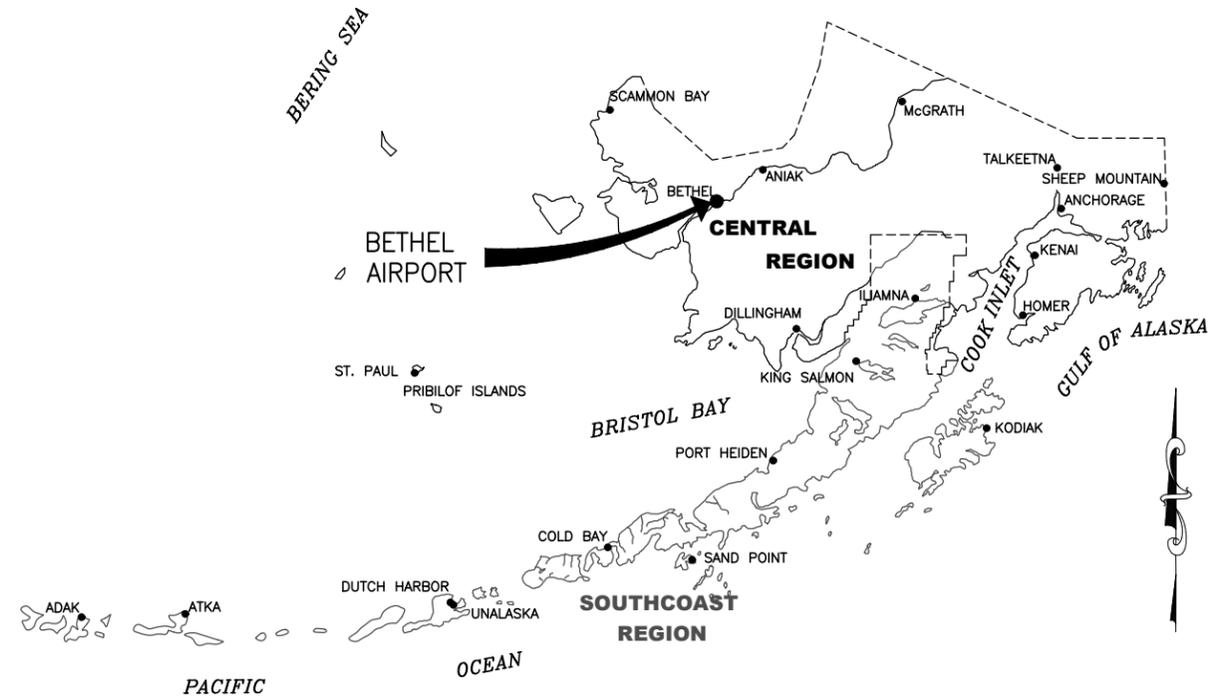


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# CONSTRUCTION PLANS BETHEL AIRPORT

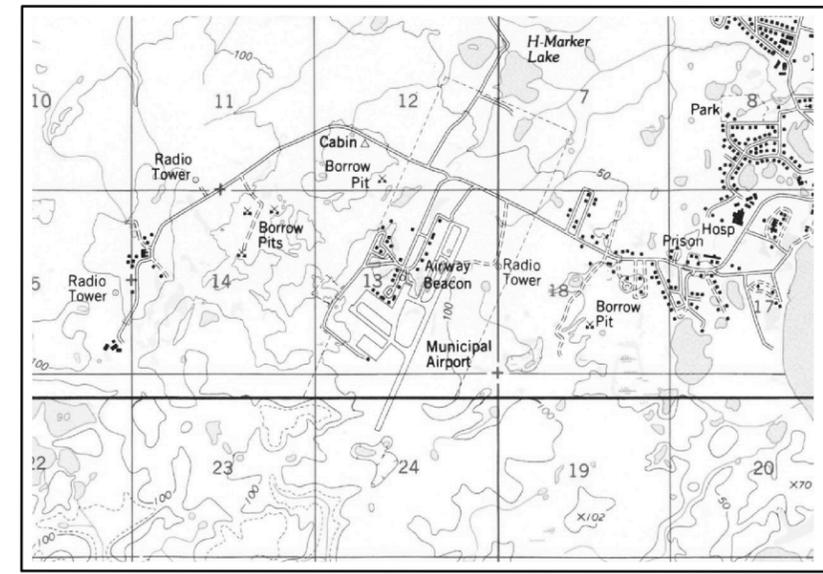
## BETHEL, ALASKA WEST APRON IMPROVEMENTS PROJECT No. CFAPT00859 AIRPORT IMPROVEMENT PROGRAM No. 3-02-0029-XXX-20XX

**PS&E  
DECEMBER 2025**



### ALASKA CENTRAL REGION LOCATION MAP

NOT TO SCALE



### VICINITY MAP

SCALE 1" = 1/2 MILE  
 SECTIONS 12, 13, 24  
 T 8 N, R 71 W & R 72 W  
 SEWARD MERIDIAN  
 U.S.G.S. BETHEL D-8

<b>CONCUR</b> JOEL G. ST. AUBIN, P.E.	<b>DATE</b> REGIONAL CONSTRUCTION ENGINEER
<b>APPROVED</b> LUKE S. BOWLAND, P.E.	<b>DATE</b> REGIONAL PRECONSTRUCTION ENGINEER
<b>APPROVED</b> STEVEN RZEPKA, P.E.	<b>DATE</b> AVIATION DESIGN SECTION CHIEF
<b>APPROVED</b> AARON HUGHES, P.E.	<b>DATE</b> PROJECT MANAGER

PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

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

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 COVER

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<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> <b>9101 VANGUARD DR.</b> <b>ANCHORAGE, AK 99507</b> <b>(907) 522-1707</b> <b>CERT. OF AUTH. NO. AECC111</b>			BY	DATE	REVISION

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# LEGEND

# ABBREVIATIONS

# ESTIMATING FACTORS

DESCRIPTION	EXISTING	PROPOSED
AIRPORT PROPERTY BOUNDARY		
BUILDING		
BUILDING RESTRICTION LINE		
CENTERLINE		
CONTOURS		
CULVERT		
DETAIL CALLOUT		
DITCH LINE		
ELECTRICAL HAND HOLE		
ELECTRICAL JUNCTION BOX		
ELECTRICAL TRANSFORMER		
FENCE		
TEMPORARY FENCE		
FUEL TANK		
GRADE BREAK		
GRAVEL EDGE		
GUY WIRE AND ANCHOR		
HAUL ROUTE (TWO WAY)		
LEASE LOT		
NAVAID CRITICAL AREA		
OBSTACLE FREE ZONE		
OBSTACLE FREE ZONE		
OVERHEAD ELECTRIC		
OVERHEAD TELEPHONE		
PAVEMENT/SHOULDER EDGE		
RUNWAY PROTECTION ZONE		
RUNWAY SAFETY AREA		
RUNWAY/TAXIWAY SIGN		
SEGMENTED CIRCLE WITH WIND CONE		
SIGN POST		
SWALE		
TAXIWAY LIGHTING		
TAXIWAY OBJECT FREE AREA		
TAXIWAY SAFETY AREA		
TELEPHONE PEDESTAL		
TOP OF CUT SLOPE		
TOE OF FILL SLOPE		
UNDERGROUND COMMUNICATION CABLE		
UNDERGROUND ELECTRIC		
UNDERGROUND FAA ELECTRIC		
UNDERGROUND TELEPHONE		
WATER LINE (UNDERGROUND)		
WETLAND		
WIND CONE		

ABN	ABANDONED	MITL	MEDIUM INTENSITY TAXIWAY LIGHTING
AC	ADVISORY CIRCULAR/ACRE	N	NORTHING
AOA	AIR OPERATIONS AREA	NAVAID	NAVIGATIONAL AID
ARFF	AIRPORT RESCUE AND FIRE FIGHTING	NCA	NAVAID CRITICAL AREA
AWG	AMERICAN WIRE GAUGE	NG	NATIONAL GUARD
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM	NOTAM	NOTICE OF AIR MISSIONS
BET	BETHEL AIRPORT	NTP	NOTICE TO PROCEED
BMP	BEST MANAGEMENT PRACTICE	NTS	NOT TO SCALE
BOP	BEGINNING OF PROJECT	OD	OUTSIDE DIAMETER
BVCE	BEGIN VERTICAL CURVE ELEVATION	OFA	OBJECT FREE AREA
BVCS	BEGIN VERTICAL CURVE STATION	OFZ	OBSTACLE FREE ZONE
CABC	CRUSHED AGGREGATE BASE COURSE	PC	POINT OF CURVATURE
CASC	CRUSHED AGGREGATE SURFACE COURSE	PCF	POUNDS PER CUBIC FOOT
CL	CENTERLINE	PI	POINT OF INTERSECTION
CMP	CORRUGATED METAL PIPE	PT	POINT OF TANGENCY
CPM	CRITICAL PATH METHOD	PVI	POINT OF VERTICAL INTERSECTION
CS	CONTINGENT SUM/CORRUGATED STEEL	QTY	QUANTITY
CSPP	CONSTRUCTION SAFETY & PHASING PLAN	R	RADIUS
CTSB	CEMENT TREATED SOIL BASE	RAP	RECYCLED ASPHALT PAVEMENT
CY	CUBIC YARD	REQ'D	REQUIRED
DEMO	DEMOLITION	RIC	RAPID IMPACT COMPACTION
DIA	DIAMETER	RP	RADIUS POINT
DOT&PF	ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES	RPZ	RUNWAY PROTECTION ZONE
E	EASTING	RSA	RUNWAY SAFETY AREA
EA	EACH	RT	RIGHT
EG	EXISTING GROUND	RW	RUNWAY
ELEV	ELEVATION	SF	SQUARE FEET
EOP	END OF PROJECT	SIDA	SECURE IDENTIFICATION DISPLAY AREA
ESCP	EROSION AND SEDIMENT CONTROL PLAN	SPCD	SAFETY PLAN COMPLIANCE DOCUMENT
EVCE	END VERTICAL CURVE ELEVATION	SREB	SNOW REMOVAL EQUIPMENT BUILDING
EVCS	END VERTICAL CURVE STATION	STA	STATION
FAA	FEDERAL AVIATION ADMINISTRATION	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
FASBC	FOAMED ASPHALT BASE COURSE	SY	SQUARE YARD
FG	FINISH GRADE	T	TANGENT
FOD	FOREIGN OBJECT DEBRIS	TOFA	TAXIWAY OBJECT FREE AREA
FT	FEET	TON	TONNAGE
GA	GENERAL AVIATION/GAUGE	TSA	TAXIWAY SAFETY AREA
GAL	GALLON	TW	TAXIWAY
GALV	GALVANIZED	TYP	TYPICAL
GB	GRADE BREAK	UE	UNDERGROUND ELECTRIC
HDPE	HIGH DENSITY POLYETHYLENE PIPE	UT	UNDERGROUND TELECOM LINE
HIRL	HIGH INTENSITY RUNWAY LIGHTING	VORTAC	VHF OMNI-DIRECTIONAL RANGE TACTICAL AIR NAVIGATION
HMA	HOT MIX ASPHALT		
HR	HOUR		
HWY	HIGHWAY		
IN	INCH		
K	RATE OF VERTICAL CURVATURE		
KV	KILOVOLT		
L	LENGTH		
LB	POUND		
LF	LINEAR FOOT		
LS	LUMP SUM		
LT	LEFT		
MALSR	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS		
MAX	MAXIMUM		
ME	MATCH EXISTING		
MGAL	ONE THOUSAND GALLONS		
MIN	MINIMUM		

NO.	ITEM	FACTOR
G705.010.0000	WATERING FOR DUST CONTROL	40 GAL/SY
P152.200.0000	BORROW	120 PCF
P152.390.0000	DITCH LINING	1.5 TON/CY
P209.020.0000	CRUSHED AGGREGATE BASE COURSE	145 PCF
P220.020.0000	PORTLAND CEMENT	8% BY WEIGHT
P299.020.0000	CRUSHED AGGREGATE SURFACE COURSE	145 PCF
P318.040.0000	ASPHALT BINDER	2.5% BY WEIGHT
P318.050.0000	PORTLAND CEMENT	1.5% BY WEIGHT
P401.010.0030	HOT MIX ASPHALT TYPE II, CLASS A	150 PCF
P401.030.5240	ASPHALT BINDER, PG 52-40V	5.5% BY WEIGHT
P401.165.0010	HOT MIX ASPHALT TYPE III, CLASS A, LEVELING COURSE	150 PCF
P603.010.0010	TACK COAT, STE-1	0.67 LB/SY

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# ESTIMATED QUANTITIES

NO.	ITEM	UNIT	NTP 1	NTP 2	TOTAL	NO.	ITEM	UNIT	NTP 1	NTP 2	TOTAL	NO.	ITEM	UNIT	NTP 1	NTP 2	TOTAL
D701.010.0000	CS PIPE, 24 INCH DIAMETER, 12 GAUGE	LF	80	-	80	L107.010.0008	8-FEET LIGHTED WIND CONE, SUPPLEMENTAL, IN PLACE	EA	1	-	1	P318.050.0000	PORTLAND CEMENT	TON	110	-	110
D701.010.0000	CS PIPE, 36 INCH DIAMETER, 12 GAUGE	LF	810	-	810	L108.010.2008	UNDERGROUND CABLE #8 AWG, COPPER, 5KV FAA TYPE C, L-824	LF	3,714	2,476	6,190	P401.010.0030	HOT MIX ASPHALT TYPE II, CLASS A	TON	5,007	5,293	10,300
D701.140.0000	ADJUST PIPE	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	L108.030.0006	#6 BARE COPPER GROUND CONDUCTOR	LF	4,049	2,699	6,748	P401.030.5240	ASPHALT BINDER, PG 52-40V	TON	306	324	630
D751.160.0000	OUTFALL GRATE, 36 INCH	EA	14	-	14	L108.070.0000	GROUND ROD	EA	7	5	12	P401.090.0000*	ASPHALT MATERIAL PRICE ADJUSTMENT	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D
D760.010.0030	THAW PIPE, 1.5-INCH	LF	810	-	810	L109.040.0000	INSTALLATION OF ELECTRICAL EQUIPMENT IN NEW OR EXISTING STRUCTURE	EA	-	1	1	P401.130.0000	HMA COMBINED PRICE ADJUSTMENT	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D
F162.010.0008	8-FEET CHAIN-LINK FENCE	LF	13,870	2,430	16,300	L110.080.1002	HDPE CONDUIT, 2-INCH	LF	1,787	1,192	2,979	P401.165.0010	HOT MIX ASPHALT TYPE III, CLASS A, LEVELING COURSE	TON	-	600	600
F162.010.0008	8-FEET CHAIN-LINK FENCE, NON-METALLIC	LF	1,001	1,349	2,350	L110.240.0000	DRYWELL	EA	2	-	2	P411.010.0000	INTELLIGENT COMPACTION FOR ASPHALT MIX PAVEMENTS	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D
F162.040.0000	DOUBLE SWING GATE, 20 FEET WIDE	EA	-	4	4	L125.020.0010	REGULATOR, L-829	EA	-	1	1	P603.010.0010	TACK COAT, STE-1	TON	18	17	35
F162.040.0000	DOUBLE SWING GATE, 60 FEET WIDE	EA	-	1	1	L125.040.0000	TAXIWAY EDGE LIGHT, L-861T	EA	29	16	45	P608.210.0000	ASPHALT SURFACE TREATMENT, RAPID CURE	SY	-	26,500	26,500
F162.080.0000	TEMPORARY FENCE	LF	15,000	-	15,000	L125.070.0000	REMOVE RUNWAY AND TAXIWAY LIGHT	EA	18	21	39	P610.010.0000	STRUCTURAL PORTLAND CEMENT CONCRETE	CY	-	40	40
F162.100.0000	FENCE SKIRT	LF	-	17,600	17,600	L125.150.0000	HANDHOLE, L-867, SIZE B	EA	1	-	1	P620.010.0000	RUNWAY & TAXIWAY PAINTING	SF	9,240	6,160	15,400
F162.220.0000	FENCE POST ADJUSTMENT	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	L125.170.0000	SPARE PARTS	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P620.050.0000	PAINTED MARKING REMOVAL	SF	10,260	6,840	17,100
F170.010.0000	STEEL BOLLARD	EA	-	6	6	P151.030.0000	CLEARING & GRUBBING	AC	25	-	25	P620.075.0000	TEMPORARY RUNWAY & TAXIWAY PAINTING	SF	1,961	39	2,000
G100.010.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P152.010.0000	UNCLASSIFIED EXCAVATION	CY	39,200	-	39,200	P641.010.0000	EROSION, SEDIMENT, AND POLLUTION CONTROL ADMINISTRATION	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D
G105.010.0000*	POST AWARD CONFERENCE	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P152.200.0000	BORROW	TON	212,000	-	212,000	P641.050.0000	TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL BY DIRECTIVE	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D
G115.010.0000	WORKERS MEALS AND LODGING, OR PER DIEM	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P152.275.0000	POROUS BACKFILL	TON	1,171	9,129	10,300	P641.060.0000	WITHHOLDING	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D
G130.010.0000	FIELD OFFICE	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P152.390.0000	DITCH LINING	TON	1,730	5,170	6,900	P641.070.0000	SWPPP MANAGER	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D
G130.020.0000	FIELD LABORATORY	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P160.010.0000	EXCAVATION OF PAVEMENT, AC	SY	17,700	-	17,700	P641.110.0000	SWPPPTRACK	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D
G130.060.0000	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EA	1	-	1	P161.020.0000	RECYCLED ASPHALT PAVEMENT	CY	720	-	720	P650.010.0000	AIRCRAFT TIE-DOWN	EA	-	2	2
G130.110.0000	FIELD COMMUNICATIONS	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P162.010.0000	PAVEMENT COLD PLANNING	SY	-	47,900	47,900	P661.010.0000	STANDARD SIGN	SF	-	140	140
G131.010.0000	ENGINEERING TRANSPORTATION (TRUCK)	EA	4	-	4	P170.020.0000*	SOIL TESTING PROGRAM	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P670.030.0000	FLASHER UNIT FOR PLASTIC BARRIER	EA	240	160	400
G135.010.0000	CONSTRUCTION SURVEYING BY THE CONTRACTOR	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P170.080.0000*	"HOT" MATERIAL OFFSITE TRANSPORTATION AND DISPOSAL	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P671.010.0000	RUNWAY CLOSURE MARKER, VINYL MESH	EA	3	-	3
G135.020.0000	EXTRA THREE PERSON SURVEY PARTY	HR	42	42	84	P171.010.0000*	TEMPORARY CONTAMINATED SOIL STOCKPILE	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P671.020.0000	RUNWAY CLOSURE MARKER, ILLUMINATED	EA	2	-	2
G135.050.0000	CONTRACTOR FURNISHED ENGINEERING TOOLS	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P190.010.0000	INSULATION BOARD	SF	119,000	-	119,000	P671.040.0000	TAXIWAY CLOSURE MARKER, VINYL	EA	3	-	3
G150.010.0070	EQUIPMENT RENTAL, DOZER 70-HP MINIMUM	HR	25	25	50	P209.020.0000	CRUSHED AGGREGATE BASE COURSE	TON	1,850	-	1,850	P681.010.0000	GEOTEXTILE, SEPARATION	SY	32,700	-	32,700
G150.030.0000	EQUIPMENT RENTAL, VAC-TRUCK	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P220.010.0000	CEMENT TREATED SOIL BASE COURSE	SY	7,450	-	7,450	P681.020.0000	GEOTEXTILE, STABILIZATION	SY	-	830	830
G300.010.0000	CPM SCHEDULING	LS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P220.020.0000	PORTLAND CEMENT	TON	340	-	340	P681.040.0000	GEOTEXTILE, REINFORCEMENT - TYPE 2	SY	24,900	-	24,900
G700.010.0000	AIRPORT FLAGGER	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P299.020.0000	CRUSHED AGGREGATE SURFACE COURSE	TON	-	7,250	7,250	P687.010.0010	GEOGRID, STABILIZATION, CLASS 1	SY	14,600	-	14,600
G700.040.0000	TRAFFIC CONTROL FOR AIRPORTS	CS	ALL REQ'D	ALL REQ'D	ALL REQ'D	P318.020.0000	FOAMED ASPHALT STABILIZED BASE COURSE	SY	15,800	-	15,800	P687.020.0010	GEOGRID, REINFORCEMENT, CLASS 1	SY	-	830	830
G705.010.0000	WATERING FOR DUST CONTROL	MGAL	840	560	1,400	P318.040.0000	ASPHALT BINDER	TON	180	-	180	P690.040.0000	RAPID IMPACT COMPACTION	SY	7,300	-	7,300

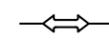
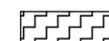
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**LEGEND:**

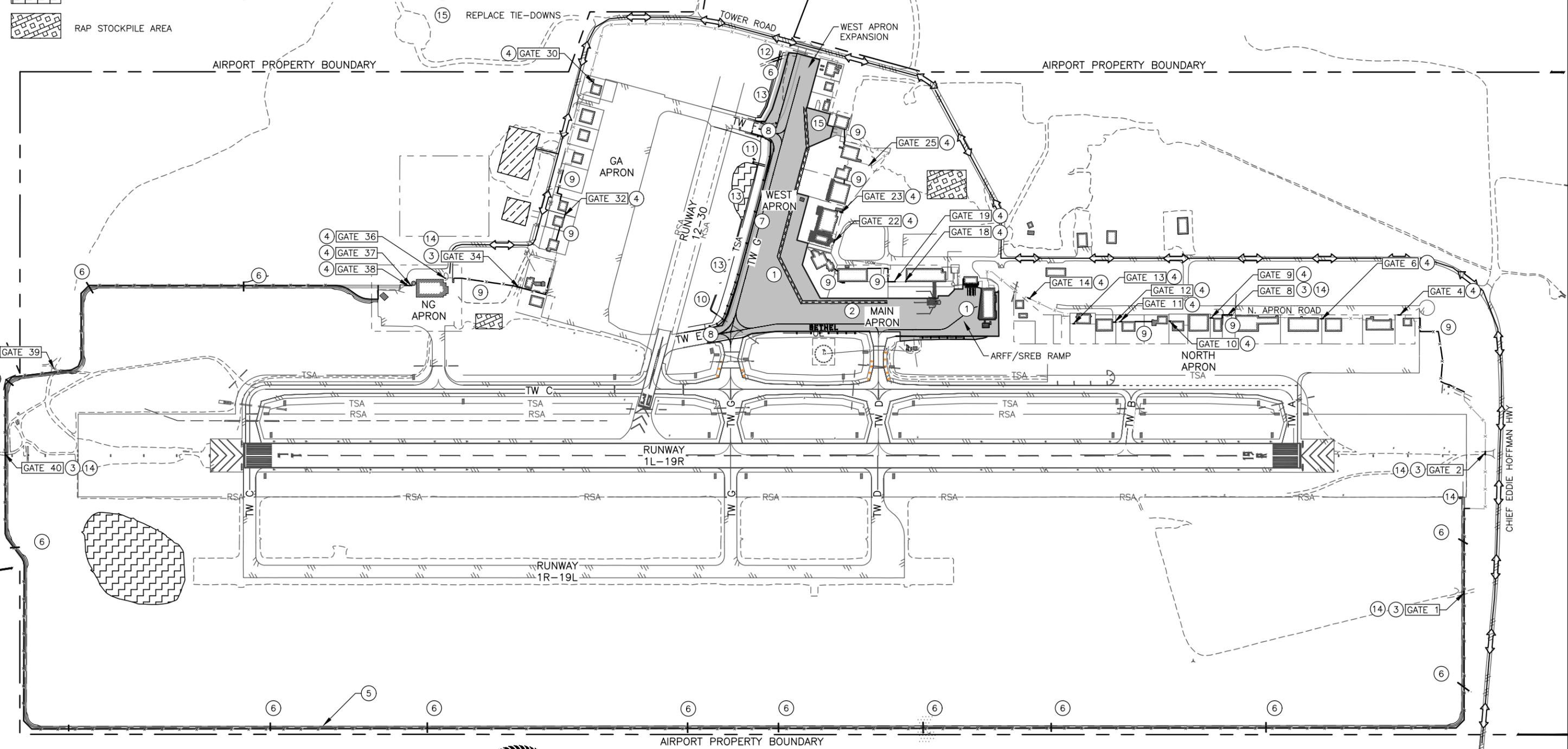
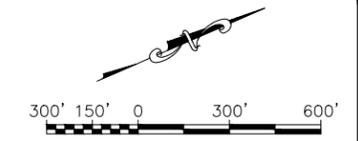
-  HAUL ROUTE
-  WORK ITEM IDENTIFIER
-  WORK AREA
-  STAGING AREA
-  WASTE AREA
-  RAP STOCKPILE AREA

**PROJECT WORK ITEMS:**

- ① REHABILITATE WEST APRON, TW G, AND ARFF/SREB RAMP
- ② SEALCOAT MAIN APRON
- ③ GATE REPLACEMENT
- ④ GATE REMOVAL
- ⑤ CONSTRUCT PERIMETER FENCE AND SERVICE ROAD
- ⑥ INSTALL CULVERTS
- ⑦ REPLACE TW G LIGHTING
- ⑧ REHABILITATE TAXIWAYS F AND E TO FILLET GEOMETRY AND REPLACE LIGHTING
- ⑨ FENCE REPLACEMENT
- ⑩ INSTALL CULVERT EXTENSION
- ⑪ RELOCATE SUPPLEMENTAL WIND CONE
- ⑫ TIE INTO EXISTING M&O ROAD
- ⑬ DITCH GRADING
- ⑭ INSTALL AIRPORT SIGNAGE
- ⑮ REPLACE TIE-DOWNS

**NOTICE TO PROCEED (NTP):**

1. NTP #1 SCOPE INCLUDES CONSTRUCTION OF THE PERIMETER SERVICE ROAD EMBANKMENT INCLUDING SURCHARGE, TEMPORARY PERIMETER INSTALLATION, THE WEST APRON EXPANSION, AND TAXIWAY G REHABILITATION.
2. NTP #2 SCOPE INCLUDES REMOVAL OF SURCHARGE AND SURFACING OF THE PERIMETER SERVICE ROAD, INSTALLATION OF FENCING AND GATES, MAIN APRON SEAL COAT, AND WEST APRON AND ARFF/SREB RAMP MILL AND OVERLAY.



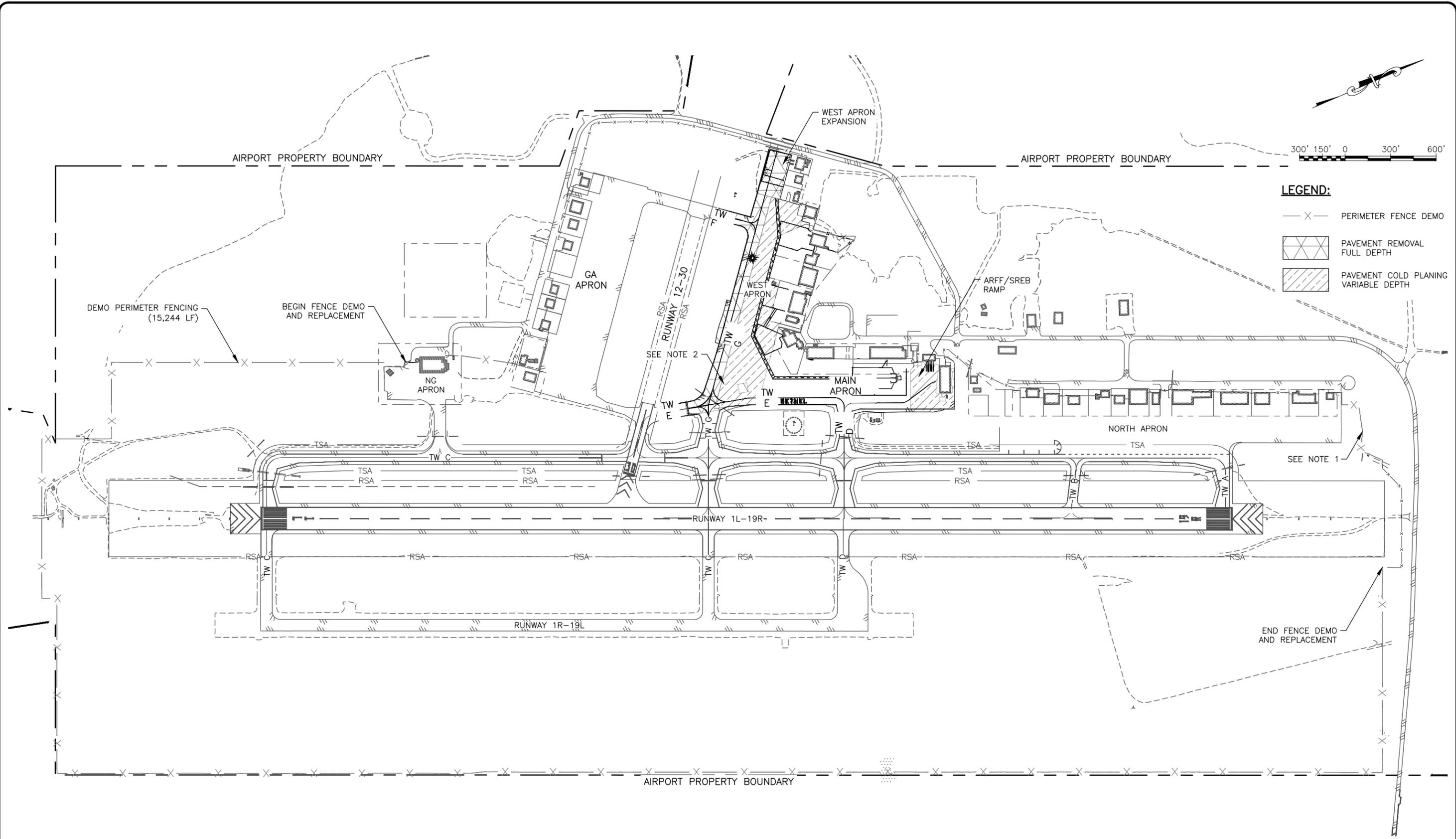
<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111			BY	DATE	REVISION

**STATE OF ALASKA**  
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 PHONE (907) 269-0590

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PROJECT LAYOUT PLAN

DATE:  
 12/19/2025  
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 5 OF 48

Date Recvied: 12/19/2025, 3:22 PM  
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 File Path and Name: Z:\project\29681.01 dot\_L Bethel Airport West Apron Improvements\Civil\CAD\00859-BET-BET-Demo Plan.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



**LEGEND:**

- X — PERIMETER FENCE DEMO
- [Hatched Box] PAVEMENT REMOVAL FULL DEPTH
- [Diagonal Hatched Box] PAVEMENT COLD PLANING VARIABLE DEPTH

- NOTES:**
- SEE SHEETS 30-34 FOR GATE AND FENCING DEMO AND REPLACEMENT.
  - SEE SHEET 7 FOR APRON PAVEMENT DEMO.



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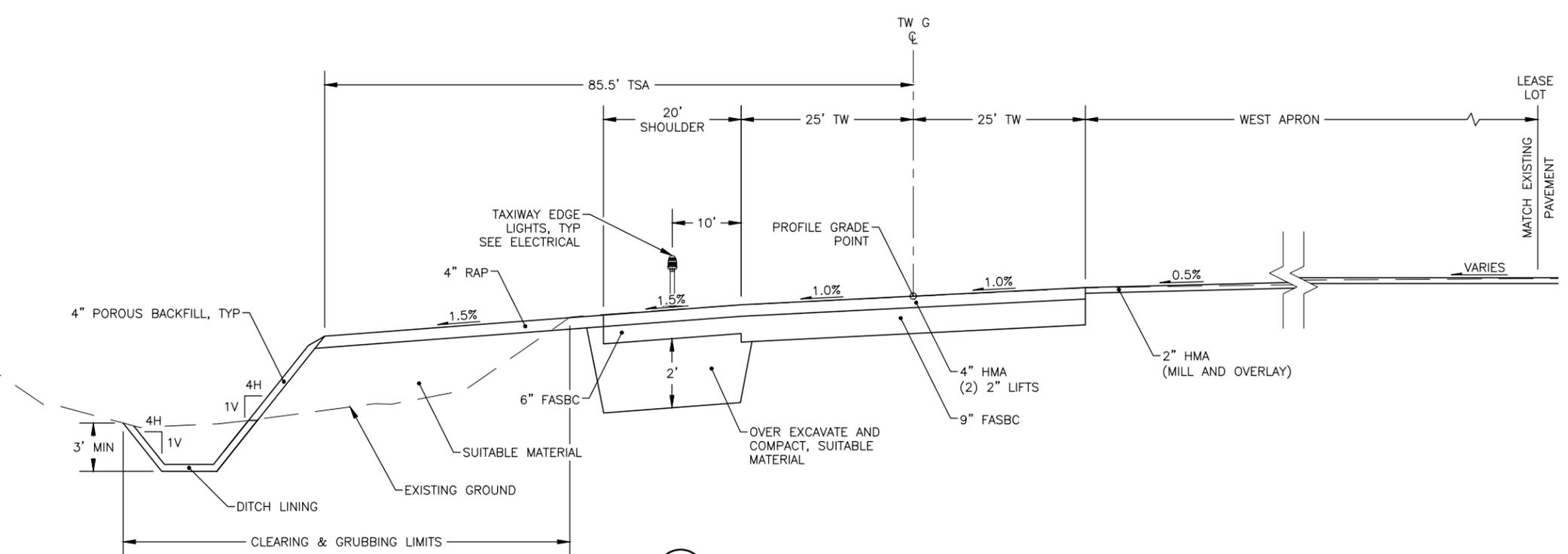
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 DEMOLITION PLAN - OVERVIEW

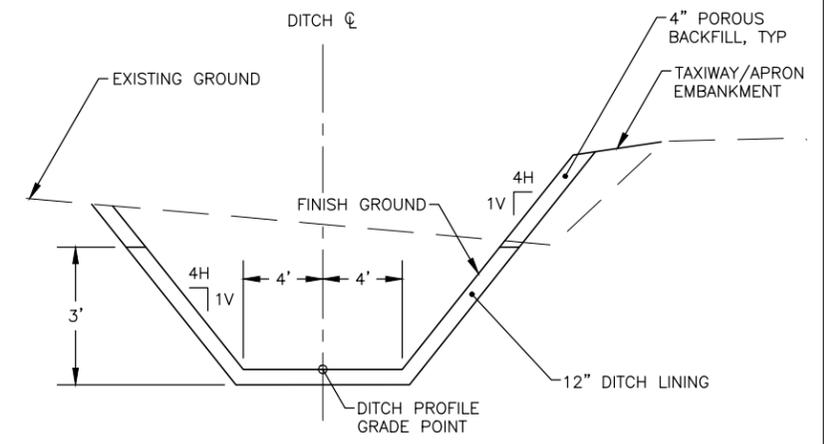
DATE: 12/19/2025  
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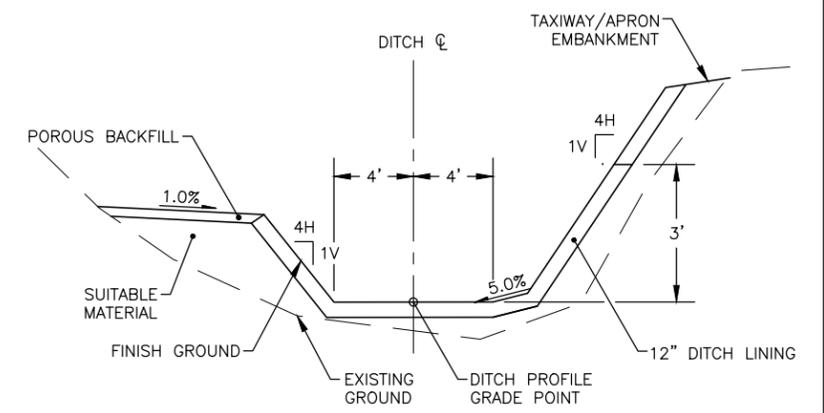
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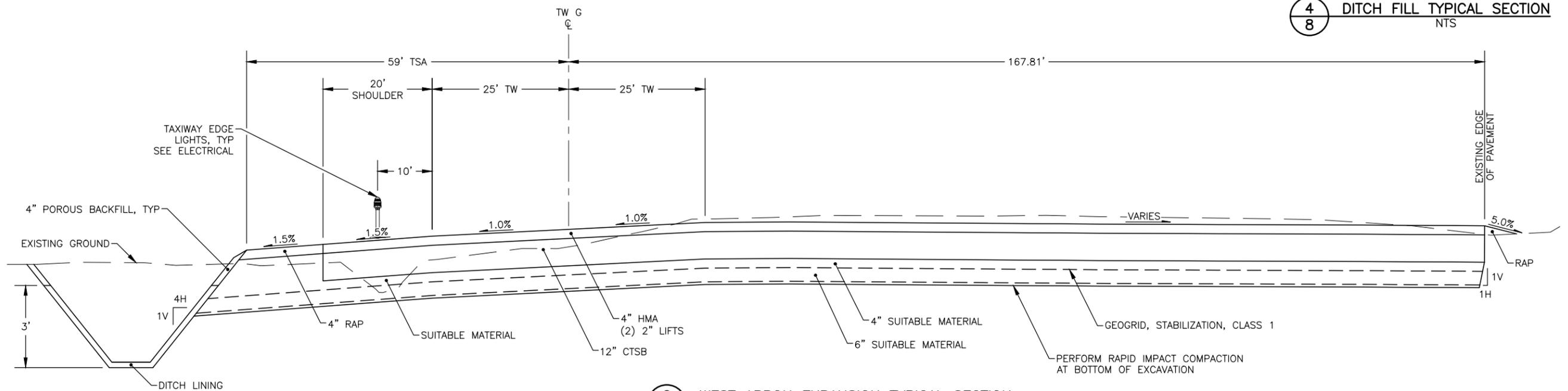
**1**  
**8** TAXIWAY G AND WEST APRON TYPICAL SECTION  
 NTS  
 STA 314+02.46 TO STA 328+89.31



**3**  
**8** DITCH CUT TYPICAL SECTION  
 NTS



**4**  
**8** DITCH FILL TYPICAL SECTION  
 NTS



**2**  
**8** WEST APRON EXPANSION TYPICAL SECTION  
 NTS  
 STA 328+89.31 TO STA 331+90.64

- NOTES:**
1. APPLY TACK COAT BETWEEN EXISTING PAVEMENT AND NEW HMA PAVEMENT, BETWEEN ALL LIFTS OF HMA AND BETWEEN FASBC AND HMA.
  2. TAXIWAY DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS. SEE TAXIWAY PLAN SHEETS FOR LAYOUT AND GEOMETRY.
  3. CLEAR AND GRUB ALL VEGETATED EMBANKMENT SLOPES RECEIVING FILL.



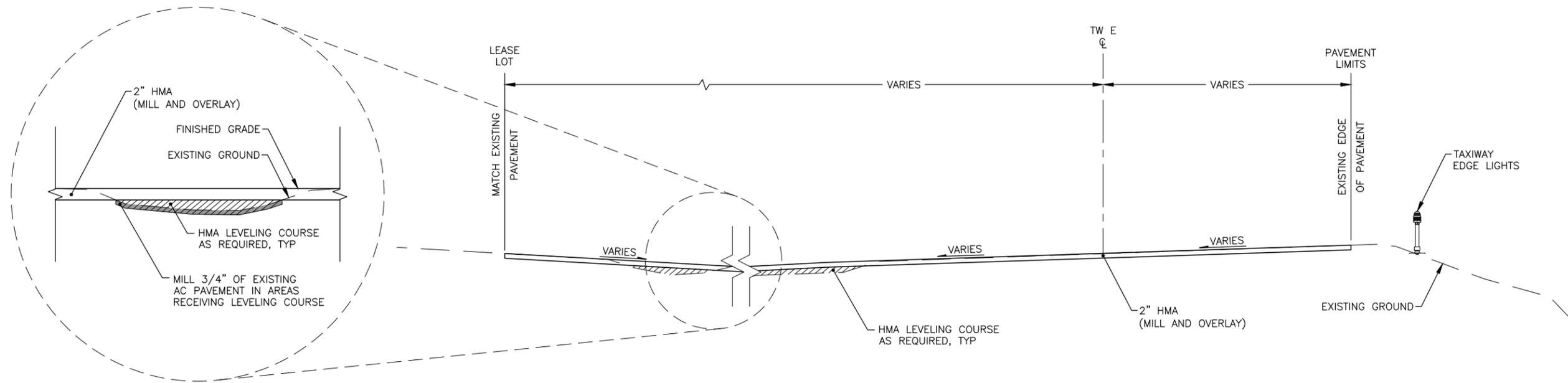
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 TYPICAL SECTIONS (1 OF 3)

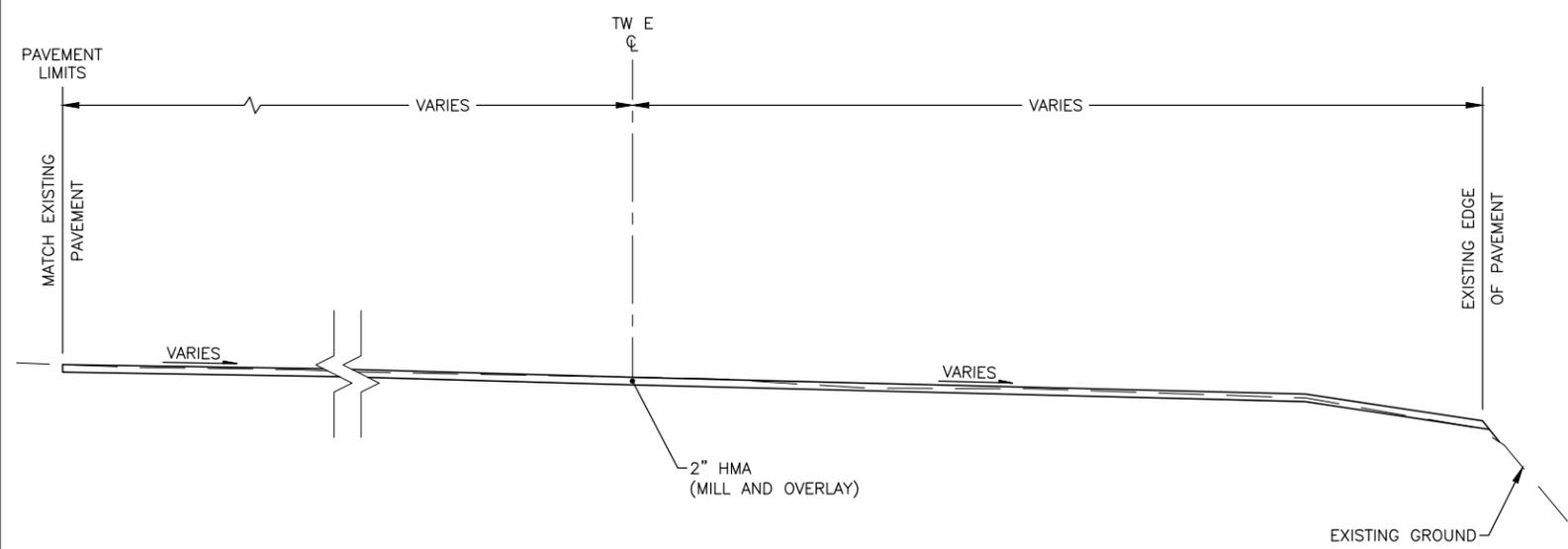
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Date Recvied: 12/19/2025, 2:17 PM  
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 Designed By: MIM  
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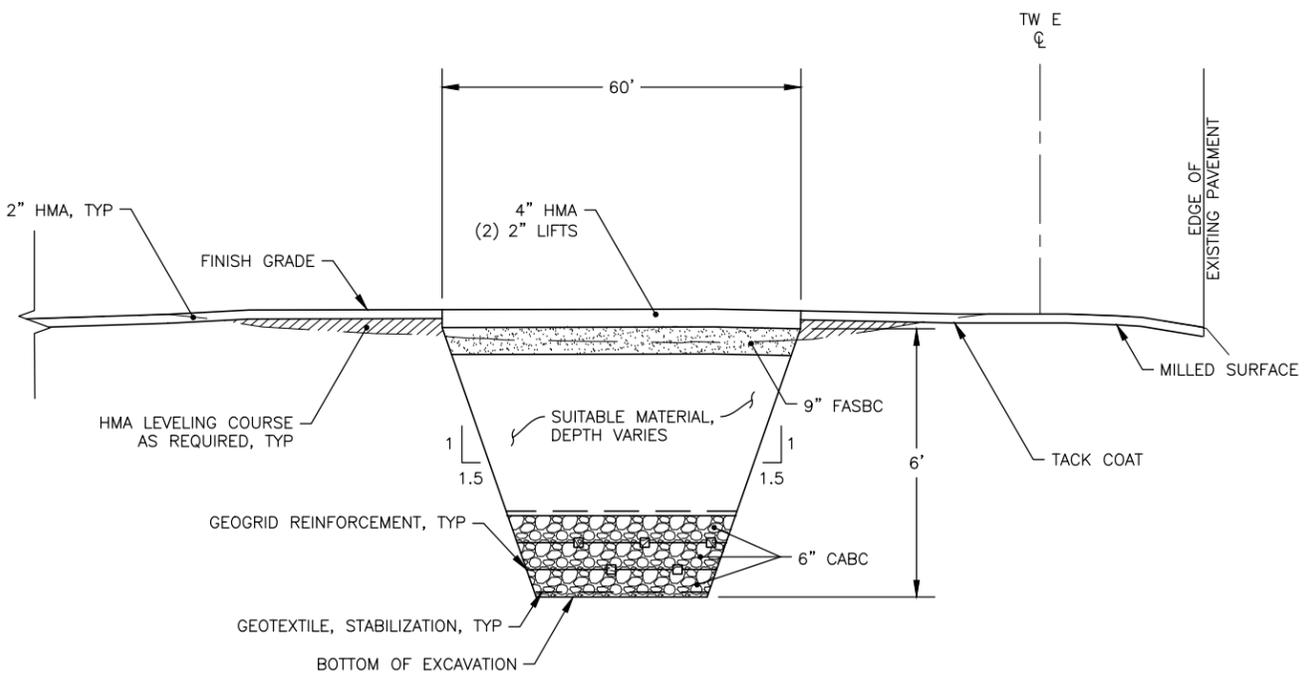


**LEVELING COURSE SURFACE PREPARATION  
DETAIL SECTION**

**1 TAXIWAY E AND WEST APRON TYPICAL SECTION**  
NTS  
STA 4+53.50 TO STA 7+69.07



**2 ARFF/SREB RAMP TYPICAL SECTION**  
NTS  
STA 17+64.15 TO STA 20+54.26



**3 APRON DIGOUT REPAIR TYPICAL SECTION**  
NTS

- NOTES:**
1. APPLY TACK COAT BETWEEN EXISTING PAVEMENT AND NEW HMA PAVEMENT, BETWEEN ALL LIFTS OF HMA AND BETWEEN FASBC AND HMA.
  2. TAXIWAY DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS. SEE TAXIWAY PLAN SHEETS FOR LAYOUT AND GEOMETRY.



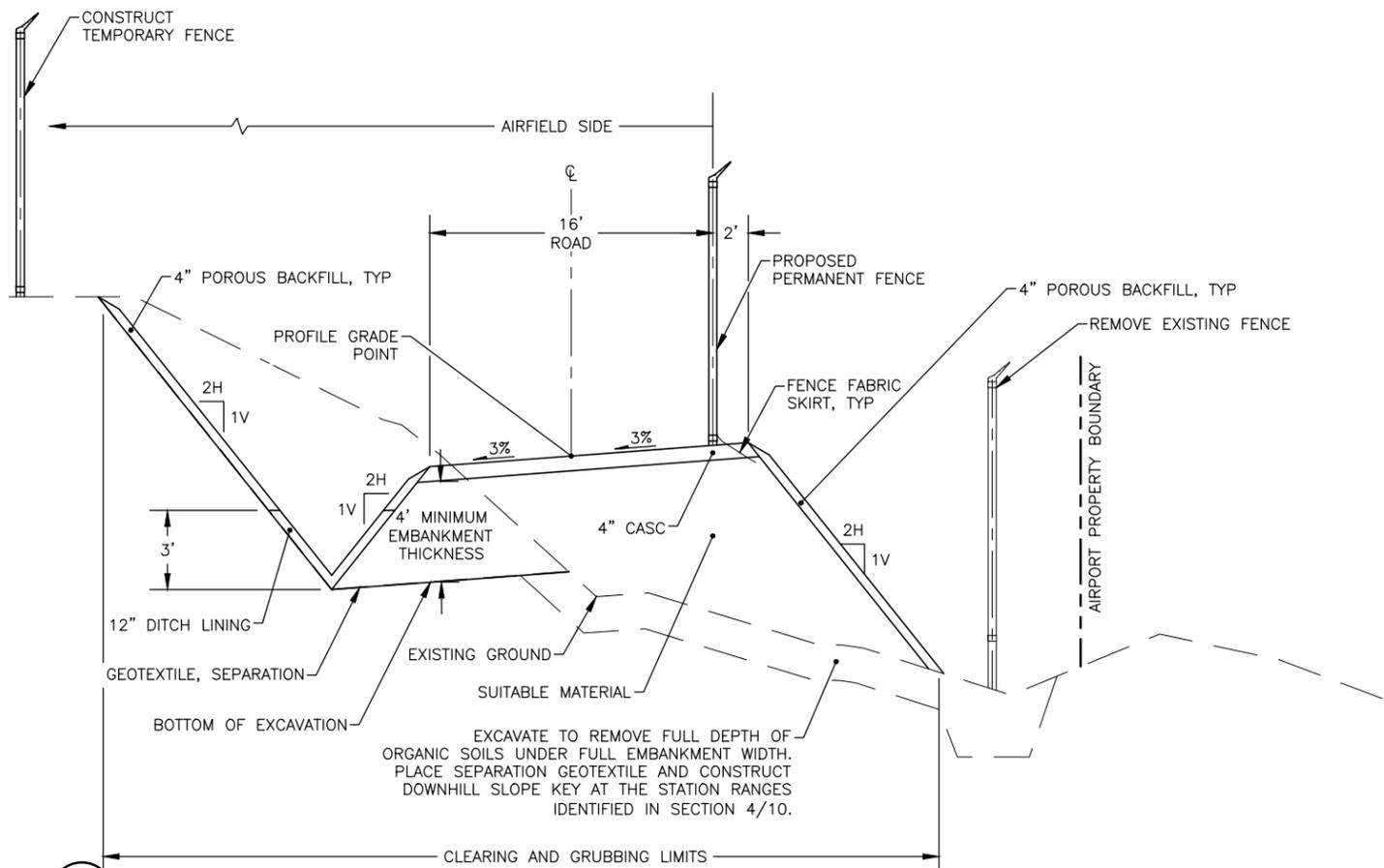
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**BETHEL AIRPORT**  
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 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 TYPICAL SECTIONS (2 OF 3)

DATE:  
12/19/2025  
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Date Recvied: 12/19/2025, 2:16 PM  
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 Designed By: MIM  
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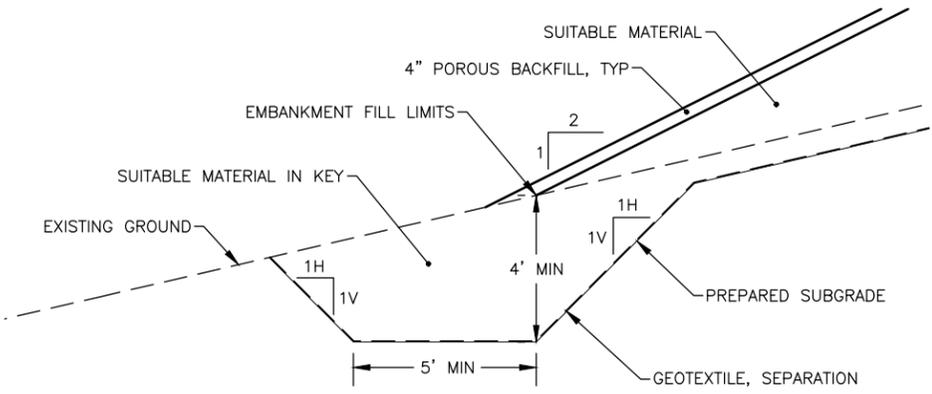


**1**  
**10** PERIMETER ACCESS ROAD AND FENCE (CONVENTIONAL EMBANKMENT) TYPICAL SECTION

STA 199+68 TO STA 215+00  
 STA 220+00 TO STA 249+00  
 STA 255+00 TO STA 271+00  
 STA 274+00 TO STA 287+00  
 STA 312+00 TO STA 335+00  
 STA 341+00 TO STA 344+00  
 STA 347+00 TO STA 348+19

**CONVENTIONAL EMBANKMENT NOTES:**

1. PERFORM GRUBBING AND OVEREXCAVATION TO REMOVE SURFICIAL ORGANIC SOILS AS NECESSARY TO ACCOMMODATE MINIMUM OF 4 FEET EMBANKMENT THICKNESS.
2. COMPACT THE PREPARED AREA TO THE SPECIFIED DENSITY AND INSTALL SEPARATION GEOTEXTILE BETWEEN THE PREPARED SUBGRADE AND THE NEW EMBANKMENT FILL.
3. PROVIDE TRANSITION BETWEEN THE CONVENTIONAL AND OVERLAY EMBANKMENT SECTIONS CONSISTING OF EXCAVATION BASE SLOPES NO STEEPER THAN 5H:1V.



**4**  
**10** SLOPE KEY TYPICAL SECTION

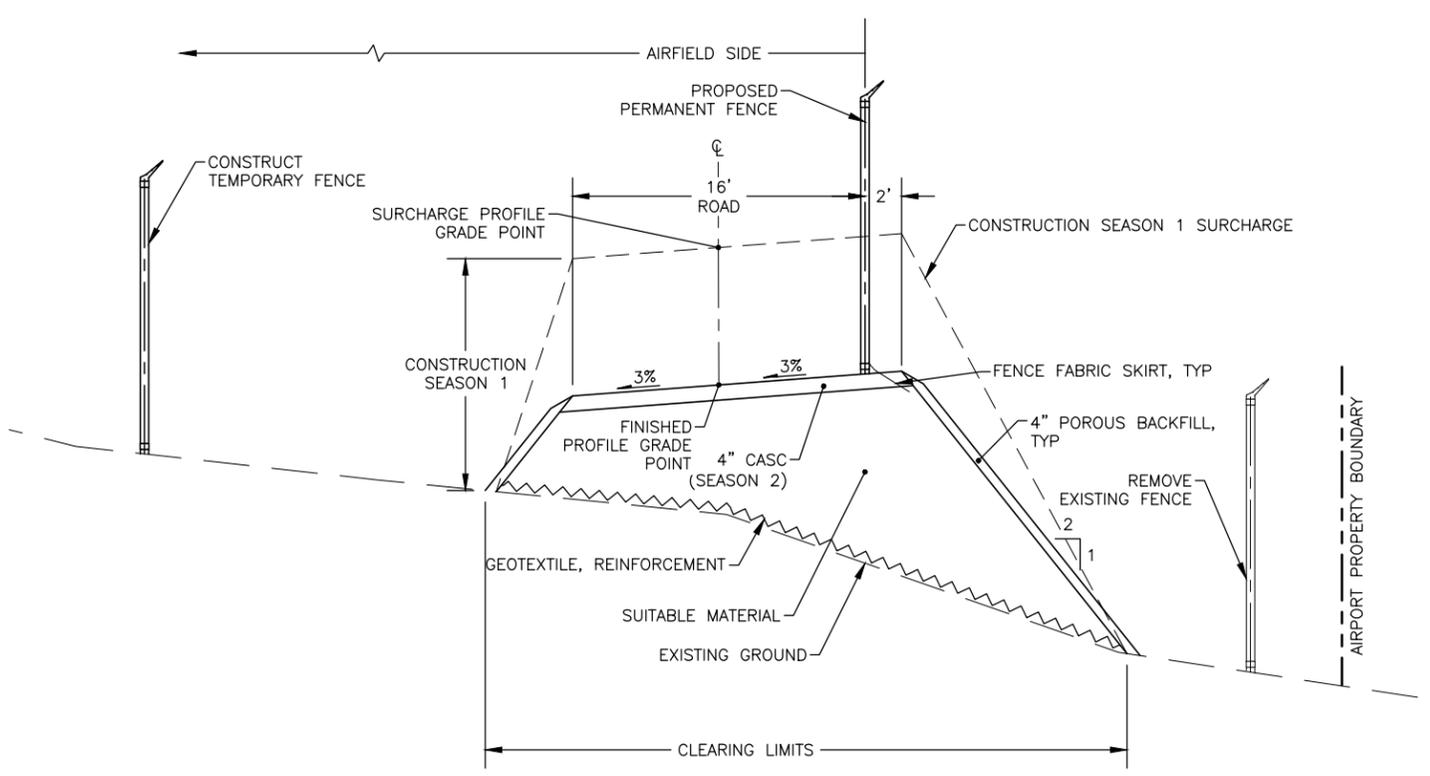
LT	RT
STA 208+00 TO STA 210+00	STA 202+00 TO STA 207+00
STA 226+00 TO STA 228+00	STA 211+00 TO STA 213+00
STA 255+00 TO STA 271+00	STA 220+00 TO STA 223+00
	STA 259+00 TO STA 260+00
	STA 276+00 TO STA 277+00
	STA 323+00 TO STA 324+00

- NOTES:**
1. WHERE THE EMBANKMENT SECTION IS CONSTRUCTED ON STEEPLY SLOPING GROUND (>10%), REMOVE ALL ORGANIC SOILS PRIOR TO FILL PLACEMENT. THE EXCAVATION BASE SHOULD BE STEPPED TO KEY THE EMBANKMENT INTO THE SLOPE AND PREVENT SLIPPAGE. INSTALL SEPARATION GEOTEXTILE ACROSS THE PREPARED EXCAVATION BASE. SEE DETAIL 4/10.



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**2**  
**10** PERIMETER ACCESS ROAD AND FENCE (OVERLAY EMBANKMENT) TYPICAL SECTION

STA 215+00 TO STA 220+00  
 STA 249+00 TO STA 251+00  
 STA 254+00 TO STA 255+00  
 STA 271+00 TO STA 274+00  
 STA 287+00 TO STA 292+00  
 STA 335+00 TO STA 336+00  
 STA 338+00 TO STA 341+00  
 STA 344+00 TO STA 347+00

**OVERLAY EMBANKMENT NOTES:**

- CONSTRUCT OVERLAY EMBANKMENT IN TWO CONSTRUCTION SEASONS:
- CONSTRUCTION SEASON 1:**
- CLEAR VEGETATION WITHIN THE THE FOOTPRINT OF THE DESIGN EMBANKMENT AREAS WHILE MINIMIZING DISTURBANCE TO THE SURFICIAL ORGANIC MAT.
  - INSTALL REINFORCEMENT GEOTEXTILE AND INSULATION BOARD, PER THE STATION RANGES SHOWN, EXTENDING A MINIMUM THREE FEET BEYOND THE EDGES OF THE DESIGN OVERLAY EMBANKMENT.
  - CONSTRUCT THE OVERLAY EMBANKMENT IN STAGES AS FOLLOWS:
    - \*STAGE 1: PLACE NO MORE THAN FOUR FEET OF FILL AT NORMAL PLACEMENT RATES. ALLOW THE EMBANKMENT TO SETTLE FOR A MINIMUM OF TWO WEEKS.
    - \*\*STAGE 2: PLACE ADDITIONAL FILL AT A RATE NOT EXCEEDING FOUR FEET PER WEEK. PROVIDE TEMPORARY STABILIZATION OF EMBANKMENT SLOPES.
- CONSTRUCTION SEASON 2: (BEGIN CONSTRUCTION AFTER ONE FULL SEASON HAS ELAPSED FOLLOWING COMPLETION OF CONSTRUCTION SEASON 1)**
- GRADE THE EMBANKMENT SURFACE TO ACHIEVE FINISHED PROFILE GRADES BY CUTTING OR ADDING FILL WHERE NECESSARY ALONG THE SETTLED SECTIONS. RESHAPE EMBANKMENT SLOPES AND PLACE PERMANENT STABILIZATION.
  - PLACE 4" OF CASC ATOP GRADED EMBANKMENT.

**3**  
**10** PERIMETER ACCESS ROAD AND FENCE (BOARD INSULATION) TYPICAL SECTION

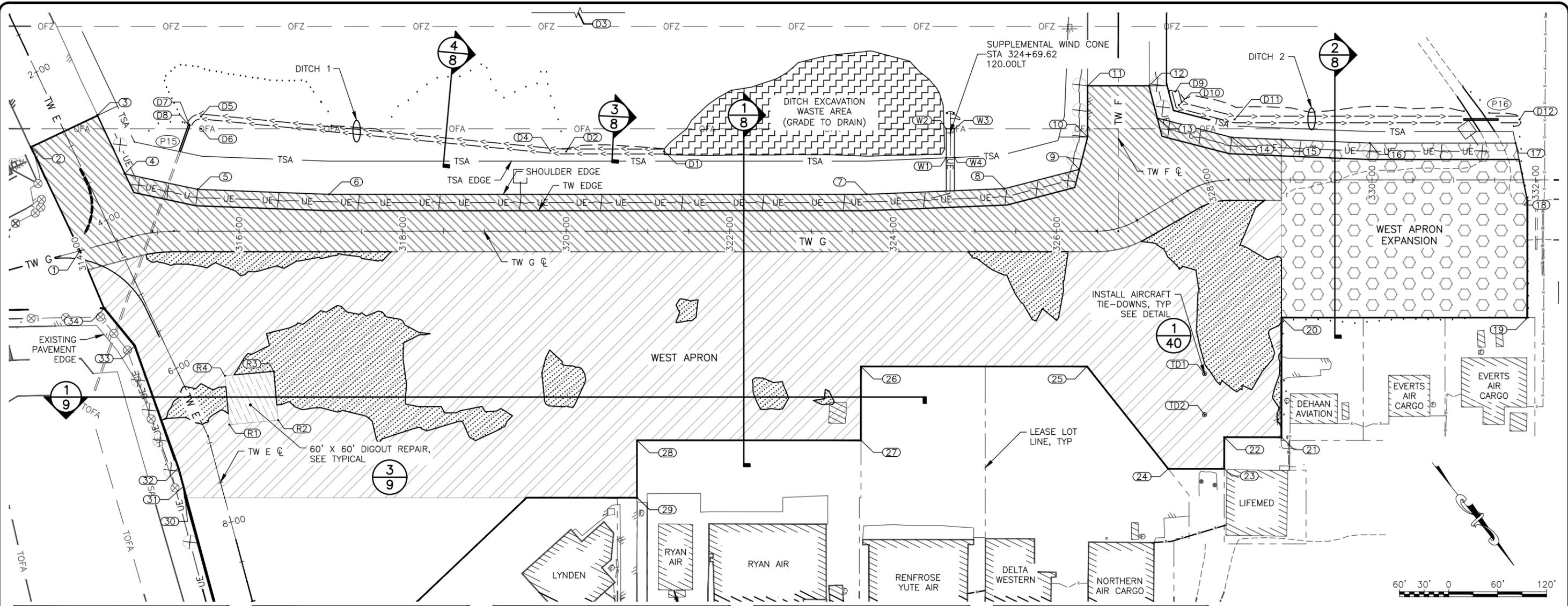
STA 251+00 TO STA 254+00  
 STA 292+00 TO STA 312+00  
 STA 336+00 TO STA 338+00

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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 TYPICAL SECTIONS (3 OF 3)

DATE: 12/19/2025  
 SHEET: 10 OF 48

Date Recvied: 12/19/2025, 2:17 PM  
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APRON LAYOUT			
POINT	STATION	OFFSET	REMARKS
1	314+02.46	0.00'	PI
2	313+77.46	138.34' LT	PI
3	314+66.03	154.35' LT	PI
4	314+76.20	76.82' LT	PI
5	315+49.51	51.06' LT	PI
6	317+09.91	45.00' LT	PI
7	323+67.84	45.00' LT	PI
8	325+36.35	51.93' LT	PI
9	326+27.79	75.47' LT	PI
10	326+37.95	114.94' LT	PI
12	327+82.16	136.02' LT	PI
13	327+78.56	96.01' LT	PI
14	328+28.84	51.93' LT	PI
15	328+89.31	49.44' LT	PI
16	329+97.34	45.00' LT	PI

APRON LAYOUT			
POINT	STATION	OFFSET	REMARKS
17	331+75.64	45.00' LT	PI
19	331+90.64	167.81' RT	PI
20	328+89.31	167.81' RT	PI
21	328+89.31	313.78' RT	PI
22	326+90.52	284.51' RT	PI
23	326+86.79	320.06' RT	PI
24	326+70.83	299.67' RT	PI
25	326+37.14	165.00' RT	PI
26	323+60.61	165.00' RT	PI
27	323+60.61	255.00' RT	PI
28	320+86.68	255.00' RT	PI
29	320+86.68	325.00' RT	PI
30	314+48.36	324.22' RT	PI
31	314+50.00	310.59' RT	PI
32	314+50.00	286.87' RT	PI

APRON LAYOUT			
POINT	STATION	OFFSET	REMARKS
33	314+36.94	129.54' RT	PI
34	314+12.76	75.83' RT	PI
R1	315+88.04	235.97' RT	DIGOUT REPAIR
R2	316+47.78	230.44' RT	DIGOUT REPAIR
R3	316+42.40	170.81' RT	DIGOUT REPAIR
R4	315+82.64	176.21' RT	DIGOUT REPAIR
W1	324+65.00	89.53' LT	PI
W2	324+65.00	125.00' LT	PI
W3	324+75.00	125.00' LT	PI
W4	324+75.00	89.94' LT	PI

DITCH 1 LAYOUT			
POINT	STATION	OFFSET	REMARKS
D1	321+20.06	97.25' LT	PI
D2	320+00.25	97.25' LT	PI
D3	320+00.25	297.25' LT	PI
D4	319+80.79	98.20' LT	PI
D5	315+53.37	140.00' LT	PI
D6	315+53.38	124.98' LT	PI
D7	315+39.24	130.05' LT	PI
D8	315+38.91	129.13' LT	PI

DITCH 2 LAYOUT			
POINT	STATION	OFFSET	REMARKS
D9	327+94.35	118.01' LT	PI
D10	327+93.90	100.89' LT	PI
D11	328+31.99	73.84' LT	PI
D12	331+80.52	73.84' LT	PI

TIE DOWN LAYOUT SCHEDULE			
POINT	STATION	OFFSET	REMARKS
TD1	326+93.68	204.10' RT	TIE DOWN
TD2	326+87.45	249.77' RT	TIE DOWN

PIPE TABLE									
ID	TYPE	DIA. (IN)	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P15	CS	24"	34'	STA 315+28, 99' LT	107.50	STA 315+39, 130' LT	107.60	NO	NO
P16	CS	24"	42'	STA 331+12, 74' LT	112.50	STA 331+54, 74' LT	112.03	NO	NO

**LEGEND:**

- WEST APRON EXPANSION RECONSTRUCTION
- TW G REHABILITATION
- WEST APRON MILL & OVERLAY
- LEVELLING COURSE, TYPE III

**NOTES:**  
 1. STATIONS AND OFFSETS REFERENCE TAXIWAY G ALIGNMENT.



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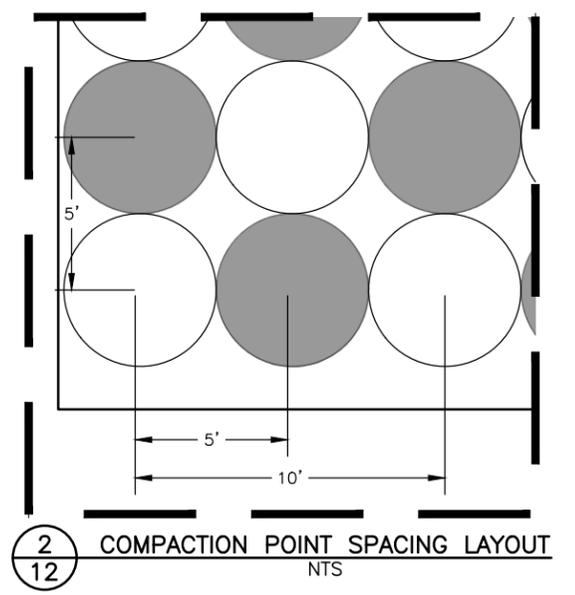
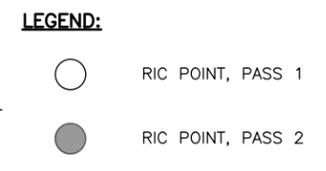
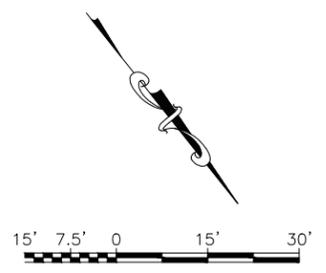
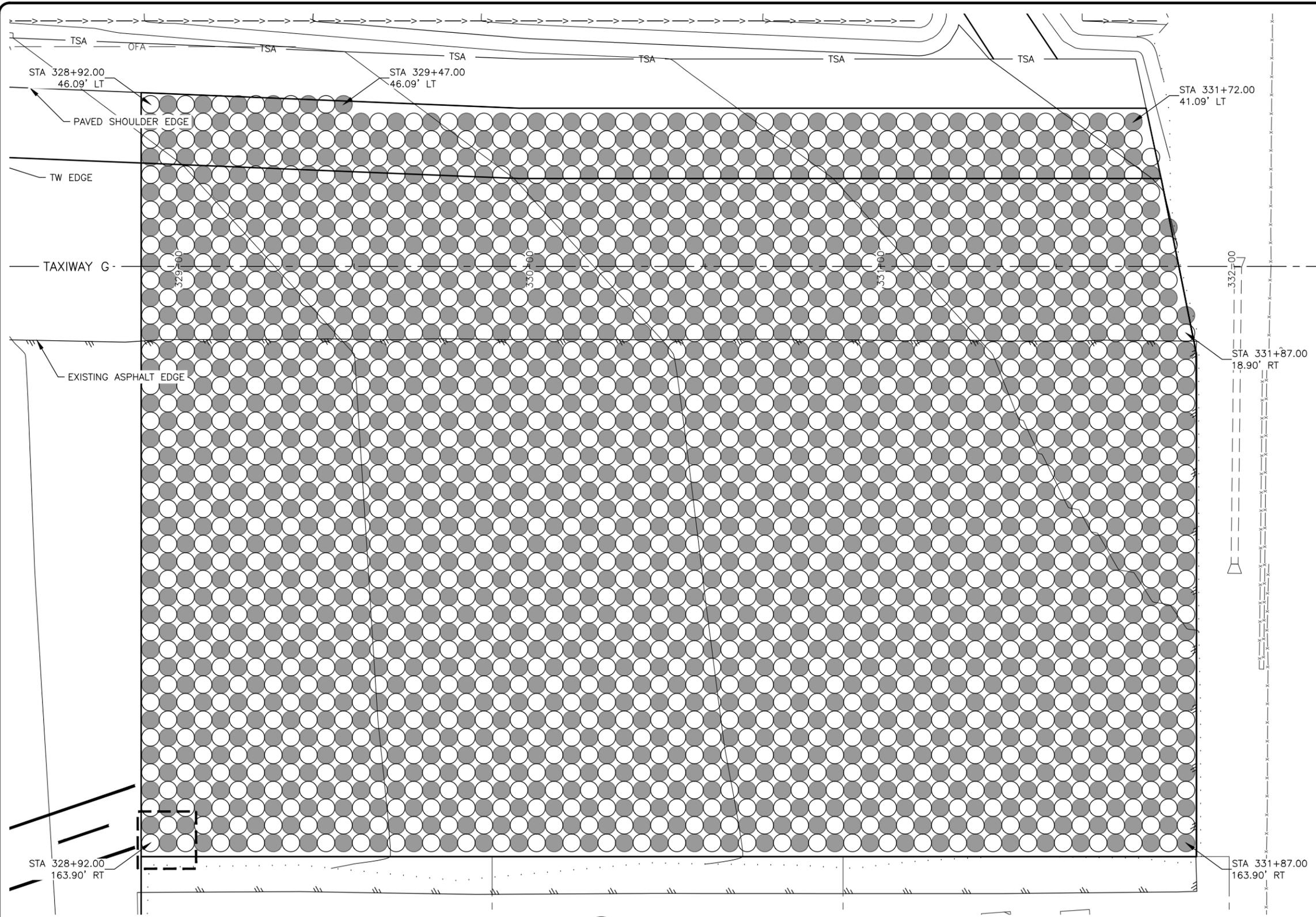
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 WEST APRON LAYOUT PLAN

DATE: 12/19/2025  
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 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



1 RIC LAYOUT PLAN  
12 NTS

- NOTES:**
- PASS 1 HAS 1281 COMPACTION POINTS.
  - PASS 2 HAS 1282 COMPACTION POINTS.
  - STATIONS AND OFFSETS REFERENCE TAXIWAY G ALIGNMENT.



