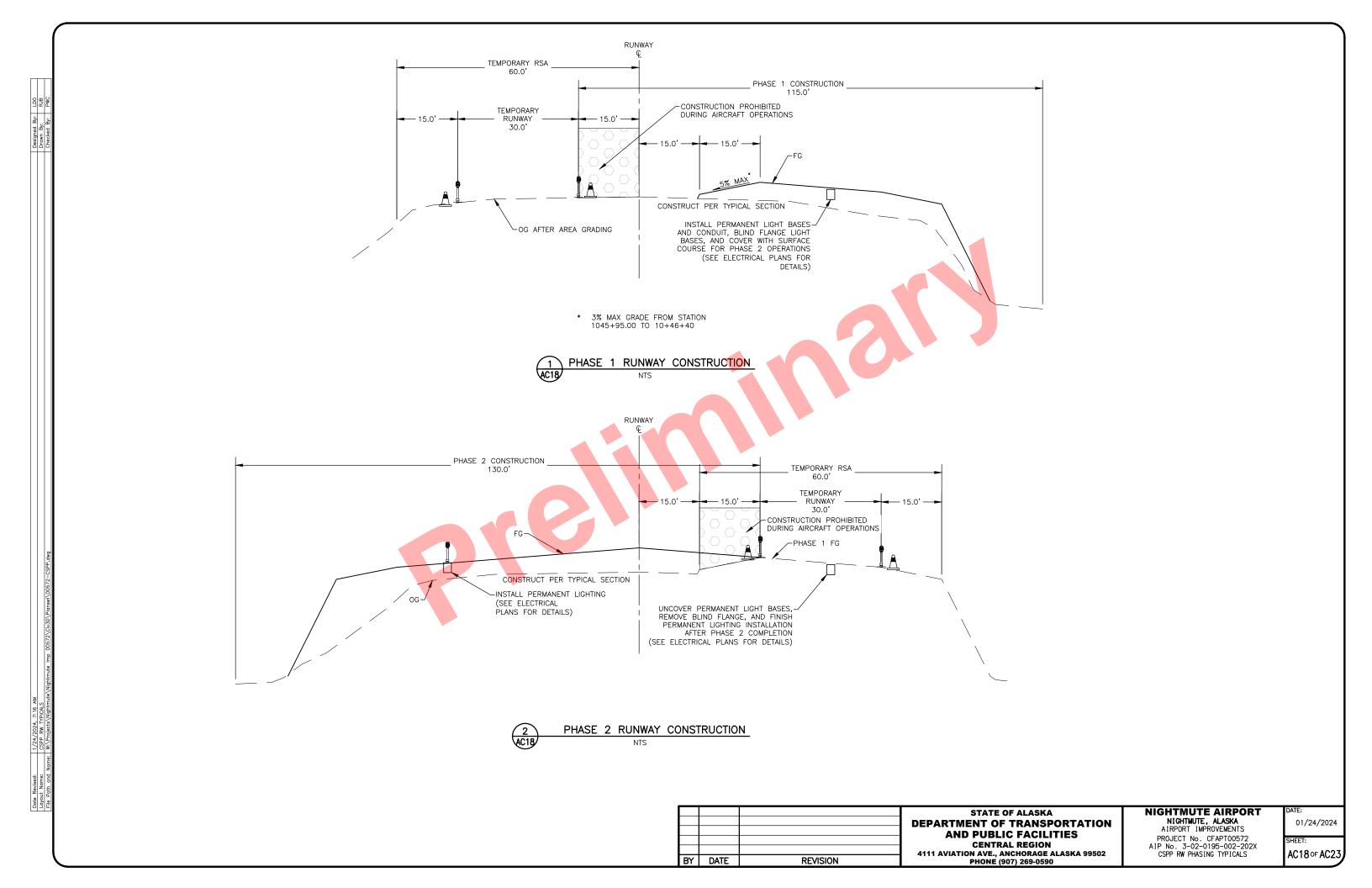


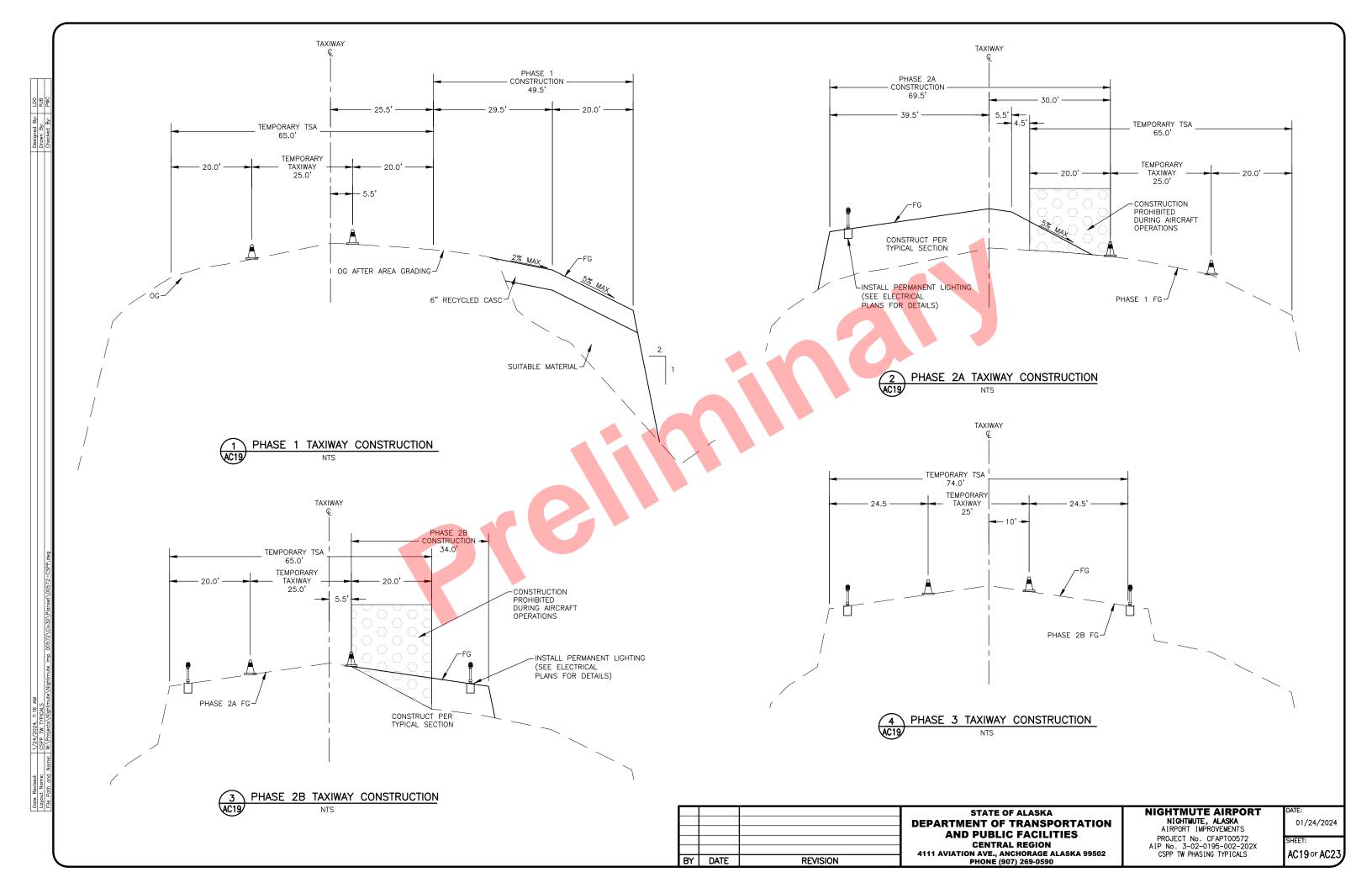
BY DATE

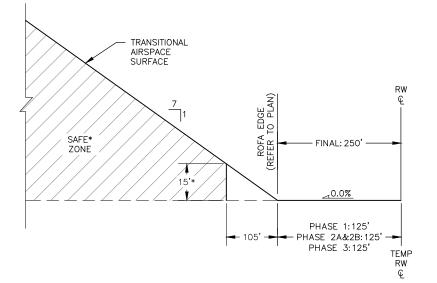
REVISION

PHONE (907) 269-0590

AC17 of AC23

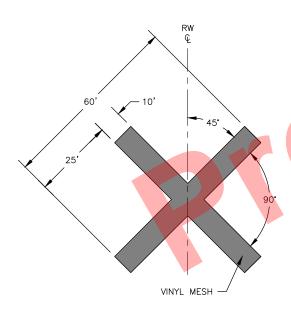






*VEHICLES TALLER THAN 15 FEET (INCLUDING ALL PARTS OF THE EQUIPMENT, E.G. AN EXCAVATOR) MUST REMAIN FARTHER AWAY FROM THE RW CENTERLINE. WHEN THIS IS THE CASE, NOTIFY AND COORDINATE SAFE ZONE LIMITS WITH THE ENGINEER.

