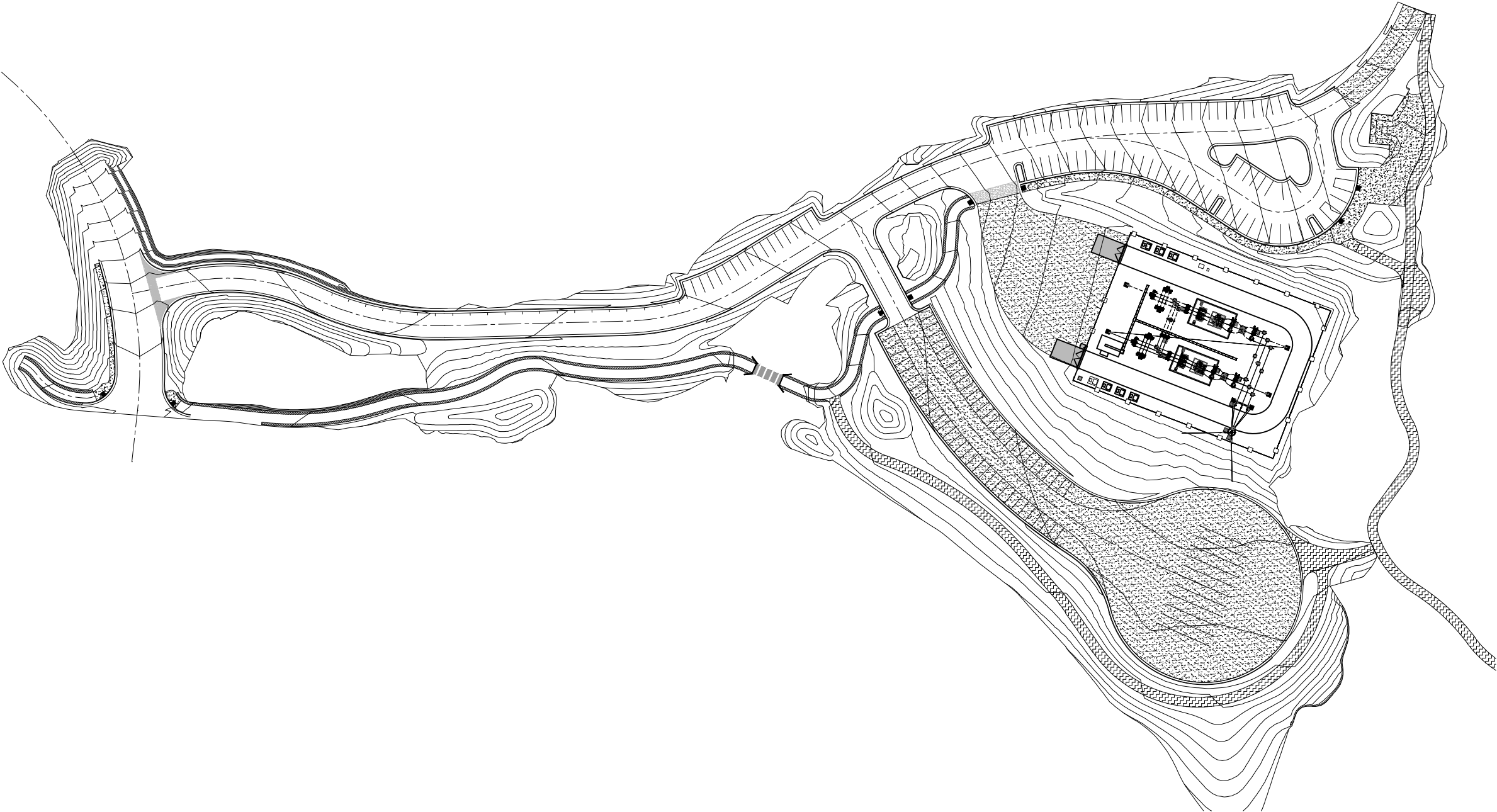




GRAPEVINE SUBSTATION

WASHINGTON CITY, UTAH



No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER
C	02/21/25	KAC	ML	90% REVIEW		
B	08/23/24	KAC	ML	60% REVIEW		
A	03/21/24	KAC	ML	30% REVIEW		



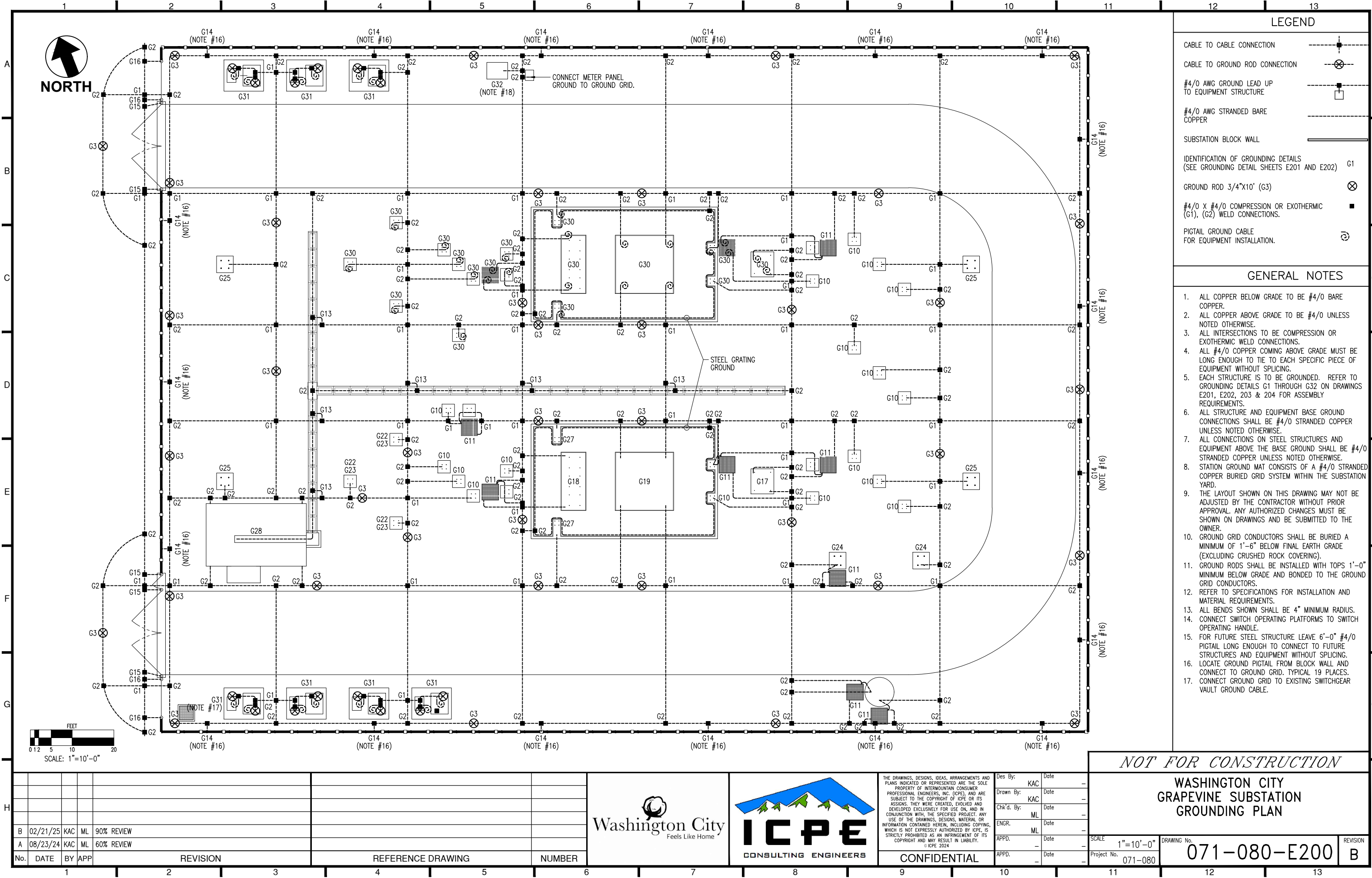
THE DRAWINGS, DESIGNS, IDEAS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED ARE THE SOLE PROPERTY OF INTERMOUNTAIN CONSUMER PROFESSIONAL ENGINEERS, INC. (ICPE), AND ARE SUBJECT TO THE COPYRIGHT OF ICPE OR ITS ASSIGNS. THEY WERE CREATED, EVOLVED AND DEVELOPED EXCLUSIVELY FOR USE ON, AND IN CONJUNCTION WITH, THE SPECIFIED PROJECT. ANY USE OF THE DRAWINGS, DESIGNS, MATERIAL OR INFORMATION CONTAINED HEREIN, INCLUDING COPYING, WHICH IS NOT EXPRESSLY AUTHORIZED BY ICPE, IS STRICTLY PROHIBITED AS AN INFRINGEMENT OF ITS COPYRIGHT AND MAY RESULT IN LIABILITY.
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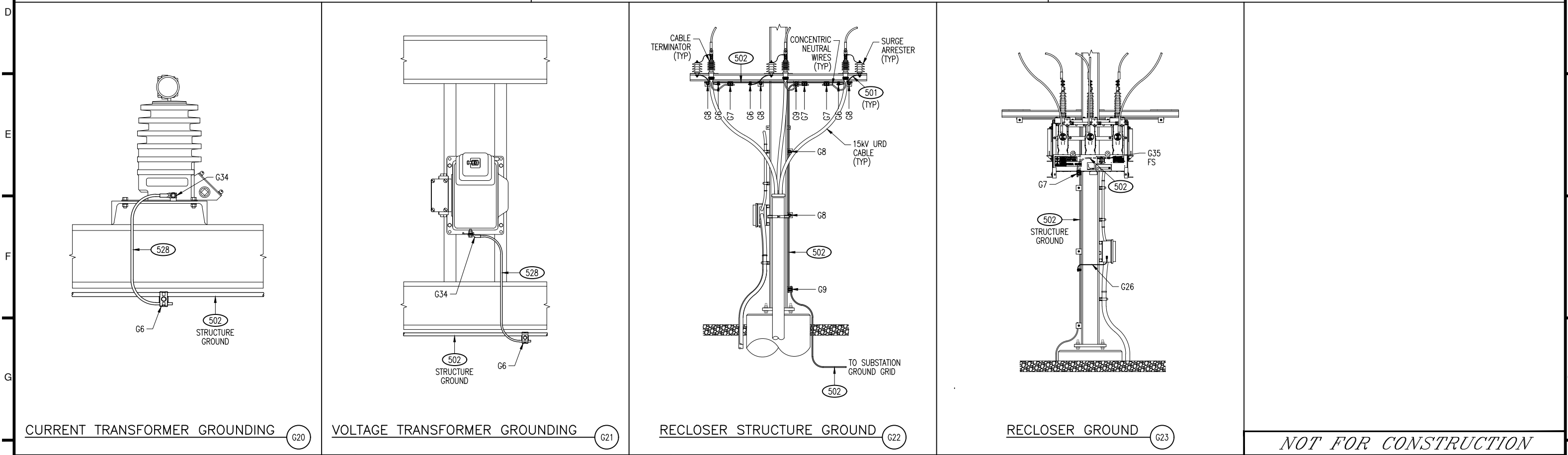
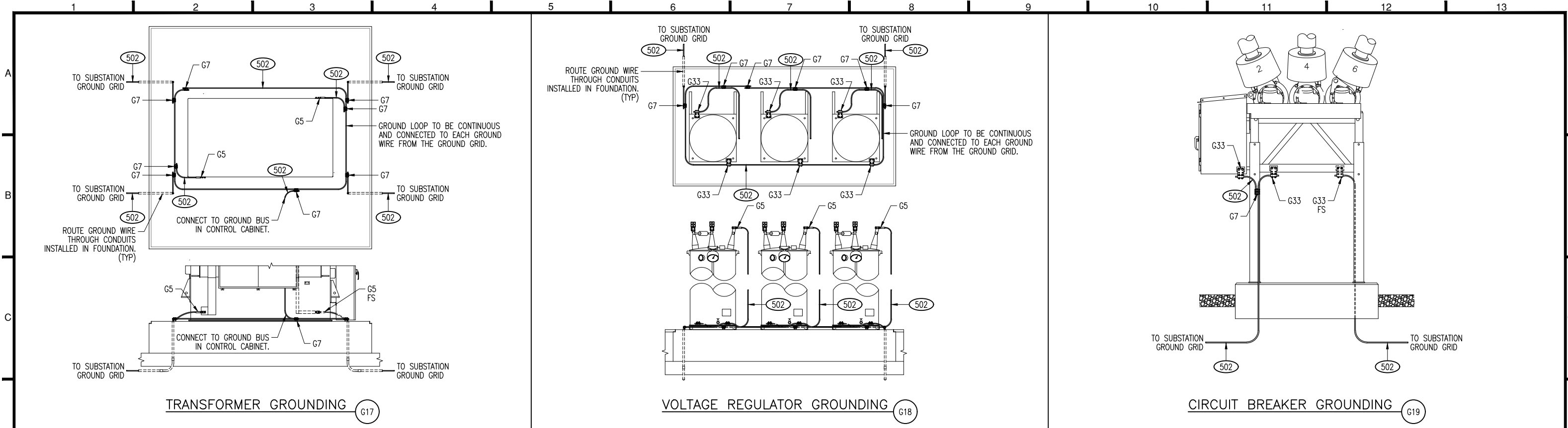
Des By:	KAC	Date	02/02/23
Drawn By:	KAC	Date	02/02/23
Chk'd By:	ML	Date	02/02/23
ENGR.	ML	Date	02/02/23
APPD.	—	Date	—
APPD.	—	Date	—

NOT FOR CONSTRUCTION

WASHINGTON CITY
GRAPEVINE SUBSTATION
COVER SHEET

SCALE	NTS	DRAWING No.	071-080-E001	REVISION	c
Project No.	071-080				





NOT FOR CONSTRUCTION										WASHINGTON CITY GRAPEVINE SUBSTATION GROUNDING DETAILS			
										SCALE: NTS			
										DRAWING No. 071-080-E202			
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										Project No. 071-080			

No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER
A	02/21/25	KAC	ML	90% REVIEW		

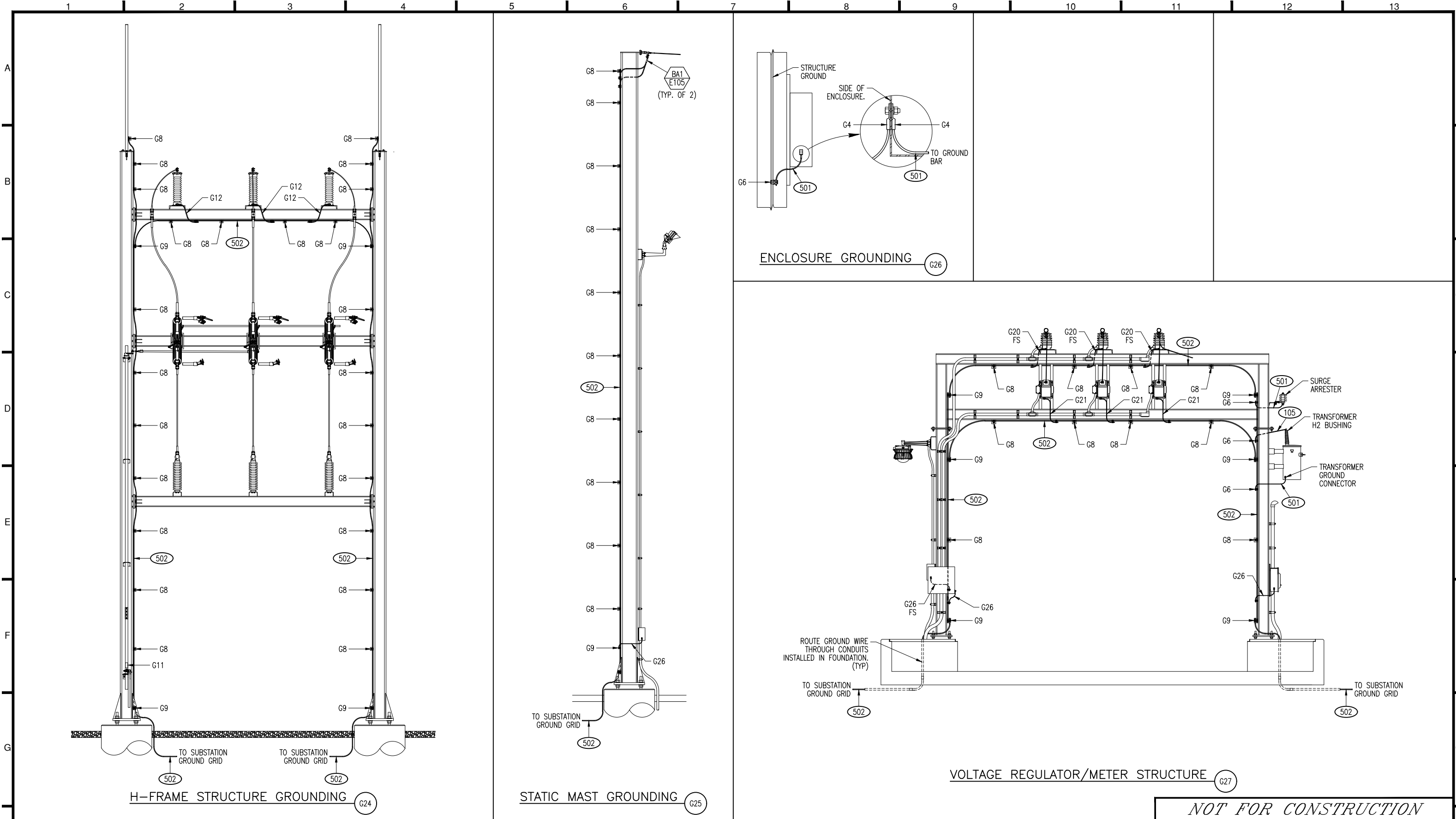
Washington City
Feels Like Home

ICPE
CONSULTING ENGINEERS

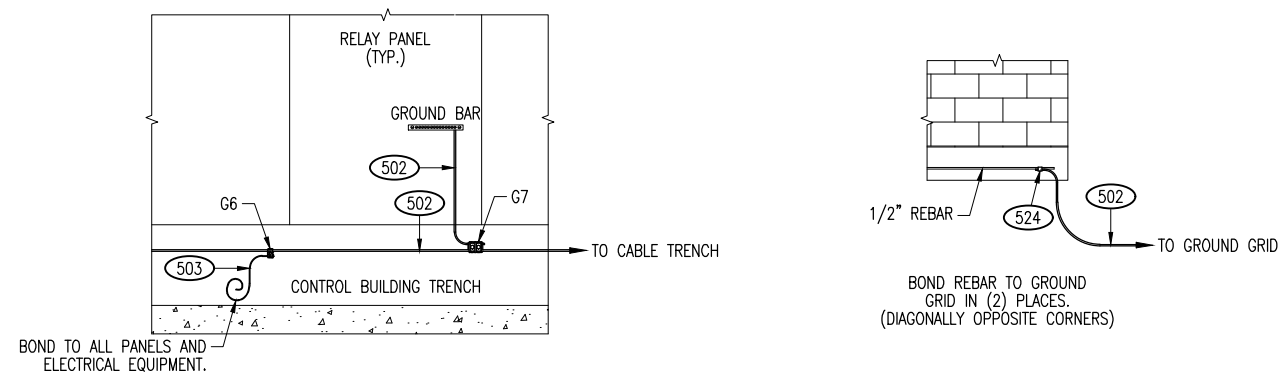
THE DRAWINGS, DESIGNS, IDEAS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED ARE THE SOLE PROPERTY OF INTERMOUNTAIN CONSUMER PROFESSIONAL ENGINEERS, INC. (ICPE), AND ARE SUBJECT TO THE COPYRIGHT OF ICPE OR ITS ASSIGNS. THEY WERE CREATED, EVOLVED AND DEVELOPED EXCLUSIVELY FOR USE ON, AND IN CONJUNCTION WITH, THE SPECIFIED PROJECT. ANY USE OF THE DRAWINGS, DESIGNS, MATERIAL OR INFORMATION CONTAINED HEREIN, INCLUDING COPYING, WHICH IS NOT EXPRESSLY AUTHORIZED BY ICPE, IS STRICTLY PROHIBITED AS AN INFRINGEMENT OF ITS COPYRIGHT AND MAY RESULT IN LIABILITY.
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CONFIDENTIAL