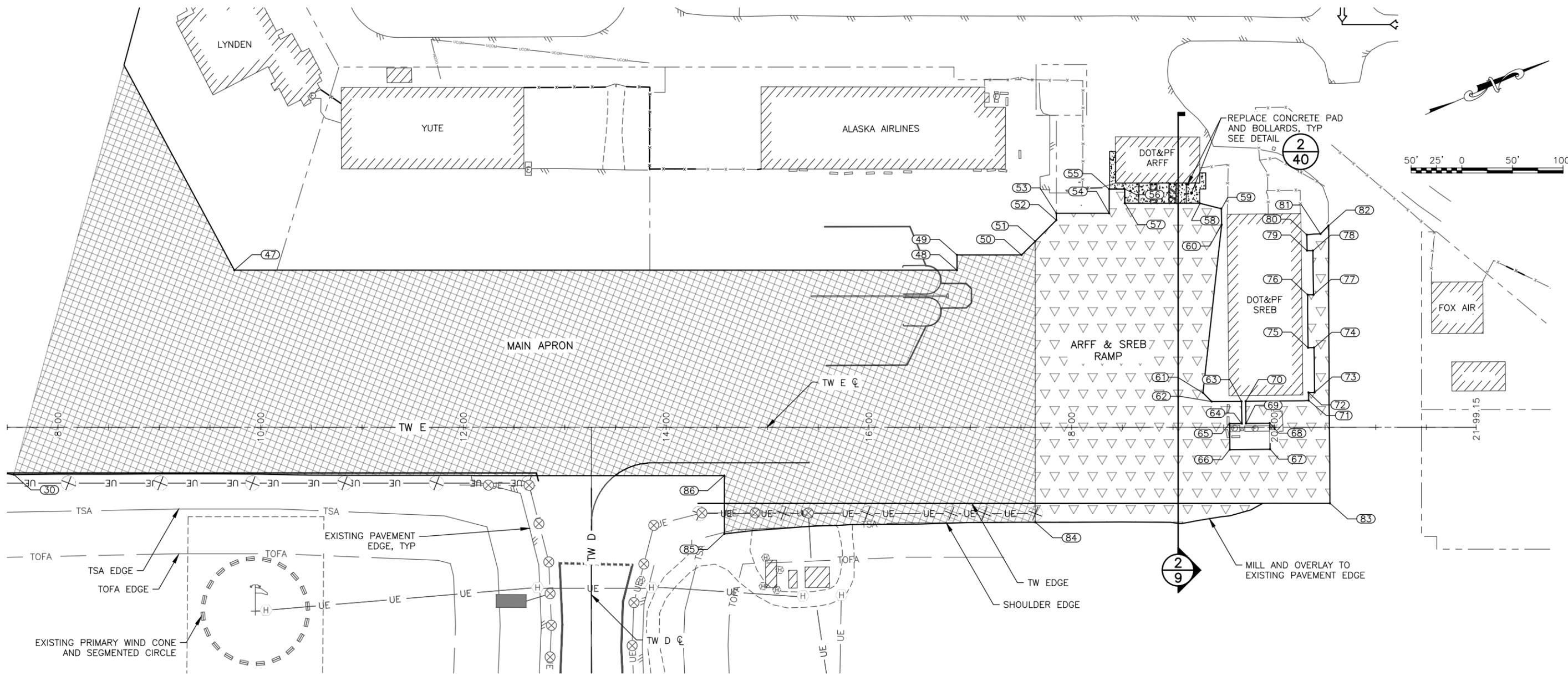
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 AIP No. 3-02-0029-00X-20XX  
 WEST APRON EXPANSION RAPID  
 IMPACT COMPACTION LAYOUT

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 Designed By: MIM  
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 Checked By: CJB



MAIN APRON & ARFF RAMP			
POINT	STATION	OFFSET	REMARKS
30	7+56.52	46.64' RT	PI
47	9+74.01	154.77' LT	PI
48	16+86.93	154.77' LT	PI
49	16+86.93	169.77' LT	PI
50	17+50.71	169.77' LT	PI
51	17+64.15	183.21' LT	PI
52	17+84.96	204.01' LT	PI
53	17+84.96	210.76' LT	PI
54	18+37.10	210.76' LT	PI
55	18+37.10	234.52' LT	PI

MAIN APRON & ARFF RAMP			
POINT	STATION	OFFSET	REMARKS
56	18+52.37	234.54' LT	PI
57	18+52.47	220.61' LT	PI
58	19+26.46	220.62' LT	PI
59	19+47.68	215.29' LT	PI
60	19+48.01	199.40' LT	PI
61	19+29.57	33.98' LT	PI
62	19+38.10	25.32' LT	PI
63	19+67.70	25.49' LT	PI
64	19+68.00	3.69' LT	PI
65	19+55.85	3.57' LT	PI

MAIN APRON & ARFF RAMP			
POINT	STATION	OFFSET	REMARKS
66	19+56.08	22.10' RT	PI
67	19+95.77	21.63' RT	PI
68	19+95.54	3.97' LT	PI
69	19+71.97	3.77' LT	PI
70	19+71.66	25.58' LT	PI
71	20+33.85	26.31' LT	PI
72	20+33.69	34.24' LT	PI
73	20+39.62	34.28' LT	PI
74	20+39.15	78.41' LT	PI
75	20+33.27	78.38' LT	PI

MAIN APRON & ARFF RAMP			
POINT	STATION	OFFSET	REMARKS
76	20+32.96	130.50' LT	PI
77	20+38.60	130.45' LT	PI
78	20+38.13	173.92' LT	PI
79	20+32.31	174.00' LT	PI
80	20+32.06	189.62' LT	PI
81	20+45.61	190.41' LT	PI
82	20+53.42	198.55' LT	PI
83	20+54.89	74.93' RT	PI
84	17+64.15	93.56' RT	PI
85	14+57.42	104.95' RT	PI

MAIN APRON & ARFF RAMP			
POINT	STATION	OFFSET	REMARKS
86	14+57.42	47.69' RT	PI

**LEGEND:**

- MAIN APRON SEAL COAT
- ARFF-SREB APRON MILL & OVERLAY

**NOTES:**  
 1. STATIONS AND OFFSETS REFERENCE TAXIWAY E ALIGNMENT.



**PLANS DEVELOPED BY:**  
**R&M CONSULTANTS, INC.**  
 9101 VANGUARD DR.  
 ANCHORAGE, AK 99507  
 (907) 522-1707  
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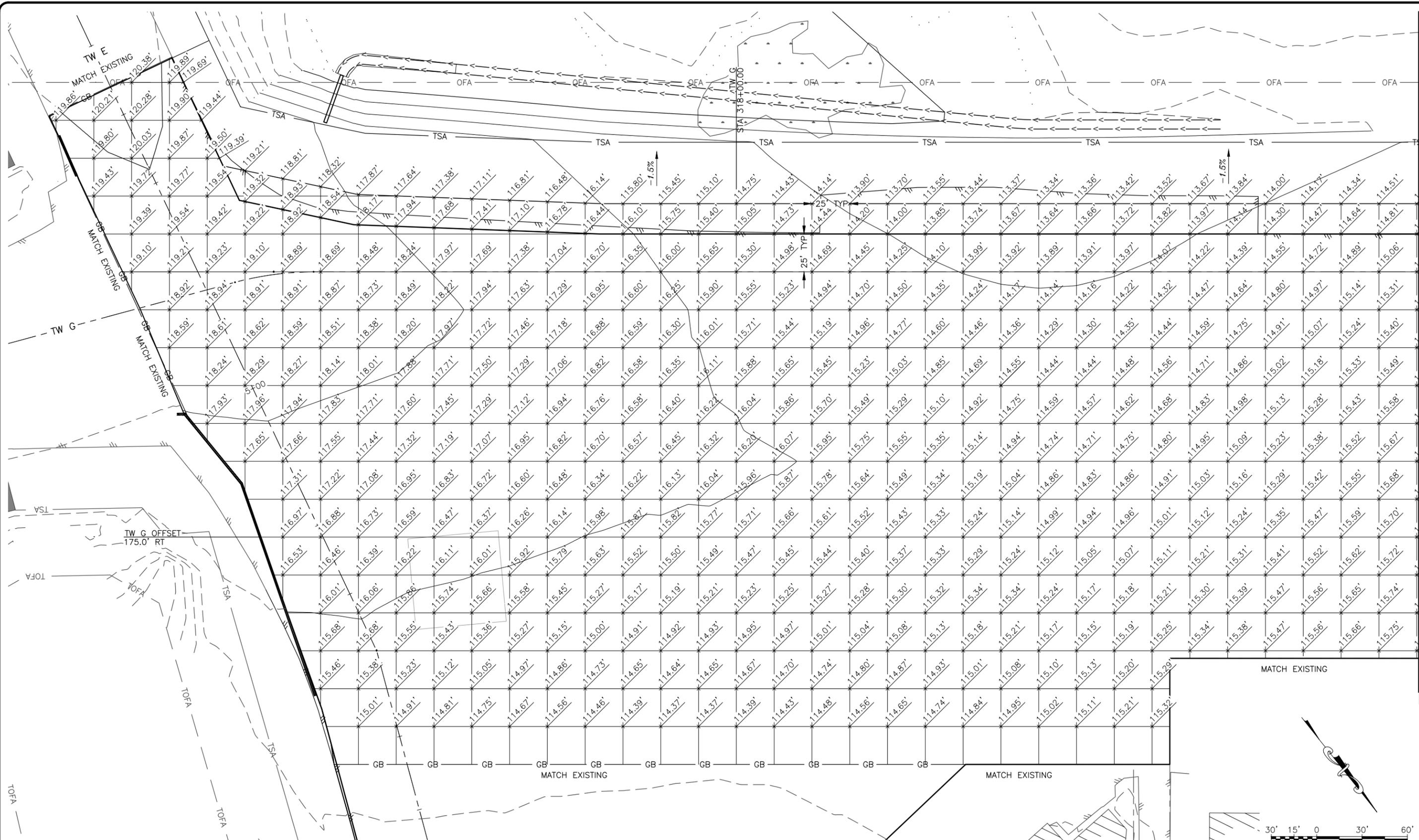
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**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
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 PHONE (907) 269-0590

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 MAIN APRON LAYOUT PLAN

DATE:  
 12/19/2025  
 SHEET:  
 13 OF 48

Date Received: 12/19/2025, 2:16 PM  
 Layout Name: WEST  
 File Path and Name: Z:\project\2968.01 Dot\_L\_Bethel Airport West Apron Improvements\Civil\CAD\00859-BET-Apron Grading.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



- NOTES:**
1. STATIONS AND OFFSETS REFERENCE TAXIWAY G ALIGNMENT.
  2. PROVIDE SMOOTH TRANSITION BETWEEN ALL FINISH GRADE SPOT ELEVATION LOCATIONS.
  3. THE BASIS OF THE SPOT ELEVATION GRID IS 25' LATERAL OFFSET INCREMENTS OF THE TAXIWAY G CENTERLINE AND STATIONING AT 25' INTERVALS.
  4. ALL ELEVATIONS SHOWN ARE TOP OF FINISHED GRADE IN FEET.



PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
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**STATE OF ALASKA**  
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**CENTRAL REGION**  
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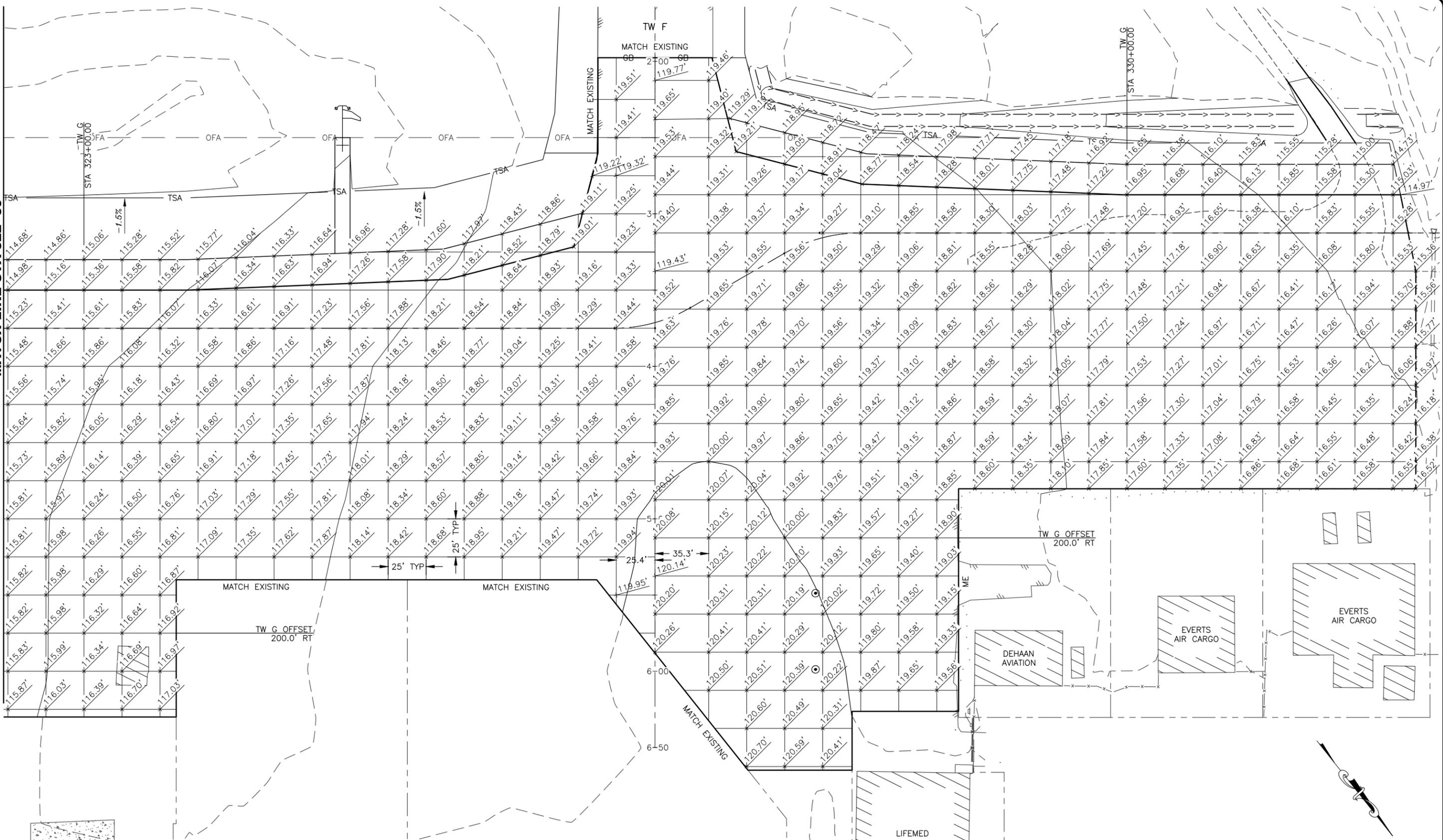
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 APRON GRADING PLAN -  
 WEST APRON

DATE:  
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MATCH LINE STA 322+50

Date Received: 12/19/2025, 2:16 PM  
 Layout Name: WEST 2  
 File Path and Name: Z:\project\2968.01 dot\_L Bethel Airport West Apron Improvements\Civil\ACAD\00859-BET-Apron Grading.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

MATCH LINE STA 322+50



- NOTES:**
1. STATIONS AND OFFSETS REFERENCE TAXIWAY G ALIGNMENT.
  2. PROVIDE SMOOTH TRANSITION BETWEEN ALL FINISH GRADE SPOT ELEVATION LOCATIONS.
  3. THE BASIS OF THE SPOT ELEVATION GRID IS 25' LATERAL OFFSET INCREMENTS OF THE TAXIWAY G CENTERLINE AND STATIONING AT 25' INTERVALS.
  4. ALL ELEVATIONS SHOWN ARE TOP OF FINISHED GRADE IN FEET.



BY	DATE	REVISION

**PLANS DEVELOPED BY:**  
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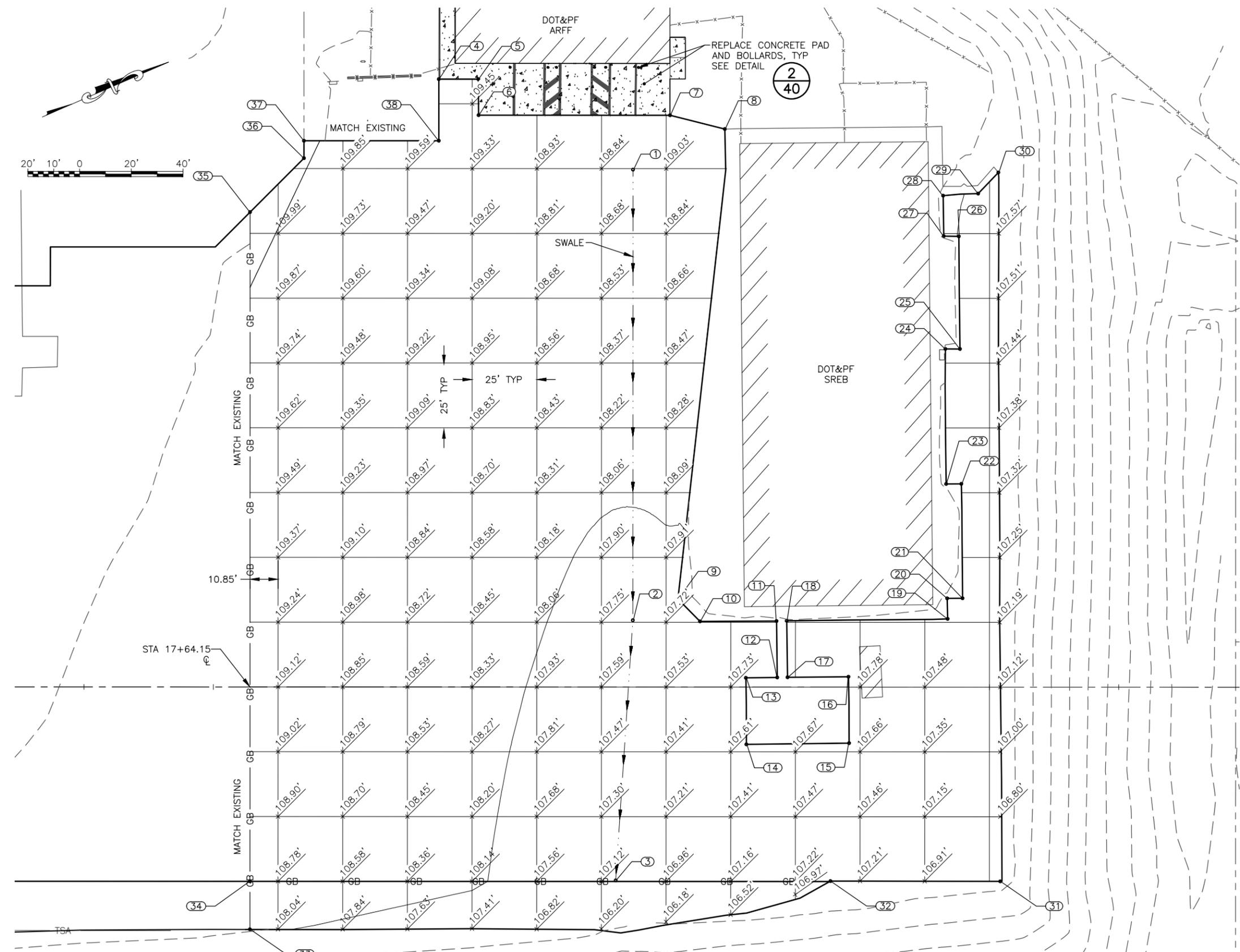
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 APRON GRADING PLAN -  
 WEST APRON

DATE: 12/19/2025  
 SHEET: 15 OF 48



Date Revised: 12/19/2025, 2:18 PM  
 Layout Name: ARFF-SREB  
 File Path and Name: Z:\project\2968.01 Dot\_L Bethel Airport West Apron Improvements\Civil\ACAD\00859-BET-Apron Grading.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

GRADING LAYOUT SCHEDULE				
POINT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	19+12.18	199.60' LT	108.89'	SWALE
2	19+12.15	25.75' LT	107.70'	SWALE
3	19+05.56	74.61' RT	107.06'	SWALE
4	18+37.10	234.52' LT	109.64'	CONCRETE EDGE
5	18+52.37	234.54' LT	109.46'	CONCRETE EDGE
6	18+52.47	220.61' LT	109.39'	CONCRETE EDGE
7	19+26.46	220.62' LT	109.17'	CONCRETE EDGE
8	19+47.68	215.29' LT	108.83'	CONCRETE EDGE
9	19+29.57	33.98' LT	107.80'	CONCRETE EDGE
10	19+38.10	25.32' LT	107.78'	CONCRETE EDGE
11	19+67.70	25.49' LT	107.92'	CONCRETE EDGE
12	19+68.00	3.69' LT	107.81'	CONCRETE EDGE
13	19+55.85	3.57' LT	107.81'	CONCRETE EDGE
14	19+56.08	22.10' RT	107.68'	CONCRETE EDGE
15	19+95.77	21.63' RT	107.70'	CONCRETE EDGE
16	19+95.54	3.97' LT	107.83'	CONCRETE EDGE
17	19+71.97	3.77' LT	107.81'	CONCRETE EDGE
18	19+71.66	25.58' LT	107.92'	CONCRETE EDGE
19	20+33.85	26.31' LT	107.49'	CONCRETE EDGE
20	20+33.69	34.24' LT	107.53'	CONCRETE EDGE
21	20+39.62	34.28' LT	107.43'	CONCRETE EDGE
22	20+39.15	78.41' LT	107.60'	CONCRETE EDGE
23	20+33.27	78.38' LT	107.74'	CONCRETE EDGE
24	20+32.96	130.50' LT	107.96'	CONCRETE EDGE
25	20+38.60	130.45' LT	107.80'	CONCRETE EDGE
26	20+38.13	173.92' LT	107.98'	CONCRETE EDGE
27	20+32.31	174.00' LT	108.17'	CONCRETE EDGE
28	20+32.06	189.62' LT	108.24'	CONCRETE EDGE
29	20+45.61	190.41' LT	107.85'	CONCRETE EDGE
30	20+53.42	198.55' LT	107.63'	PAVE EDGE
31	20+54.20	74.93' RT	106.55'	PAVE EDGE
32	19+88.57	74.86' RT	107.23'	PAVE EDGE
33	17+64.15	93.50' RT	108.11'	PAVE EDGE
34	17+64.15	75.00' RT	108.85'	MATCH EXISTING
35	17+64.15	183.21' LT	110.15'	MATCH EXISTING
36	17+84.96	204.01' LT	110.03'	MATCH EXISTING
37	17+84.96	210.76' LT	110.06'	MATCH EXISTING
38	18+37.10	210.76' LT	109.52'	MATCH EXISTING



- NOTES:**
- STATIONS AND OFFSETS REFERENCE TAXIWAY E ALIGNMENT.
  - PROVIDE SMOOTH TRANSITION BETWEEN ALL FINISH GRADE SPOT ELEVATION LOCATIONS.
  - THE BASIS OF THE SPOT ELEVATION GRID IS 25' LATERAL OFFSET INCREMENTS OF THE TAXIWAY G CENTERLINE AND STATIONING AT 25' INTERVALS.
  - ALL ELEVATIONS SHOWN ARE TOP OF FINISHED GRADE IN FEET.



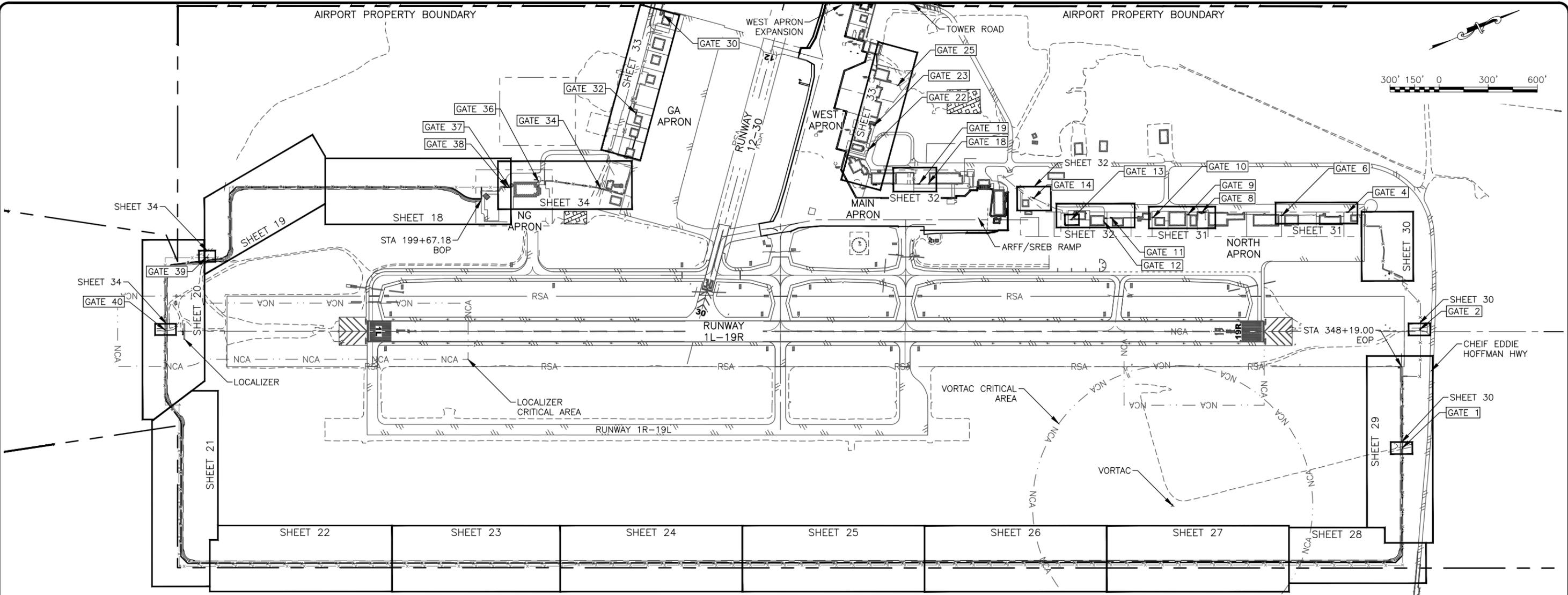
PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
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**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
 PHONE (907) 269-0590

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 APRON GRADING PLAN -  
 ARFF & SREB RAMP

DATE:  
 12/19/2025  
 SHEET:  
 16 OF 48

Date Revised: 12/19/2025, 2:17 PM  
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 Checked By: AA, AL, VN  
 File Path and Name: Z:\project\2968.01 Dot\_L Bethel Airport West Apron Improvements\Civil\CAD\00859-BET-Gate Layout.dwg



GATE OVERVIEW TABLE			
GATE	GATE WIDTH	EXISTING CONFIGURATION	DISPOSITION
1	20'	VEHICLE - HINGED, DOUBLE-SWING	REPLACE - VEHICLE, DOUBLE-SWING
2	20'	VEHICLE - HINGED, DOUBLE-SWING	REPLACE - VEHICLE, DOUBLE-SWING
4	21'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
6	20'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
8	60'	VEHICLE - HINGED, DOUBLE-SWING ON WHEELS	REPLACE - VEHICLE, DOUBLE-SWING ON WHEELS
9	20'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
10	12'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
11	14'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
12	16'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
13	13'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
14	20'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
18	3'	PEDESTRIAN	REMOVE AND REPLACE WITH FENCING

GATE OVERVIEW TABLE			
GATE	GATE WIDTH	EXISTING CONFIGURATION	DISPOSITION
19	20'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
22	21'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
23	19'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
25	21'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE WITH FENCING SECTION
30	4'	PEDESTRIAN - HINGED	REMOVE AND REPLACE WITH FENCING
32	21'	VEHICLE - HINGED, DOUBLE-SWING	REMOVE AND REPLACE WITH FENCING
34	20'	VEHICLE - HINGED, DOUBLE-SWING	REPLACE - VEHICLE, DOUBLE-SWING
36	3'	PEDESTRIAN - HINGED	REMOVE AND REPLACE WITH FENCING
37	3'	PEDESTRIAN - HINGED	REMOVE AND REPLACE WITH FENCING
38	22'	VEHICLE - ROLLING	REMOVE AND REPLACE WITH FENCING
39	21'	VEHICLE - ROLLING	REMOVE AND REPLACE WITH FENCING
40	20'	VEHICLE - ROLLING	REPLACE - VEHICLE, DOUBLE-SWING



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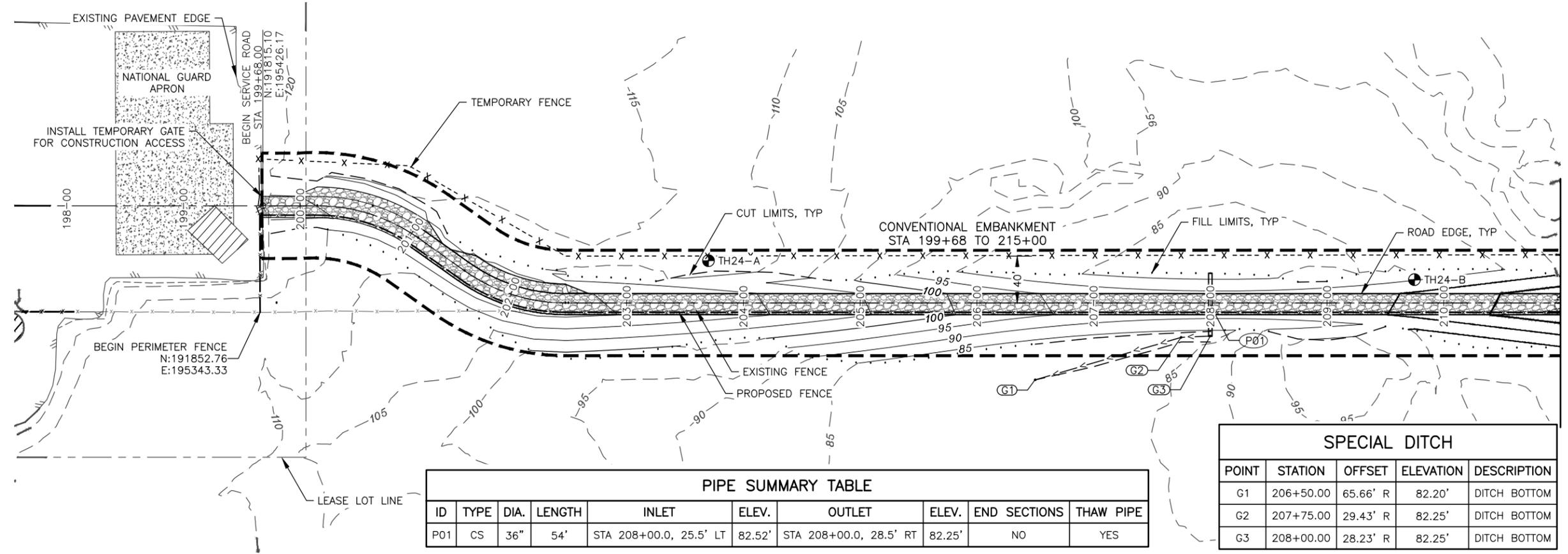
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**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
 PHONE (907) 269-0590

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 FENCE & GATE PLAN OVERVIEW

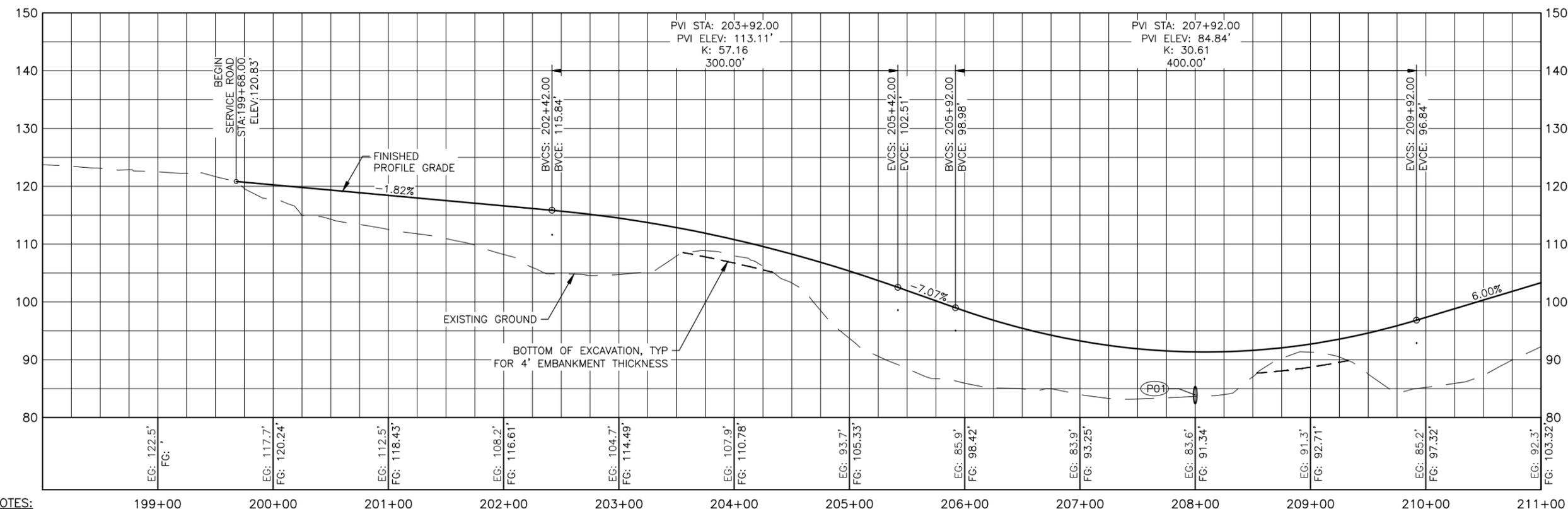
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Date Recvied: 12/19/2025, 2:16 PM  
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ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P01	CS	36"	54'	STA 208+00.0, 25.5' LT	82.52'	STA 208+00.0, 28.5' RT	82.25'	NO	YES

POINT	STATION	OFFSET	ELEVATION	DESCRIPTION
G1	206+50.00	65.66' R	82.20'	DITCH BOTTOM
G2	207+75.00	29.43' R	82.25'	DITCH BOTTOM
G3	208+00.00	28.23' R	82.25'	DITCH BOTTOM



- NOTES:
- TEMPORARY FENCE SHALL BE IN PLACE PRIOR TO DEMO OF EXISTING FENCE FOR EMBANKMENT CONSTRUCTION. TEMPORARY FENCE SHALL REMAIN IN PLACE UNTIL ALL NEW PERMANENT PERIMETER FENCE IS COMPLETE. TEMPORARY FENCE SHALL BE CONSTRUCTED EQUIVALENT TO PERMANENT FENCE AND SHALL MEET ALL AIRPORT PERIMETER SECURITY FENCING REQUIREMENTS.
  - INSTALL ALL CULVERTS DURING SEASON 1 OF THE EMBANKMENT CONSTRUCTION. PRIOR TO THE START OF SEASON 2, THE CONTRACTOR SHALL INSPECT ALL CULVERTS FOR SETTLEMENT, DEFORMATION, DAMAGE, AND PROPER ALIGNMENT. THE CONTRACTOR SHALL DETERMINE AND PERFORM ALL REQUIRED REPAIRS, RESETTING, OR REPLACEMENT OF CULVERTS TO ENSURE PROPER DRAINAGE



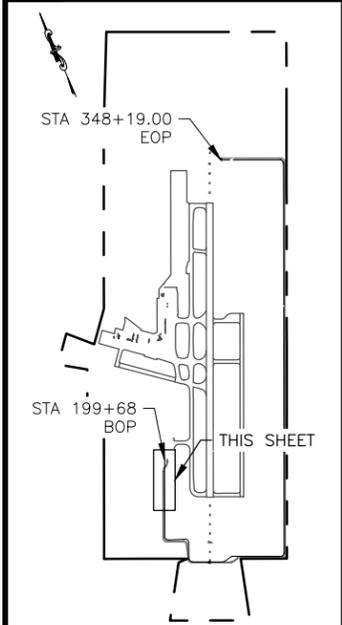
**PLANS DEVELOPED BY:**  
**R&M CONSULTANTS, INC.**  
 9101 VANGUARD DR.  
 ANCHORAGE, AK 99507  
 (907) 522-1707  
 CERT. OF AUTH. NO. AECC111

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**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
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 PHONE (907) 269-0590

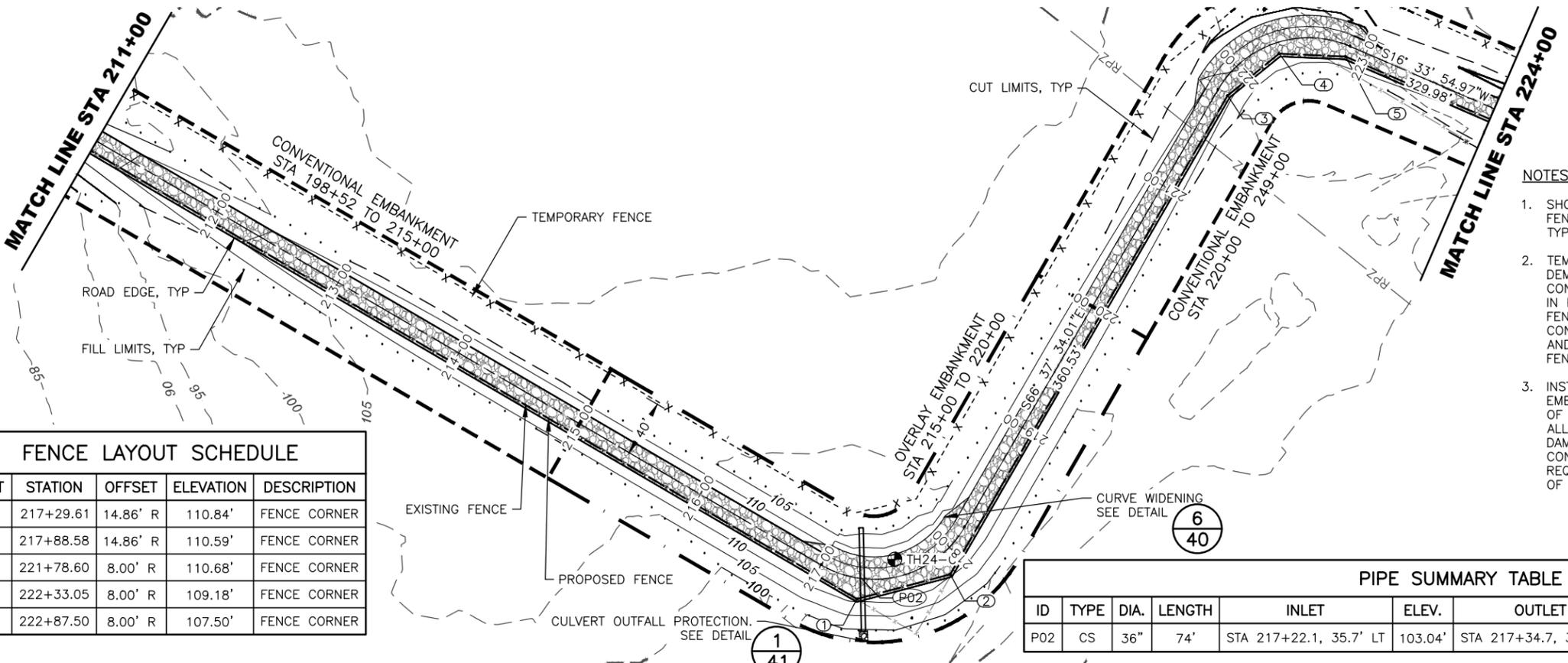
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 198+00 TO STA 211+00

DATE: 12/19/2025  
 SHEET: 18 OF 48

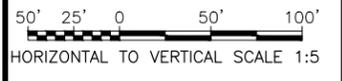


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 AA, AL, VN  
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 Checked By:



- NOTES:**
1. SHOULDER EDGE IS A CONSTANT 2 FEET FROM FENCE. CORNER POSTS OF FENCE VARY FROM TYPICAL SECTION.
  2. TEMPORARY FENCE SHALL BE IN PLACE PRIOR TO DEMO OF EXISTING FENCE FOR EMBANKMENT CONSTRUCTION. TEMPORARY FENCE SHALL REMAIN IN PLACE UNTIL ALL NEW PERMANENT PERIMETER FENCE IS COMPLETE. TEMPORARY FENCE SHALL BE CONSTRUCTED EQUIVALENT TO PERMANENT FENCE AND SHALL MEET ALL AIRPORT PERIMETER SECURITY FENCING REQUIREMENTS.
  3. INSTALL ALL CULVERTS DURING SEASON 1 OF THE EMBANKMENT CONSTRUCTION. PRIOR TO THE START OF SEASON 2, THE CONTRACTOR SHALL INSPECT ALL CULVERTS FOR SETTLEMENT, DEFORMATION, DAMAGE, AND PROPER ALIGNMENT. THE CONTRACTOR SHALL DETERMINE AND PERFORM ALL REQUIRED REPAIRS, RESETTling, OR REPLACEMENT OF CULVERTS TO ENSURE PROPER DRAINAGE.

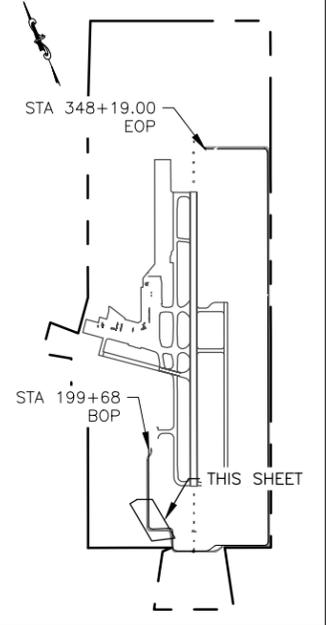
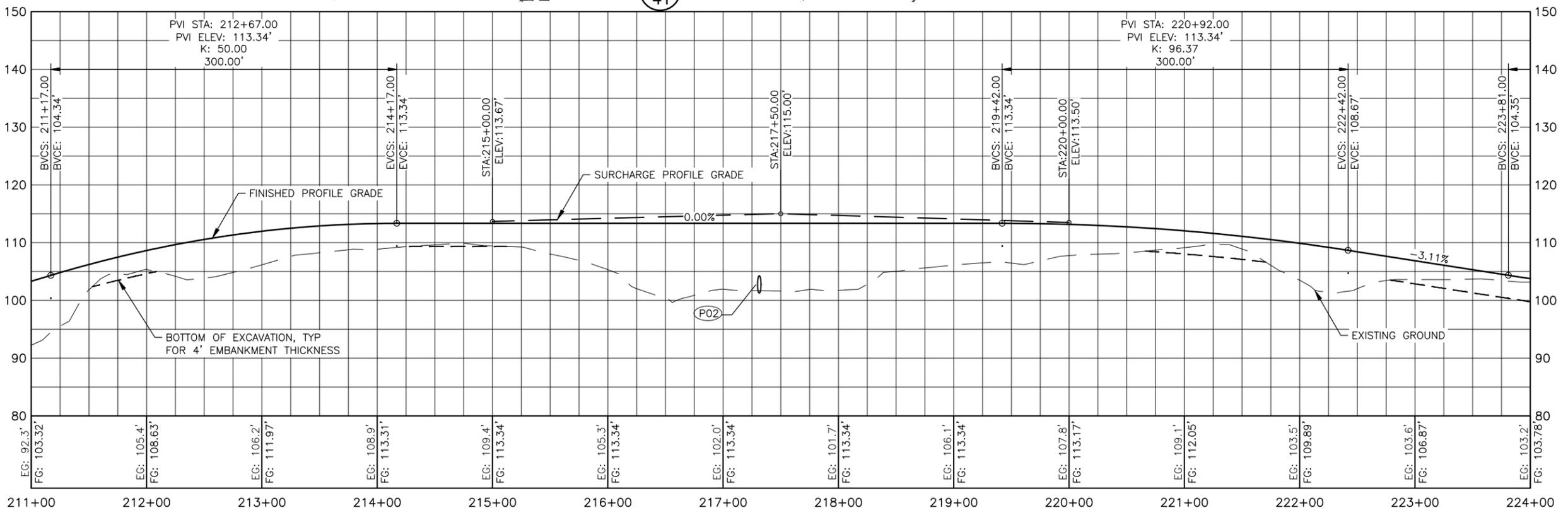


**FENCE LAYOUT SCHEDULE**

POINT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	217+29.61	14.86' R	110.84'	FENCE CORNER
2	217+88.58	14.86' R	110.59'	FENCE CORNER
3	221+78.60	8.00' R	110.68'	FENCE CORNER
4	222+33.05	8.00' R	109.18'	FENCE CORNER
5	222+87.50	8.00' R	107.50'	FENCE CORNER

**PIPE SUMMARY TABLE**

ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P02	CS	36"	74'	STA 217+22.1, 35.7' LT	103.04'	STA 217+34.7, 37.4' RT	99.43'	NO	YES



**PLANS DEVELOPED BY:  
 R&M CONSULTANTS, INC.  
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 ANCHORAGE, AK 99507  
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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**

**BETHEL AIRPORT  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 211+00 TO STA 224+00**

DATE:  
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19 OF 48

Date Recvied: 12/19/2025, 2:16 PM  
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 Drawn By: AA, AL, VN  
 Checked By: CJB

**MATCH LINE STA 224+00**

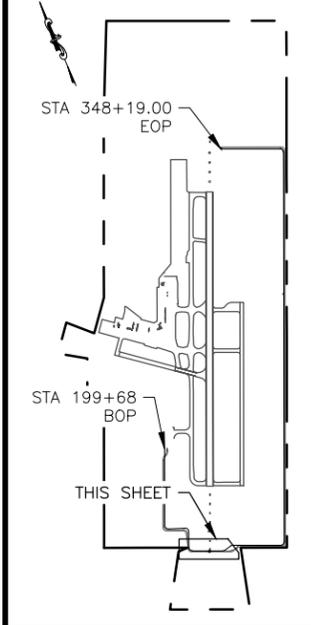
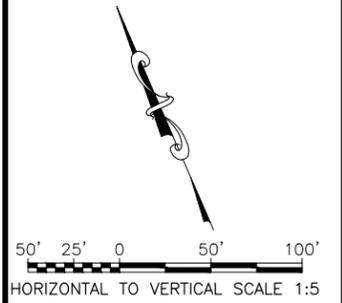
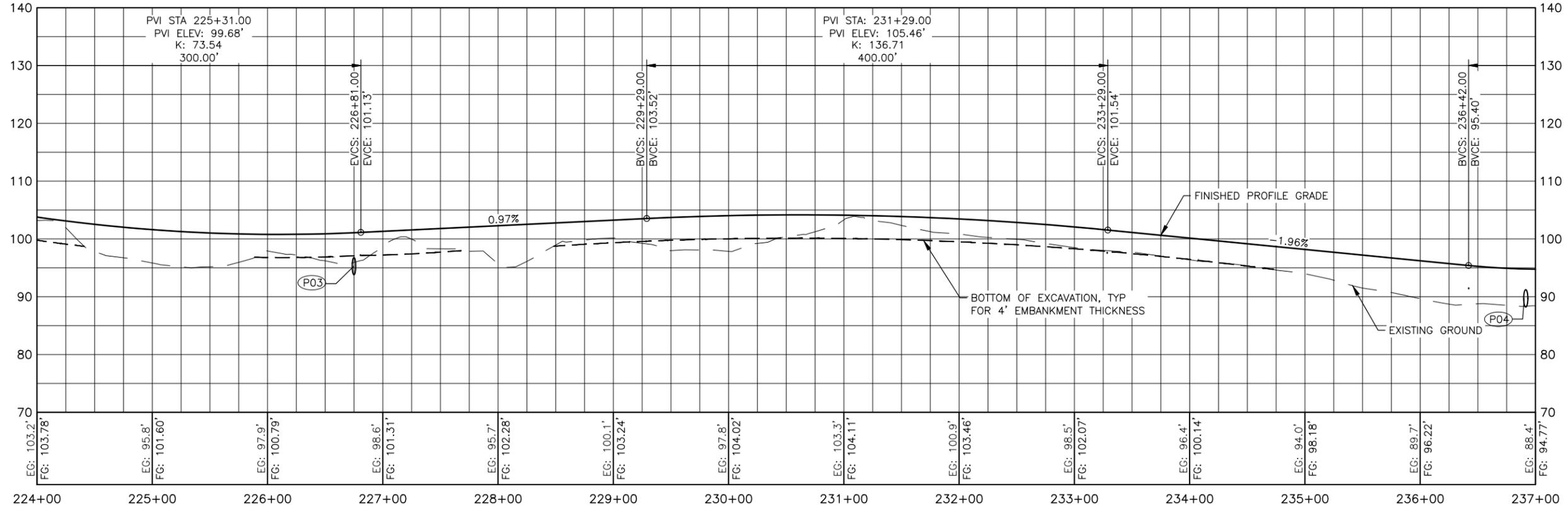
**MATCH LINE STA 237+00**

FENCE LAYOUT SCHEDULE				
POINT	STATION	OFFSET	ELEVATION	DESCRIPTION
6	226+44.69	13.77' R	98.87'	FENCE CORNER
7	226+99.09	13.77' R	99.63'	FENCE CORNER
8	235+91.98	9.10' R	96.68'	FENCE CORNER
9	236+16.20	9.09' R	96.12'	FENCE CORNER

SPECIAL DITCH				
POINT	STATION	OFFSET	ELEVATION	DESCRIPTION
G4	226+50.00	18.18' R	97.10'	DITCH BOTTOM
G5	226+75.00	26.18' R	93.70'	DITCH BOTTOM
G6	227+00.00	18.18' R	97.52'	DITCH BOTTOM
G7	226+75.00	54.59' R	93.70'	DITCH BACKSLOPE

- NOTES:**
- TEMPORARY FENCE SHALL BE IN PLACE PRIOR TO DEMO OF EXISTING FENCE FOR EMBANKMENT CONSTRUCTION. TEMPORARY FENCE SHALL REMAIN IN PLACE UNTIL ALL NEW PERMANENT PERIMETER FENCE IS COMPLETE. TEMPORARY FENCE SHALL BE CONSTRUCTED EQUIVALENT TO PERMANENT FENCE AND SHALL MEET ALL AIRPORT PERIMETER SECURITY FENCING REQUIREMENTS.
  - SHOULDER EDGE IS A CONSTANT 2 FEET FROM FENCE. CORNER POSTS OF FENCE VARY FROM TYPICAL SECTION.
  - ALLOW ACCESS FOR FAA STAFF TO NAVAID EQUIPMENT AT ALL TIMES.
  - NO EQUIPMENT OR MATERIAL ARE ALLOWED WITHIN THE CRITICAL AREA WHILE NAVAID FACILITY IS IN SERVICE.
  - INSTALL ALL CULVERTS DURING SEASON 1 OF THE EMBANKMENT CONSTRUCTION. PRIOR TO THE START OF SEASON 2, THE CONTRACTOR SHALL INSPECT ALL CULVERTS FOR SETTLEMENT, DEFORMATION, DAMAGE, AND PROPER ALIGNMENT. THE CONTRACTOR SHALL DETERMINE AND PERFORM ALL REQUIRED REPAIRS, RESETTING, OR REPLACEMENT OF CULVERTS TO ENSURE PROPER DRAINAGE.

PIPE SUMMARY TABLE									
ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P03	CS	36"	56'	STA 226+75.0, 29.6' LT	93.89'	STA 226+75.0, 26.4' RT	93.70'	NO	YES
P04	CS	36"	54'	STA 237+05.3, 20.5' LT	88.32'	STA 236+75.2, 24.4' RT	88.08'	NO	YES



**PLANS DEVELOPED BY:**  
**R&M CONSULTANTS, INC.**  
 9101 VANGUARD DR.  
 ANCHORAGE, AK 99507  
 (907) 522-1707  
**CERT. OF AUTH. NO. AECC111**



**PLANS DEVELOPED BY:**  
**R&M CONSULTANTS, INC.**  
 9101 VANGUARD DR.  
 ANCHORAGE, AK 99507  
 (907) 522-1707  
**CERT. OF AUTH. NO. AECC111**

BY	DATE	REVISION

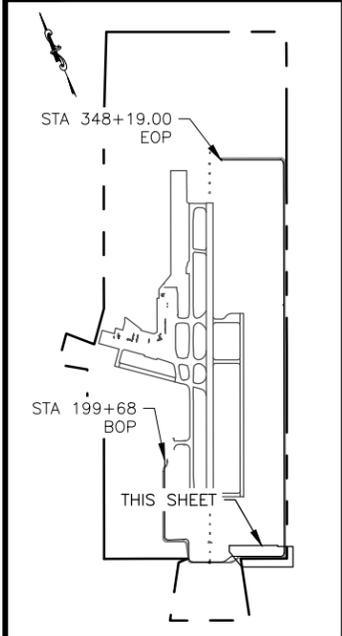
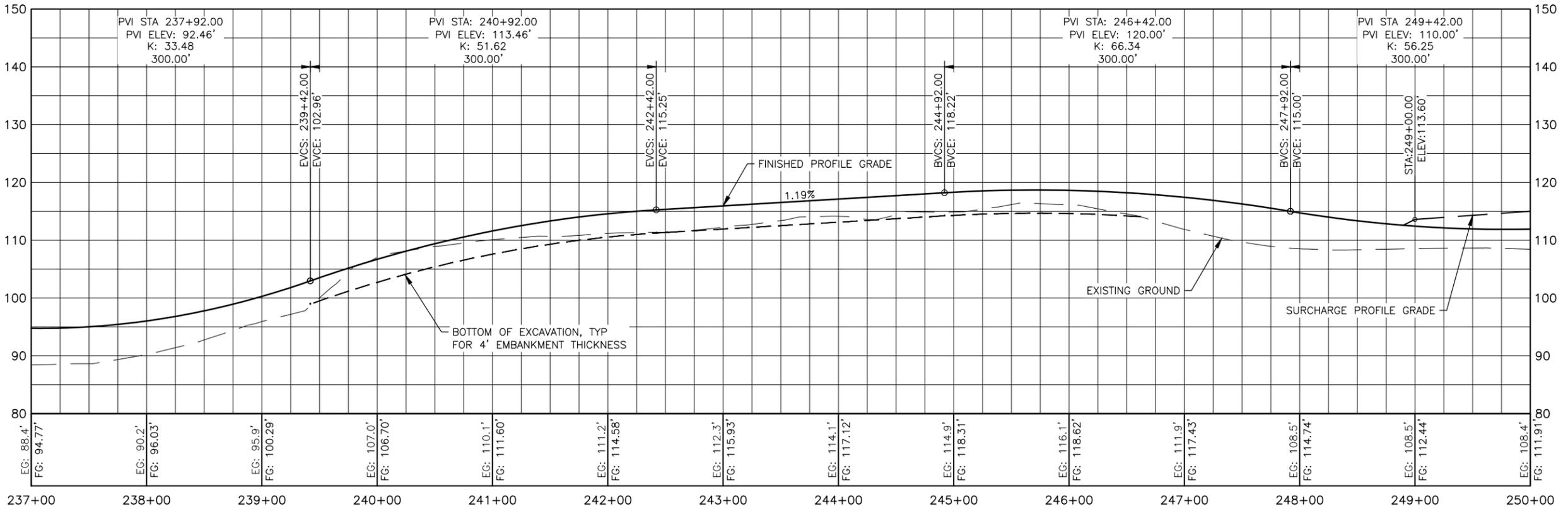
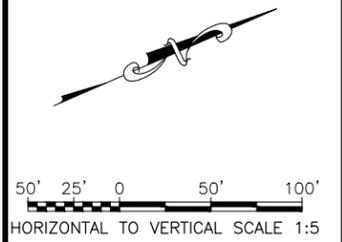
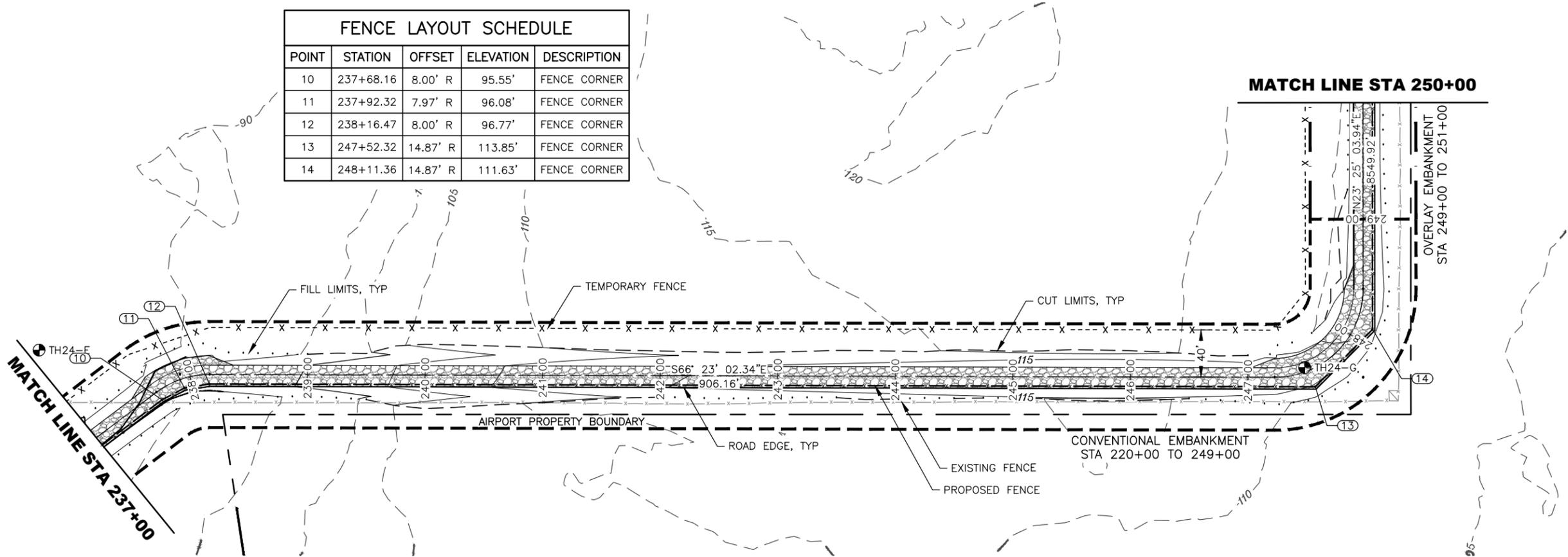
**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
 PHONE (907) 269-0590

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 224+00 TO STA 237+00

DATE:  
 12/19/2025  
 SHEET:  
 20 OF 48

Date Received: 12/19/2025, 2:17 PM  
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 File Path and Name: Z:\project\2968.01 Dot\_L Bethel Airport West Apron Improvements\Civil\ACAD\00859-BET-Perimeter Road Plan & Profile.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

FENCE LAYOUT SCHEDULE				
POINT	STATION	OFFSET	ELEVATION	DESCRIPTION
10	237+68.16	8.00' R	95.55'	FENCE CORNER
11	237+92.32	7.97' R	96.08'	FENCE CORNER
12	238+16.47	8.00' R	96.77'	FENCE CORNER
13	247+52.32	14.87' R	113.85'	FENCE CORNER
14	248+11.36	14.87' R	111.63'	FENCE CORNER



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**R&M CONSULTANTS, INC.**  
 9101 VANGUARD DR.  
 ANCHORAGE, AK 99507  
 (907) 522-1707  
**CERT. OF AUTH. NO. AECC111**

- NOTES:**
- SHOULDER EDGE IS A CONSTANT 2 FEET FROM FENCE. CORNER POSTS OF FENCE VARY FROM TYPICAL SECTION.
  - TEMPORARY FENCE SHALL BE IN PLACE PRIOR TO DEMO OF EXISTING FENCE FOR EMBANKMENT CONSTRUCTION. TEMPORARY FENCE SHALL REMAIN IN PLACE UNTIL ALL NEW PERMANENT PERIMETER FENCE IS COMPLETE. TEMPORARY FENCE SHALL BE CONSTRUCTED EQUIVALENT TO PERMANENT FENCE AND SHALL MEET ALL AIRPORT PERIMETER SECURITY FENCING REQUIREMENTS.



PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
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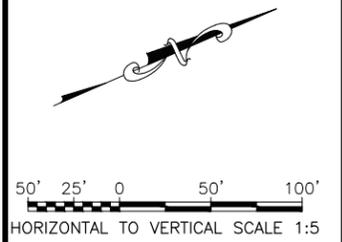
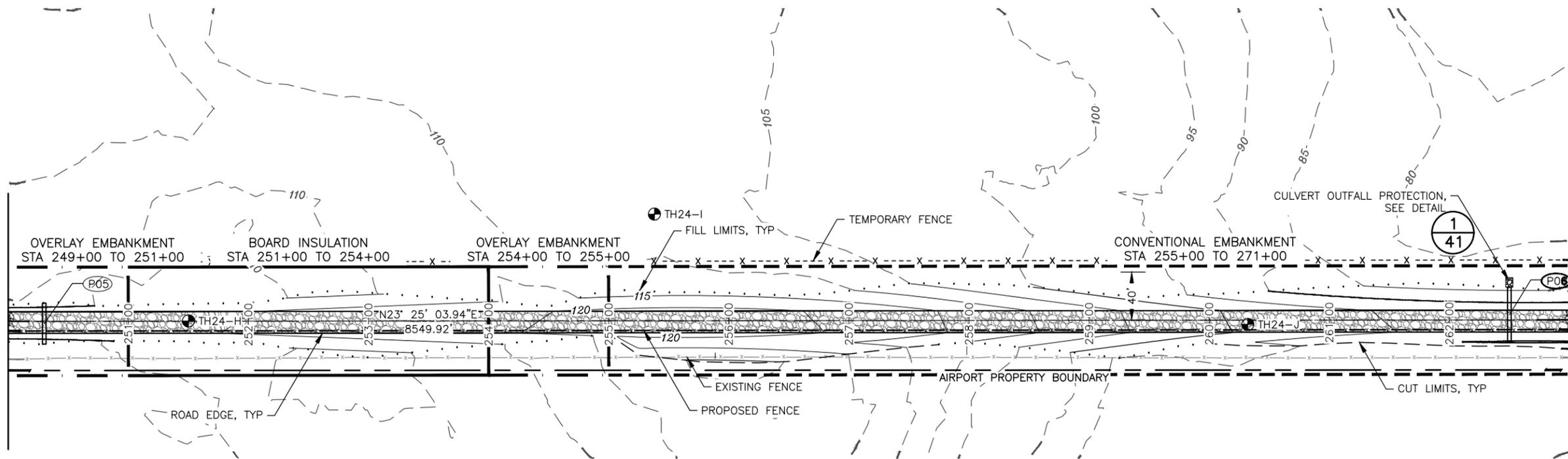
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 237+00 TO STA 250+00

DATE:  
 12/19/2025  
 SHEET:  
 21 OF 48

Date Recvied: 12/19/2025, 2:17 PM  
 Layout Name: R5  
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 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

MATCH LINE STA 250+00

MATCH LINE STA 263+00

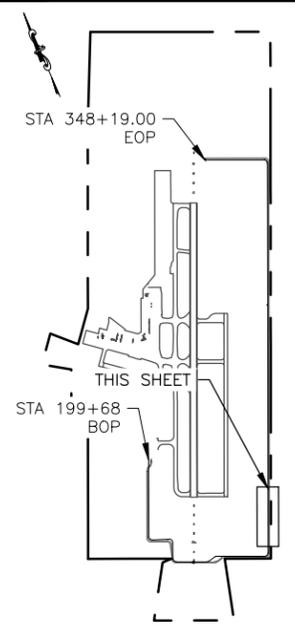
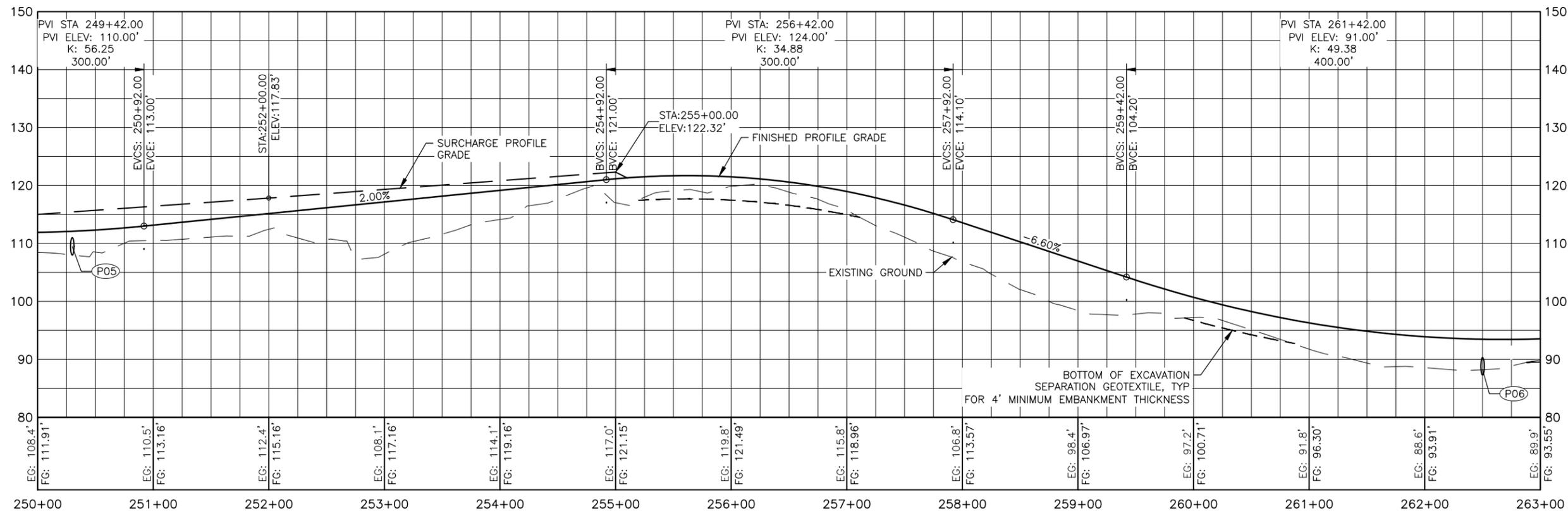


PIPE SUMMARY TABLE

ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P05	CS	36"	34'	STA 250+30.0, 15.1' LT	108.38'	STA 250+30.0, 18.9' RT	107.53'	NO	YES
P06	CS	36"	47'	STA 262+50.0, 18.5' RT	89.73'	STA 262+50.0, 27.1' LT	83.77'	NO	YES

NOTES:

- TEMPORARY FENCE SHALL BE IN PLACE PRIOR TO DEMO OF EXISTING FENCE FOR EMBANKMENT CONSTRUCTION. TEMPORARY FENCE SHALL REMAIN IN PLACE UNTIL ALL NEW PERMANENT PERIMETER FENCE IS COMPLETE. TEMPORARY FENCE SHALL BE CONSTRUCTED EQUIVALENT TO PERMANENT FENCE AND SHALL MEET ALL AIRPORT PERIMETER SECURITY FENCING REQUIREMENTS.
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 (907) 522-1707  
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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

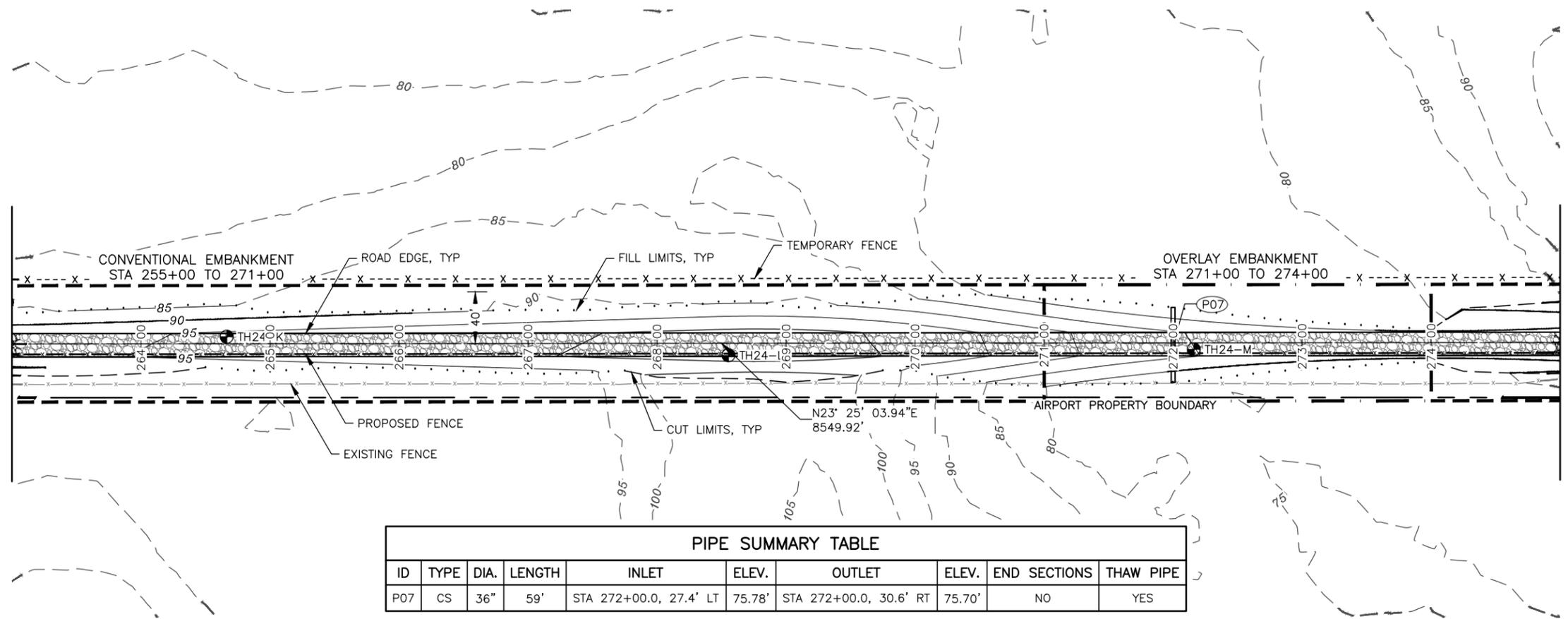
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 250+00 TO STA 263+00

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 12/19/2025  
 SHEET:  
 22 OF 48

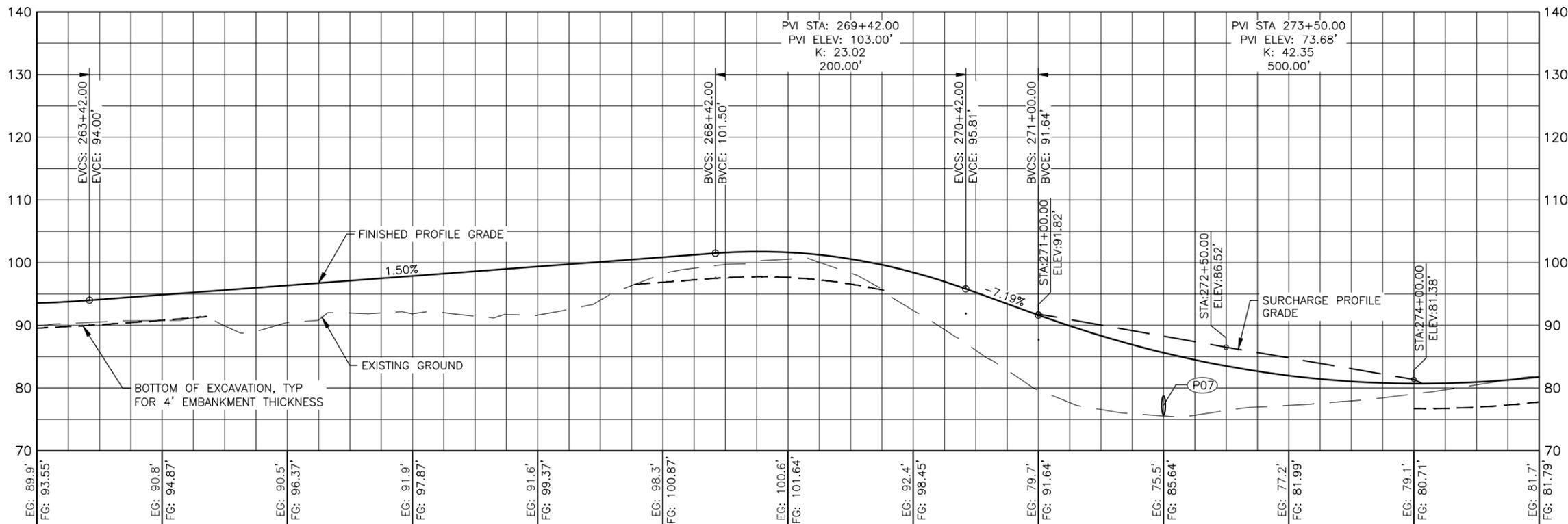
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 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

MATCH LINE STA 263+00

MATCH LINE STA 275+00



PIPE SUMMARY TABLE									
ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P07	CS	36"	59'	STA 272+00.0, 27.4' LT	75.78'	STA 272+00.0, 30.6' RT	75.70'	NO	YES



- NOTES:**
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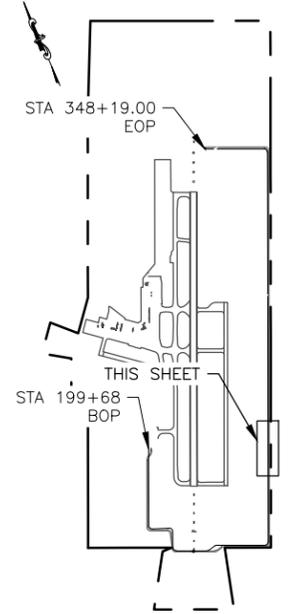


PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

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

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 263+00 TO STA 275+00

DATE: 12/19/2025  
 SHEET: 23 OF 48



PLANS DEVELOPED BY:  
**R&M CONSULTANTS, INC.**  
 9101 VANGUARD DR.  
 ANCHORAGE, AK 99507  
 (907) 522-1707  
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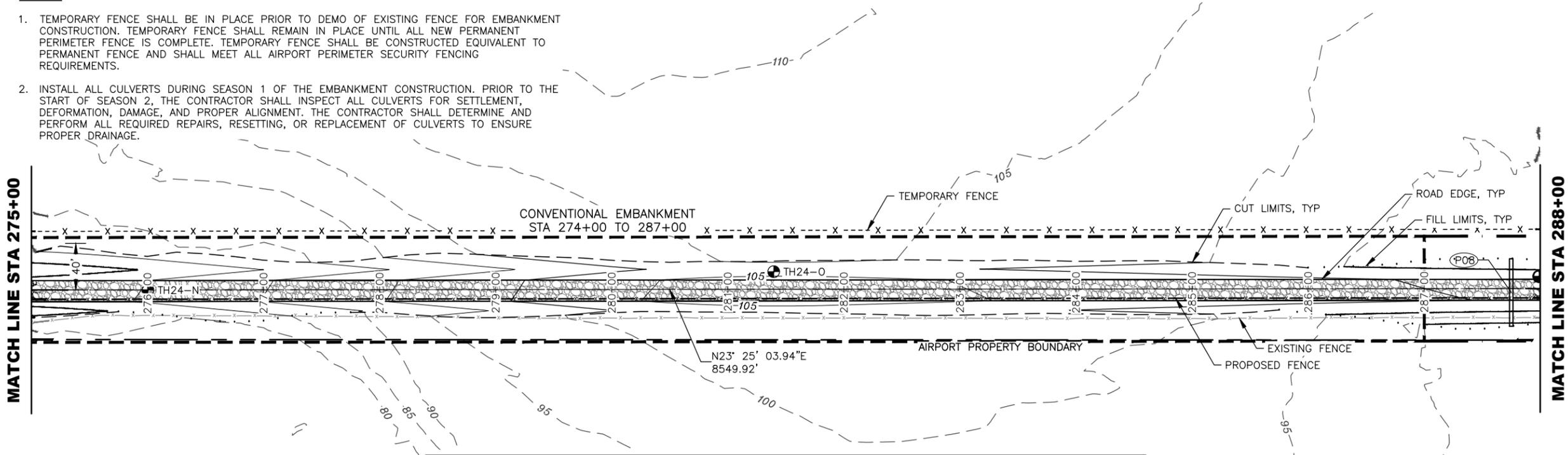
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 Drawn By: AA, AL, VN  
 Checked By: CJB