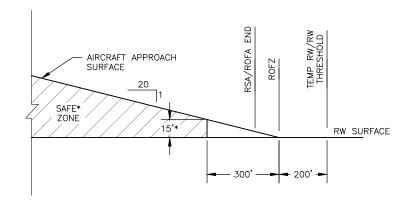




CLOSURE MARKER NOTES:

- 1. MAINTAIN RW CLOSURE MARKERS AS CONSTRUCTION ALLOWS.
- 2. CLOSURE MARKER IS YELLOW VINYL.
- 3. RW CLOSURE MARKERS ARE TO BE PLACED AT EACH RW END AND AT 500 FOOT INTERVALS.

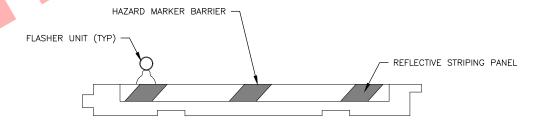


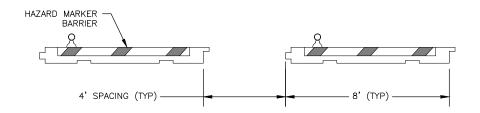


*VEHICLES TALLER THAN 15 FEET (INCLUDING ALL PARTS OF THE *VEHICLES TALLER THAN 15 FEET (INCLUDING ALL PARTS OF THE EQUIPMENT, E.G., AN EXCAVATOR) MUST REMAIN FARTHER AWAY FROM THE RW THRESHOLD. WHEN THIS IS THE CASE, NOTIFY AND COORDINATE SAFE ZONE LIMITS WITH THE ENGINEER.

THE 20:1 APPROACH SURFACE IS BASED ON THE THRESHOLD ELEVATION, THE ALLOWABLE VEHICLE HEIGHT MAY NEED TO BE REDUCED IF THE GROUND ELEVATION RISES BEYOND THE THRESHOLD.







NOTES:

- 1. HAZARD MARKER BARRIERS ARE NOT TO BE PLACED WITHIN 125 FEET OF AN ACTIVE RW
- 2. PLACE BARRIERS TO SEPARATE CONSTRUCTION AREAS FROM OPEN PORTIONS OF THE AIRPORT.
- 3. DISTANCE BETWEEN BARRIERS CAN BE ADJUSTED FOR CONSTRUCTION TRAFFIC.
- 4. BARRIERS MUST BE LOCATED OUTSIDE THE SAFETY AREA OF ACTIVE TAXIWAYS AND RUNWAYS.



CONSTRUCTION CLOSURE HAZARD MARKER BARRIER DETAIL NTS

STATE OF ALASKA BY DATE REVISION

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES **CENTRAL REGION**

NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X CSPP DETAILS

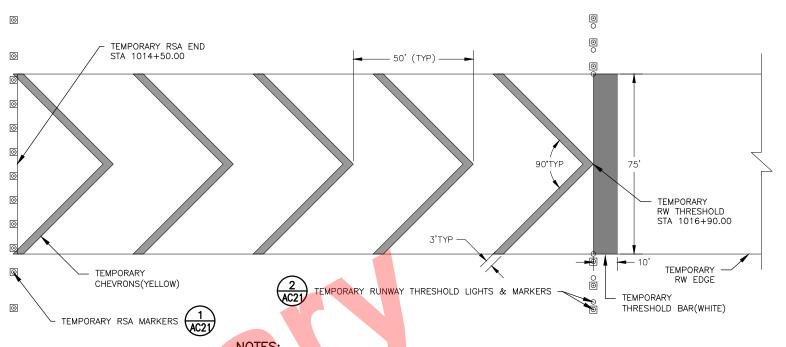
NIGHTMUTE AIRPORT

01/24/2024

AC20 of AC23

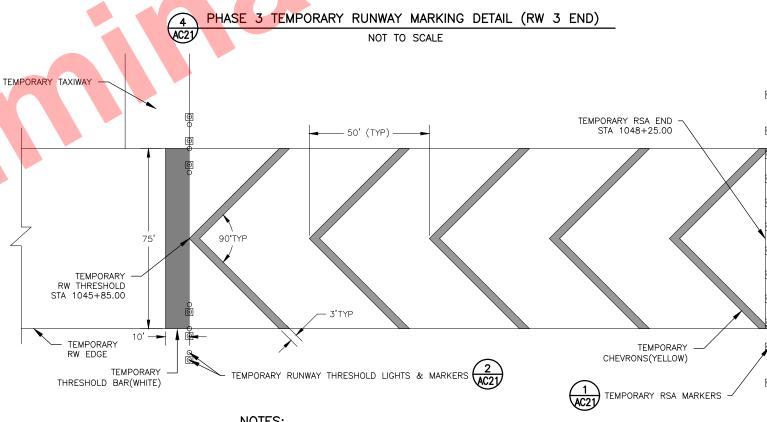
4111 AVIATION AVE., ANCHORAGE ALASKA 99502 PHONE (907) 269-0590

NOT TO SCALE



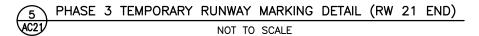
NOTES

TEMPORARY RW SURFACE MARKINGS PAID UNDER ITEM P620.070.0000.



NOTES:

1. TEMPORARY RW SURFACE MARKINGS PAID UNDER ITEM P620.070.0000.



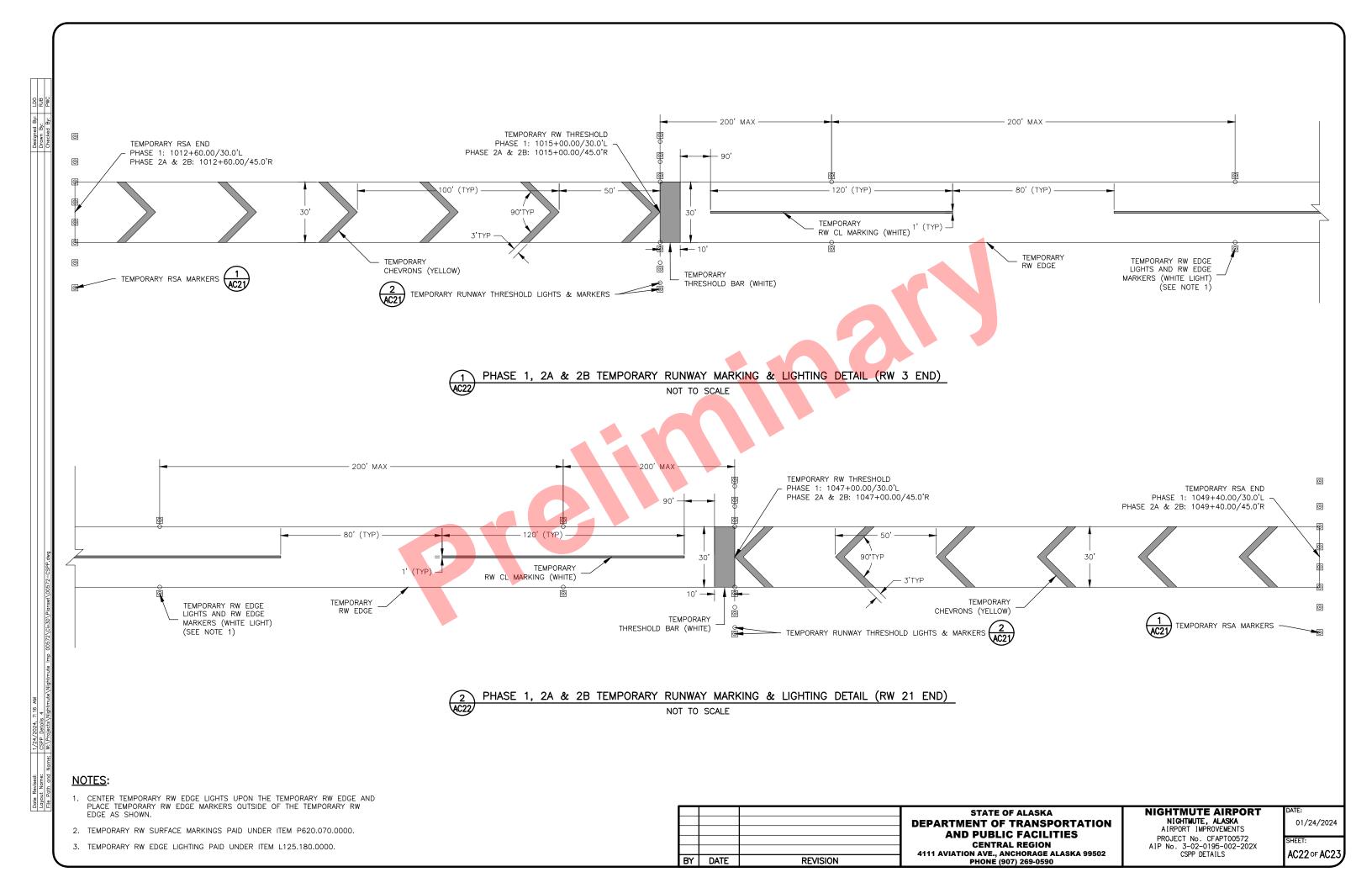
			STATE OF ALASKA
			DEPARTMENT OF TRANSPO
			AND PUBLIC FACILIT
			CENTRAL REGION
			4111 AVIATION AVE., ANCHORAGE AL
BY	DATE	REVISION	PHONE (907) 269-0590

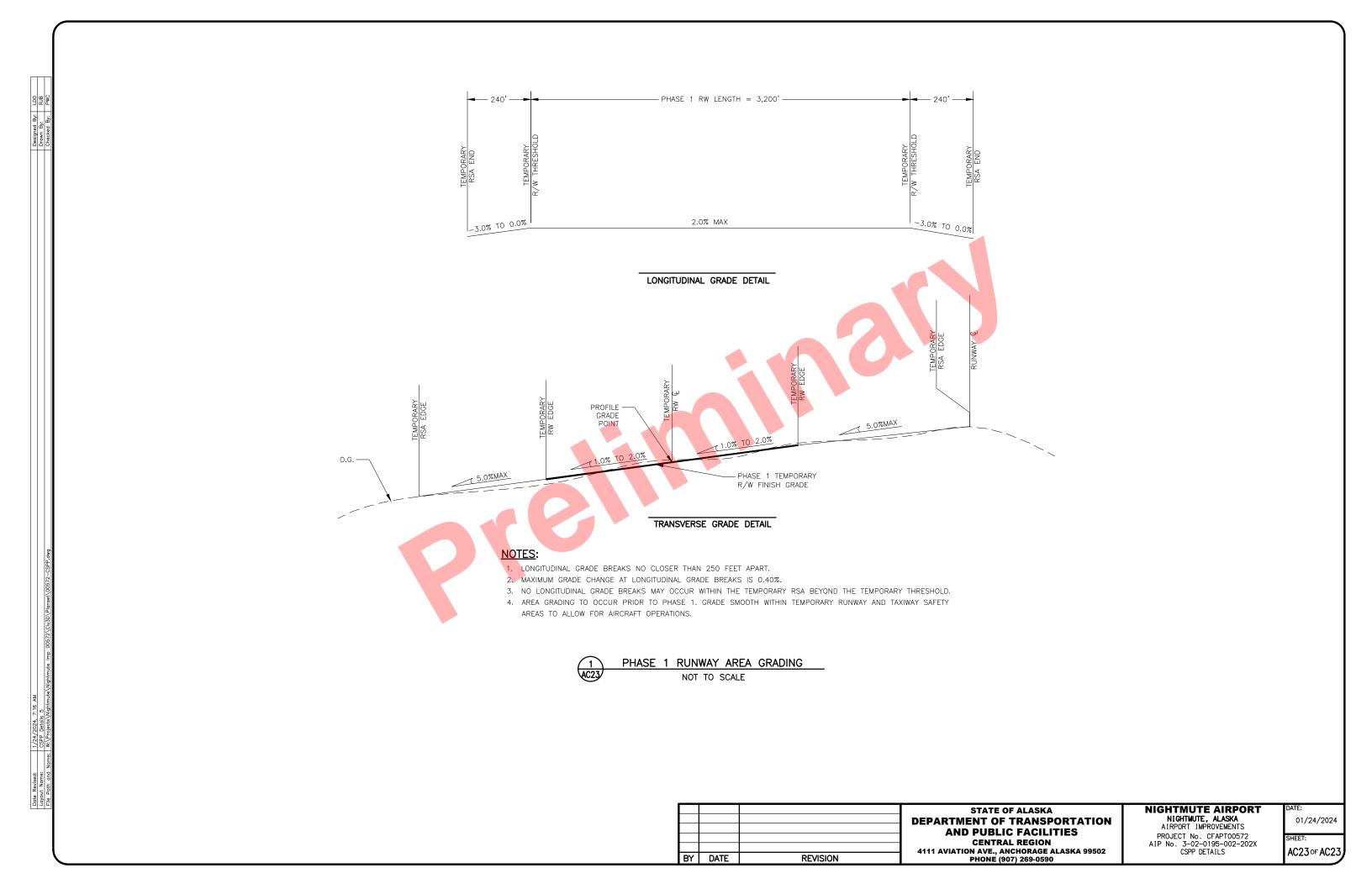
OF ALASKA TRANSPORTATION C FACILITIES AL REGION NCHORAGE ALASKA 99502

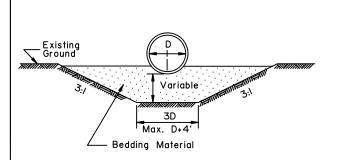
NIGHTMUTE AIRPORT NIGHTMUTE, ALASKA AIRPORT IMPROVEMENTS PROJECT No. CFAPT00572 AIP No. 3-02-0195-002-202X CSPP DETAILS

01/24/2024

AC21 of AC23

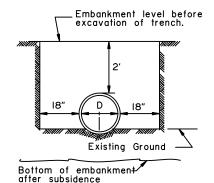




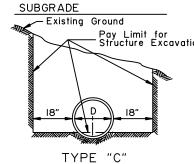


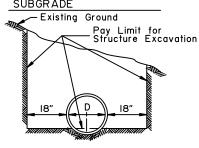
TYPE "A" FOUNDATION STABILIZATION

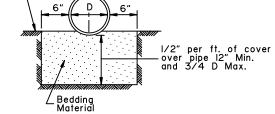
To be used in unstable areas as directed by the Engineer.