Des By:	KAC	Date	-
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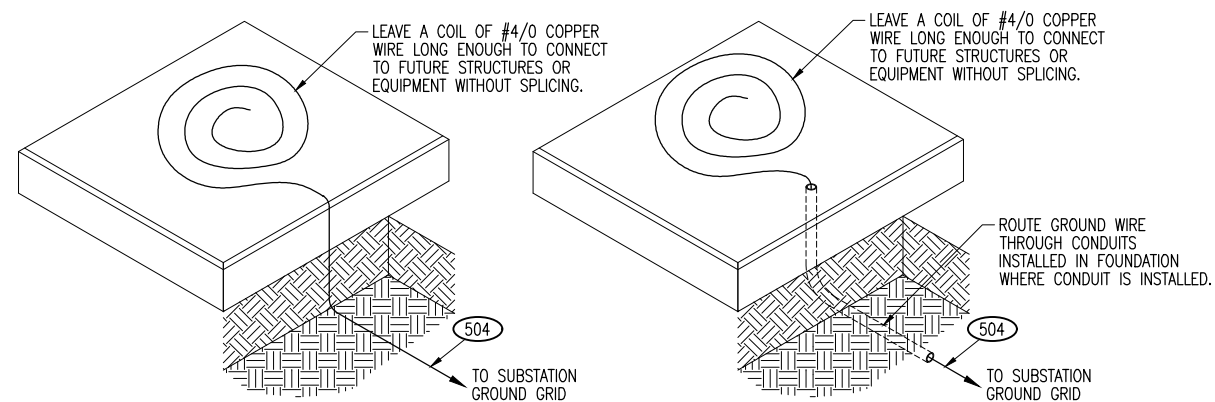
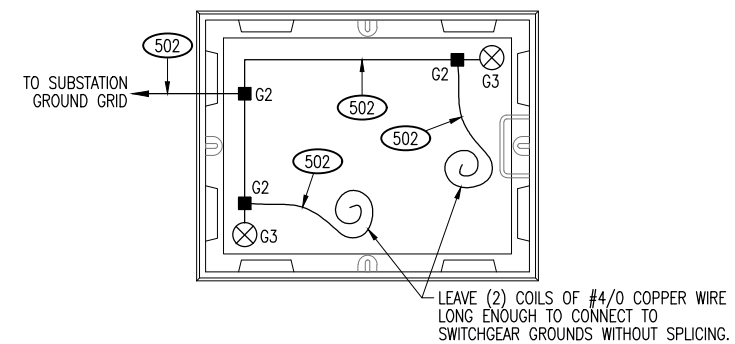
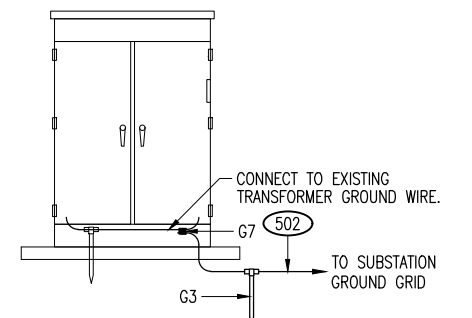


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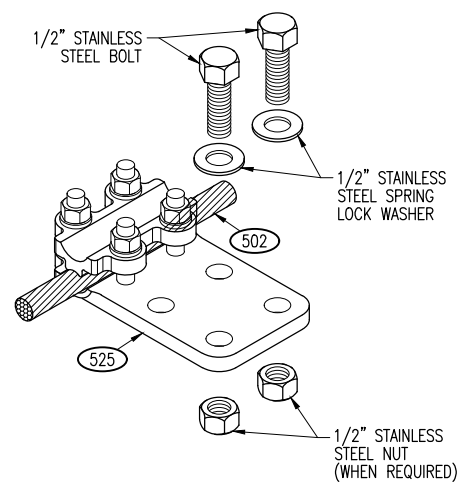


CONTROL BUILDING GROUNDING G28

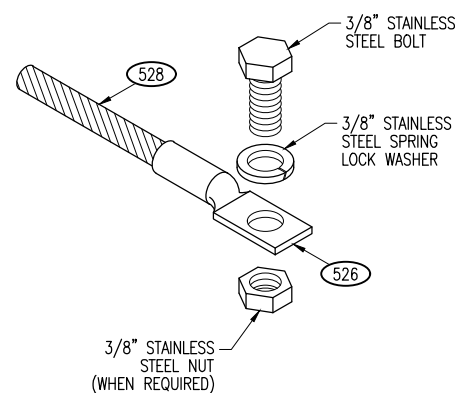
NOT USED G29

FUTURE GROUNDING G30SWITHGEAR BASEMENT GROUNDING G31

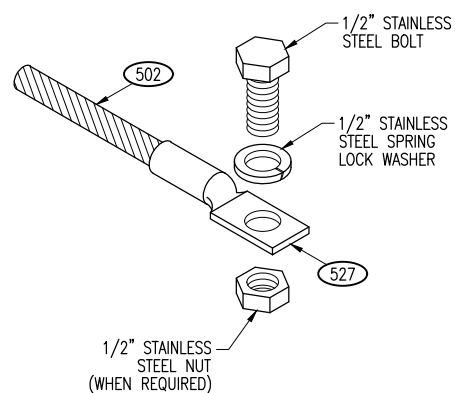
STATION SERVICE GROUNDING G32



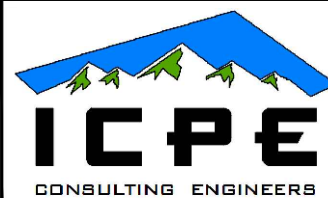
#4/0 TO NEMA 4 HOLE PAD
BOLTED BRONZE FLAG TERMINAL



#2 TO 1 HOLE PAD
COMPRESSION TERMINAL (G34)



#4/0 TO 1 HOLE PAD
COMPRESSION TERMINAL

[illegible]

THE DRAWINGS, DESIGNS, IDEAS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED ARE THE SOLE PROPERTY OF INTERMOUNTAIN CONSUMER PROFESSIONAL ENGINEERS, INC. (ICPE), AND ARE SUBJECT TO THE COPYRIGHT OF ICPE OR ITS ASSIGNS. THEY WERE CREATED, EVOLVED AND DEVELOPED EXCLUSIVELY FOR USE ON, AND IN CONJUNCTION WITH, THE SPECIFIED PROJECT. ANY REUSE OF THE DRAWINGS, DESIGNS, MATERIALS OR INFORMATION CONTAINED HEREIN, INCLUDING COPYING WHICH IS NOT EXPRESSLY AUTHORIZED BY ICPE, IS STRICTLY PROHIBITED AS AN INFRINGEMENT OF ITS COPYRIGHT AND MAY RESULT IN LIABILITY.

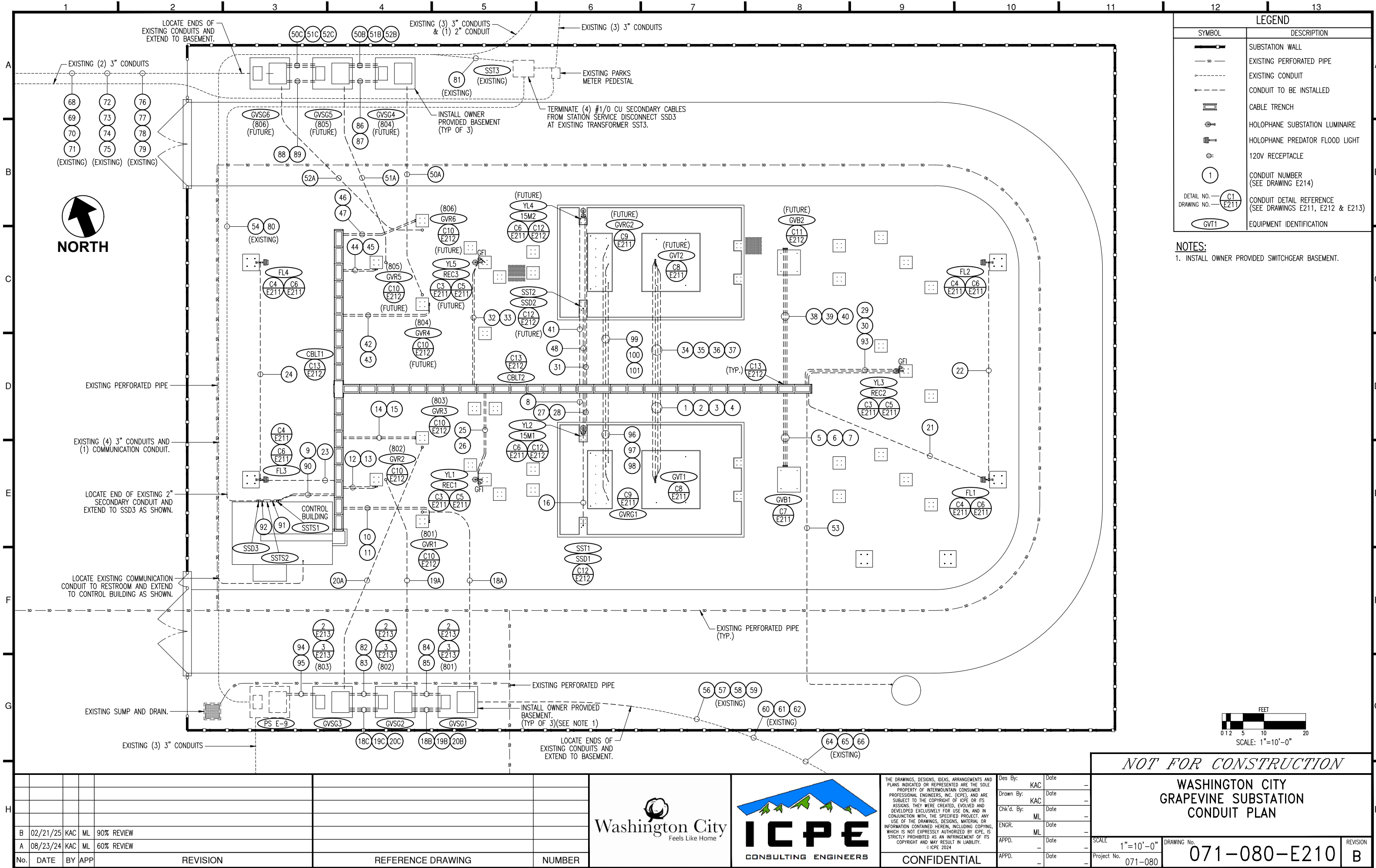
© ICPE 1974.

Des By:	KAC	Date	-
Drawn By:	KAC	Date	-
Chk'd. By:	ML	Date	-
ENGR.	ML	Date	-
APPD.	-	Date	-
APPD.	-	Date	-

NOT FOR CONSTRUCTION

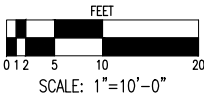
WASHINGTON CITY
GRAPEVINE SUBSTATION
GROUNDING DETAILS

SCALE	NTS	DRAWING No. 071-080-E204	REVISION
Project No. 071-080			A



LEGEND	
SYMBOL	DESCRIPTION
	SUBSTATION WALL
	EXISTING PERFORATED PIPE
	EXISTING CONDUIT
	CONDUIT TO BE INSTALLED
	CABLE TRENCH
	HOLOPHANE SUBSTATION LUMINAIRE
	HOLOPHANE PREDATOR FLOOD LIGHT
	120V RECEPTACLE
	CONDUIT NUMBER (SEE DRAWING E214)
DETAIL NO. DRAWING NO.	CONDUIT DETAIL REFERENCE (SEE DRAWINGS E211, E212 & E213)
	EQUIPMENT IDENTIFICATION

NOTES:
1. INSTALL OWNER PROVIDED SWITCHGEAR BASEMENT.



NOT FOR CONSTRUCTION

WASHINGTON CITY
GRAPEVINE SUBSTATION
CONDUIT PLAN

No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER
B	02/21/25	KAC	ML	90% REVIEW		
A	08/23/24	KAC	ML	60% REVIEW		