**NOTES:**

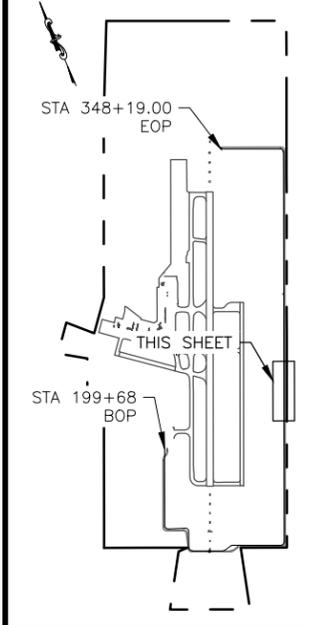
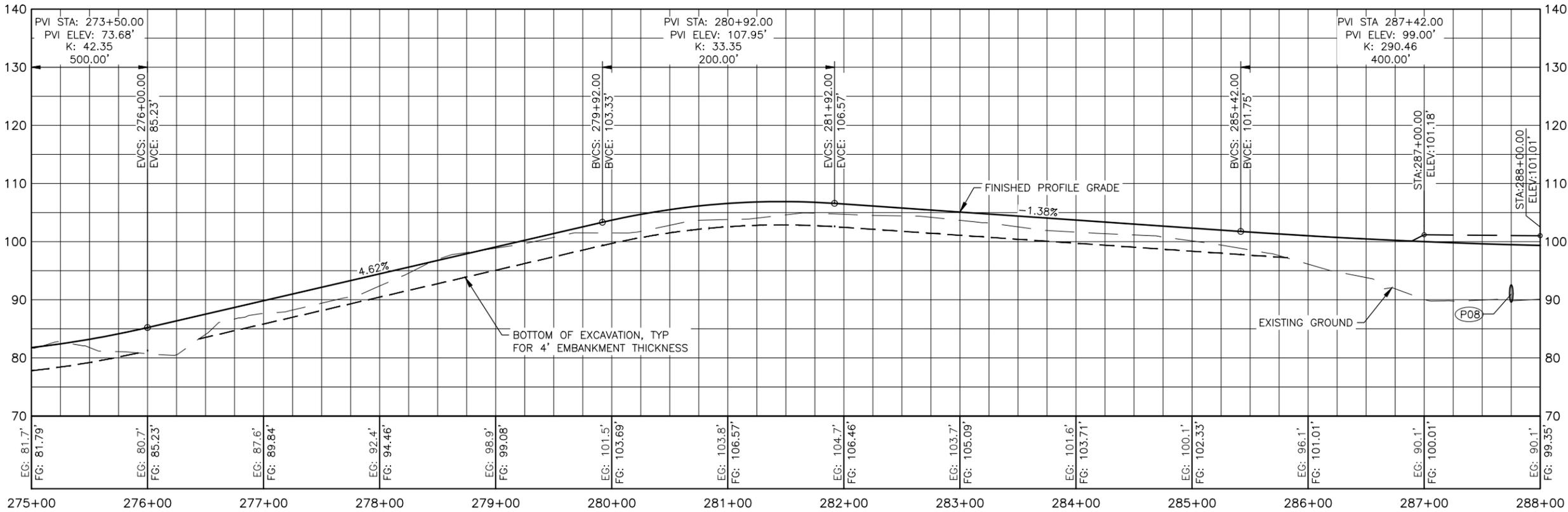
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MATCH LINE STA 275+00

MATCH LINE STA 288+00



PIPE SUMMARY TABLE									
ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P08	CS	36"	58'	STA 287+75.0, 25.6' LT	90.39'	STA 287+75.0, 32.4' RT	88.56'	NO	YES



**PLANS DEVELOPED BY:**  
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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

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 275+00 TO STA 288+00

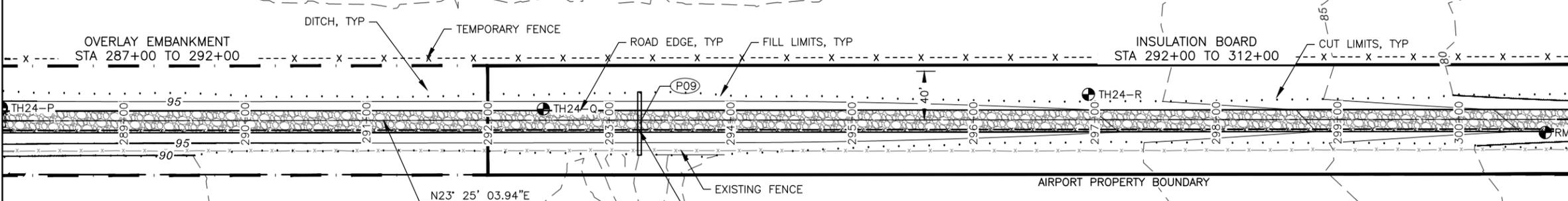
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Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

MATCH LINE STA 288+00

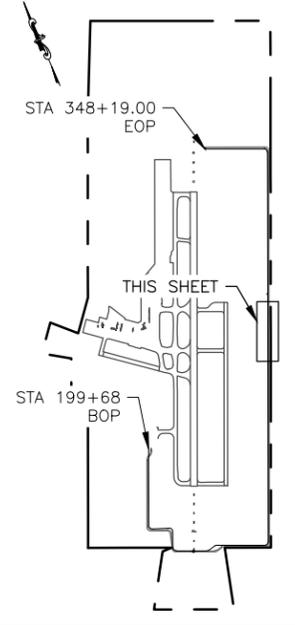
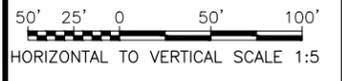
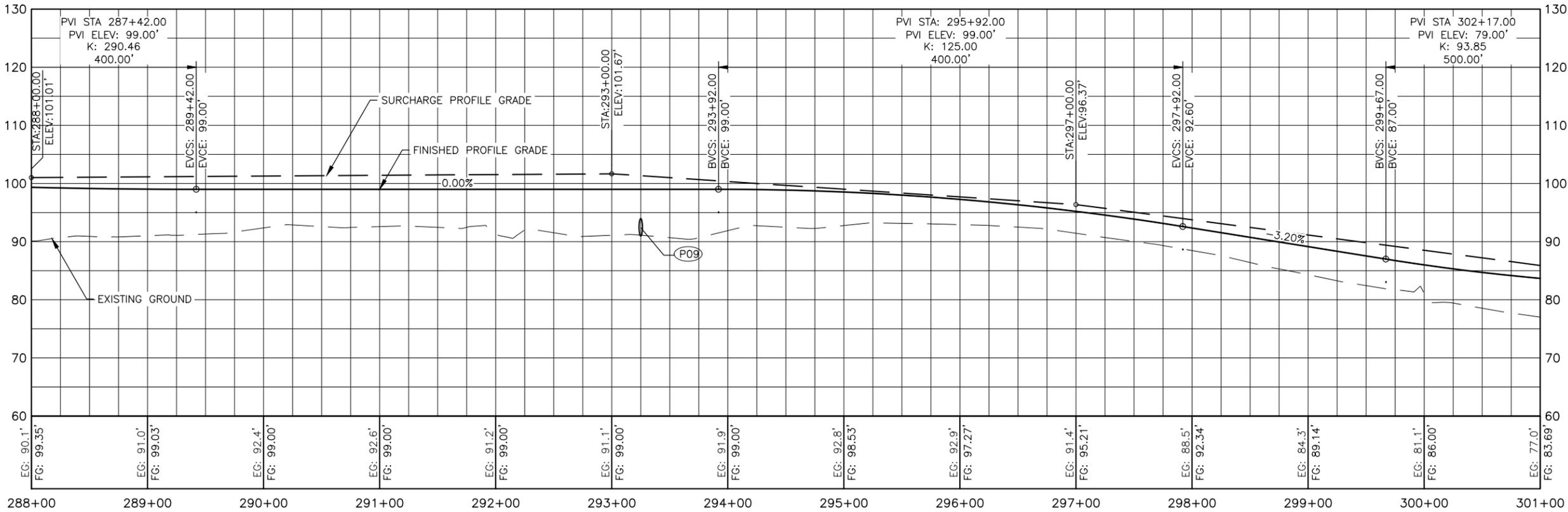
MATCH LINE STA 301+00



NOTES:

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PIPE SUMMARY TABLE									
ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P09	CS	36"	52'	STA 293+25.0, 23.1' LT	91.56'	STA 293+25.0, 28.8' RT	90.23'	NO	YES



**PLANS DEVELOPED BY:**  
**R&M CONSULTANTS, INC.**  
 9101 VANGUARD DR.  
 ANCHORAGE, AK 99507  
 (907) 522-1707  
**CERT. OF AUTH. NO. AECC111**



PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

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

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 288+00 TO STA 301+00

DATE:  
 12/19/2025  
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 25 OF 48

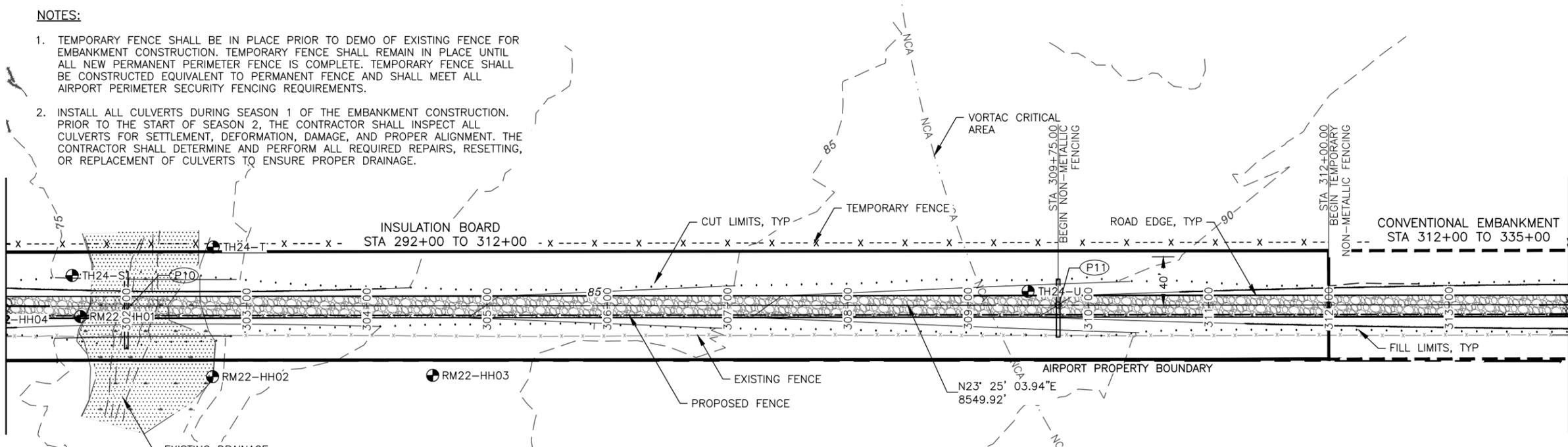
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 Drawn By: AA, AL, VN  
 Checked By: CUB

**NOTES:**

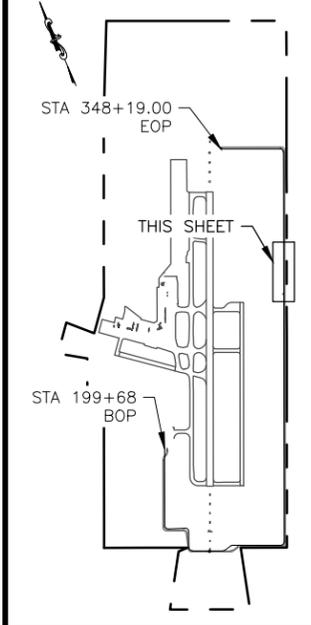
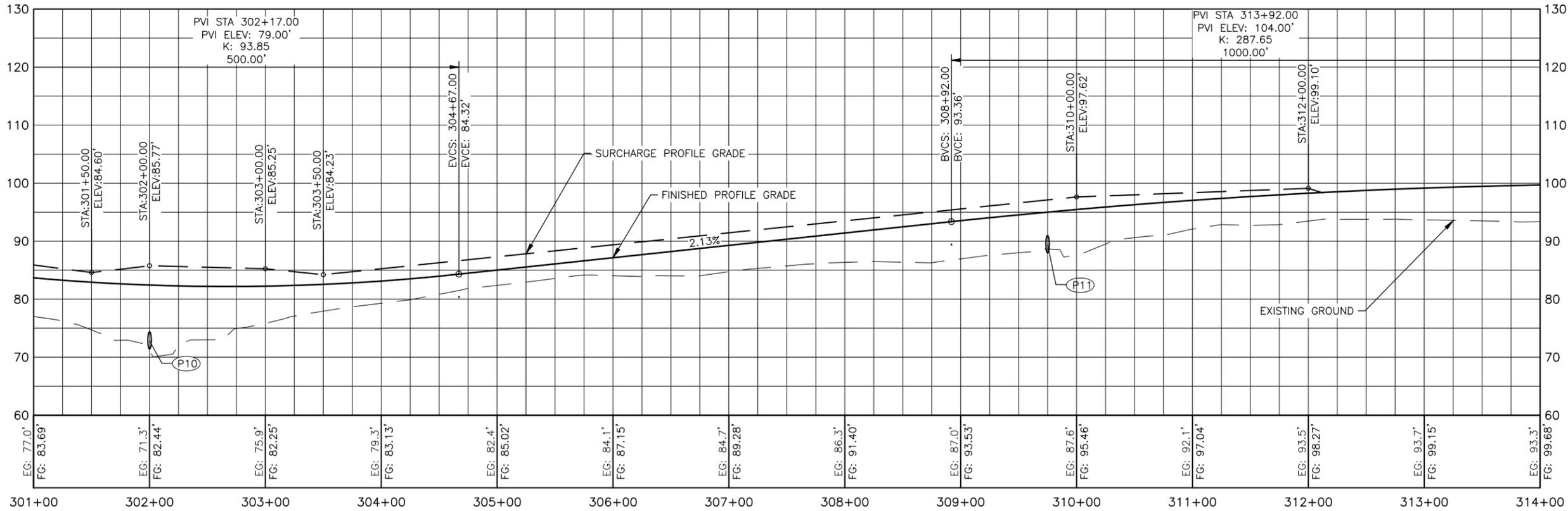
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MATCH LINE STA 301+00

MATCH LINE STA 314+00



PIPE SUMMARY TABLE									
ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P10	CS	36"	64'	STA 302+00.0, 28.6' LT	72.24'	STA 302+00.0, 35.3' RT	70.40'	NO	YES
P11	CS	36"	49'	STA 309+75.0, 21.6' LT	88.40'	STA 309+75.0, 26.4' RT	87.47'	NO	YES



**PLANS DEVELOPED BY:**  
**R&M CONSULTANTS, INC.**  
 9101 VANGUARD DR.  
 ANCHORAGE, AK 99507  
 (907) 522-1707  
**CERT. OF AUTH. NO. AECC111**



<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 <b>CERT. OF AUTH. NO. AECC111</b>			BY: _____ DATE: _____ REVISION: _____
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**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
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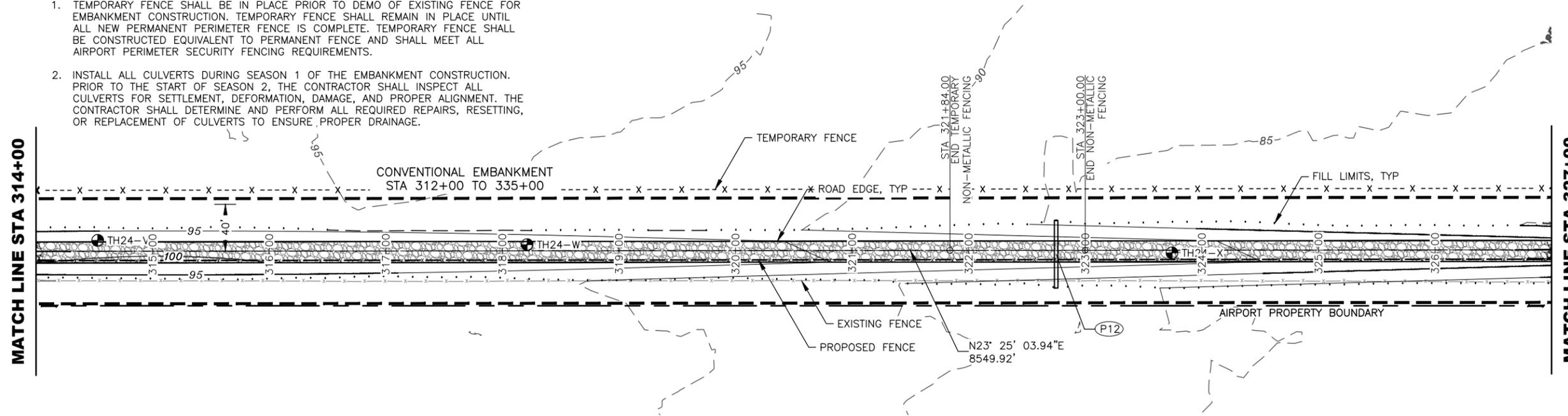
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 301+00 TO STA 314+00

DATE: 12/19/2025  
 SHEET: 26 OF 48

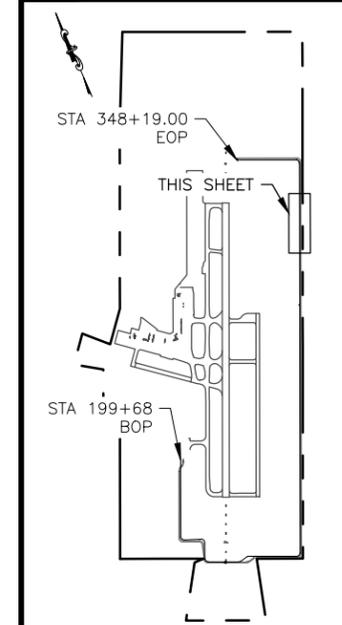
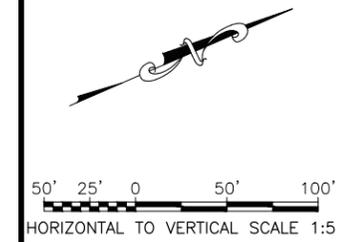
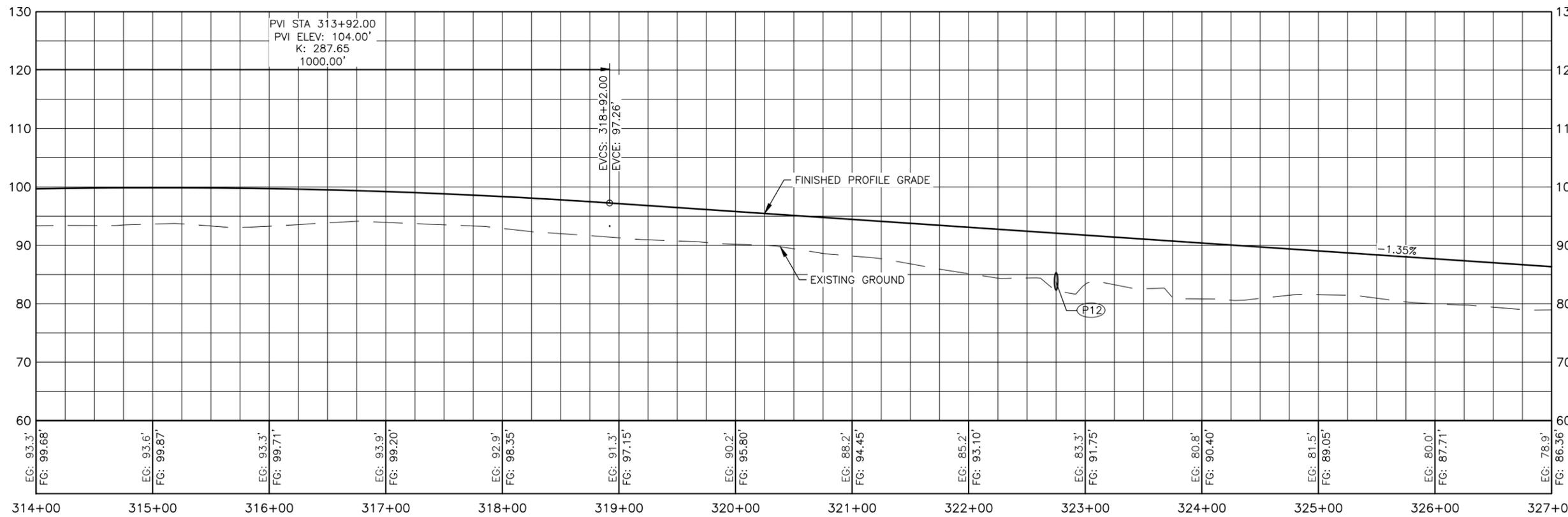
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 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

**NOTES:**

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PIPE SUMMARY TABLE									
ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P12	CS	36"	59'	STA 322+75.0, 25.6' LT	83.13'	STA 322+75.0, 32.3' RT	81.32'	NO	YES



**PLANS DEVELOPED BY:**  
**R&M CONSULTANTS, INC.**  
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 (907) 522-1707  
**CERT. OF AUTH. NO. AECC111**



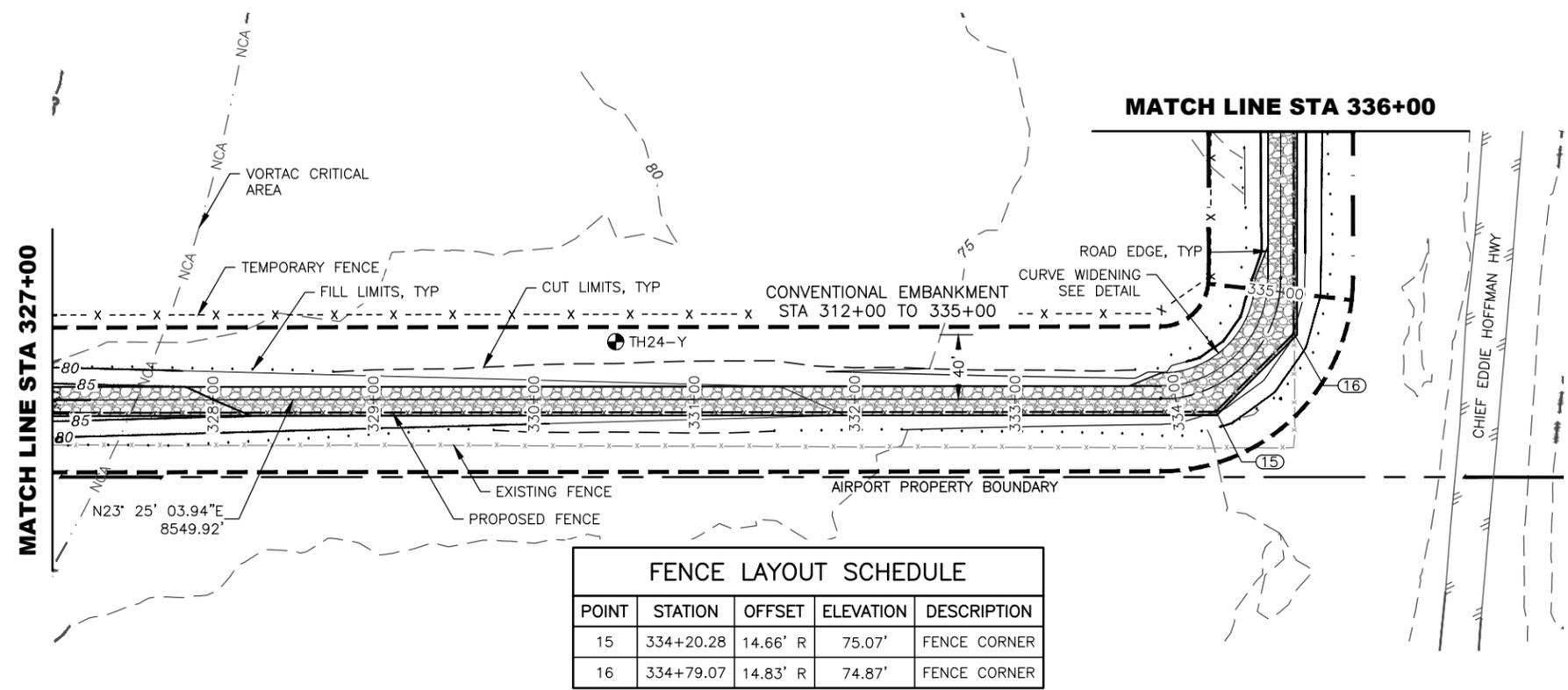
<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 <b>CERT. OF AUTH. NO. AECC111</b>			BY: _____ DATE: _____	REVISION: _____
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**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
 PHONE (907) 269-0590

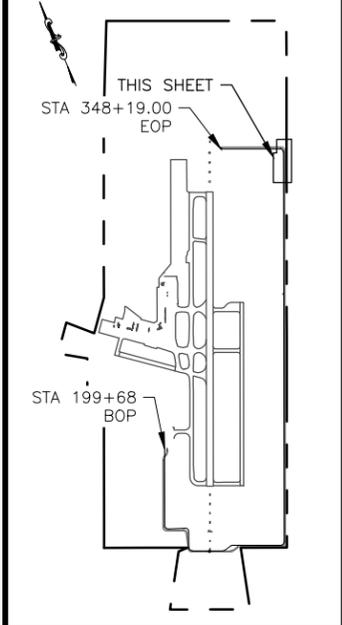
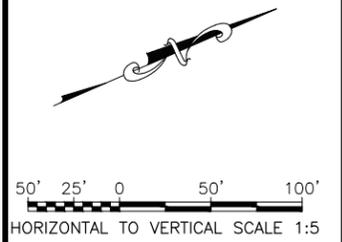
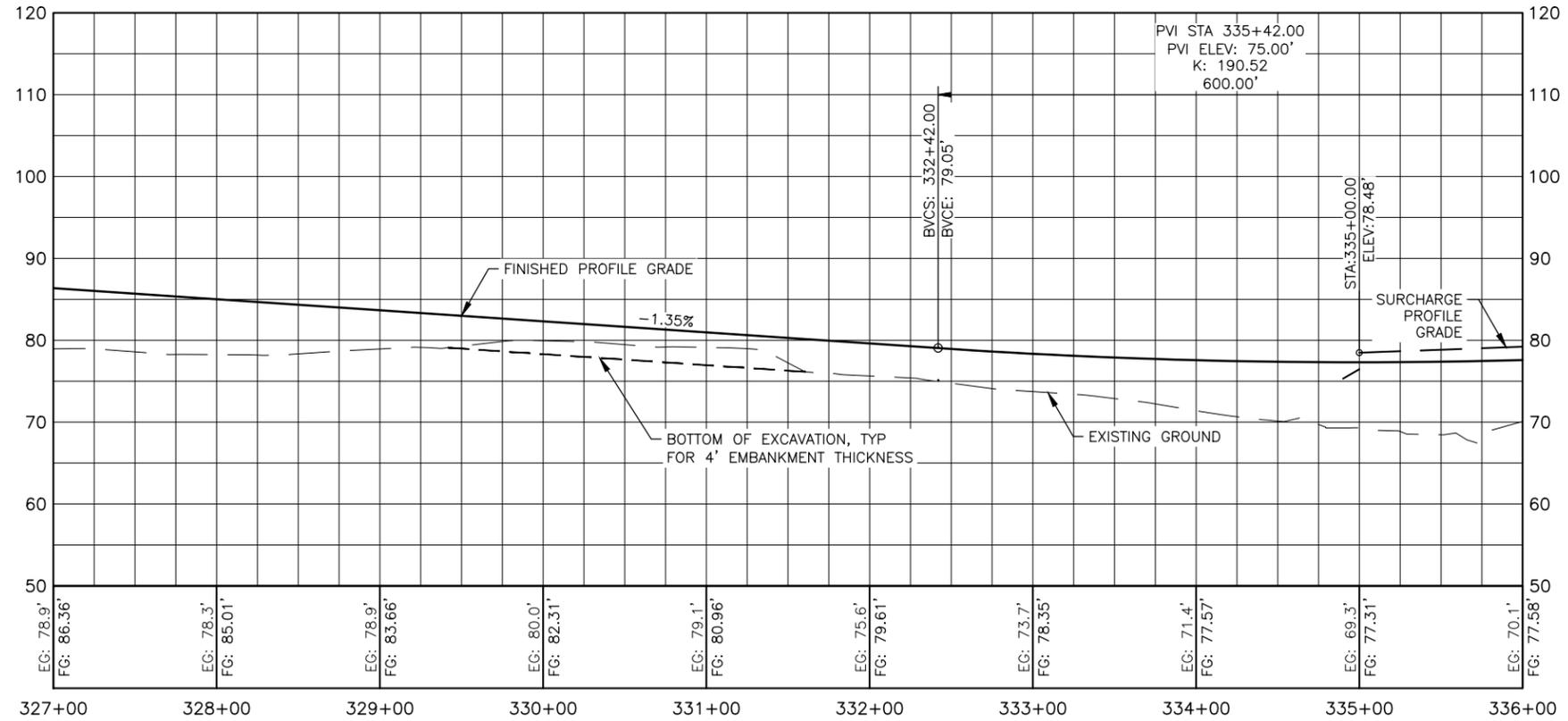
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAP00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 314+00 TO STA 327+00

DATE: 12/19/2025  
 SHEET: 27 OF 48

Date Recvied: 12/19/2025, 2:16 PM  
 Layout Name: R11  
 File Path and Name: Z:\project\2968.01 dot\_L Bethel Airport West Apron Improvements\Civil\ACAD\00859-BET-Perimeter Road Plan & Profile.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



FENCE LAYOUT SCHEDULE				
POINT	STATION	OFFSET	ELEVATION	DESCRIPTION
15	334+20.28	14.66' R	75.07'	FENCE CORNER
16	334+79.07	14.83' R	74.87'	FENCE CORNER



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 9101 VANGUARD DR.  
 ANCHORAGE, AK 99507  
 (907) 522-1707  
**CERT. OF AUTH. NO. AECC111**

- NOTES:**
- SHOULDER EDGE IS A CONSTANT 2 FEET FROM FENCE. CORNER POSTS OF FENCE VARY FROM TYPICAL SECTION.
  - TEMPORARY FENCE SHALL BE IN PLACE PRIOR TO DEMO OF EXISTING FENCE FOR EMBANKMENT CONSTRUCTION. TEMPORARY FENCE SHALL REMAIN IN PLACE UNTIL ALL NEW PERMANENT PERIMETER FENCE IS COMPLETE. TEMPORARY FENCE SHALL BE CONSTRUCTED EQUIVALENT TO PERMANENT FENCE AND SHALL MEET ALL AIRPORT PERIMETER SECURITY FENCING REQUIREMENTS.



<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 <b>CERT. OF AUTH. NO. AECC111</b>			BY	DATE	REVISION

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

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 327+00 TO STA 336+00

DATE: 12/19/2025  
 SHEET: 28 OF 48

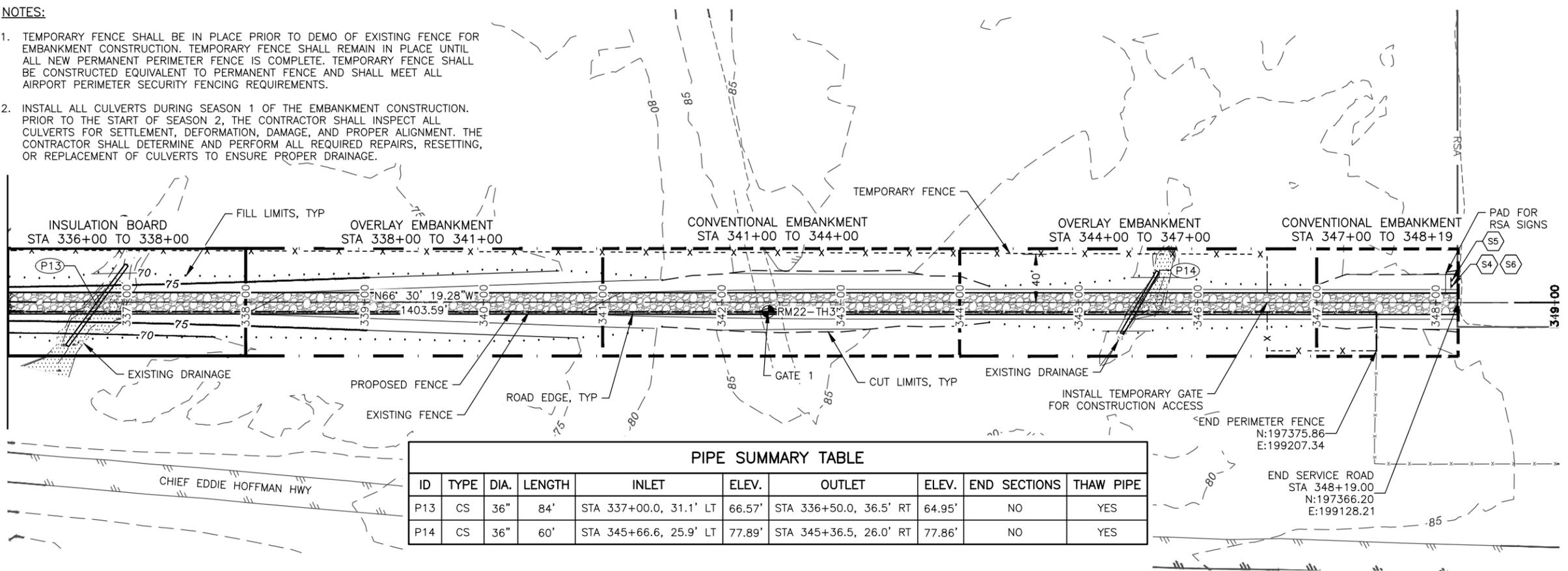
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Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

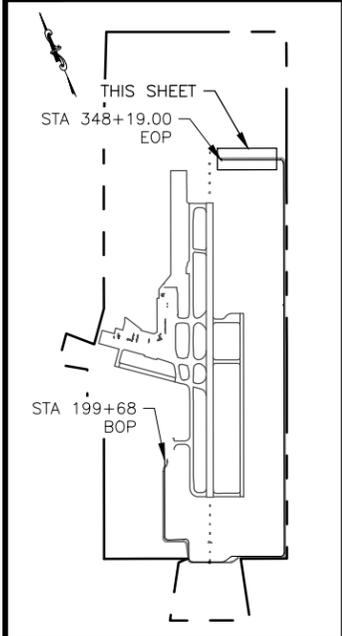
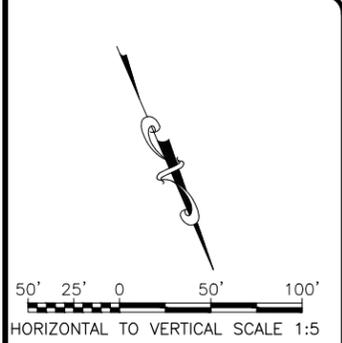
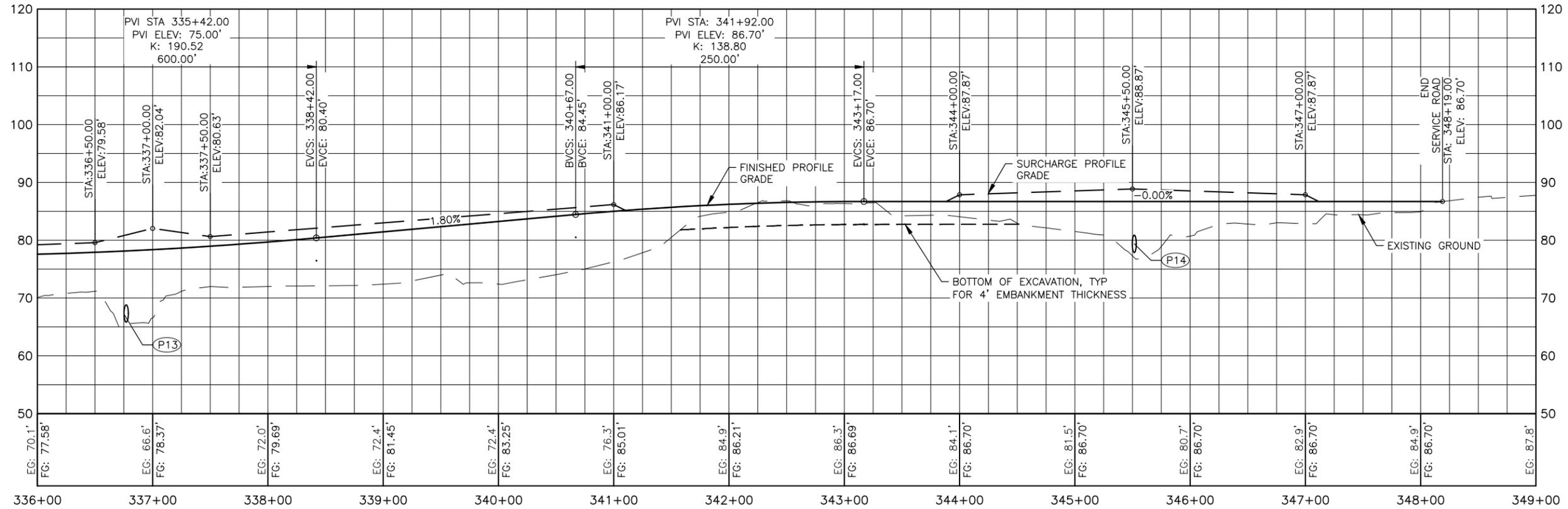
**NOTES:**

1. TEMPORARY FENCE SHALL BE IN PLACE PRIOR TO DEMO OF EXISTING FENCE FOR EMBANKMENT CONSTRUCTION. TEMPORARY FENCE SHALL REMAIN IN PLACE UNTIL ALL NEW PERMANENT PERIMETER FENCE IS COMPLETE. TEMPORARY FENCE SHALL BE CONSTRUCTED EQUIVALENT TO PERMANENT FENCE AND SHALL MEET ALL AIRPORT PERIMETER SECURITY FENCING REQUIREMENTS.
2. INSTALL ALL CULVERTS DURING SEASON 1 OF THE EMBANKMENT CONSTRUCTION. PRIOR TO THE START OF SEASON 2, THE CONTRACTOR SHALL INSPECT ALL CULVERTS FOR SETTLEMENT, DEFORMATION, DAMAGE, AND PROPER ALIGNMENT. THE CONTRACTOR SHALL DETERMINE AND PERFORM ALL REQUIRED REPAIRS, RESETTling, OR REPLACEMENT OF CULVERTS TO ENSURE PROPER DRAINAGE.

**MATCH LINE STA 336+00**



PIPE SUMMARY TABLE									
ID	TYPE	DIA.	LENGTH	INLET	ELEV.	OUTLET	ELEV.	END SECTIONS	THAW PIPE
P13	CS	36"	84'	STA 337+00.0, 31.1' LT	66.57'	STA 336+50.0, 36.5' RT	64.95'	NO	YES
P14	CS	36"	60'	STA 345+66.6, 25.9' LT	77.89'	STA 345+36.5, 26.0' RT	77.86'	NO	YES



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**R&M CONSULTANTS, INC.**  
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 ANCHORAGE, AK 99507  
 (907) 522-1707  
**CERT. OF AUTH. NO. AECC111**



PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

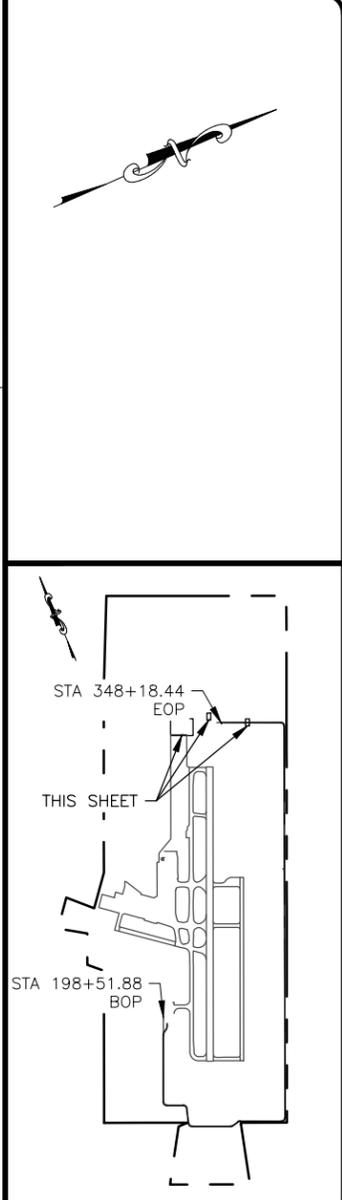
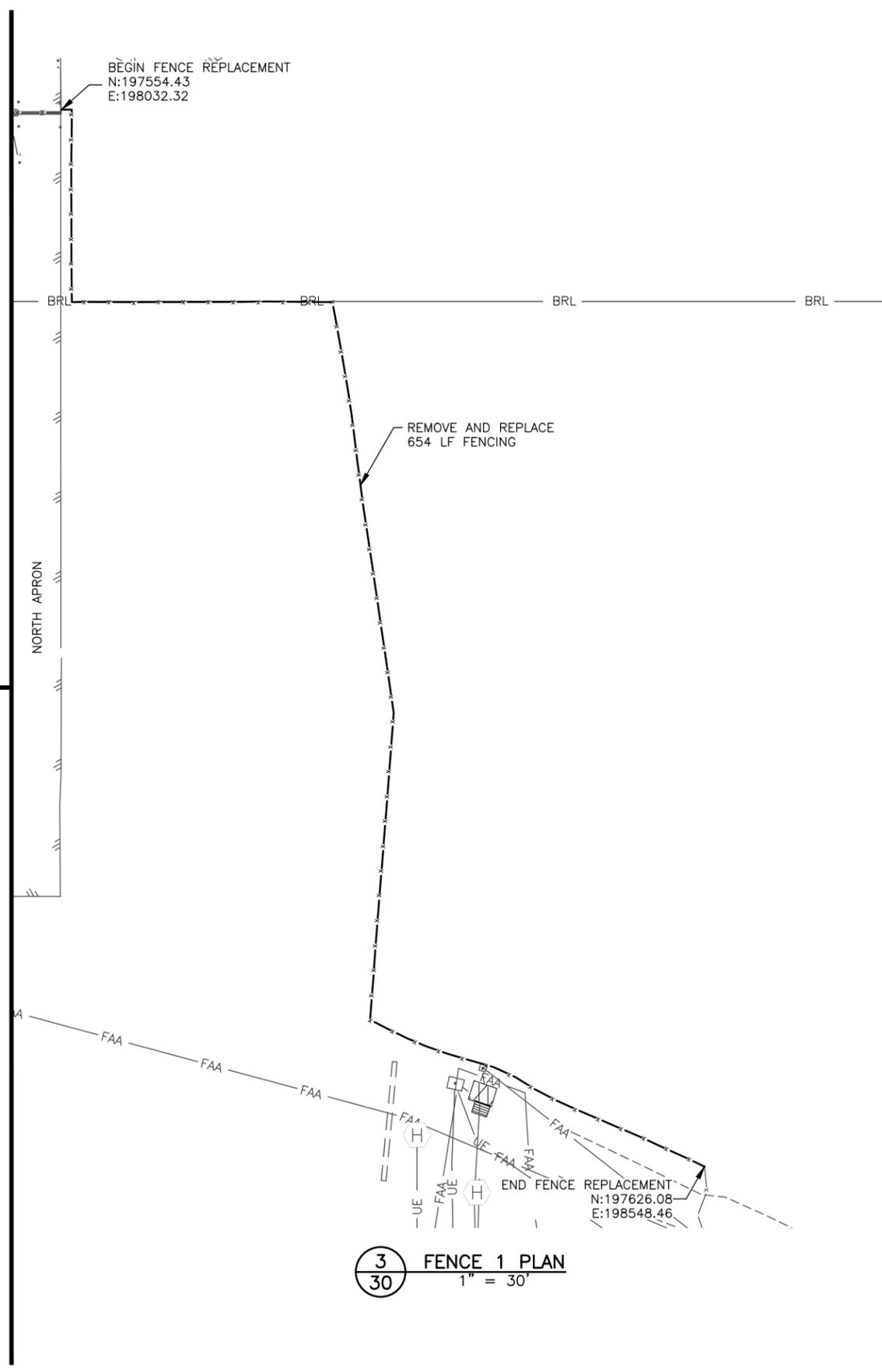
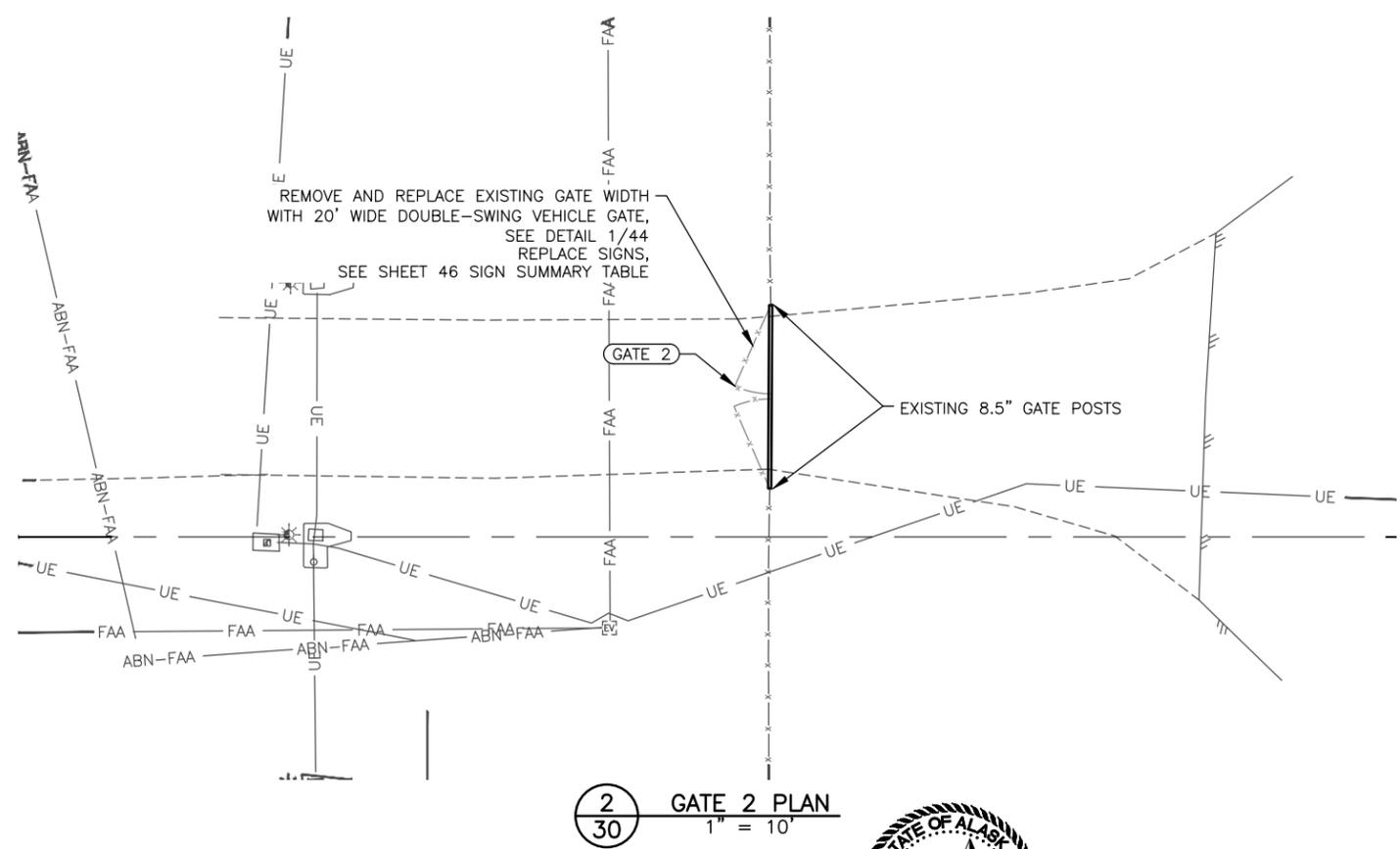
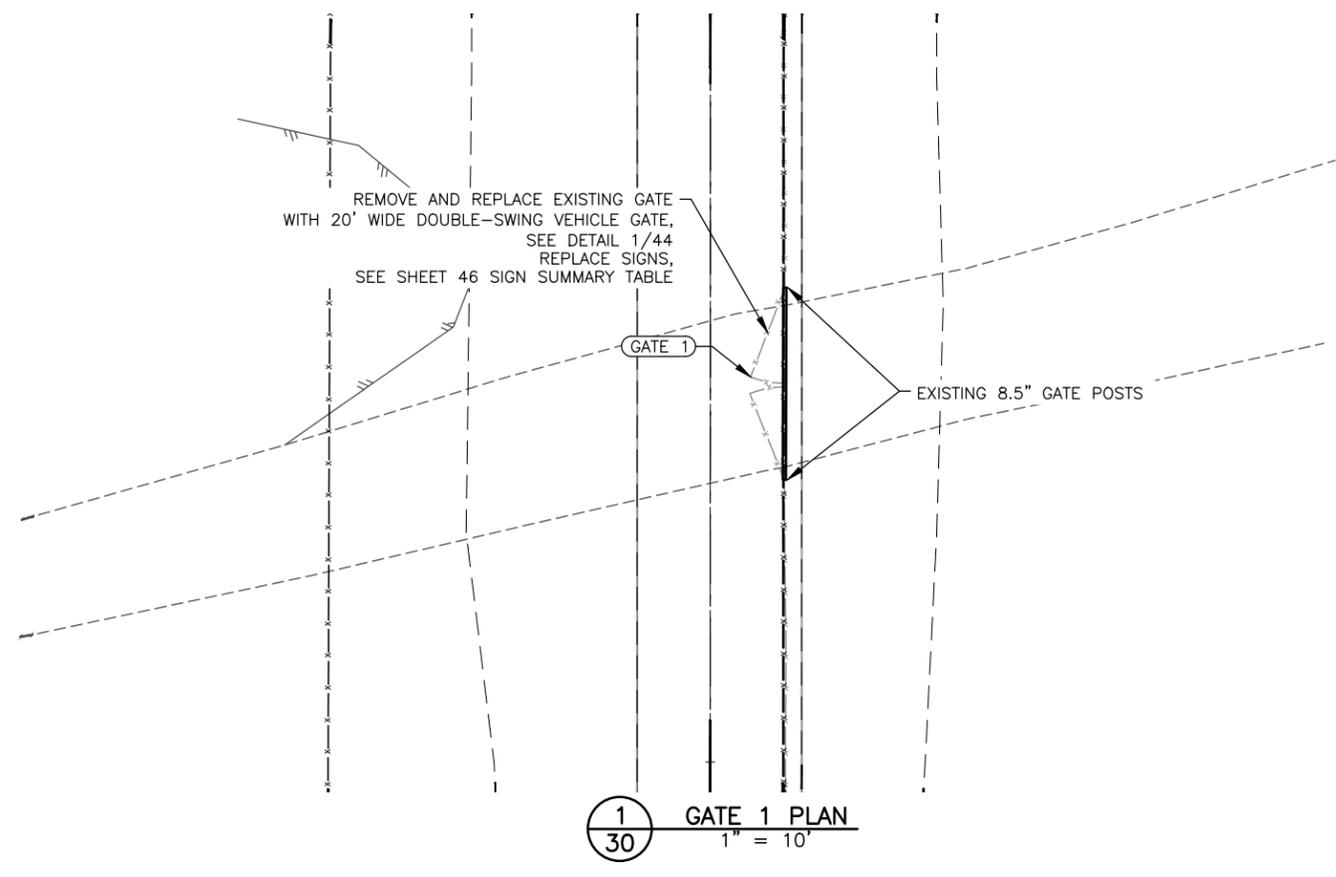
**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
 PHONE (907) 269-0590

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 PERIMETER FENCE AND ROAD PLAN &  
 PROFILE STA 336+00 TO STA 349+00

DATE:  
 12/19/2025  
 SHEET:  
 29 OF 48

Date Recvied: 12/19/2025, 2:17 PM  
 Layout Name: 1-2  
 File Path and Name: Z:\project\2968.01 dot\_L Bethel Airport West Apron Improvements\Civil\CAD\00859-BET-Fence And Gate Plans.dwg

Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



**PLANS DEVELOPED BY:**  
**R&M CONSULTANTS, INC.**  
**9101 VANGUARD DR.**  
**ANCHORAGE, AK 99507**  
**(907) 522-1707**  
**CERT. OF AUTH. NO. AECC111**



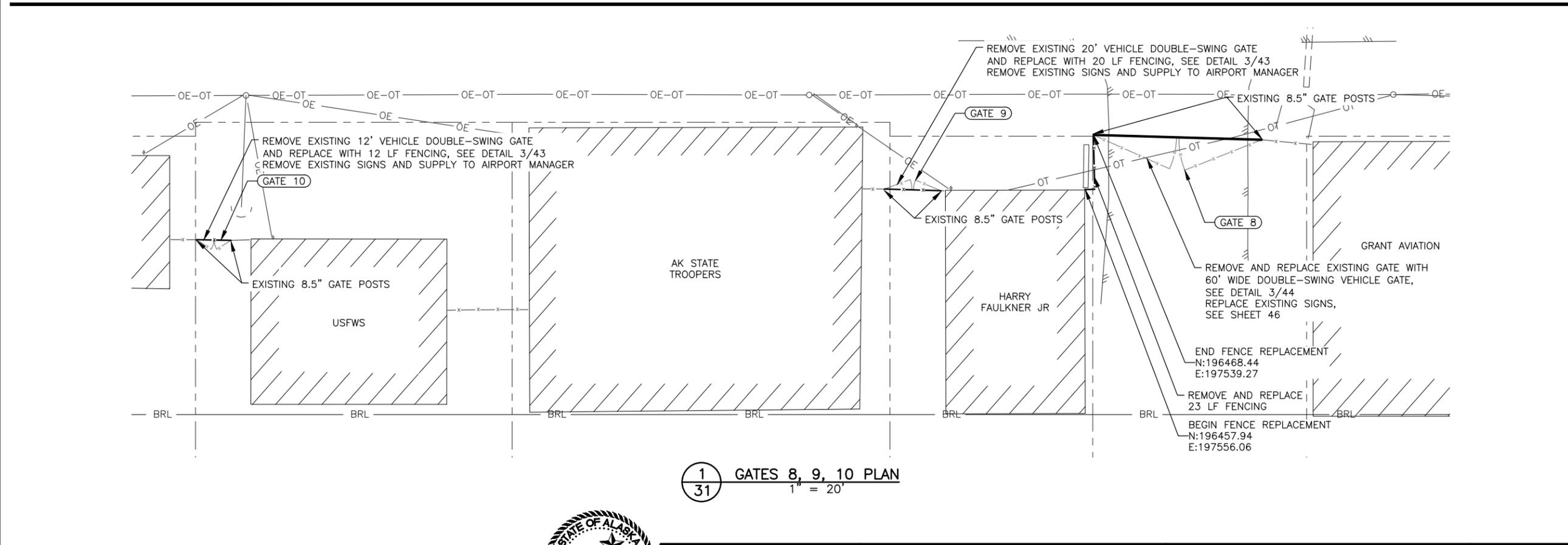
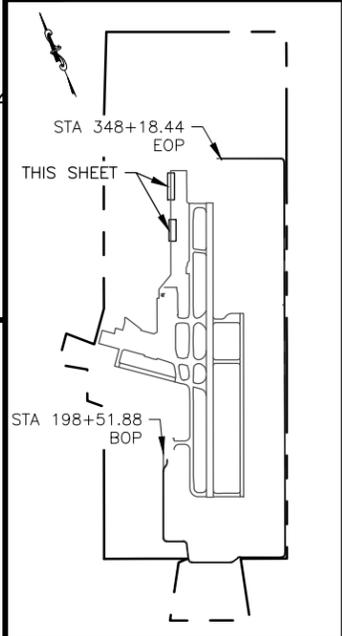
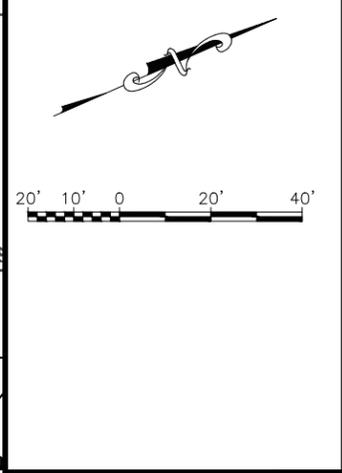
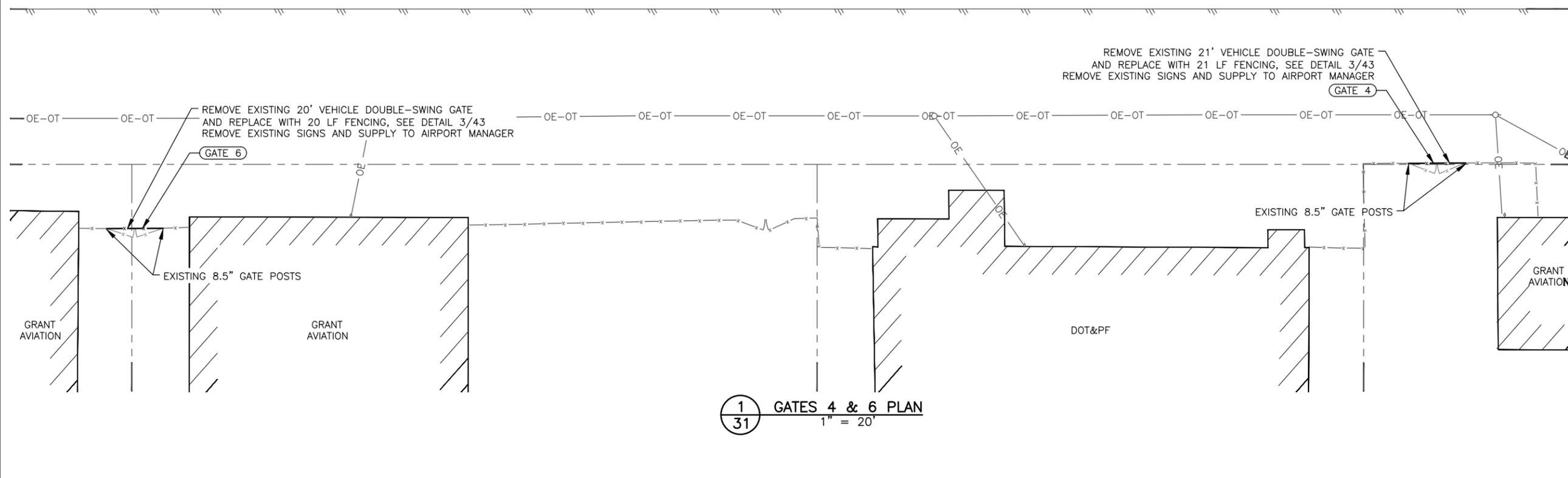
BY	DATE	REVISION

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

**BETHEL AIRPORT**  
**BETHEL, ALASKA**  
**WEST APRON IMPROVEMENTS**  
**PROJECT No. CFAPT00859**  
**AIP No. 3-02-0029-00X-20XX**  
**FENCE AND GATE PLANS**

DATE:  
 12/19/2025  
 SHEET:  
**30 OF 48**

Date Recvied: 12/19/2025, 2:16 PM  
 Layout Name: 4-10  
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 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



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**9101 VANGUARD DR.**  
**ANCHORAGE, AK 99507**  
**(907) 522-1707**  
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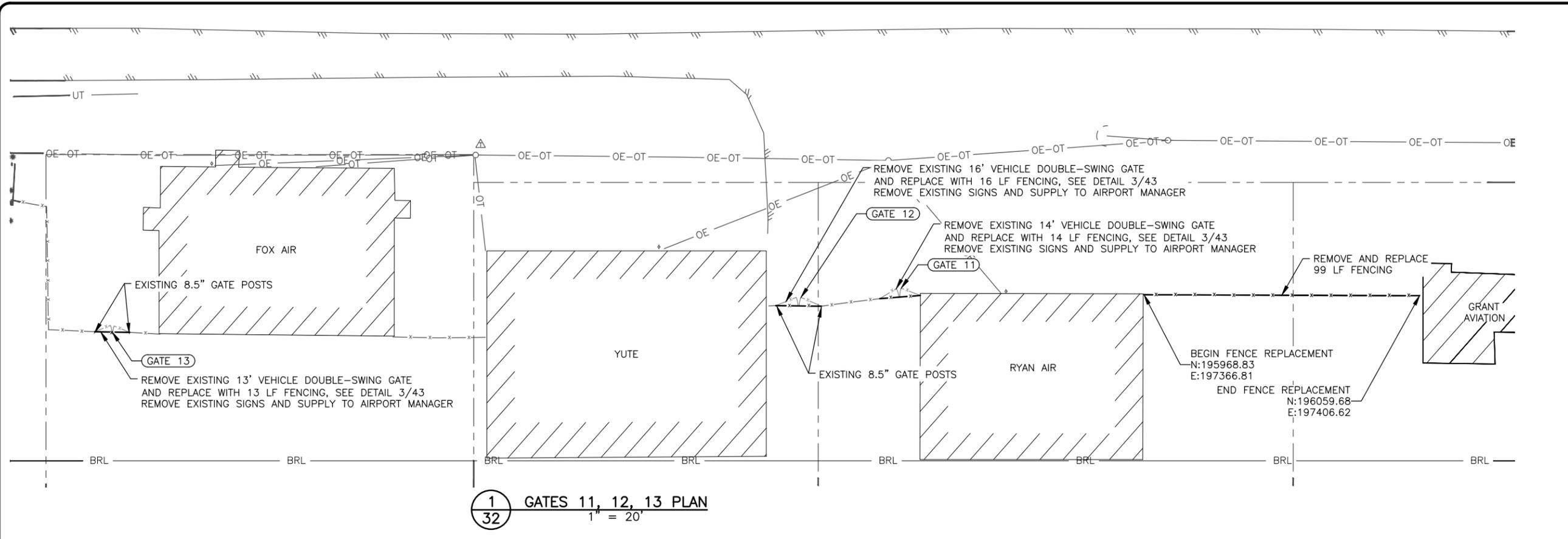
BY	DATE	REVISION

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

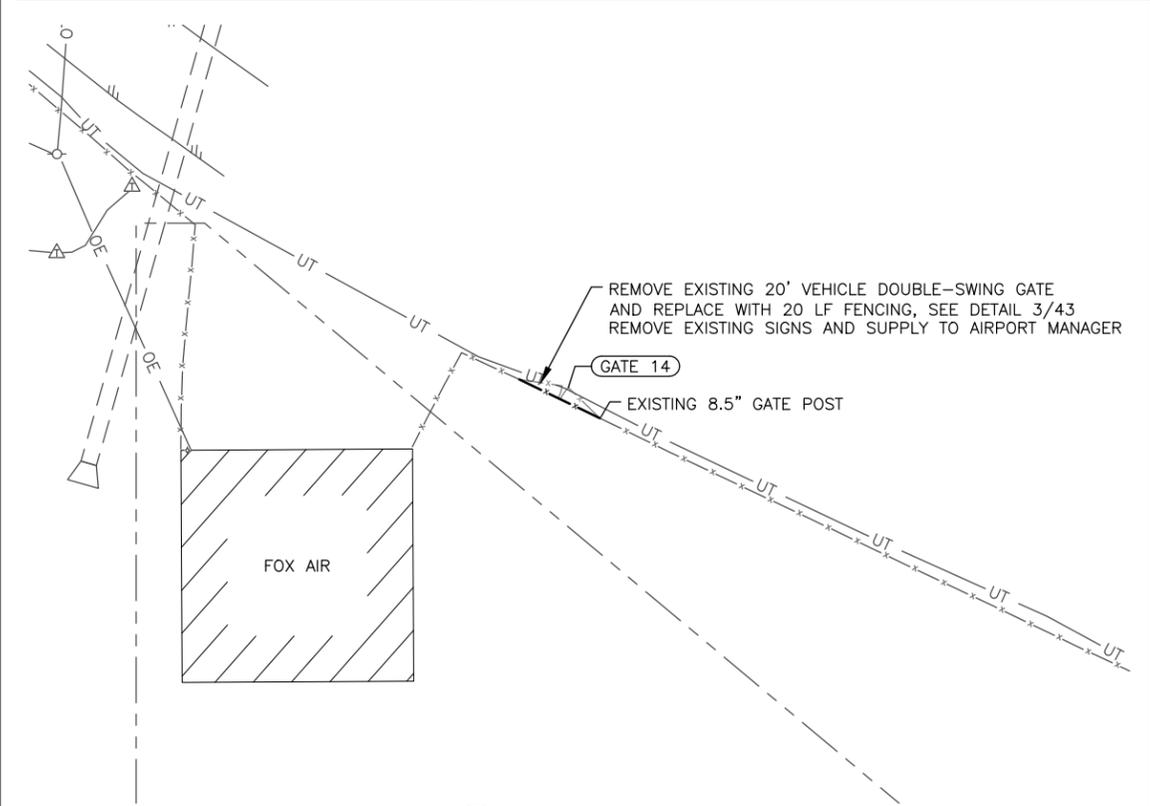
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**BETHEL, ALASKA**  
**WEST APRON IMPROVEMENTS**  
**PROJECT No. CFAPT00859**  
**AIP No. 3-02-0029-00X-20XX**  
**FENCE AND GATE PLANS**

DATE:  
 12/19/2025  
 SHEET:  
 31 OF 48

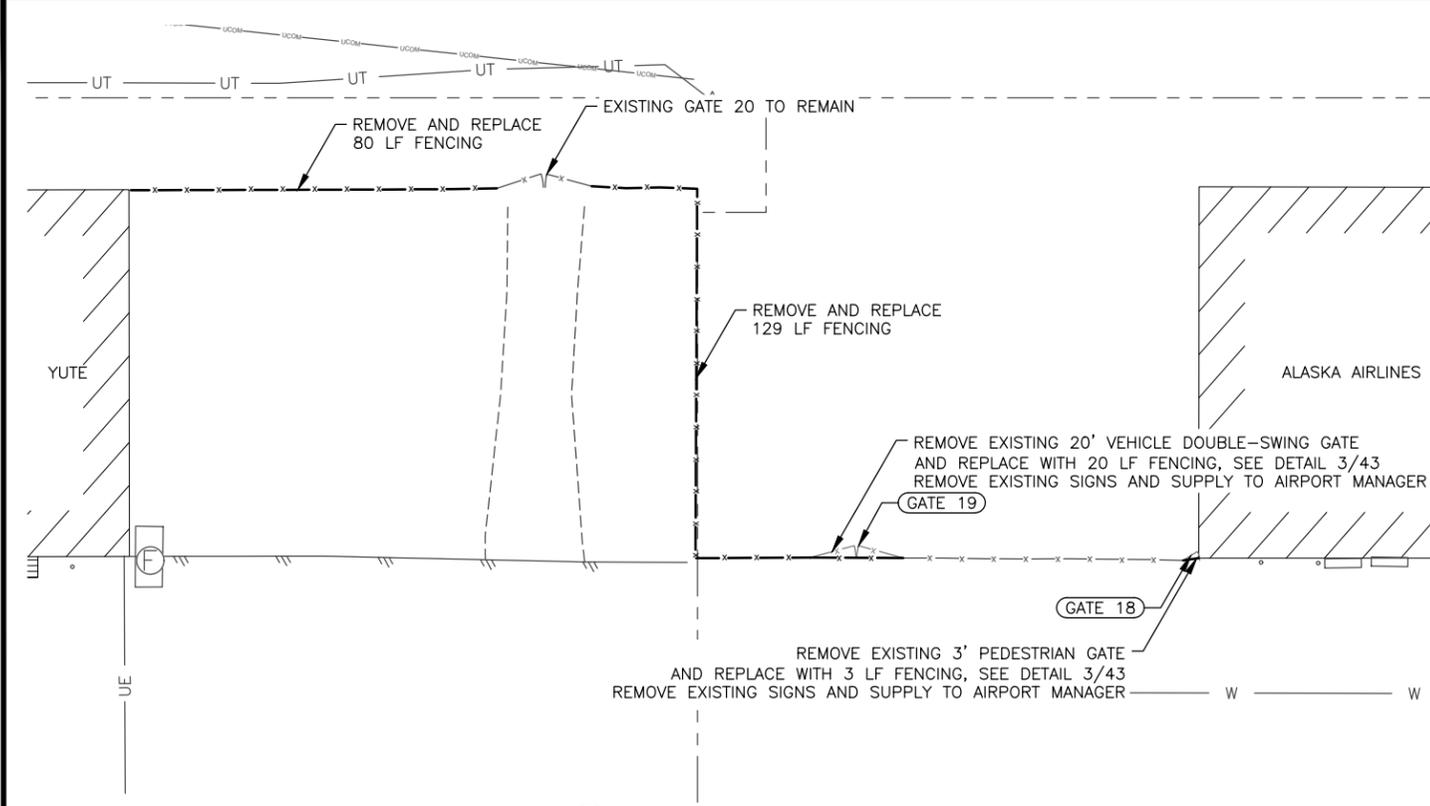
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 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



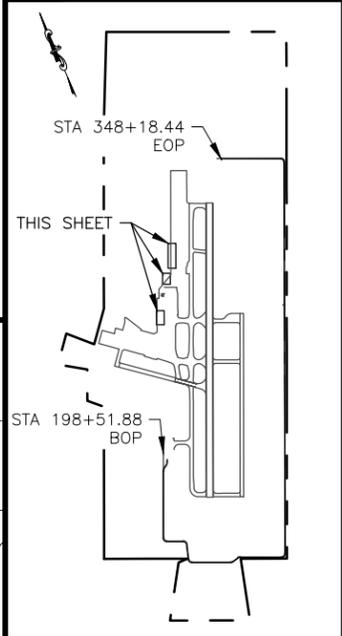
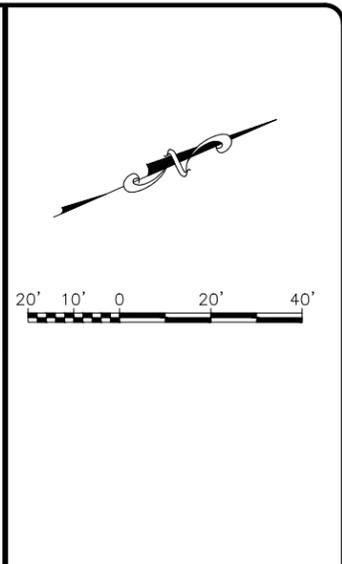
**1**  
**32** GATES 11, 12, 13 PLAN  
 1" = 20'



**2**  
**32** GATE 14 PLAN  
 1" = 20'



**3**  
**32** GATE 18 & 19 PLAN  
 1" = 20'



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 ANCHORAGE, AK 99507  
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 9101 VANGUARD DR.  
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**CERT. OF AUTH. NO. AECC111**

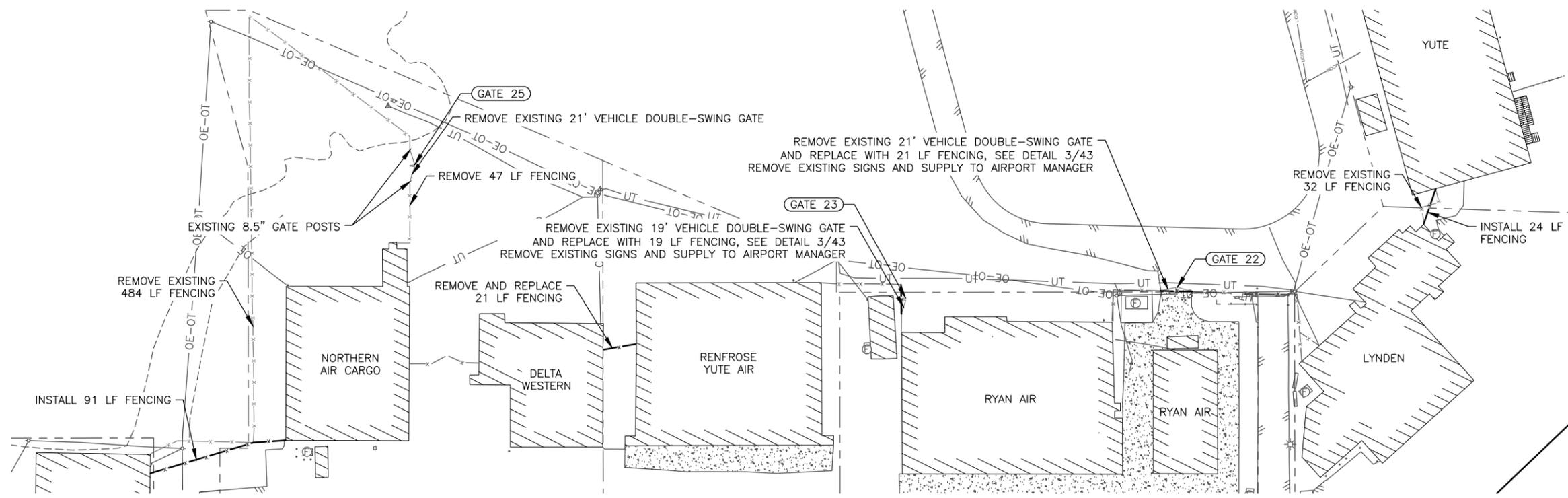
BY	DATE	REVISION

**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
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 PHONE (907) 269-0590

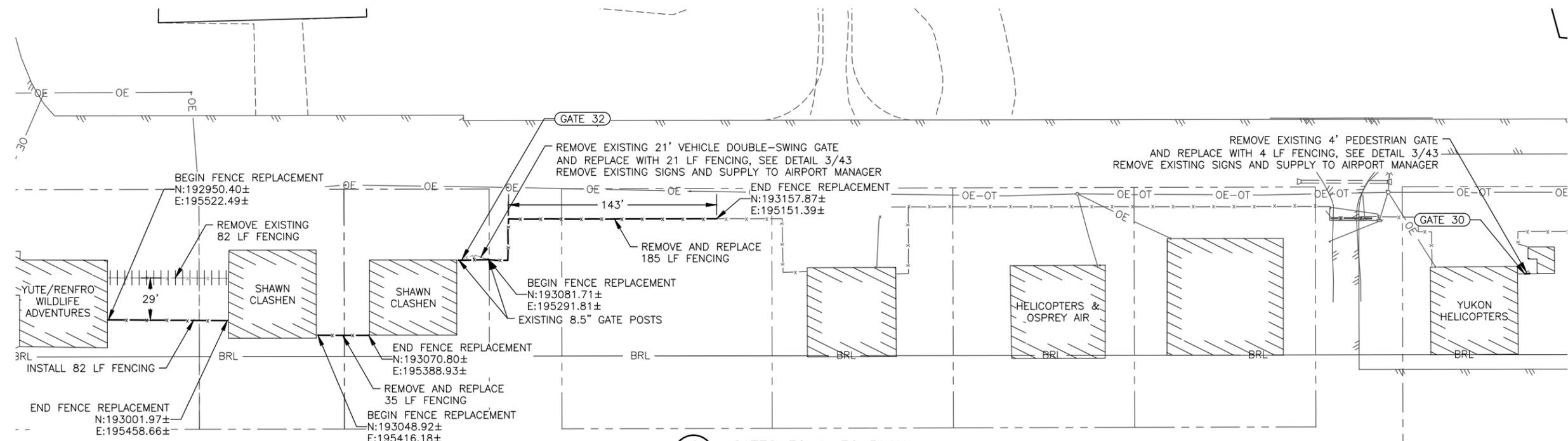
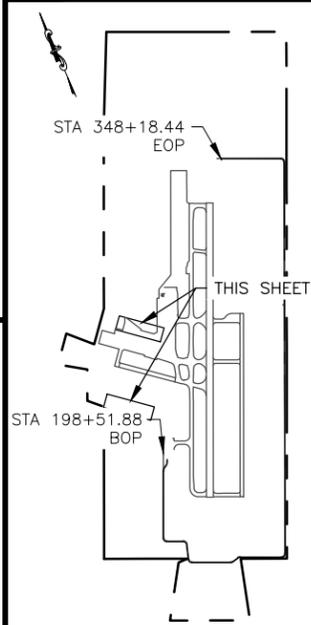
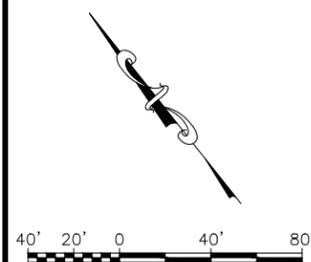
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 FENCE AND GATE PLANS