TYPE "B"



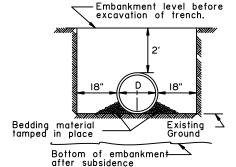




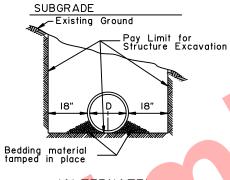
TYPE "D" ROCK OR UNYIELDING MATERIAL

SUBGRADE

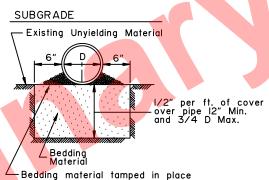
Existing Unyielding Material



'ALTERNATE' TYPE "B"



'ALTERNATE TYPE "C"



'ALTERNATE' TYPE "D" ROCK OR UNYIELDING MATERIAL

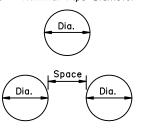
D-01.02

SHEET | of |

GENERAL NOTES:

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

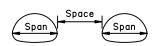
D = Nominal Pipe Diameter



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

S = Nominal Pipe Arch Span





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

Bedding material tamped in place Existing Ground Variable 3D Max. D+4" -Bedding Material 'ALTERNATE'

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

3S Max. S+4'

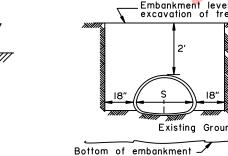
TYPE "A"

>

∠Bedding Material

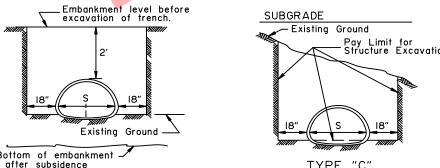
CULVERT PIPE

ARCH

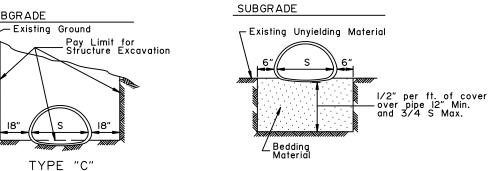


FOUNDATION STABILIZATION To be used in unstable areas as directed by the Engineer.

Existing Ground



TYPE "B"



TYPE "D" ROCK OR UNYIELDING MATERIAL

State of Alaska DOT&PF ALASKA STANDARD PLAN

CULVERT PIPE & ARCH INSTALLATION DETAILS

Adopted as an Alaska Standard Plan by:

Kenneth J. Fisher, P.E. Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review

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

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

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

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

CORRUGATED CIRCULAR ALUMINUM PIPE

- CORRUGATED ALUMINUM PIPE-ARCH

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

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

	9 1 2 1/2	2" Aluminum	Multiplate	ripe-Arch	2 Tons/Sf
Span (FtIn.)	Rise (FtIn.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	Corner Bearing Pressure Max. Cover (Ft)
6-7	5-8	31.75	0.125	24	24
6-II	5-9	31.75	0.125	24	24
7-3	5-II	31.75	0.125	24	18
7-9	6-0	31.75	0.125	24	18
8-5	6-3	31.75	0.125	24	16
9-3	6-5	31.75	0.125	24	15
10-3	6-9	31.75	0.125	30	13
10-9	6-10	31.75	0.125	30	13
II-5	7-1	31.75	0.125	30	13
12-7	7-5	31.75	0.125	30	II
12-11	7-6	31.75	0.125	30	11
13-1	8-2	31.75	0.125	30	II
13-11	8-5	31.75	0.125	36	10
14-8	9-8	31.75	0.125	36	9
15-4	10-0	31.75	0.150	36	8
I6-I	10-4	31.75	0.150	36	8
16-9	10-8	31.75	0.150	42	7
17-3	II-O	31.75	0.150	42	7
18-0	11-4	31.75	0.175	42	7
18-8	II-8	31.75	0.175	42	7

Minimum & Maximum Cover for

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

GENERAL NOTES:

- All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
- The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
- 3. No more than one type of pipe may be used on any single installation or installation grouping.
- 4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
- See Standard Plan D-OI "Culvert Pipe 8 Arch Installation Details" for foundation and structural backfill details.
- 6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the bottom of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflection.
- 7. These tables have been developed for an HL-93 live load and for compacted soil weighing I20 lbs. per cubic foot or less. If compacted soil cover exceeds I20 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds I20 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section I2 of the 2017 AASHTO "LRFD Bridge Design Specifications".

State of Alaska DOT&PF ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

Adopted as an Alaska Standard Plan by:

Carolyn Morehouse

Carolyn Morehouse, P.E.

Chief Engineer

Adoption Date: 7/17/2020

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

	Minimum & Maximum Cover for 2 2/3" x 1/2" Steel Pipe										
Ga	ge	16	14	12	10	8					
Thick	ness	0.060	0.075	0.105	0.135	0.164					
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)					
12	12	100+	100+	100+	100+	100+					
15	12	100+	100+	100+	100+	100+					
18	12	100+	100+	100+	100+	100+					
21	12	100+	100+	100+	100+	100+					
24	12	100+	100+	100+	100+	100+					
30	12	83	100+	100+	100+	100+					
36	12	69	86	100+	100+	100+					
42	12	59	74	100+	100+	100+					
48	12	51	64	91	100+	100+					
54	12		57	80	100+	100+					
60	12			72	93	100+					
66	12			66	85	100+					
72	12				78	95					
78	12					84					
84	12					73					

	Mini	mum 8. 3" x	Maximu I" Stee	m Cove I Pipe	r fo	
Go	ıg e	16	14	12	10	8
Thick	ness	0.060	0.075	0.105	0.135	0.164
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
36	12			100+	100+	100+
42	12			100+	100+	100+
48	12		74	100+	100+	100+
54	12	53	66	93	100+	100+
60	12	47	59	83	100+	100+
66	12	43	54	76	98	100+
72	12	39	49	69	89	100+
78	12	36	45	64	82	100+
84	12	33	42	59	77	94
90	12	31	39	55	71	87
96	12	29	37	52	67	82
102	18	27	34	49	63	77
108	18		32	46	59	73
114	18		31	43	56	69
120	18		29	41	53	65
126	18			39	51	62
132	18			37	48	59
138	18			36	46	57
144	18				44	54

		Minimum 5"	8 Maxim x I" Ste		r for	
Go	ige	16	14	12	10	8
Thic	kness	0.060	0.075	0.105	0.135	0.164
Dia. {In}	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
36	12	71	88	100+	100+	100+
42	12	60	76	100+	100+	100+
48	12	53	66	93	100+	100+
54	12	47	59	82	100+	100+
60	12	42	53	74	96	100+
66	12	38	48	67	87	100+
72	12	35	44	62	79	97
78	12	32	40	57	73	90
84	12	30	37	53	68	83
90	12	28	35	49	63	78
96	12	26	33	46	59	73
102	18	24	31	43	56	69
108	18		29	41	53	65
114	18		27	39	50	61
120	18		26	37	47	58
126	18			35	45	55
132	18			33	43	53
138	18			32	41	50
144	18				39	48

Minimum & Maximum Cover for 6" x 2" Steel Multiplate Pipe*									
Ga	ge	12	10	8	7	5	3	- 1	
Thick	ness	0.111	0.140	0.170	0.188	0.218	0.249	0.280	
Dia. (In)	Min. (In)	Max. (Ft)							
60	12	46	67	87	100	100+	100+	100+	
66	12	42	60	79	91	100+	100+	100+	
72	12	38	55	73	83	100+	100+	100+	
78	12	35	51	67	77	93	100+	100+	
84	12	32	47	62	71	86	100+	100+	
90	12	30	44	58	67	80	95	100+	
96	12	28	41	54	62	75	89	97	
102	18	27	39	51	59	71	84	91	
108	18	25	37	48	55	67	79	86	
114	18	24	35	45	52	63	75	82	
120	18	22	33	43	50	60	71	77	
126	18	21	31	41	47	57	68	74	
132	18	20	30	39	45	54	64	70	
138	18	19	28	37	43	52	62	67	
144	18	18	27	36	41	50	59	64	

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

D-04.22

SHEET 2 of 4

GENERAL NOTES

- All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
- 2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
- No more than one type of pipe may be used on any single installation or installation grouping.
- 4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
- 5. See Standard Plan D-OI "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
- 6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the bottom of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflecton.
- 7. These tables have been developed for an HL-93 live load and for compacted soil weighing I20 lbs. per cubic foot or less. If compacted soil cover exceeds I20 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds I20 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section I2 of the 2017 AASHTO "LRFD Bridge Design Specifications".