THE DRAWINGS, DESIGNS, IDEAS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED ARE THE SOLE PROPERTY OF INTERMOUNTAIN CONSUMER PROFESSIONAL ENGINEERS, INC. (ICPE), AND ARE SUBJECT TO THE COPYRIGHT OF ICPE OR ITS ASSIGNS. THEY WERE CREATED, EVOLVED AND DEVELOPED EXCLUSIVELY FOR USE ON, AND IN CONJUNCTION WITH, THE SPECIFIED PROJECT. ANY USE OF THE DRAWINGS, DESIGNS, MATERIAL OR INFORMATION CONTAINED HEREIN, INCLUDING COPYING, WHICH IS NOT EXPRESSLY AUTHORIZED BY ICPE, IS STRICTLY PROHIBITED AS AN INFRINGEMENT OF ITS COPYRIGHT AND MAY RESULT IN LIABILITY.
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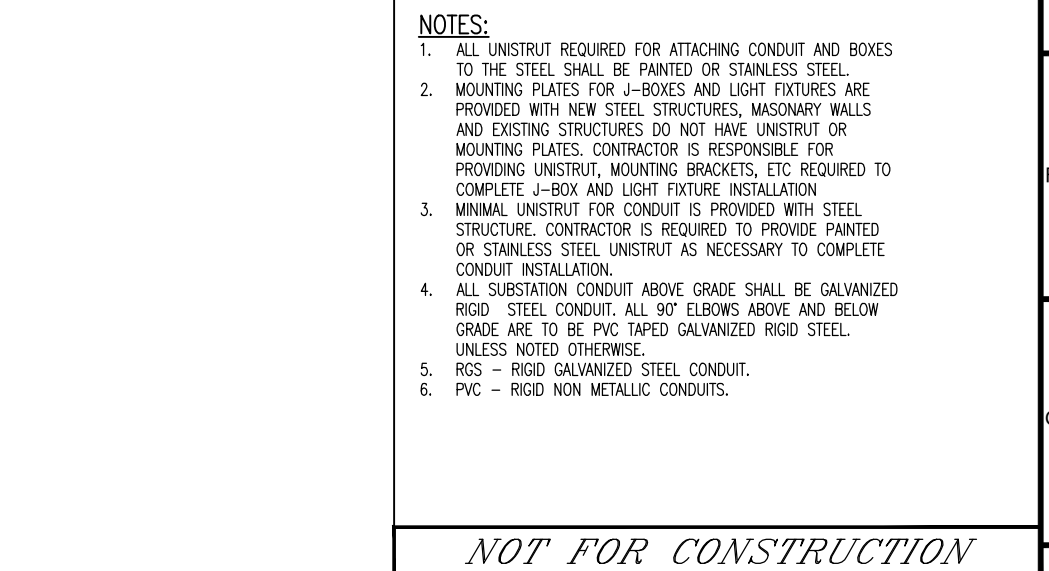
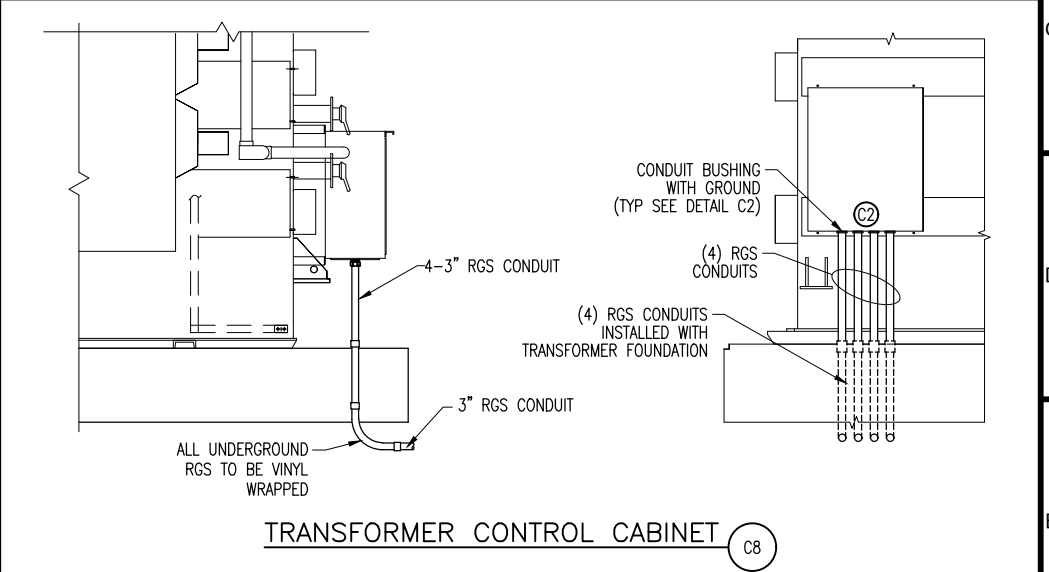
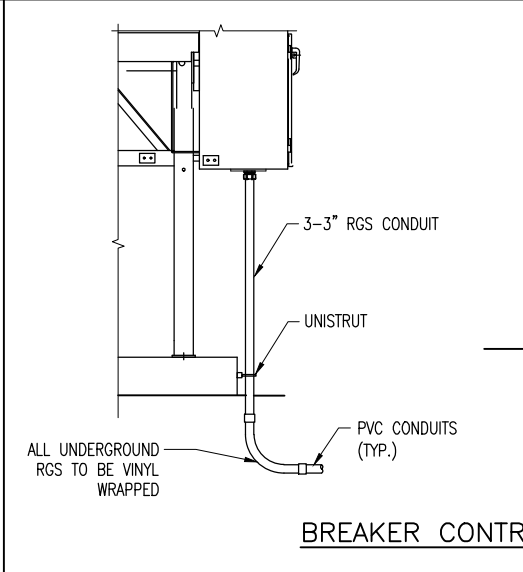
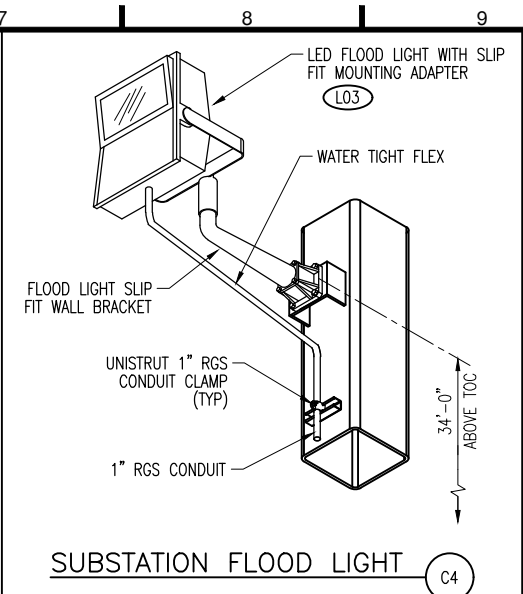
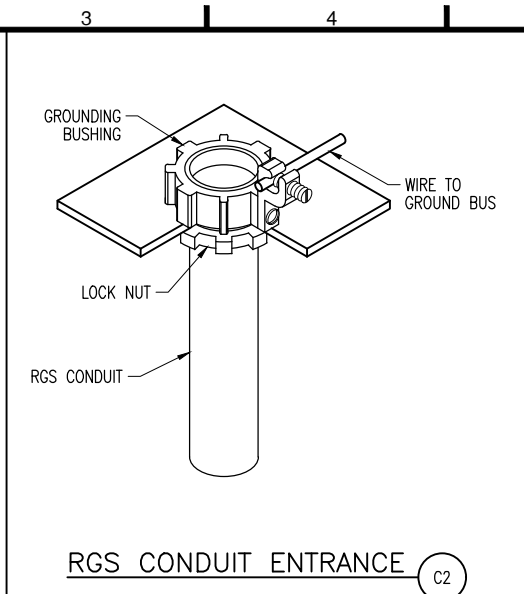
CONFIDENTIAL

Des By:	KAC	Date	—
Drawn By:	KAC	Date	—
Chk'd By:	ML	Date	—
ENGR.	ML	Date	—
APPD.	—	Date	—
APPD.	—	Date	—

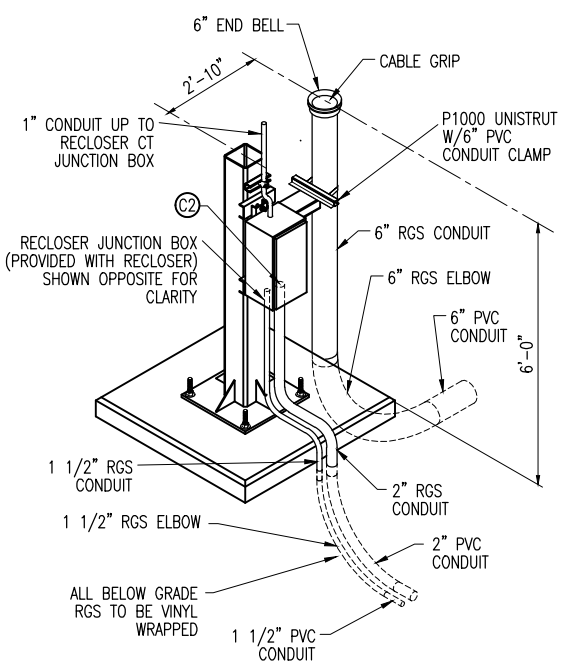
SCALE: 1"=10'-0"
Project No. 071-080

DRAWING No. 071-080-E210

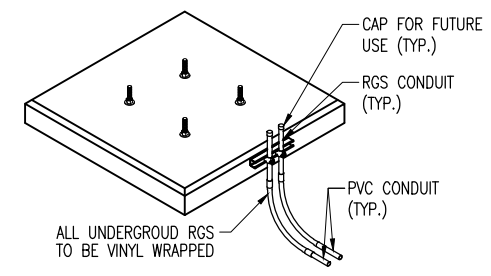
REVISION
B



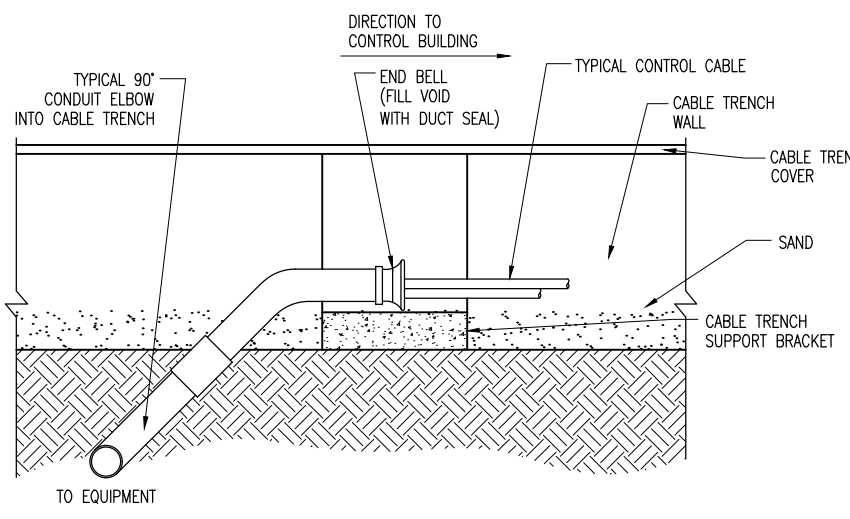
 Washington City Feels Like Home	 ICPE CONSULTING ENGINEERS	THE DRAWINGS, DESIGNS, IDEAS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED ARE THE SOLE PROPERTY OF INTERMOUNTAIN CONSUMER PROFESSIONAL ENGINEERS, INC. (ICPE), AND ARE SUBJECT TO THE COPYRIGHT OF ICPE OR ITS ASSIGNS. THEY WERE CREATED, EVOLVED AND DEVELOPED EXCLUSIVELY FOR USE ON, AND IN CONJUNCTION WITH, THE SPECIFIED PROJECT. ANY USE OF THE DRAWINGS, DESIGNS, MATERIAL OR INFORMATION CONTAINED HEREIN, INCLUDING COPYING, WHICH IS NOT EXPRESSLY AUTHORIZED BY ICPE, IS STRICTLY PROHIBITED AS AN INFRINGEMENT OF ITS COPYRIGHT AND MAY RESULT IN LIABILITY. © ICPE 2025	Des By:	KAC	Date	WASHINGTON CITY GRAPEVINE SUBSTATION CONDUIT DETAILS					
			Drawn By:	KAC	Date						
			Chk'd By:	ML	Date						
			ENGR.	ML	Date						
			APPD.	—	Date				SCALE	NTS	
			APPD.	—	Date	Project No.	071-080	DRAWING No.	071-080-E211	REVISION	A



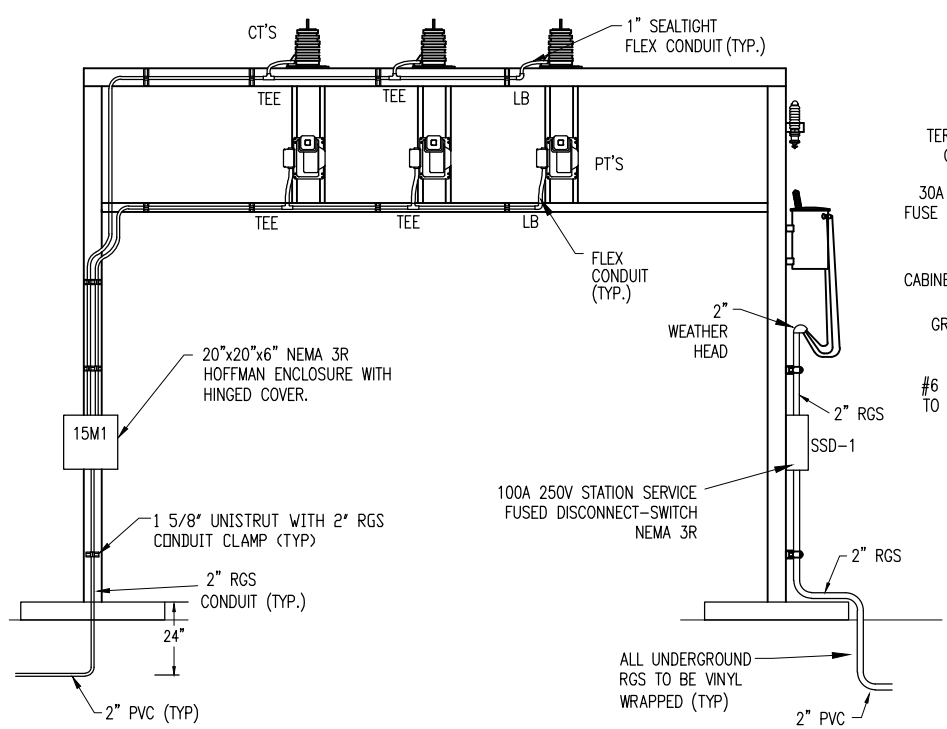
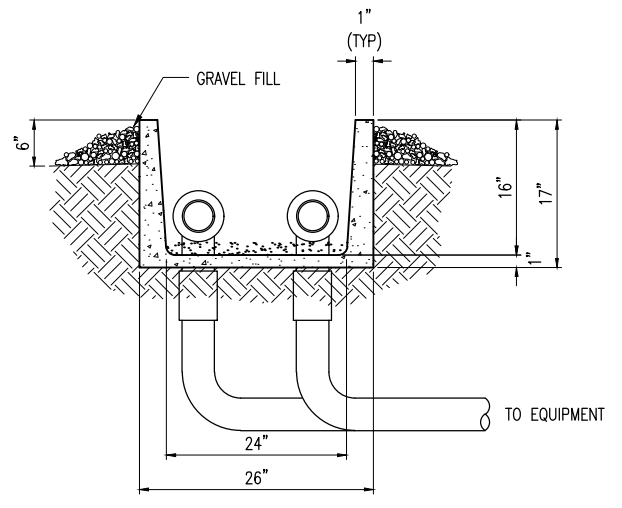
RECLOSER STRUCTURE (C10)



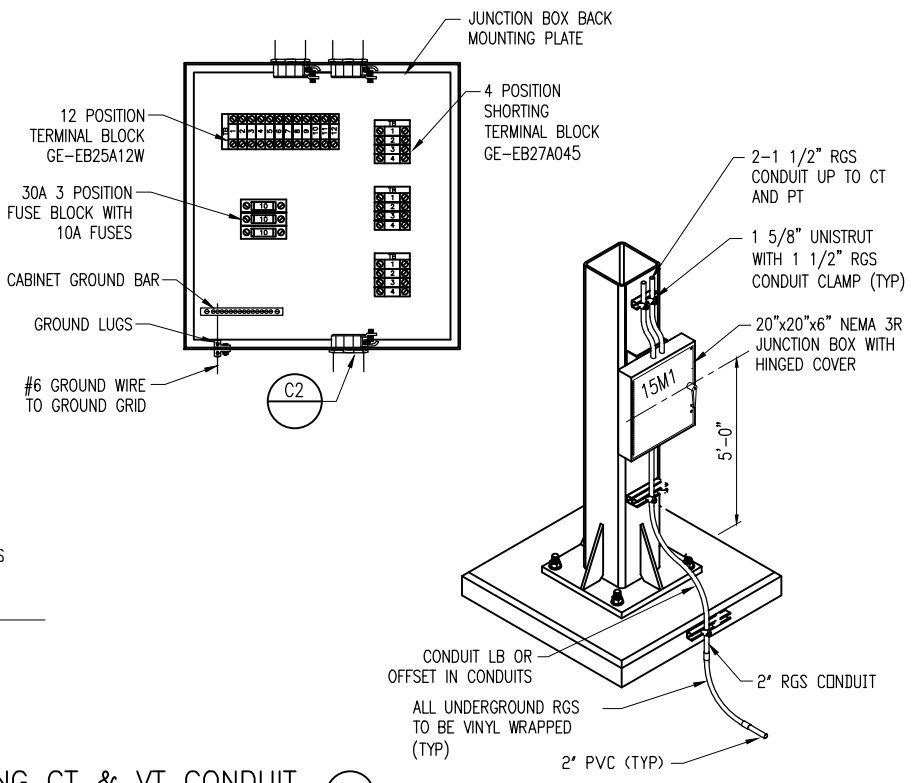
FUTURE STRUCTURE (C11)



TYPICAL CONDUIT INTO CABLE TRENCH (C13)



STATION SERVICE METERING CT & VT CONDUIT (C12)



- NOTES:**
1. ALL UNISTRUT REQUIRED FOR ATTACHING CONDUIT AND BOXES TO THE STEEL SHALL BE PAINTED OR STAINLESS STEEL.
 2. MOUNTING PLATES FOR J-BOXES AND LIGHT FIXTURES ARE PROVIDED WITH NEW STEEL STRUCTURES, MASONARY WALLS AND EXISTING STRUCTURES DO NOT HAVE UNISTRUT OR MOUNTING PLATES. CONTRACTOR IS RESPONSIBLE FOR PROVIDING UNISTRUT, MOUNTING BRACKETS, ETC REQUIRED TO COMPLETE J-BOX AND LIGHT FIXTURE INSTALLATION.
 3. MINIMAL UNISTRUT FOR CONDUIT IS PROVIDED WITH STEEL STRUCTURE. CONTRACTOR IS REQUIRED TO PROVIDE PAINTED OR STAINLESS STEEL UNISTRUT AS NECESSARY TO COMPLETE CONDUIT INSTALLATION.
 4. ALL SUBSTATION CONDUIT ABOVE GRADE SHALL BE GALVANIZED RIGID STEEL CONDUIT. ALL 90° ELBOWS ABOVE AND BELOW GRADE ARE TO BE PVC TAPED GALVANIZED RIGID STEEL. UNLESS NOTED OTHERWISE.
 5. RGS - RIGID GALVANIZED STEEL CONDUIT.
 6. PVC - RIGID NON METALLIC CONDUITS.