DATE:  
 12/19/2025  
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**32 OF 48**

Date Recvied: 12/19/2025, 2:17 PM  
 Layout Name: 22-32  
 File Path and Name: Z:\project\2968.01 dot\_c Bethel Airport West Apron Improvements\CAD\00859-BET-Fence And Gate Plans.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



**1**  
**33** GATE 22, 23, 25 PLAN  
 1" = 40'



**1**  
**33** GATES 30 & 32 PLAN  
 1" = 40'



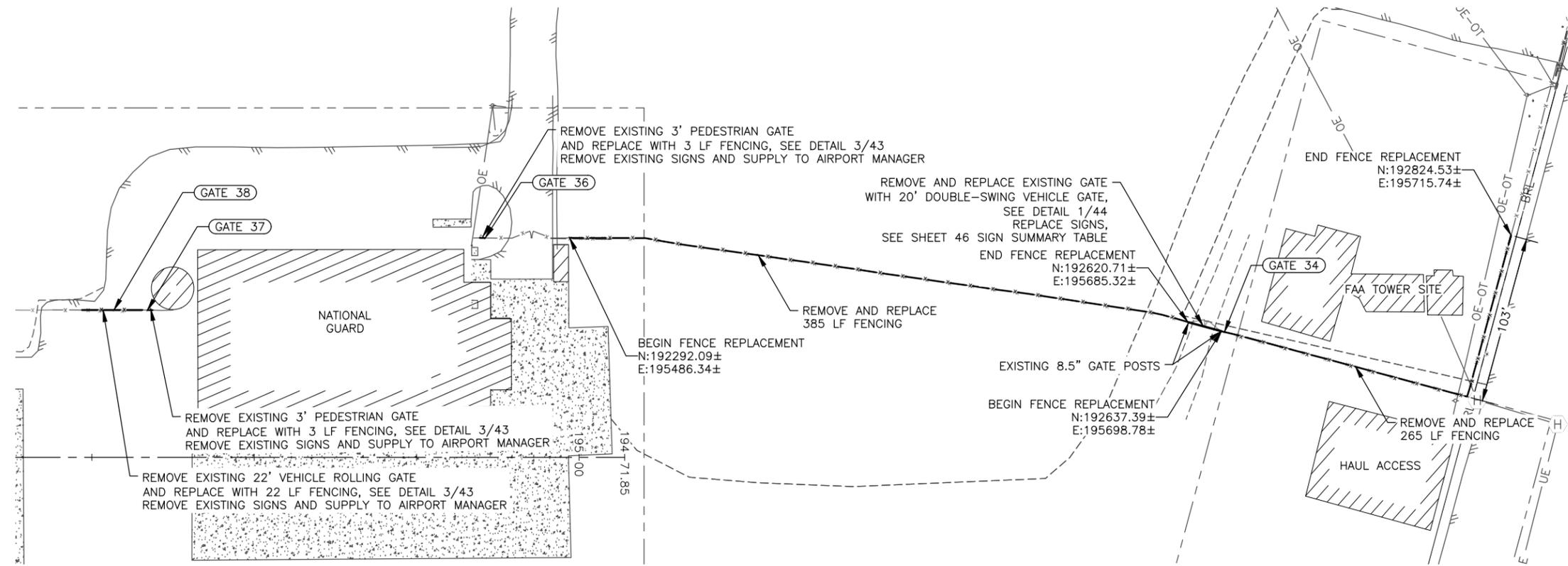
<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> <b>9101 VANGUARD DR.</b> <b>ANCHORAGE, AK 99507</b> <b>(907) 522-1707</b> <b>CERT. OF AUTH. NO. AECC111</b>		
BY	DATE	REVISION

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

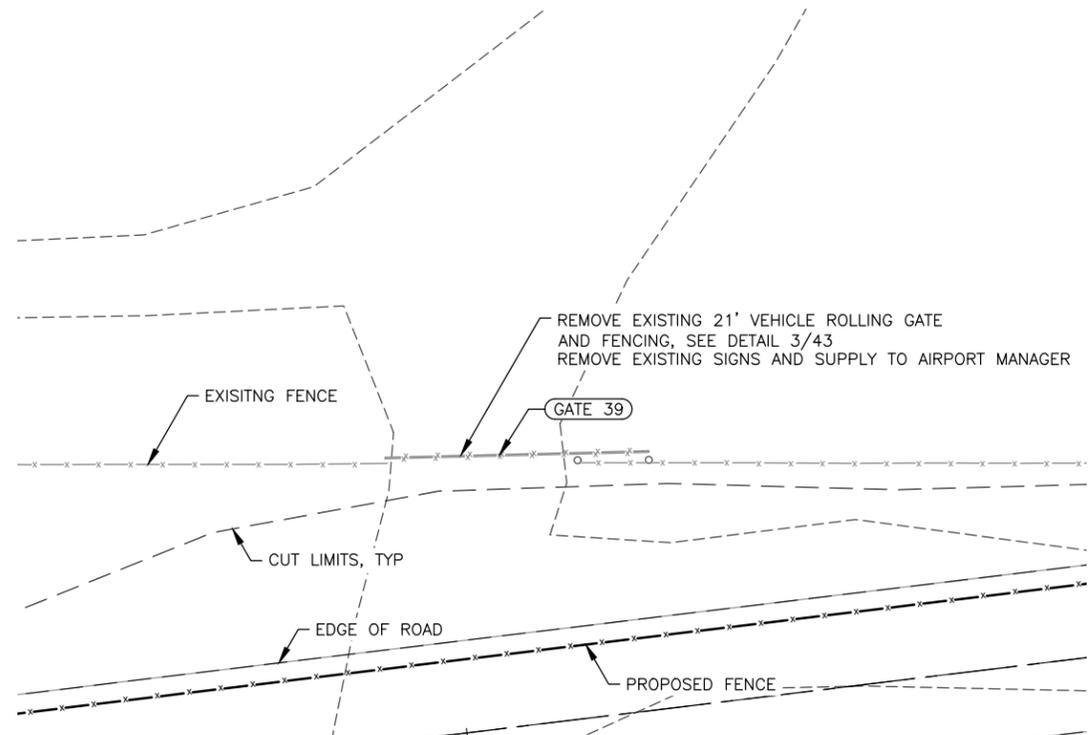
**BETHEL AIRPORT**  
**BETHEL, ALASKA**  
**WEST APRON IMPROVEMENTS**  
**PROJECT No. CFAPT00859**  
**AIP No. 3-02-0029-00X-20XX**  
**FENCE AND GATE PLANS**

DATE:  
 12/19/2025  
 SHEET:  
**33 OF 48**

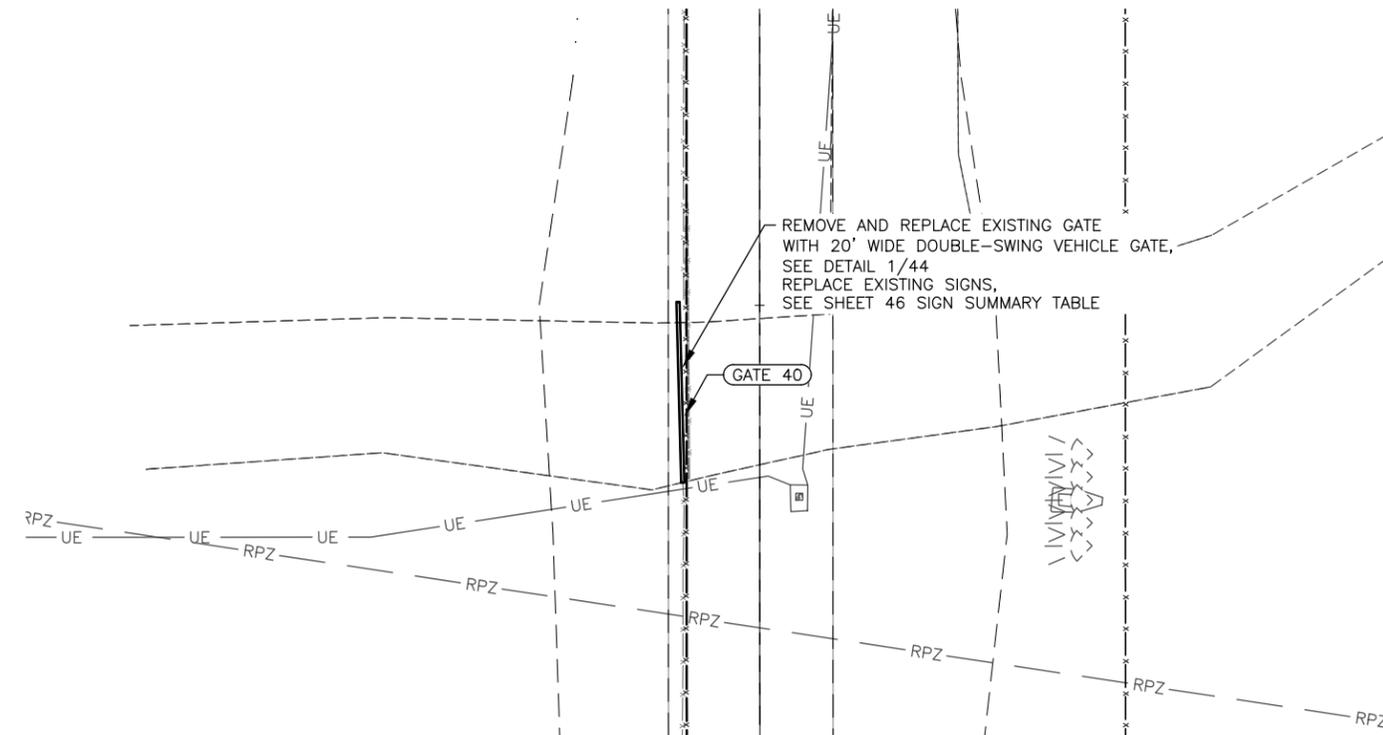
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 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



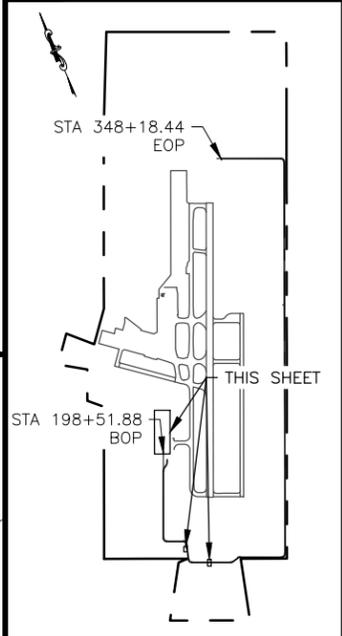
**1**  
**34** GATE 34, 36, 37, 38 PLAN  
 1" = 40'



**2**  
**34** GATE 39 PLAN  
 1" = 10'



**3**  
**34** GATE 40 PLAN  
 1" = 10'



**PLANS DEVELOPED BY:**  
**R&M CONSULTANTS, INC.**  
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 (907) 522-1707  
**CERT. OF AUTH. NO. AECC111**



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 ANCHORAGE, AK 99507  
 (907) 522-1707  
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**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 FENCE AND GATE PLANS

DATE:  
 12/19/2025  
 SHEET:  
**34 OF 48**

Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

Date Reviset: 12/19/2025, 2:16 PM  
 Layout Name: M1  
 File Path and Name: Z:\project\2968.01 dot\_c Bethel Airport West Apron Improvements\Civil\CAD\00859-BET-Marking Plan.dwg

- NOTES:**
- ENSURE ALL MARKINGS CONFORM TO FAA AC 150/5340-1M AND FAA AC 150/5300-13B.
  - ALL CENTERLINE MARKINGS ARE MEASURED TO THE CENTER OF THE STRIPE AND ALL EDGE MARKINGS ARE TO THE OUTSIDE EDGE OF THE OUTER MOST STRIPE.
  - STATIONS AND OFFSETS REFERENCE TAXIWAY G ALIGNMENT.

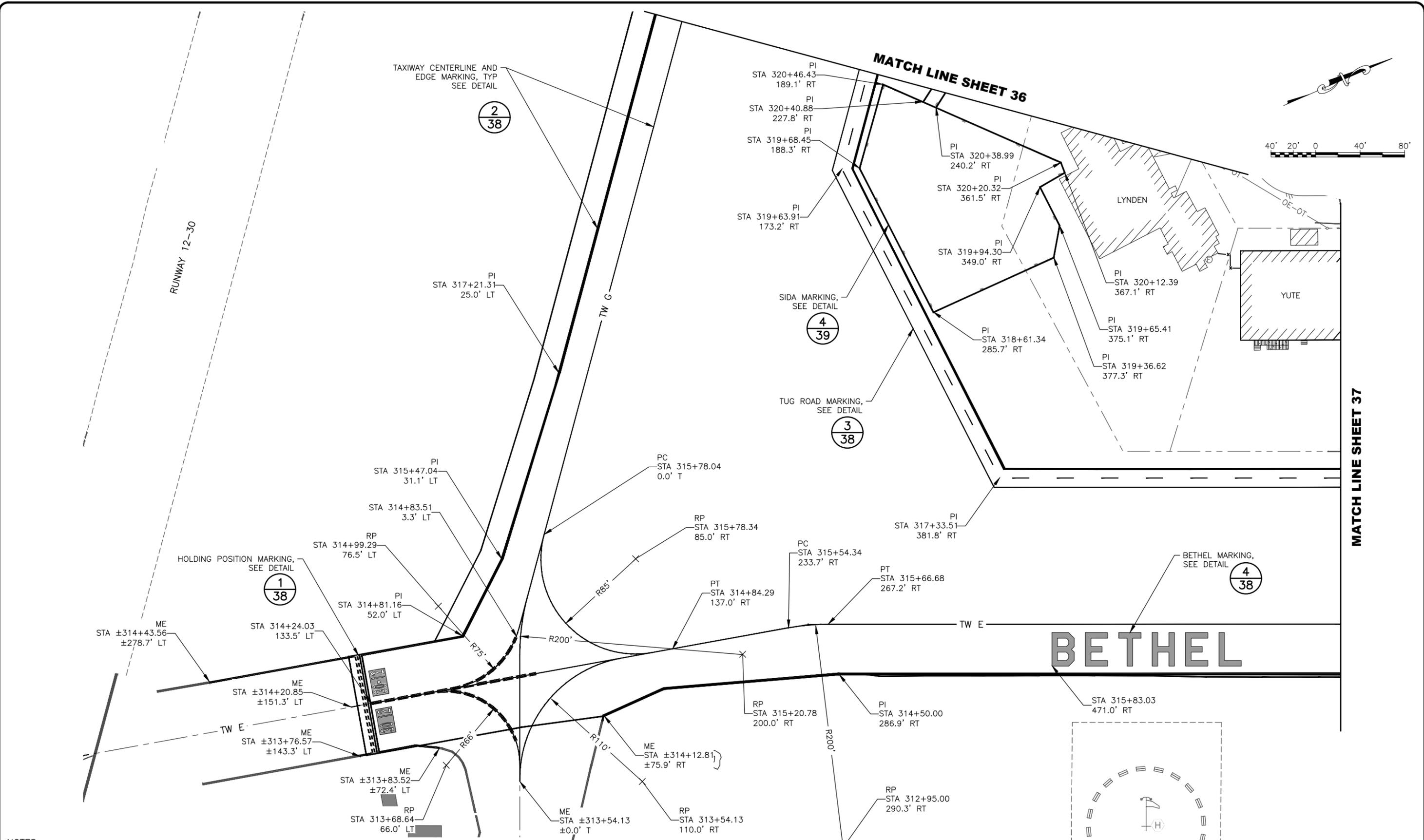


<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111			BY	DATE	REVISION

**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 WEST AND MAIN APRON MARKING PLAN

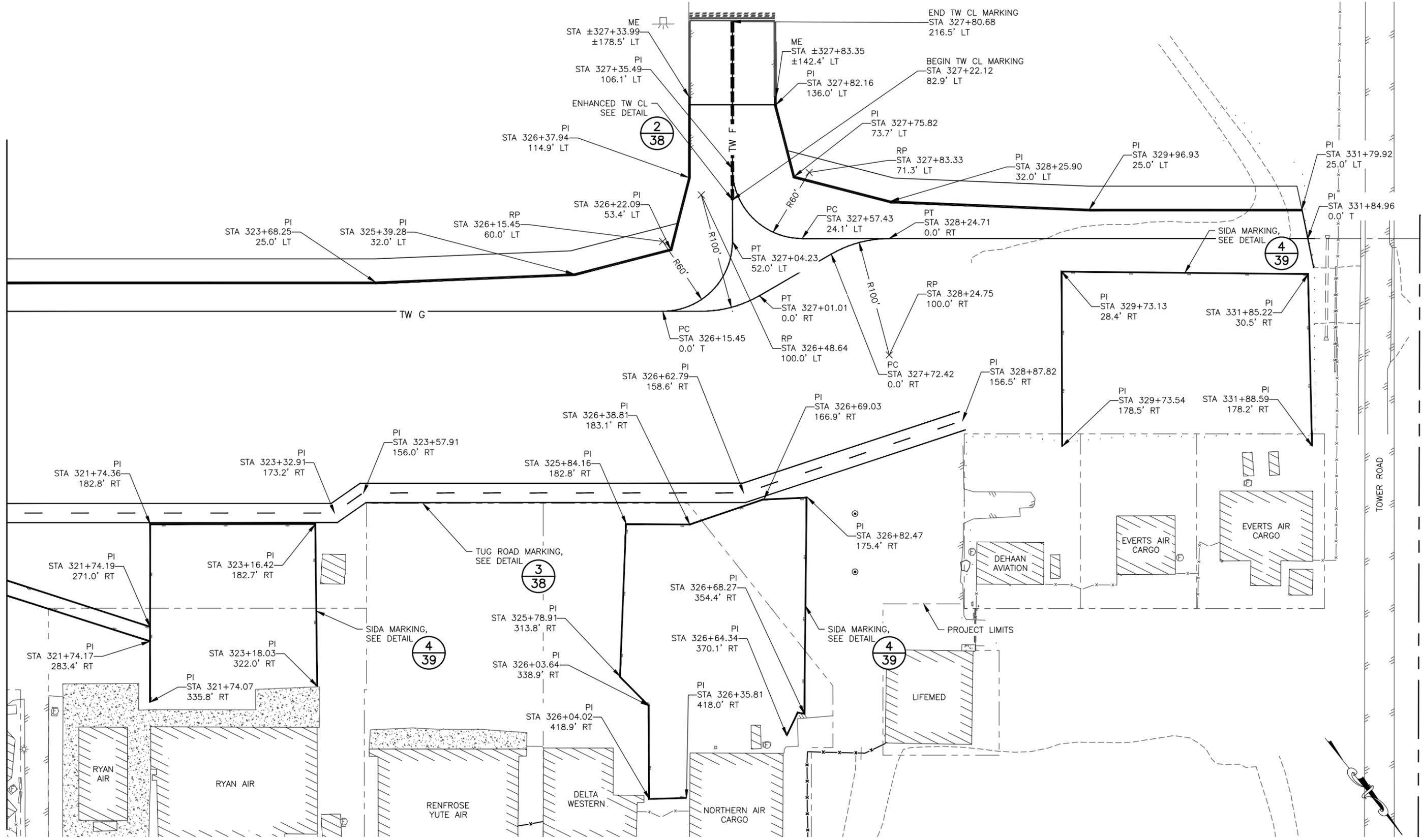
DATE:  
12/19/2025  
 SHEET:  
35 OF 48



MATCH LINE SHEET 37

Date Received: 12/19/2025, 2:16 PM  
 Layout Name: M2  
 File Path and Name: Z:\project\2968.01 Dot\_L Bethel Airport West Apron Improvements\Civil\CAD\00859-BET-Marking Plan.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

**MATCH LINE SHEET 35**



- NOTES:**
- ENSURE ALL MARKINGS CONFORM TO FAA AC 150/5340-1M AND FAA AC 150/5300-13B.
  - ALL CENTERLINE MARKINGS ARE MEASURED TO THE CENTER OF THE STRIPE AND ALL EDGE MARKINGS ARE TO THE OUTSIDE EDGE OF THE OUTER MOST STRIPE.
  - STATIONS AND OFFSETS REFERENCE TAXIWAY G ALIGNMENT.



PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

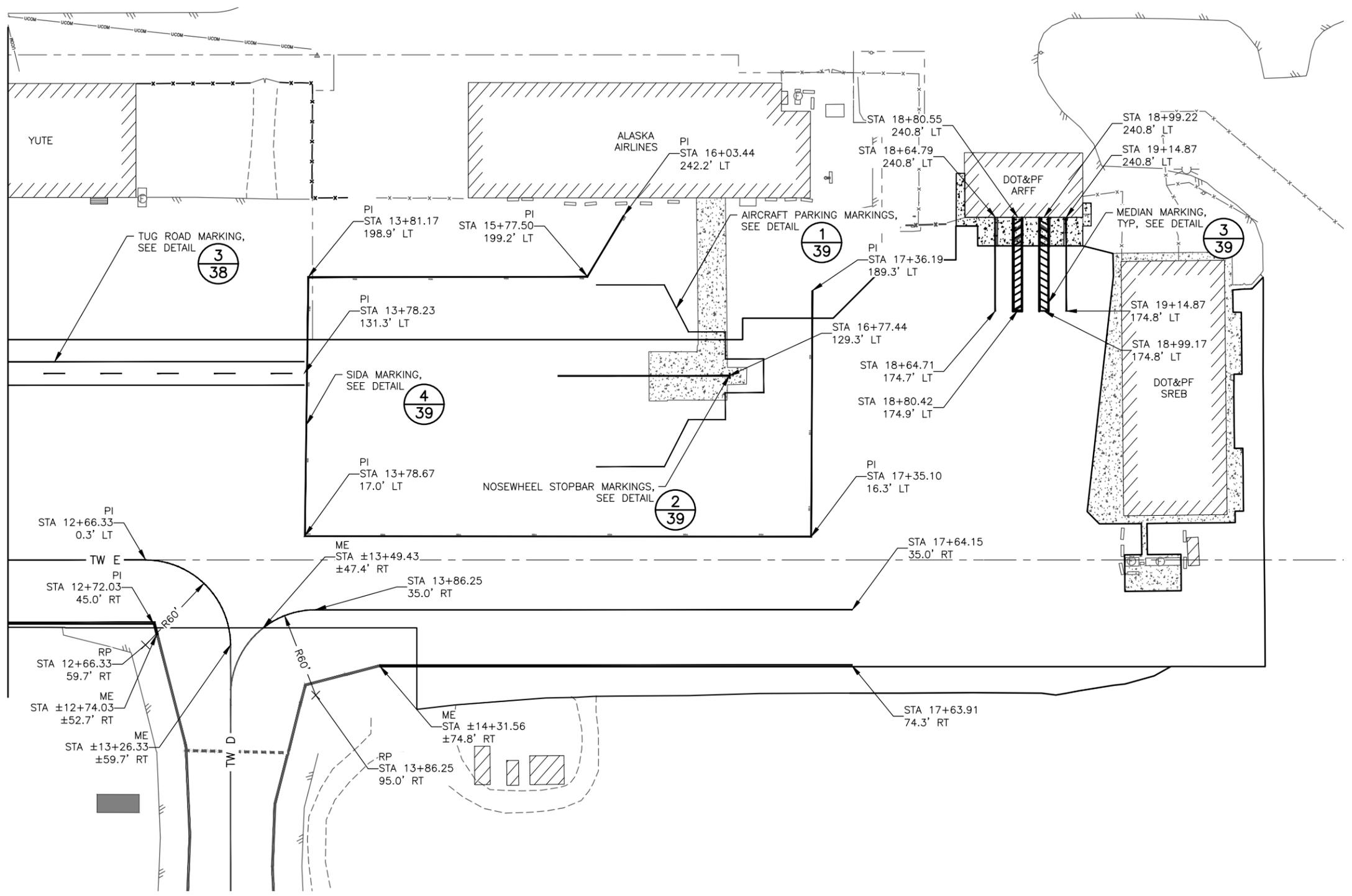
**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
 PHONE (907) 269-0590

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAP00859  
 AIP No. 3-02-0029-00X-20XX  
 WEST APRON MARKING PLAN

DATE: 12/19/2025  
 SHEET: 36 OF 48

Date Recvied: 12/19/2025, 2:16 PM  
 Layout Name: M3  
 File Path and Name: Z:\project\2968.01 Dot\_L Bethel Airport West Apron Improvements\Civil\CAD\00859-BET-Marking Plan.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

MATCH LINE SHEET 35



- NOTES:**
- ENSURE ALL MARKINGS CONFORM TO FAA AC 150/5340-1M AND FAA AC 150/5300-13B.
  - ALL CENTERLINE MARKINGS ARE MEASURED TO THE CENTER OF THE STRIPE AND ALL EDGE MARKINGS ARE TO THE OUTSIDE EDGE OF THE OUTER MOST STRIPE.
  - STATIONS AND OFFSETS REFERENCE TAXIWAY E ALIGNMENT.

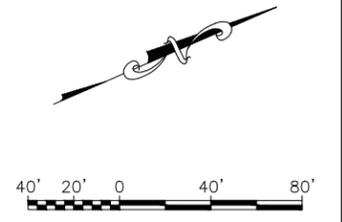


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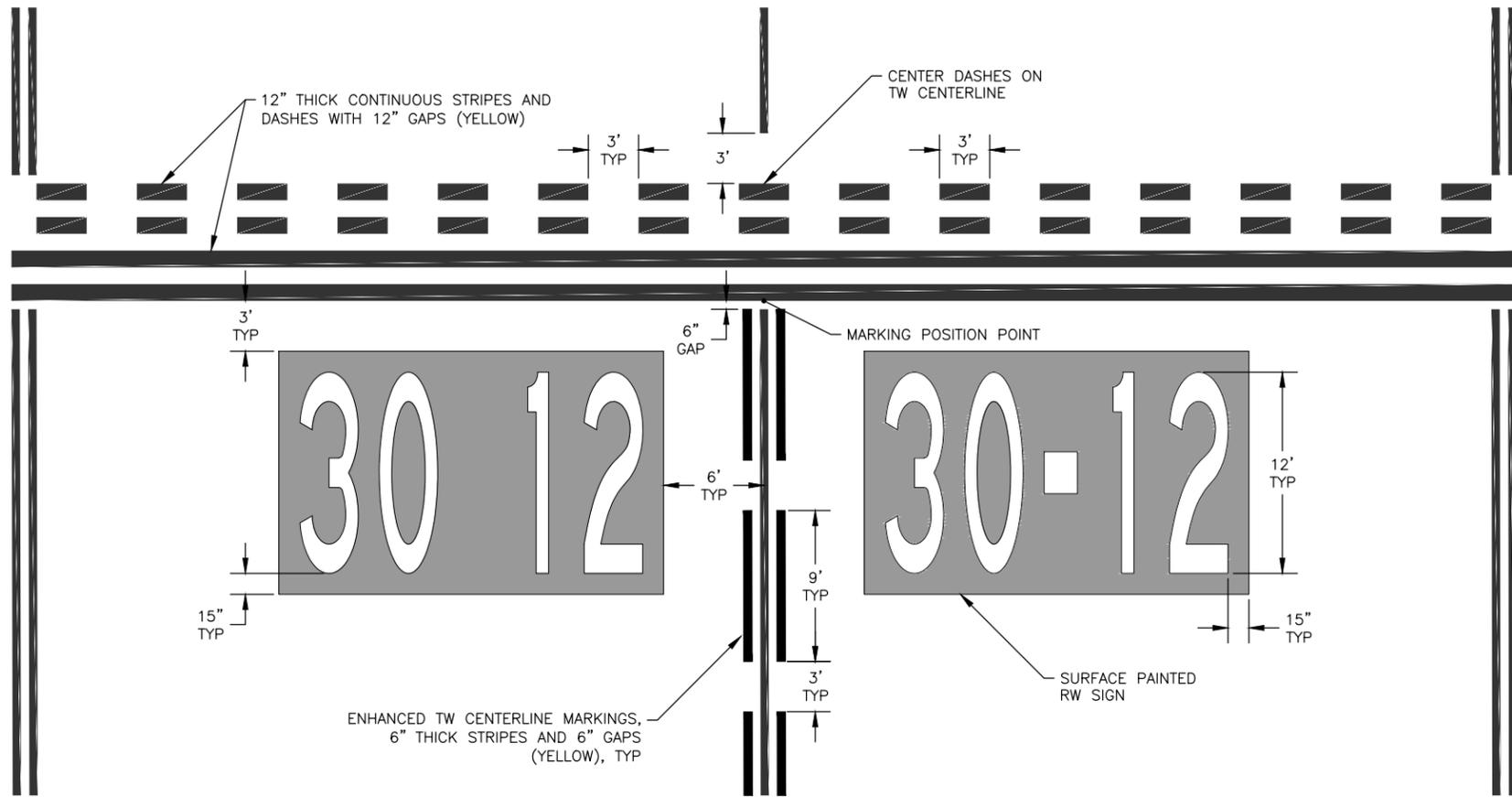
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**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 MAIN APRON MARKING PLAN

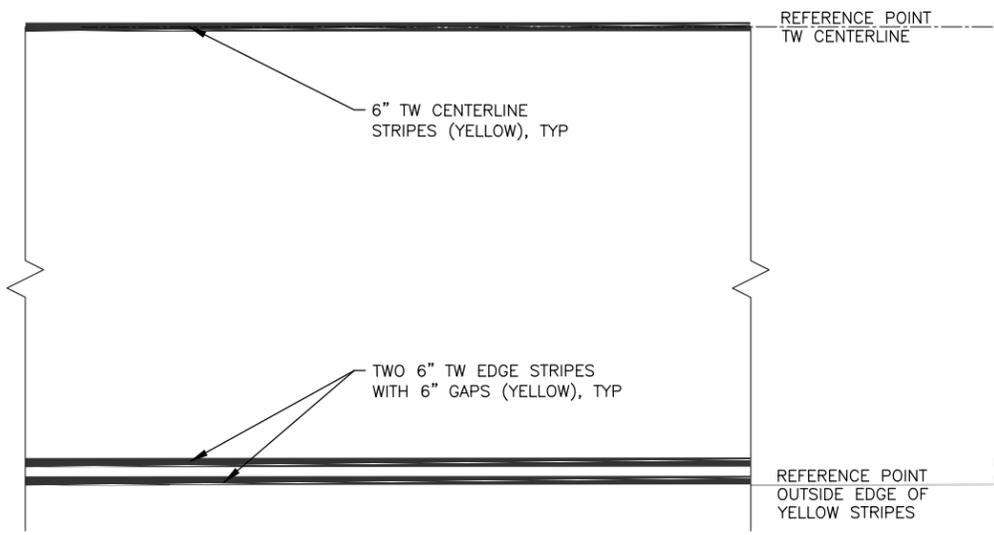
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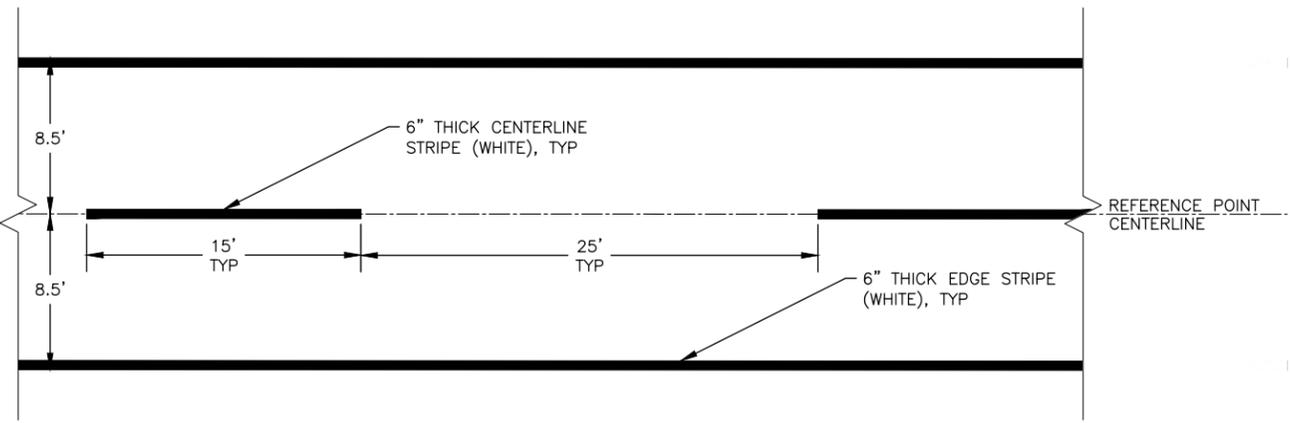
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 Checked By: CJB



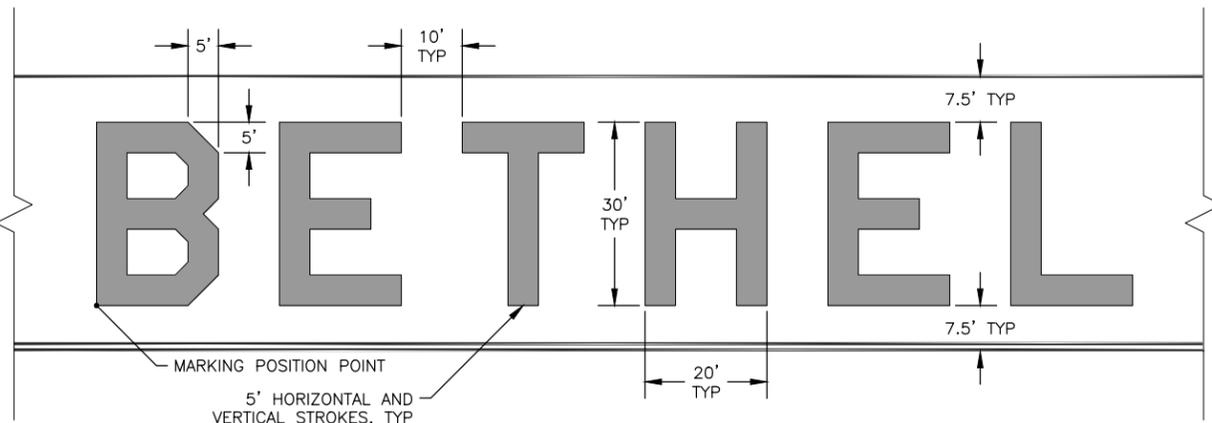
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**38** HOLDING POSITION MARKING DETAILS  
 NTS



**2**  
**38** TAXIWAY CENTERLINE AND EDGE MARKING DETAILS  
 NTS



**3**  
**38** TUG ROAD MARKING DETAILS  
 NTS



**4**  
**38** BETHEL MARKING DETAIL  
 NTS

- NOTES:
- FOR PAINTED TEXT, USE FAA STANDARD LETTERS AND NUMBERS IN AC 150/5340-1M.
  - ALL PERMANENT MARKINGS MUST CONTAIN GLASS BEADS.



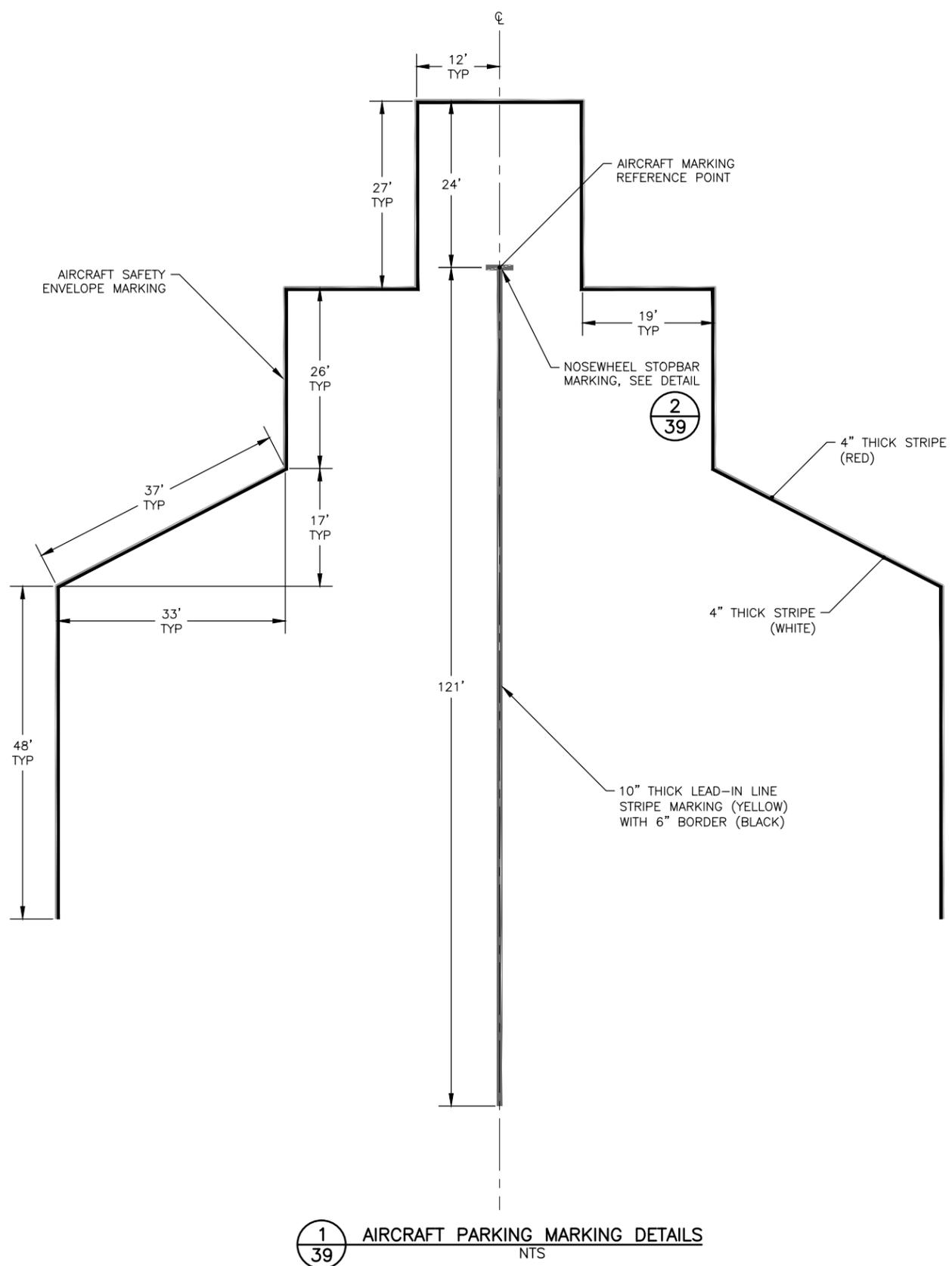
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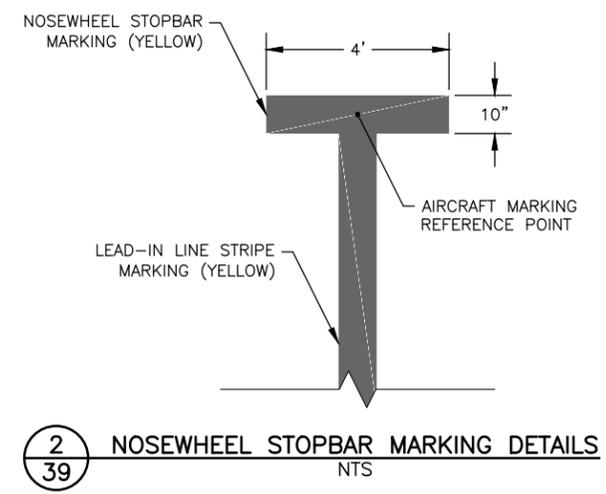
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 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 MARKING DETAILS

DATE:  
 12/19/2025  
 SHEET:  
**38** OF **48**

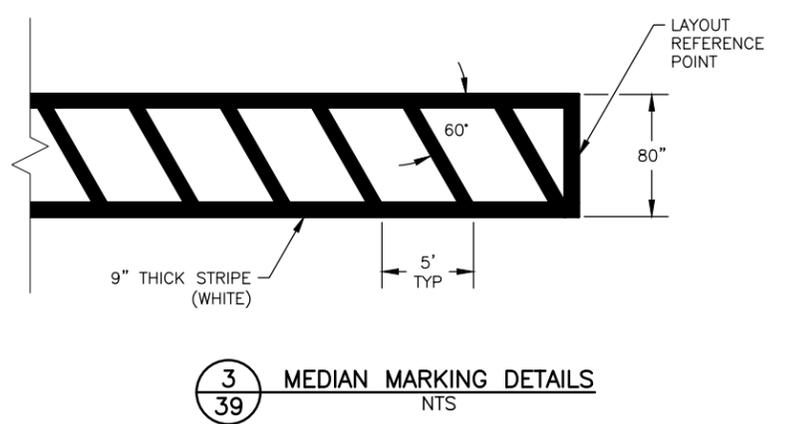
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 Checked By: CJB



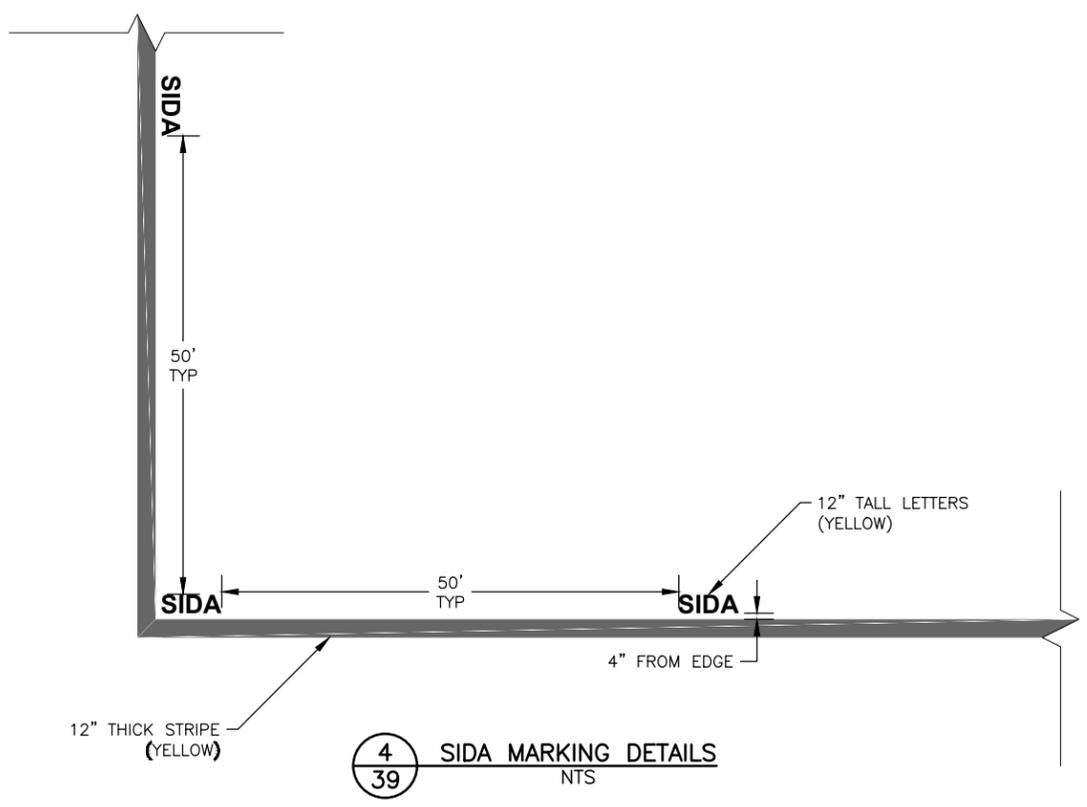
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**39** AIRCRAFT PARKING MARKING DETAILS  
NTS



**2**  
**39** NOSEWHEEL STOPBAR MARKING DETAILS  
NTS



**3**  
**39** MEDIAN MARKING DETAILS  
NTS



**4**  
**39** SIDA MARKING DETAILS  
NTS

- NOTES:**
- DIMENSIONS FOR AIRCRAFT SAFETY ENVELOPE REFERENCE THE INTERFACE BETWEEN THE INSIDE EDGE OF THE RED AND WHITE STRIPES.
  - DIMENSIONS AND COORDINATES FOR LEAD-IN LINE, STOPBAR, AND SIDA MARKINGS REFERENCE CENTER OF STRIPE.
  - FOR PAINTED TEXT, USE FAA STANDARD LETTERS AND NUMBERS IN AC 150/5340-1M.
  - ALL PERMANENT MARKINGS MUST CONTAIN GLASS BEADS.



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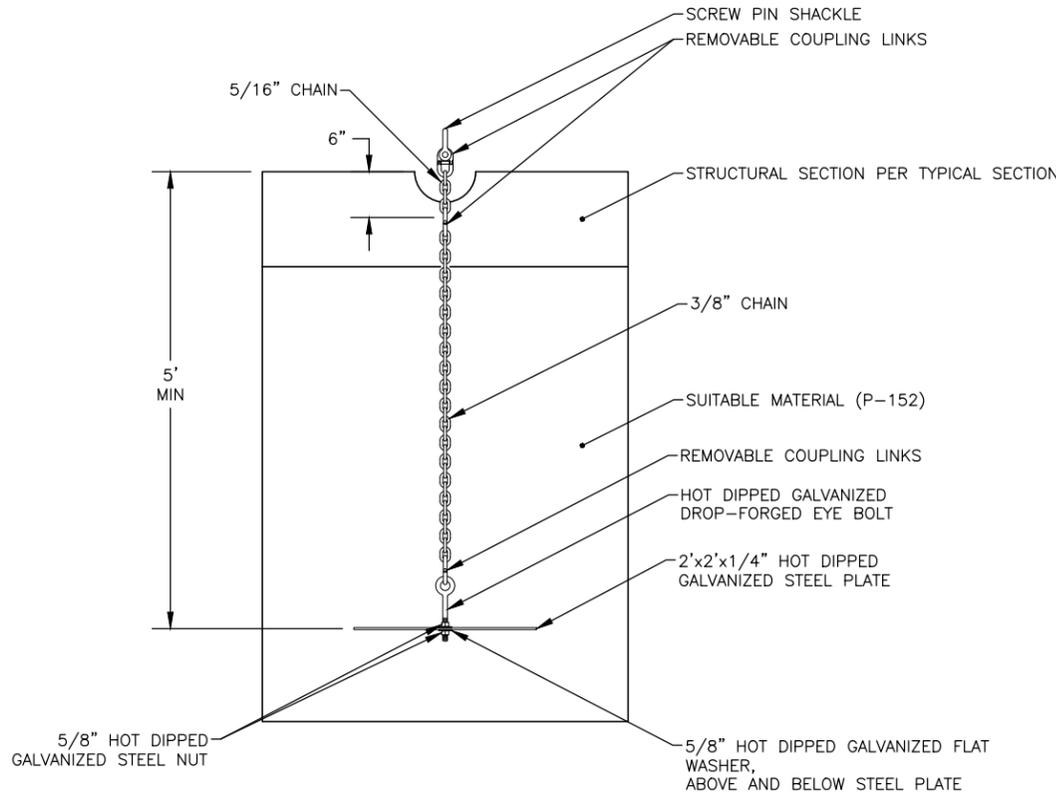
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 MARKING DETAILS

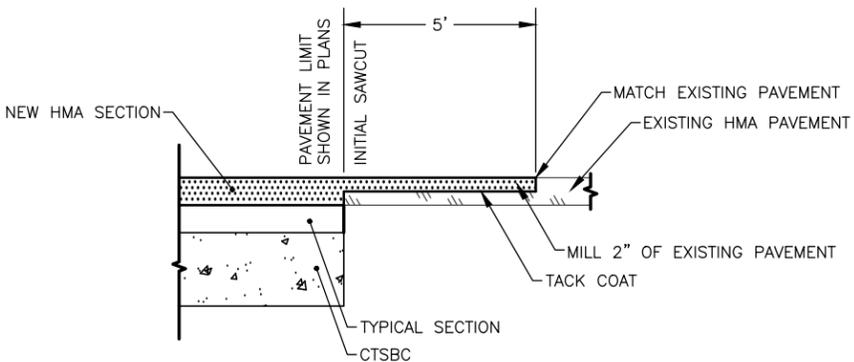
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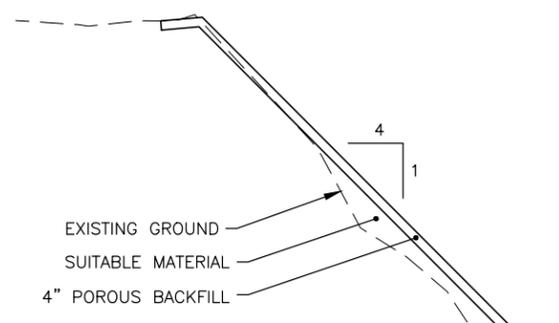
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 Checked By: CJB



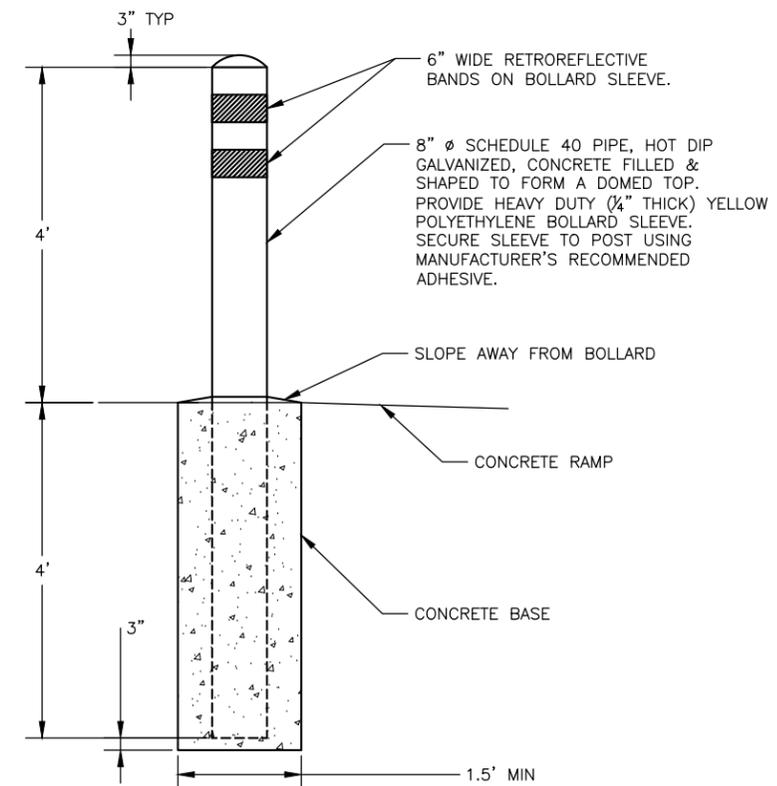
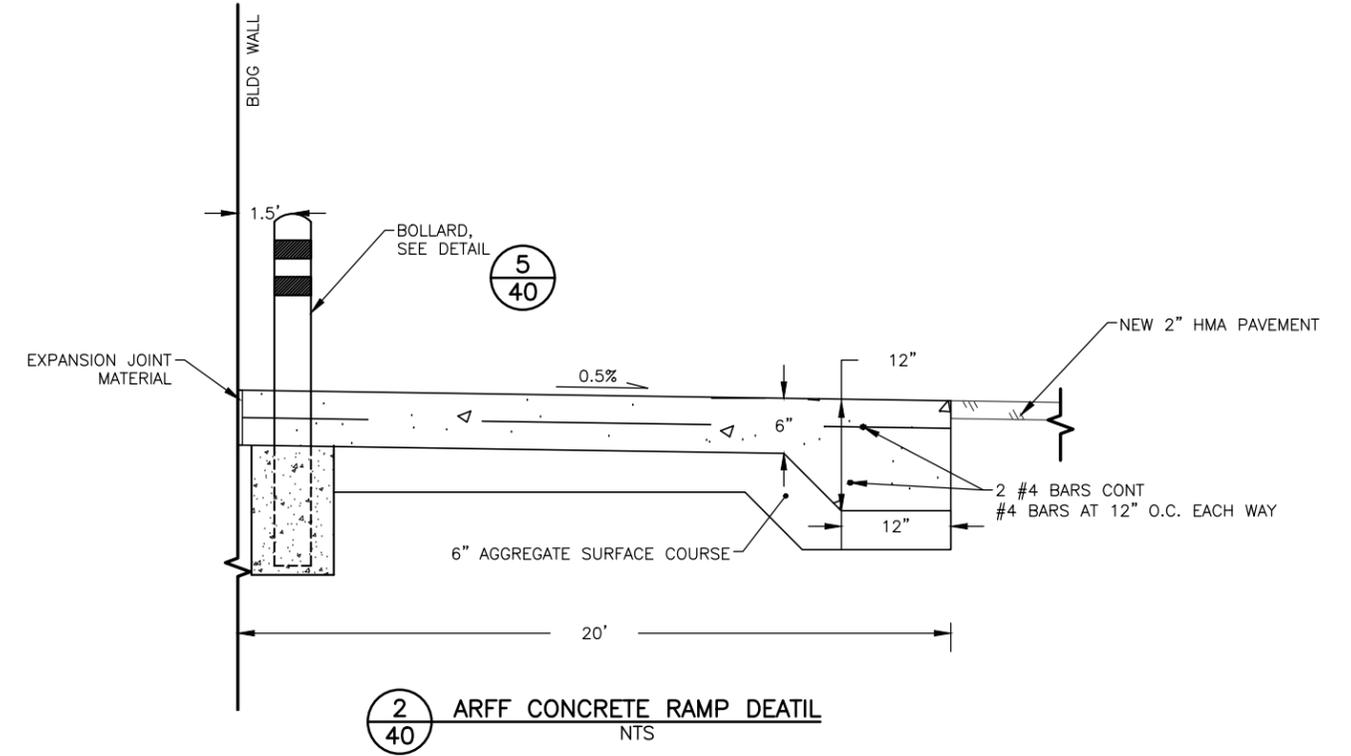
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40 AIRCRAFT ANCHOR TIE-DOWNS  
NTS



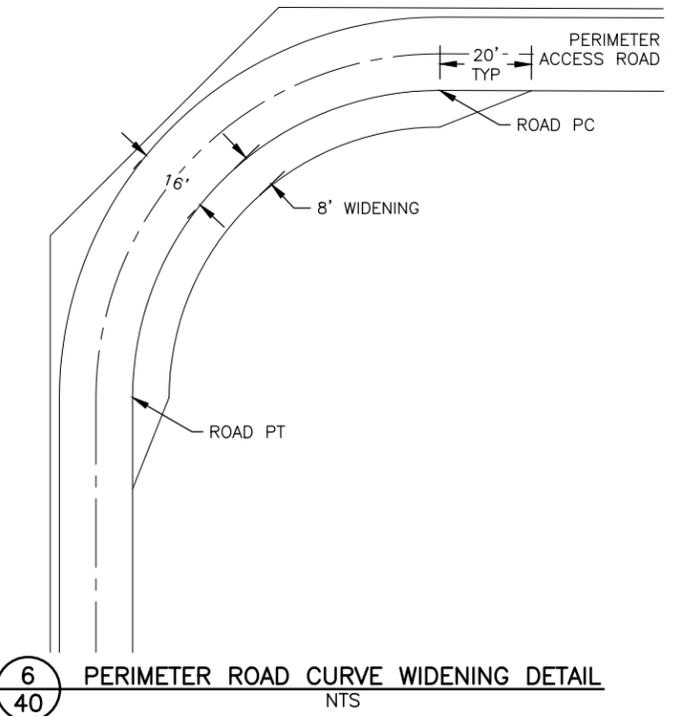
**3**  
40 PAVEMENT CUT-MATCH DETAIL  
NTS



**4**  
40 SLOPE STABILIZATION  
NTS



**5**  
40 BOLLARD DETAIL  
NTS



**6**  
40 PERIMETER ROAD CURVE WIDENING DETAIL  
NTS



PLANS DEVELOPED BY:  
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9101 VANGUARD DR.  
ANCHORAGE, AK 99507  
(907) 522-1707  
CERT. OF AUTH. NO. AECC111

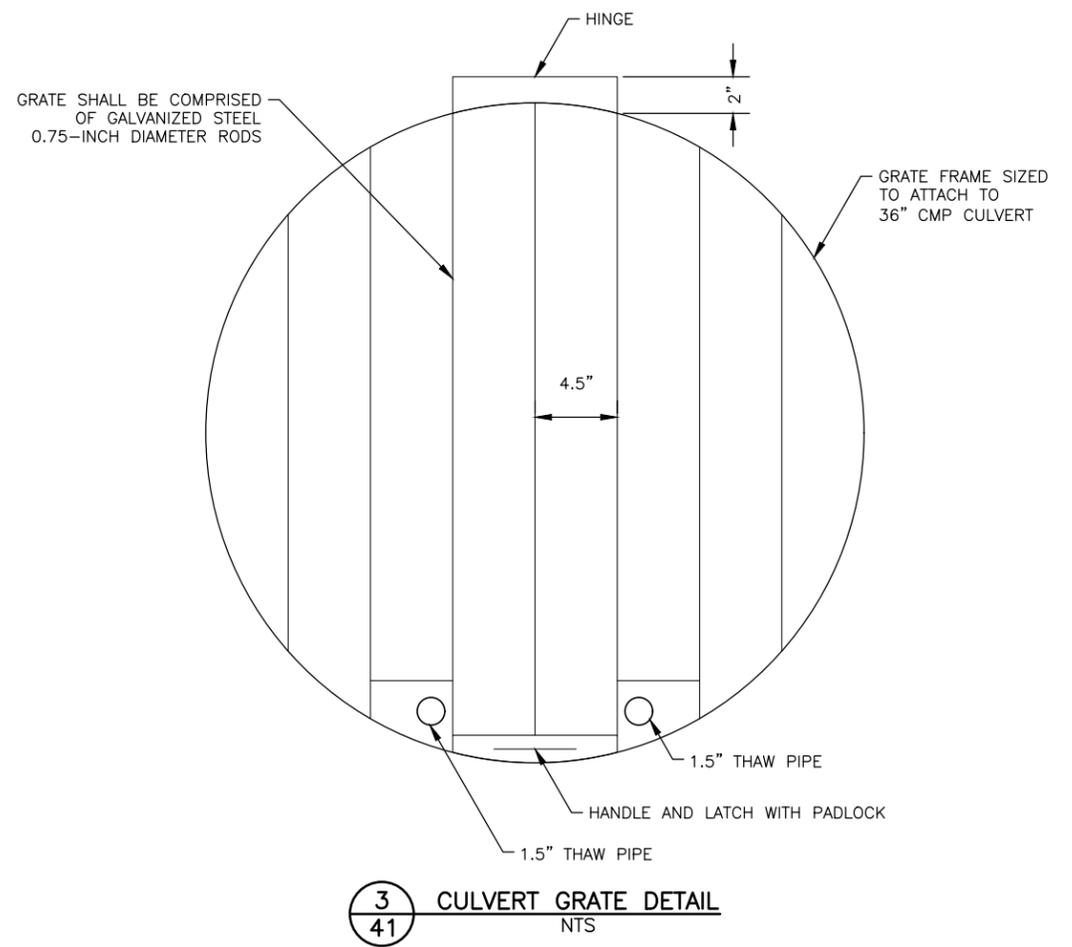
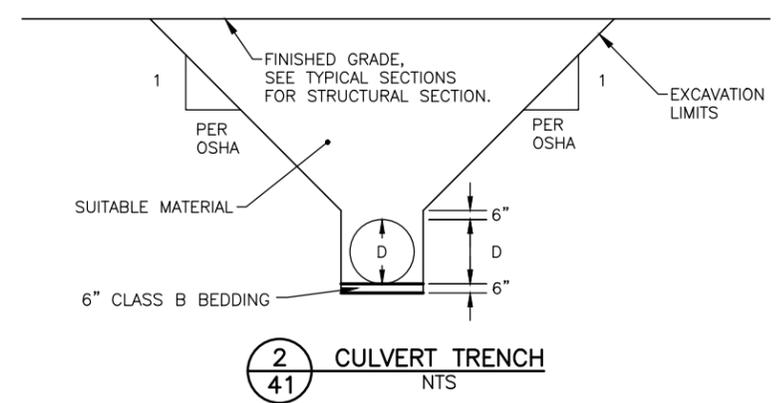
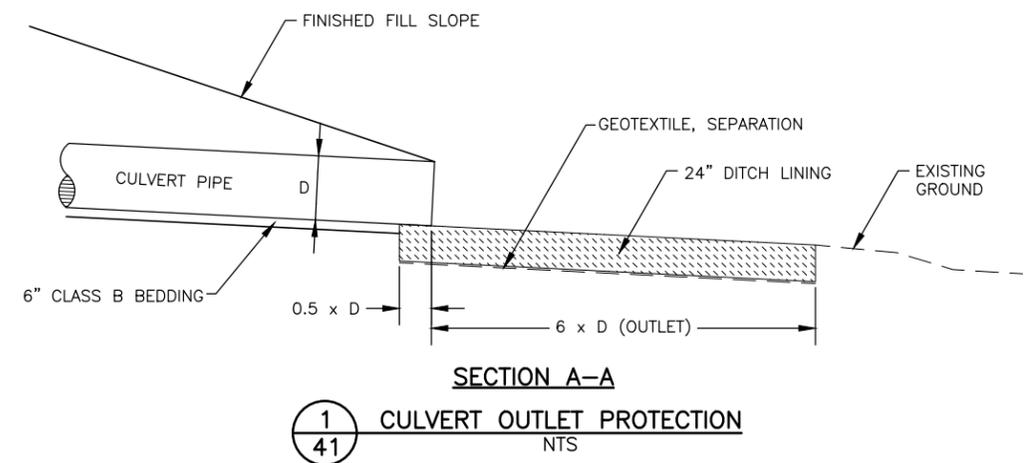
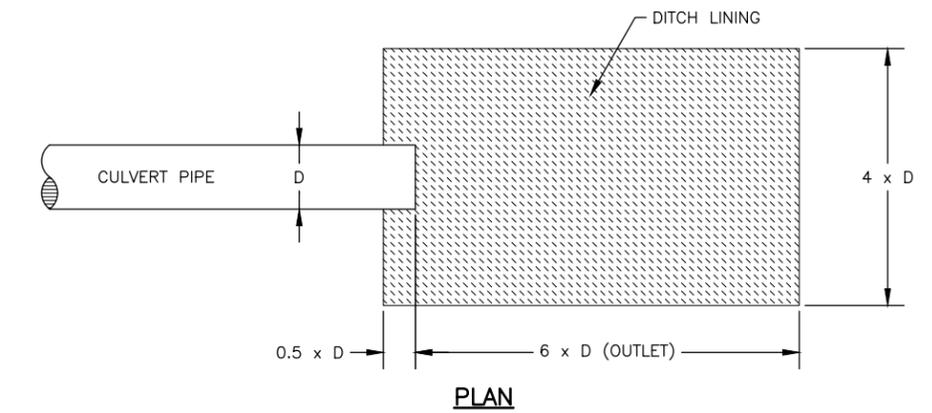
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 PHONE (907) 269-0590

BETHEL AIRPORT  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CIVIL DETAILS

DATE: 12/19/2025  
 SHEET: 40 OF 48

Date Recvied: 12/19/2025, 2:17 PM  
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 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



NOTES:  
 1. INSTALL GRATE ON ALL CULVERTS UNDER PREIMETER SERVICE ROAD/FENCE ON THE INSIDE AIRFIELD END.



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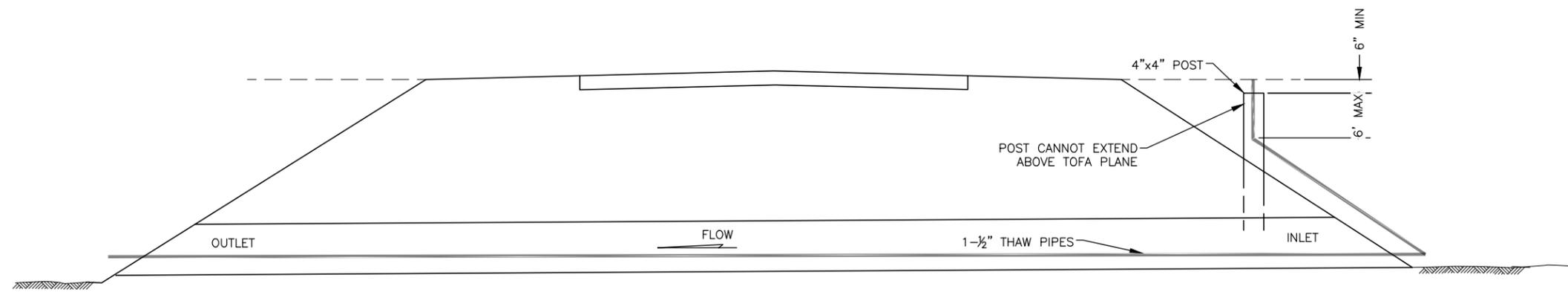
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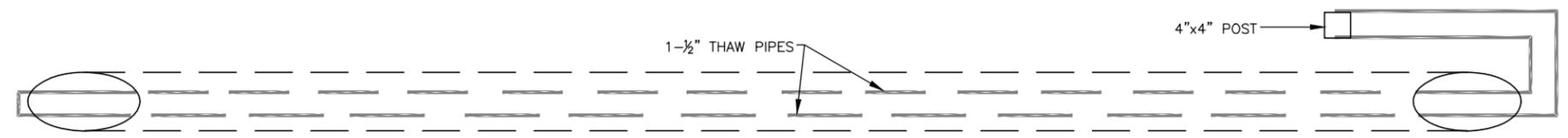
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CULVERT DETAILS

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 12/19/2025  
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 41 OF 48

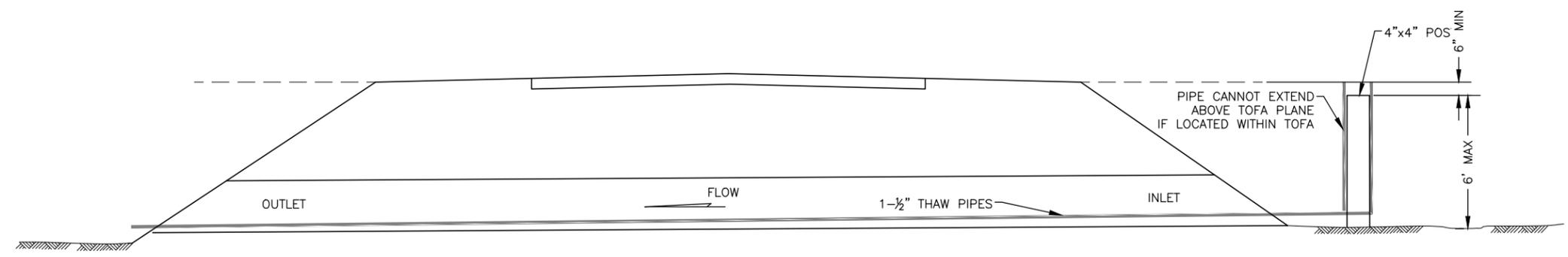
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 Drawn By: AA, AL, VN  
 Checked By: CJB



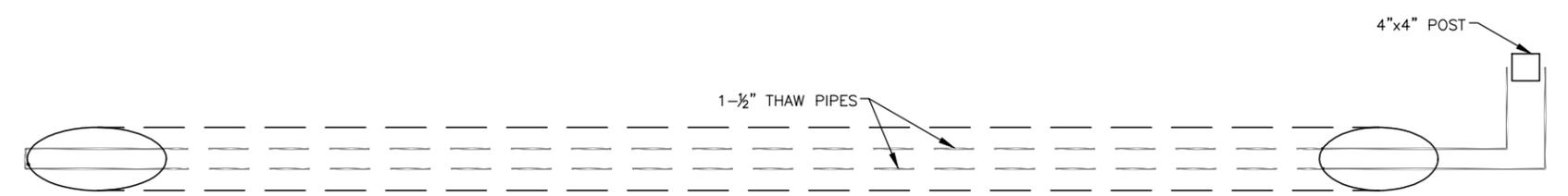
**CROSS-SECTION**



**PLAN VIEW**



**CROSS-SECTION**



**PLAN VIEW**

- GENERAL NOTES:**
- 1-1/2" MAIN LINE AND STANDPIPES TO BE LIQUID TIGHT AND FILLED WITH 50-50 ANTIFREEZE.
  - STANDPIPE SUPPORT POSTS TO BE INSTALLED NOT MORE THAN 6'-0" BELOW SHOULDER.
  - THAW PIPES TO BE ATTACHED TO CULVERT AT INLET AND OUTLET ENDS AND TO POST.