— CORRUGATED CIRCULAR STEEL PIPE

--- CORRUGATED STEEL PIPE-ARCH

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

	Min <mark>imum 8</mark> Maximum Cover for 3"X I" Steel Pipe-Arch							
	2 Tons/Sf Corner Bearing Pressure							
Span	Rise	Corner	Min.	Min.	Max.			
(F tIn.)	(FtIn.)	Radius	Thickness	Cover	Cover			
		(In)	(In)	(In)	(F†)			
53	41	10 2/8	14 (0.079)	12	10			
60	46	18 6/8	14 (0.079)	15	29			
66	51	20 6/8	14 (0.079)	15	29			
73	55	22 7/8	14 (0.079)	18	18			
81	59	20 7/8	14 (0.079)	18	15			
87	63	22 7/8	14 (0.079)	18	15			
95	67	24 3/8	14 (0.079)	18	15			
103	71	26 1/8	14 (0.079)	18	14			
II2	75	27 6/8	14 (0.079)	21	14			
117	79	29 4/8	12 (0.109)	21	14			
128	83	31 2/8	10 (0.138)	24	14			
137	87	33	10 (0.138)	24	14			
142	91	34 6/8	10 (0.138)	24	13			
150	96	36	10 (0.138)	30	13			
157	96	38	10 (0.138)	30	13			
164	105	40	10 (0.138)	30	14			
171	IIO	41	10 (0.138)	30	13			

		5" X I" Stee	l Pipe-Arch		
			2 Tons	/Sf Corner Pressure	Bearing
Span (FtIn.)	Rise (FtIn.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	Max. Cover (Ft)
53	41	10 2/8	14 (0.079)	12	10
60	46	18 6/8	14 (0.079)	15	29
66	51	20 6/8	14 (0.079)	15	29
73	55	22 7/8	14 (0.079)	18	18
81	59	20 7/8	14 (0.079)	18	15
87	63	22 7/8	14 (0.079)	18	15
95	67	24 3/8	14 (0.079)	18	15
103	71	26 1/8	14 (0.079)	18	14
II2	75	27 6/8	14 (0.079)	21	14
117	79	29 4/8	12 (0.109)	21	14
128	83	31 2/8	10 (0.138)	24	14
137	87	33	10 (0.138)	24	14
142	91	34 6/8	10 (0.138)	24	13
150	96	36	10 (0.138)	30	13
157	96	38	10 (0.138)	30	13
164	105	40	10 (0.138)	30	14
171	IIO	41	10 (0.138)	30	13

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

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

State of Alaska DOT&PF ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

Adopted as an Alaska Carolyn Morshouse

Standard Plan by: Carolyn Morehouse, P.E.

Chief Engineer

Adoption Date: 7/17/2020

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

D-04.22

SHEET 3 of 4

GENERAL NOTES

Maximum Cover for Type S Corrugated Polyethelene Pipe

15

18

24

30

36

42

48

Size (in) Max. Cover (ft)

24

25

24

20

20

18

16

- All materials and workmanship shall be in accordance with the State of Alaska Standard Specifications for Highway Construction.
- For foundation and structural backfill details see Standard Plan D-OI "Culvert Pipe & Arch Installation Details".
- 3. Pipe cover height is measured from top of the pipe to top of rigid pavement, or to the bottom of subgrade for flexible pavement. In all cases the minimum cover shall be no less than 2 ft. Where loads traverse the culvert during construction minimum cover shall be no less than 4 ft.

State of Alaska DOT&PF ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

Adopted as an Alaska Carolyn Morshouse Standard Plan by:

Carolyn Morehouse, P.E. Chief Engineer

7/2020

Adoption Date: 7/17/2020

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

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

D-04.22

GENERAL NOTES

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

ALUMINUM SPIRAL RIB PIPE

STEEL SPIRAL RIB PIPE

	Minimum & M <mark>aximu</mark> m Cover for Steel and Al <mark>umini</mark> zed Steel								
Spiral Rib Circular Pipe*									
Go	ige	16	14	12	10				
Thickness		0.064	0.079	0.109	0.138				
Dia.	Min.	Max.	Max.	Max.	Max.				
(in)	(In)	(Ft)	(Ft)	(Ft)	(Ft)				
18	12	91							
24	12	68	95	100+					
30	12	54	76	100+					
36	12	45	63	100+					
42	12	38	54	90					
48	12	33	47	79					
54	18	30	42	70					
60	18	27	38	63	92				
66	18	24	34	57	83				
72	18		31	52	76				
78	24		29	48	70				
84	24		27	45	65				
90	24			42	61				
96	24			39	56				
102	30			36	50				
108	30			32	45				

*34 x 34 x 7½ in. Corrugations.

Minimum & Maximum Cover for

Aluminum Spiral Rib Circular Pipe*

0.079

Max.

(Ft)

61

52

45

36

30

25

0.064

Max.

(Ft)

43

38

33

26

21

12

0.109

Max.

(Ft)

84

73

58

49

41

36

32

29

10

0.138

(Ft)

69

59

51

46

41

37

34

Max.

Gage

Thickness

Span

20

23

27

33

40

46

53

60

66

Rise

(Ft.-In.)

16

19

26

31

36

41

46

 $*34 \times 34 \times 72$ in. Corrugations

Gage

Thickness

12

12

12

15

18

21

24

24

24

24

30

 $*34 \times 34 \times 7\%$ in. Corrugations

(In)

18

21

24

30

36

42

48

54

60

66

72

Minimum & Maximum Cover for Steel Spiral Rib Pipe-Arch*								
2 Tons/Sf Corner Bearing Pressure								
Thick	ness		0.064	0.079	0.109			
Span (FtIn.)	Rise (FtIn.)	Min. Cover (In)	over Cover					
20	16	12	13					
23	19	12	13					
27	21	12	II					
33	26	12	II					
40	31	12	II					
46	36	12	II					
53	41	18		Ш				
60	46	18		19				
66	51	18		19				
73	55	18			18			
81	59	18			15			
87	63	18			15			
95	67	18			15			

Minimum & Maximum Cover for

Aluminum Spiral Rib Pipe-Arch*

0.060

16

15

13

13

Min.

Cover

12

12

15

18

21

24

24

24

24

0.075

13

13

13

Max.

Cover

10

0.135

13

13

13

13

0.105

13

13

13

13

13

 $*34 \times 34 \times 712$ in. Corrugations

State of Alaska DOT&PF ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

Adopted as an Alaska Carolyn Morshouse
Standard Plan by:

Carolyn Morehouse, P.E. Chief Engineer

Adoption Date: 7/17/2020

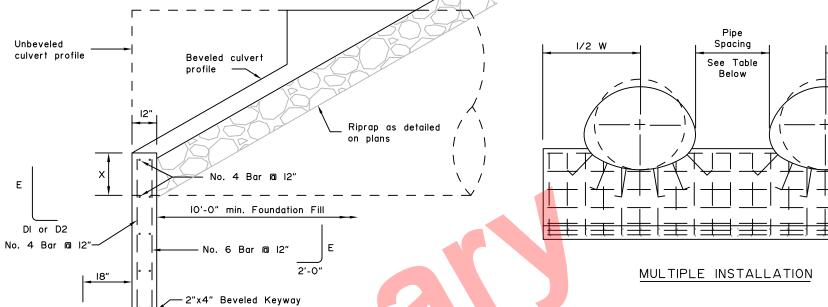
Last Code and Stds. Review By: KLH Date: 7/8/2020



SHEET

| of 2

1/2 W



_(A)

Minimum Space Between Pipes 1/2 Dia. of Pipe or 1/2 Span of Pipe Arch, 24" Min.