NOT FOR CONSTRUCTION

WASHINGTON CITY
GRAPEVINE SUBSTATION
CONDUIT DETAILS

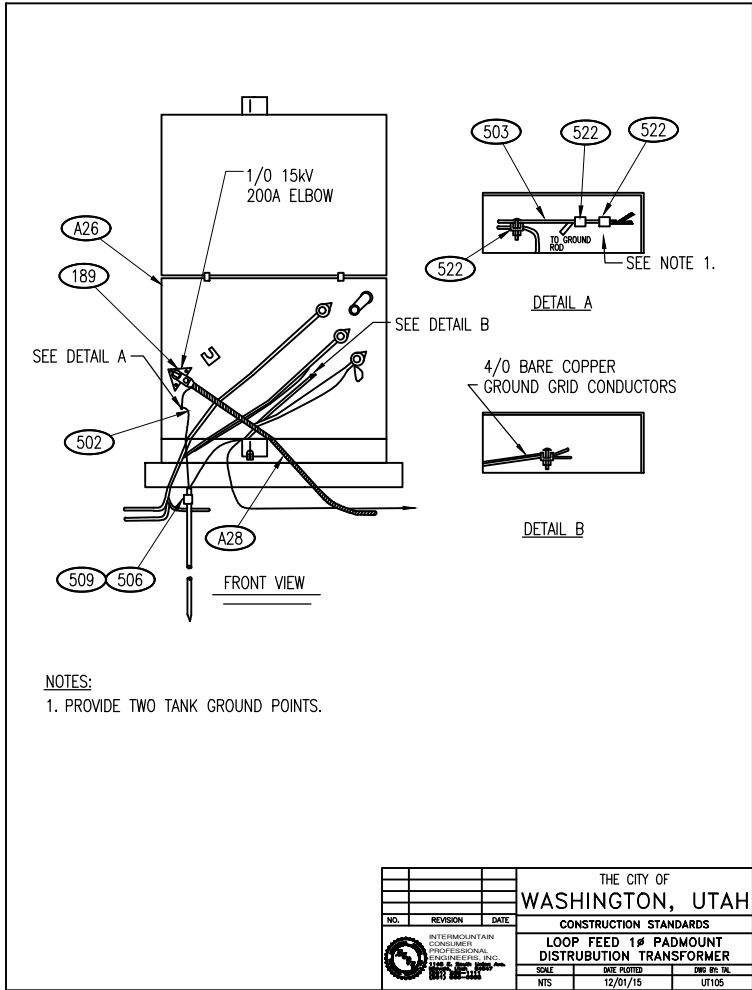
No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER
A	02/21/25	KAC	ML	90% REVIEW		

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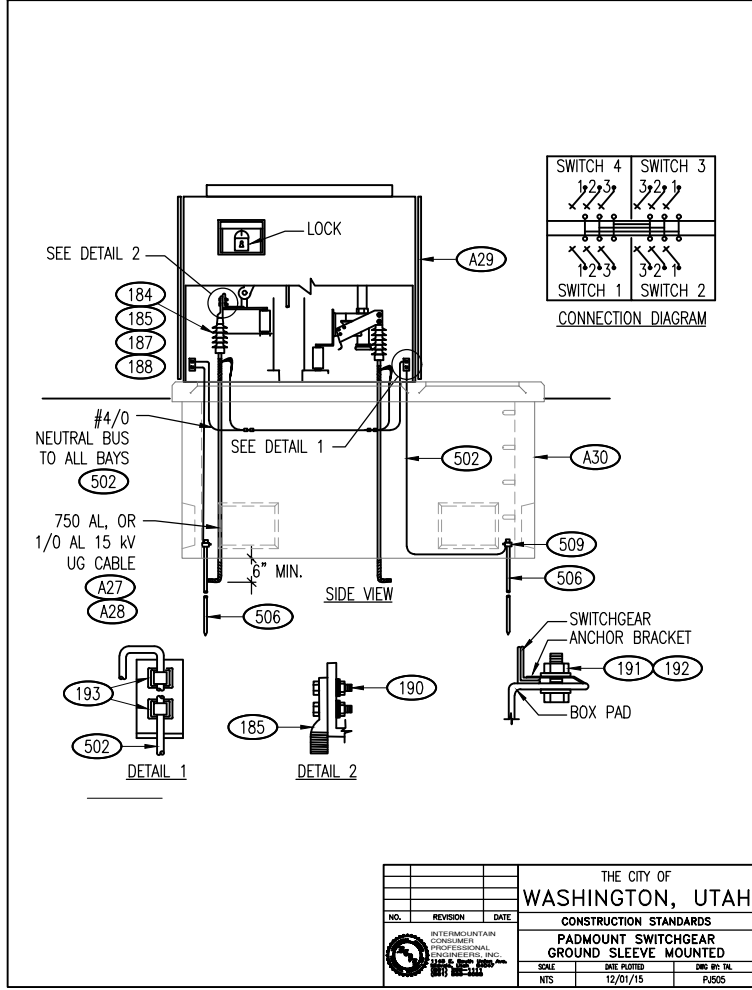
Des By: KAC	Date: --
Drawn By: KAC	Date: --
Chk'd By: ML	Date: --
ENGR. ML	Date: --
APPD. --	Date: --
APPD. --	Date: --

SCALE: NTS	DRAWING No. 071-080-E212	REVISION: A
Project No. 071-080		



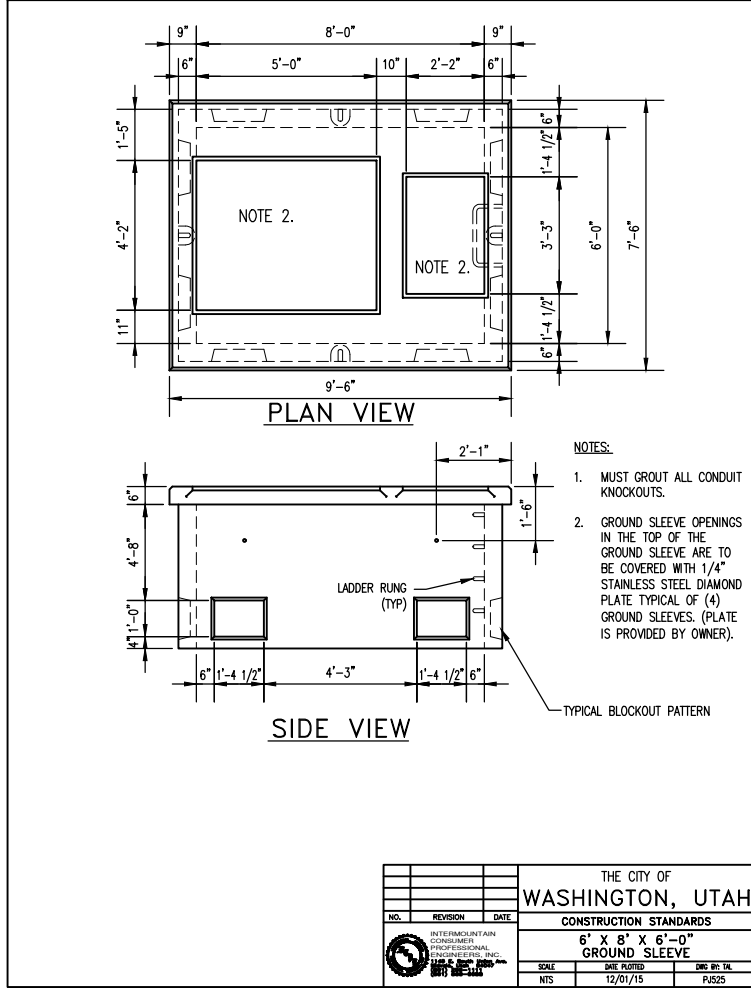
DETAIL
SCALE: NTS

THE CITY OF WASHINGTON, UTAH		
CONSTRUCTION STANDARDS		
LOOP FEED 1 st PADMOUNT DISTRIBUTION TRANSFORMER		
NO.	REVISION	DATE
1		12/01/15
SCALE	DATE PLOTTED	DWG BY: INL
NTS	12/01/15	UT105



DETAIL
SCALE: NTS

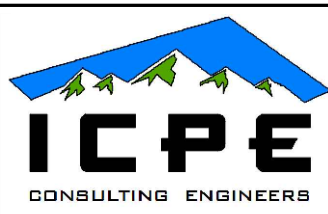
THE CITY OF WASHINGTON, UTAH		
CONSTRUCTION STANDARDS		
PADMOUNT SWITCHGEAR GROUND SLEEVE MOUNTED		
NO.	REVISION	DATE
2		12/01/15
SCALE	DATE PLOTTED	DWG BY: INL
NTS	12/01/15	P4005



DETAIL
SCALE: NTS

THE CITY OF WASHINGTON, UTAH		
CONSTRUCTION STANDARDS		
6' X 8' X 6'-0" GROUND SLEEVE		
NO.	REVISION	DATE
3		12/01/15
SCALE	DATE PLOTTED	DWG BY: INL
NTS	12/01/15	P4025

No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER
A	02/21/25	KAC	ML	90% REVIEW		



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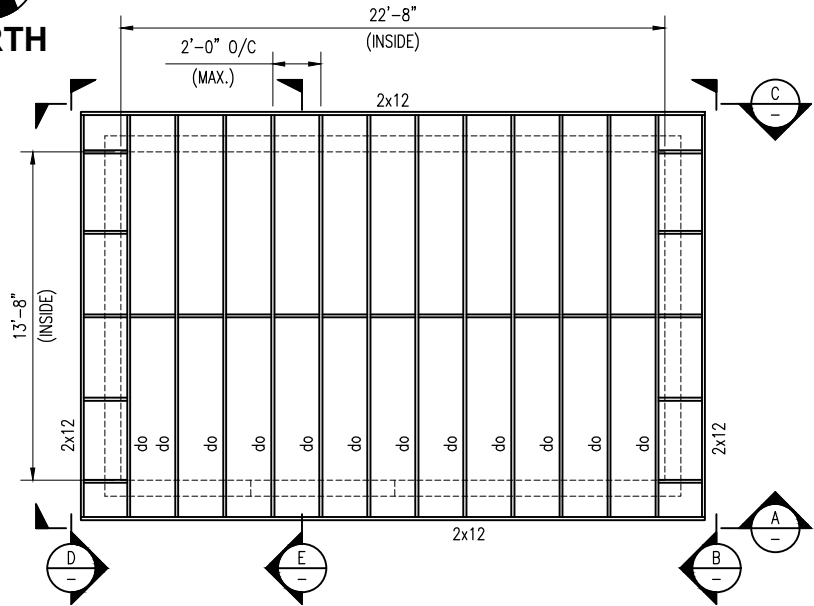
Des By:	KAC	Date	—
Drawn By:	KAC	Date	—
Chk'd By:	ML	Date	—
ENGR.	ML	Date	—
APPD.	—	Date	—
APPD.	—	Date	—

NOT FOR CONSTRUCTION			
WASHINGTON CITY GRAPEVINE SUBSTATION MISC. DETAILS			
SCALE	NTS	DRAWING No.	071-080-E213
Project No.	071-080	REVISION	A

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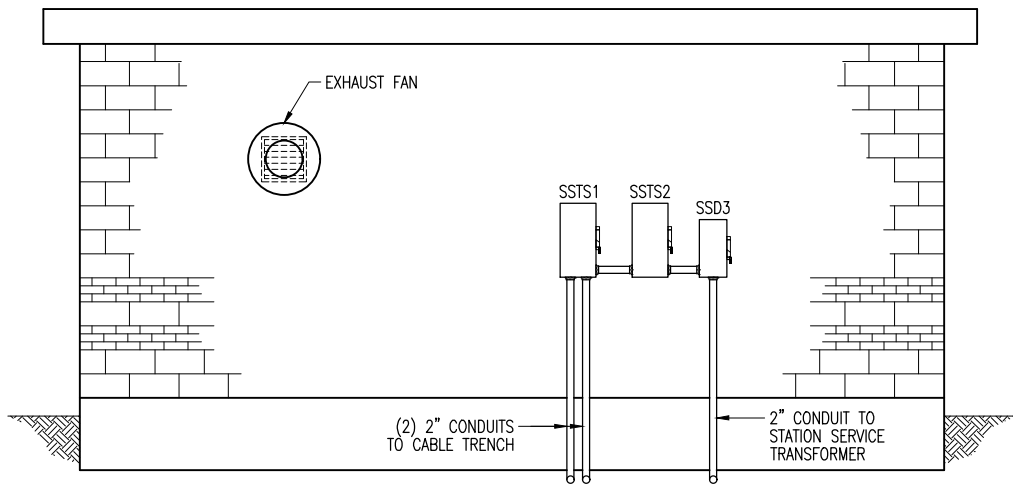
NORTH



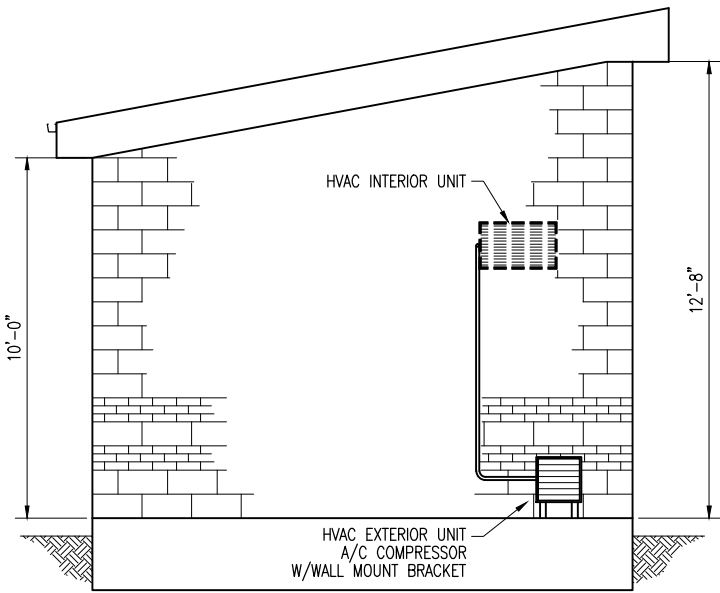
ROOF PLAN
SCALE: 1/4"=1'-0"

NOTES:

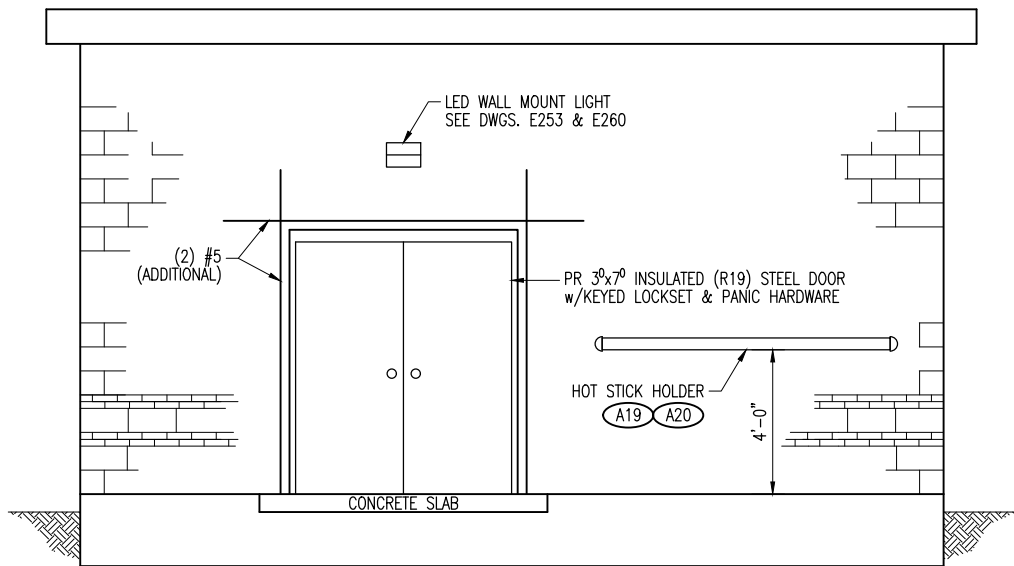
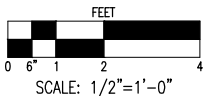
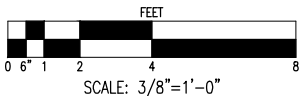
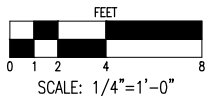
1. FOR GENERAL MASONRY NOTES REF DWG C100.
2. FOR FOUNDATION DETAILS REF DWG C106.
3. INTERIOR WALLS AND CEILING TO BE SEALED AND PAINTED. CONCRETE FLOOR TO BE PAINTED/SEALED. DOOR TRIM TO BE PAINTED. SEE SPECIFICATIONS.
4. EXTERIOR BLOCK TO BE CLEANED AND SEALED.



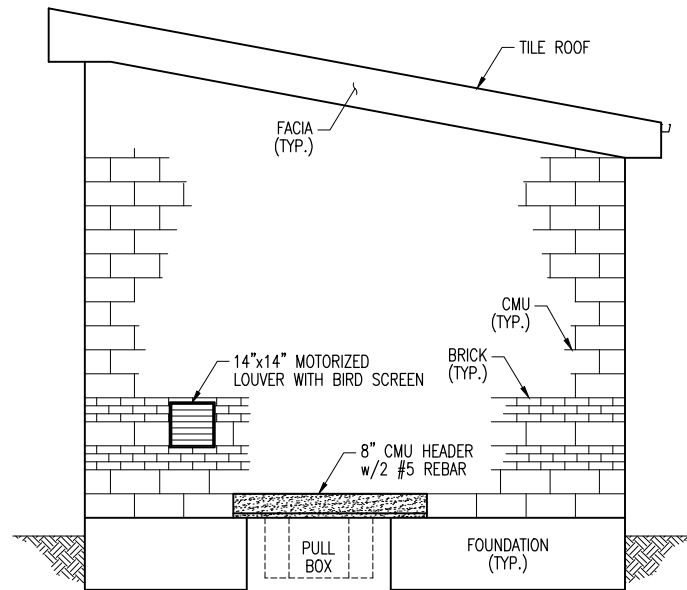
NORTH WALL EXTERIOR ELEVATION (C)
SCALE: 3/8"=1'-0"
(LOOKING SOUTH)



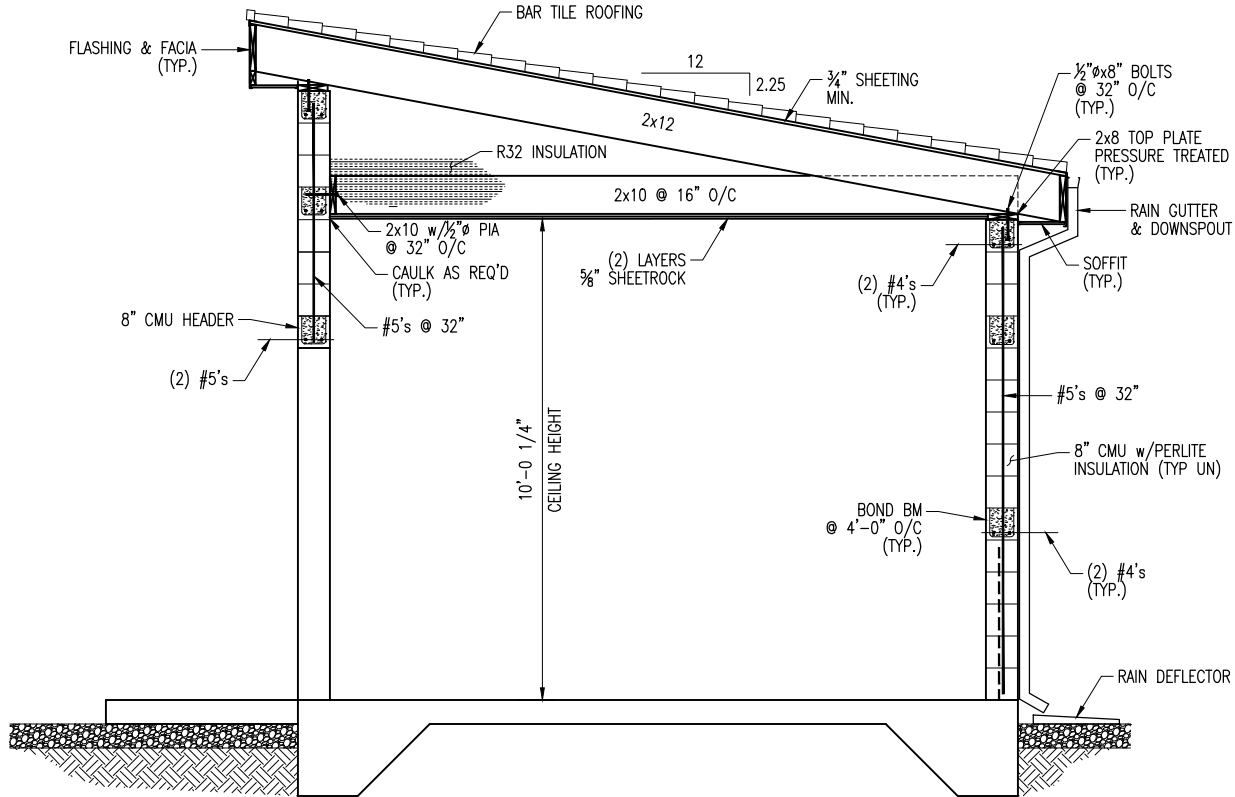
WEST WALL EXTERIOR ELEVATION (D)
SCALE: 3/8"=1'-0"
(LOOKING EAST)