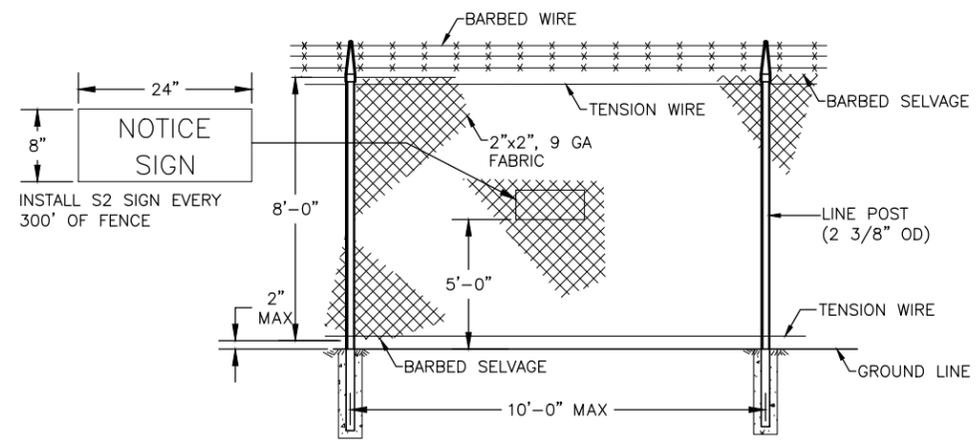
<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> <b>9101 VANGUARD DR.</b> <b>ANCHORAGE, AK 99507</b> <b>(907) 522-1707</b> <b>CERT. OF AUTH. NO. AECC111</b>			BY DATE REVISION

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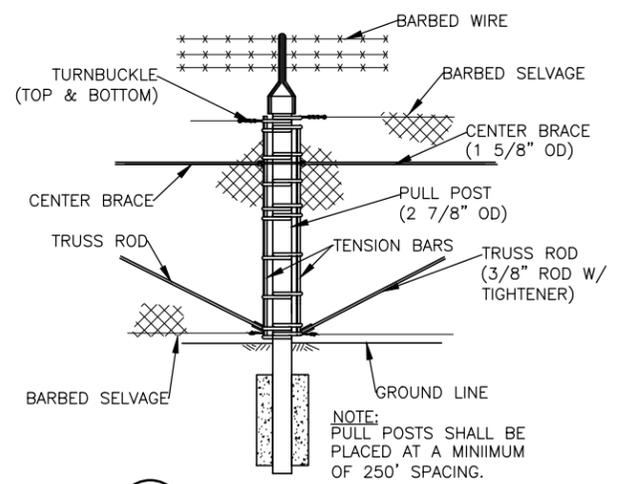
**BETHEL AIRPORT**  
**BETHEL, ALASKA**  
 WEST APRON IMPROVEMENTS  
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 AIP No. 3-02-0029-00X-20XX  
 THAW PIPE DETAILS

DATE: 12/19/2025  
 SHEET: 42 OF 48

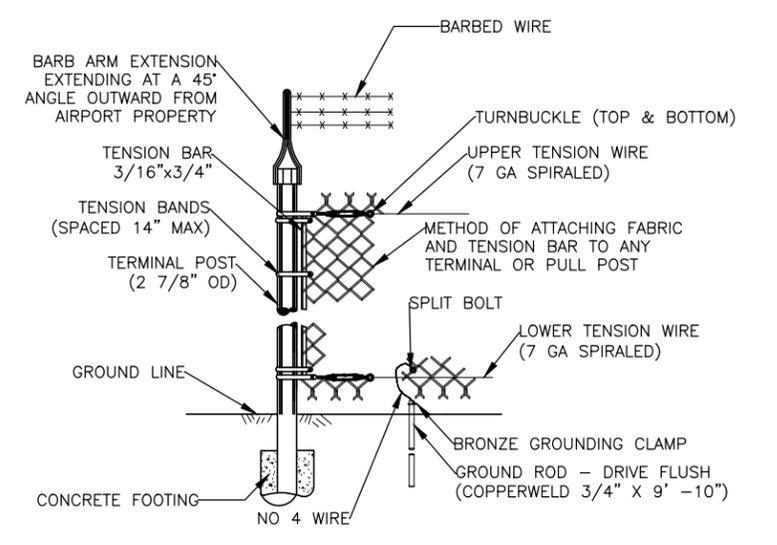
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 Drawn By: AA, AL, VN  
 Checked By: CJB



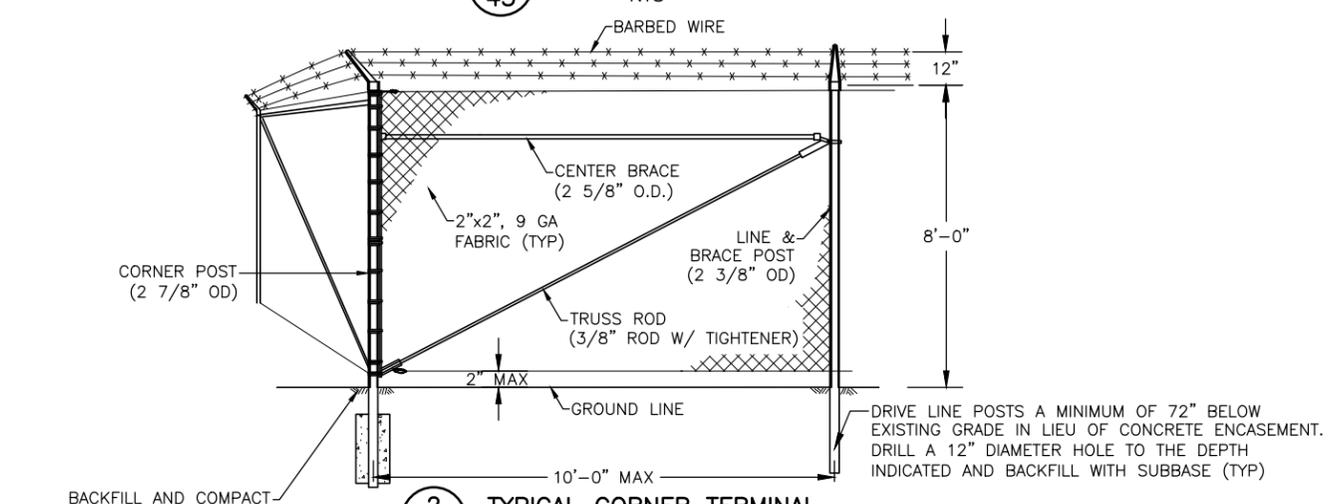
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43 NTS



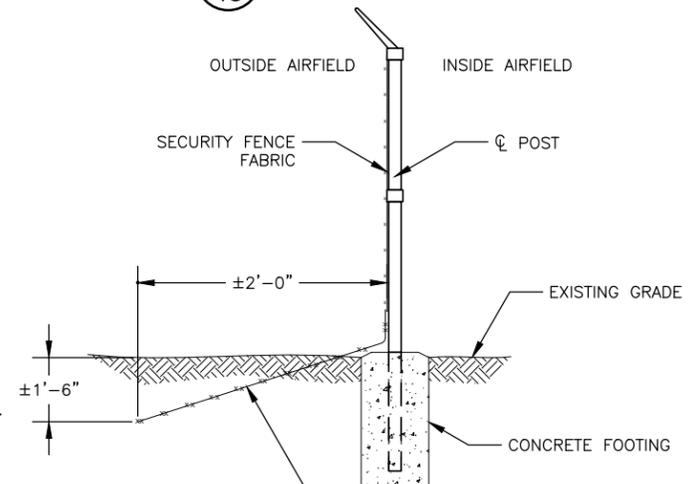
**4 TYPICAL PULL POST**  
43 NTS



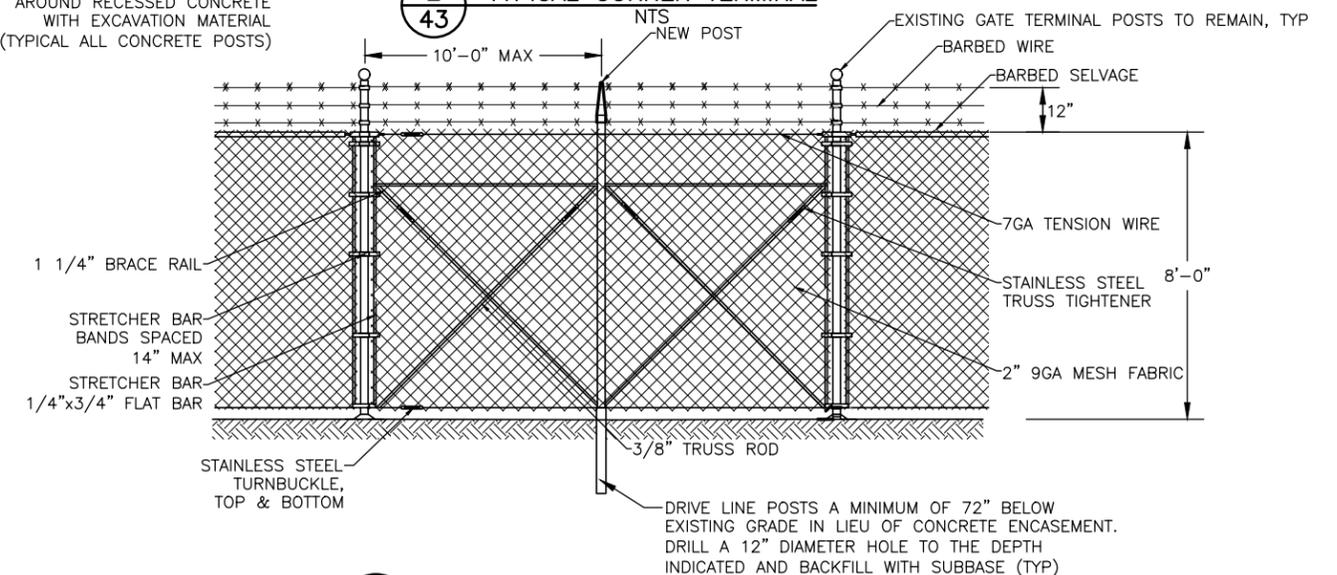
**7 TERMINAL POST**  
43 NTS



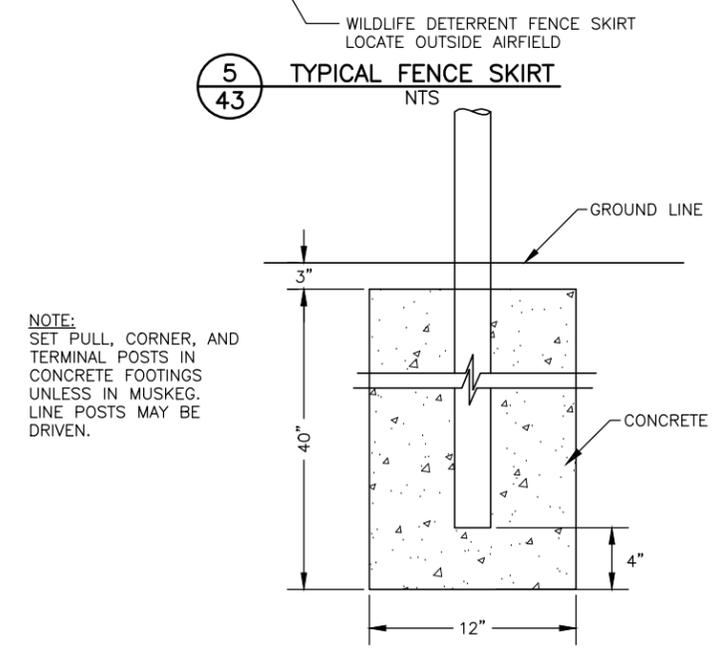
**2 TYPICAL CORNER TERMINAL**  
43 NTS



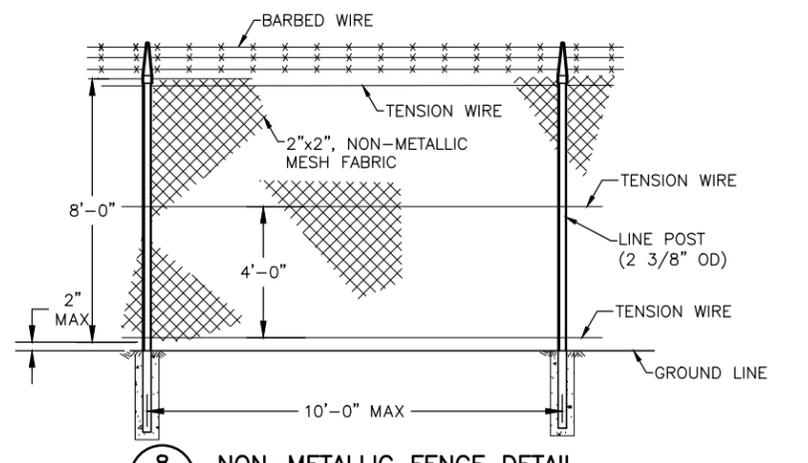
**5 TYPICAL FENCE SKIRT**  
43 NTS



**3 NEW FENCE AT EXISTING GATE DETAIL**  
43 NTS



**6 CONCRETE FENCE POST FOOTING**  
43 NTS



**8 NON-METALLIC FENCE DETAIL**  
43 NTS

**NOTES:**

1. MAINTAIN SECURITY FENCE INTEGRITY AT ALL TIMES. DO NOT LEAVE EXCAVATION UNDER FENCE FABRIC WHICH WOULD PERMIT ACCESS.
2. DEPTH OF EXCAVATION SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF THE CHAIN LINK FENCE FABRIC.
3. END JOINTS BETWEEN ADJACENT SECTIONS OF THE WIRE FABRIC SHALL BE LAPPED 6" AND TIED WITH GALVANIZED WIRE TIES AT 2'-0" ON CENTER AND AT EDGES.
4. ALL DETAILS NOT IN THESE PLANS, SEE ALASKA DOT&PF STANDARD PLANS. F-03.02 AND F-01.04



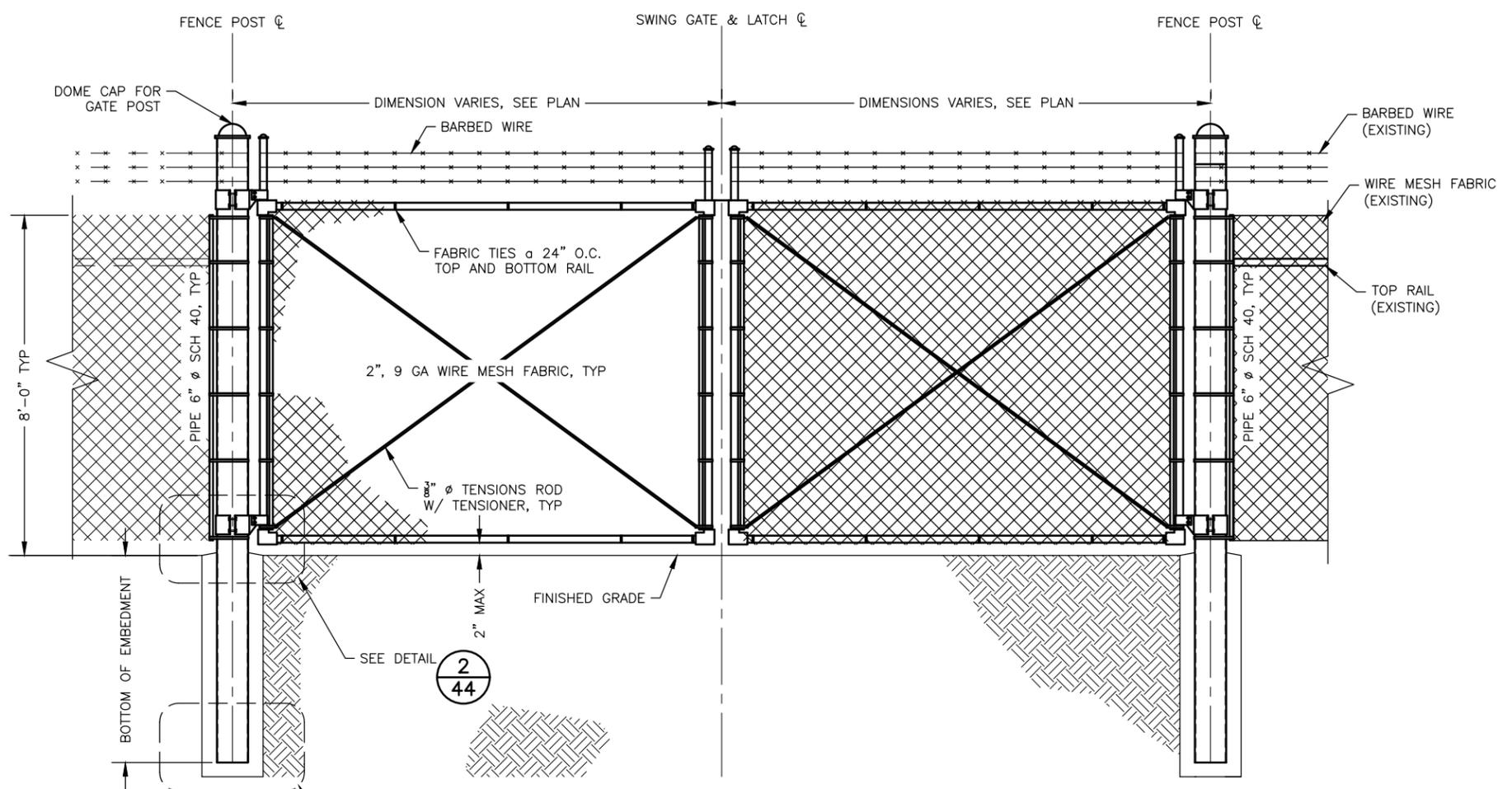
PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 FENCE DETAILS

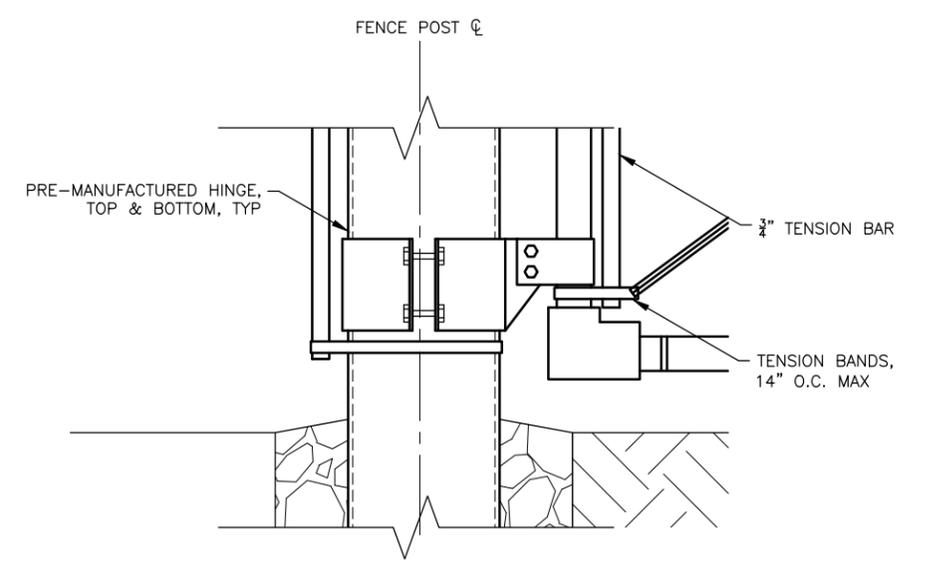
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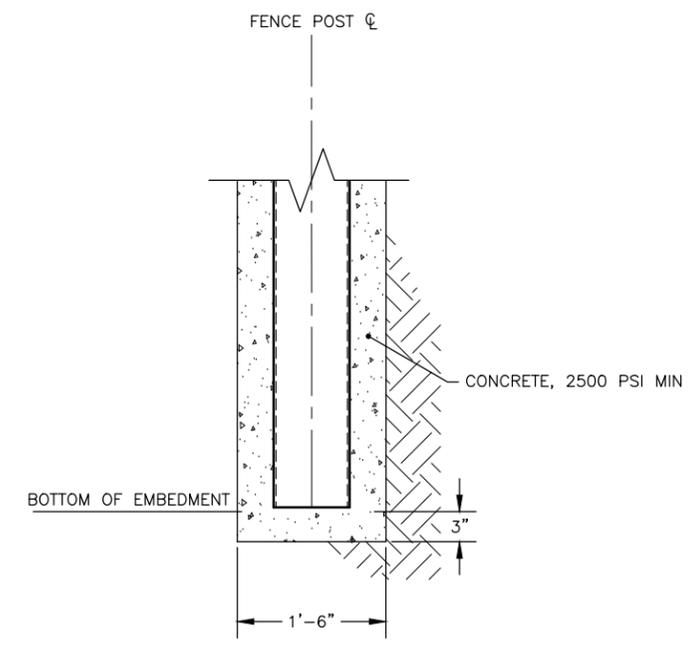


**1**  
**44** DOUBLE SWING GATES 1, 2, 34, & 40  
 NTS

GATE NUMBER	BOTTOM OF EMBEDMENT
1	12'-0"
2	6'-0"
8	6'-0"
34	6'-0"
40	6'-0"



**2**  
**44** HINGE DETAIL TOP AND BOTTOM, TYP  
 NTS



**3**  
**44** GATE POST FOUNDATION  
 NTS



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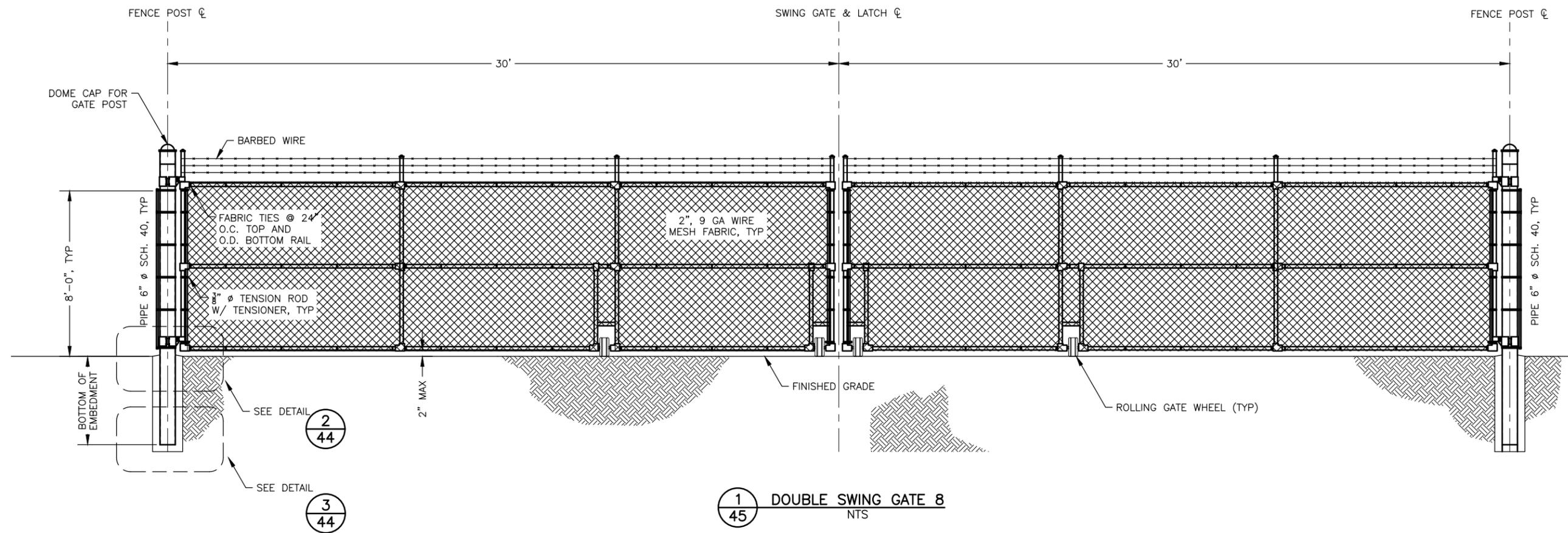
**STATE OF ALASKA**  
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 SWING GATE DETAILS 1

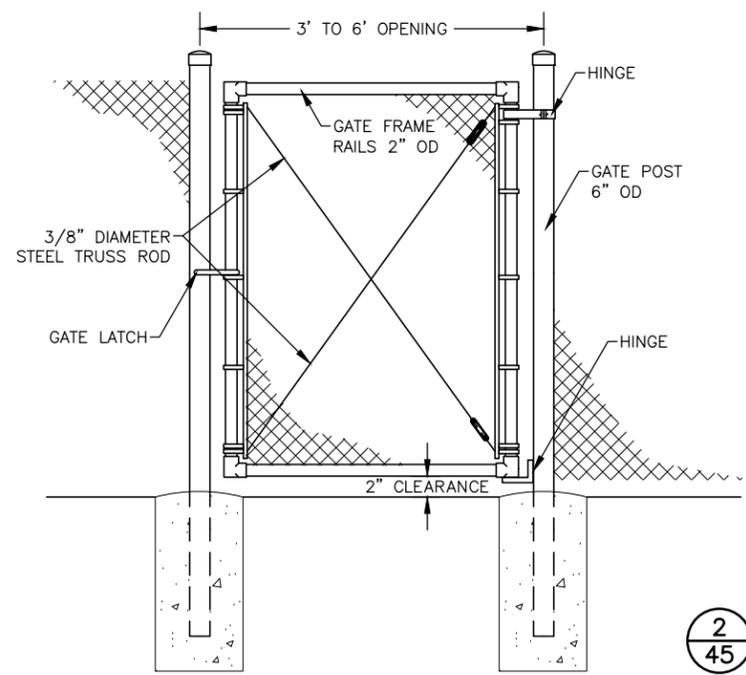
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Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



**1**  
**45** DOUBLE SWING GATE 8  
 NTS



**2**  
**45** PEDESTRIAN GATE  
 NTS

**NOTES:**

1. DETAILS SHOWN ARE TO INDICATE GENERAL DESIGN ONLY. DIMENSIONS MAY VARY SLIGHTLY AMONG THE MANUFACTURERS.
2. GATE FABRIC SHALL BE OF THE SAME DESIGN AND HEIGHT OF LINE FENCE FABRIC.
3. GATE FABRIC SHALL BE FURNISHED WITH KNUCKLE SALVAGE TOP AND BOTTOM.
4. PEDESTRIAN GATE CONCRETE FOOTINGS SHALL BE OF THE SAME DEPTH AS END POSTS WITH A DIAMETER 1 1/2 TIMES LARGER.
5. GATE FRAMES MAY BE FABRICATED BY WELDING OR RIVETING AND SHALL BE BRACED TO ELIMINATE SAGGING. HINGES, LATCHES, AND OTHER GATE APPURTENANCES SHALL BE OF SUFFICIENT STRENGTH AND DESIGN TO ASSURE EASY TROUBLE FREE OPERATION.



<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111			BY _____ DATE _____ REVISION _____
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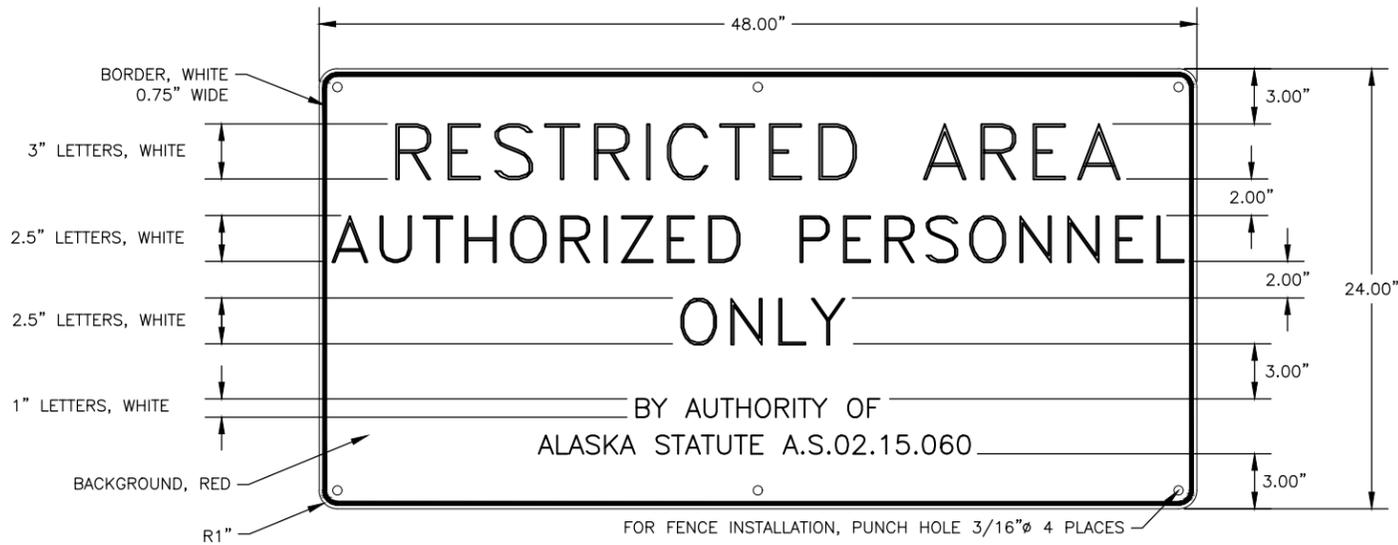
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**CENTRAL REGION**  
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 SWING GATE DETAILS 2

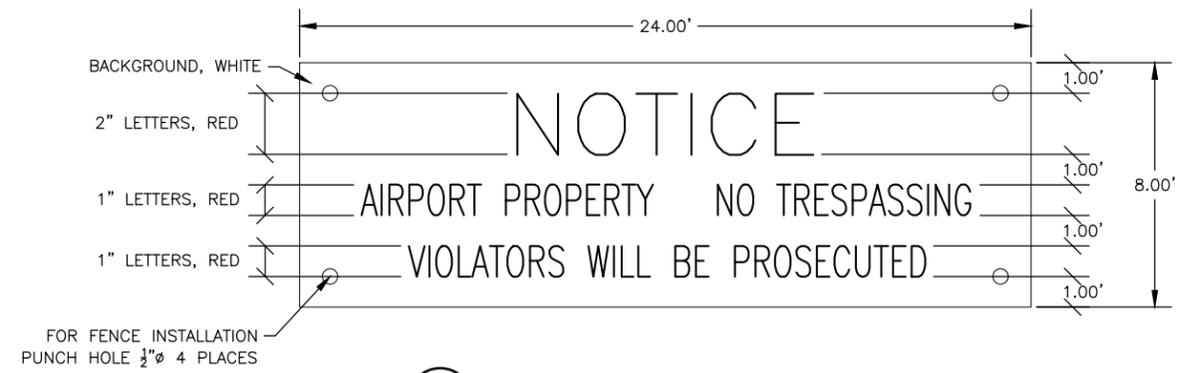
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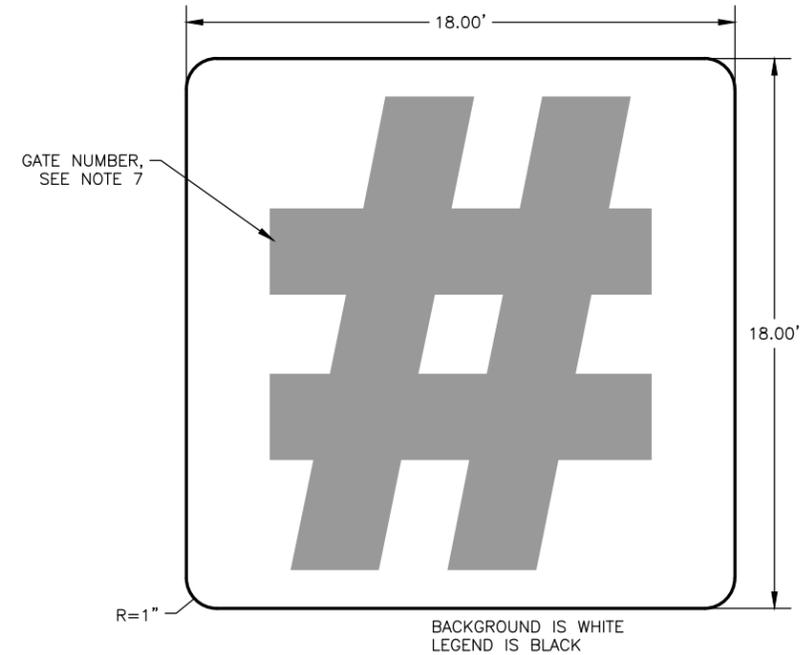
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SIGN NO.	LOCATION	CODE NO.	LEGEND	SIZE (IN)	AREA (SF)	COLOR		POSTS: NO. SIZE, TYPE	FRAMED		REMARKS	NO. OF SIGNS
						LEGEND	BACKGROUND		YES	NO		
S1	N/A	SPECIAL	RESTRICTED AREA AUTHORIZED PERSONNEL ONLY	48X24	8*	WHITE	RED	N/A		X	TO BE PLACED AT GATES 1, 2, 8, 34, & 40.	5
S2	N/A	SPECIAL	NOTICE AIRPORT PROPERTY NO TRESPASSING	24X8	1.33*	RED	WHITE	N/A		X	TO BE PLACED EVERY 300 FEET ON FENCE, AT ALL NEW FENCED GATES, AND AT GATES 1, 2, 8, 34, & 40.	55
S3	N/A	SPECIAL	G-#	18X18	2.25*	GREEN	WHITE	N/A		X	TO BE PLACED AT GATES 1, 2, 8, 34, & 40.	5
S4	ROAD STA 348+13.41, 14.00' LT	SPECIAL	DO NOT PROCEED	24X12	2	BLACK	WHITE	2-1/2" X 2-1/2" PERFORATED STEEL TUBE		X	SEE SHEET 29 FOR PLAN VIEW	1
S5	ROAD STA 348+13.41, 18.84' LT	R1-1	STOP	24X24	4	WHITE	RED	2-1/2" X 2-1/2" PERFORATED STEEL TUBE		X	SEE SHEET 29 FOR PLAN VIEW	1
S6	ROAD STA 348+13.41, 14.00' LT	SPECIAL	RW HOLDING POSITION SIGN	44.25 X18	5.53	WHITE	RED	2-1/2" X 2-1/2" PERFORATED STEEL TUBE		X	SEE SHEET 29 FOR PLAN VIEW	1



1  
46 RESTRICTED AREA SIGN (S1) DETAILS  
NTS



2  
46 NOTICE SIGN (S2) DETAILS  
NTS



3  
46 GATE NUMBER SIGN (S3) DETAILS  
NTS

**NOTES:**

- FABRICATE SIGNS FROM 0.125" THICK ALUMINUM SHEETING.
- USE ALUMINUM WIRE TIES TO SECURE SIGNS TO THE OUTSIDE OF GATES AND FENCE. ALL HARDWARE SHALL BE SUBSIDIARY TO THE SIGNING BID ITEM.
- SALVAGE ALL EXISTING SIGNS FROM GATES AND FENCE REMOVED BY THIS PROJECT. DELIVER ALL SALVAGED SIGNS TO THE AIRPORT MANAGER.
- FABRICATE ALL SIGNS WITH TYPE IV REFLECTIVE SHEETING ON ALUMINUM PANELS.
- SIGN LOCATIONS ARE APPROXIMATE AND SUBJECT TO FIELD ADJUSTMENTS BY THE ENGINEER.
- INSTALL ON FRANGIBLE COUPLING SYSTEM WITH CONCRETE SIGN POST FOUNDATION. SEE ALASKA STANDARD PLAN S-31.02.
- COORDINATE WITH AIRPORT MANAGEMENT FOR GATE NUMBER SIGNAGE.



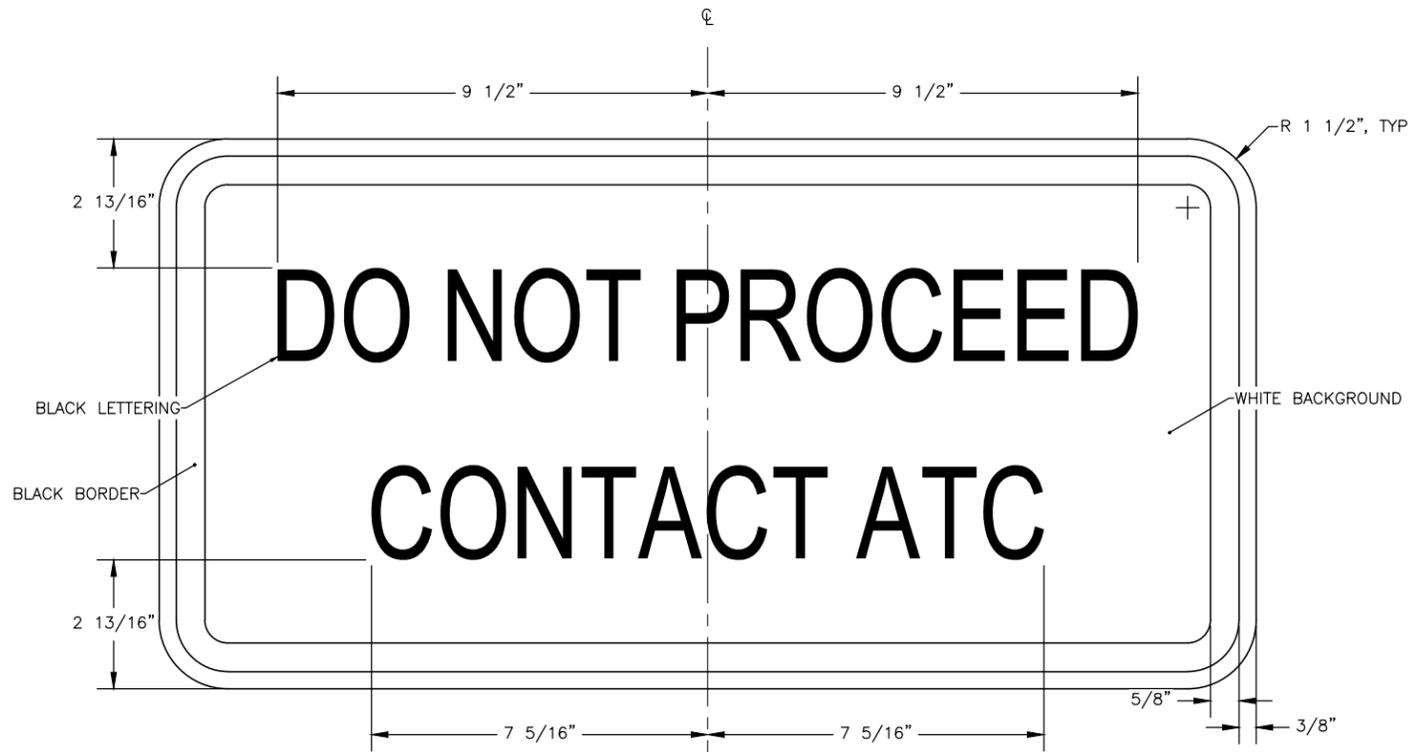
PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
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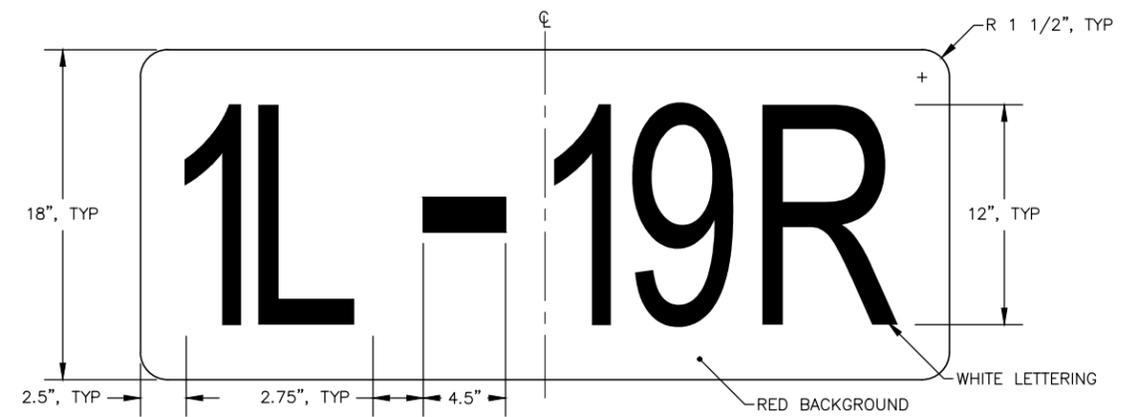
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 SIGN SUMMARY

DATE:  
 12/19/2025  
 SHEET:  
 46 OF 48

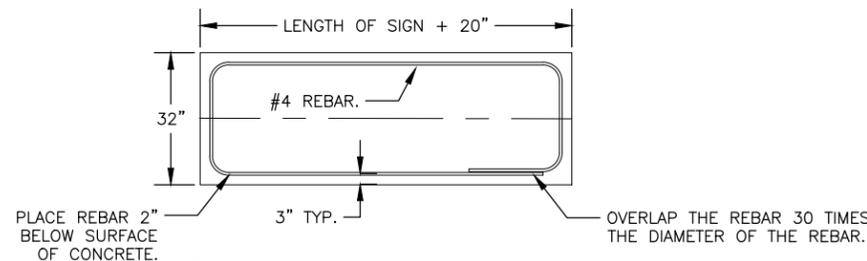
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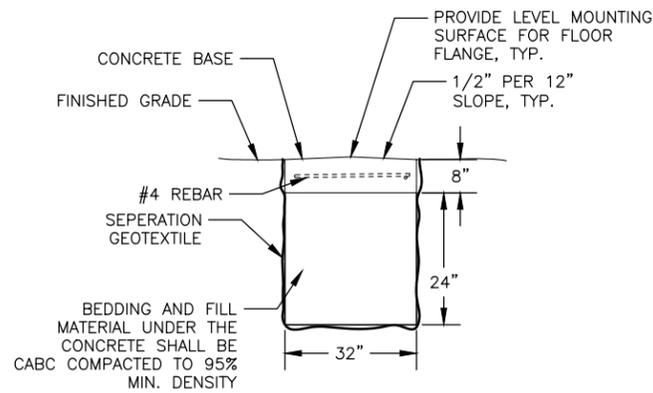
1 DO NOT PROCEED SIGN  
47 NTS



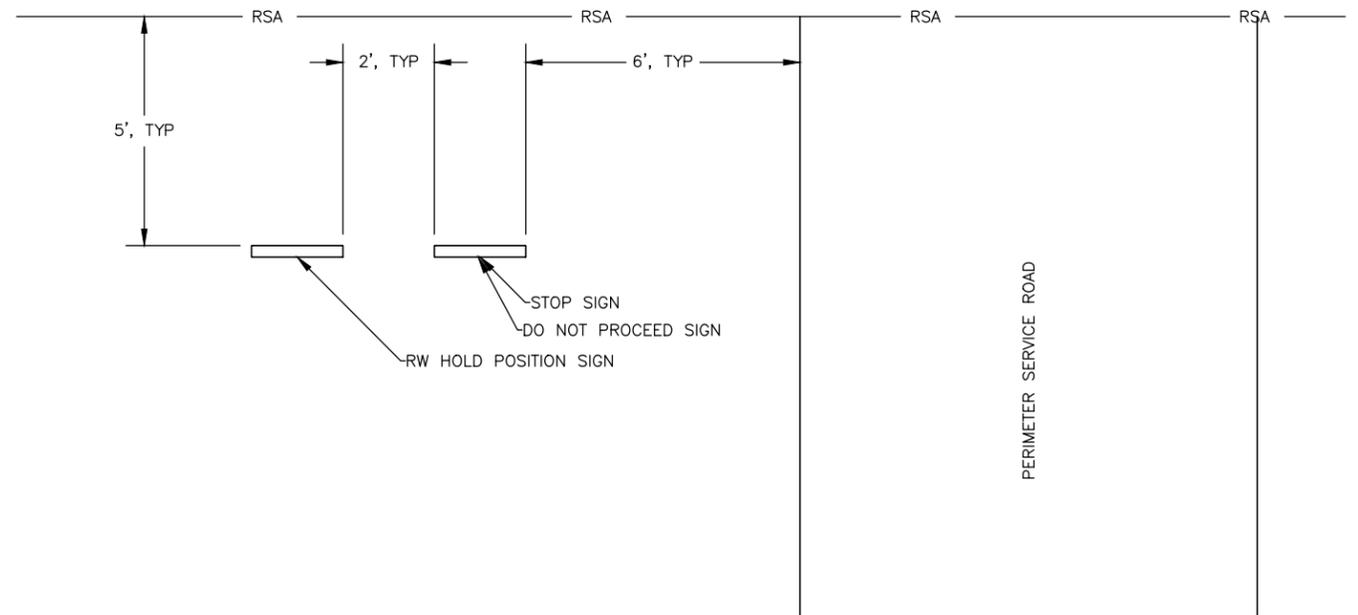
2 RUNWAY HOLDING POSITION SIGN  
47 NTS



3 CONCRETE FOUNDATION PLAN  
47 NTS



4 CONCRETE FOUNDATION SIDE VIEW  
47 NTS



5 SIGN LAYOUT DETAIL  
47 NTS

NOTES:

- REFER TO FAA AC 150/5345-44L, APPENDIX A FOR LETTER, NUMERAL, AND STROKE WIDTH DIMENSIONS.



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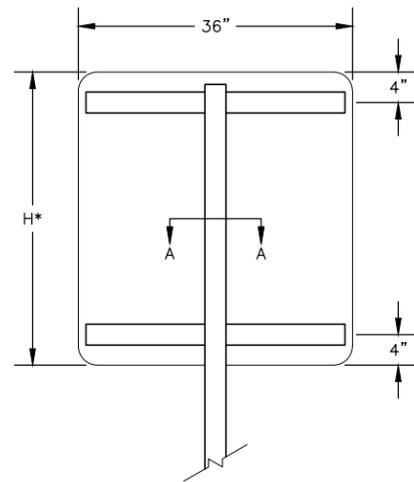
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 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 SIGN DETAILS 1

DATE:  
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 Drawn By: AA, AL, VN  
 Checked By: CJB

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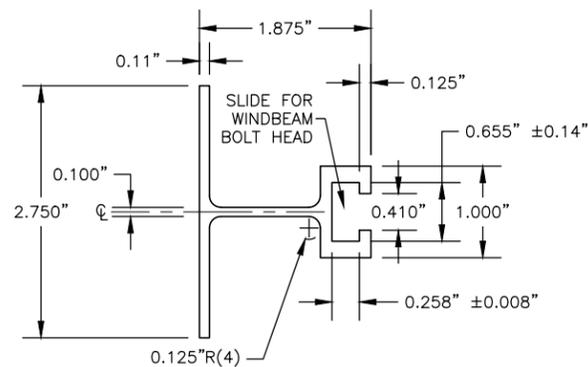
1. ONLY USE SQUARE STEEL TUBES TO SUPPORT SIGNS MOUNTED ON SINGLE POSTS.
2. INSTALL WINDBEAM ON SIGNS 36 INCHES WIDE AND WIDER.
3. THE ENGINEER MAY APPROVE OTHER FRAMING MEMBERS. SUBMIT DOCUMENTS THAT DETAIL THE FRAME'S CROSS SECTION AND STRENGTH, AND METHOD OF ATTACHING THE FRAME TO A POST.
4. USE FRAMING MEMBERS MADE FROM ALUMINUM ALLOY 6061-T6.
5. EACH FRAMING MEMBER SHALL BE ONE CONTINUOUS PIECE.
6. ATTACH FRAMING MEMBERS TO THE SIGN PANELS WITH RIVETS OR AN ENGINEER APPROVED, DOUBLE SIDED, HIGH STRENGTH, ADHESIVE TAPE.
7. WITH THE ADHESIVE TAPE, INSTALL TWO RIVETS IN BOTH ENDS OF EACH FRAMING MEMBER, AND ATTACH THE FRAMING MEMBERS TO THE SIGN PANELS ACCORDING TO THE TAPE MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING:
  - A. THE CLEANING AND HANDLING OF THE SIGN PANELS AND FRAMING MEMBERS.
  - B. THE APPLICATION OF THE ADHESIVE TAPE.
8. WHEN RIVETS ARE USED TO ATTACH FRAMING MEMBERS, INSTALL 2 RIVETS IN EACH END AND THE BALANCE ON 8" MAXIMUM CENTERS.
9. USE 3/16" DIAMETER RIVETS CONFORMING TO ALUMINUM ALLOY 6061-T6 FOR COLD DRIVEN RIVETS, OR ALUMINUM ALLOY 6061-T43 FOR HOT DRIVEN RIVETS.
10. THE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.
11. POST LENGTHS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR USING THE CRITERIA FOR RURAL ROADS, UNLESS DETERMINED OTHERWISE BY THE ENGINEER.
12. REMOVE AND DISPOSE OF ALL EXISTING SIGNS, POSTS, AND FOUNDATIONS SCHEDULED FOR REPLACEMENT.



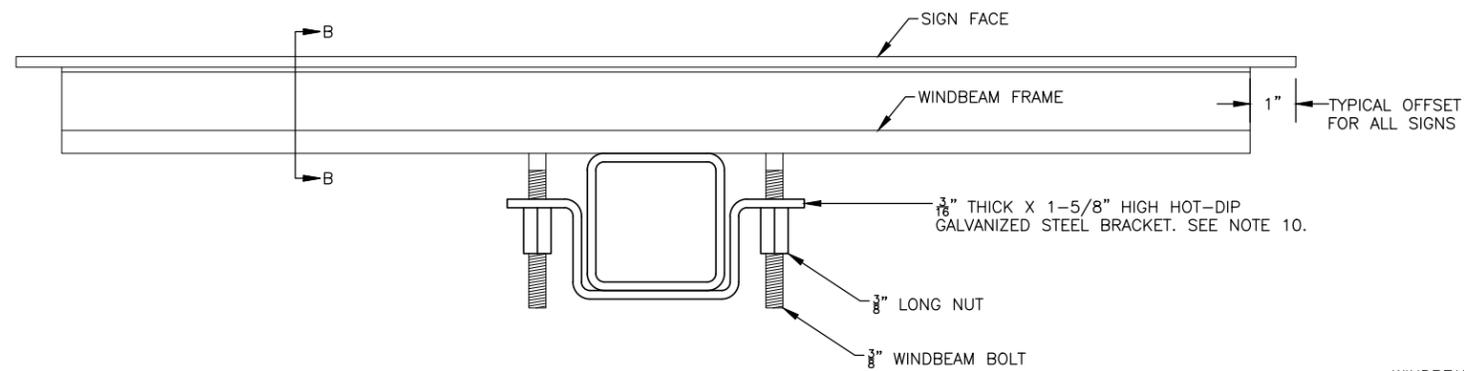
RECTANGLES AND TRAPEZOIDS

\* WHEN H > 42 INCHES, INSTALL A THIRD WINDBEAM CENTERED ON THE SIGN

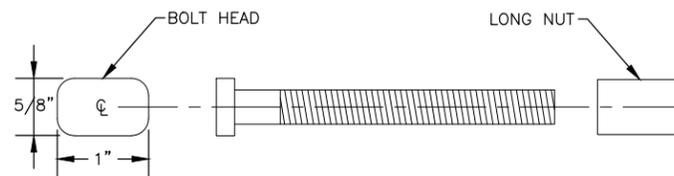
**1**  
**48** WINDBEAM LOCATIONS  
ELEVATION VIEW



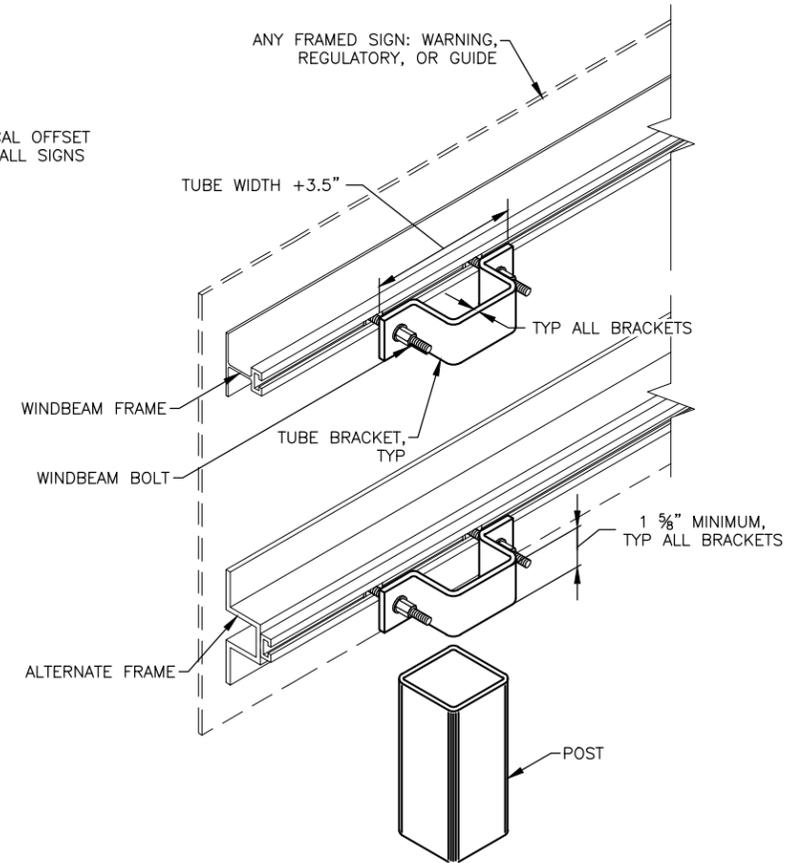
**3**  
**48** SECTION B - B WINDBEAM CROSS SECTION  
NTS



**2**  
**48** SECTION A - A TYPICAL SIGN ATTACHMENT DETAILS AT EACH WINDBEAM  
NTS



**4**  
**48** 3/8" WINDBEAM BOLT AND LONG NUT  
NTS



**5**  
**48** FRAMED SIGN ATTACHMENT BRACKETS  
ISOMETRIC VIEW - NTS



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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 SIGN DETAILS 2

DATE:  
 12/19/2025  
 SHEET:  
**48 OF 48**

Date Reviset: 12/17/2025, 5:05 PM  
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 File Path and Name: Z:\22008BWA - Bethel West Apron Project\E-Working\Drawings\22008BWA-Bethel West Apron Demo.dwg

Designed By: JBM  
 Drawn By: JBM  
 Checked By: EDC

**DEMOLITION GENERAL NOTES:**

- DECOMMISSIONED CONDUCTORS AND GROUND WIRES IN RACEWAY SHALL BE REMOVED. DECOMMISSIONED CONDUIT SHALL BE REMOVED. ABANDONED WIRING AND CONDUIT RUNS EXPOSED DURING EXCAVATION SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. THIS WORK SHALL BE SUBSIDIARY TO EXCAVATION AND NO SEPARATE PAYMENT WILL BE MADE.
- THE CONTRACTOR SHALL RESTORE GRADE AND FINISH SURFACES DISTURBED BY THE REMOVAL OF STRUCTURES. THIS WORK SHALL BE SUBSIDIARY TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE.
- DEMOLISHED FIXTURES, AND TRANSFORMERS SHALL BE SALVAGED AND OFFERED TO DOT MAINTENANCE. EQUIPMENT DEEMED OF NO SALVAGE VALUE BY DOT MAINTENANCE PERSONNEL, AND ALL OTHER EQUIPMENT AND MATERIALS NOT LISTED ABOVE, INCLUDING LIGHT BASES, HANDHOLES, WIRE, AND RACEWAYS, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL STATUTES.
- REMOVAL OF EXISTING CONDUCTORS AND GROUND WIRE SHALL BE SUBSIDIARY TO THE REMOVAL OF THE ASSOCIATED EQUIPMENT AND NO SEPARATE PAYMENT WILL BE MADE.
- LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK.

**GENERAL NOTES:**

- CONDUITS AND LIGHT BASES SHALL BE INSTALLED PRIOR TO PLACEMENT OF FINISH COURSE.
- REMOVE POWER FROM TAXIWAY LIGHTING CIRCUIT DURING ASSOCIATED WORK, RESTORE POWER WHEN WORK IS COMPLETE.
- AIRFIELD LIGHTING CABLE SHALL BE #8 AWG, 5KV, FAA TYPE "C" AIRPORT CABLE.
- CONNECT HDPE CONDUIT TO DISSIMILAR CONDUIT USING A LISTED TRANSITION FITTING.
- PROVIDE LIGHT BASES WITH HUB CONFIGURATIONS TO ACCOMMODATE THE LAYOUT AS SHOWN IN THE PLANS. ROUTE CONDUIT FROM POINT TO POINT, IN A STRAIGHT LINE, EXCEPT AS REQUIRED TO AVOID AN OBSTRUCTION.
- ALL BOLTS, NUTS, AND THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE LUBRICANT PER SPECIFICATIONS.
- ARRANGE THE LIGHTING CIRCUIT TO FLOW CLOCKWISE AROUND THE RUNWAY AND TAXIWAY WITH THE FEMALE CONNECTOR ON THE REGULATOR SIDE OF THE TRANSFORMER. SEE SHEET E5.
- ALL TRANSFORMER CONNECTIONS SHALL BE MADE ON THE FEED SIDE OF THE SERIES LOOP. RETURN AND LOOP CONDUCTORS SHALL BE CONTINUOUS AND UNSPLICED.
- HAND HOLE LOCATIONS MAY BE FIELD ADJUSTED AS APPROVED BY THE ENGINEER.
- CONDUIT ROUTING SHOWN FOR CLARITY. ROUTE CONDUITS ON SHOULDER. CONDUITS THAT RUN IN CLOSE PROXIMITY MAY BE INSTALLED IN SAME TRENCH.
- CONTRACTOR SHALL PROVIDE A LIST OF PROPOSED SPARE PARTS AND THE COST FOR EACH CATEGORY TO THE ENGINEER FOR REVIEW PRIOR TO PLACING THE ORDER FOR THE PARTS. QUANTITIES SHALL BE REDUCED IF NECESSARY UNTIL THE COSTS ARE WITHIN THE LIMITS OF THE FAA REQUIREMENTS. SEE SECTION L-125 FOR ADDITIONAL INFORMATION.
- EDGE LIGHTS TO REMAIN IN SERVICE OUTSIDE CONSTRUCTION LIMITS, SEE CONSTRUCTION SAFETY AND PHASING PLANS. PROVIDE AND MAINTAIN TEMPORARY JUMPERS AS REQUIRED: #8, 5KV AIRPORT CABLE IN HDPE CONDUIT. SAND BAG 10 FEET ON CENTER WITH 50 LB SAND BAGS.
- SLOPE CONDUITS TO DRAIN TO LOW SPOT. INSTALL 2" CONDUIT DRAIN FROM LIGHT BASE OR HANDHOLE TO DESIGNATED DRAIN LOCATION, VERIFY LOCATION.
- CONDUCTORS OF SEPARATE CIRCUITS SHALL BE IDENTIFIED BY COLORABLE INSULATION. THE COLORS GREEN AND WHITE SHALL NOT BE USED TO IDENTIFY SERIES CIRCUITS. TW (T-1) = BLUE.

**LEGEND:**

EXISTING	DEMOLITION	NEW	
			2" HDPE CONDUIT. HASH MARKS INDICATE NUMBER OF NEW #8 AWG. 5KV AIRPORT CABLES, TYPE "C", PLUS ONE #6 BARE COPPER GROUND CONDUCTOR.
			2" RSC CONDUIT. HASH MARKS INDICATE NUMBER OF NEW #8 AWG. 5KV AIRPORT CABLES, TYPE "C", PLUS ONE #6 BARE COPPER GROUND CONDUCTOR.
			TAXIWAY EDGE LIGHT
			HANDHOLE, L-867B
			WIND CONE, L-806 OR L-807
			DRYWELL
			3/4" X 10' COPPER COATED GROUND ROD
			UNDERGROUND ELECTRIC
			UNDERGROUND TELEPHONE

EXISTING HANDHOLE L-867 (TO REMAIN)

**ABBREVIATION:**

AWG	AMERICAN WIRE GAUGE
BCU	BARE COPPER GROUND
C	CONDUIT
CBA	CRUSHED BASE AGGREGATE
CCR	CONSTANT CURRENT REGULATOR
CSPP	CONSTRUCTION SAFETY AND PHASING PLAN
CTSB	CEMENT TREATED SOIL BASE
CU	COPPER
DEB	DIRECT EARTH BURY
DEG	DEGREES
EEB	ELECTRICAL EQUIPMENT BUILDING
ETR	EXISTING TO REMAIN
FAA	FEDERAL AVIATION ADMINISTRATION
FT	FOOT
HDPE	HIGH DENSITY POLYETHYLENE
HIRL	HIGH INTENSITY RUNWAY LIGHTING
IN	INCH
KV	KILOVOLT
LED	LIGHT EMITTING DIODE
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY
MAX	MAXIMUM
MIN	MINIMUM
OC	ON CENTER
UON	UNLESS OTHERWISE NOTED
PCT	PERCENT
PRI	PRIMARY
REIL	RUNWAY END IDENTIFIER LIGHT
RSC	RIGID STEEL CONDUIT
RW	RUNWAY
RW(X)	RW CIRCUIT, NUMBER IN ( ) INDICATES # OF CONDUCTORS
SCO	SERIES CUT OUT
STA	STATION
TH	THRESHOLD
TOC	TOP OF CONCRETE
TW(X)	TW CIRCUIT, NUMBER IN ( ) INDICATES # OF CONDUCTORS
TW	TAXIWAY
TYP	TYPICAL
VASI	VISUAL APPROACH SLOPE INDICATOR
XFMR	TRANSFORMER



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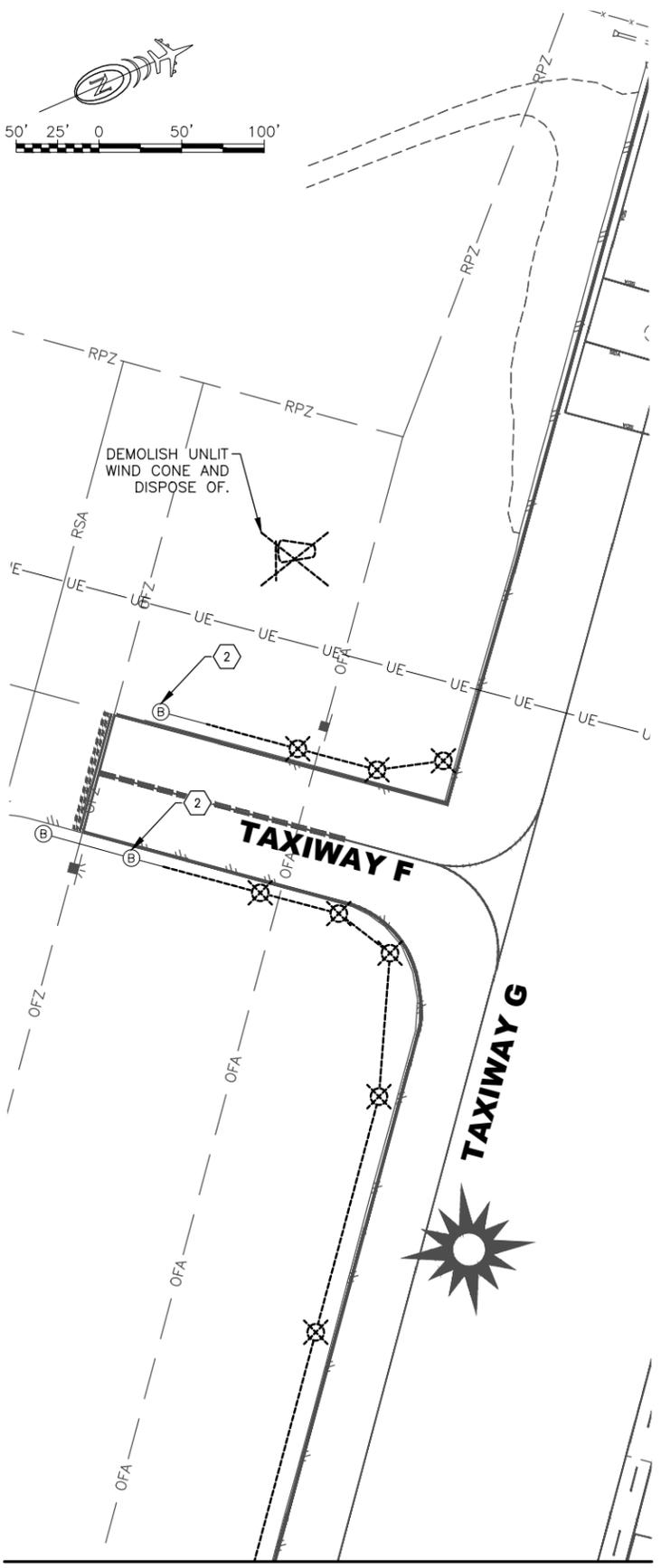
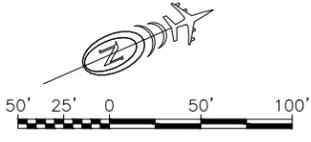
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAP00859  
 AIP No. 3-02-0029-00X-20XX  
 LEGEND AND NOTES

DATE: 12-19-2025  
 SHEET: E1 of E9

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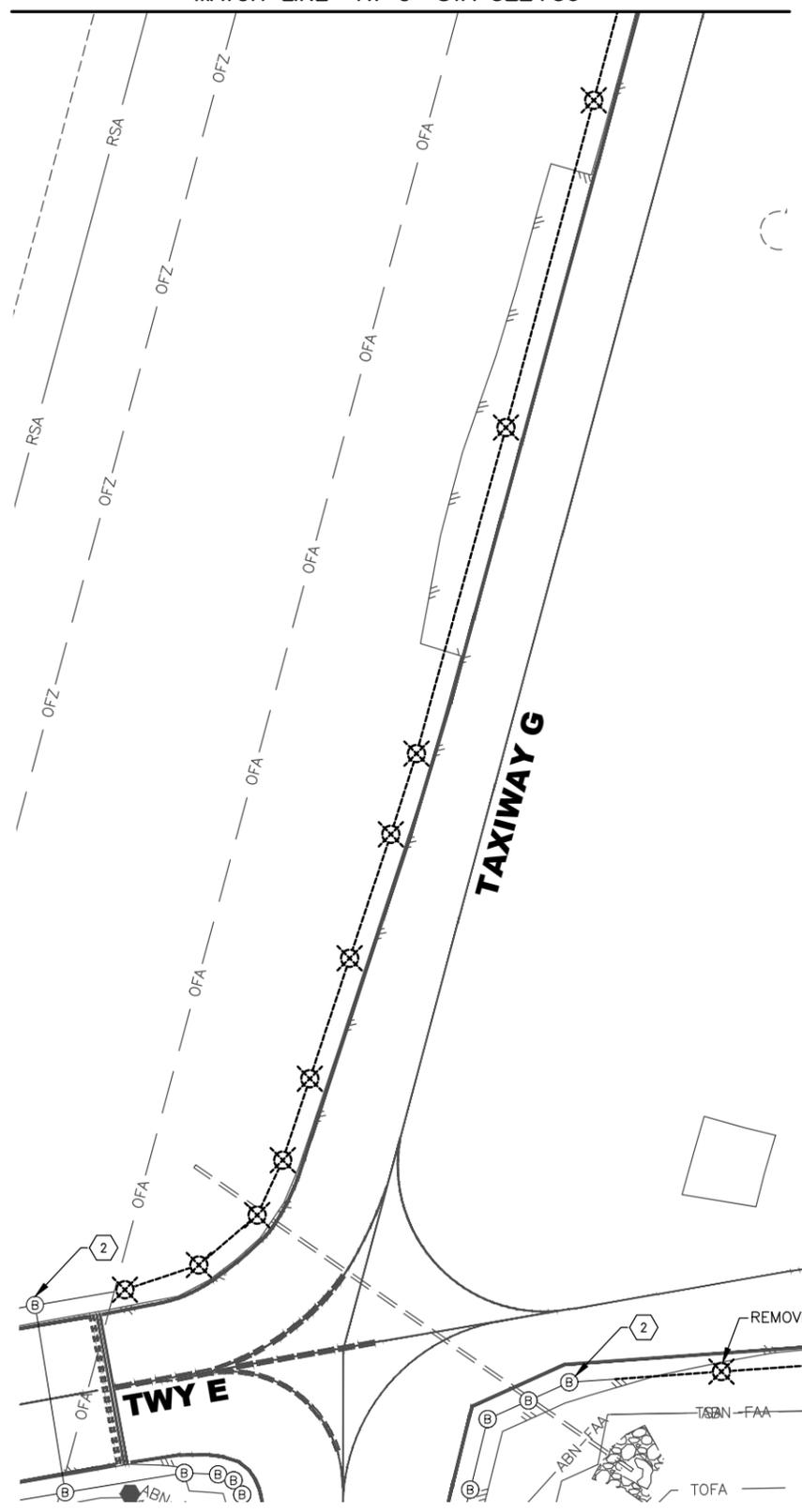
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 Drawn By: JBM  
 Checked By: EDC



MATCH LINE "TW G" STA 322+50  
 SEE 2/E2

1 LIGHTING DEMO  
 E2 NTS

SEE 1/E2  
 MATCH LINE "TW G" STA 322+50

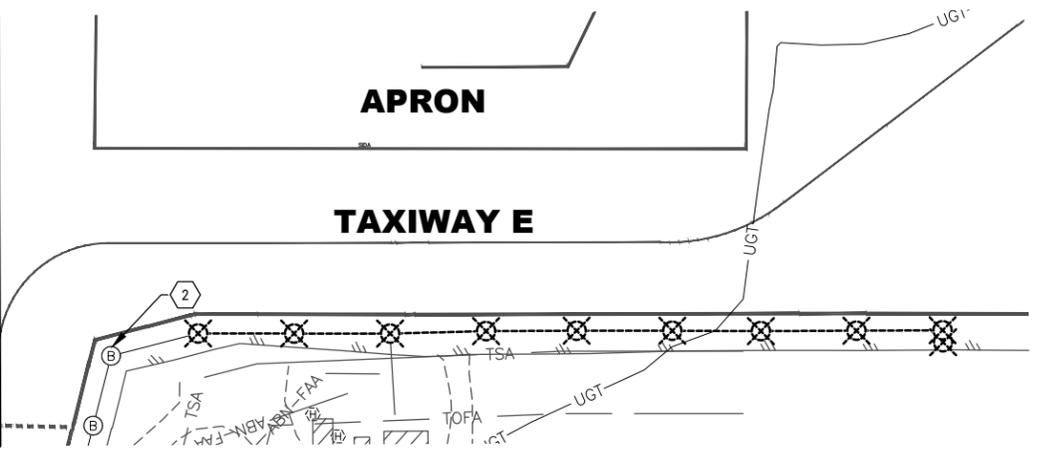


2 LIGHTING DEMO  
 E2 NTS

**DEMOLITION SHEET NOTES:**

- 1 REMOVE TAXIWAY EDGE LIGHTS, TRANSFORMERS, AND UNUSED WIRING. PAID UNDER ITEM L125.070.0000, NO OTHER PAYMENT WILL BE MADE.
- 2 DISCONNECT AND REMOVE EXISTING CONDUCTORS BACK TO NEAREST LIGHT BASE OUTSIDE OF THE EXCAVATION LIMITS.

SEE 2/E2  
 MATCH LINE "TW E" STA 13+26.25



3 LIGHTING DEMO  
 E2 NTS

SEE 3/E2  
 MATCH LINE "TW E" STA 13+26.25



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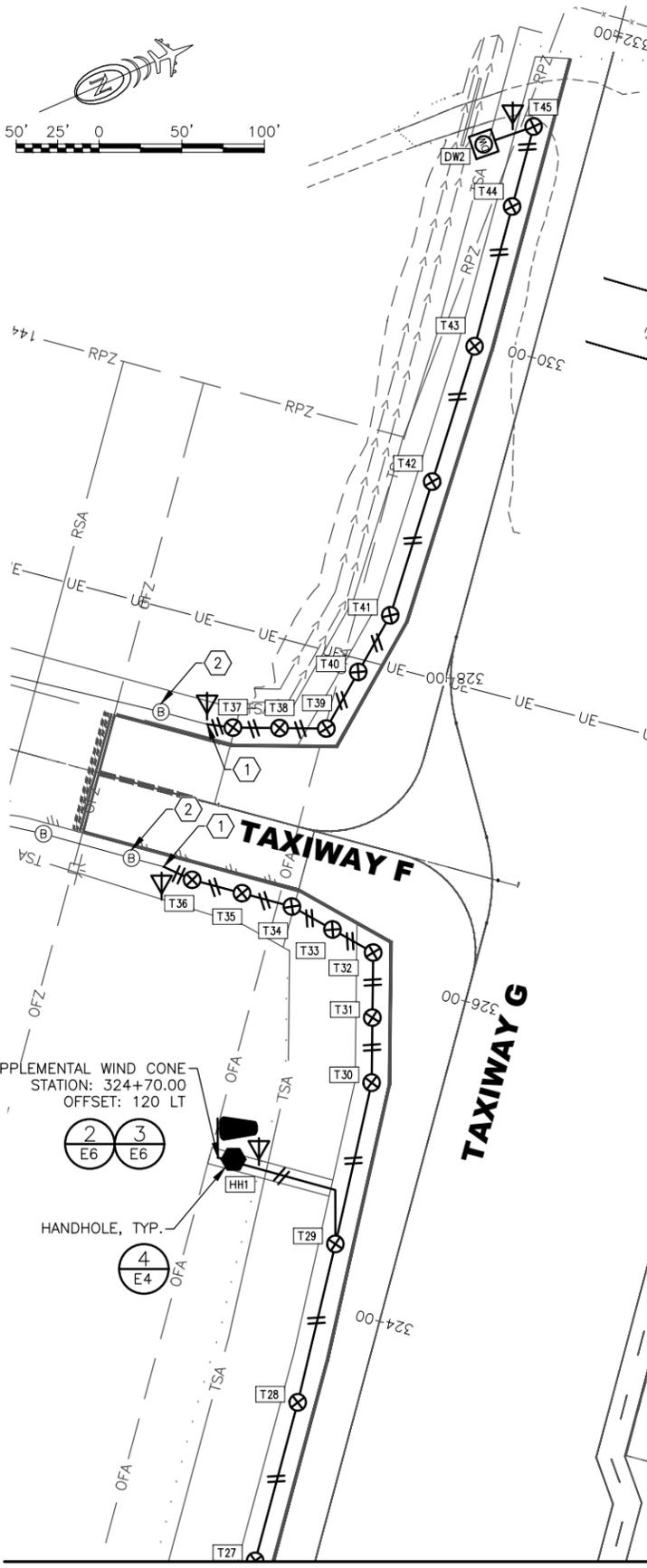
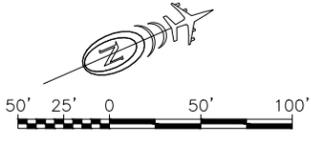
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**BETHEL AIRPORT**  
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 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 LIGHTING DEMOLITION PLAN

DATE: 12-19-2025  
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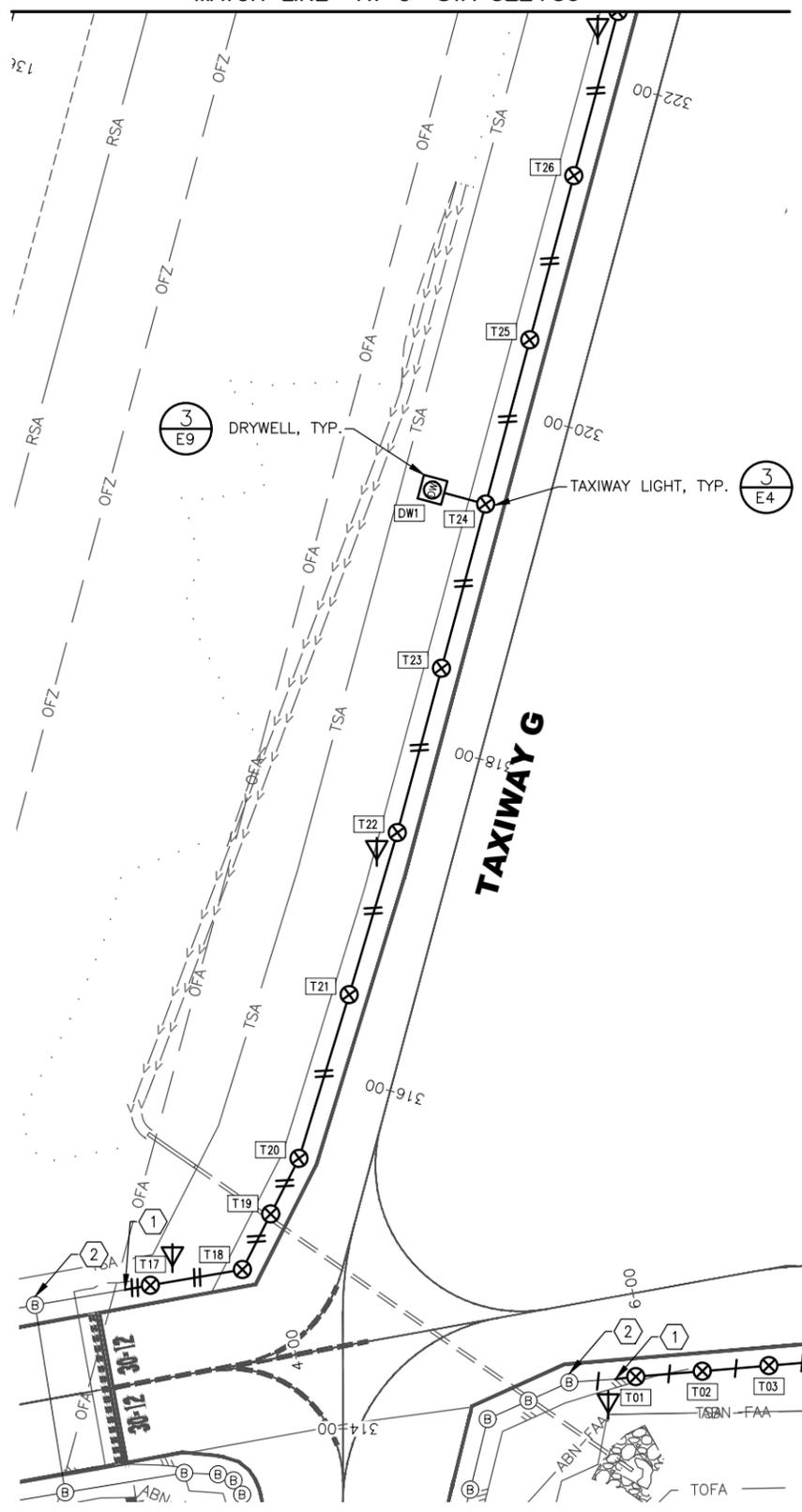
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 Designed By: JBM  
 Drawn By: JBM  
 Checked By: EDC



MATCH LINE "TW G" STA 322+50  
SEE 2/E3

1 LIGHTING NEW  
E3 NTS

SEE 1/E3  
MATCH LINE "TW G" STA 322+50

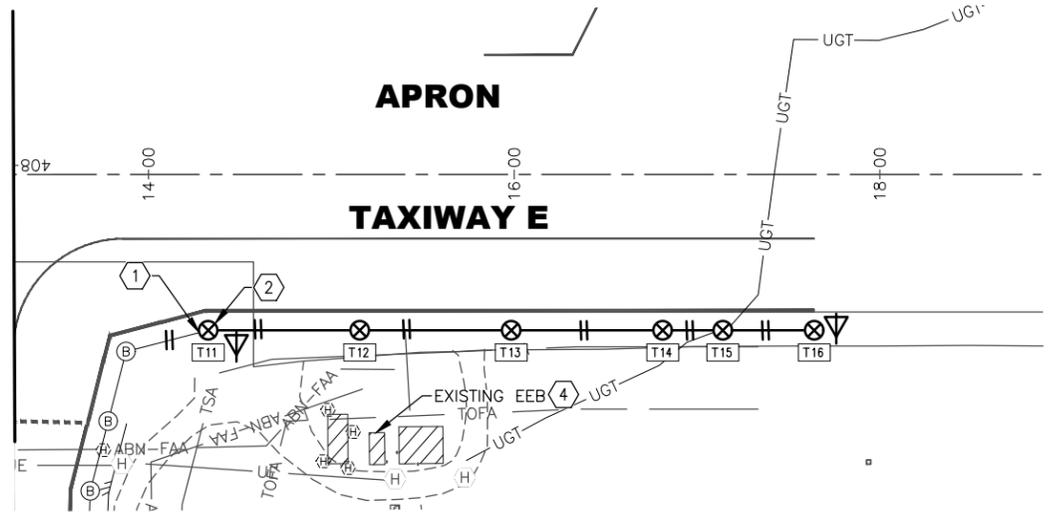


2 LIGHTING NEW  
E3 NTS

**LIGHTING NOTES:**

- 1 CONNECT NEW CONDUIT TO EXISTING JUNCTION BOX, LIGHT BASE, HANDHOLE OR CONDUIT USING LISTED DEVICES.
- 2 CONNECT NEW #8 5KV AIRPORT CABLES AND #6 BCU TO EXISTING CONDUCTORS FOR CONTINUATION OF THE CIRCUIT. PROVIDE NEW NEOPRENE GASKET AND SEAL WASHERS.
- 3 ALL NEW HDPE TO HDPE CONDUIT CONNECTIONS SHALL BE BUTT WELDED. LISTED DEVICES SHALL BE ALLOWED TO CONNECT TO EXISTING HDPE.
- 4 CONVERT EXISTING 25KW TAXIWAY LIGHTING REGULATOR IN EEB TO 3 STEP CONFIGURATION. UPDATE CONTROLS IN L-821 LIGHTING CONTROLLER FOR TAXIWAY THREE STEP OPERATION. PROVIDE NEW INSULATION TESTING EQUIPMENT AND INSTALL IN EXISTING 25KW TAXIWAY LIGHTING REGULATOR. MATERIALS SHALL BE COMPATIBLE AND APPROVED BY EXISTING REGULATOR AND LIGHTING CONTROLLER MANUFACTURERS. PAID UNDER ITEM L109.040.0000 AND NO FURTHER PAYMENT WILL BE MADE.