ELEVATION

-No. 6 each face

		COR	RUGATED	METAL	PIPE ÷	SEE N	OTE II
Dia.	W	Н	AI X	A2 X	DI X	D2 X	E
5'-0"	9'-0"	4'-0"	4'-0"	4'-0"	2'-0"	2'-0"	3′-6″
5'-6"	10'-0"	4'-6"	4'-0"	4'-0"	2'-0"	2'-0"	4'-0"
6'-0"	II'-O"	4'-6"	4'-0"	4'-0"	2'-0"	2'-0"	4'-0"
6'-6"	12'-0"	4'-6"	4'-0"	4'-0"	2'-0"	2'-0"	4'-0"
7'-0"	12'-6"	4'-6"	4'-0"	4'-0"	2'-0"	2'-0"	4'-0"
7'-6"	13'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-0"	14'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-6"	15'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
9'-0"	16'-6"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
9'-6"	17'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
10'-0"	18'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
10'-6"	19'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
II'-O"	20'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
II'-6"	21'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
12'-0"	21'-6"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
12'-6"	22'-6"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
13'-0"	23'-6"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
13'-6"	24'-6"	6'-0"	5'-6"	4'-0"	3'-6"	2'-0"	5'-6"
14'-0"	25'-6"	6'-6"	6'-0"	4'-0"	4'-0"	2'-0"	6'-0"
14'-6"	26'-0"	6'-6"	6'-0"	4'-0"	4'-0"	2'-0"	6'-0"
15'-0"	27'-0"	6'-6"	6'-0"	4'-0"	4'-0"	2'-0"	6'-0"

Pipe & Structure €-

HOOK BOLTS 3" Min. from top

30" Max. space.

of wall,

		СО	RRUGATE	D METAL	PIPE A	RCH	* SEE	NOTE II
SPAN	RISE	w	Н	AI X	A2 X	DI X	D2 X	E
6'-1"	4'-7"	14'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
6'-4"	4'-9"	14'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
6'-9"	4'-11"	15'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
7'-0"	5'-1"	15'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
7'-3"	5'-3"	16'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
7'-8"	5'-5"	16'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
7'-11"	5'-7"	17'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-2"	5'-9"	17'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-7"	5'-11"	18'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-10"	6'-1"	18'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
9'-4"	6'-3"	19'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
9'-6"	6'-5"	19'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
9'-9"	6'-7"	20'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
10'-3"	6'-9"	20'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
10'-8"	6'-11"	21'-0"	5′-6″	5′-0″	4'-0"	3'-0"	2'-0"	5'-0"
10'-11"	7'-1"	21'-6"	5′-6″	5′-0″	4'-0"	3'-0"	2'-0"	5'-0"
II'-5"	7'-3"	22'-0"	5′-6″	5′-0″	4'-0"	3'-0"	2'-0"	5'-0"
II'-7"	7'-5"	22'-6"	5′-6″	5′-0″	4'-0"	3'-0"	2'-0"	5'-0"
11'-10"	7'-7"	23'-0"	5'-6"	5′-0″	4'-0"	3'-0"	2'-0"	5'-0"
12'-4"	7'-9"	23'-6"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
12'-6"	7'-11"	24'-0"	5′-6″	5′-0"	4'-0"	3'-0"	2'-0"	5′-0"
12'-8"	8'-1"	24'-6"	5′-6″	5′-0"	4'-0"	3'-0"	2'-0"	5′-0″
12'-10"	8'-4"	25'-0"	5′-6″	5′-0″	4'-0"	3'-0"	2'-0"	5′-0″
13'-5"	8'-5"	25'-6"	5′-6"	5′-0"	4'-0"	3'-0"	2'-0"	5'-0"
13'-11"	8'-7"	26'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
14'-1"	8'-9"	26'-6"	5′-6″	5′-0"	4'-0"	3'-0"	2'-0"	5'-0"
14'-3"	8'-11"	27'-0"	5′-6″	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
14'-10"	9'-1"	27'-6"	5′-6″	5′-0″	4'-0"	3'-0"	2'-0"	5'-0"
15'-4"	9'-3"	28'-0"	5′-6″	5′-0″	4'-0"	3'-0"	2'-0"	5'-0"
15'-6"	9'-5"	28'-6"	5′-6"	5′-0″	4'-0"	3'-0"	2'-0"	5'-0"
15'-8"	9'-7"	29'-0"	5'-6"	5′-0"	4'-0"	3'-0"	2'-0"	5'-0"
15'-10"	9'-10"	29'-6"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
16'-5"	9'-11"	30'-0"	5′-6″	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
16'-7"	10'-1"	30'-6"	5′-6″	5′-0"	4'-0"	3′-0"	2'-0"	5′-0"

GENERAL NOTES:

3'-0" Min. Foundation Fill

No. 6 Bar @ 12

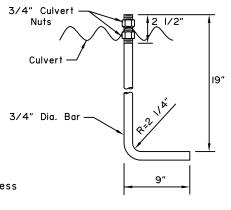
∟No. 4 Bar @ 12"

SECTION A-A

Al or A2

See Note I

- I. For use on 2:1 or flatter backfill slopes only.
- 2. See plans for pipe beveling requirements. See Std. Dwg. D-07 for "X" dimension and culvert beveling geometry.
- 3. Use Class A concrete.
- 4. Use epoxy-coated ASTM A706, Grade 60 reinforcing steel fy=60,000 psi.
- 5. Place reinforcement 3" clear from surface of concrete unless otherwise noted.
- 6. Chamfer all exposed concrete corners 3/4".
- 7. If unsuitable foundation material is encountered, remove and backfill with Foundation Fill as directed by the Engineer.
- 8. Furnishing and installing hook bolts in place is incidental to Class A concrete.
- 9. Use galvanized ASTM A307 hook bolts and nuts. Torque culvert nuts to 140 ft-lbs.
- 10. Headwalls for skewed culverts to be parallel to road centerline. See plans for dimensions of openings in headwalls for skewed culverts.
- II. For backfill soil with: φ=30°, \ =130 pcf Use AI and DI φ=34°, 8=135 pcf Use A2 and D2



HOOK BOLT

State of Alaska DOT&PF ALASKA STANDARD PLAN

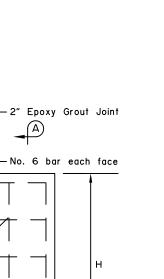
HEADWALLS CAST-IN-PLACE TYPE I

Adopted as an Alaska Standard Plan by: Mucel

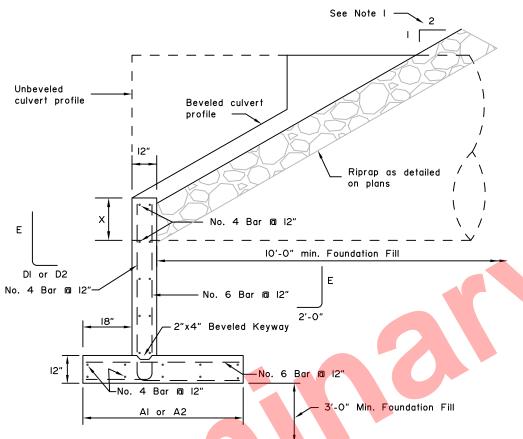
Kenneth J. Fisher, P.E.

Adoption Date: 02/08/2019

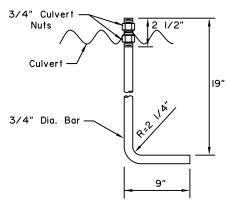
Last Code and Stds. Review



ELEVATION



SECTION A-A



HOOK BOLT

CORRUGATED METAL PIPE * SEE NOTE II							OTE II
Dia.	W	Н	AI X	A2 X	DI X	D2 X	Е
5'-0"	9'-0"	4'-0"	4'-0"	4'-0"	2'-0"	2'-0"	3′-6″
5'-6"	10'-0"	4'-6"	4'-0"	4'-0"	2'-0"	2'-0"	4'-0"
6'-0"	II'-O"	4'-6"	4'-0"	4'-0"	2'-0"	2'-0"	4'-0"
6'-6"	12'-0"	4'-6"	4'-0"	4'-0"	2'-0"	2'-0"	4'-0"
7'-0"	12'-6"	4'-6"	4'-0"	4'-0"	2'-0"	2'-0"	4'-0"
7'-6"	13'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-0"	14'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-6"	15'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
9'-0"	16'-6"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
9'-6"	17'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
10'-0"	18'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
10'-6"	19'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"
II'-O"	20'-0"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"

Pipe & Structure €-

HOOK BOLTS 3" Min. from top

30" Max. space.

of wall,

	CORRUGATED METAL PIPE ARCH * SEE I							IOTE II
SPAN	RISE	w	Н	AI X	A2 X	DI X	D2 X	E
6'-1"	4'-7"	14'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
6'-4"	4'-9"	14'-6"	5′-0″	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
6'-9"	4'-11"	15'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
7'-0"	5'-I"	15'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
7'-3"	5'-3"	16'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
7'-8"	5'-5"	16'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
7'-11"	5'-7"	17'-0"	5′-0″	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-2"	5'-9"	17'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-7"	5'-II"	18'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
8'-10"	6'-l"	18'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
9'-4"	6'-3"	19'-0"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
9'-6"	6'-5"	19'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
9'-9"	6'-7"	20'-0"	5′-0″	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
10'-3"	6'-9"	20'-6"	5'-0"	4'-6"	4'-0"	2'-6"	2'-0"	4'-6"
10'-8"	6'-II"	21'-0"	5′-6″	5′-0″	4'-0"	3'-0"	2'-0"	5'-0"
10'-11"	7'-1"	21'-6"	5'-6"	5'-0"	4'-0"	3'-0"	2'-0"	5'-0"