SOUTH WALL EXTERIOR ELEVATION (A)
SCALE: 3/8"=1'-0"
(LOOKING NORTH)

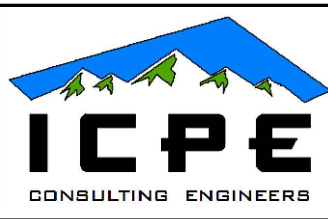


EAST WALL EXTERIOR ELEVATION (B)
SCALE: 3/8"=1'-0"
(LOOKING WEST)



BUILDING SECTION (E)
SCALE: 1/2"=1'-0"

No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER
B	02/21/25	KAC	ML	90% REVIEW		
A	08/23/24	KAC	ML	60% REVIEW		



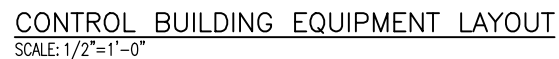
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ENGR.	ML	Date	-
APPD.	-	Date	-
APPD.	-	Date	-

NOT FOR CONSTRUCTION			
WASHINGTON CITY GRAPEVINE SUBSTATION CONTROL BUILDING ROOF PLAN & EXTERIOR ELEVATIONS			
SCALE	AS SHOWN	DRAWING No.	071-080-E250
Project No.	071-080	REVISION	B



NORTH



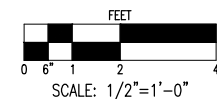
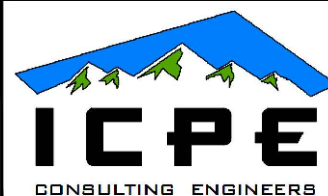
CONTROL BUILDING EQUIPMENT LAYOUT
SCALE: 1/2"=1'-0"

-

TRENCH COVER PLATE

SCALE: 1"=1'-0"

1
-

[illegible]

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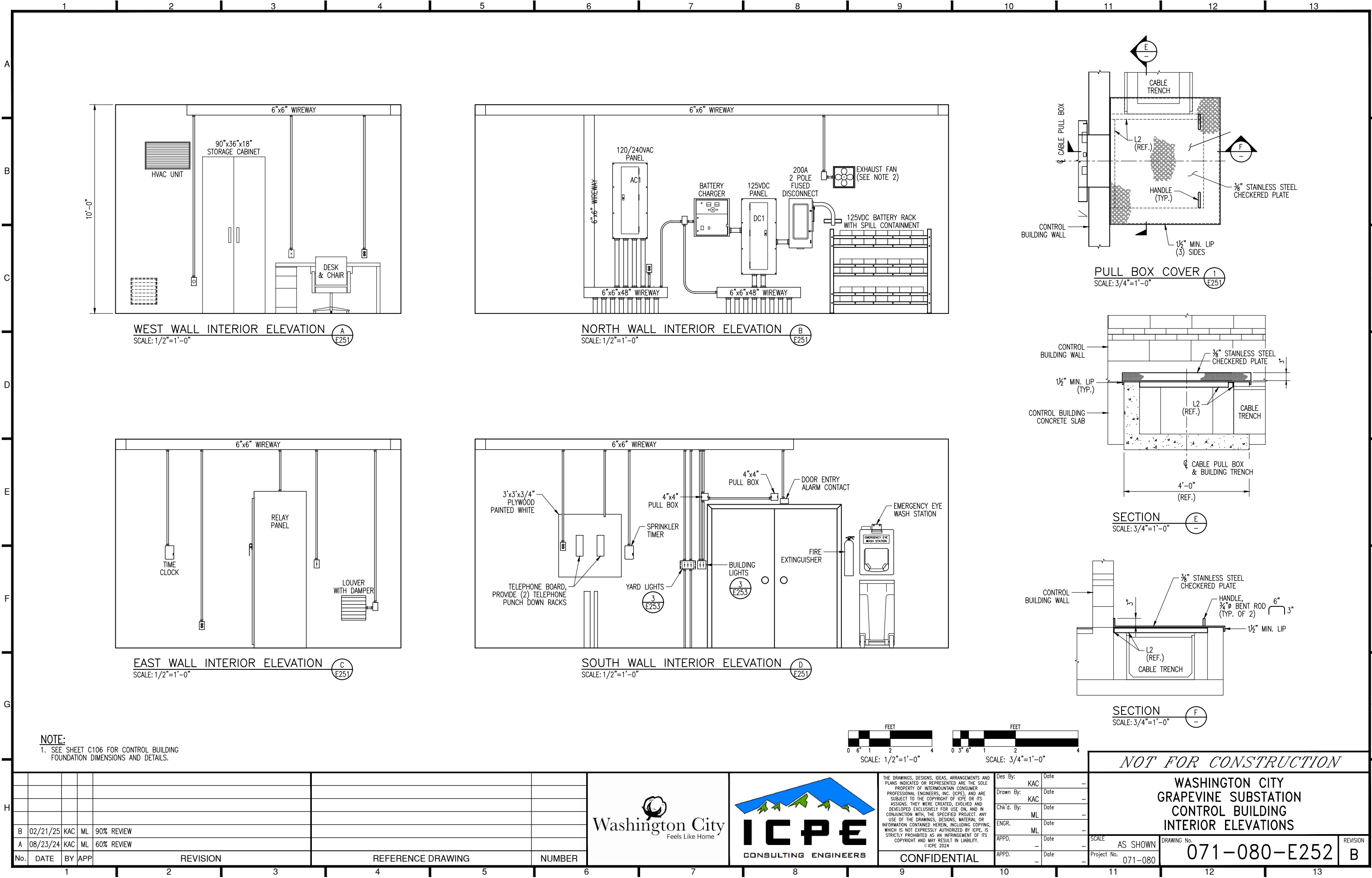
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WASHINGTON CITY
GRAPEVINE SUBSTATION
CONTROL BUILDING
EQUIPMENT LAYOUT

SCALE	1/2"=1'-0"
Project No.	071-080

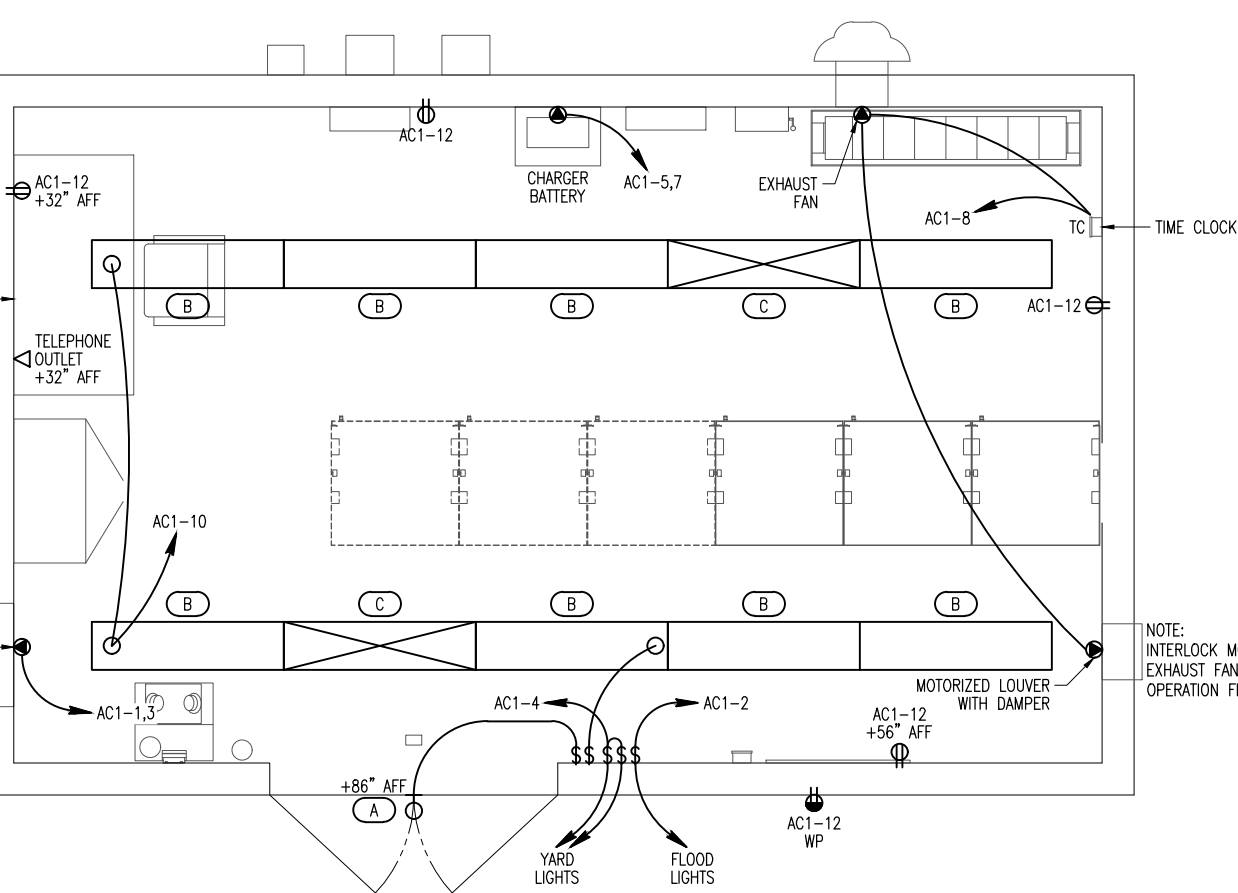
DRAWING No. 071-080-E251

REVISION
B

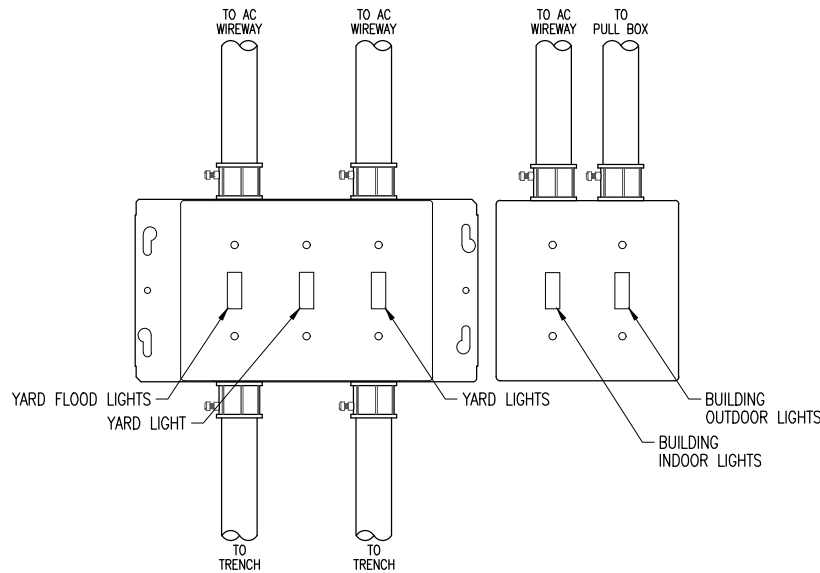




AC PANEL AC1



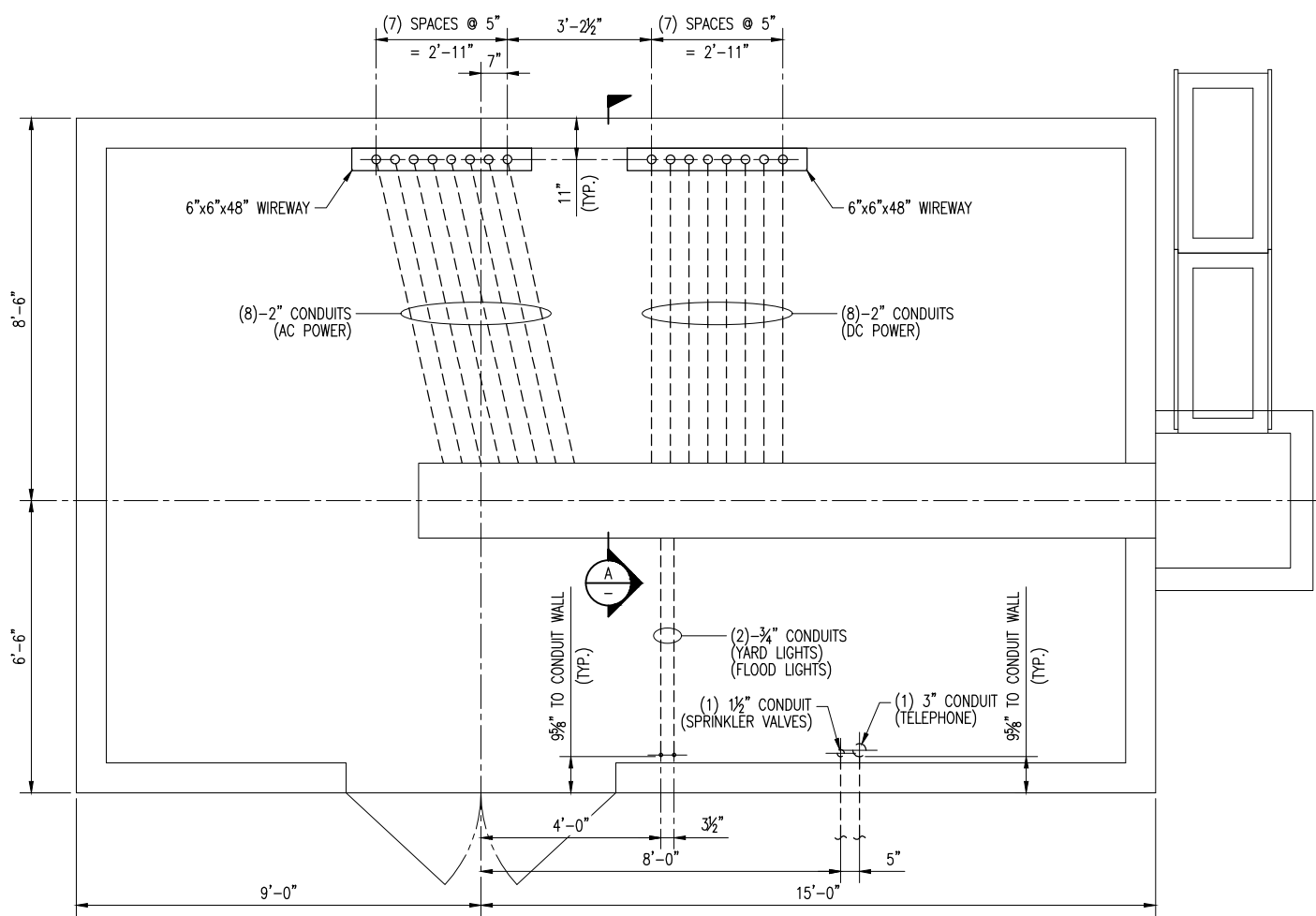
CONTROL BUILDING ELECTRICAL LAYOUT
SCALE: 1"=2'-0"



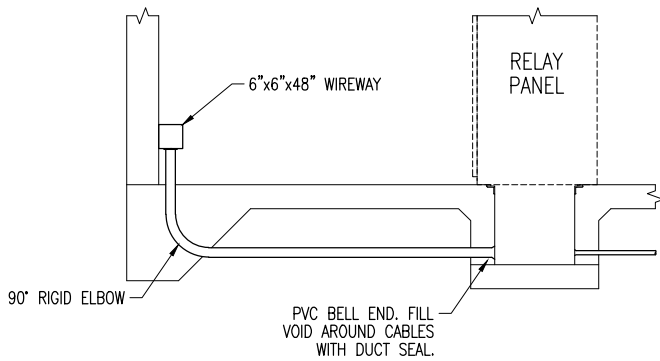
CONTROL BUILDING LIGHT SWITCH DETAIL (3)
SCALE: NTS
SEE SWITCHING DIAGRAMS ON SHEET E260

ELECTRICAL SYMBOL SCHEDULE		
SYMBOL	DESCRIPTION	MOUNTING HEIGHT
(A)	LIGHT FIXTURE DESIGNATION (SEE NOTE 1)	
\$	SINGLE POLE SWITCH	+3'-10" MAX.
TC	TIME CLOCK	+5'-0"
⊕	DUPLEX RECEPTACLE	+1'-4"
⊕ WP	WEATHERPROOF RECEPTACLE	+2'-0"
⊕ GFI	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	+1'-4"
●	SPECIAL PURPOSE OUTLET	+1'-4"
▽	SPECIAL PURPOSE OUTLET	AS SHOWN
▨	EMERGENCY LIGHTING	SURFACE
□	GENERAL LIGHTING	SURFACE
⊞	GENERAL WALL LIGHTING	WALL
NOTE: 1. FOR FIXTURE TYPE AND DESCRIPTION SEE LIGHT FIXTURE SCHEDULE. 2. MOUNTING HEIGHT IS TO BOTTOM OF DEVICE.		