SEE 2/E3  
MATCH LINE "TW E" STA 13+26.25



3 LIGHTING NEW  
E3 NTS

TAXIWAY E

SEE 3/E3  
MATCH LINE "TW E" STA 13+26.25



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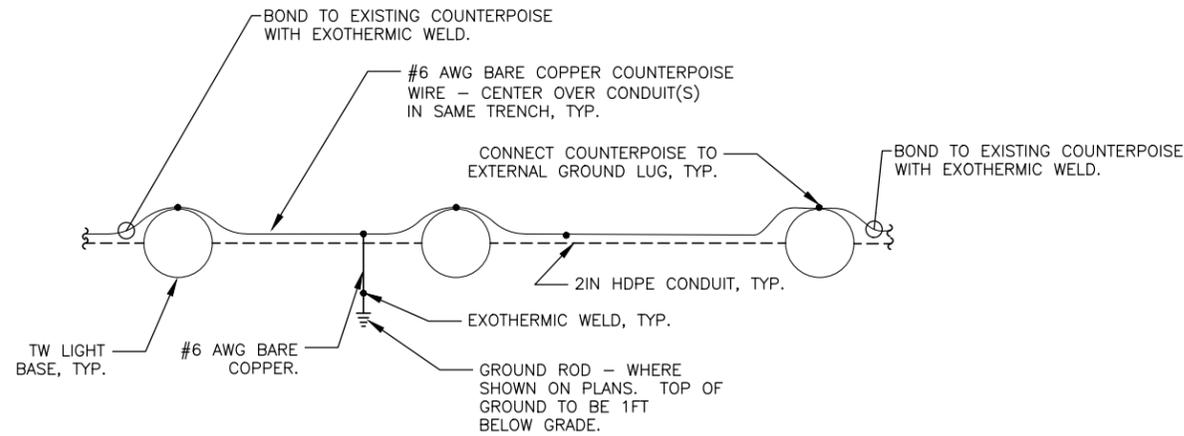
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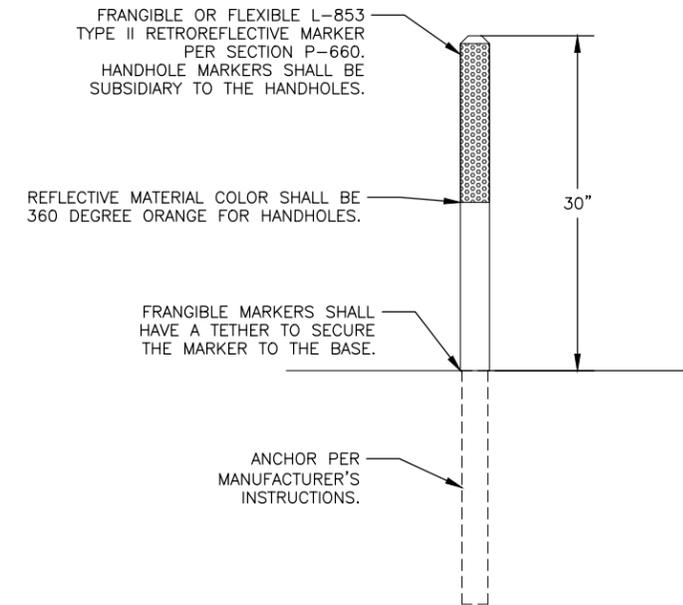
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
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 PROJECT No. CFAP00859  
 AIP No. 3-02-0029-00X-20XX  
 LIGHTING NEW PLAN

DATE: 12-19-2025  
 SHEET: E3 of E9

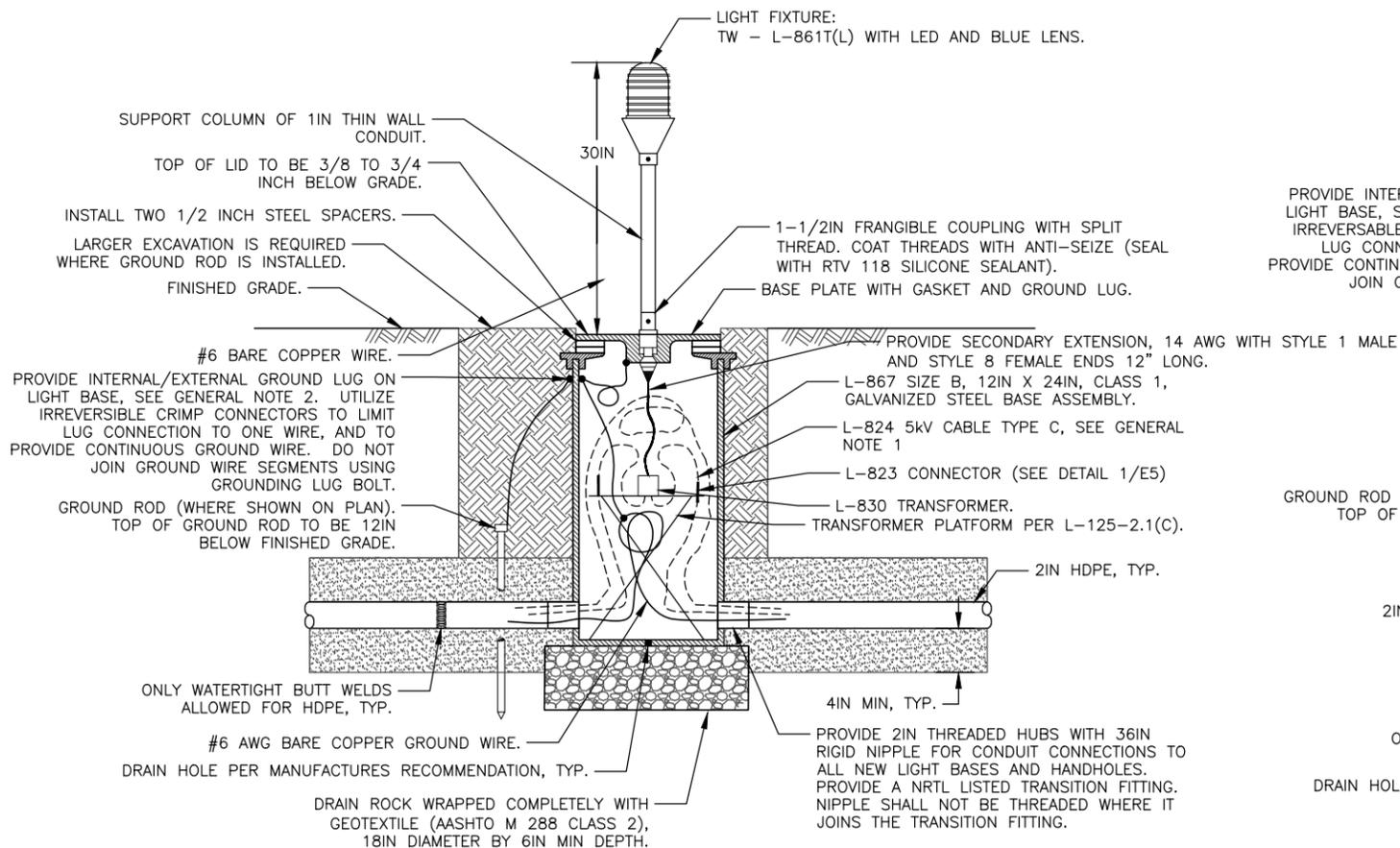
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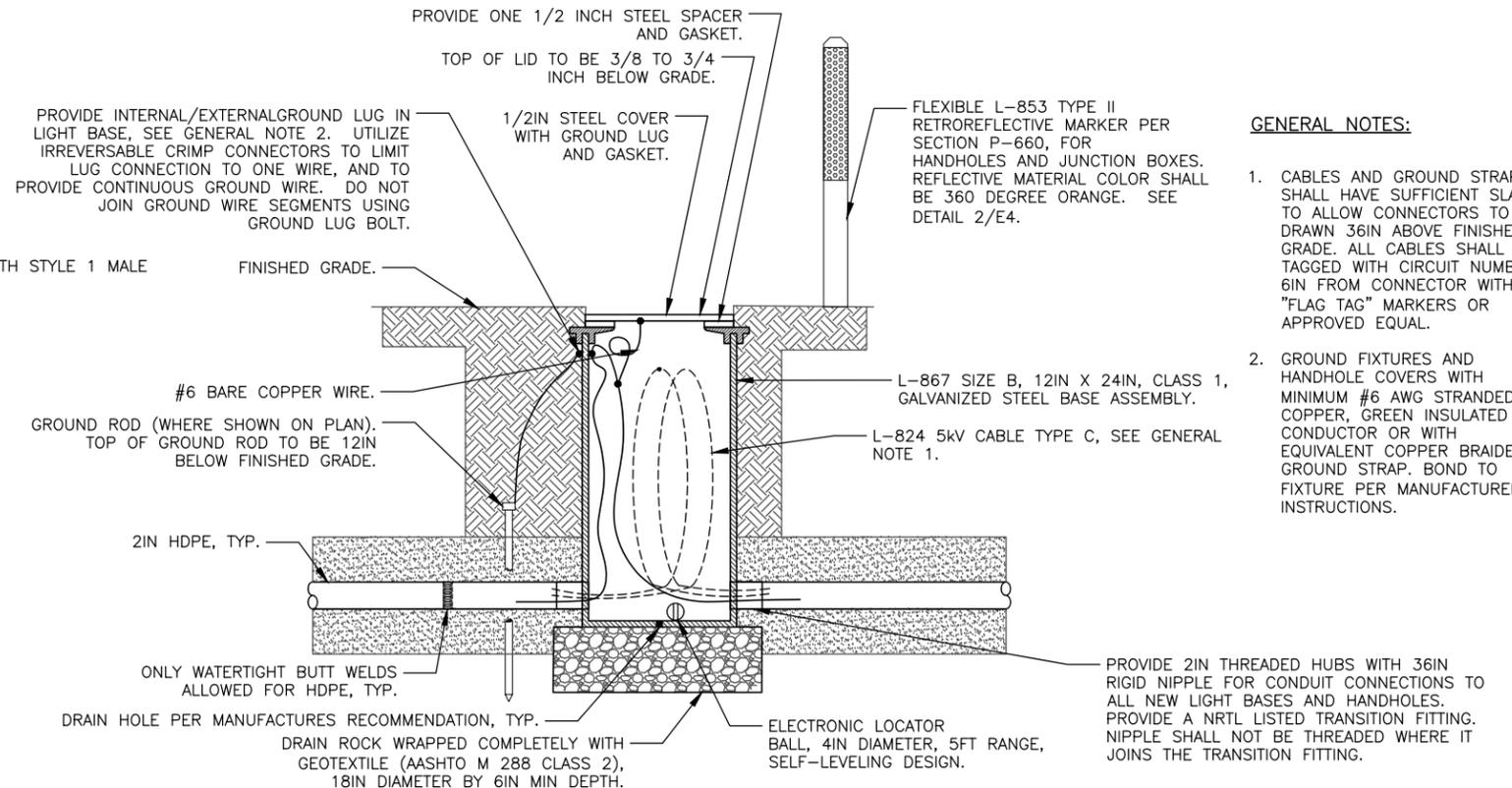
**1 AIRFIELD LIGHTING COUNTERPOISE TYPICAL LAYOUT PLAN**  
 E4 NTS



**2 RETROREFLECTIVE MARKER DETAIL**  
 E4 NTS



**3 L-867 BASE MOUNTED LIGHT DETAIL**  
 E4 NTS



**5 L-867 HANDHOLE DETAIL**  
 E13 NTS

**GENERAL NOTES:**

1. CABLES AND GROUND STRAPS SHALL HAVE SUFFICIENT SLACK TO ALLOW CONNECTORS TO BE DRAWN 36IN ABOVE FINISHED GRADE. ALL CABLES SHALL BE TAGGED WITH CIRCUIT NUMBER 6IN FROM CONNECTOR WITH "FLAG TAG" MARKERS OR APPROVED EQUAL.
2. GROUND FIXTURES AND HANDHOLE COVERS WITH MINIMUM #6 AWG STRANDED COPPER, GREEN INSULATED CONDUCTOR OR WITH EQUIVALENT COPPER BRAIDED GROUND STRAP. BOND TO FIXTURE PER MANUFACTURER'S INSTRUCTIONS.



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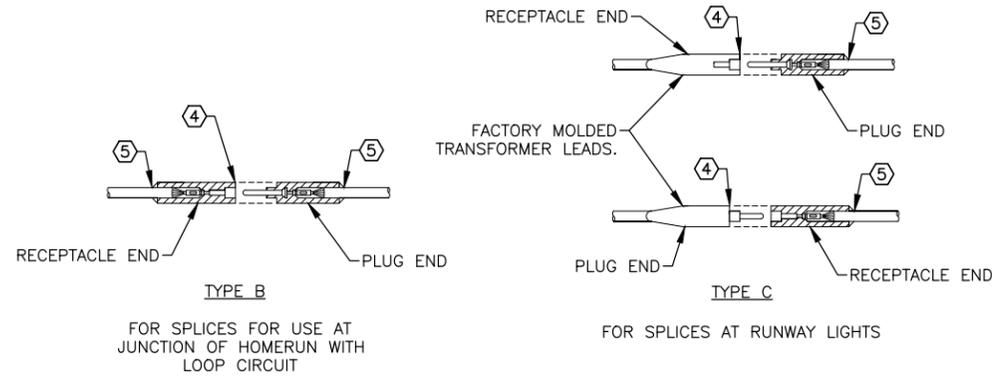
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 LIGHTING DETAILS

DATE: 12-19-2025  
 SHEET: E4 of E9

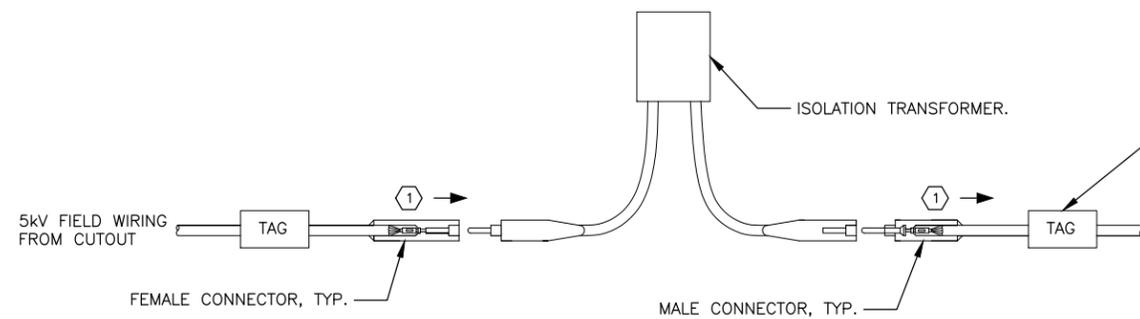
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**DETAIL NOTES:**

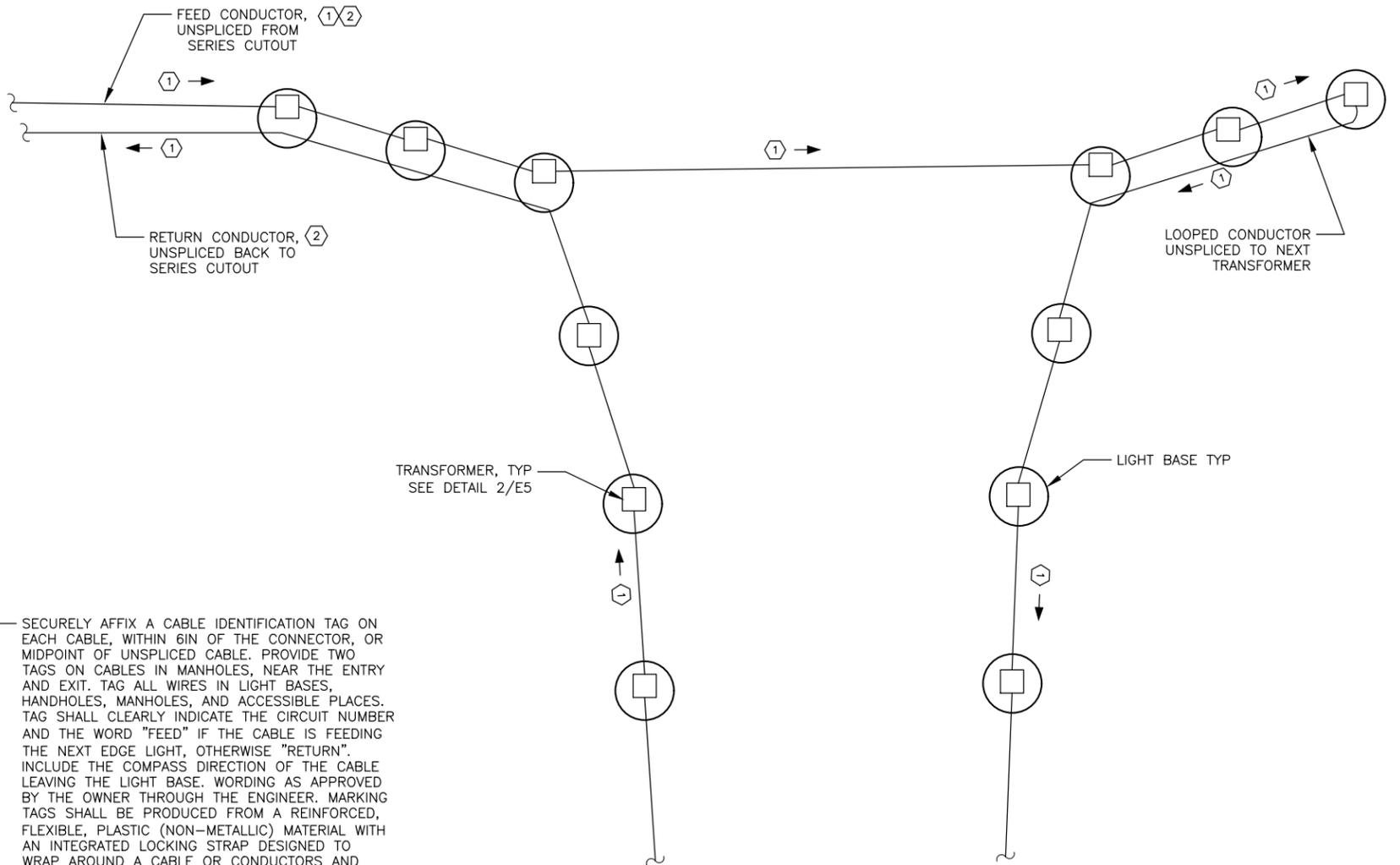
1. CABLE SHALL MEET SPECIFICATION L-824. INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE. CONNECTOR SHALL BE SUPPLIED TO MATCH CABLE PER MANUFACTURER'S INSTRUCTIONS.
2. 5 kV CONDUCTORS SHALL BE PENCILLED USING A PENCILING TOOL MANUFACTURED FOR USE ON #8 AWG, 5 kV, TYPE C AIRPORT CABLE.
3. CONNECTORS SHALL BE CRIMPED USING A RATCHET TYPE CRIMPING TOOL PER MANUFACTURER'S RECOMMENDATION. EACH CRIMP SHALL BE MADE WITH TWO CRIMPS, ROTATED 90DEG.
4. WRAP WITH A MINIMUM OF ONE LAYER OF RUBBER OR SYNTHETIC RUBBER, SELF FUSING TAPE, AND ONE LAYER OF VINYL ELECTRICAL TAPE, ONE-HALF LAPPED, EXTENDING AT LEAST 1.5IN ON EACH SIDE OF CONNECTOR TO CONNECTOR JOINT.
5. WRAP WITH A MINIMUM OF ONE LAYER OF RUBBER OR SYNTHETIC RUBBER, SELF FUSING TAPE, AND ONE LAYER OF VINYL ELECTRICAL TAPE, ONE-HALF LAPPED, EXTENDING AT LEAST 1.5IN ON EACH SIDE OF WHERE CONDUCTOR PENETRATES CONNECTOR.



**1 L-823 CONNECTOR DETAILS**  
E5 NTS



**2 CONNECTOR ORIENTATION DETAIL**  
E5 NTS



**DETAIL 2 & 3 NOTES:**

1. ARRANGE THE LIGHTING CIRCUIT TO FLOW CLOCKWISE AROUND THE RUNWAY AND TAXIWAY WITH THE FEMALE CONNECTOR ON THE REGULATOR SIDE OF THE TRANSFORMER.
2. ALL TRANSFORMER CONNECTIONS SHALL BE MADE ON THE FEED SIDE OF THE SERIES LOOP. RETURN AND LOOP CONDUCTORS SHALL BE CONTINUOUS AND UNSPLICED.

**3 FIELD WIRING SCHEMATIC**  
E5 NTS

SECURELY AFFIX A CABLE IDENTIFICATION TAG ON EACH CABLE, WITHIN 6IN OF THE CONNECTOR, OR MIDPOINT OF UNSPLICED CABLE. PROVIDE TWO TAGS ON CABLES IN MANHOLES, NEAR THE ENTRY AND EXIT. TAG ALL WIRES IN LIGHT BASES, HANDHOLES, MANHOLES, AND ACCESSIBLE PLACES. TAG SHALL CLEARLY INDICATE THE CIRCUIT NUMBER AND THE WORD "FEED" IF THE CABLE IS FEEDING THE NEXT EDGE LIGHT, OTHERWISE "RETURN". INCLUDE THE COMPASS DIRECTION OF THE CABLE LEAVING THE LIGHT BASE. WORDING AS APPROVED BY THE OWNER THROUGH THE ENGINEER. MARKING TAGS SHALL BE PRODUCED FROM A REINFORCED, FLEXIBLE, PLASTIC (NON-METALLIC) MATERIAL WITH AN INTEGRATED LOCKING STRAP DESIGNED TO WRAP AROUND A CABLE OR CONDUCTORS AND SECURE IN PLACE UPON ITS SELF. TAGS SHALL BE RESISTANT TO CONDITIONS FOUND IN THE INSTALLATION AREA, (MOISTURE RESISTANT, UV STABILIZED) AND SHALL NOT TEAR OR DEGRADE. TAGS SHALL BE LEGIBLE AFTER BEING WRITTEN ON WITH OIL-BASED BALL POINT INK PEN OR PERMANENT STYLE MARKER, AND WRITING SHALL NOT WASH OFF. TAGS SHALL HAVE A MINIMUM WRITING AREA OF 6 SQUARE INCHES, AND BE MADE FROM A BRIGHT VISIBLE COLOR.



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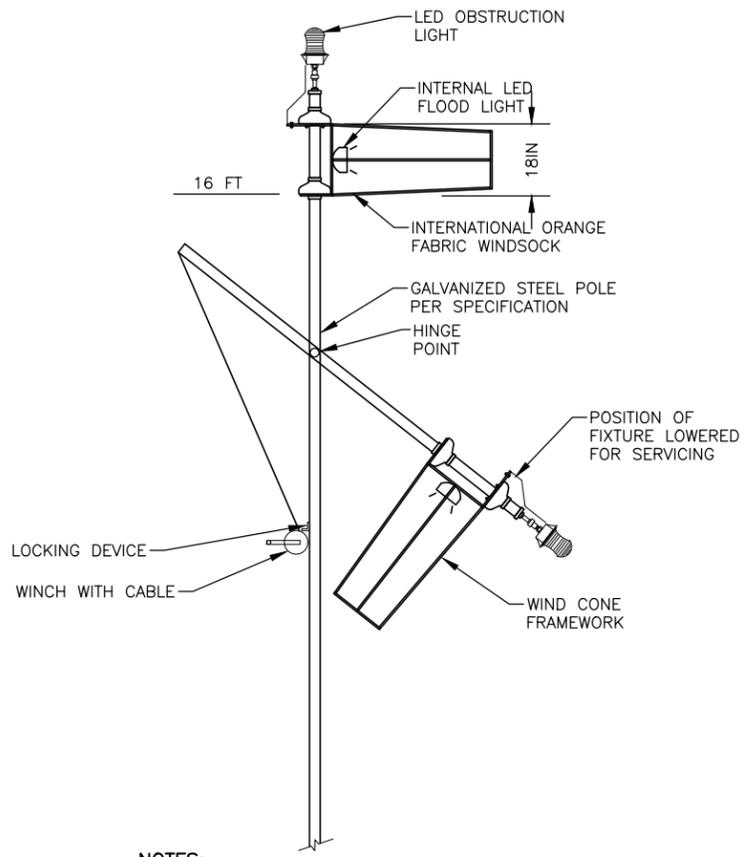
**BETHEL AIRPORT**  
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 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONNECTOR AND WIRING DETAILS

DATE: 12-19-2025  
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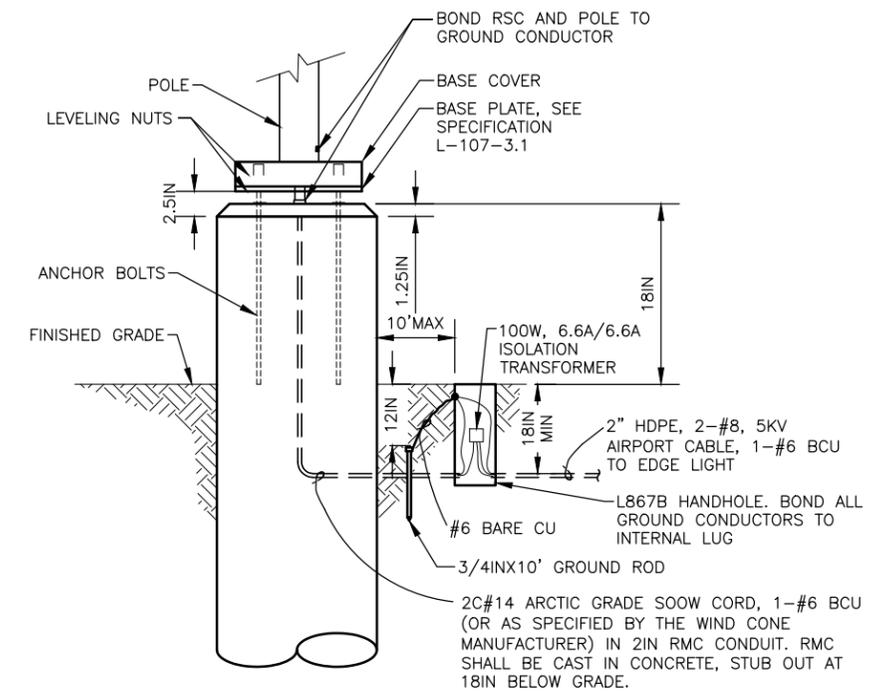
BETHEL AIRPORT WEST APRON TAXIWAY EDGE LIGHT SCHEDULE								
LIGHT #	COLOR	TYPE	LAMP	XFMR	ALIGNMENT	STATION	OFFSET	NOTES
T1	BLUE	L861T	LED	10/15	TW E	5+93.07	47.96' R	
T2	BLUE	L861T	LED	10/15	TW E	6+31.83	51.69' R	
T3	BLUE	L861T	LED	10/15	TW E	6+70.59	55.43' R	
T4	BLUE	L861T	LED	10/15	TW E	7+19.58	55.00' R	
T5	BLUE	L861T	LED	10/15	TW E	8+10.36	55.00' R	
T6	BLUE	L861T	LED	10/15	TW E	9+01.15	55.00'R	
T7	BLUE	L861T	LED	10/15	TW E	9+91.93	55.00'R	
T8	BLUE	L861T	LED	10/15	TW E	10+82.72	55.00'R	
T9	BLUE	L861T	LED	10/15	TW E	11+73.50	55.00'R	
T10	BLUE	L861T	LED	10/15	TW E	12+64.28	55.00' R	
T11	BLUE	L861T	LED	10/15	TW E	14+32.72	55.00' R	
T12	BLUE	L861T	LED	10/15	TW E	15+15.58	85.00' R	
T13	BLUE	L861T	LED	10/15	TW E	15+98.44	85.00' R	
T14	BLUE	L861T	LED	10/15	TW E	16+81.30	85.00' R	
T15	BLUE	L861T	LED	10/15	TW E	17+14.15	85.00' R	
T16	BLUE	L861T	LED	10/15	TW E	17+64.15	85.00' R	
T17	BLUE	L861T	LED	10/15	TW E	4+23.93	54.69' L	
T18	BLUE	L861T	LED	10/15	TW E	4+78.35	54.19' L	
T19	BLUE	L861T	LED	10/15	TW G	315+13.03	48.63' L	
T20	BLUE	L861T	LED	10/15	TW G	315+48.57	41.10' L	
T21	BLUE	L861T	LED	10/15	TW G	316+48.11	37.59' L	
T22	BLUE	L861T	LED	10/15	TW G	317+46.48	35.00' L	
T23	BLUE	L861T	LED	10/15	TW G	318+45.44	35.00' L	
T24	BLUE	L861T	LED	10/15	TW G	319+44.39	35.00' L	
T25	BLUE	L861T	LED	10/15	TW G	320+43.35	35.00' L	
T26	BLUE	L861T	LED	10/15	TW G	321+42.30	35.00' L	
T27	BLUE	L861T	LED	10/15	TW G	322+41.26	35.00' L	
T28	BLUE	L861T	LED	10/15	TW G	323+40.21	35.00'L	
T29	BLUE	L861T	LED	10/15	TW G	324+38.47	37.88' L	
T30	BLUE	L861T	LED	10/15	TW G	325+38.12	41.98' L	
T31	BLUE	L861T	LED	10/15	TW G	325+76.15	51.77' L	
T32	BLUE	L861T	LED	10/15	TW G	326+14.19	61.57' L	
T33	BLUE	L861T	LED	10/15	TW F	2+86.13	54.54' R	
T34	BLUE	L861T	LED	10/15	TW F	2+58.83	47.51' R	
T35	BLUE	L861T	LED	10/15	TW F	2+27.62	47.54' R	
T36	BLUE	L861T	LED	10/15	TW F	1+96.41	47.56' R	
T37	BLUE	L861T	LED	10/15	TW F	1+96.33	47.51' L	
T38	BLUE	L861T	LED	10/15	TW F	2+23.63	54.54' L	
T39	BLUE	L861T	LED	10/15	TW F	2+50.93	61.57' L	
T40	BLUE	L861T	LED	10/15	TW F	2+60.73	99.92' L	
T41	BLUE	L861T	LED	10/15	TW F	2+70.52	137.63' L	
T42	BLUE	L861T	LED	10/15	TW G	329+11.72	38.51' L	
T43	BLUE	L861T	LED	10/15	TW G	329+97.14	35.00' L	
T44	BLUE	L861T	LED	10/15	TW G	330+84.71	34.98' L	
T45	BLUE	L861T	LED	10/15	TW G	331+34.71	34.97' L	

**1 TAXIWAY EDGE LIGHT SCHEDULE**  
E06



- NOTES:**
- SUPPLEMENTAL WIND CONE: L-807, SIZE 1, INTERNALLY LIGHTED, LED, 6.6A.
  - PROVIDE MARINE TREATED, POWDER COATED FINISH, STAINLESS STEEL WINCH, STAINLESS STEEL AIRCRAFT CABLE, STAINLESS STEEL HARDWARE, AND STAINLESS STEEL BEARINGS.

**2 SUPPLEMENTAL WIND CONE DETAIL**  
E6 NTS



- NOTES:**
- PROVIDE STRUCTURAL FOUNDATION PER SECTION L-107.
  - VERIFY ANCHOR BOLT SIZE, BOLT CIRCLE, AND FOUNDATION SIZE WITH MANUFACTURER'S SHOP DRAWINGS.
  - WIND CONE, FOUNDATION, CONDUIT AND WIRING TO THE FIRST HANDHOLE (WITHIN 10 FT OF WIND CONE), SHALL BE SUBSIDIARY TO L107.011.0008.

**3 SUPPLEMENTAL WIND CONE FOUNDATION DETAIL**  
E6 NTS



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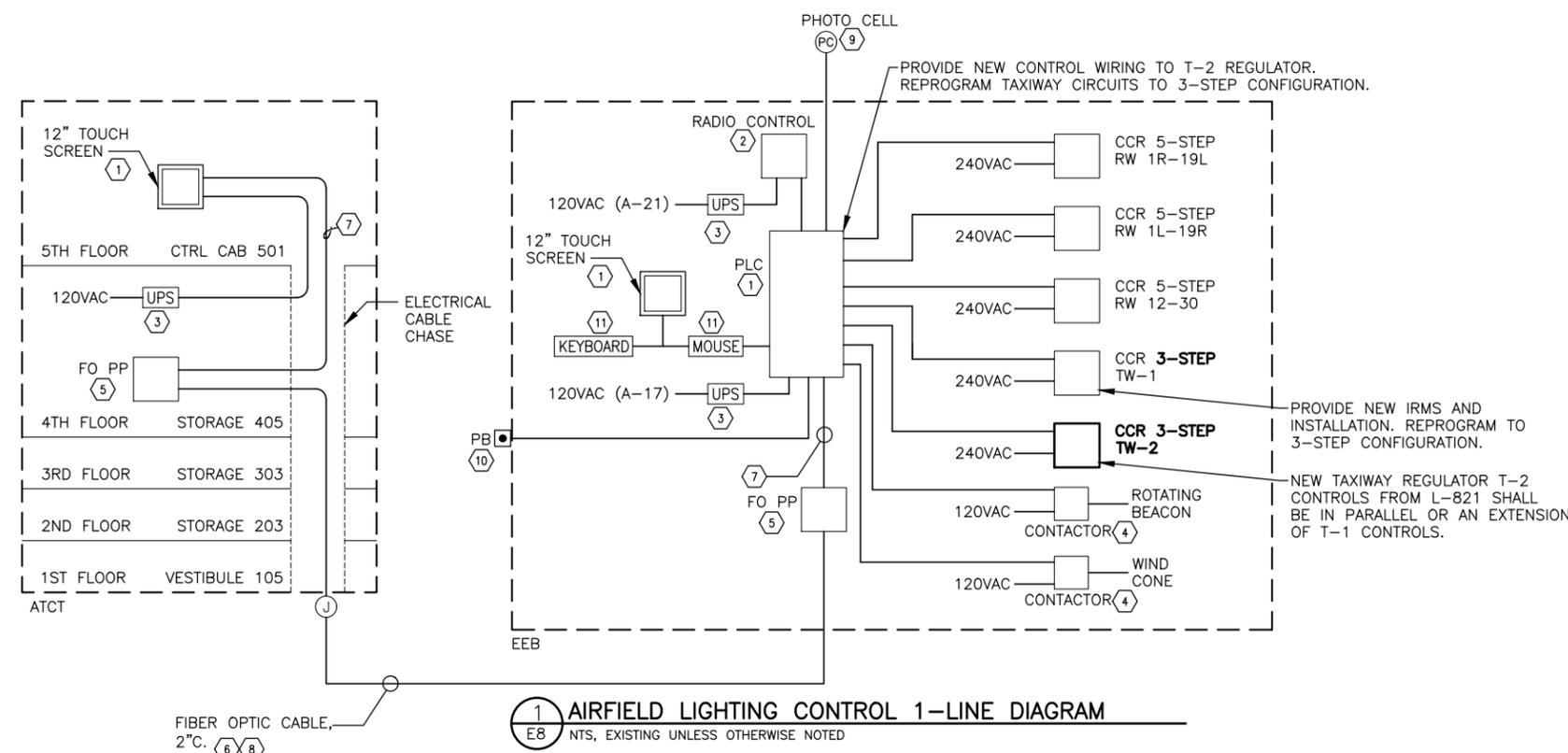
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 LIGHTING SCHEDULE & WIND CONE DETAIL

DATE: 12-19-2025  
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SEQUENCE OF OPERATION (EXISTING)

- 1) GENERAL:
  - A. TOUCHSCREEN CONTROLS:
    1. SYSTEMS CONTROL BY TOUCH CONTACT WITH "PUSH BUTTON" STYLE ICONS ON SCREEN.
    2. SYSTEM EQUIPMENT AND ALARM/ALERT CONDITION STATUS INDICATION BY ILLUMINATION OF "PUSH BUTTON" STYLE ICONS ON SCREEN, WITH AUDIBLE SIGNAL AND ALARM ACKNOWLEDGE BUTTON FOR ALARM/ALERT CONDITIONS.
    3. TWO TOUCHSCREENS SHALL BE PROVIDED, ONE IN THE CONTROL TOWER AND ONE IN THE ELECTRICAL EQUIPMENT BUILDING (EEB).
    4. STATIC DISPLAY OF RUNWAY/TAXIWAY LAYOUT AND DESIGNATION SHOWN ON SCREEN.
    5. BACK UP POWER PROVIDED FROM ON-SITE GENERATION WITH UPS FOR SYSTEM COMPONENTS.
  - B. MANUAL CONTROLS:
    1. MANUAL CONTROLS PROVIDED IN EEB.
    2. MANUAL CONTROLS SHALL BE OPERABLE REGARDLESS OF TOUCHSCREEN CONTROL STATUS.
- 2) TOUCHSCREEN CONTROL, CONTROL TOWER:
  - A. RUNWAY AND TAXIWAY LIGHTS:
    1. SEPARATE SET OF CONTROLS AND INDICATORS FOR EACH CCR.
    2. POWER ON/OFF.
    3. SELECTION OF LIGHTING INTENSITY STEP **RW:** 1 THROUGH STEP 5. **TW:** 1 THROUGH 3 STEP.
    4. FAULT INDICATION.
  - B. PHOTOCELL CONTROL
    1. PHOTOCELL ENABLE/DISABLE.
  - C. BEACON:
    1. POWER ON/OFF.
    2. IF BEACON IS ON AND PHOTOCELL IS ENABLED, BEACON IS ON FROM DUSK TO DAWN.
    3. IF BEACON IS ON AND PHOTOCELL IS DISABLED, BEACON IS ON.
  - D. WIND CONE:
    1. POWER ON/OFF.
    2. IF WIND CONE IS ON AND PHOTOCELL IS ENABLED, WIND CONE IS ON FROM DUSK TO DAWN.
    3. IF WIND CONE IS ON AND PHOTOCELL IS DISABLED, WIND CONE IS ON.
  - E. L-854 RADIO CONTROL:
    1. RADIO ENABLE/DISABLE.
    2. IF RADIO IS ENABLED, RUNWAY AND TAXIWAY LIGHTS ARE OFF UNLESS ACTIVATED BY PILOT RADIO CONTROL.
    3. IF RADIO IS DISABLED, RUNWAY AND TAXIWAY LIGHTS RETURN TO LEVELS IN EFFECT WHEN RADIO WAS ENABLED.
  - F. POWER SYSTEM STATUS INDICATION:
    1. UTILITY OFF-LINE: UTILITY POWER PRESENT AT AUTOMATIC TRANSFER SWITCH (ATS) BUT NOT CONNECTED TO EEB SERVICE.
    2. UTILITY NOT AVAILABLE: UTILITY POWER NOT PRESENT AT ATS.
    3. GENERATOR OFF-LINE: GENERATOR POWER PRESENT AT ATS BUT NOT CONNECTED TO EEB SERVICE.
    4. GENERATOR NOT AVAILABLE: GENERATOR POWER NOT PRESENT AT ATS.
    5. POWER SYSTEM STATUS IS NOT AN ALARM OR ALERT CONDITION.
  - G. SYSTEM PRESETS:
    1. PRESET PUSHBUTTON OPERATION SETS TOUCHSCREEN CONTROLS TO PREDETERMINED SETTINGS.
    2. PROVIDE PRESETS FOR DAY, NIGHT, AND LOW VISIBILITY OPERATION FOR EACH RUNWAY. INCLUDE PRESET LIGHTING BRIGHTNESS STEP FOR RUNWAY AND TAXIWAY, AND PRESET BEACON, WINDCONE, AND PHOTOCELL SETTINGS.
  - H. FAILSAFE MODES:
    1. IF TOWER TOUCHSCREEN IS OFF LINE, SYSTEM SETTINGS ARE THOSE LAST SET AT TOWER TOUCHSCREEN UNTIL MODIFIED AT EEB. CONTROL FUNCTIONS AT EEB TOUCHSCREEN ARE ENABLED.
    2. IF CONTROL SYSTEM PLC FAILS, CCRS REVERT TO PRESET FAILSAFE BRIGHTNESS STEPS.
- 3) TOUCHSCREEN CONTROL, EEB:
  - A. EEB TOUCHSCREEN DISPLAY MIRRORS TOWER TOUCHSCREEN DISPLAY.
  - B. KEYBOARD AND MOUSE ARE PROVIDED AT EEB FOR STARTUP, SHUTDOWN, AND MAINTENANCE FUNCTIONS ONLY. KEYBOARD AND MOUSE ARE NOT USED IN NORMAL OPERATIONS.
- 4) MANUAL CONTROLS AT EEB:
  - A) CCRS: MANUAL SWITCHING FROM "REMOTE" TO "LOCAL" CONTROL AT EACH CCR ENABLES MANUAL OPERATION OF CCR ON/OFF AND BRIGHTNESS STEP CONTROLS.
  - B) BEACON AND WIND CONE: MANUAL SWITCHING OF HOA SWITCH AT ASSOCIATED CONTACTOR TURNS BEACON OR WIND CONE ON OR OFF.

NOTES: (AIRFIELD LTG CTRL DIAGRAM)

- 1) L-821 TYPE III STYLE 3 AIRPORT LIGHTING CONTROL SYSTEM.
- 2) L-854 TYPE I RADIO CONTROLLER.
- 3) UNINTERRUPTIBLE POWER SUPPLY. MINIMUM 15 MINUTE BACKUP. PROVIDE CALCULATIONS.
- 4) CONTACTOR WITH HOA SWITCH.
- 5) FIBER OPTIC PATCH PANEL, WALL MOUNT, 12 ST-COMPATIBLE CONNECTORS, LOCKING DOOR. CORNING WIC-02P WITH TWO CCH-CP-06-19T CONNECTOR PANELS OR APPROVED EQUAL
- 6) FIBER OPTIC CABLE, SINGLE MODE (OS2), 12 STRAND, LOOSE TUBE, GEL FREE, SINGLE JACKET. CORNING CABLING SYSTEMS OR APPROVED EQUAL. PROVIDE MINIMUM 12 FOOT SERVICE LOOP IN EACH HANDHOLE.
- 7) FIBER OPTIC PATCH CABLE, SINGLE MODE, ST CONNECTORS.
- 8) 2" CONDUIT, RSC UNDER PAVED AREAS AND AT BUILDING ENTRANCES, HDPE ELSEWHERE. PROVIDE PULLBOXES AT TOWER AND EEB, AND AT MAXIMUM 500 FEET INTERVALS BETWEEN TOWER AND EEB. SEE DETAILS 2/E15, 4/E22, AND 1/E31.
- 9) PHOTOCELL, MOUNTED ON EEB EXTERIOR.
- 10) PUSH BUTTON SWITCH, MOMENTARY CONTACT, NEMA 4X ENCLOSURE, MOUNTED ON BUILDING EXTERIOR. OPERATION OF PUSH BUTTON TURNS ON ALL AIRFIELD LIGHTING FOR 15 MINUTES.
- 11) KEYBOARD AND MOUSE REQUIRED FOR EEB TOUCHSCREEN ONLY.
12. ROTATING BEACON SHALL REMAIN OPERATIONAL EXCEPT FOR CUTOVER TO NEW EEB. PROVIDE TEMPORARY POWER AS REQUIRED.
13. ALL WORK ASSOCIATED WITH THE THE AIRFIELD LIGHTING CONTROL SYSTEM, INCLUDING FIBER OPTIC CABLING AND ALL WORK IN THE ATCT, SHALL BE SUBSIDIARY TO L109.030.0000.

PANEL: A	MOUNTING		MAINS			OPTIONS				
	SURFACE		MLO			SOLID NEUTRAL				
PROJECT: BETHEL AIRPORT										
LOCATION: EEB										
VOLTAGE: 240/120 VOLT	1 PHASE		3 WIRE			400 A	MLO	30k AIC		
CIRCUIT DESCRIPTION	KVA	AMP	P	CKT	CKT	AMP	P	KVA	CIRCUIT DESCRIPTION	
(R-1) RUNWAY 1L-19R REGULATOR (20kW)	15.2	125	2	1	2	50	2	6.9	(R-3) RUNWAY 12-30 REGULATOR (7.5kW)	
(R-2) RUNWAY 1R-19L REGULATOR (15kW)	10.7	100	2	5	6	175	2	13.7	(T-1) TAXIWAY REGULATOR (25kW)	
STANDBY GENERATOR ELECTRIC PANEL B	7.2	60	2	9	10	30	2	4.0	ELECTRIC HEATER (4 kW)	
LIGHTING	0.3	20	1	13	14	20	2	0.8	ROTATING BEACON	
RECEPTACLES	1.0	20	1	15	16					
AIRFIELD LIGHTING CONTROL PLC	0.5	20	1	17	18	20	1	0.8	EXHAUST FAN EF-1	
AIRFIELD LIGHTING CONTROL TOUCHSCREEN	0.2	20	1	19	20	20	1	0.2	FAA RLIM	
RADIO CONTROLLER	0.1	20	1	21	22	20	1	0.1	PRIMARY WIND CONE	
SPARE		20	1	23	24	<b>65</b>	<b>2</b>	<b>4.2</b>	<b>(T-2) TAXIWAY REGULATOR (10kW)</b>	
SPARE		20	1	25	26					
SPACE				27	28					
SPACE				29	30					
CONNECTED LOAD:		65.9	KVA	274.4	A	REMARKS:				
DEMAND LOAD:		79.0	KVA	329.2	A					
DATE:										
REV:										

**2 PANEL A SCHEDULE**  
 NTS, EXISTING UNLESS OTHERWISE NOTED



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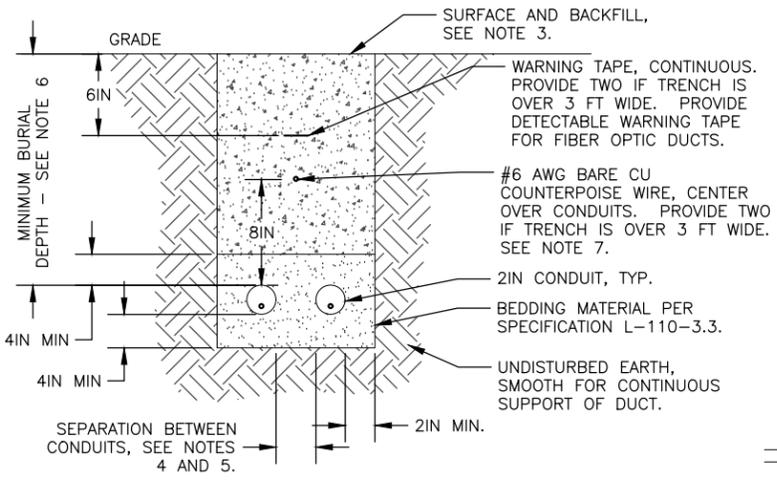
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BETHEL AIRPORT WEST APRON DRYWELL & HANDHOLE SCHEDULE						
LIGHT #	TYPE	PAY ITEM	ALIGNMENT	STATION	OFFSET	NOTES
DW1	DRYWELL	L110.240.0000	TW G	319+43.91	67.05" L	
DW2	DRYWELL	L110.240.0000	TW G	331+41.45	51.45" L	
HH1	L-867	L125.150.0000	TW G			1

**DETAIL NOTES:**

- FIELD LOCATE AS APPROVED BY THE ENGINEER. RECORD LOCATION.

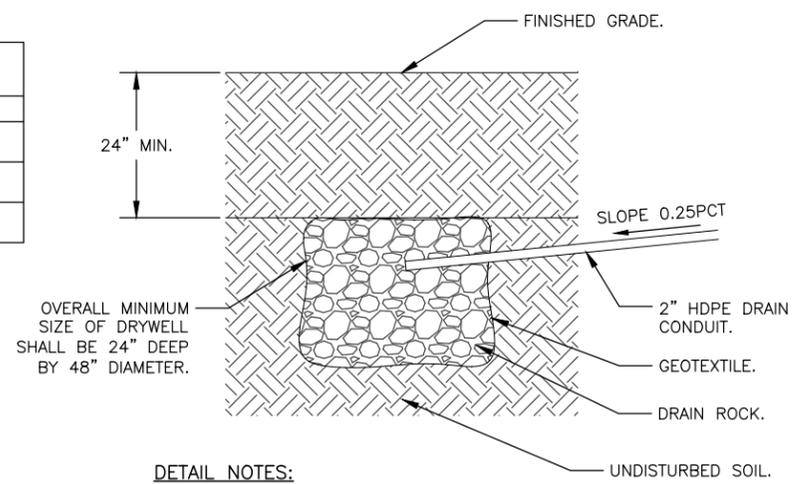
**1 DRYWELL & HANDHOLE SCHEDULE**  
E9 NTS



**DETAIL NOTES:**

- WIDTH OF TRENCH AND NUMBER OF CONDUITS PER TRENCH TO BE DETERMINED IN FIELD (2 SHOWN).
- INSTALL NEW LIGHT BASES AND CONDUITS PRIOR TO PLACEMENT OF CTSB.
- IN AREAS OF NEW CONSTRUCTION, SEE CIVIL FOR SURFACING AND BACKFILL. IN EXISTING AREAS, MATCH EXISTING SURFACE AND BACKFILL.
- SEPARATION BETWEEN CONDUITS SHALL BE 4IN MINIMUM FOR LIGHTING SYSTEMS.
- 12IN MINIMUM SEPARATION BETWEEN LIGHTING AND FAA SYSTEMS.
- MINIMUM BURIAL DEPTH SHALL BE AS FOLLOWS:
  - AIRPORT LIGHTING CONDUITS: 18IN
  - ALL OTHER CONDUITS: 30IN UNLESS OTHERWISE NOTED
- #6 COUNTERPOISE WIRE REQUIRED FOR AIRPORT LIGHTING CIRCUITS ONLY.

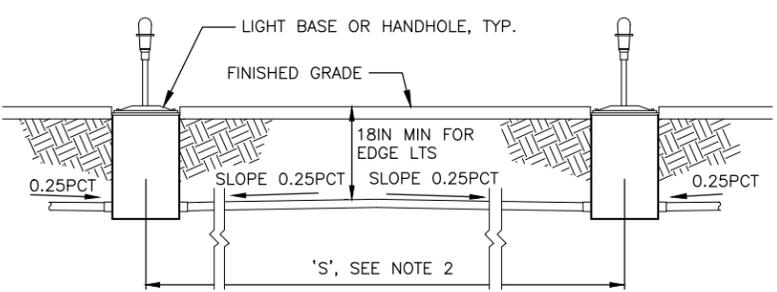
**2 TRENCH DETAIL**  
E4 NTS



**DETAIL NOTES:**

- DRYWELLS SHALL BE CONSTRUCTED OUTSIDE OF PAVED SHOULDER UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
- DRYWELLS SHALL BE PAID UNDER L110.240.0000.
- OVERLAP GEOTEXTILE SEAMS 12 INCHES.
- DRAIN CONDUITS SHALL BE PAID UNDER L110.080.1002.

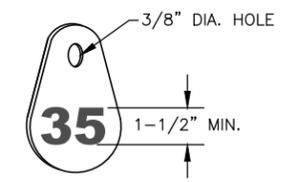
**3 DRYWELL DETAIL**  
E9 NTS



**DETAIL NOTES:**

- CONDUIT SHALL BE INSTALLED WITH CROWN TO DRAIN TO LIGHT BASES AS SHOWN.
- IF 'S' IS LESS THAN 20FT, OR IF 0.25PCT SLOPE CAN BE MAINTAINED IN ONE DIRECTION DUE TO SLOPE OF GRADE, LAY CONDUIT STRAIGHT WITHOUT CROWN BETWEEN BASES/HANDHOLES.

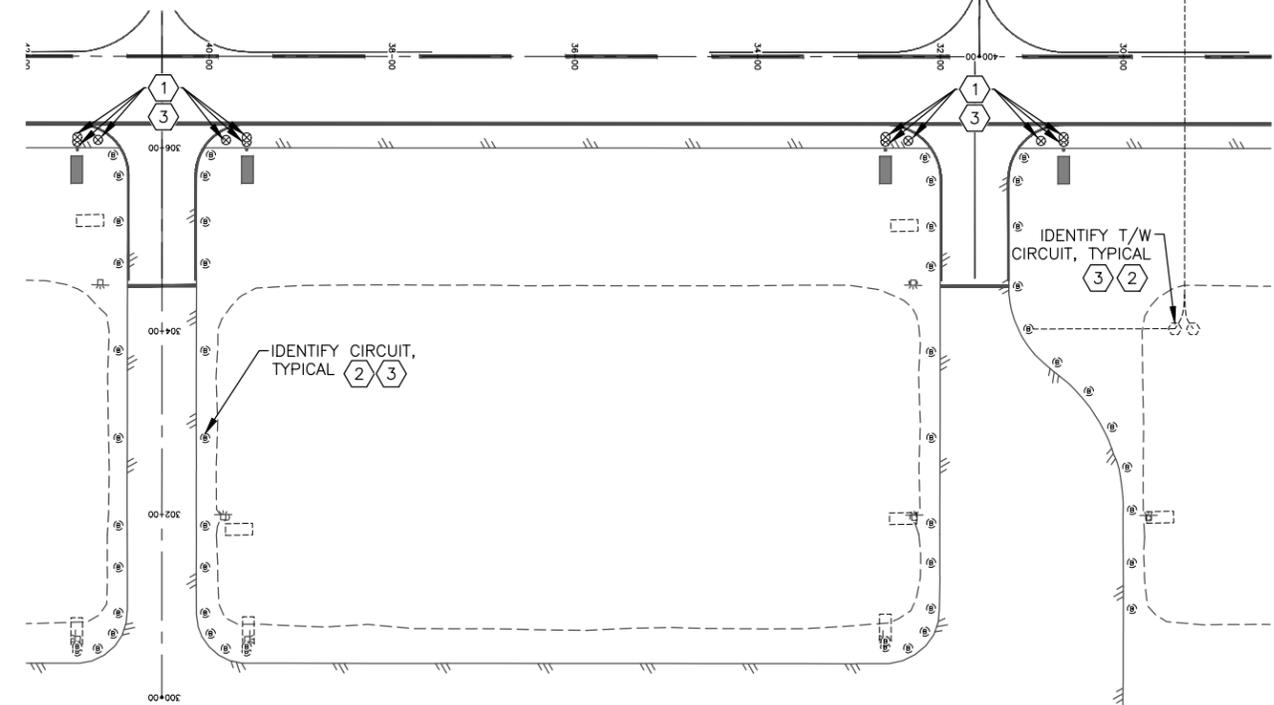
**4 TYPICAL INTERCONNECTION DETAIL**  
E9 NTS



**DETAIL NOTES:**

AFFIX NON-CORROSIVE TAG TO FIXTURE FACING RUNWAY WITH SET SCREW, WIRE TIE, OR METAL BAND. ENGRAVE NUMERALS FOR PERMANENT READABILITY.

**5 TAG DETAIL**  
E9 NTS



**6 PARTIAL R/W AND T/W PLAN**  
E9 NTS

**DETAIL NOTES:**

- RE-LABEL PRIMARY CONDUCTORS TO T-2. SEE DETAIL 2/E5.
- PROVIDE NEW ID TAG AND PLACE ON SECONDARY CONDUCTOR UNDER FIXTURE BASE PLATE. SEE DETAIL 2/E5.
- PROVIDE TAG WITH CIRCUIT IDENTIFICATION (T-2), AND ATTACH TO INBOARD FIXTURE MOUNTING BOLT. SEE DETAIL 5/E7.
- RECONNECT TW CKT TO T-2. SEE SHEET E9
- RELABELING IS SUBSIDIARY TO L125.020.0010 (REGULATOR).



**PLANS DEVELOPED BY:**  
**MBA CONSULTING ENGINEERS, INC.**  
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 CERT. OF AUTH. NO. AECC578

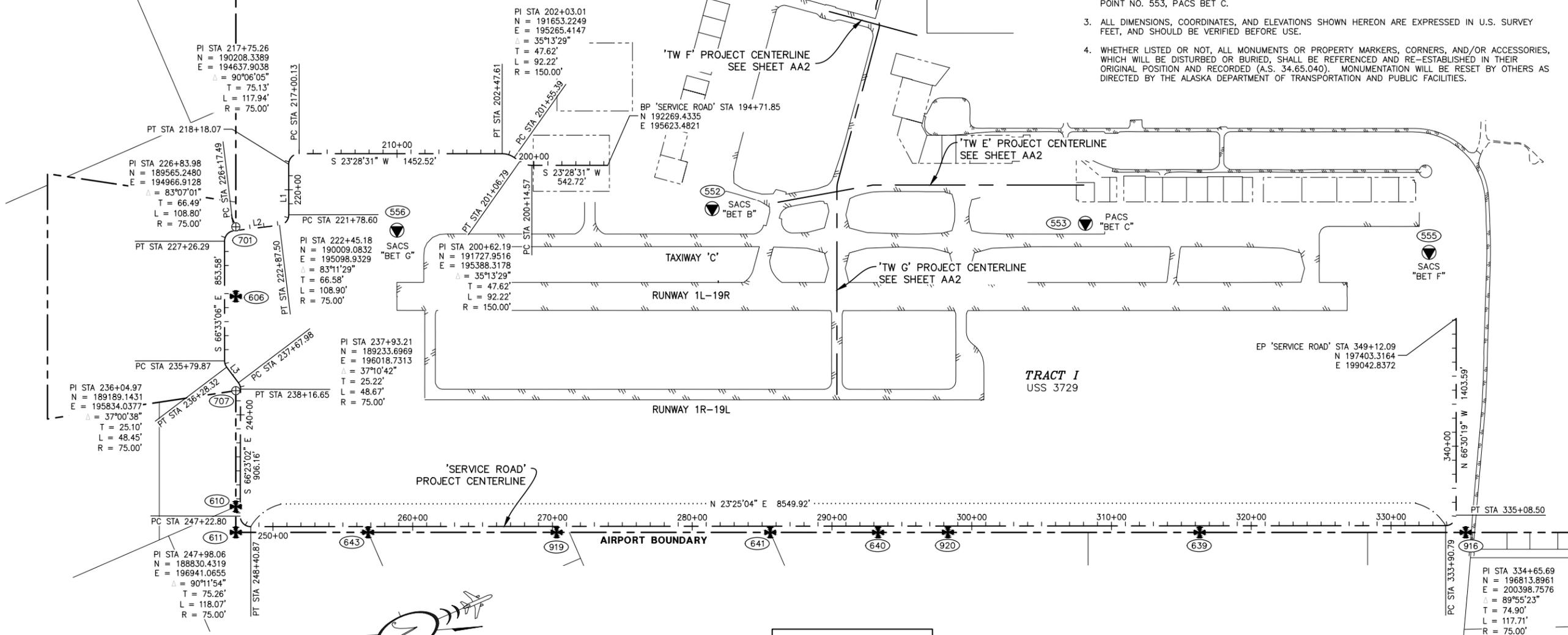
BY	DATE	REVISION

**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES**  
**CENTRAL REGION**  
 4111 AVIATION AVE., ANCHORAGE ALASKA 99502  
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 LIGHTING DETAILS, HANDHOLE AND DRYWELL SCHEDULE, TRENCH DETAIL

DATE: 12-19-2025  
 SHEET: E9 OF E9

12/16/2025, 4:51 PM  
 Date Recvied: AK1  
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 Designed By: MM  
 Drawn By: AA, AL, VN  
 Checked By: CJR



- NOTES:**
1. THE INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY R & M CONSULTANTS, INC. (R&M) JULY 28, 2023 THRU JULY 31, 2023. FIELD SURVEY INFORMATION CAN BE FOUND IN R&M FIELD BOOK NO. 2653.01, PAGES 1 THRU 38.
  2. UNLESS OTHERWISE NOTED, THE COORDINATES OF CONTROL POINTS SHOWN HEREON WERE ESTABLISHED OR VERIFIED BY A CONSTRAINED LEAST-SQUARES ADJUSTED GNSS NETWORK UTILIZING MULTI FREQUENCY TRIMBLE GNSS RECEIVERS AND TRIMBLE BUSINESS CENTER. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE IN THE NAD83(2011) DATUM AND ARE BASED ON TIES FROM POINT NO. 553, PACS BET C.
  3. ALL DIMENSIONS, COORDINATES, AND ELEVATIONS SHOWN HEREON ARE EXPRESSED IN U.S. SURVEY FEET, AND SHOULD BE VERIFIED BEFORE USE.
  4. WHETHER LISTED OR NOT, ALL MONUMENTS OR PROPERTY MARKERS, CORNERS, AND/OR ACCESSORIES, WHICH WILL BE DISTURBED OR BURIED, SHALL BE REFERENCED AND RE-ESTABLISHED IN THEIR ORIGINAL POSITION AND RECORDED (A.S. 34.65.040). MONUMENTATION WILL BE RESET BY OTHERS AS DIRECTED BY THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES.

**HORIZONTAL CONTROL STATEMENT:**

COORDINATE SYSTEM:  
 THIS PROJECT IS LOCATED ENTIRELY WITHIN THE BETHEL AIRPORT COORDINATE SYSTEM, A U.S. SURVEY FOOT LOCAL SURFACE GRID SYSTEM.

BASIS OF COORDINATES:  
 THE BASIS OF COORDINATES IS POINT NO. 604, A FOUND BLM BRASS CAP MONUMENT. POINT NO. 604 HAS ASSUMED COORDINATES OF 200,000.0000 N, 200,000.0000 E.

BASIS OF BEARINGS:  
 PROJECT BEARINGS ARE LOCAL GRID BEARINGS ORIENTED TO THE RECORD BEARING OF RUNWAY 1L/19R, N 23°28'21" E, PER THE BETHEL AIRPORT PROPERTY PLAN, SHEET 10 OF 13, DATED 2/17/99, PROJECT NO. 52787.

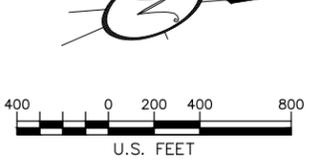
TRANSLATION PARAMETERS:  
 TO CONVERT THE LOCAL COORDINATES TO NAD83(2011) ALASKA STATE PLANE ZONE 7 COORDINATES, U.S. SURVEY FEET:

1. ROTATE AT 200,000.0000 N, 200,000.0000 COUNTERCLOCKWISE 00°08'26.23".
2. TRANSLATE USING +2,283,588.3500 N, +1,472,585.5351 E.
3. SCALE ABOUT 0.0 USING 0.99989471.

**VERTICAL CONTROL STATEMENT:**

VERTICAL DATUM:  
 THE PROJECT VERTICAL DATUM IS NAVD88 (GEOID99AK), BASED ON THE SUPERCEDED ELEVATION OF POINT NO. 553, PACS BET C, HAVING A PROJECT ELEVATION OF 99.90 FEET PER SURVEY CONTROL DIAGRAM, RECORD OF SURVEY PLAT NO. 2010-2, BETHEL RECORDING DISTRICT. PROJECT ELEVATIONS WERE ESTABLISHED BY DIFFERENTIAL LEVEL LOOPS USING A LEICA DNA10 DIGITAL LEVEL AND BARCODE ROD.

TO CONVERT PROJECT ELEVATIONS TO NAVD88 (GEOID12B) ELEVATIONS, ADD 4.70 FEET TO PROJECT ELEVATIONS.



- LEGEND:**
- FEDERAL CONTROL STATION
  - ⊕ PRIMARY BLM MONUMENT
  - ⊕ PRIMARY PROPERTY MONUMENT
  - Ⓢ CONTROL POINT NUMBER

LINE TABLE		
LINE	DIRECTION	DISTANCE
L1	S66° 37' 34"E	360.53'
L2	S16° 33' 55"W	329.98'
L3	N76° 26' 15"E	139.66'

POINT	NAD83(2011) EPOCH 2010			LOCAL		PROJECT ELEVATION	DESCRIPTION
	N. LATITUDE	W. LONGITUDE	ELLIPSOID HEIGHT	NORTHING	EASTING		
552	*60°46'39.39518"	*161°50'31.72248"	*164.08	192831.7691	196204.0626	124.56	FND BC[NGS]: SACS BET B
553	*60°47'03.11084"	*161°50'08.36533"	*139.52	195240.0092	197363.7966	99.90	FND BC[NGS]: PACS BET C
555	60°47'24.50903"	161°49'44.80768"	127.22	197412.9814	198533.1062	87.59	SET SS ROD[12042-S]: SACS BET F
556	60°46'18.42205"	161°50'46.95818"	157.72	190701.9693	195447.4371	118.08	SET SS ROD[12042-S]: SACS BET G

\* DENOTES RECORD PER NGS DATASHEET

POINT	HORIZONTAL CONTROL				DESCRIPTION
	STATION	OFFSET	NORTHING	EASTING	
701	225+99.34	25.89 RT	189653.7537	194966.2255	FD AM[4408-S]: M53 BETHEL AIRPORT
606	231+20.18	80.63 LT	189456.0245	195421.3653	FD BC[BLM]: WP S3729
707	238+27.87	33.82 RT	189188.1098	196038.5784	FD AM[4408-S]: M55 BETHEL AIRPORT
610	246+54.96	31.61 RT	188858.7962	196797.2851	FD BC[BLM]: CC S3729 *N-S CL S24 T8N R72W SM
611	247+84.97	82.25 RT	188785.5068	196965.8053	FD BC[BLM]: C2 S3729
643	256+80.90	40.92 RT	189654.0660	197342.3794	FD BC[BLM]: CC S3729 *E-W CL S24 T8N R72W SM
919	270+29.65	42.19 RT	190891.2128	197879.5784	FD BC[BLM]: WP S3729
641	285+58.04	44.19 RT	192292.9140	198488.8502	FD BC[BLM]: CC S3729 *S13/S24 T8N R72W SM
640	293+29.93	44.93 RT	193000.9308	198796.3028	FD BC[BLM]: WP S3729
920	298+29.64	44.08 RT	193459.8177	198994.1257	FD BC[BLM]: C9 L26 S4117
639	316+30.75	46.87 RT	195111.4669	199712.4971	FD BC[BLM]: USLM/WP S 3729
916	334+55.39	114.34 RT	196857.7783	200470.4442	FD BC[BLM]: RM NW L26 S4117



**PLANS DEVELOPED BY:**  
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 CERT. OF AUTH. NO. AECC111

BY	DATE	REVISION

**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
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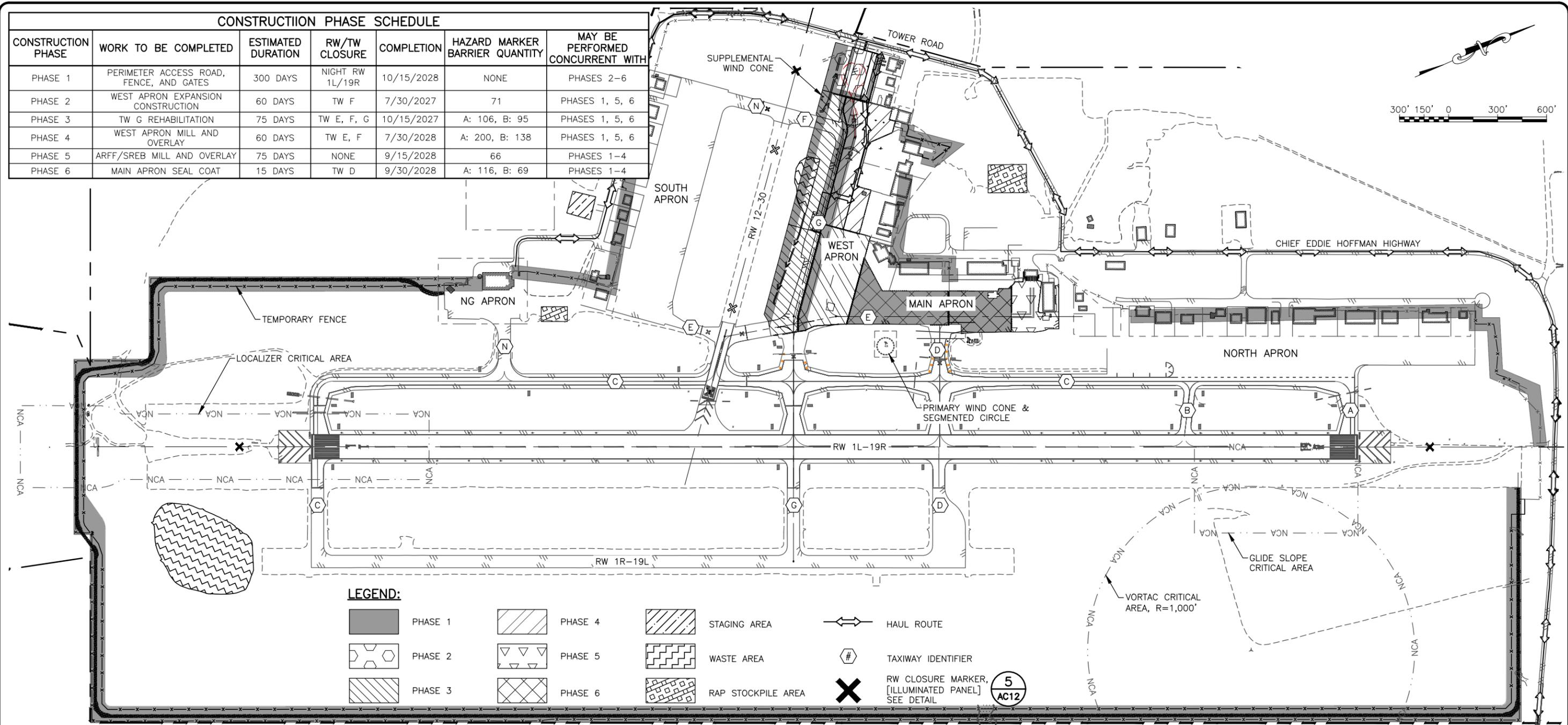
**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 SURVEY CONTROL SHEET

DATE:  
 12/16/2025  
 SHEET:  
 AA1 OF AA2



Date Revised: 12/19/2025, 11:07 AM  
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 File Path and Name:  
 Drawn By: AA, AL, VN  
 Checked By: CJB  
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CONSTRUCTION PHASE SCHEDULE						
CONSTRUCTION PHASE	WORK TO BE COMPLETED	ESTIMATED DURATION	RW/TW CLOSURE	COMPLETION	HAZARD MARKER BARRIER QUANTITY	MAY BE PERFORMED CONCURRENT WITH
PHASE 1	PERIMETER ACCESS ROAD, FENCE, AND GATES	300 DAYS	NIGHT RW 1L/19R	10/15/2028	NONE	PHASES 2-6
PHASE 2	WEST APRON EXPANSION CONSTRUCTION	60 DAYS	TW F	7/30/2027	71	PHASES 1, 5, 6
PHASE 3	TW G REHABILITATION	75 DAYS	TW E, F, G	10/15/2027	A: 106, B: 95	PHASES 1, 5, 6
PHASE 4	WEST APRON MILL AND OVERLAY	60 DAYS	TW E, F	7/30/2028	A: 200, B: 138	PHASES 1, 5, 6
PHASE 5	ARFF/SREB MILL AND OVERLAY	75 DAYS	NONE	9/15/2028	66	PHASES 1-4
PHASE 6	MAIN APRON SEAL COAT	15 DAYS	TW D	9/30/2028	A: 116, B: 69	PHASES 1-4



**LEGEND:**

	PHASE 1		PHASE 4		STAGING AREA		HAUL ROUTE
	PHASE 2		PHASE 5		WASTE AREA		TAXIWAY IDENTIFIER
	PHASE 3		PHASE 6		RAP STOCKPILE AREA		RW CLOSURE MARKER, [ILLUMINATED PANEL] SEE DETAIL

**CSPP WORK ITEMS:**

- ALL PHASES REQUIRE THE FOLLOWING ITEMS BEFORE BEGINNING CONSTRUCTION:
1. ISSUE NOTAM FOR CHANGE IN OPERATIONS.
  2. DISABLE APPLICABLE LIGHTING AND NAVAIDS.
  3. APPLY TEMPORARY RUNWAY AND TAXIWAY CLOSURE MARKERS.
  4. SET UP HAZARD MARKER BARRIERS.
  5. PAINT TEMPORARY MARKINGS.

**PHASE 1A:**

1. CLOSE RW 1L/19R FOR NIGHTTIME HAUL OPERATIONS ON RSA.
2. SET RUNWAY CLOSURE MARKERS, TAXIWAY CLOSURE MARKERS, HAZARD MARKER BARRIERS, AND COVER RUNWAY EXIT SIGNS.
3. INSTALL TEMPORARY FENCE AND GATE.
4. CONSTRUCT PERIMETER ROAD.
5. PLACE TEMPORARY CULVERTS AND SURCHARGE.
6. PLACE TEMPORARY FENCE PER PLANS.
7. REPLACE GATES AND FENCE AROUND TERMINALS.

**PHASE 1B:**

1. CLOSE RW 1L/19R FOR NIGHTTIME HAUL OPERATIONS ON RSA.
2. SET RUNWAY CLOSURE MARKERS, TAXIWAY CLOSURE MARKERS, HAZARD MARKER BARRIERS, AND COVER RUNWAY EXIT SIGNS.
3. REMOVE SURCHARGE AND REPLACE DAMAGED CULVERTS.
4. PLACE REMAINING EMBANKMENT AND SURFACE MATERIAL.
5. PLACE NEW FENCE AND REMOVE EXISTING FENCE.
6. PLACE TEMPORARY FENCE TO MAINTAIN SECURITY.
7. AFTER EMBANKMENT SURCHARGE, RESHAPE THE EMBANKMENT SLOPES, INSPECT CULVERTS, REPLACE FAILED CULVERTS, AND REESTABLISH THE DITCHES.

**PHASE 2:**

1. CLOSE TAXIWAY F.
2. TEMPORARILY CLOSE RW 12-30 AT NIGHT.
3. TEMPORARILY RELOCATE EVERTS PARKING.
4. REALIGN TAXIWAY G, REHABILITATE AND EXPAND APRON.
5. PROVIDE PARKING AND SIDA MARKING.
6. INSTALL LIGHTING AND PAINT PERMANENT MARKINGS.