GENERAL NOTES:

- I. For use on 2:1 or flatter backfill slopes only.
- 2. See plans for pipe beveling requirements. See Std. Dwg. D-07 for "X" dimension and culvert beveling geometry.
- 3. Use Class A concrete.
- 4. Use epoxy-coated ASTM A706, Grade 60 reinforcing steel fy=60,000 psi.
- 5. Place reinforcement 3" clear from surface of concrete unless otherwise noted.
- 6. Chamfer all exposed concrete corners 3/4".
- 7. If unsuitable foundation material is encountered, remove and backfill with Foundation Fill as directed by the Engineer.
- 8. Furnishing and installing hook bolts in place is incidental to Class A concrete.
- 9. Use galvanized ASTM A307 hook bolts and nuts. Torque culvert nuts to 140 ft-lbs.
- 10. Headwalls for skewed culverts to be parallel to road centerline. See plans for dimensions of openings in headwalls for skewed culverts.
- II. For backfill soil with: φ=30°, { =130 pcf Use AI and DI φ=34°, { =135 pcf Use A2 and D2

State of Alaska DOT&PF ALASKA STANDARD PLAN HEADWALLS PRECAST

TYPE I Adopted as an Alaska

Standard Plan by: June 1

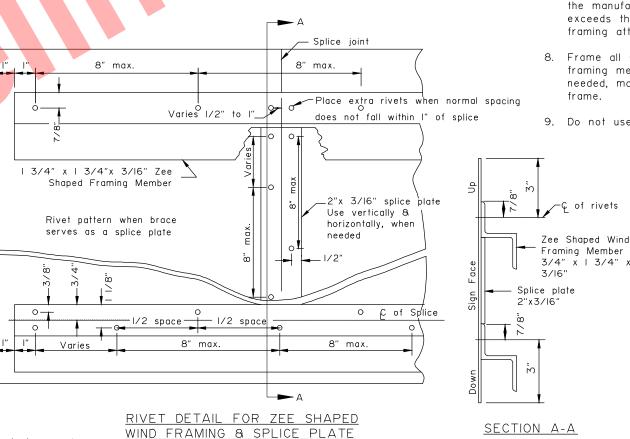
Kenneth J. Fisher, P.E. Chief Engineer

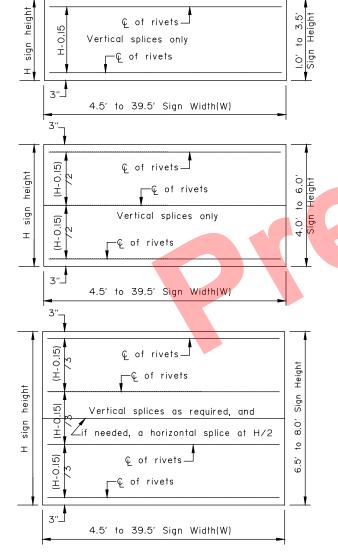
Adoption Date: 02/08/2019

Last Code and Stds. Review

GENERAL NOTES

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





WIND FRAMING

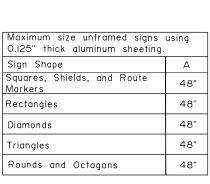
LOCATIONS

Ç of rivets-

-Ç of rivets

Ç of rivets —

No splices



Circle

Octagon

Square

Rectangle

Triangle

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

LIGHT SIGNS

State of Alaska DOT&PF ALASKA STANDARD PLAN SIGN FRAMING

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

Adoption Date: 7/17/2020

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

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

Note: Drawing not to scale

SECTION A-A

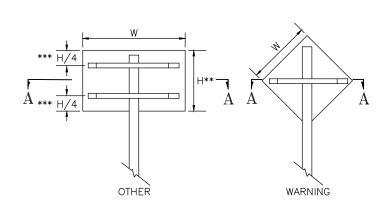
3/16"

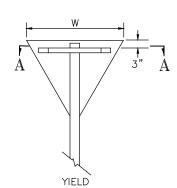
Ç of rivets

Zee Shaped Wind

Framina Member

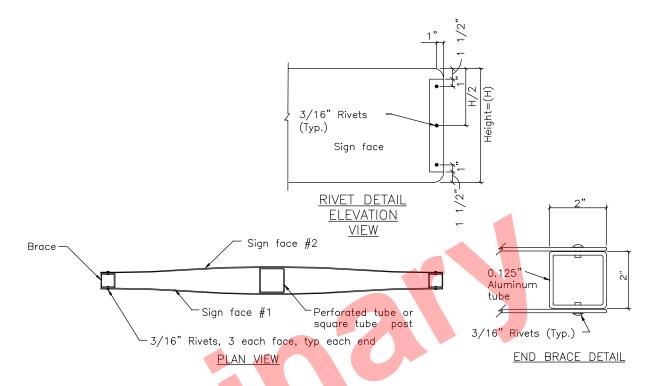
SHEET | of |



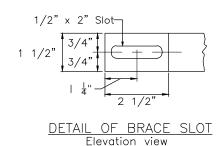


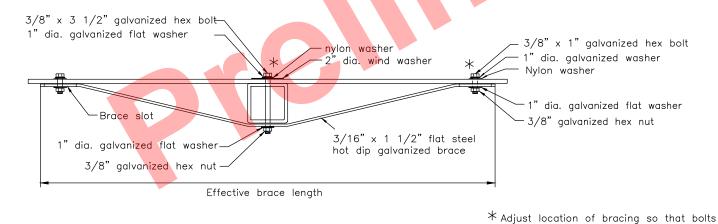
- *** Use one brace when H \leq 18" Use two braces when 18"< H < 48" Use three braces when H \geq 48"
- ** Position of brace may be varied to match Predrilled mounting holes in panel