LIGHT FIXTURE SCHEDULE					
TYPE	MANUFACTURER	CATALOG NO.	MOUNTING	LAMPS	DESCRIPTION
(A)	HOLOPHANE	W4GLED 20C 1000 40K T3M 120 PE SF BZSDP	WALL	LED	WALL MOUNTED OUTDOOR FIXTURE
(B)	LITHONIA	LBL4W 6500LM 80CR1 40K NODIM MVOLT	SURFACE	LED	SURFACE WRAP LED
(C)	LITHONIA	LBL4W 6500LM 80CR1 40K NODIM MVOLT EL7L	SURFACE	LED	SURFACE WRAP LED WITH BATTERY BACKUP
NOTE:					



CONTROL BUILDING CONDUIT LAYOUT
SCALE: 1"=2'-0"



TYPICAL CONDUIT ENTRANCE (A)
SCALE: 1"=2'-0"

No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER
B	02/21/25	KAC	ML	90% REVIEW		
A	08/23/24	KAC	ML	60% REVIEW		

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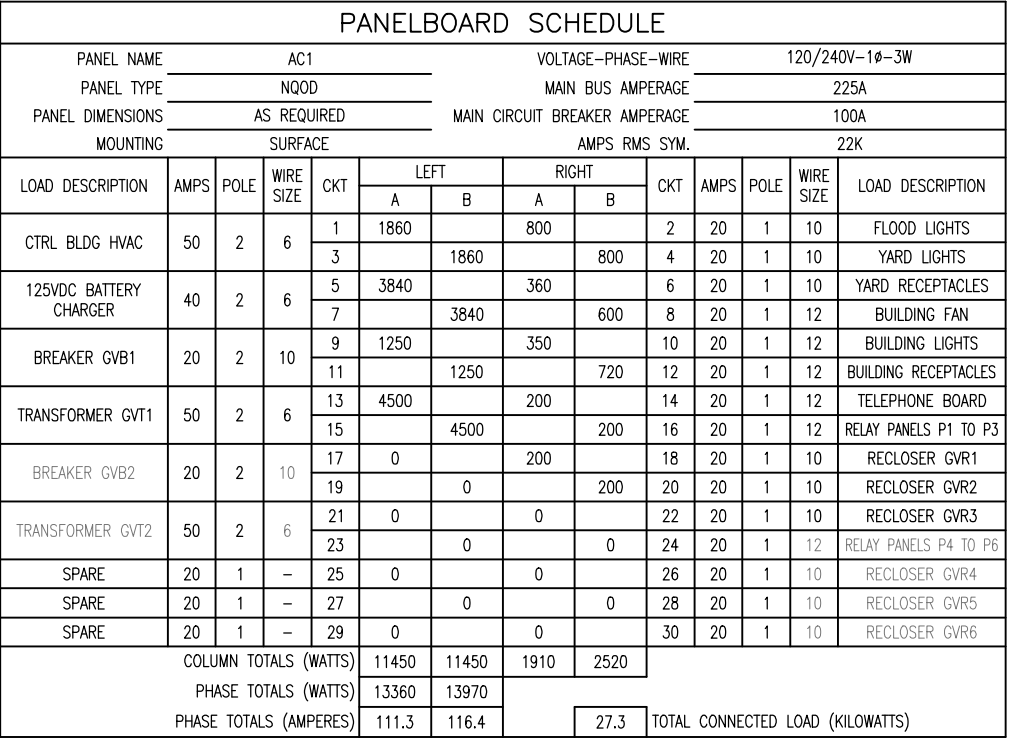
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Drawn By:	KAC	Date	-
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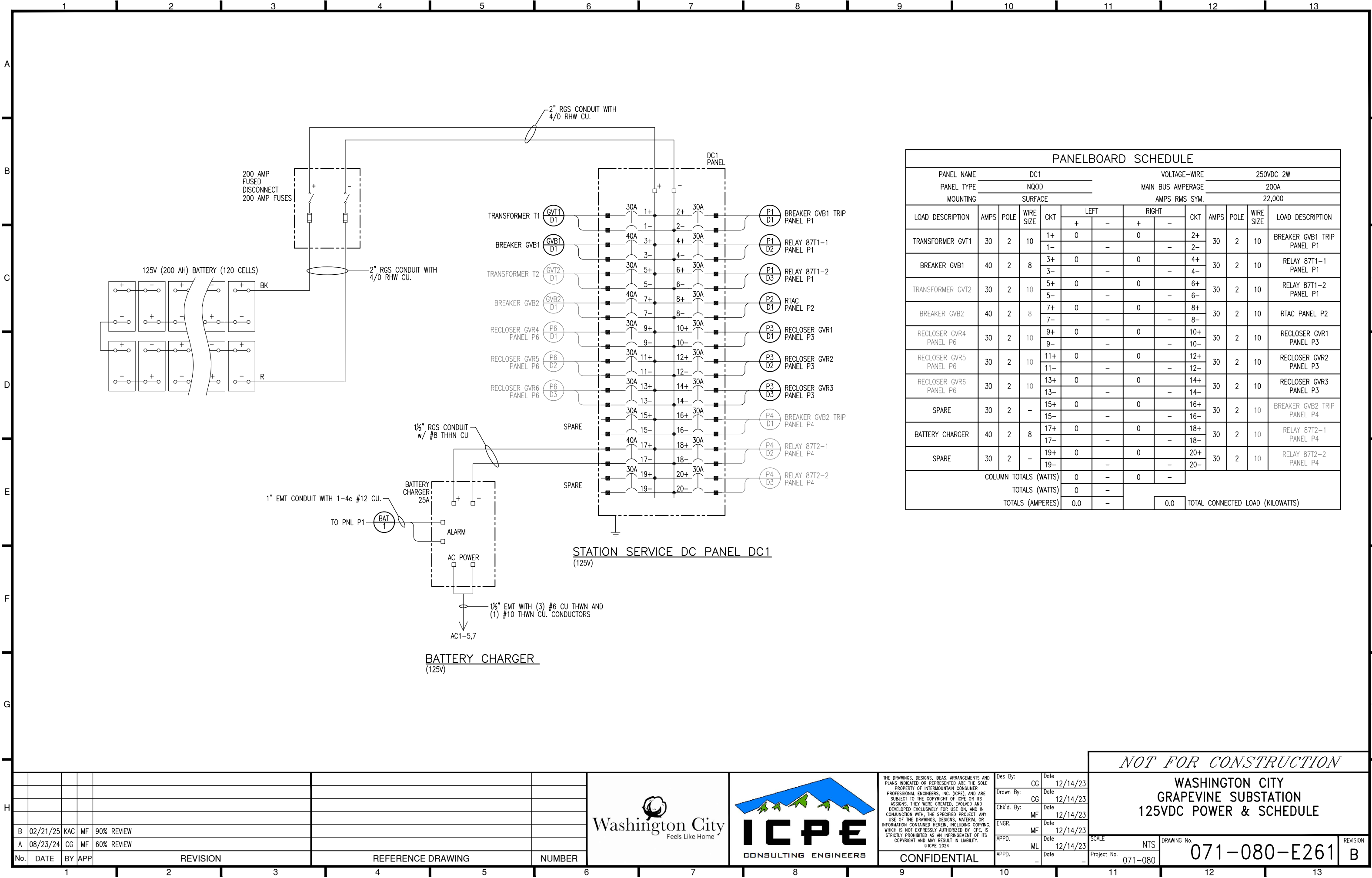
WASHINGTON CITY
GRAPEVINE SUBSTATION
CONTROL BUILDING
ELECTRICAL LAYOUT & CONDUIT LAYOUT

SCALE: NTS
Project No. 071-080

DRAWING No. 071-080-E253
REVISION B



 Washington City Feels Like Home	 ICPE CONSULTING ENGINEERS	THE DRAWINGS, DESIGNS, IDEAS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED ARE THE SOLE PROPERTY OF INTERMOUNTAIN CONSUMER PROFESSIONAL ENGINEERS, INC. (ICPE), AND ARE SUBJECT TO THE COPYRIGHT OF ICPE OR ITS ASSIGNS. THEY WERE CREATED, EVOLVED AND DEVELOPED EXCLUSIVELY FOR USE ON, AND IN CONJUNCTION WITH, THE SPECIFIED PROJECT. ANY USE OF THE DRAWINGS, DESIGNS, MATERIAL OR INFORMATION CONTAINED HEREIN, INCLUDING COPYING, WHICH IS NOT EXPRESSLY AUTHORIZED BY ICPE, IS STRICTLY PROHIBITED AS AN INFRINGEMENT OF ITS COPYRIGHT AND MAY RESULT IN LIABILITY. © ICPE 2024 CONFIDENTIAL	Des By: CG		Date	12/14/23	WASHINGTON CITY 69kV – 12.47kV GRAPEVINE SUBSTATION 120/240VAC POWER & SCHEDULE							
			Drawn By: CG		Date	12/14/23								
			Chk'd. By: MF		Date	12/14/23	SCALE NTS		DRAWING No.		071-080-E260		REVISION B	
			ENGR. MF		Date	12/14/23								
			APPD. ML		Date	12/14/23	Project No.		071-080					
APPD. -		Date	-											



PANELBOARD SCHEDULE													
PANEL NAME		DC1				VOLTAGE-WIRE		250VDC 2W					
PANEL TYPE		NQOD				MAIN BUS AMPERAGE		200A					
MOUNTING		SURFACE				AMPS RMS SYM.		22,000					
LOAD DESCRIPTION	AMPS	POLE	WIRE SIZE	CKT	LEFT		RIGHT		CKT	AMPS	POLE	WIRE SIZE	LOAD DESCRIPTION
					+	-	+	-					
TRANSFORMER GVT1	30	2	10	1+	0		0		2+	30	2	10	BREAKER GVB1 TRIP PANEL P1
				1-		-		-	2-				
BREAKER GVB1	40	2	8	3+	0		0		4+	30	2	10	RELAY 87T1-1 PANEL P1
				3-		-		-	4-				
TRANSFORMER GVT2	30	2	10	5+	0		0		6+	30	2	10	RELAY 87T1-2 PANEL P1
				5-		-		-	6-				
BREAKER GVB2	40	2	8	7+	0		0		8+	30	2	10	RTAC PANEL P2
				7-		-		-	8-				
RECLOSER GVR4 PANEL P6	30	2	10	9+	0		0		10+	30	2	10	RECLOSER GVR1 PANEL P3
				9-		-		-	10-				
RECLOSER GVR5 PANEL P6	30	2	10	11+	0		0		12+	30	2	10	RECLOSER GVR2 PANEL P3
				11-		-		-	12-				
RECLOSER GVR6 PANEL P6	30	2	10	13+	0		0		14+	30	2	10	RECLOSER GVR3 PANEL P3
				13-		-		-	14-				
SPARE	30	2	-	15+	0		0		16+	30	2	10	BREAKER GVB2 TRIP PANEL P4
				15-		-		-	16-				
BATTERY CHARGER	40	2	8	17+	0		0		18+	30	2	10	RELAY 87T2-1 PANEL P4
				17-		-		-	18-				
SPARE	30	2	-	19+	0		0		20+	30	2	10	RELAY 87T2-2 PANEL P4
				19-		-		-	20-				
COLUMN TOTALS (WATTS)					0	-	0	-					
TOTALS (WATTS)					0	-							
TOTALS (AMPERES)					0.0	-	0.0	TOTAL CONNECTED LOAD (KILOWATTS)					

B	02/21/25	KAC	MF	90% REVIEW									
A	08/23/24	CG	MF	60% REVIEW									
No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER							



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APPD.	ML	Date	12/14/23
APPD.	-	Date	-

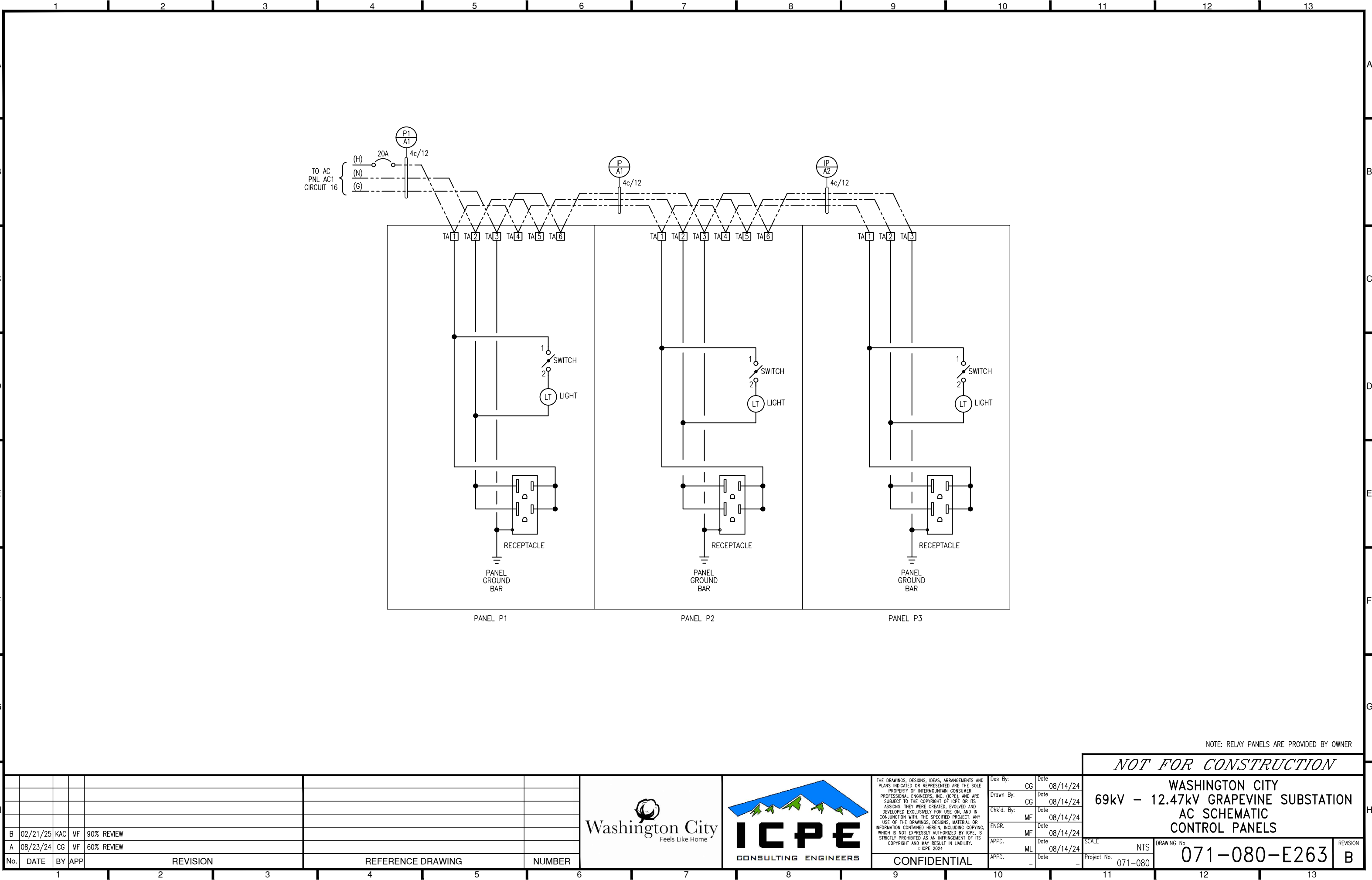
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WASHINGTON CITY
GRAPEVINE SUBSTATION
125VDC POWER & SCHEDULE

SCALE: NTS
Project No. 071-080

DRAWING No. 071-080-E261

REVISION B



1. FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE, 2021 EDITION.
2. SEE CHAPTER 35 FOR CORRESPONDING REFERENCED STANDARD EDITIONS.
2. DRAWING INFORMATION SHALL CONTROL IF CONFLICTING WITH THESE NOTES OR THE PROJECT SPECIFICATIONS.
3. APPROVALS FOR ALL MATERIALS, SUBSTITUTIONS AND OTHER ITEMS SHALL BE BY THE ENGINEER.
4. DRAWINGS INDICATE STRUCTURES IN FINAL FORM CAPABLE OF SUPPORTING DESIGN LOADINGS. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT DURING CONSTRUCTION AS REQUIRED.
5. REPORT ANY PROJECT OMISSIONS OR DISCREPANCIES TO THE OWNER IMMEDIATELY.
6. THE LATEST EDITION OF CODES AND STANDARDS SHALL APPLY UNLESS NOTED.

INTERNATIONAL BUILDING CODE (IBC) 2021 EDITION
MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES – SEI/ASCE 7
ELEVATED PLATFORM LIVE LOAD 50 PSF, UN
RISK CATEGORY II

SEISMIC: CATEGORY C
MCE PARAMETERS – $SDS = 0.474$ $SD1 = 0.180$
SITE CLASS D
IMPORTANCE FACTOR = 1.25

WIND LOAD: 90 MPH, EXPOSURE C (BASIC WIND SPEED WITH A THREE SECOND GUST FACTOR)

GEOTECHNICAL PARAMETERS: GEOTECHNICAL INVESTIGATION REPORT BY LANDMARK TESTING AND ENGINEERING,
PROJECT NO. 220270

SOIL BEARING PRESSURE	– 2000 PSF
SOIL LATERAL ACTIVE PRESSURE	– 37 PSF/FT
SOIL LATERAL PASSIVE PRESSURE	– 390 PSF/FT
SOIL LATERAL SLIDING COEFFICIENT	– 0.35

SPECIAL INSPECTIONS IF ANY SHALL BE SHOWN ON PROJECT DRAWINGS.