**PHASE 3A:**

1. CLOSE TAXIWAY F.
2. CLOSE RW 12-30 AT NIGHT.
3. SET RUNWAY CLOSURE MARKERS, TAXIWAY CLOSURE MARKERS, HAZARD MARKER BARRIERS, AND COVER RUNWAY EXIT SIGNS.
4. REALIGN AND REHABILITATE SOUTHWEST PORTION OF TW G.
5. INSTALL LIGHTING AND PAINT PERMANENT MARKINGS.

**PHASE 3B:**

1. CLOSE TAXIWAY G/TAXIWAY E INTERSECTION.
2. CLOSE TAXIWAY G, BETWEEN TAXIWAY C AND MAIN APRON.
3. CLOSE RW 12-30 AT NIGHT.
4. SET RUNWAY CLOSURE MARKERS, TAXIWAY CLOSURE MARKERS, HAZARD MARKER BARRIERS, AND COVER RUNWAY EXIT SIGNS.
5. PAINT TEMPORARY MARKINGS.
6. REALIGN AND REHABILITATE SOUTHEAST PORTION OF TW G.
7. INSTALL LIGHTING.
8. REMOVE TEMPORARY MARKINGS.
9. PAINT PERMANENT MARKINGS.
10. OPEN INTERSECTION OF TAXIWAY E AND TAXIWAY G.

**PHASE 4A:**

1. PAINT TEMPORARY MARKINGS.
2. REHABILITATE NORTHWEST PORTION OF WEST APRON.

**PHASE 4B:**

1. CLOSE TAXIWAY E, BETWEEN RW 12-30 AND TAXIWAY G.
2. PAINT TEMPORARY MARKINGS.
3. REHABILITATE NORTHEAST PORTION OF WEST APRON.
4. PAINT PERMANENT MARKINGS.
5. OPEN TAXIWAY E.

**PHASE 5:**

1. PAINT TEMPORARY MARKINGS FOR ALASKA AIRLINES TO DISPLACE ALASKA AIRLINES.
2. REHABILITATE ARFF/SREB RAMP.
3. INSTALL LIGHTING.
4. THE CONTRACTOR SHALL NOT BLOCK ARFF ACCESS AT ANY TIME.

**PHASE 6A:**

1. CLOSE TAXIWAY D AND TAXIWAY E AT NIGHT.
2. REMOVE MARKINGS
3. SEAL COAT APRON.
4. PAINT PERMANENT MARKINGS.
5. OPEN TAXIWAY D AND TAXIWAY E.

**PHASE 6B:**

1. SEAL COAT APRON.
2. PAINT PERMANENT MARKINGS.

PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

**STATE OF ALASKA**  
**DEPARTMENT OF TRANSPORTATION**  
**AND PUBLIC FACILITIES**  
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONSTRUCTION SAFETY & PHASING PLAN  
 OVERVIEW

DATE:  
12/19/2025  
 SHEET:  
AC1 of AC13

Date Received: 12/19/2025, 11:07 AM  
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Drawn By: AA, AL, VN  
 Checked By: CJB

**CSPP NOTES:**

- REFER TO THE CONSTRUCTION SAFETY AND PHASING PLAN NARRATIVE (SPECIFICATIONS APPENDIX D) AND GENERAL CONTRACT PROVISIONS (GCP)-80 FOR ADDITIONAL CONSTRUCTION PHASING AND SEQUENCING INFORMATION AND FOR LIMITATIONS ON CONSTRUCTION. PHASE CONSTRUCTION ACTIVITIES TO COMPLY WITH ALL CONDITIONS OF THE SAFETY PLAN AND PROJECT PERMITS STIPULATIONS.
- SUBMIT A SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) TO THE ENGINEER FOR REVIEW PER FAA AC 150/5370-2G. DO NOT BEGIN CONSTRUCTION ACTIVITIES UNTIL THE ENGINEER APPROVES THE SPCD IN WRITING. ALLOW 30 DAYS FOR REVIEW. INCLUDE CONSTRUCTION SEQUENCING. IF PLAN DIFFERS FROM WHAT IS SHOWN OR IF SUBSEQUENT CHANGES ARE MADE, SUBMIT A REVISION TO THE ENGINEER FOR REVIEW AND APPROVAL. ALLOW 10 DAYS FOR REVIEW OF REVISED SAFETY AND SEQUENCING PLANS.
- WHENEVER THE PLANS OR SPECIFICATIONS CALL FOR COORDINATION, NOTIFICATION, CONTACT, OR OTHER INTERACTION WITH FAA, TSA, AIRPORT MANAGEMENT, MAINTENANCE AND OPERATIONS, AIR CARRIERS, AIRPORT TENANTS, AIRPORT USERS, ANY LOCAL, STATE, OR FEDERAL AGENCY, GROUP, OR ASSOCIATION, OR THE GENERAL PUBLIC, SUCH ACTIVITY SHALL BE DONE THROUGH, IN THE PRESENCE OF, OR WITH THE WRITTEN APPROVAL OF THE ENGINEER. ALLOW SUFFICIENT TIME FOR COORDINATION AND APPROVALS WITHIN PROPOSED WORK SCHEDULES.
- MAINTAIN AIRCRAFT ACCESS FOR CARGO AND PASSENGER OPERATIONS TO THE ACTIVE TAXIWAY AND APRON AREAS AT ALL TIMES. DO NOT ENTER THE ACTIVE RUNWAY AND TAXIWAY SAFETY AREA. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND WORKING AROUND ALL SCHEDULED OPERATIONS. ALL NIGHT WORK MUST BE PERFORMED OUTSIDE OF SCHEDULED AIRCRAFT OPERATION TIMES (GENERALLY 10:00PM TO 6:00AM).
- PROVIDE AN ACCESS PLAN FOR APPROVAL BY THE ENGINEER. APPROVAL OF ACCESS PLAN IS REQUIRED PRIOR TO BEGINNING OF WORK. ACCESS PLAN SHALL INCLUDE, BUT IS NOT LIMITED TO, SCHEDULING WORK, SEPARATION OF AIRCRAFT AND PASSENGERS FROM ACTIVE CONSTRUCTION, TRAFFIC CONTROL DEVICES REQUIRED, AND HAZARD MARKER BARRIER LOCATIONS. SEE GCP-80 AND APPENDIX D FOR DETAILS.
- PROVIDE FAA ACCESS TO RUNWAY 1L MALS R AT ALL TIMES DURING CONSTRUCTION. PROVIDE GATES IN TEMPORARY FENCE AS NECESSARY.
- THE PROJECT WILL REQUIRE TEMPORARY CLOSURES OF TAXIWAYS F, G, AND E. COORDINATE THROUGH THE ENGINEER PRIOR TO OPENING OR CLOSING AREAS TO AIRCRAFT OPERATIONS AND/OR ADVANCING TO THE NEXT WORK AREA. ALLOW FOR ISSUANCE OF NOTAMS BY AIRPORT MANAGEMENT TO KEEP ALL AIRPORT USERS INFORMED OF CLOSED AREAS AND APRON, TAXIWAY, AND RUNWAY STATUS.
- RUNWAY AND TAXIWAY CLOSURES CAN BE PROPOSED AND PUT INTO AFFECT ONLY WITH THE APPROVAL OF THE ENGINEER. TEMPORARY CLOSURES OF RUNWAY 01L-19R AND RUNWAY 12-30 ARE ANTICIPATED FOR PERIMETER ROAD CONSTRUCTION ON THE NORTH END OF RUNWAY 01L-19R AND FOR WEST APRON EXPANSION NEAR THE NORTH END OF RUNWAY 12-30.
- PROVIDE WEEKLY NOTIFICATIONS OF ACTIVE AIRPORT AREAS AND CONSTRUCTION ACTIVITIES TO THE CONTACTS LISTED IN THE CONSTRUCTION SAFETY AND PHASING PLAN AND/OR SPECIFICATIONS. CARRYOUT CONTINUING COORDINATION THROUGH THE ENGINEER USING WEEKLY BRIEFINGS WITH AIRPORT OPERATIONS, AIRPORT MAINTENANCE, ARFF PERSONNEL, AND AIRPORT USERS TO KEEP EVERYONE AWARE OF THE STATUS AND CHANGES OF AIRPORT SURFACES IN RELATION TO GROUND TRAFFIC. PROVIDE DETAILED DRAWINGS INDICATING TRAFFIC ROUTES FOR GROUND TRAFFIC. INDICATE CLOSED AREAS AND PROVIDE UPDATED DRAWINGS AS CONSTRUCTION PROCEEDS.  
  
NOTAMS SHALL BE ISSUED IN ACCORDANCE WITH AC 150/5370-2. ALL NOTAMS SHALL BE COORDINATED WITH AIRPORT MANAGER, THROUGH THE PROJECT ENGINEER. NOTAMS SHALL BE ISSUED FOR RUNWAY AND TAXIWAY CLOSURES. THE NOTAMS INFORMATION SHALL INCLUDE PORTIONS OF THE AIRFIELD THAT ARE CLOSED OR RELOCATED, THE DATE AND TIME OF THE BEGINNING AND ENDING OF WORK, AND THE DURATION OF THE WORK. CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF 7 DAYS REGARDING THE NEED FOR NOTAMS. CONTRACTOR SHALL NOT COMMENCE WORK ACTIVITIES UNTIL APPROPRIATE NOTAMS HAVE BEEN ISSUED TO COVER WORK ACTIVITIES.
- PLACE HAZARD MARKER BARRIERS WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER FOR EACH PHASE. HAZARD MARKER BARRIERS ARE SHOWN AT APPROXIMATE LOCATIONS. ADDITIONAL LOCATIONS OR ADJUSTMENTS MAY BE REQUIRED. PLACE HAZARD MARKER BARRIERS IN ACCORDANCE WITH ITEM P-670, THE CONSTRUCTION SAFETY AND PHASING PLAN, AND AS APPROVED BY THE ENGINEER. THE ENGINEER MAY DIRECT THE PLACEMENT OF ADDITIONAL BARRIERS AS DEEMED NECESSARY. MONITOR HAZARD MARKER BARRIERS FREQUENTLY. CORRECT DEFICIENCIES IMMEDIATELY.
- THE CONTRACTOR MUST REPORT ANY SAFETY ISSUES TO THE ENGINEER AND AIRPORT MANAGER UPON DISCOVERY. THE CONTRACTOR MUST TAKE IMMEDIATE ACTION TO RESOLVE SAFETY ISSUES AS DIRECTED.
- NO PERSONNEL OR EQUIPMENT MAY BE IN THE RSA OR TSA WHILE RUNWAY AND TAXIWAY ARE OPEN TO AIRCRAFT. CLEAR EQUIPMENT FROM WORK AREAS WHEN REQUESTED BY THE ENGINEER. NO EQUIPMENT OR MATERIAL STOCKPILES MAY REMAIN IN CRITICAL AREAS; RUNWAY OBJECT FREE AREAS; TAXIWAY OBJECT FREE AREAS; OR ON CLOSED RUNWAYS, TAXIWAYS, OR APRONS DURING NON-WORK HOURS.
- COORDINATE THROUGH THE ENGINEER FOR THE SHUTDOWN OF ONLY THOSE FAA FACILITIES OUTLINED IN THE CSPP NARRATIVE AND THE CONTRACTOR'S APPROVED SPCD, ALL OTHER FAA FACILITIES MUST REMAIN IN OPERATION. REMAIN CLEAR OF ALL NAVAID CRITICAL AREAS DURING AIRCRAFT OPERATIONS AND WHILE IMPACTED RUNWAYS ARE OPEN. SEE THE PLAN VIEW FOR LOCATION OF THE CRITICAL AREAS. DAMAGE TO FAA FACILITIES, INCLUDING POWER DISTRIBUTION, MUST BE IMMEDIATELY REPAIRED IN A MANNER ACCEPTABLE TO FAA AT THE CONTRACTOR'S EXPENSE.
- KEEP CONSTRUCTION MATERIALS, STOCKPILES AND STAGED EQUIPMENT OUT OF THE LOCALIZER CRITICAL AREA.
- FIELD VERIFY SUITABILITY OF HAUL ROUTES AND STAGING AREAS SHOWN. HAUL ROUTES AND STAGING AREAS AS SHOWN MUST BE APPROVED BY THE ENGINEER. PROVIDE MAINTENANCE PER SPECIFICATIONS. PROVIDE FLAGGERS TO CONTROL ACCESS ONTO THE AIRPORT OPERATIONS AREA (AOA). FLAGGERS SHALL CONTACT AIR TRAFFIC CONTROL TOWER (ATCT) FOR CURRENT TRAFFIC ADVISORIES PRIOR TO EACH TRANSIT. HAUL ACCESS ACROSS CLOSED PORTIONS OF THE RUNWAY WILL BE AT THE DISCRETION OF THE ENGINEER AND IS SUBJECT TO RUNWAY CLOSURE AND REOPENING REQUIREMENTS IN THE SPECIFICATIONS.
- KEEP ALL ACTIVE HAUL ROUTES AND AIRPORT SURFACES CLEAN OF MATERIAL. REMOVE SPILLED OR TRACKED MATERIALS IMMEDIATELY TO AVOID DAMAGING AIRCRAFT. REPAIR ANY HAUL ROUTE DAMAGE TO PRECONSTRUCTION CONDITIONS. AN APPROVED FOD INSPECTION AND TAXIWAY/APRON CLEANING IS REQUIRED PRIOR TO THE END OF EVERY SHIFT.
- PROVIDE AN AIRPORT FLAGGER WHERE CONSTRUCTION ACTIVITY IS CONDUCTED WITHIN 125' OF AN OPEN RUNWAY; WHERE CONSTRUCTION ACTIVITY IS CONDUCTED IN CLOSE PROXIMITY TO OPERATING AIRCRAFT; WHERE ACCESS GATES TO THE AOA ARE LEFT OPEN FOR HAUL OPERATIONS; AND WHERE THE ENGINEER OR AIRPORT PERSONNEL DETERMINES A FLAGGER IS NECESSARY.
- MARK OPEN TRENCHES OR EXCAVATIONS WITH HAZARD AREA BARRIERS. LIGHT WITH RED LIGHTS DURING HOURS OF RESTRICTED VISIBILITY OR DARKNESS. SEE CSPP (SECTION 19) REGARDING RESTRICTIONS FOR TRENCH AND EXCAVATION LOCATIONS.

- VEHICLES AND EQUIPMENT MUST HAVE BEACONS AND COMPANY RADIOS. TRAFFIC CONTROL MUST HAVE AIRCRAFT AND COMPANY RADIOS. REFER TO THE CSPP NARRATIVE (SPECIFICATIONS APPENDIX D) FOR FURTHER VEHICLE REQUIREMENTS.
- WHEN USING EQUIPMENT TALLER THAN 20 FEET FOLLOW CSPP SECTION 19A(i). DO NOT EXCEED STOCKPILE HEIGHTS OF 20 FEET.
- ARFF VEHICLES MUST HAVE CONTINUOUS ACCESS TO THE ENTIRE AIRPORT FOR EMERGENCIES. MAINTAIN SUITABLE CORRIDORS AND COORDINATE ACCESS WITH ARFF PERSONNEL THROUGH THE ENGINEER AS REQUIRED. KEEP ARFF INFORMED OF WORK AREAS, CLOSURES, AND ALL FENCE GATES THAT ARE ADDED TO SERVICE OR OUT OF SERVICE FOR WORK. CONTRACTOR MUST BE PREPARED TO OPEN THE AIRPORT FOR MEDEVAC AND OTHER EMERGENCY OPERATIONS AT ALL TIMES. THE WORK AREA MUST BE CLEARED OF EQUIPMENT, PERSONNEL, CLOSURE MARKERS, BARRICADES, AND ANY OTHER OBSTRUCTIONS GIVEN EXTREMELY SHORT NOTICE (30 MINUTES OR LESS).
- ANY DAMAGE TO EXISTING AIRFIELD LIGHTING, AIRCRAFT NAVIGATIONAL AIDS (NAVAIDS), OR AIRFIELD PAVEMENTS--TO--REMAIN DUE TO CONSTRUCTION SHALL BE COMMUNICATED TO THE ENGINEER AND THE AIRPORT MANAGER IMMEDIATELY, AND SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER AND AIRPORT MANAGER.
- LOCATE BURIED FAA ELECTRICAL LINES AND PLACE STEEL PLATES (OR EQUIVALENT PROTECTION, AS APPROVED BY THE ENGINEER) OVER UTILITY LINE CROSSING LOCATIONS.
- REFER TO FAA ADVISORY CIRCULAR (AC) 150/5370-2 FOR ADDITIONAL GUIDANCE ON PREPARING SAFETY PLANS. REFER TO AC 150/5300-13 CHAPTERS 3 AND 4 FOR CLEARANCE STANDARDS RELATED TO THE OFA, OFZ, TSA, AND RSA. THE MOST RESTRICTIVE CRITERIA GOVERNS.
- OPEN TRENCHES AND EXCAVATIONS AT THE CONSTRUCTION SITE SHALL BE PROMINENTLY MARKED WITH LOW PROFILE BARRICADES WITH FLASHING RED LIGHTS ACCEPTABLE TO THE PROJECT ENGINEER.

SAFETY AREAS						
RUNWAY	DIMENSION	RSA	ROFA	ROFZ	AAC/ADG	LIGHTING
01L -19R	150' x 6,400'	500' x 8,400'	800' x 8,400'	400' 6,800'	D-IV	HIRL
01R - 19L	75 x 4,000'	150' x 4,600'	500' x 4,600'	250' x 4,400'	B-II	HIRL
12 - 30	75' x 1,858'	150' x 2,258'	500' x 2,450'	250' x 2,250'	B-II	MIRL
TAXIWAY	DIMENSION	TSA	TOFA	SHOULDER	ADG/TDG	LIGHTING
N	75' x 390'	118' WIDE	186' WIDE	20'	ADG-III/TDG-3	NONE
F	70' x 384'	118' WIDE	186' WIDE	20'	ADG-III/TDG-3	MITL
G	75' x 2,870'	118' WIDE	186' WIDE	20'	C-III/TDG-3	MITL
E	(N: 90' WIDE) (S: 41' WIDE)	(N: 118' WIDE) (S: 79' WIDE)	(N: 186' WIDE) (S: 131' WIDE)	(N: 20' WIDE) (S: 10' WIDE)	(N: ADG-III/TDG-3) (S: ADG-II/TDG-2)	(N: MITL) (S: NONE)

- N - NORTH OF RW 12-30 / S - SOUTH OF RW 12-30
- RSA, ROFA, ROFZ, TSA, AND TOFA ARE CENTERED ABOUT CENTERLINES.

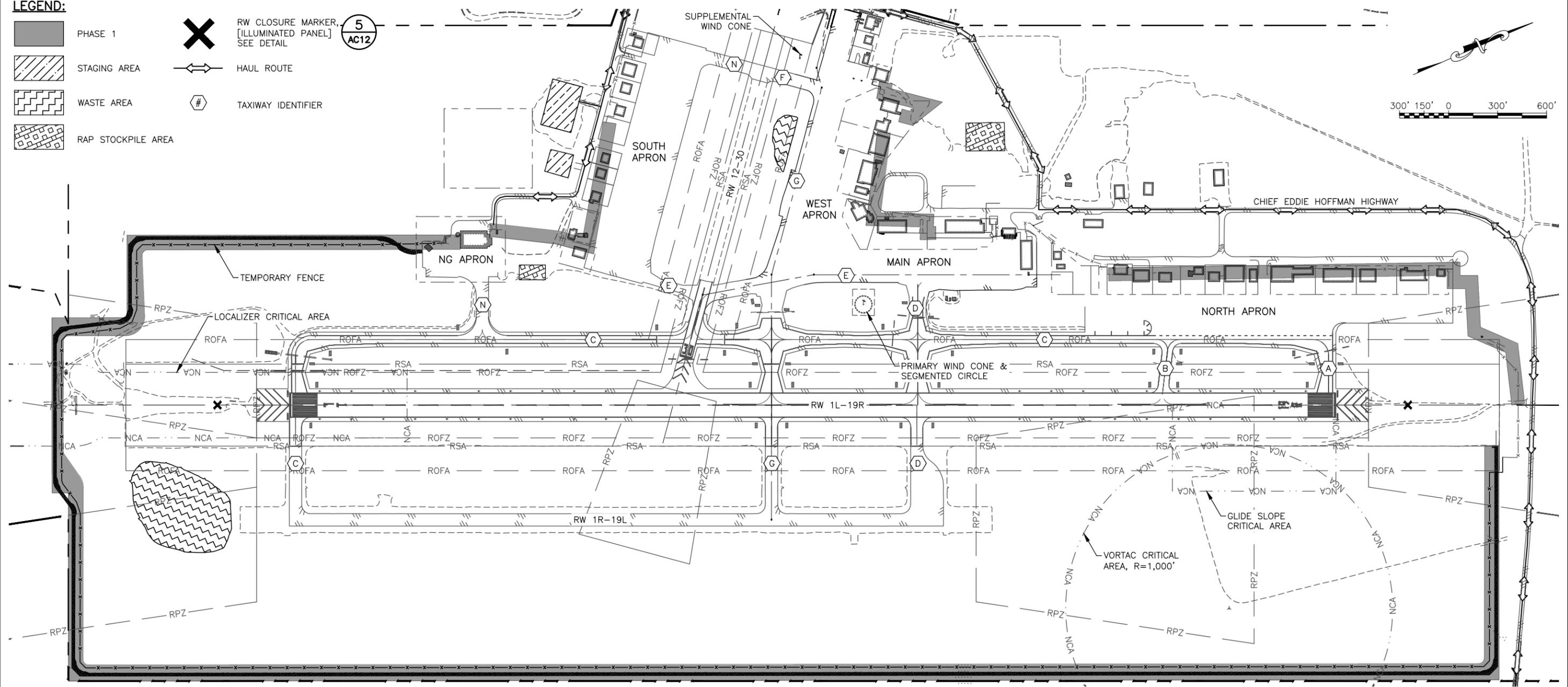
<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> <b>9101 VANGUARD DR.</b> <b>ANCHORAGE, AK 99507</b> <b>(907) 522-1707</b> <b>CERT. OF AUTH. NO. AECC111</b>						<b>STATE OF ALASKA</b> <b>DEPARTMENT OF TRANSPORTATION</b> <b>AND PUBLIC FACILITIES</b> <b>CENTRAL REGION</b> <b>4111 AVIATION AVE., ANCHORAGE ALASKA 99502</b> <b>PHONE (907) 269-0590</b>	<b>BETHEL AIRPORT</b> <b>BETHEL, ALASKA</b> WEST APRON IMPROVEMENTS PROJECT No. CFAPT00859 AIP No. 3-02-0029-00X-20XX CONSTRUCTION SAFETY & PHASING PLAN NOTES	DATE:	
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									AC2 of AC13
	BY	DATE		REVISION					

Date Revisi: 12/19/2025, 11:08 AM  
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**LEGEND:**

-  PHASE 1
-  STAGING AREA
-  WASTE AREA
-  RAP STOCKPILE AREA
-  RW CLOSURE MARKER, [ILLUMINATED PANEL] SEE DETAIL
-  HAUL ROUTE
-  TAXIWAY IDENTIFIER

5  
AC12



**PHASE 1 NOTES:**

1. SURCHARGE EMBANKMENT WILL BE PLACED PRIOR TO SEASONAL FALL FREEZE. REMOVE SURCHARGE MATERIAL AFTER THAW THE FOLLOWING SUMMER. SURCHARGE SHALL CONSIST OF SUITABLE MATERIAL.
2. ALL WORKERS AND EQUIPMENT WILL REMAIN CLEAR OF THE RSA, APS, AND TOFA DURING AIRCRAFT OPERATIONS.
3. COORDINATE THROUGH THE ENGINEER FOR PROPER ISSUANCE OF NOTAMS FOR ALL WORK WITHIN THE APS, INCLUDING HAUL OPERATIONS.
4. THE CONTRACTOR WILL TAKE ALL ACTIONS REQUIRED OR AS DIRECTED TO READY THE AIRFIELD TO ACCOMMODATE ALL MEDEVAC FLIGHTS IF NEEDED WITHIN 30 MINUTES OF NOTIFICATION. ANY AIRCRAFT DECLARING AN EMERGENCY WILL BE ALLOWED TO LAND.
5. AT THE END OF EACH SHIFT, HAUL ROUTES WITHIN THE RSA, TSA, AND APRON MUST BE CLEANED AND RETURNED TO PRE-EXISTING CONDITION.
6. PROVIDE WATER FOR DUST CONTROL AS REQUIRED, AND AS DIRECTED.
7. THIS PROJECT INCLUDES WORK IN CLOSE PROXIMITY TO CRITICAL ELECTRONIC NAVIGATION AIDS (NAVAIDS) THAT ARE OWNED AND MAINTAINED BY THE FAA. PROTECTION OF THIS EQUIPMENT, AND KNOWLEDGE OF THE SURROUNDING CRITICAL AREA IS ESSENTIAL TO AIRPORT SAFETY. THE ENGINEER MAY DIRECT THE SURVEYED MARKING OF THESE AREAS AS REQUIRED TO ENSURE THAT THE CONTRACTOR PERSONNEL ARE AWARE OF THE CRITICAL AREA BOUNDARIES.
8. NO HAULING WITHIN RSA AND ROFA IS ALLOWED WHILE THE AIRPORT IS OPEN.
9. PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATION THE CONTRACTOR WILL REMOVE ALL FOD.

**COMPLETE THE FOLLOWING DURING PHASE 1A CONSTRUCTION, SUMMER SEASON ONE:**

1. PLACE BMP'S PER CONTRACTOR'S APPROVED SWPPP.
2. INSTALL TEMPORARY FENCE AND GATE.
3. COMPLETE SUB EXCAVATION.
4. INSTALL TEMPORARY CULVERTS.
5. PLACE TEMPORARY FENCE.
6. PLACE ROAD EMBANKMENT.
7. PLACE SURCHARGE IN 'B' AREAS.
8. REPLACE AND REMOVE GATES AND PERIMETER FENCE NEAR TERMINALS.

**COMPLETE THE FOLLOWING DURING PHASE 1B CONSTRUCTION, SUMMER SEASON TWO:**

1. REMOVE SURCHARGE.
2. REMOVE DAMAGED CULVERTS.
3. PLACE PERMANENT CULVERTS.
4. PLACE PERMANENT PERIMETER FENCE.
5. PLACE SURFACE COARSE TO FINISHED GRADE.
6. REMOVE TEMPORARY AND OLD PERIMETER FENCE.
7. REMOVE BMP'S.
8. REPLACE AND REMOVE GATES AND PERIMETER FENCE NEAR TERMINALS.

**PHASE 1A:**

CLOSE RW 1L/19R DURING NIGHTTIME CONSTRUCTION OF PERIMETER SERVICE ROAD WHERE CONNECTING INTO RSA. CONSTRUCT PERIMETER ROAD. PLACE TEMPORARY CULVERTS AND SURCHARGE. PLACE TEMPORARY FENCE PER PLANS. REPLACE GATES AND FENCE AROUND TERMINALS.

**PHASE 1B:**

CLOSE RW 1L/19R FOR NIGHTTIME HAUL OPERATIONS ON RSA. REMOVE SURCHARGE AND REPLACE DAMAGED CULVERTS. PLACE REMAINING EMBANKMENT AND SURFACE MATERIAL. PLACE NEW FENCE AND REMOVE EXISTING FENCE.

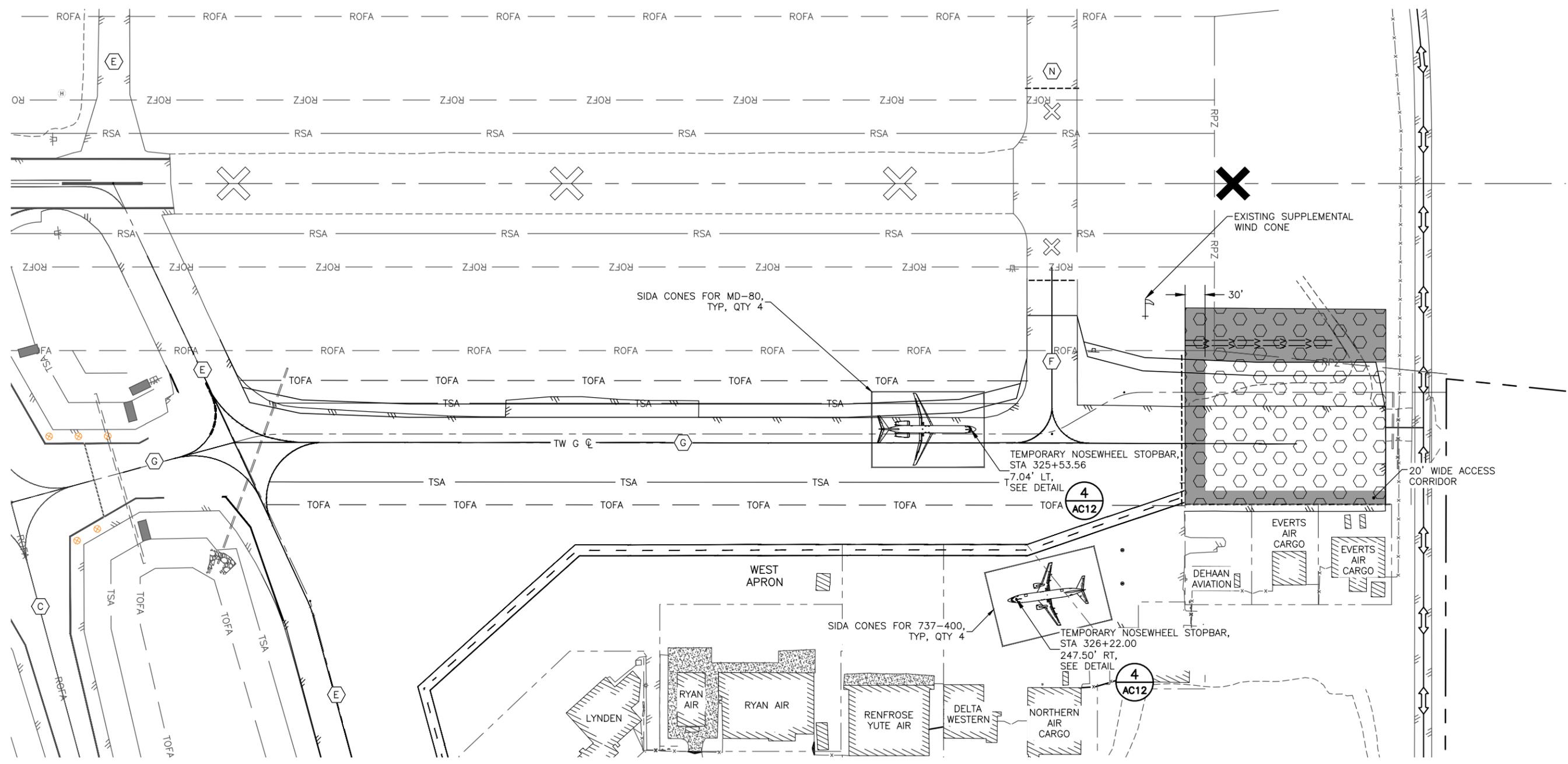
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 PHONE (907) 269-0590

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONSTRUCTION SAFETY & PHASING PLAN  
 PHASE 1

DATE:  
 12/19/2025  
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**PHASE 2 NOTES:**

1. ISSUE NOTAM TO CLOSE TAXIWAY F AND TAXIWAY N.
2. NOTAM CLOSE RW 12-30 AT NIGHT.
3. FOR RUNWAY 12-30 CLOSURE, PLACE LIGHTED RUNWAY CLOSURE MARKERS AT BOTH RUNWAY ENDS.
4. PLACE TAXIWAY CLOSURE MARKERS FOR TAXIWAY F AND TAXIWAY N.
5. PLACE SIDA CONES FOR SIDA BOUNDARY.
6. PLACE HAZARD MARKER BARRIERS TO DENOTE AND RESTRICT MOVEMENT ON CLOSED PORTION OF THE TAXIWAY AND APRON.
7. PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATIONS THE CONTRACTOR WILL REMOVE ALL FOD AND PROVIDE ACCESS TO LEASE LOTS.
8. ALLOW EVERTS GROUND SUPPORT TO ACCESS MD-80 AIRCRAFT THROUGH THE 20-FOOT CORRIDOR. DEHAAN WILL USE LIFEMED APRON FOR AIRCRAFT ACCESS.
9. MAINTAIN ACCESS FOR LIFEMED AT ALL TIMES.
10. MAINTAIN TAXIWAY G MARKING OUTSIDE OF THE CONSTRUCTION AREA.
11. REALIGN TAXIWAY G, REHABILITATE AND EXPAND APRON, DITCH GRADING, INSTALL CULVERT UNDERNEATH M&O ROAD.

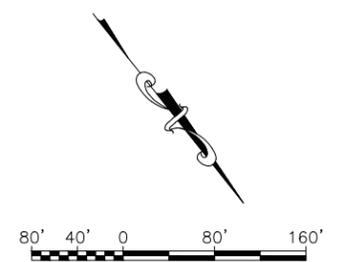
12. INSTALL LIGHTING AND APPLY PERMANENT MARKINGS.
13. REMOVE TEMPORARY MARKINGS AND HAZARD MARKER BARRIERS FOR THE EXPANSION AREA.
14. MAINTAIN NOTAM CLOSURE FOR TAXIWAY F AND TAXIWAY N.
15. DISABLE RW AND TW LIGHTS WHEN AREAS ARE CLOSED TO AIRCRAFT OPERATIONS.

**GENERAL NOTES:**

1. CONES WILL BE USED TO DESIGNATE SIDA BOUNDARY.
2. ONE SIDA BOUNDARY FOR MD-80 AND ONE SIDA BOUNDARY FOR BOEING 737-400.
3. REDUCE TAXIING SPEEDS TO 10 MPH AND ISSUE APPROPRIATE NOTAMS WHEN TRENCHING IN THE RSA AND TSA.

**LEGEND:**

	PHASE 2		TAXIWAY IDENTIFIER
	CONSTRUCTION PROHIBITED WHEN AREA IS OPEN TO AIRCRAFT OPERATION		RW CLOSURE MARKER, [ILLUMINATED PANEL] SEE DETAIL
	HAUL ROUTE		RW CLOSURE MARKER, [VINYL MESH PANEL] SEE DETAIL
	HAZARD MARKER BARRIER, SEE DETAIL		TW CLOSURE MARKER, SEE DETAIL



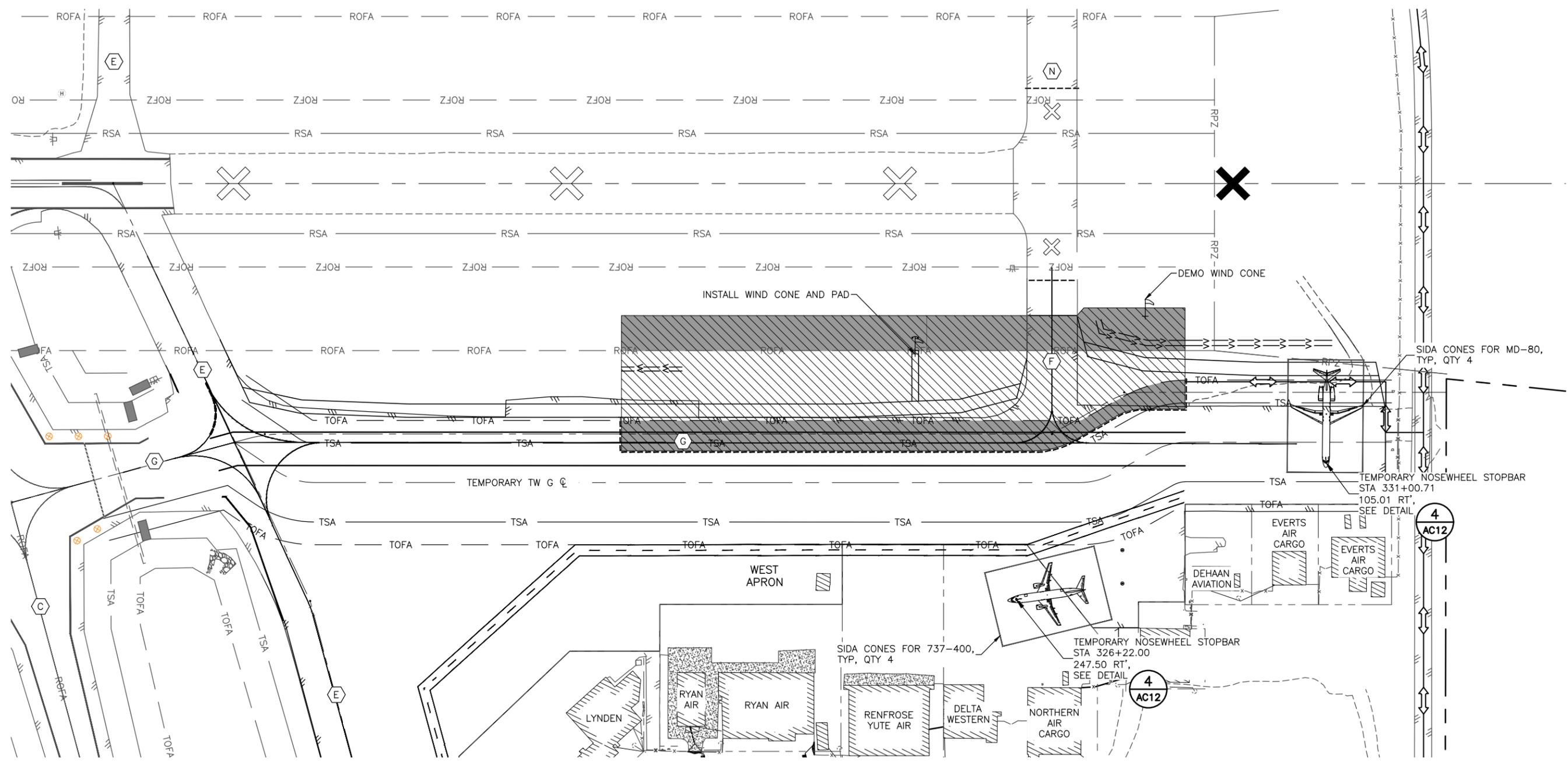
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONSTRUCTION SAFETY & PHASING PLAN  
 PHASE 2

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 AC4 of AC13

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 Checked By: CJB



**PHASE 3A NOTES:**

1. MAINTAIN NOTAM FOR TAXIWAY F CLOSURE.
2. CLOSE RUNWAY 12-30 FOR THIS PHASE.
3. FOR RUNWAY 12-30 CLOSURE, PLACE LIGHTED RUNWAY CLOSURE MARKERS AT BOTH RUNWAY ENDS. SET RW 30 LIGHTED X'S OUTSIDE THE ACTIVE RW 1L/19R RSA. PLACE VINYL X ON RW 30 DESIGNATOR.
4. NOTAM CLOSE RW 12-30 AT NIGHT.
5. ADD TO NOTAM TO CLOSE SOUTHWEST PORTION OF TAXIWAY G.
6. SET UP HAZARD MARKER BARRIERS. PAINT TEMPORARY MARKINGS.
7. PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATIONS THE CONTRACTOR WILL REMOVE ALL FOD AND THE CONTRACTOR WILL MOVE HAZARD MARKER BARRIERS OUT OF TSA.
8. ALL CONSTRUCTION MUST BE COMPLETED AT NIGHT.
9. PAVE BACK TSA PRIOR TO REOPENING FOR AIRCRAFT OPERATIONS AND SWEEP PAVEMENT TO REMOVE FOD.
10. REALIGN AND REHABILITATE SOUTHWEST PORTION OF TAXIWAY G, DITCH LINEAR GRADING, INSTALL WIND CONE AND PAD.

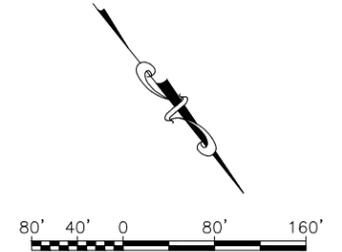
11. INSTALL LIGHTING AND PAINT PERMANENT MARKINGS.
12. REMOVE TEMPORARY MARKINGS. RESET HAZARD MARKER BARRIERS FOR THE NEXT PHASE.
13. NOTAM OPEN TAXIWAY F.
14. DISABLE RW AND TW LIGHTS WHEN AREAS ARE CLOSED TO AIRCRAFT OPERATIONS.

**GENERAL NOTES:**

1. CONES WILL BE USED TO DESIGNATE SIDA BOUNDARY.
2. ONE SIDA BOUNDARY FOR MD-80 AND ONE SIDA BOUNDARY FOR BEING 737-400.
3. REDUCE TAXIING SPEEDS TO 10 MPH AND ISSUE APPROPRIATE NOTAMS WHEN TENCHING IN THE RSA AND TSA.

**LEGEND:**

	PHASE 3		TAXIWAY IDENTIFIER
	CONSTRUCTION PROHIBITED WHEN AREA IS OPEN TO AIRCRAFT OPERATION		RW CLOSURE MARKER, [ILLUMINATED PANEL] SEE DETAIL
	HAUL ROUTE		RW CLOSURE MARKER, [VINYL MESH PANEL] SEE DETAIL
	HAZARD MARKER BARRIER, SEE DETAIL		TW CLOSURE MARKER, SEE DETAIL



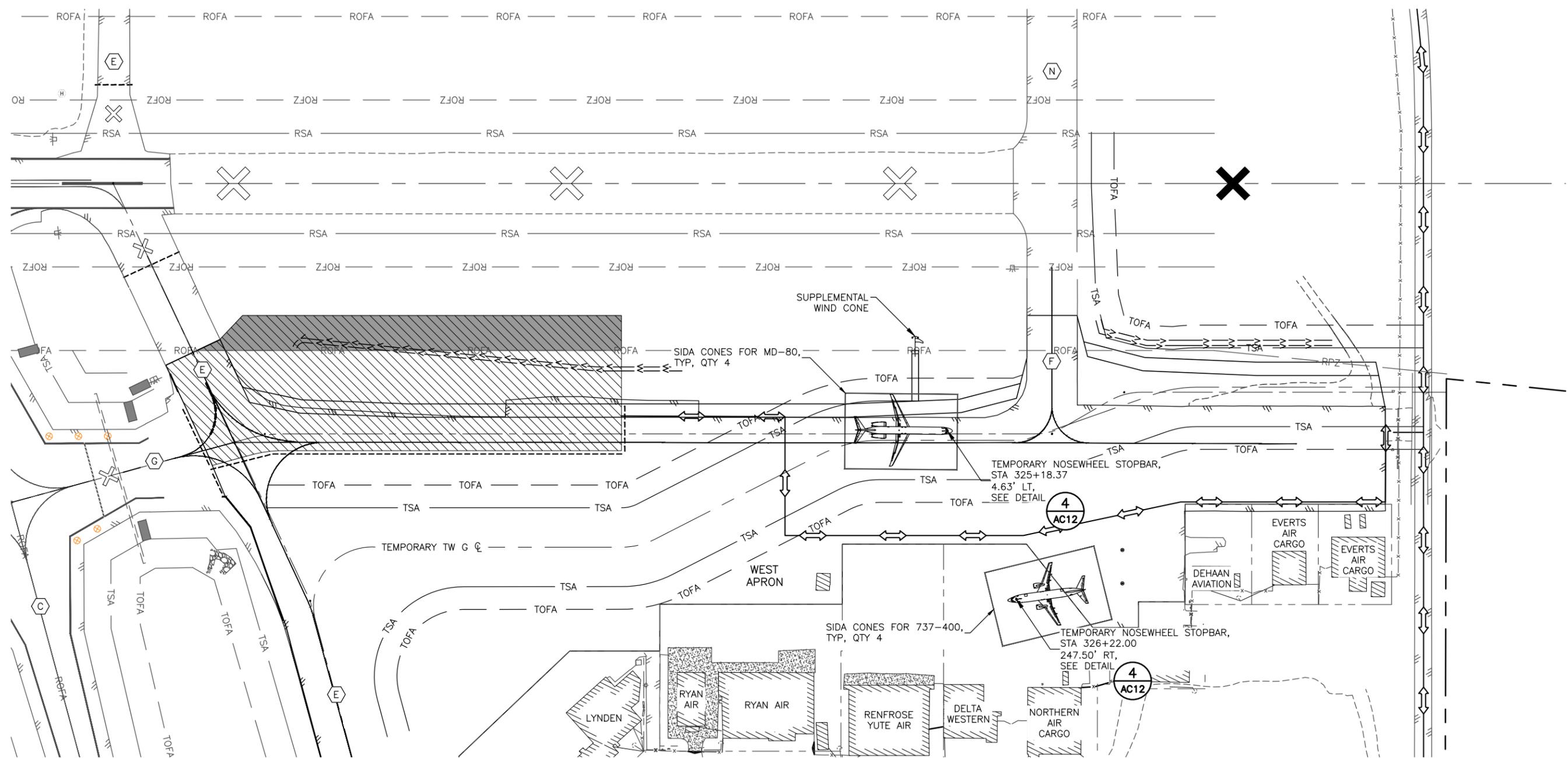
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**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONSTRUCTION SAFETY & PHASING PLAN  
 PHASE 3A

DATE:  
 12/19/2025  
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**AC5 of AC13**

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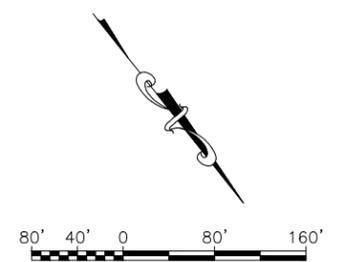
1. NOTAM TAXIWAY G AND TAXIWAY E INTERSECTION CLOSED.
2. NOTAM CLOSE RW 12-30 AT NIGHT.
3. NOTAM TAXIWAY G, BETWEEN TAXIWAY C AND MAIN APRON CLOSED.
4. FOR RUNWAY 12-30 CLOSURE, PLACE LIGHTED RUNWAY CLOSURE MARKERS AT BOTH RUNWAY ENDS. SET RW 30 LIGHTED X'S OUTSIDE THE ACTIVE RW 1L/19R RSA. PLACE VINYL X ON RW 30 DESIGNATOR.
5. SET UP HAZARD MARKER BARRIERS.
6. MOVE HAZARD MARKER BARRIERS OUT OF TSA EVERY MORNING, PRIOR TO OPENING THE AREA FOR AIRCRAFT OPERATIONS.
7. PAINT TEMPORARY MARKINGS.
8. PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATIONS THE CONTRACTOR WILL REMOVE ALL FOD AND THE CONTRACTOR WILL MOVE HAZARD MARKER BARRIERS OUT OF TSA.
9. REALIGN AND REHABILITATE SOUTHEAST PORTION OF TAXIWAY G. DITCH LINEAR GRADING AND EXTEND CULVERT.
10. INSTALL LIGHTING AND PAINT PERMANENT MARKINGS.

**GENERAL NOTES:**

11. REMOVE TEMPORARY MARKINGS.
  12. PAINT PERMANENT MARKINGS.
  13. REMOVE TAXIWAY CLOSURE MARKERS. RESET HAZARD MARKER BARRIERS FOR THE NEXT PHASE.
  14. NOTAM TAXIWAY G AND TAXIWAY E INTERSECTION OPEN.
  15. DISABLE RW AND TW LIGHTS WHEN AREAS ARE CLOSED TO AIRCRAFT OPERATIONS.
1. CONTRACTOR SHALL SWEEP PAVEMENT AND REMOVE ALL FOD PRIOR TO OPENING THE AREA FOR OPERATIONS.
  2. CONES WILL BE USED TO DESIGNATE SIDA BOUNDARY. ONE SIDA BOUNDARY FOR MD-80 AND ONE SIDA BOUNDARY FOR 737-400.
  3. REDUCE TAXIING SPEEDS TO 10 MPH AND ISSUE APPROPRIATE NOTAMs WHEN TRENCHING IN THE RSA AND TSA.

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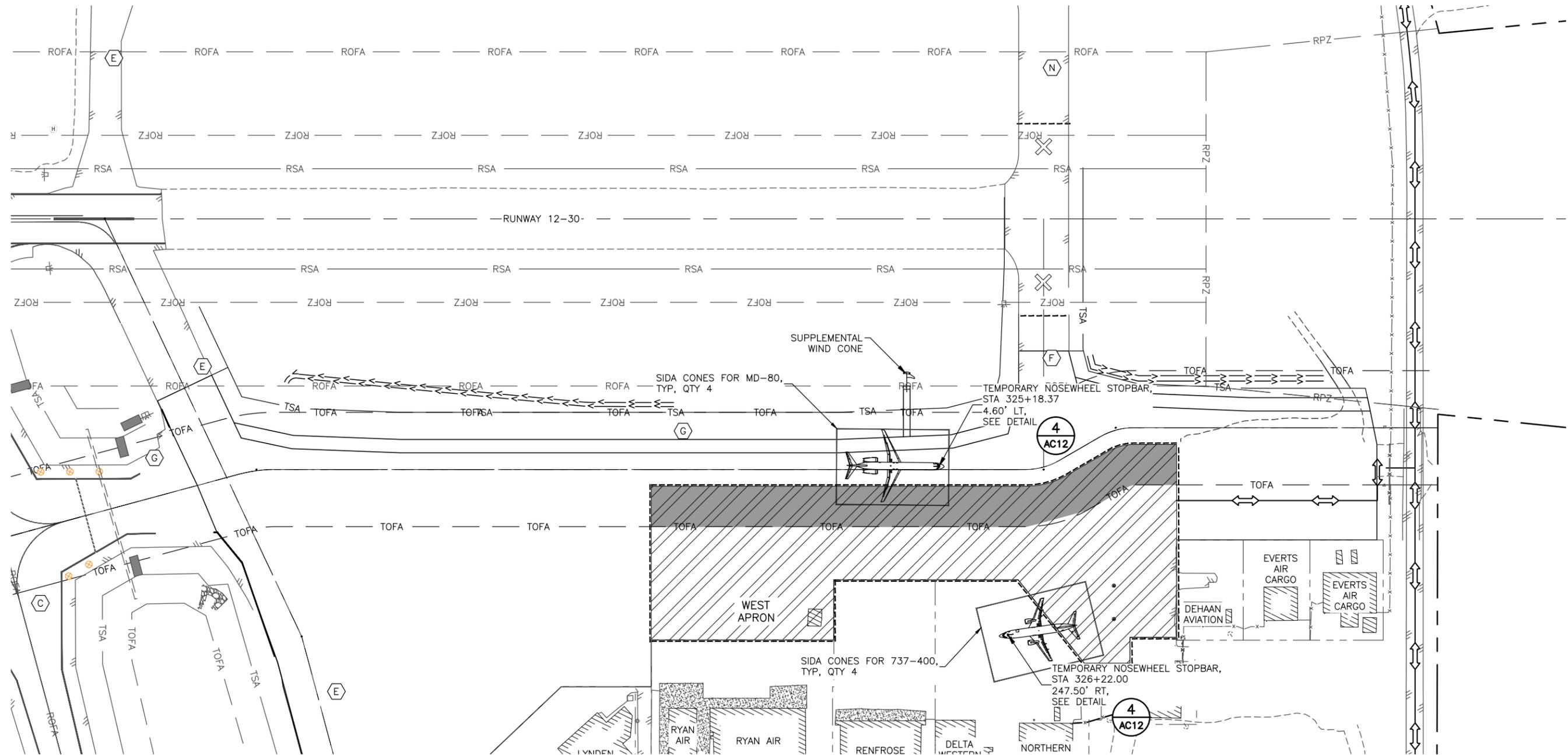
	PHASE 3		TAXIWAY IDENTIFIER
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	HAUL ROUTE		RW CLOSURE MARKER, [VINYL MESH PANEL] SEE DETAIL
	HAZARD MARKER BARRIER, SEE DETAIL		TW CLOSURE MARKER, SEE DETAIL



<b>PLANS DEVELOPED BY:</b> <b>R&amp;M CONSULTANTS, INC.</b> 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">BY</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">REVISION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	BY	DATE	REVISION							<b>STATE OF ALASKA</b> <b>DEPARTMENT OF TRANSPORTATION</b> <b>AND PUBLIC FACILITIES</b> <b>CENTRAL REGION</b> 4111 AVIATION AVE., ANCHORAGE ALASKA 99502 PHONE (907) 269-0590	<b>BETHEL AIRPORT</b> BETHEL, ALASKA WEST APRON IMPROVEMENTS PROJECT No. CFAPT00859 AIP No. 3-02-0029-00X-20XX CONSTRUCTION SAFETY & PHASING PLAN PHASE 3B
BY	DATE	REVISION										
DATE: 12/19/2025 SHEET: AC6 of AC13			DATE: 12/19/2025 SHEET: AC6 of AC13									

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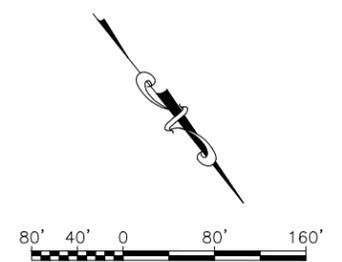
1. NOTAM TW F CLOSED.
2. PLACE HAZARD MARKER BARRIERS.
3. PAINT TEMPORARY MARKINGS.
4. REHABILITATE NORTHWEST PORTION OF WEST APRON. SEE TRANSITION DETAIL ON SHEET AC12.
5. ALL CONSTRUCTION MUST BE COMPLETED WHEN APRON IS CLOSED.
6. SWEEP PAVEMENT TO REMOVE FOD PRIOR TO AIRCRAFT OPERATIONS.
7. PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATIONS THE CONTRACTOR WILL REMOVE ALL FOD AND THE CONTRACTOR WILL MOVE HAZARD MARKER BARRIERS OUT OF TSA AND PROVIDE ACCESS TO LEASE LOTS.
8. MAINTAIN ACCESS TO LIFEMED AT ALL TIMES.
9. PAINT PERMANENT MARKINGS.
10. RESET HAZARD MARKER BARRIERS FOR THE NEXT PHASE.
11. DISABLE RW AND TW LIGHTS WHEN AREAS ARE CLOSED TO AIRCRAFT OPERATIONS.

**GENERAL NOTES:**

1. CONTRACTOR SHALL SWEEP PAVEMENT AND REMOVE ALL FOD PRIOR TO OPENING THE AREA FOR OPERATIONS.
2. CONES WILL BE USED TO DESIGNATE SIDA BOUNDARY. ONE SITE BOUNDARY FORMD-80 AND ONE SIDA BOUNDARY FOR 737-400.

**LEGEND:**

	PHASE 4		TAXIWAY IDENTIFIER
	CONSTRUCTION PROHIBITED WHEN AREA IS OPEN TO AIRCRAFT OPERATION		RW CLOSURE MARKER, [ILLUMINATED PANEL] SEE DETAIL
	HAUL ROUTE		RW CLOSURE MARKER, [VINYL MESH PANEL] SEE DETAIL
	HAZARD MARKER BARRIER, SEE DETAIL		TW CLOSURE MARKER, SEE DETAIL



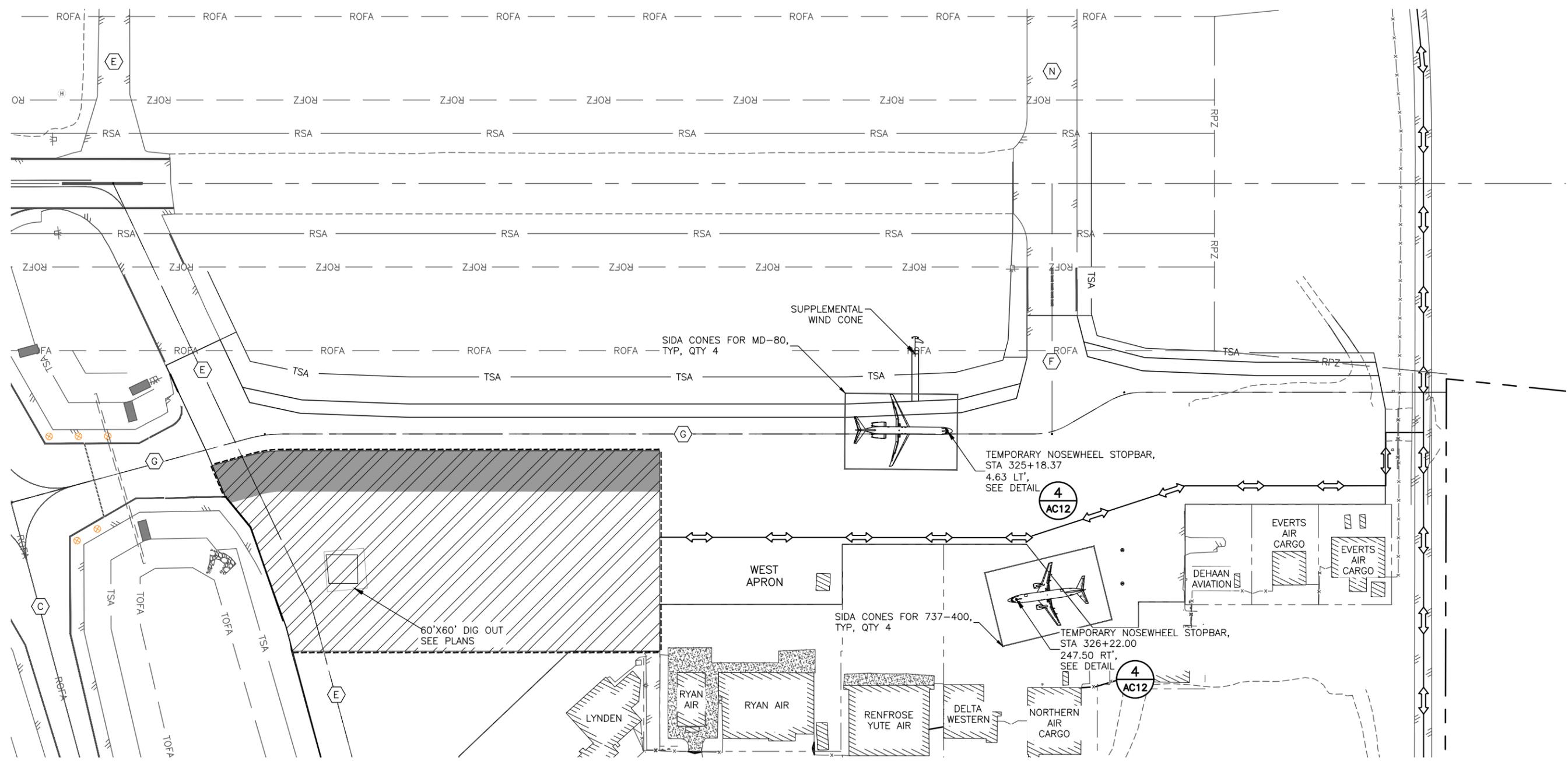
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**BETHEL AIRPORT  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONSTRUCTION SAFETY & PHASING PLAN  
 PHASE 4A**

DATE:  
12/19/2025  
 SHEET:  
AC7 of AC13

Date Revised: 12/19/2025, 11:08 AM  
 Layout Name: PHISAB  
 File Path and Name: Z:\project\2968.01 dot\_c Bethel Airport West Apron Improvements\Civil\ACAD\00859-BET-CSPP.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



**PHASE 4B NOTES:**

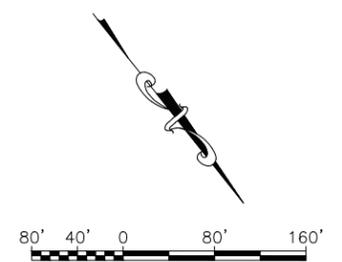
1. ISSUE NOTAM TO CLOSE TAXIWAY E, BETWEEN RW 12-30 AND TAXIWAY G.
2. PLACE HAZARD MARKER BARRIERS.
3. PAINT TEMPORARY MARKINGS.
4. REHABILITATE NORTHEAST PORTION OF WEST APRON. SEE TRANSITION DETAIL ON SHEET AC12.
5. PAINT PERMANENT MARKINGS.
6. PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATIONS THE CONTRACTOR WILL REMOVE ALL FOD AND THE CONTRACTOR WILL MOVE HAZARD MARKER BARRIERS OUT OF TSA AND PROVIDE ACCESS TO LEASE LOTS.
7. ISSUE NOTAM TO OPEN TAXIWAY E
8. CONTRACTOR SHALL SWEEP PAVEMENT AND REMOVE ALL FOD PRIOR TO OPENING THE AREA FOR OPERATIONS.

**GENERAL NOTES:**

1. CONTRACTOR SHALL SWEEP PAVEMENT AND REMOVE ALL FOD PRIOR TO OPENING THE AREA FOR OPERATIONS.
2. CONES WILL BE USED TO DESIGNATE SIDA BOUNDARY. ONSE SIDA BOUNDARY FOR MS-80 AND ONE SIDA BOUNDARY FOR 737-400.
3. REDUCE TAXIING SPEEDS TO 10 MPH AND ISSUE APPROPRIATE NOTAMS WHEN TRENCHING IN THE RSA AND TSA.

**LEGEND:**

	PHASE 4		TAXIWAY IDENTIFIER
	CONSTRUCTION PROHIBITED WHEN AREA IS OPEN TO AIRCRAFT OPERATION		RW CLOSURE MARKER, [ILLUMINATED PANEL] SEE DETAIL
	HAUL ROUTE		RW CLOSURE MARKER, [VINYL MESH PANEL] SEE DETAIL
	HAZARD MARKER BARRIER, SEE DETAIL		TW CLOSURE MARKER, SEE DETAIL



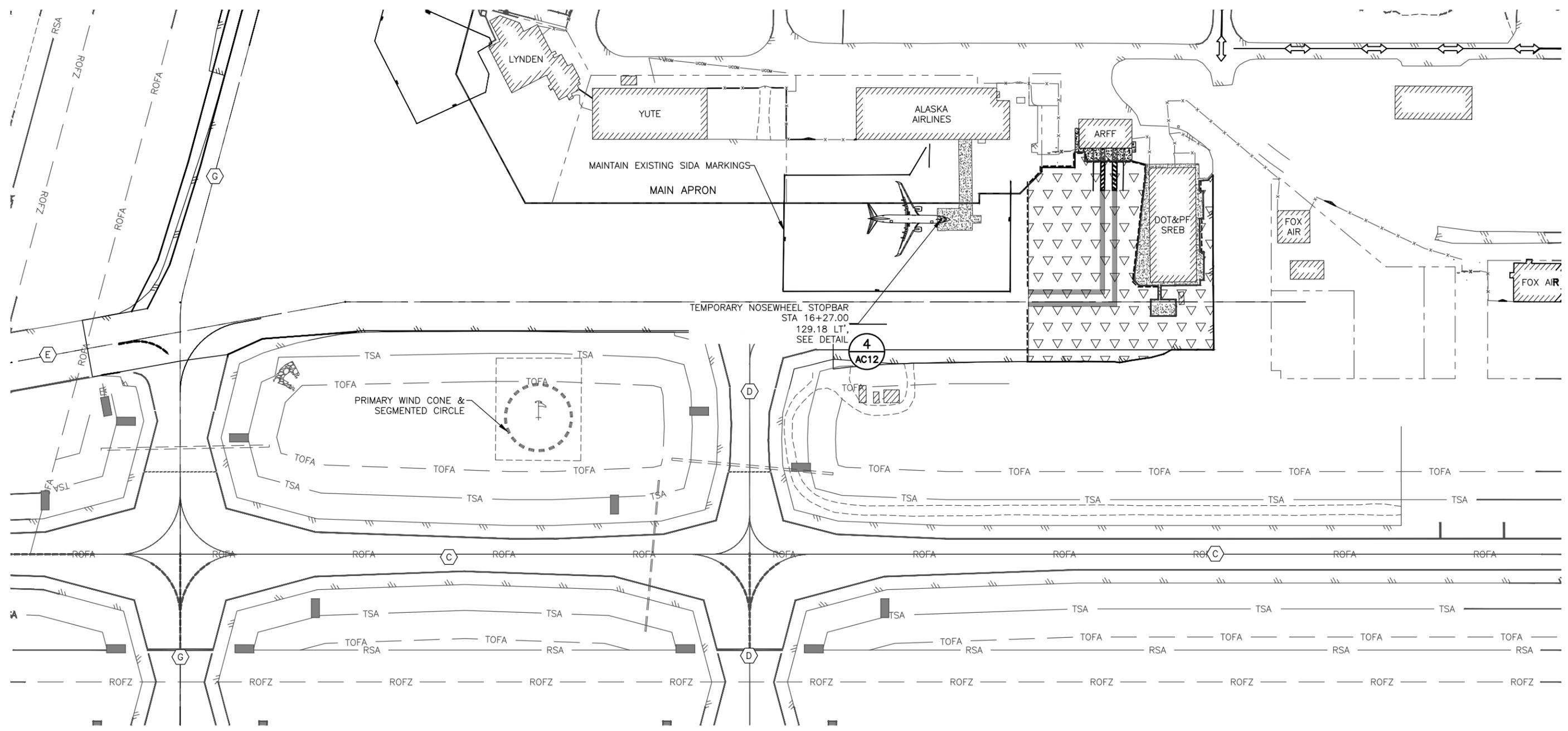
PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

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

**BETHEL AIRPORT**  
 BETHEL, ALASKA  
 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONSTRUCTION SAFETY & PHASING PLAN  
 PHASE 4B

DATE:  
 12/19/2025  
 SHEET:  
 AC8 of AC13

Date Received: 12/19/2025, 11:08 AM  
 Layout Name: PHSS  
 File Path and Name: Z:\Project\2968.01 dot\_c Bethel Airport West Apron Improvements\Civil\ACAD\00859-BET-CSP.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB



**PHASE 5 NOTES:**

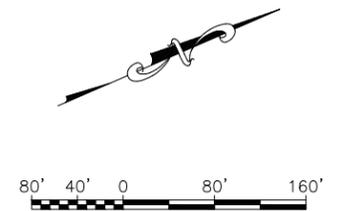
1. PLACE HAZARD MARKER BARRIERS.
2. PAINT TEMPORARY LEAD-IN AND NOSE-WHEEL MARKINGS FOR ALASKA AIRLINES 50 FT SOUTHWEST OF ORIGINAL MARKINGS.
3. REHABILITATE ARFF/SREB RAMP.
4. INSTALL LIGHTING.
5. REMOVE TEMPORARY MARKINGS.
6. PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATIONS THE CONTRACTOR WILL REMOVE ALL FOD.
7. PAINT PERMANENT LEAD-IN AND NOSE-WHEEL MARKINGS.
8. REMOVE HAZARD MARKER BARRIERS.
9. THE CONTRACTOR SHALL NOT BLOCK ARFF ACCESS. ARFF ACCESS TO THE AIRPORT MUST BE MAINTAINED AT ALL TIMES.

**GENERAL NOTES:**

1. CONTRACTOR SHALL SWEEP PAVEMENT AND REMOVE ALL FOD THAT ACCUMULATES OUTSIDE OF WORK AREA.

**LEGEND:**

- PHASE 5
- DO NOT RESTRICT ARFF ACCESS
- HAUL ROUTE
- HAZARD MARKER BARRIER, SEE DETAIL
- TAXIWAY IDENTIFIER
- RW CLOSURE MARKER, [ILLUMINATED PANEL] SEE DETAIL
- RW CLOSURE MARKER, [VINYL MESH PANEL] SEE DETAIL
- TW CLOSURE MARKER, SEE DETAIL



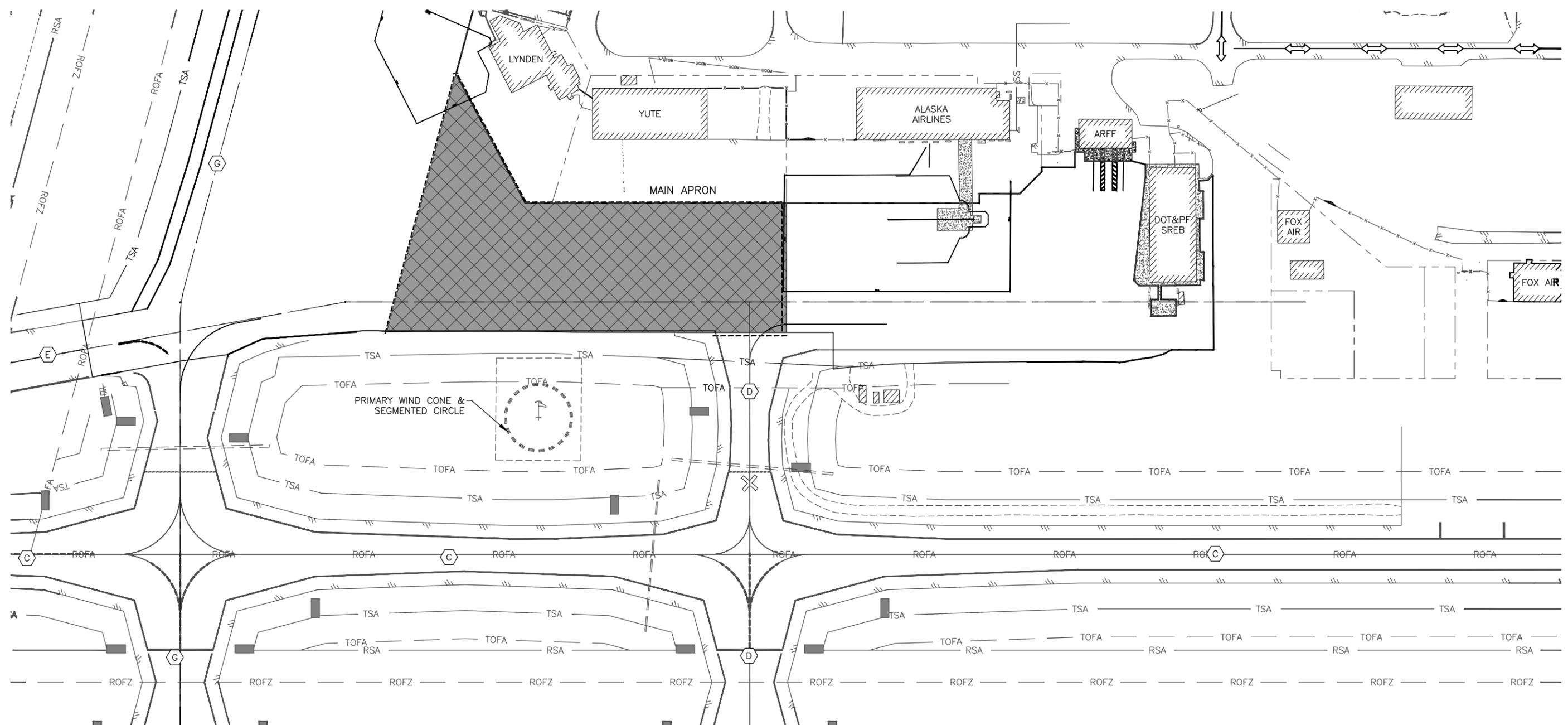
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BY	DATE	REVISION

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**BETHEL AIRPORT**  
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 WEST APRON IMPROVEMENTS  
 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONSTRUCTION SAFETY & PHASING PLAN  
 PHASE 5

DATE: 12/19/2025  
 SHEET: AC9 of AC13

Date Received: 12/19/2025, 11:07 AM  
 Layout Name: PH6A  
 File Path and Name: Z:\project\2968.01 dot.L Bethel Airport West Apron Improvements\Civil\ACAD\00859-BET-CSP.dwg  
 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

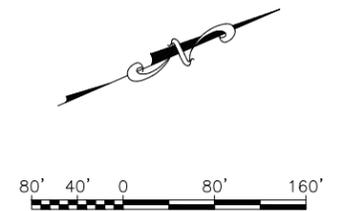


**PHASE 6A NOTES:**

1. ISSUE NOTAM TO CLOSE TAXIWAY E, BETWEEN TAXIWAY D AND TAXIWAY G, AT NIGHT.
2. ISSUE NOTAM TO CLOSE TAXIWAY D, BETWEEN TAXIWAY C AND MAIN APRON, AT NIGHT.
3. PLACE HAZARD MARKER BARRIERS.
4. SEAL COAT APRON.
5. PAINT PERMANENT MARKINGS.
6. PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATION THE CONTRACTOR WILL REMOVE ALL FOD.
7. REMOVE HAZARD MARKER BARRIERS.
8. ISSUE NOTAM TO OPEN TAXIWAY E AND TAXIWAY D.
9. ARFF ACCESS TO THE AIRPORT MUST BE MAINTAINED AT ALL TIMES.
10. DISABLE RW AND TW LIGHTS WHEN AREAS ARE CLOSED TO AIRCRAFT OPERATIONS.