SIGN BRACING PLACEMENT



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





TUBE POST SIGN BRACING SECTION A-A

and washers will miss the sign legend

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

< 30" No bracing required and use square tube

Note: Drawing not to scale

State of Alaska DOT&PF ALASKA STANDARD PLAN

BRACING FOR SIGNS MOUNTED ON SINGLE POST

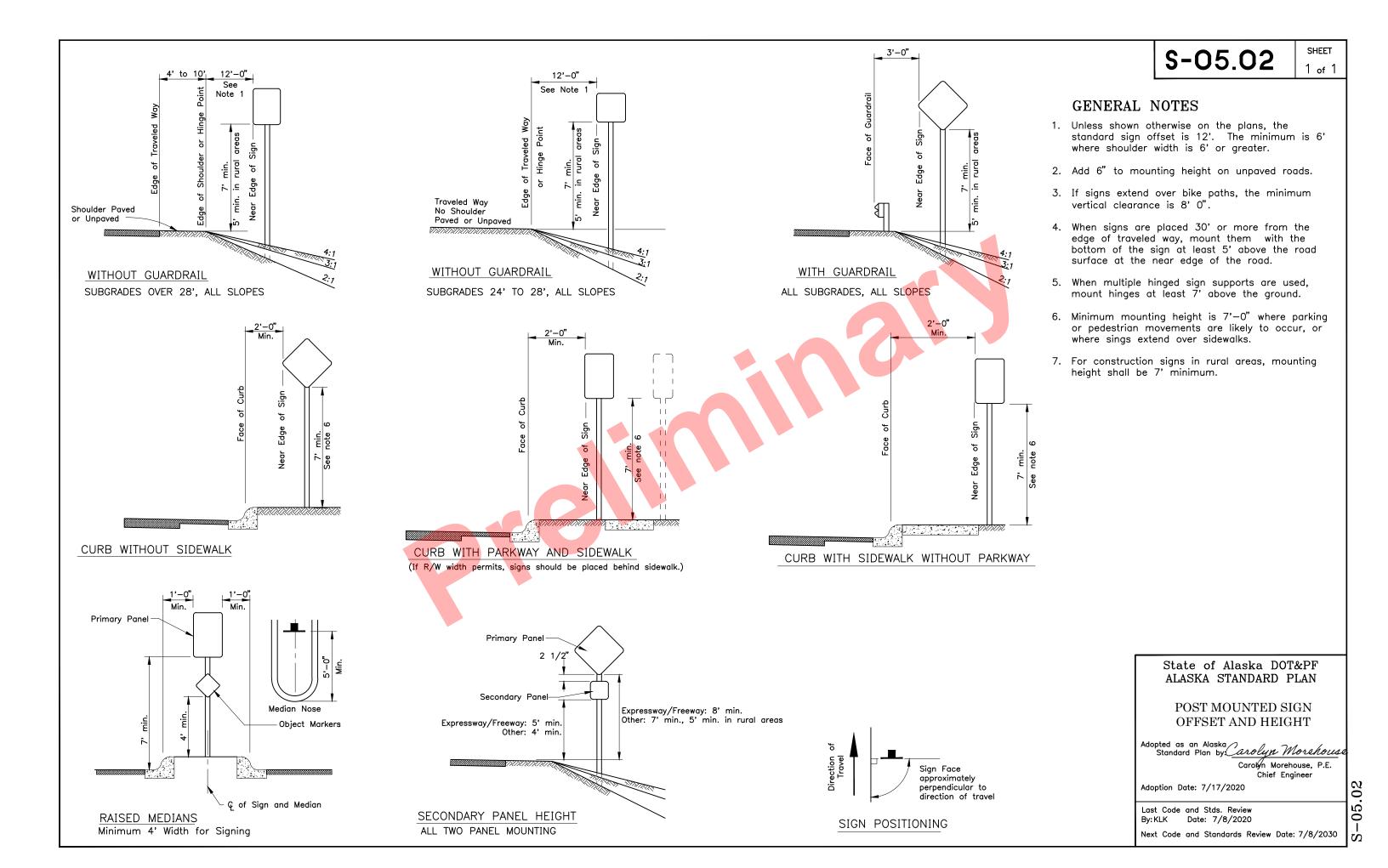
Adopted as an Alaska Standard Plan by: _

Carolyn Morehouse

Carolyn Morehouse, P.E.

Adoption Date: 7/17/2020

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



GENERAL NOTES:

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

SIGN POST SPACING NOTES:

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

I/2" c conform 4" n			3/8" Dia. Bolt, Nut and Flat Washers		
	4" max.		12" min. 9" min.		4" max.
	48"		P.S.T. Stub tube stub	000000	Embedment
— Drilled hole in widest face, typ.		end to prevent te from entering ube	6", †yp.	0 0 0 0 0 0 0 0 0	
Top of foundation or ground line.		12"		0 0	
	CONCE	LEEVE TYPE RETE FOUNDATION	<u> </u>	SLEEVE TYPE* SOIL EMBEDMENT	

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

Embedment

Direction of Traffic

lpha Embedment depth applies in both strong and weak soil.

WOOD POSTS

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

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

	TUBE SIGN POST SPACING									
Sign Width (feet)	No. of	o. of Distance	Sign	Post Type			Notes			
	Posts	Between Posts	Overhang	P.S.T.	Wood	Steel Tube	W-Shape			
0.5 to 4.0	- 1	-	0.5W	X	X	X		See Note 2.		
4.5 to 10.0	2	0.6W	0.2W	X	X	X		See Note 3.		
10.5 to 11.0	2	6	Varies	X	X	X		See Note 3.		
II.5 to I3.0	2	8	Varies				X			
13.5 to 20.0	2	0.6W	0.2W				Х			
20.5 to 22.5	3	8	Varies				Х			
23.0 to 29.5	3	0.35W	0.15W				X			
30.0 to 31.5	4	8	Varies				X			
32.0 to 40.0	4	0.25W	0.l25W				X			

TUBE SIGN POST SPACING

PERFORATED STEEL TUBE (PST) POSTS

Note: Drawing not to scale

State of Alaska DOT&PF ALASKA STANDARD PLAN

LIGHT SIGN STRUCTURE POST EMBEDMENT

Adopted as an Alaska Standard Plan by: Carolyn Morehouse

Carolyn Morehouse, P.E.
Chief Engineer

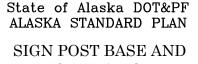
Adoption Date: 7/17/2020

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

SHEET 1 of 1

GENERAL NOTES

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



FOUNDATION Adopted as an Alaska Carolyn Morshouse Standard Plan by:

Carolyn Morehouse, P.E. Chief Engineer

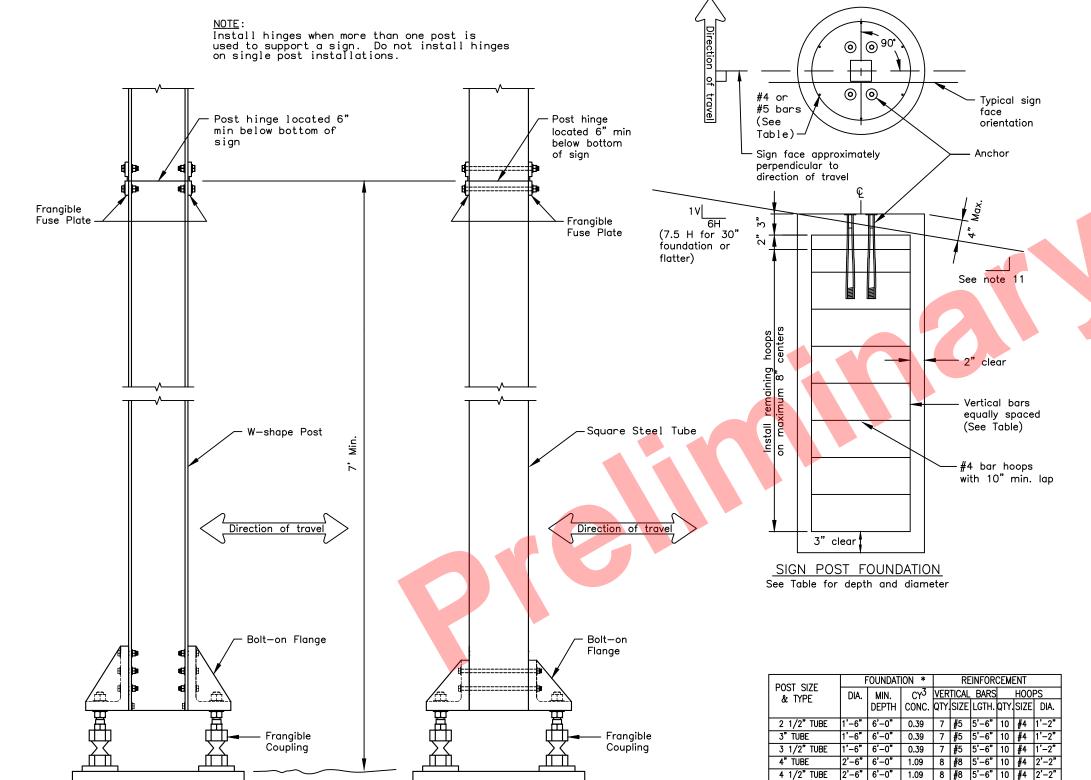
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Adoption Date: 7/17/2020

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

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



FRANGIBLE COUPLING SYSTEM

FOR SQUARE STEEL TUBES

FRANGIBLE COUPLING SYSTEM

FOR W-SHAPE POST

4 1/2" TUBE 2'-6" 6'-0" 1.09 8 #8 5'-6" 10 #4 2'-2" 2'-6" 6'-0" 1.09 8 #8 5'-6" 10 #4 2'-2" 2'-6" 6'-0" 1.09 8 #8 5'-6" 10 #4 2'-2" W6 x 9 2'-6" 6'-0" 1.09 8 #8 5'-6" 10 #4 2'-2" W6 x 12 3'-0" 6'-6" 1.70 8 #11 6'-0" 12 #4 2'-8" W6 x 15 3'-0" 7'-6" 1.96 8 #11 7'-0" 13 #4 2'-8" W6 x 30

FOUNDATION TABLE

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