1. CONCRETE MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL CONFORM TO ACI 318 AND ACI 301 REQUIREMENTS, HOT AND COLD WEATHER AND CONTRACTOR PROCEDURES SHALL BE APPROVED PRIOR TO CONCRETE PLACEMENT.
2. CONCRETE SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A. CONCRETE AGGREGATE – ASTM C33 (MAXIMUM SIZE 1")
 - B. REINFORCING STEEL (REBAR) – ASTM A615 GRADE 60.
 - C. CEMENT – PORTLAND CEMENT, ASTM C150, TYPE II, TRICALCIUM ALUMINATE – 8% MAXIMUM
 - D. FLY ASH – ASTM C618, CLASS C OR F, 15% MAXIMUM AS CEMENT REPLACEMENT
 - E. COMPRESSIVE STRENGTH AT 28 DAYS – 4000 PSI MINIMUM
 - F. SLUMP – 4" MINIMUM
 - G. WATER TO CEMENT RATIO – 0.45 MAXIMUM
 - H. AIR ENTRAINMENT – 5% ($\pm 1.5\%$)
 - I. CONCRETE WEIGHT – NORMAL
 - J. CHEMICAL ADMIXTURES – ASTM C494
 - K. CALCIUM CHLORIDE – NONE ALLOWED
 - L. EMBEDDED ITEMS – ASTM A35 UNLESS NOTED
3. PROVIDE MINIMUM COVER FOR REBAR CONFORMING TO ACI 318, AS FOLLOWS:
 - A. CONCRETE DEPOSITED DIRECTLY AGAINST GROUND – 3"
 - B. CONCRETE EXPOSED TO WEATHER OR GROUND – 2"
 - C. CONCRETE NOT EXPOSED TO WEATHER OR GROUND, $1\frac{1}{2}$ " FOR COLUMNS, BEAMS AND GIRDERS AND $\frac{3}{4}$ " FOR OTHERS
4. REBAR SPLICES SHALL CONFORM TO ACI 318, AS FOLLOWS:

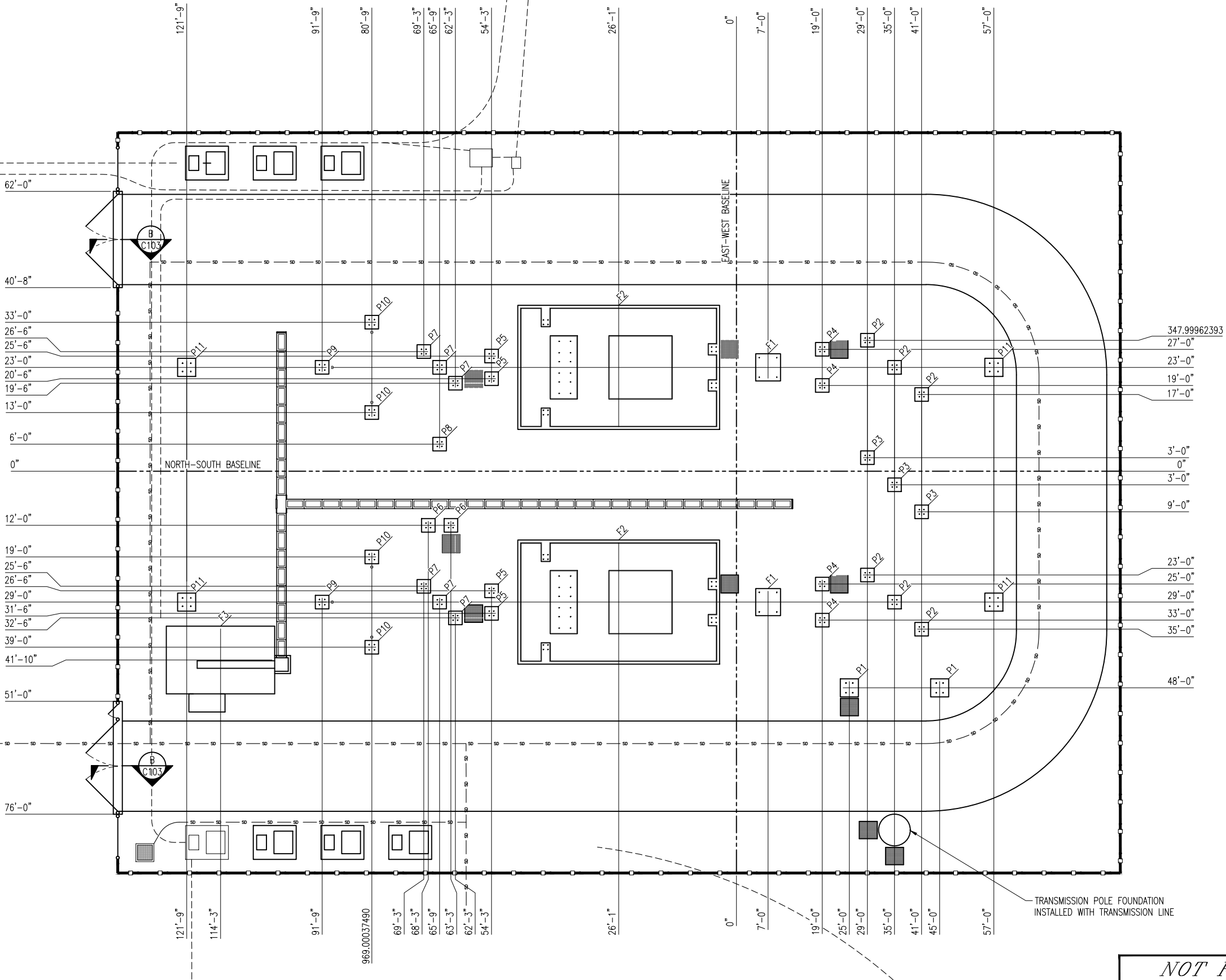
BAR SIZE	TOP BARS	OTHER BARS	BAR SIZE	TOP BARS	OTHER BARS
#4	32"	25"	#8	80"	61"
#5	40"	31"	#9	90"	69"
#6	48"	37"	#10	101"	78"
#7	70"	53"	#11	112"	86"

TOP BARS – HORIZONTAL WITH GREATER THAN 12" OF CONCRETE CAST BELOW BAR.
REBAR SPACING – CLEAR DISTANCE GREATER THAN TWICE REBAR DIAMETER.
5. REBAR SHALL BE DETAILED AND APPROVED CONFORMING TO THE ACI DETAILING MANUAL REBAR #4 AND LARGER SHALL BE SHOP FABRICATED, BUNDLED AND TAGGED WITH DRAWING NUMBER AND MARK NUMBER.
6. REBAR SHALL BE CONTINUOUS AT STRUCTURE CORNERS AND INTERSECTIONS. WALL, PIER AND COLUMN REBAR SHALL BE DOWELED INTO SUPPORTING FOOTING OR STRUCTURE BELOW.
7. CONCRETE PLACED ON GRADE SHALL REST ON FIRM, UNDISTURBED AND PROOFROLLED SOIL OR ON APPROVED GRANULAR FILL COMPACTED TO 95% PER ASTM D1557 IN 8" LOOSE LIFTS.
8. CONSTRUCTION JOINT SURFACES SHALL HAVE $\frac{1}{4}$ " PROFILE WITH REBAR CONTINUOUS THROUGH JOINT. CONTROL JOINTS SHALL NOT HAVE REBAR THROUGH JOINT AND HAVE SIKAFLEX 2C OR TREMCO THC 900 OR 901 SEALANT. EXPANSION JOINTS SHALL BE $\frac{1}{2}$ " THICK CONFORMING TO ASTM D1751, D1752 OR D2628. CONCRETE JOINTS NOT SHOWN ON DRAWINGS SHALL BE APPROVED. SLAB ON GRADE CONTROL JOINT MAXIMUM SPACING SHALL BE 30 TIMES SLAB THICKNESS WITH JOINT LENGTH TO WIDTH RATIO 1.5:1 MAXIMUM.
9. EXPOSED CONCRETE FINISH SHALL BE AS FOLLOWS:
 - A. EXTERIOR SLAB – LIGHT BROOM
 - B. INTERIOR SLABS – SMOOTH TROWEL
 - C. OTHER HORIZONTAL – TROWEL
 - D. VERTICAL – SMOOTH FORM FINISH WITH EXPOSED SURFACES CARBONUMDUM BRICK RUBBED AND COVERED WITH A 1 TO 3 PARGE COAT MIX.
10. CONCRETE SHALL BE PLACED AND CONSOLIDATED PER ACI REQUIREMENTS WITH THE USE OF INTERNAL VIBRATION. EXPOSED CORNERS SHALL HAVE A $\frac{3}{4}$ " x 45° CHAMFER.
11. CONCRETE WORK PERFORMED DURING HOT WEATHER (ABOVE 85°F) SHALL CONFORM TO ACI STANDARD 305. ALONG WITH SHADING, WIND PROTECTION, COOLED INGREDIENTS, EVAPORATION RETARDANT APPLICATION AND CURING STARTED AS AS SOON AS POSSIBLE.
12. CONCRETE WORK PERFORMED DURING COLD WEATHER (BELOW 40°F) SHALL CONFORM TO ACI STANDARD 306.
13. CONCRETE SHALL BE CURED CONFORMING TO ACI 308.1. EXPOSED (NON-FORMEED) CONCRETE SURFACES SHALL HAVE SEVEN DAYS MOIST CURE OR A CURING COMPOUND APPLIED CON FORMING TO THE FOLLOWING:
 - A. ASTM C309 AND ASTM C1315
 - B. 30% MINIMUM SOLIDS BY WEIGHT
 - C. APPLIED AT 200 SQ FT PER GALLON
14. ANCHOR RODS (BOLTS) SHALL CONFORM TO ASTM F1554, GRADE 36, HAVE TWO NUTS AND A WASHER CONFORMING TO ASTM F844 EXPOSED AND BOLT HEAD OR NUT EMBEDDED. OTHER EMBEDDED ITEMS SHALL BE A36 STEEL. ALL EXPOSED EMBEDS SHALL BE GALVANIZED PER ASTM A123. POST INSTALLED ANCHORS COMPLYING WITH ACI REPORTS 193 OR ACI 308 MAY BE SUBSTITUTED FOR EMBEDDED ANCHORS. APPROVED ANCHORS ARE SIMPSON SET-XP AND HILTI HIT-RE 500-SD ADHESIVE EMBEDDED NINE TIMES THE DIAMETER, SIMPSON STRONG-BOLT EXPANSION AND HILTI KWIK BOLT TZ TITEN HD UNDERCUT.
15. ANCHOR ROD PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

LOCATION	TOLERANCE
PROJECTION	$\pm \frac{1}{8}$ "
PLUMB	$\pm \frac{1}{16}$ " / FOOT OF LENGTH
16. ANCHOR ROD WASHERS SIZE SHALL CONFORM TO AISC TABLE 14-2 REQUIREMENTS.
17. WATERSTOP SHALL BE "GREENSTREAK" PVC FLAT RIBBED PART 679 FOR NEW TO NEW CONSTRUCTION, "GREENSTREAK" PART 655 FOR RETROFITS (NEW TO EXISTING) AND "EARTHSHIELD" JP320LC1.XX FOR PIPE PENETRATIONS BY JP SPECIALITIES, UN. WATERSTOP SHALL BE CONTINUOUS AND CENTERED IN ALL EXPANSION, AND CONSTRUCTION JOINTS USING EYELETS AND WIRING TO SECURE TO REBAR. CHANGES IN DIRECTION SHALL BE PREFABRICATED. FIELD JOINTS SHALL BE BUTT WELDED PER MANUFACTURER SPECIFICATIONS.
18. SLABS SHALL HAVE FF20/FL15 MINIMUM SURFACE FINISH UNLESS NOTED PER ACI 117.
19. SLAB AND WALL PENETRATIONS SHALL HAVE ONE EXTRA #5 ALONG EACH FACE WITH THE REBAR EXTENDING THE FULL DISTANCE OF THE SHORTEST SUPPORTING SPAN AND 36" PAST THE FACE IN THE OTHER DIRECTION UNLESS NOTED.
20. BRACE AND SUPPORT STRUCTURES AND DO NOT APPLY LOADINGS UNTIL ALL CONCRETE IS PLACED AND F'C IS REACHED. WALL FORMS MAY BE REMOVED AFTER THREE DAYS AND CONCRETE HAS REACHED $\frac{2}{3}$ OF F'C.
21. LOW SHRINKAGE CONCRETE INDICATED ON THE DRAWINGS SHALL CONFORM TO ASTM C157, HAVE SHRINKAGE REDUCING ADMIXTURE OR SHRINKAGE COMPENSATING ADMIXTURE WITH A MAXIMUM SHRINKAGE OF 0.04% SHRINKAGE AT 28 DAYS. CONTROL JOINT MAXIMUM SPACING SHALL BE 50 TIMES THE SLAB THICKNESS.
22. CONCRETE EXPOSURE CATEGORIES AND CLASSES PER ACI 318, SECTION 19.3.1.1, ARE AS FOLLOWS: F1, S1, W1 AND C1.

1. DESIGN, MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL CONFORM TO ACI 530.
2. COMPRESSIVE DESIGN STRENGTH OF THE MASONRY SYSTEM SHALL BE 1500 PSI MINIMUM AT 28 DAYS. PROPERTIES OF GROUT, MORTAR AND MASONRY UNITS AND MASONRY CONSTRUCTION SHALL CONFORM TO IBC TABLE 1705.4 AND BE APPROVED.
3. MASONRY SHALL CONSIST OF HOLLOW, LOAD BEARING LIGHTWEIGHT CONCRETE MASONRY UNITS WITH A COMPRESSIVE STRENGTH OF 1900 PSI CONFORMING TO ASTM C55 OR C90, TESTED CONFORMING TO ASTM C140 AND PLACED IN A RUNNING BOND PATTERN.
4. MORTAR SHALL BE TYPE "S" OR "M", MECHANICALLY MIXED 3 TO 10 MINUTES, KEPT ELASTIC, USED WITHIN 2.5 HOURS OF INTRODUCING WATER AND CONFORM TO ASTM C270 AND C387. JOINTS SHALL BE $\frac{3}{8}$ INCHES WIDE WITH FULL COVERAGE AND TOOLED.
5. GROUT SHALL HAVE 8" TO 10" SLUMP WITH $\frac{3}{8}$ " MAXIMUM COARSE AGGREGATE, COMPRESSIVE STRENGTH OF 2000 PSI MINIMUM AT 28 DAYS AND CONFORM TO ASTM C476 OR TESTED CONFORMING TO ASTM C1019. GROUT SHALL BE PLACED IN ALL UNIT CELLS CONTAINING REBAR OR EMBEDDED ITEMS AND BE MECHANICALLY VIBRATED IN 4'-0" MAXIMUM LIFTS WITH JOINTS $1\frac{1}{2}$ " BELOW MORTAR JOINTS.
6. REINFORCING STEEL (REBAR) SHALL BE NEW STOCK DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60. REBAR SHALL BE CONTINUOUS AT INTERSECTIONS AND CORNERS. SPLICES SHALL BE 72 BAR DIAMETERS. PLACEMENT TOLERANCES SHALL BE $\pm\frac{1}{2}$ " FOR 8" UNITS AND $\pm\frac{3}{4}$ " FOR WIDER UNITS. MINIMUM CLEAR SPACING BETWEEN REBAR AND FACE OF UNIT SHALL BE $\frac{1}{2}$ ".
7. ANCHOR RODS (BOLTS) SHALL CONFORM TO ASTM F1554, GRADE 36, HAVE A WASHER AND NUT EXPOSED AND A HEAD OR NUT EMBEDDED. OTHER EMBEDDED ITEMS SHALL CONFORM TO ASTM A36. EXPOSED EMBEDDED METALS SHALL BE GALVANIZED PER ASTM A123. POST INSTALLED ANCHORS CONFORMING TO ACI 308.4 MAY BE SUBSTITUTED FOR EMBEDDED ANCHORS. APPROVED ANCHORS ARE SIMPSON SET-XP, POWERS PE1000 AND HILTI HIT-RE 500-SD ADHESIVE (EMBEDDED 9 TIMES THE DIAMETER), POWERS WEDGE-BOLT AND HILTI KWIK BOLT TZ EXPANSION, SIMPSON STRONG-BOLT, AND HILTI TITEN HDA UNDERCUT.
8. WALLS SHALL HAVE THE FOLLOWING REBAR, UN: (1) #5 VERTICAL CENTERED IN WALL PLACED FROM SUPPORT TO SUPPORT, AT EACH CORNER, EACH SIDE OF OPENINGS, AT END OF WALLS AND AT 32 INCHES MAXIMUM ALONG WALLS. VERTICAL REBAR SHALL EXTEND INTO A FOUNDATION OR BE SPLICED TO A MATCHING FOUNDATION DOWEL. (2) #4 PLACED HORIZONTAL AT TOP AND BOTTOM OF WALL OPENINGS EXTENDING 36 INCHES PAST OPENING FACE, AND PLACED CONTINUOUS AT TOP OF WALLS, ROOF AND FLOOR LEVELS AND AT 4'-0" MAXIMUM VERTICAL SPACING.
9. VERTICAL WALL CONTROL JOINT SPACING SHALL BE 26'-0" MAXIMUM. MASONRY JOINT SEALANT SHALL BE DYMERIC 511 BY TREMCO OR EQUAL.
10. COLD WEATHER (BELOW 40 DEGREES F) AND HOT WEATHER (ABOVE 90 DEGREES F) MASONRY CONSTRUCTION SHALL CONFORM TO "SPECIFICATION FOR MASONRY STRUCTURES" BY MSJC, SECTION 1.8. HOT AND COLD WEATHER CONTACTOR SUBMITTED PROCEDURES SHALL BE APPROVED PRIOR TO PLACEMENT.
11. VARIATION TOLERANCES:
SURFACE PLUMB - $\frac{1}{4}$ INCH IN 10 FEET AND $\frac{1}{2}$ INCH IN 40 FEET.
COURSE LEVELNESS - $\frac{1}{4}$ INCH IN 20 FEET AND $\frac{1}{2}$ INCH IN 40 FEET.
BUILDING LINES - $\frac{1}{2}$ INCH IN 20 FEET AND $\frac{3}{4}$ INCH IN 40 FEET.
12. SURFACE RESIDUE SHALL BE REMOVED PROMPTLY ALLOWING NO LASTING MARKS.
13. INSULATION INDICATED ON THE DRAWINGS SHALL BE DRY PERLITE LOOSE FILL CONFORMING TO C549 AND PLACED IN ALL UNIT CELLS WITHOUT GROUT.