**LEGEND:**

	PHASE 6A		TAXIWAY IDENTIFIER
	CONSTRUCTION PROHIBITED WHEN AREA IS OPEN TO AIRCRAFT OPERATION		RW CLOSURE MARKER, [ILLUMINATED PANEL] SEE DETAIL
	HAUL ROUTE		RW CLOSURE MARKER, [VINYL MESH PANEL] SEE DETAIL
	HAZARD MARKER BARRIER, SEE DETAIL		TW CLOSURE MARKER, SEE DETAIL



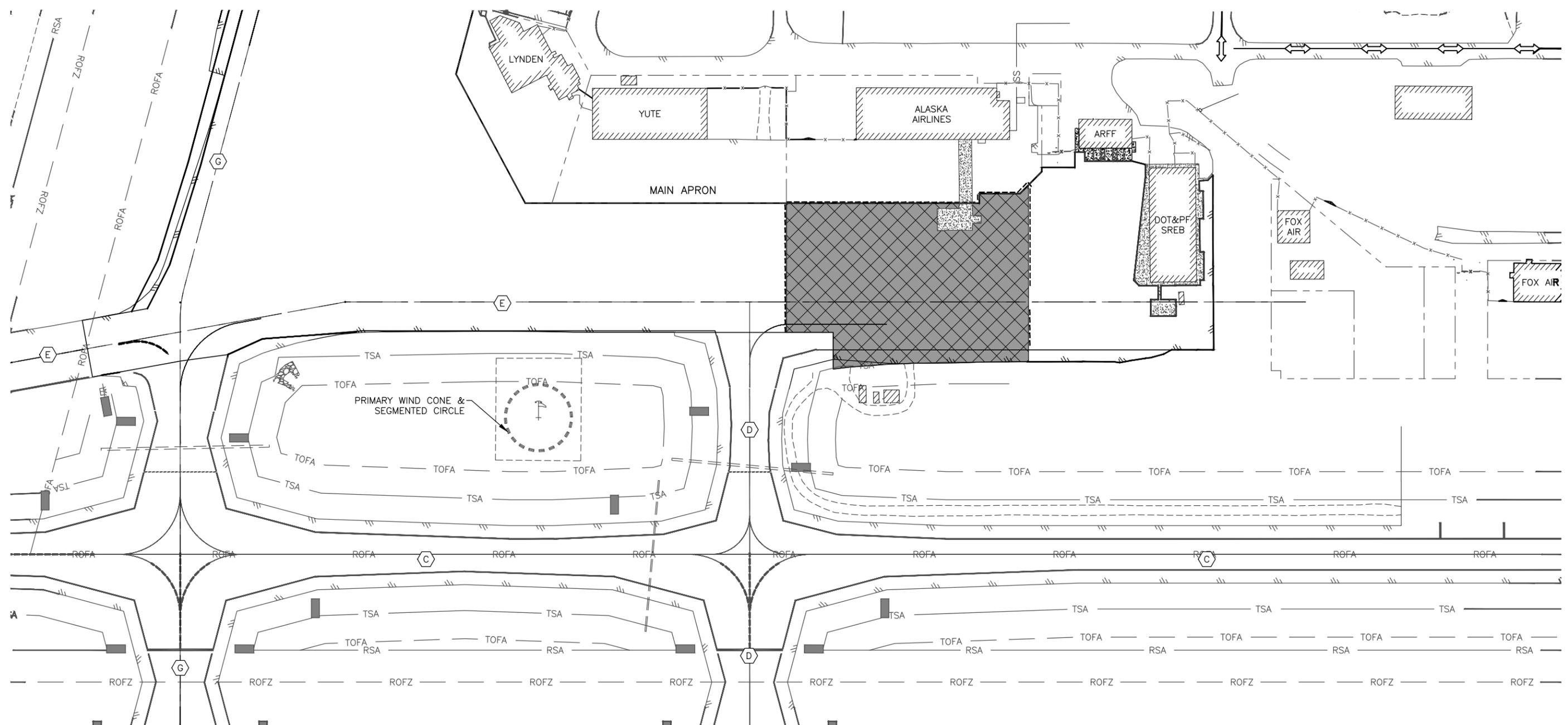
PLANS DEVELOPED BY: R&M CONSULTANTS, INC. 9101 VANGUARD DR. ANCHORAGE, AK 99507 (907) 522-1707 CERT. OF AUTH. NO. AECC111		
BY	DATE	REVISION

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**BETHEL AIRPORT**  
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 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONSTRUCTION SAFETY & PHASING PLAN  
 PHASE 6A

DATE:  
 12/19/2025  
 SHEET:  
 AC10 of AC13

Date Received: 12/19/2025, 11:07 AM  
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 Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

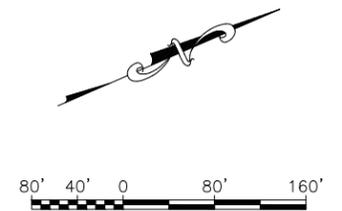


**PHASE 6B NOTES:**

1. ISSUE NOTAM TO CLOSE APRON, AT NIGHT.
2. PLACE HAZARD MARKER BARRIERS.
3. PROTECT CONCRETE HARD STAND. DO NOT SEAL COAT THE HARD STAND.
4. REMOVE PERMANENT MARKINGS.
5. SEAL COAT APRON.
6. PRIOR TO OPENING THE AREA TO AIRCRAFT OPERATION THE CONTRACTOR WILL REMOVE ALL FOD.
7. PAINT PERMANENT MARKINGS.
8. REMOVE HAZARD MARKER BARRIERS.
9. ISSUE NOTAM TO OPEN APRON.
10. ARFF ACCESS TO THE AIRPORT MUST BE MAINTAINED AT ALL TIMES.

**LEGEND:**

- PHASE 6B
- CONSTRUCTION PROHIBITED WHEN AREA IS OPEN TO AIRCRAFT OPERATION
- HAUL ROUTE
- HAZARD MARKER BARRIER, SEE DETAIL
- TAXIWAY IDENTIFIER
- RW CLOSURE MARKER, [ILLUMINATED PANEL] SEE DETAIL
- RW CLOSURE MARKER, [VINYL MESH PANEL] SEE DETAIL
- TW CLOSURE MARKER, SEE DETAIL



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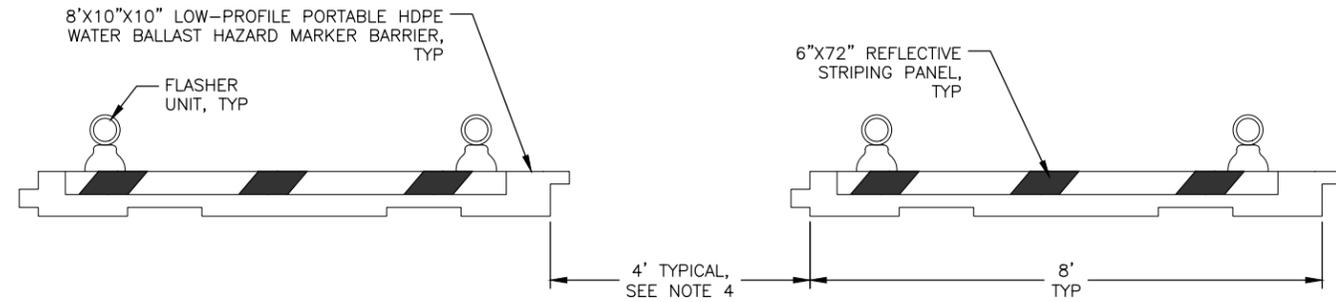
**BETHEL AIRPORT**  
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 PROJECT No. CFAPT00859  
 AIP No. 3-02-0029-00X-20XX  
 CONSTRUCTION SAFETY & PHASING PLAN  
 PHASE 6B

DATE:  
 12/19/2025  
 SHEET:  
 AC11 of AC13

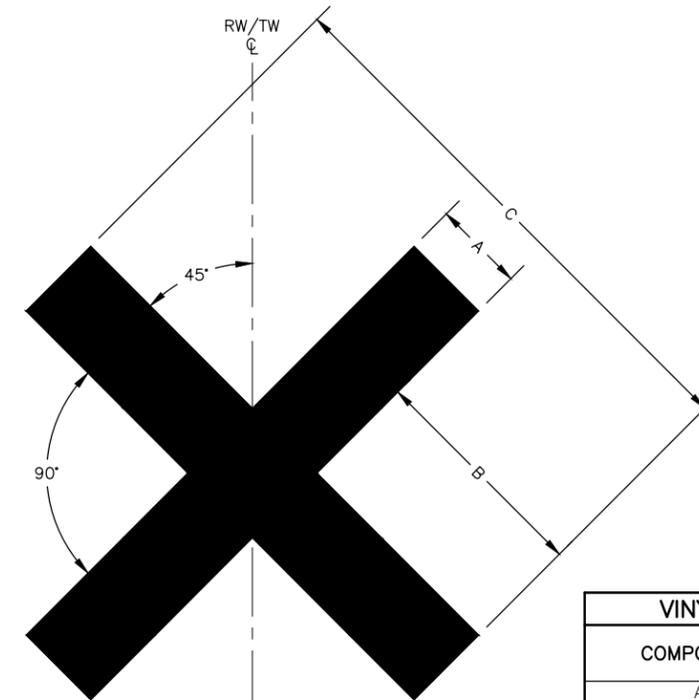
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 File Path and Name: Z:\project\2968.01 dot\_L Bethel Airport West Apron Improvements\Civil\CAD\00859-BET-CSP.dwg

**HAZARD MARKER BARRIER NOTES:**

- PLACE BARRIERS TO LIMIT ACCESS TO THE CLOSED TAXIWAY AND APRON AREAS. USE LOW STYLE AND WEIGHTED BARRIERS (LESS THAN 12 INCHES HIGH) WHEN ADJACENT TO AN ACTIVE MOVEMENT AREA.
- OFFSET HAZARD MARKER BARRIERS 5' FROM CONSTRUCTION LIMITS SHOWN IN CSPP.
- HAZARD AREA BARRIERS ARE NOT TO BE PLACED WITHIN THE OFZ OF THE ACTIVE RUNWAY. CONSIDER JET BLAST WHEN PLACING BARRIERS.
- SEE CSPP SECTION 16 FOR ADDITIONAL SPACING REQUIREMENTS. HAZARD MARKER BARRIERS ARE TO BE SPACED IN ACCORDANCE WITH AC 150/5370-2G, SECTION 2.20.2.1.
- ALTERNATE BETWEEN WHITE AND ORANGE HAZARD MARKER BARRIERS.

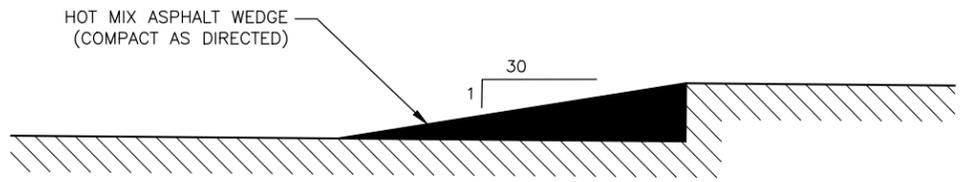


**1 HAZARD MARKER BARRIER**  
AC12 NTS

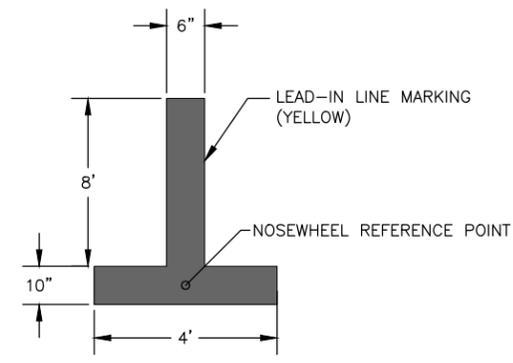


VINYL MESH CLOSURE MARKER DIMENSIONS		
COMPONENT	DIMENSION (FT)	
	RW MARKER	TW MARKER
A	10	5
B	25	12
C	60	30

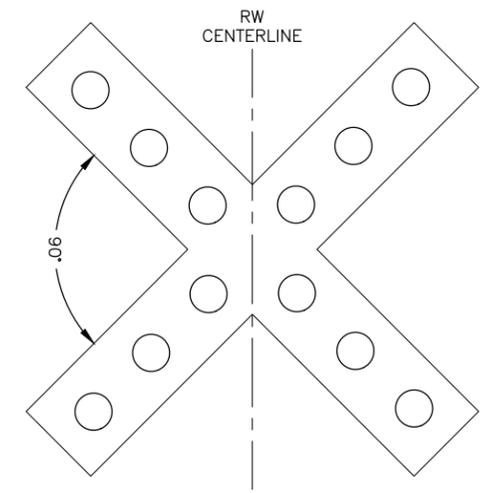
**2 RW/TW CLOSURE MARKER DETAIL [VINYL MESH]**  
AC12 NTS



**3 TRANSITION WEDGE DETAIL**  
AC12 NTS



**4 TEMPORARY NOSEWHEEL STOPBAR MARKING**  
AC12 NTS



**5 RUNWAY CLOSURE MARKER DETAIL [ILLUMINATED]**  
AC12 NTS

**CLOSURE MARKER NOTE:**

- PLACE AND MAINTAIN CLOSURE MARKERS AS CONSTRUCTION ALLOWS. MARKERS MUST BE IN-PLACE DURING NON WORK HOURS.

**TRANSITION WEDGE NOTES:**

- USE A TRANSITION WEDGE FOR AIRCRAFT MOVEMENT ACROSS VERTICAL DROPS OF ONE (1) INCH OR MORE.

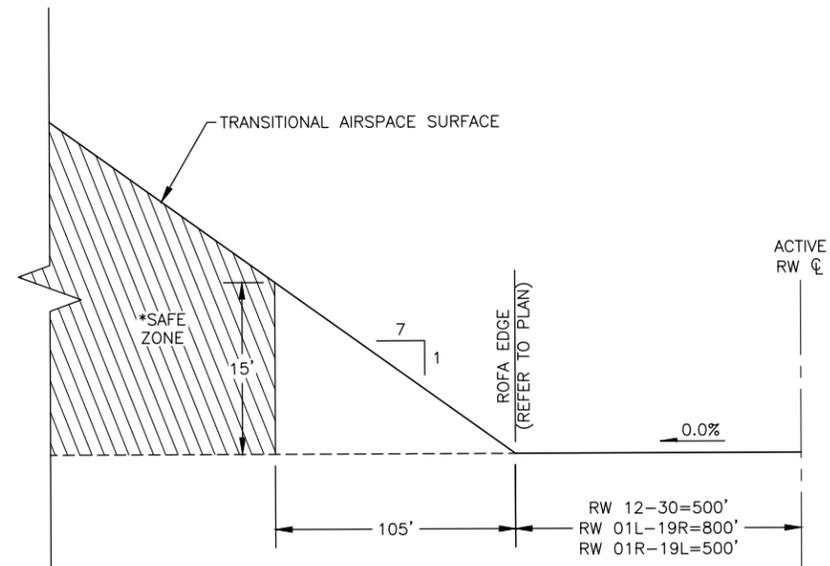
**CLOSURE MARKER NOTES:**

- RW CLOSURE MARKERS WILL BE LIGHTED.
- INSTALL RW CLOSURE MARKERS NEAR EACH THRESHOLD OF THE CLOSED RW

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						SHEET: AC12 of AC13

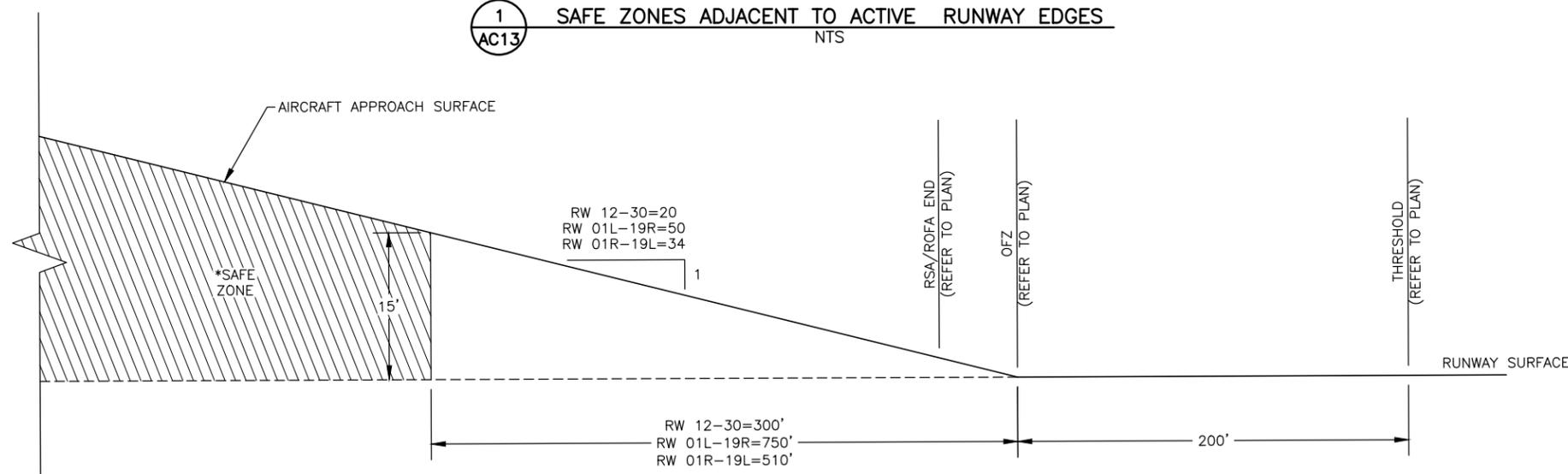
Designed By: MIM  
 Drawn By: AA, AL, VN  
 Checked By: CJB

Date Recvied: 12/19/2025, 11:07 AM  
 Layout Name: SAFE ZONES  
 File Path and Name: Z:\project\2968.01 Dot\_L Bethel Airport West Apron Improvements\Civil\ACAD\00859-BET-CSPP.dwg



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

**1** SAFE ZONES ADJACENT TO ACTIVE RUNWAY EDGES  
 AC13 NTS



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

**2** SAFE ZONES ALONG EXTENDED RUNWAY OR ACTIVE TRESHHOLD  
 AC13 NTS

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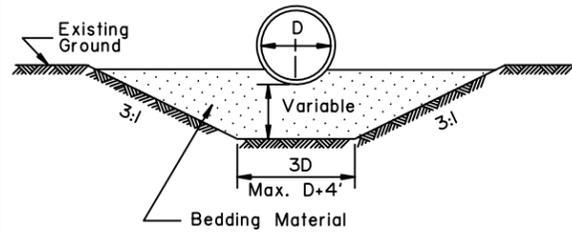
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION  
 AND PUBLIC FACILITIES  
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 CONSTRUCTION SAFETY & PHASING PLAN  
 SAFE ZONES

DATE:  
12/19/2025  
 SHEET:  
AC13 of AC13

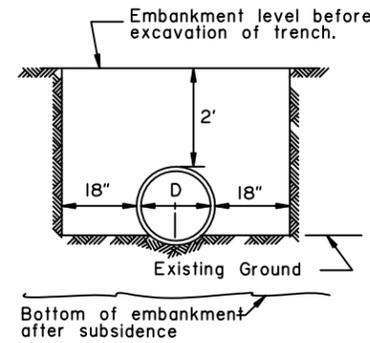
GENERAL NOTES:

1. 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 1 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.

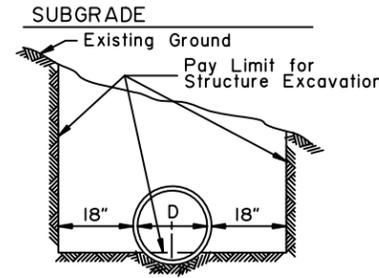


TYPE "A"  
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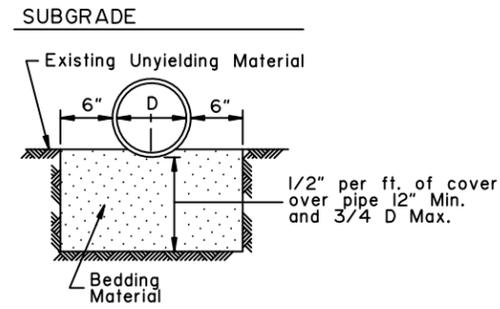
To be used in unstable areas as directed by the Engineer.



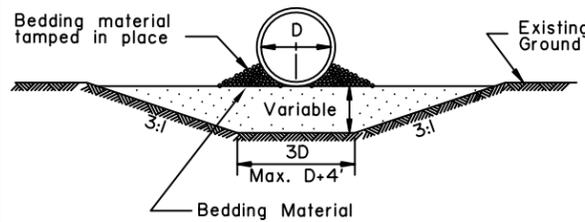
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TYPE "C"

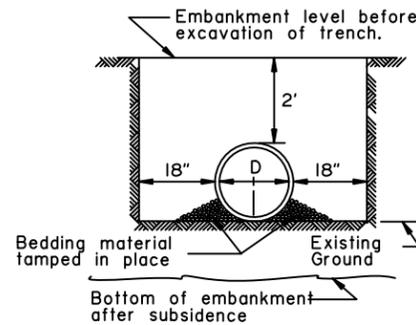


TYPE "D"  
ROCK OR UNYIELDING MATERIAL

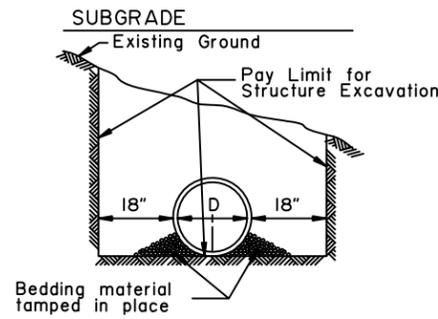


'ALTERNATE'  
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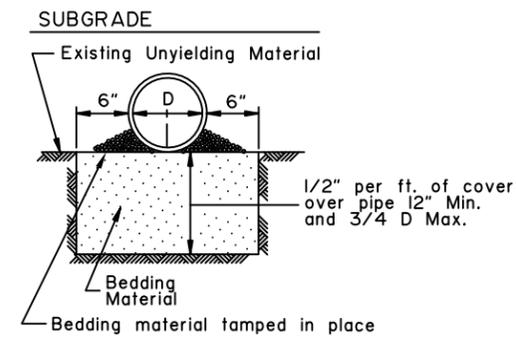
To be used in unstable areas as directed by the Engineer.



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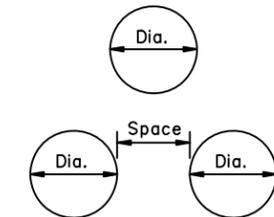


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TYPE "C"



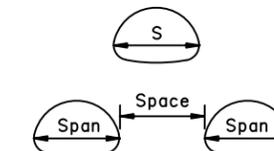
'ALTERNATE' TYPE "D"  
ROCK OR UNYIELDING MATERIAL

D = Nominal Pipe Diameter



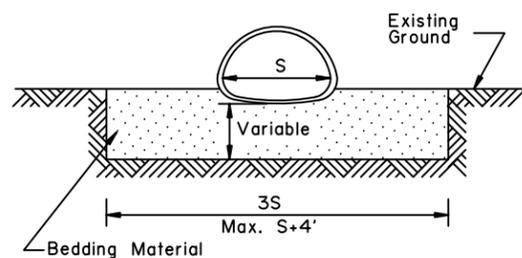
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Dia. of pipe or 3', whichever is less.

S = Nominal Pipe Arch Span



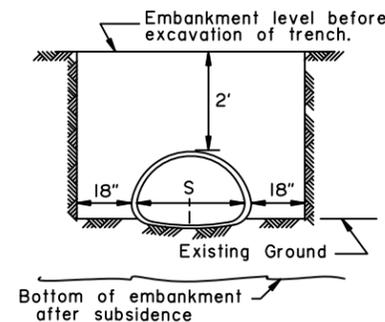
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Span of pipe arch or 3', whichever is less.

CULVERT PIPE

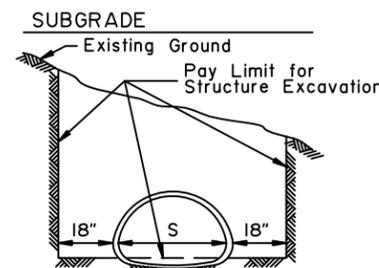


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FOUNDATION STABILIZATION

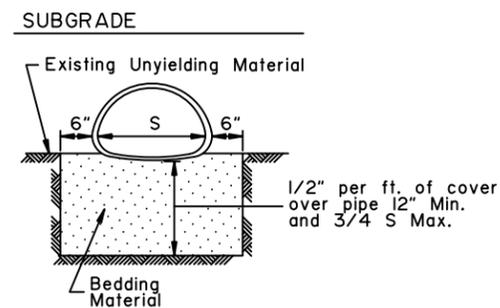
To be used in unstable areas as directed by the Engineer.



TYPE "B"



TYPE "C"



TYPE "D"  
ROCK OR UNYIELDING MATERIAL

ARCH

State of Alaska DOT&PF  
ALASKA STANDARD PLAN  
CULVERT PIPE & ARCH  
INSTALLATION DETAILS

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

Adoption Date: 02/08/2019

Last Code and Stds. Review  
By: Date:

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

GENERAL NOTES:

- All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
- The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
- No more than one type of pipe may be used on any single installation or installation grouping.
- All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
- See Standard Plan D-01 "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
- Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the bottom of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflection.
- These tables have been developed for an HL-93 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2017 AASHTO "LRFD Bridge Design Specifications".

Gage		16	14	12	10	8
Thickness		0.060	0.075	0.105	0.135	0.164
Dia. (In)	Min. (In)	Max. (Ft)				
12	12	100+	100+	100+	100+	100+
15	12	100	100+	100+	100+	100+
18	12	83	100+	100+	100+	100+
21	12	71	89	100+	100+	100+
24	12	62	78	100+	100+	100+
27	12		69	97	100+	100+
30	12		62	87	100+	100+
36	12		51	73	94	100+
42	12			62	80	100+
48	12			54	70	85
54	15			48	62	76
60	15				52	64
66	18					52
72	18					43

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

Thickness	0.125		0.150
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)
84	18	31	
90	18	27	
96	18	27	
102	18	24	
108	18	24	
114	18	21	
120	24	21	
126	24	19	
132	30	19	
138	30	18	
144	30	18	
150	30		22
156	30		22
162	36		20
168	36		20

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

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

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

Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	2 Tons/Sf Corner Bearing Pressure	
				Min. Cover (In)	Max. Cover (Ft)
17	13	3 4/8	16 (0.060)	12	13
21	15	4 1/8	16 (0.060)	12	12
24	18	4 7/8	16 (0.060)	12	12
28	20	5 4/8	14 (0.075)	12	12
35	24	6 7/8	14 (0.075)	12	12
42	29	8 2/8	12 (0.105)	12	12
49	33	9 5/8	12 (0.105)	15	12
57	38	11	10 (0.135)	15	12
64	43	12 3/8	10 (0.135)	18	12
71	47	13 6/8	8 (0.164)	18	12

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

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

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

State of Alaska DOT&PF  
ALASKA STANDARD PLAN  
PIPE AND ARCH TABLES

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

Adoption Date: 7/17/2020

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

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

Minimum & Maximum Cover for 2 2/3" x 1/2" Steel Pipe

Gage		16	14	12	10	8
Thickness		0.060	0.075	0.105	0.135	0.164
Dia. (In)	Min. (In)	Max. (Ft)				
12	12	100+	100+	100+	100+	100+
15	12	100+	100+	100+	100+	100+
18	12	100+	100+	100+	100+	100+
21	12	100+	100+	100+	100+	100+
24	12	100+	100+	100+	100+	100+
30	12	83	100+	100+	100+	100+
36	12	69	86	100+	100+	100+
42	12	59	74	100+	100+	100+
48	12	51	64	91	100+	100+
54	12		57	80	100+	100+
60	12			72	93	100+
66	12			66	85	100+
72	12				78	95
78	12					84
84	12					73

Minimum & Maximum Cover for 3" x 1" Steel Pipe

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

Minimum & Maximum Cover for 5" x 1" Steel Pipe

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

Minimum & Maximum Cover for 6" x 2" Steel Multiplate Pipe\*

Gage		12	10	8	7	5	3	1
Thickness		0.111	0.140	0.170	0.188	0.218	0.249	0.280
Dia. (In)	Min. (In)	Max. (Ft)						
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.

GENERAL NOTES

- All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
- The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
- No more than one type of pipe may be used on any single installation or installation grouping.
- All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
- See Standard Plan D-01 "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
- Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the bottom of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflection.
- These tables have been developed for an HL-93 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2017 AASHTO "LRFD Bridge Design Specifications".

CORRUGATED CIRCULAR STEEL PIPE

CORRUGATED STEEL PIPE-ARCH

Minimum & Maximum Cover for 2 2/3" X 1/2" Steel Pipe-Arch

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

Minimum & Maximum Cover for 3" X 1" Steel Pipe-Arch

2 Tons/Sf Corner Bearing Pressure						
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	Max. Cover (Ft)	
53	41	10 2/8	14 [0.079]	12	10	
60	46	18 6/8	14 [0.079]	15	29	
66	51	20 6/8	14 [0.079]	15	29	
73	55	22 7/8	14 [0.079]	18	18	
81	59	20 7/8	14 [0.079]	18	15	
87	63	22 7/8	14 [0.079]	18	15	
95	67	24 3/8	14 [0.079]	18	15	
103	71	26 1/8	14 [0.079]	18	14	
112	75	27 6/8	14 [0.079]	21	14	
117	79	29 4/8	12 [0.109]	21	14	
128	83	31 2/8	10 [0.138]	24	14	
137	87	33	10 [0.138]	24	14	
142	91	34 6/8	10 [0.138]	24	13	
150	96	36	10 [0.138]	30	13	
157	96	38	10 [0.138]	30	13	
164	105	40	10 [0.138]	30	14	
171	110	41	10 [0.138]	30	13	

Minimum & Maximum Cover for 5" X 1" Steel Pipe-Arch

2 Tons/Sf Corner Bearing Pressure						
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	Max. Cover (Ft)	
53	41	10 2/8	14 [0.079]	12	10	
60	46	18 6/8	14 [0.079]	15	29	
66	51	20 6/8	14 [0.079]	15	29	
73	55	22 7/8	14 [0.079]	18	18	
81	59	20 7/8	14 [0.079]	18	15	
87	63	22 7/8	14 [0.079]	18	15	
95	67	24 3/8	14 [0.079]	18	15	
103	71	26 1/8	14 [0.079]	18	14	
112	75	27 6/8	14 [0.079]	21	14	
117	79	29 4/8	12 [0.109]	21	14	
128	83	31 2/8	10 [0.138]	24	14	
137	87	33	10 [0.138]	24	14	
142	91	34 6/8	10 [0.138]	24	13	
150	96	36	10 [0.138]	30	13	
157	96	38	10 [0.138]	30	13	
164	105	40	10 [0.138]	30	14	
171	110	41	10 [0.138]	30	13	

Minimum & Maximum Cover for Steel Multiplate Pipe-Arch 6" x 2" \*

2 Tons/Sf Corner Bearing Pressure						
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Gage (In)	Min. Cover (In)	Max. Cover (Ft)	
6-1	4-7	18	12 [0.111]	12	14	
7-0	5-1	18	12 [0.111]	12	12	
7-11	5-7	18	12 [0.111]	12	10	
8-10	6-1	18	12 [0.111]	18	9	
9-9	6-7	18	12 [0.111]	18	8	
10-11	7-1	18	12 [0.111]	18	6	
11-10	7-7	18	12 [0.111]	18	5	
12-10	8-4	18	12 [0.111]	24	5	
13-3	9-4	31	10 [0.140]	24	11	
14-2	9-10	31	10 [0.140]	24	10	
15-4	10-4	31	10 [0.140]	24	9	
16-3	10-10	31	10 [0.140]	30	8	
17-2	11-4	31	10 [0.140]	30	8	
18-1	11-10	31	10 [0.140]	30	7	
19-3	12-4	31	10 [0.140]	30	7	
19-11	12-10	31	10 [0.140]	30	6	
20-7	13-2	31	10 [0.140]	36	6	

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

State of Alaska DOT&PF  
ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

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

Adoption Date: 7/17/2020

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

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

GENERAL NOTES

1. All materials and workmanship shall be in accordance with the State of Alaska Standard Specifications for Highway Construction.
2. For foundation and structural backfill details see Standard Plan D-01 "Culvert Pipe & Arch Installation Details".
3. Pipe cover height is measured from top of the pipe to top of rigid pavement, or to the bottom of subgrade for flexible pavement. In all cases the minimum cover shall be no less than 2 ft. Where loads traverse the culvert during construction minimum cover shall be no less than 4 ft.

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

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GENERAL NOTES

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Plan D-01 "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the bottom of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflecton.
7. These tables have been developed for an HL-93 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2017 AASHTO "LRFD Bridge Design Specifications".

Minimum & Maximum Cover for Aluminum Spiral Rib Circular Pipe*					
Gage		16	14	12	10
Thickness		0.064	0.079	0.109	0.138
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
18	12	43	61		
21	12	38	52	84	
24	12	33	45	73	
30	15	26	36	58	
36	18	21	30	49	69
42	21		25	41	59
48	24			36	51
54	24			32	46
60	24			29	41
66	24				37
72	30				34

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

Minimum & Maximum Cover for Aluminum Spiral Rib Pipe-Arch*					
Gage		16	14	12	10
Thickness		0.060	0.075	0.105	0.135
Span (Ft.-In.)	Rise (Ft.-In.)	Min. Cover (In)	Max. Cover (Ft)		
20	16	12	16		
23	19	12	15		
27	21	15	13	13	
33	26	18	13	13	13
40	31	21		13	13
46	36	24			13
53	41	24			13
60	46	24			13
66	51	24			13

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

ALUMINUM SPIRAL RIB PIPE

STEEL SPIRAL RIB PIPE

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

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

Minimum & Maximum Cover for Steel Spiral Rib Pipe-Arch*					
2 Tons/Sf Corner Bearing Pressure					
Gage		16	14	12	10
Thickness		0.064	0.079	0.109	
Span (Ft.-In.)	Rise (Ft.-In.)	Min. Cover (In)	Max. Cover (Ft)		
20	16	12	13		
23	19	12	13		
27	21	12	11		
33	26	12	11		
40	31	12	11		
46	36	12	11		
53	41	18		11	
60	46	18		19	
66	51	18		19	
73	55	18			18
81	59	18			15
87	63	18			15
95	67	18			15

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

State of Alaska DOT&PF  
ALASKA STANDARD PLAN

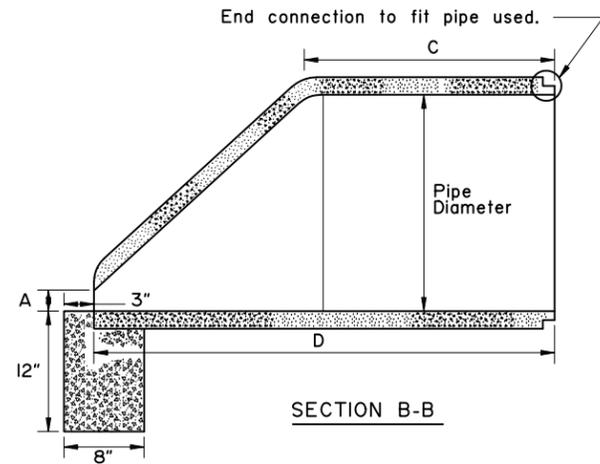
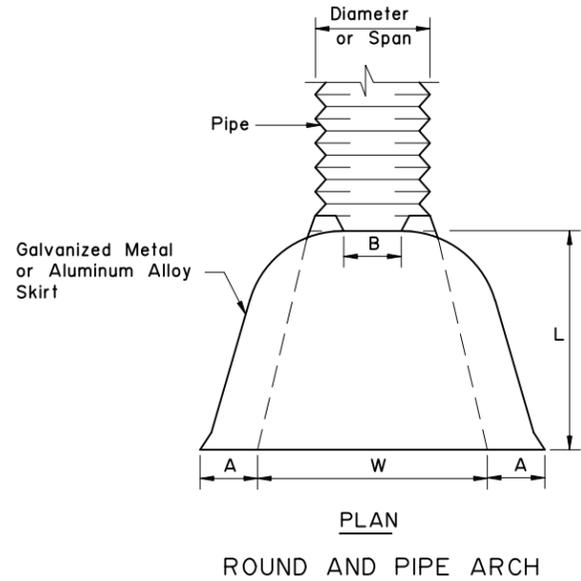
PIPE AND ARCH TABLES

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

Adoption Date: 7/17/2020

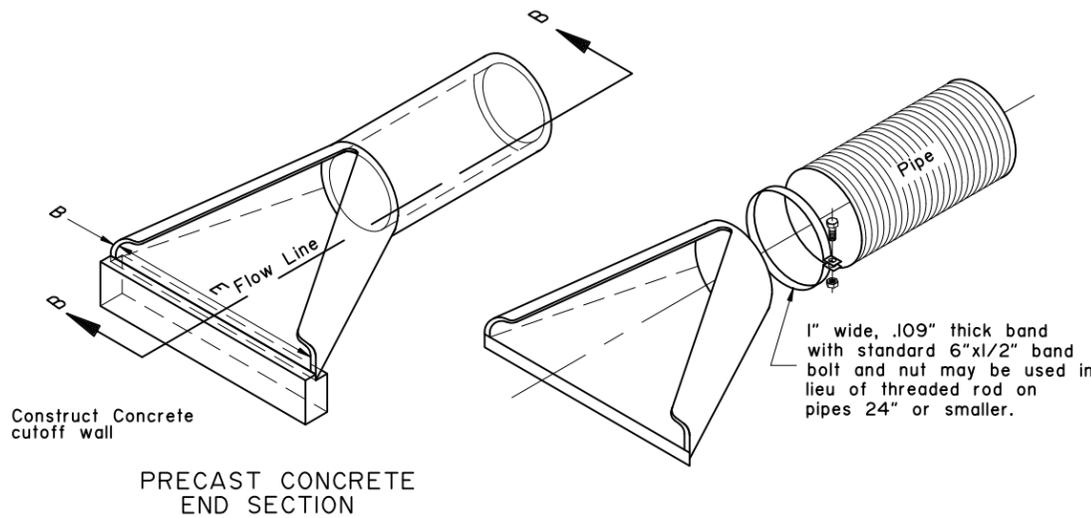
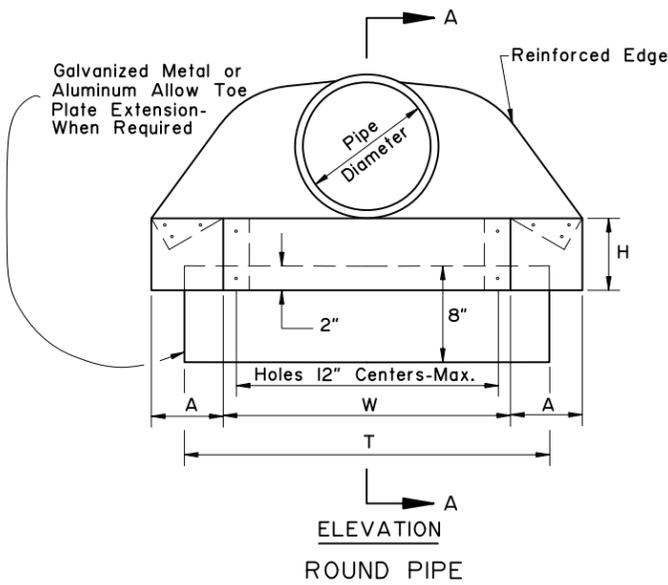
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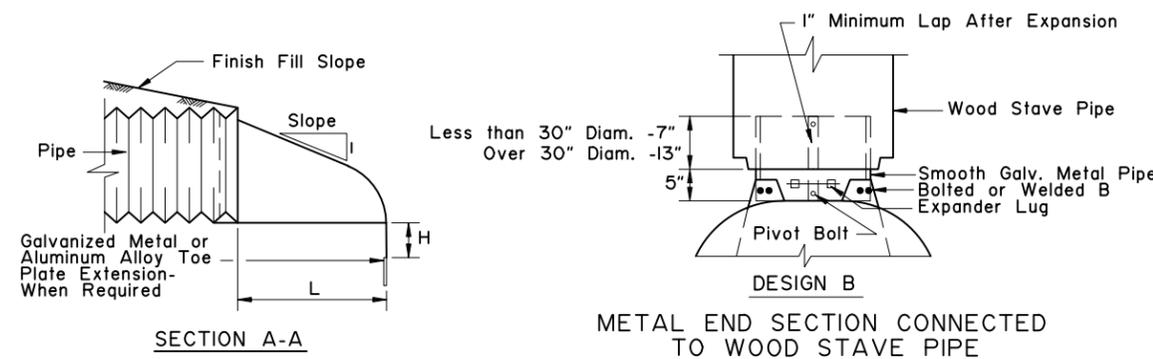
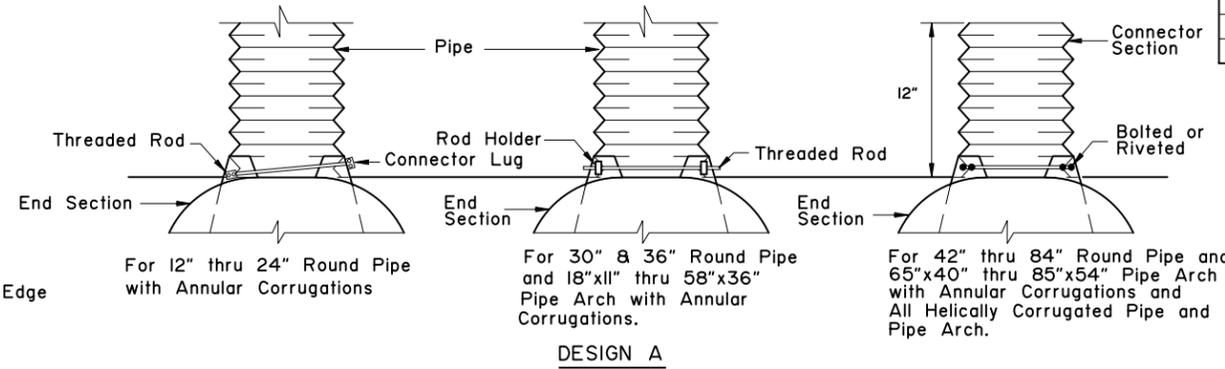
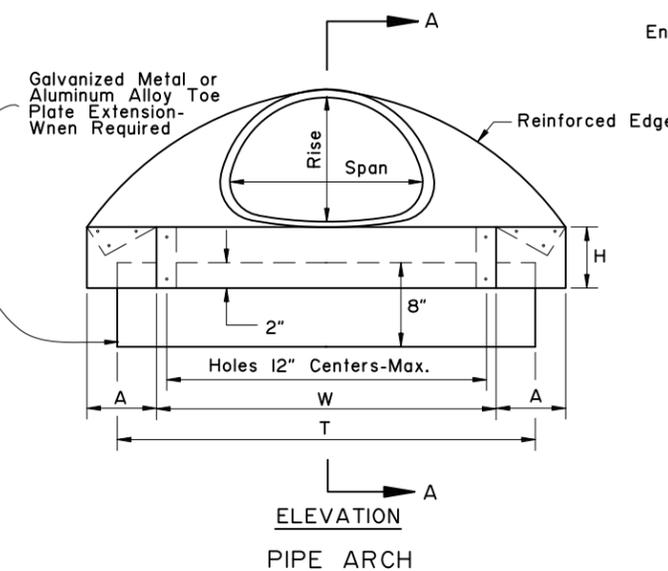


MINIMUM DIMENSIONS					
Pipe Diameter	A	B	C	D	E
12"	4"	1 3/4"	24"	46"	24"
18"	9"	2"	25"	50"	36"
24"	9 1/2"	2 1/2"	30"	72"	48"
30"	12"	3"	20"	73"	60"
36"	15"	3 3/8"	35"	97"	72"
42"	21"	3 3/4"	35"	98"	78"
48"	24"	4 1/4"	26"	98"	84"
54"	27"	4 5/8"	33"	99"	82"

ROUND PIPE										
Pipe Diam. Inches	Thickness For Aluminum	Thk. for Galv. Metal	Dimension Inches						Skirt	Approx. Slope
			A Tol.	B Max.	H Tol.	L 1/2" Tol.	W Tol.	T Tol.		
12"	0.060	0.064	6"	6"	6"	21"	24"	34"	1 Pc.	2 1/2
15"	0.060	0.064	7"	8"	6"	26"	30"	40"	1 Pc.	2 1/2
18"	0.060	0.064	8"	10"	6"	31"	36"	46"	1 Pc.	2 1/2
21"	0.060	0.064	9"	12"	6"	36"	42"	52"	1 Pc.	2 1/2
24"	0.075	0.064	10"	13"	6"	41"	48"	58"	1 Pc.	2 1/2
30"	0.075	0.079	12"	16"	8"	51"	60"	70"	1 Pc.	2 1/2
36"	0.105	0.079	14"	19"	9"	60"	72"	94"	2 Pc.	2 1/2
42"	0.105	0.109	16"	22"	11"	69"	84"	106"	2 Pc.	2 1/2
48"	0.105	0.109	18"	27"	12"	78"	90"	112"	2 Pc.	2 1/4
54"	0.105	0.109	18"	30"	12"	84"	102"	122"	2 Pc.	2 1/4
60"	0.135	0.109	18"	33"	12"	87"	114"	134"	3 Pc.	2 1/4
66"	0.135	0.109	18"	36"	12"	87"	120"	142"	3 Pc.	2 1/4
72"	0.135	0.109	18"	39"	12"	87"	126"	146"	3 Pc.	2 1/4
78"	—	0.109	18"	42"	12"	87"	132"	152"	3 Pc.	1 1/4
84"	—	0.109	18"	45"	12"	87"	138"	158"	3 Pc.	1 1/6



PIPE-ARCH												
Pipe-Arch Dimension Inches	Span	Rise	Thickness for Aluminum	Thk. for Galv. Metal	Dimension Inches						Skirt	Approx. Slope
					A Tol.	B Max.	H Tol.	L 1/2" Tol.	W Tol.	T Tol.		
17"	13"	0.060	0.064	7"	9"	6"	19"	30"	40"	1 Pc.	2 1/2	
21"	15"	0.060	0.064	7"	10"	6"	23"	36"	46"	1 Pc.	2 1/2	
24"	18"	0.060	0.064	8"	12"	6"	28"	42"	52"	1 Pc.	2 1/2	
28"	20"	0.075	0.064	9"	14"	6"	32"	48"	58"	1 Pc.	2 1/2	
35"	24"	0.075	0.079	10"	16"	6"	39"	60"	70"	1 Pc.	2 1/2	
42"	29"	0.105	0.079	12"	18"	8"	46"	75"	85"	1 Pc.	2 1/2	
49"	33"	0.105	0.109	13"	21"	9"	53"	85"	103"	2 Pc.	2 1/2	
57"	38"	0.105	0.109	18"	26"	12"	63"	90"	114"	2 Pc.	2 1/2	
64"	43"	0.105	0.109	18"	30"	12"	70"	102"	130"	2 Pc.	2 1/4	
71"	47"	0.135	0.109	18"	33"	12"	77"	114"	144"	3 Pc.	2 1/4	
77"	52"	0.135	0.109	18"	36"	12"	84"	120"	158"	3 Pc.	2 1/4	
83"	57"	0.135	0.109	18"	39"	12"	90"	126"	170"	3 Pc.	2 1/4	



**GENERAL NOTES:**

1. Toe plate extensions will be required only when provided for on the plans. When required, the toe plate extensions shall be punched with holes to match those in lip of skirt and fastened with 3/8 inch or larger galvanized nuts and bolts and shall be the same gage as the end section.
2. Galvanized Metal or Aluminum Alloy End Sections may be used on Wood Stave and Plastic Pipe.
3. All 3 piece bodies shall have 12 gage sides and 10 gage center panels. Multiple panel bodies shall have lap seams which are to be tightly joined by 3/8" galvanized rivets or bolts.

State of Alaska DOT&PF  
ALASKA STANDARD PLAN

**CULVERT END SECTIONS**

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

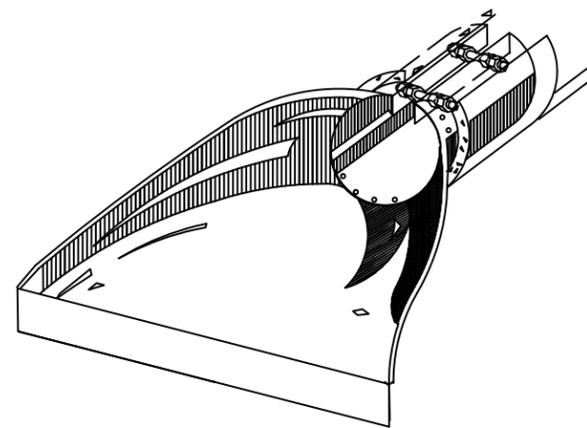
Adoption Date: 02/08/2019

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

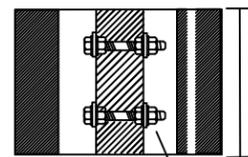
Next Code and Standards Review date: 02/08/2029

GENERAL NOTES

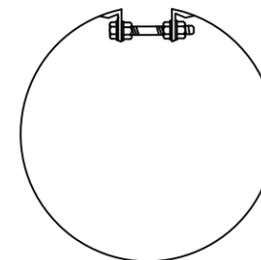
1. See general notes on sheet 1 of 3.
2. See sheet 1 of 3 for metal end section dimensions.
3. Insert bolts, washers and rivets shall be galvanized. Insert thickness is the same as the end section.
4. Use culvert inserts only at inlet.



FOR CONNECTING CONCRETE PIPE OR CORRUGATED  
POLYETHYLENE PIPE TO METAL END SECTION.



SEE NOTE 2



5/8" GALV.BOLTS

METAL INSERTS FOR USE WITH CORRUGATED PLASTIC  
PIPE AND  
METAL END SECTIONS

State of Alaska DOT&PF  
ALASKA STANDARD PLAN

CULVERT END SECTIONS

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

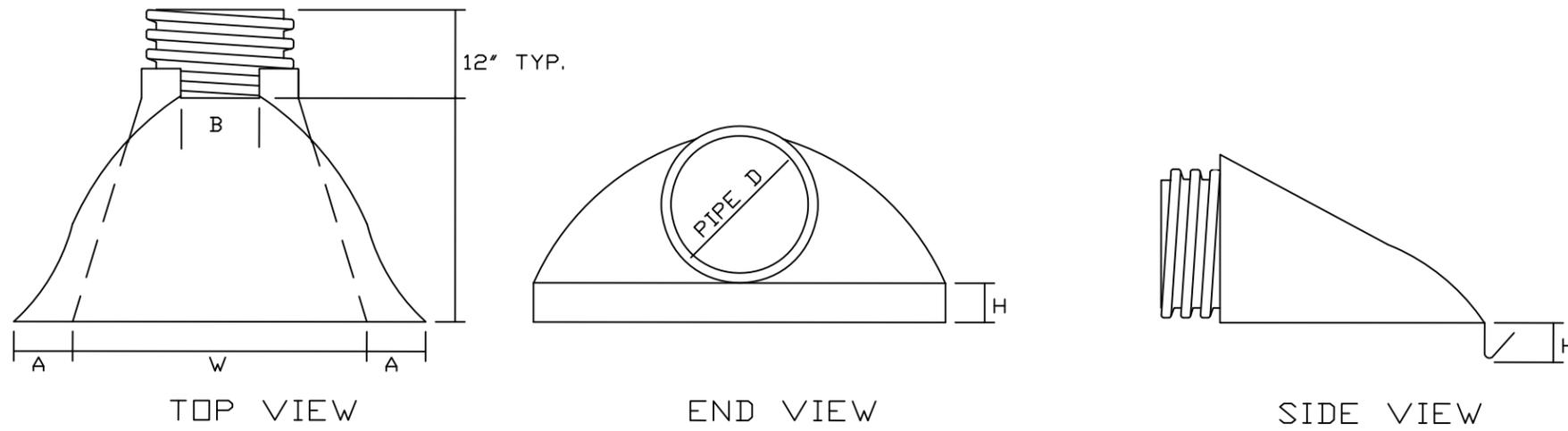
Adoption Date: 02/08/2019

Last Code and Stds. Review  
By: Date:

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

GENERAL NOTES

1. Plastic flared end sections may be used with HDPE corrugated culvert pipes where noted in project plans or approved by project engineer.
2. Consult manufacturer's recommendations for proper sizing and coupling devices. Recommended fasteners may include connecting bands or cinch ties. Fittings across dimension B may include threaded rods with wing nuts or bolts and washers. plastic welds may be recommended.
3. Align coupling to accommodate pipe corrugations.
4. Metal components e.g. bolts or washers must be galvanized.
5. Attachment of end section should preserve culvert alignment and not impair pipe function. Use end sections only on culvert inlet.
6. Toe plate extensions will be required only when designated on the plans.
7. End sections will not be used on HDPE culvert pipes larger than 36" unless indicated by project plans or approved by the Engineer.



PIPE DIAMETER	DIMENSIONS IN MILLIMETERS				
	A(1"±)	B MAX	H(1"±)	L(1/2"±)	W(2"±)
12" and 15"	6 1/2"	10"	6 1/2"	25"	29"
18"	7 1/2"	15"	6 1/2"	32"	35"
24"	7 1/2"	18"	6 1/2"	36"	45"
30"	10 1/2"	N/A	7"	53"	68"
36"	10 1/2"	N/A	7"	53"	68"

PLASTIC END SECTION FOR CORRUGATED PLASTIC PIPE

State of Alaska DOT&PF  
ALASKA STANDARD PLAN

CULVERT END SECTIONS

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

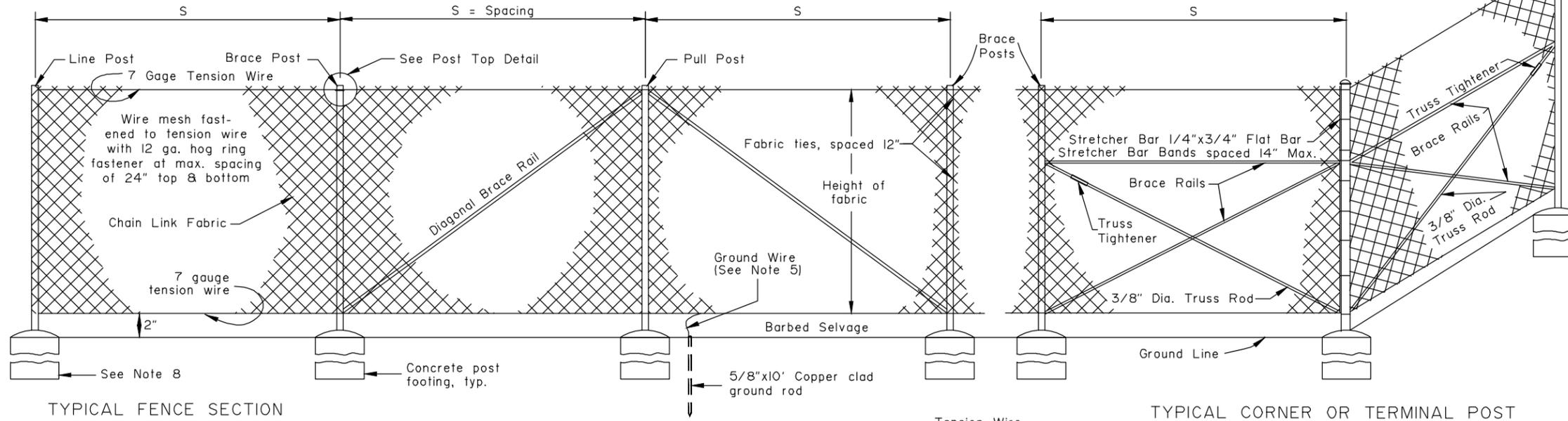
Adoption Date: 02/08/2019

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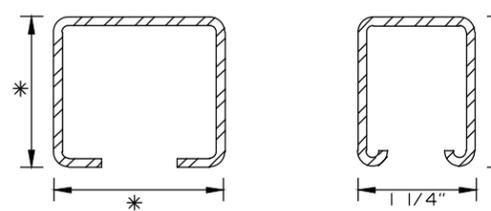
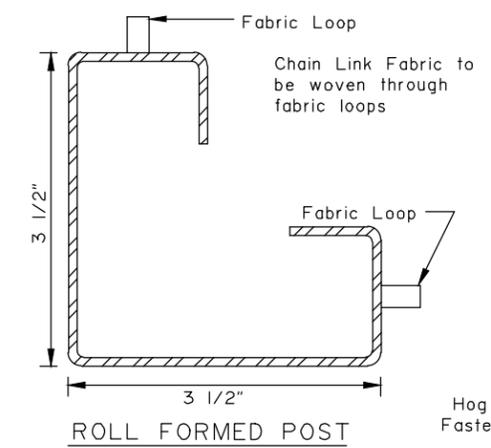
NOTE: Pull post shall be spaced at 250' maximum intervals.

Fabric shall be placed on highway side of post.

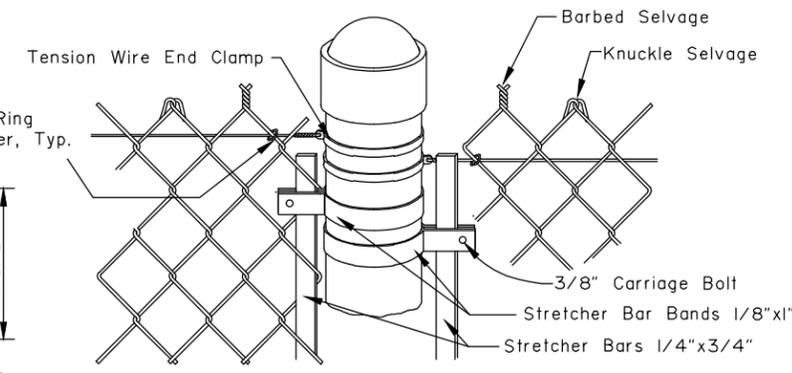


GENERAL NOTES:

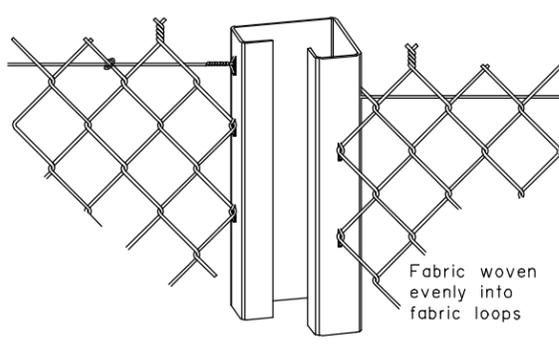
1. Use equal pole spacing (S). Maximum pole spacing is 10 feet unless directed otherwise by the Engineer.
2. Securely fasten post tops to post.
3. Securely fasten brace rails and truss rods to post with brace bands.
4. Provide truss rods with a tensioning adjusting mechanism.
5. Attach ground wire to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



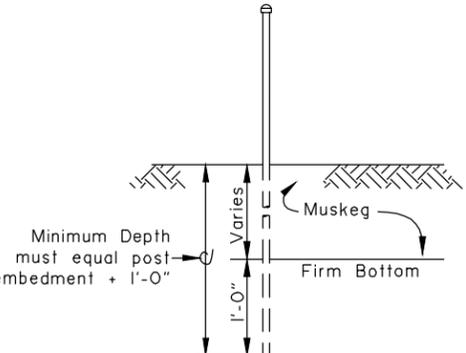
C POST



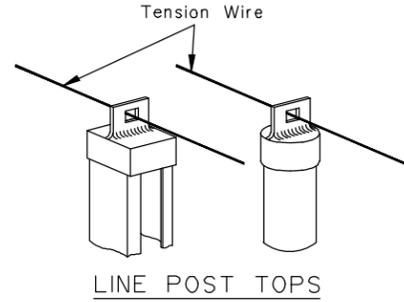
PIPE STYLE POST TOP



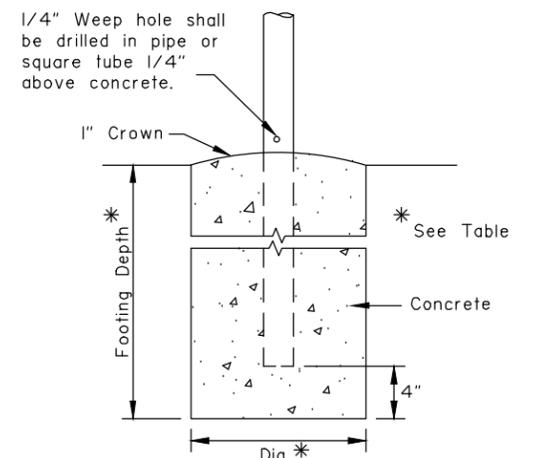
ROLL FORMED POST TOP



POST SETTING IN MUSKEG AREAS

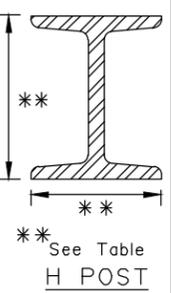


LINE POST TOPS



CONCRETE POST FOOTING

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



ALTERNATE POST H POST

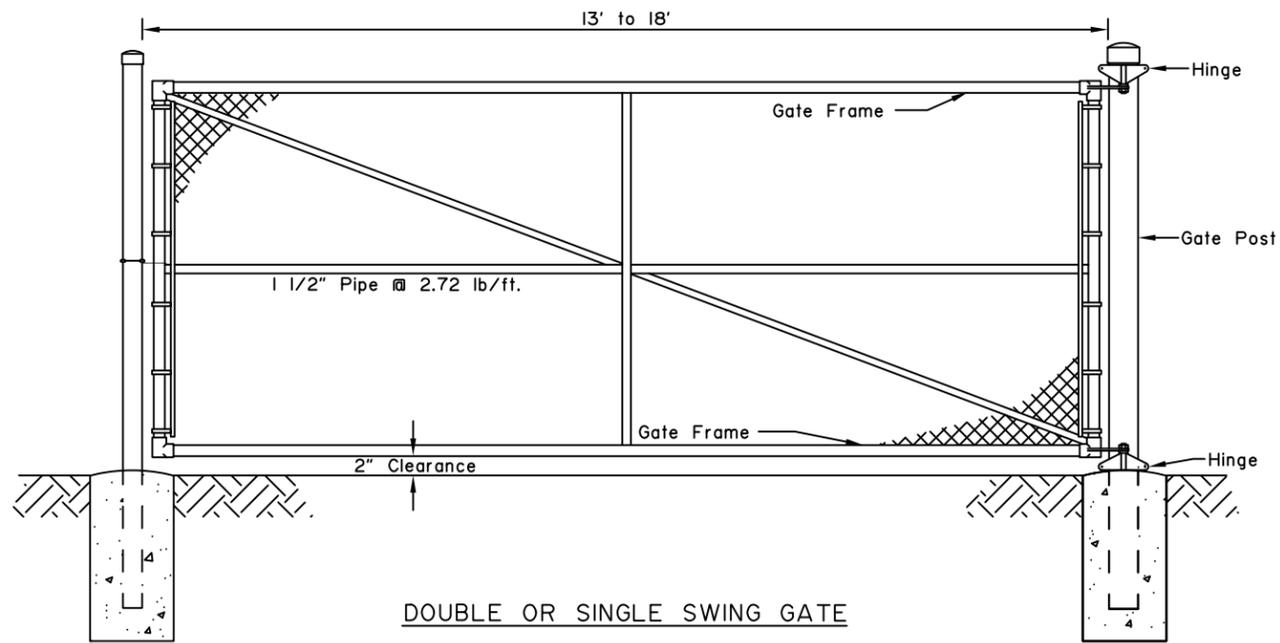
State of Alaska DOT&PF  
 ALASKA STANDARD PLAN  
 CHAIN LINK FENCE

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

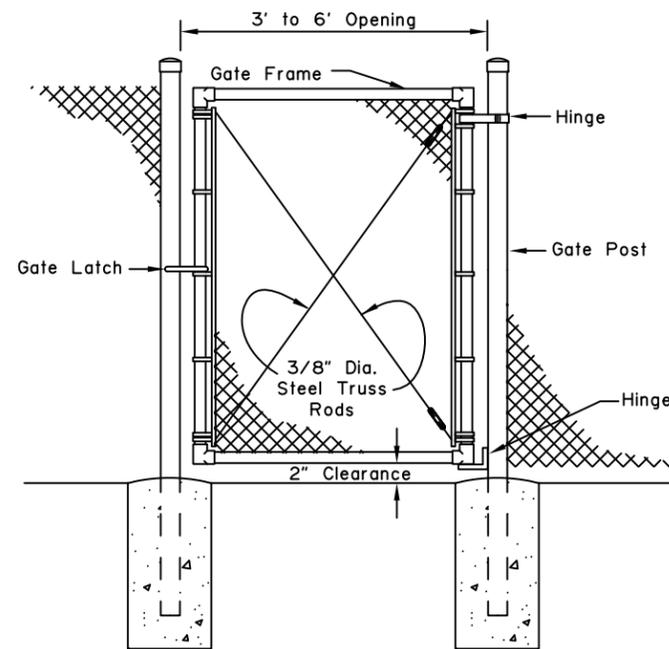
Adoption Date: 7/17/2020

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



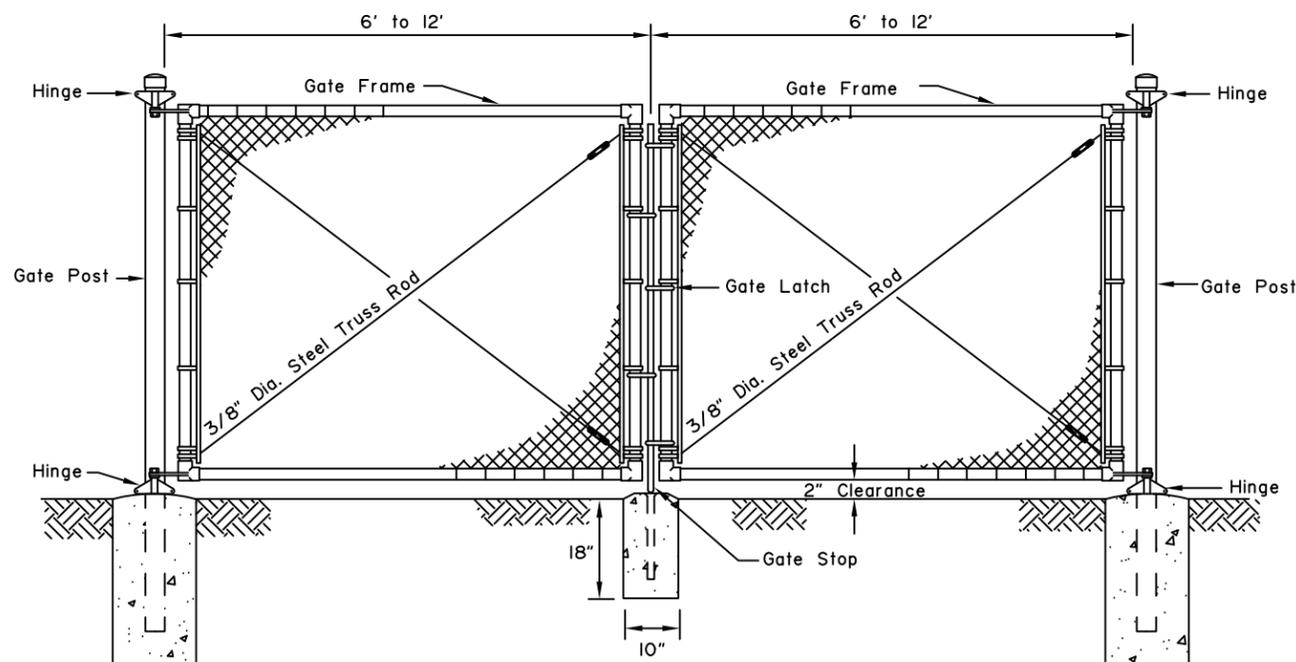
DOUBLE OR SINGLE SWING GATE



PEDESTRIAN GATE

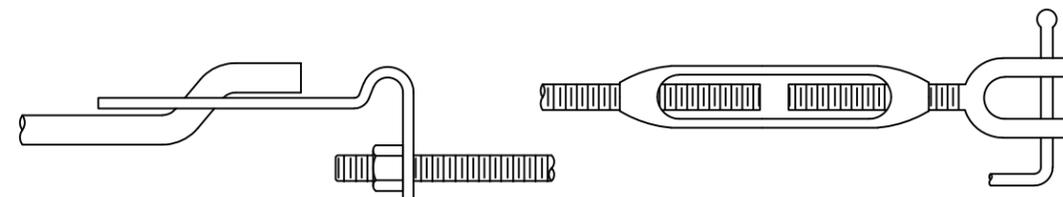
**GENERAL NOTES:**

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



DOUBLE SWING GATE

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



TYPICAL TRUSS ROD TIGHTENERS

State of Alaska DOT&PF  
ALASKA STANDARD PLAN  
CHAIN LINK FENCE  
GATE

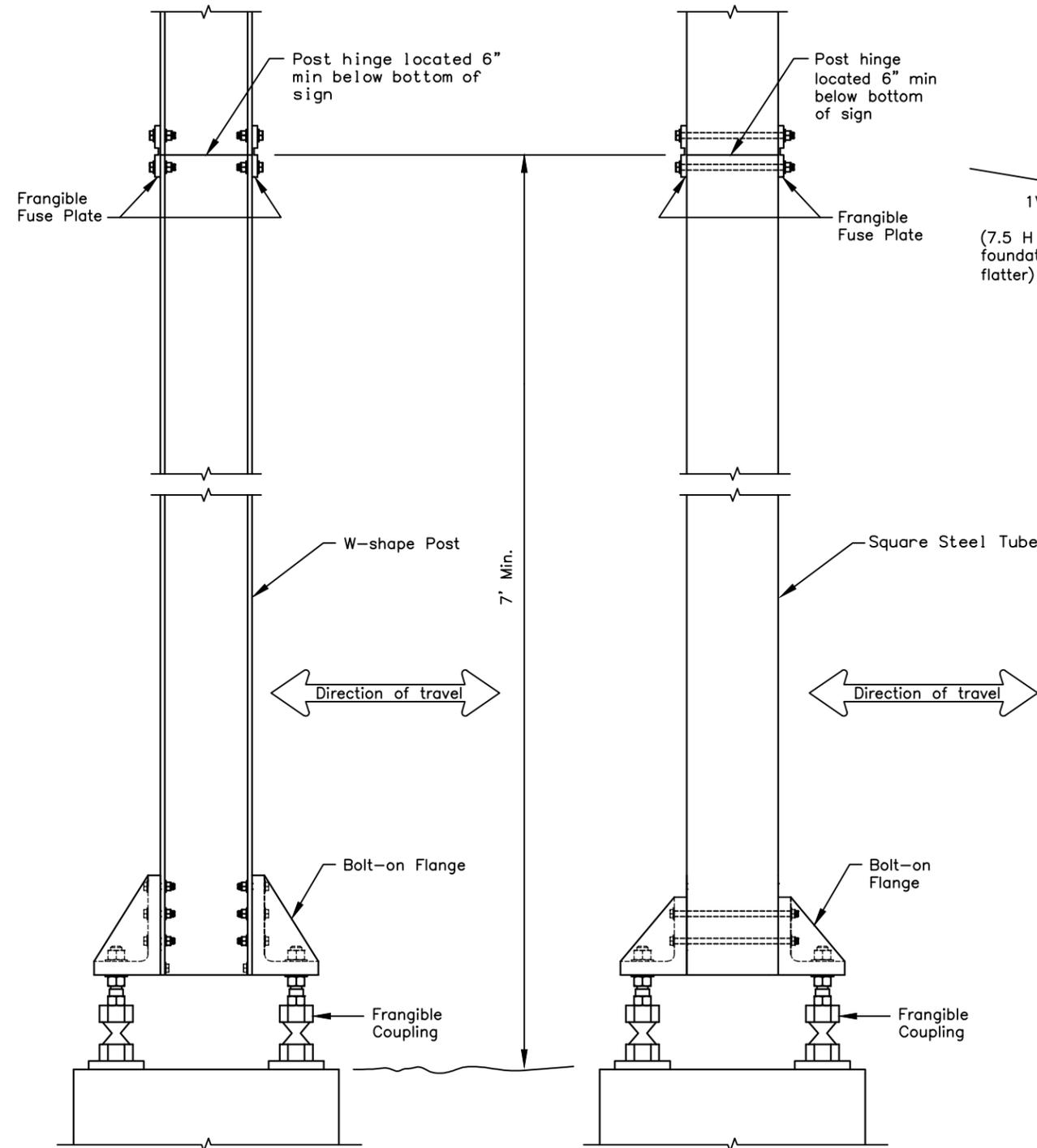
Adopted as an Alaska Standard Plan by: *Kenneth J. Fisher*  
Kenneth J. Fisher, P.E.  
Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

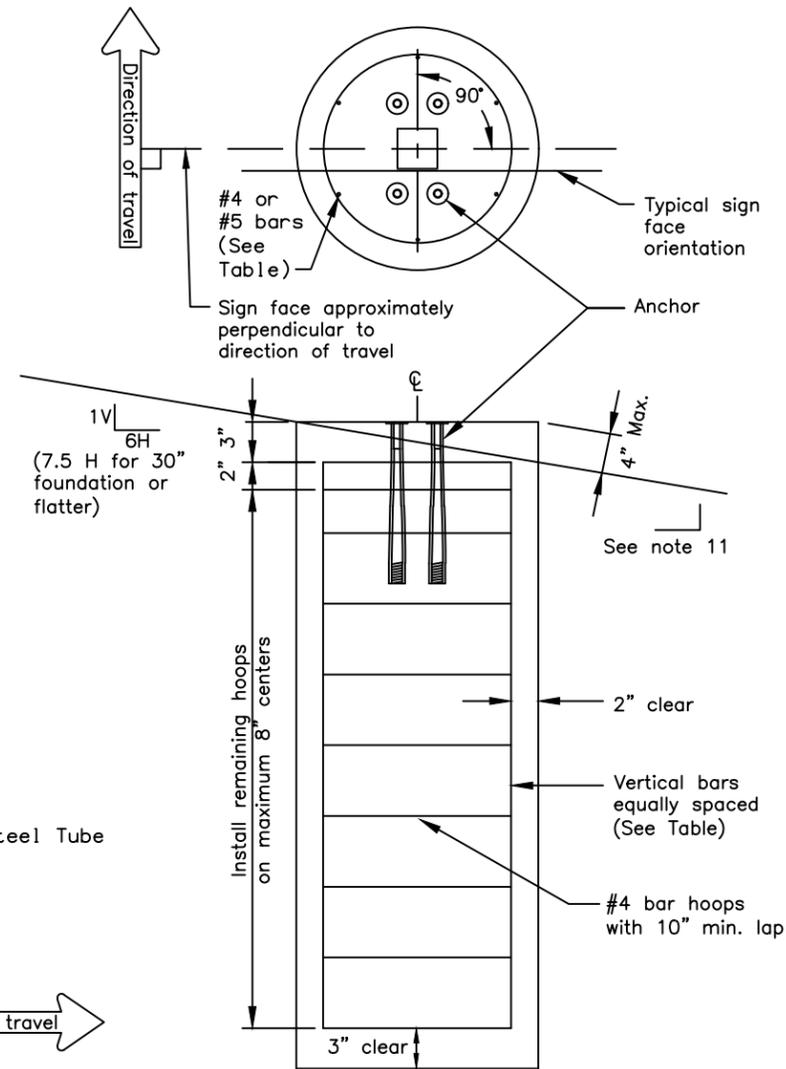
Next Code and Standards Review date: 02/08/2029

**NOTE:**  
Install hinges when more than one post is used to support a sign. Do not install hinges on single post installations.



FRANGIBLE COUPLING SYSTEM  
FOR W-SHAPE POST

FRANGIBLE COUPLING SYSTEM  
FOR SQUARE STEEL TUBES



SIGN POST FOUNDATION  
See Table for depth and diameter

POST SIZE & TYPE	FOUNDATION *			REINFORCEMENT			
	DIA.	MIN. DEPTH	CY <sup>3</sup> CONC.	VERTICAL BARS QTY. SIZE	HOOPS QTY. SIZE	HOOPS DIA.	
2 1/2" TUBE	1'-6"	6'-0"	0.39	7 #5	5'-6"	10 #4	1'-2"
3" TUBE	1'-6"	6'-0"	0.39	7 #5	5'-6"	10 #4	1'-2"
3 1/2" TUBE	1'-6"	6'-0"	0.39	7 #5	5'-6"	10 #4	1'-2"
4" TUBE	2'-6"	6'-0"	1.09	8 #8	5'-6"	10 #4	2'-2"
4 1/2" TUBE	2'-6"	6'-0"	1.09	8 #8	5'-6"	10 #4	2'-2"
5" TUBE	2'-6"	6'-0"	1.09	8 #8	5'-6"	10 #4	2'-2"
W6 x 9	2'-6"	6'-0"	1.09	8 #8	5'-6"	10 #4	2'-2"
W6 x 12	2'-6"	6'-0"	1.09	8 #8	5'-6"	10 #4	2'-2"
W6 x 15	3'-0"	6'-6"	1.70	8 #11	6'-0"	12 #4	2'-8"
W6 x 30	3'-0"	7'-6"	1.96	8 #11	7'-0"	13 #4	2'-8"

FOUNDATION TABLE

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

**GENERAL NOTES**

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

State of Alaska DOT&PF  
ALASKA STANDARD PLAN  
SIGN POST BASE AND  
FOUNDATION

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

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