PLOTTED ON 2/20/2025 BY DANIEL VELARDE, DRAWING LOCATION: L:_DWGs\WAS071 Washington City\WAS071-080 Grapevine Sub Design\201 Drawings\201.02 Structural Drawings\Concrete\071-080-C100.dwg



NOT FOR CONSTRUCTION

WASHINGTON CITY
GRAPEVINE SUBSTATION
CONCRETE
PLAN VIEW

No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER
B	02/21/25	DJV	ML	90% REVIEW		
A	08/23/24	DJV	ML	60% REVIEW		



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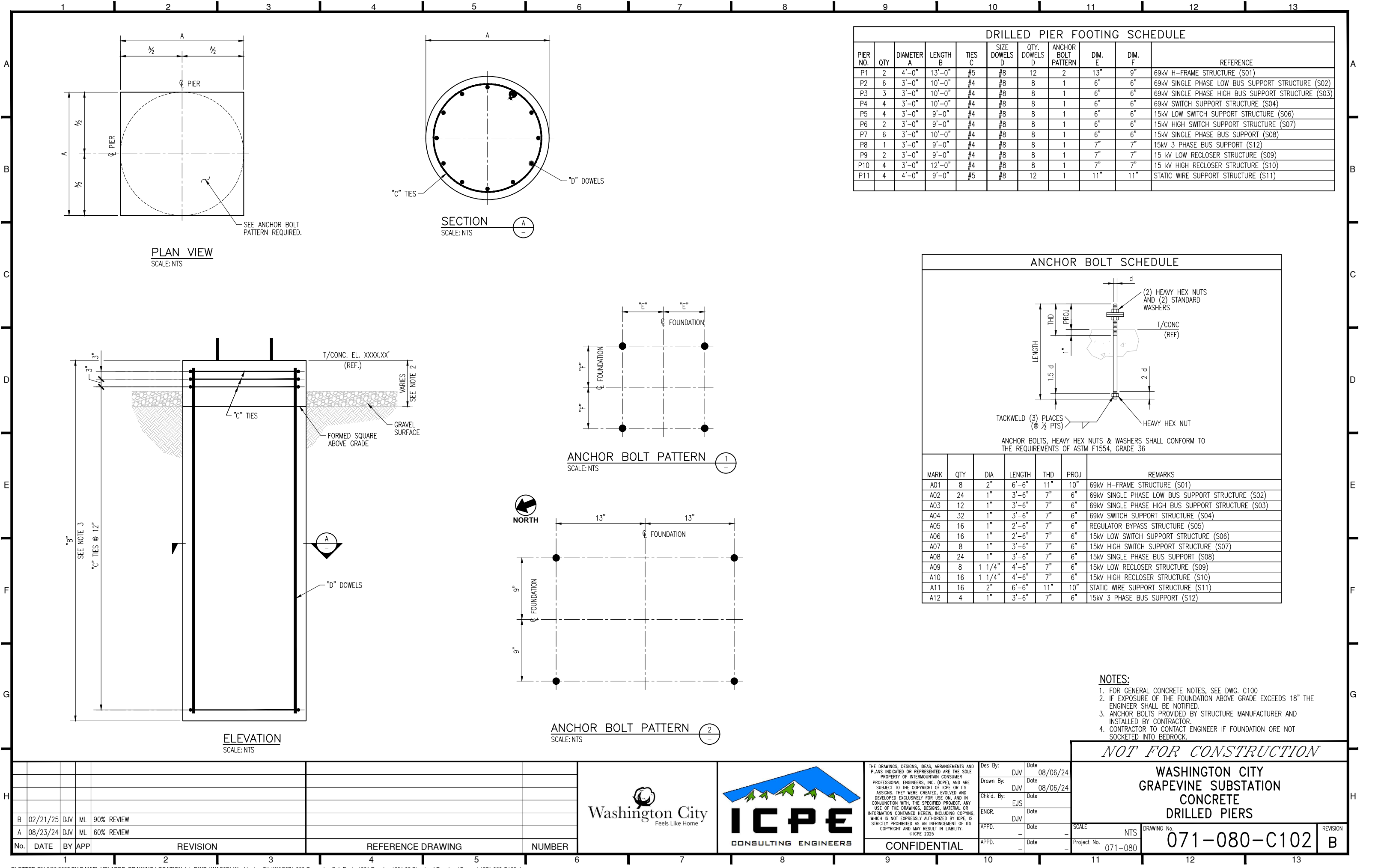
Des By:	DJV	Date	08/06/24
Drawn By:	DJV	Date	08/06/24
Chk'd. By:	EJS	Date	—
ENGR.	ML	Date	—
APPD.	—	Date	—
APPD.	—	Date	—

SCALE 1"=20'-0"

DRAWING No.

071-080-C101

REVISION
B



DRILLED PIER FOOTING SCHEDULE										
PIER NO.	QTY	DIAMETER A	LENGTH B	TIES C	SIZE DOWELS D	QTY. DOWELS D	ANCHOR BOLT PATTERN	DIM. E	DIM. F	REFERENCE
P1	2	4'-0"	13'-0"	#5	#8	12	2	13"	9"	69kV H-FRAME STRUCTURE (S01)
P2	6	3'-0"	10'-0"	#4	#8	8	1	6"	6"	69kV SINGLE PHASE LOW BUS SUPPORT STRUCTURE (S02)
P3	3	3'-0"	10'-0"	#4	#8	8	1	6"	6"	69kV SINGLE PHASE HIGH BUS SUPPORT STRUCTURE (S03)
P4	4	3'-0"	10'-0"	#4	#8	8	1	6"	6"	69kV SWITCH SUPPORT STRUCTURE (S04)
P5	4	3'-0"	9'-0"	#4	#8	8	1	6"	6"	15kV LOW SWITCH SUPPORT STRUCTURE (S06)
P6	2	3'-0"	9'-0"	#4	#8	8	1	6"	6"	15kV HIGH SWITCH SUPPORT STRUCTURE (S07)
P7	6	3'-0"	10'-0"	#4	#8	8	1	6"	6"	15kV SINGLE PHASE BUS SUPPORT (S08)
P8	1	3'-0"	9'-0"	#4	#8	8	1	7"	7"	15kV 3 PHASE BUS SUPPORT (S12)
P9	2	3'-0"	9'-0"	#4	#8	8	1	7"	7"	15 kV LOW RECLOSER STRUCTURE (S09)
P10	4	3'-0"	12'-0"	#4	#8	8	1	7"	7"	15 kV HIGH RECLOSER STRUCTURE (S10)
P11	4	4'-0"	9'-0"	#5	#8	12	1	11"	11"	STATIC WIRE SUPPORT STRUCTURE (S11)

ANCHOR BOLT SCHEDULE							
ANCHOR BOLTS, HEAVY HEX NUTS & WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F1554, GRADE 36							
MARK	QTY	DIA	LENGTH	THD	PROJ	REMARKS	
A01	8	2"	6'-6"	11"	10"	69kV H-FRAME STRUCTURE (S01)	
A02	24	1"	3'-6"	7"	6"	69kV SINGLE PHASE LOW BUS SUPPORT STRUCTURE (S02)	
A03	12	1"	3'-6"	7"	6"	69kV SINGLE PHASE HIGH BUS SUPPORT STRUCTURE (S03)	
A04	32	1"	3'-6"	7"	6"	69kV SWITCH SUPPORT STRUCTURE (S04)	
A05	16	1"	2'-6"	7"	6"	REGULATOR BYPASS STRUCTURE (S05)	
A06	16	1"	2'-6"	7"	6"	15kV LOW SWITCH SUPPORT STRUCTURE (S06)	
A07	8	1"	3'-6"	7"	6"	15kV HIGH SWITCH SUPPORT STRUCTURE (S07)	
A08	24	1"	3'-6"	7"	6"	15kV SINGLE PHASE BUS SUPPORT (S08)	
A09	8	1 1/4"	4'-6"	7"	6"	15kV LOW RECLOSER STRUCTURE (S09)	
A10	16	1 1/4"	4'-6"	7"	6"	15kV HIGH RECLOSER STRUCTURE (S10)	
A11	16	2"	6'-6"	11"	10"	STATIC WIRE SUPPORT STRUCTURE (S11)	
A12	4	1"	3'-6"	7"	6"	15kV 3 PHASE BUS SUPPORT (S12)	

- NOTES:
- FOR GENERAL CONCRETE NOTES, SEE DWG. C100
 - IF EXPOSURE OF THE FOUNDATION ABOVE GRADE EXCEEDS 18" THE ENGINEER SHALL BE NOTIFIED.
 - ANCHOR BOLTS PROVIDED BY STRUCTURE MANUFACTURER AND INSTALLED BY CONTRACTOR.
 - CONTRACTOR TO CONTACT ENGINEER IF FOUNDATION ORE NOT SOCKETED INTO BEDROCK.

NOT FOR CONSTRUCTION

WASHINGTON CITY
GRAPEVINE SUBSTATION
CONCRETE
DRILLED PIERS

SCALE	NTS	DRAWING No.	071-080-C102	REVISION	B
Project No.	071-080				

No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER
B	02/21/25	DJV	ML	90% REVIEW		
A	08/23/24	DJV	ML	60% REVIEW		

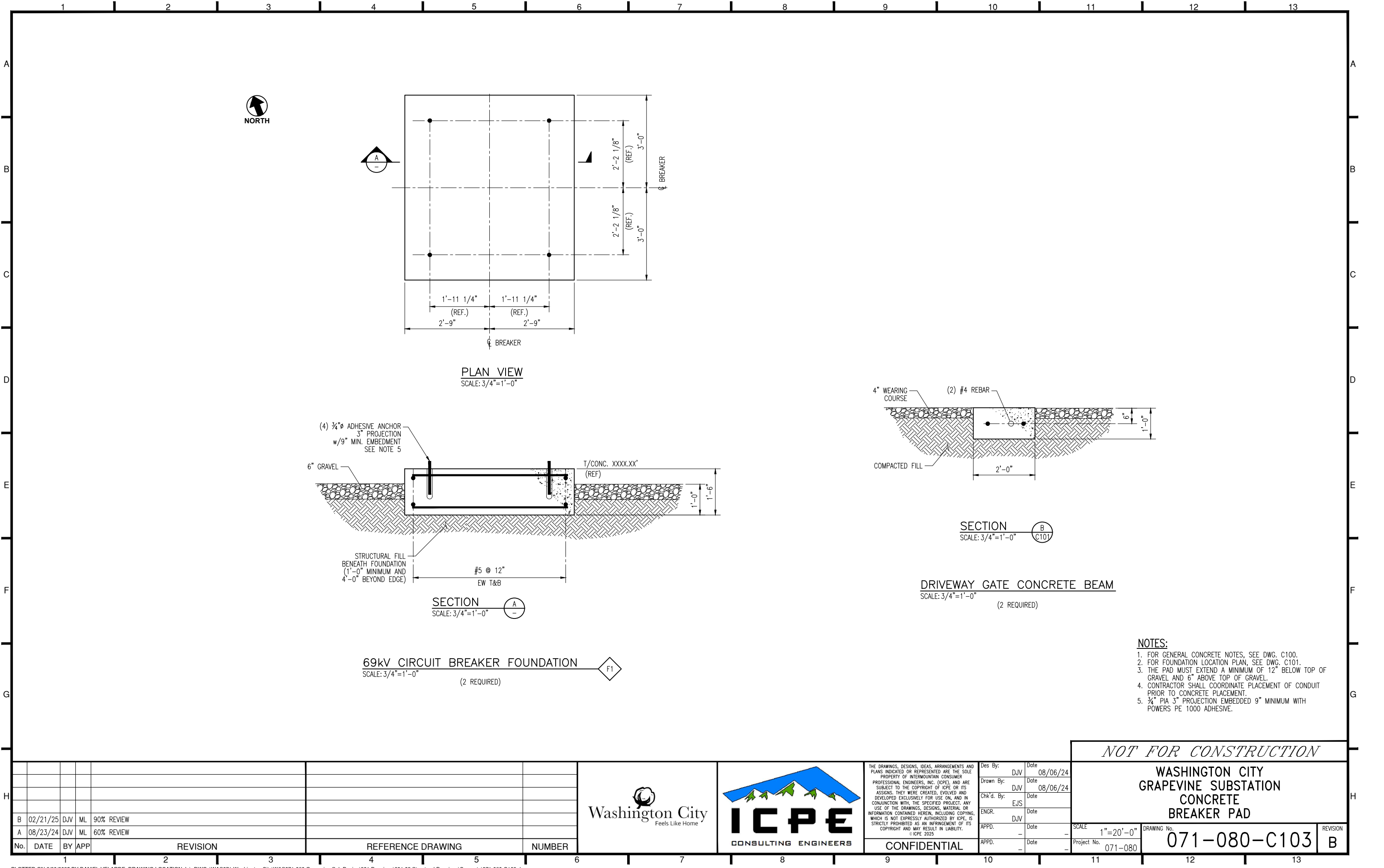
Washington City
Feels Like Home

ICPE
CONSULTING ENGINEERS

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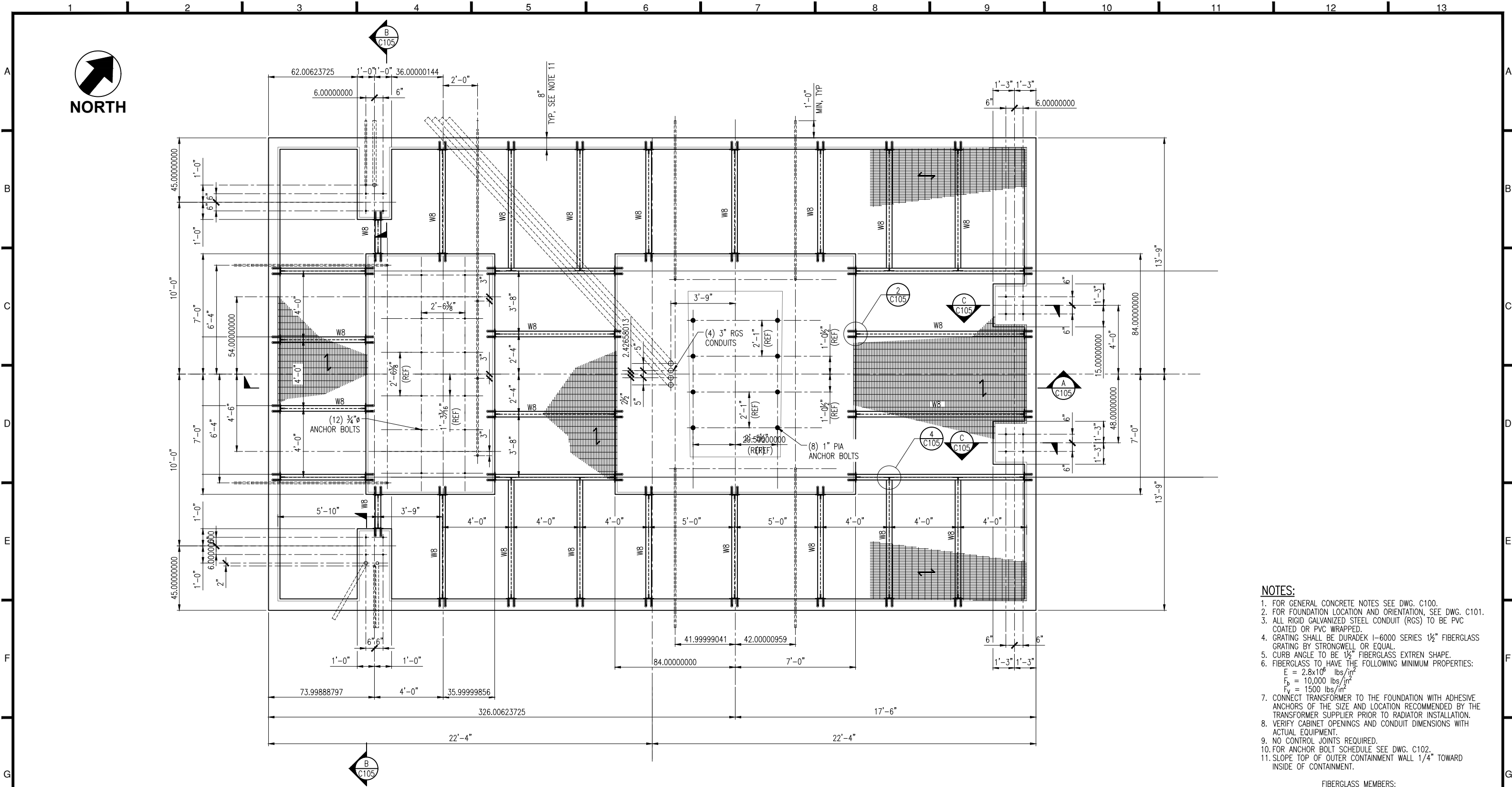
Des By: DJV Date: 08/06/24
Drawn By: DJV Date: 08/06/24
Chk'd By: EJS Date:
ENGR. DJV Date:
APPD. Date:
APPD. Date:

CONFIDENTIAL



- NOTES:
- 1. FOR GENERAL CONCRETE NOTES, SEE DWG. C100.
 - 2. FOR FOUNDATION LOCATION PLAN, SEE DWG. C101.
 - 3. THE PAD MUST EXTEND A MINIMUM OF 12" BELOW TOP OF GRAVEL AND 6" ABOVE TOP OF GRAVEL.
 - 4. CONTRACTOR SHALL COORDINATE PLACEMENT OF CONDUIT PRIOR TO CONCRETE PLACEMENT.
 - 5. 3/4" PIA 3" PROJECTION EMBEDDED 9" MINIMUM WITH POWERS PE 1000 ADHESIVE.

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- FIBERGLASS MEMBERS:
W10 DENOTES W10x5x $\frac{3}{8}$ (-2")
W8 DENOTES W8x4x $\frac{3}{8}$ (-2")

SCALE: 1"=2'-0" (2 REQUIRED)



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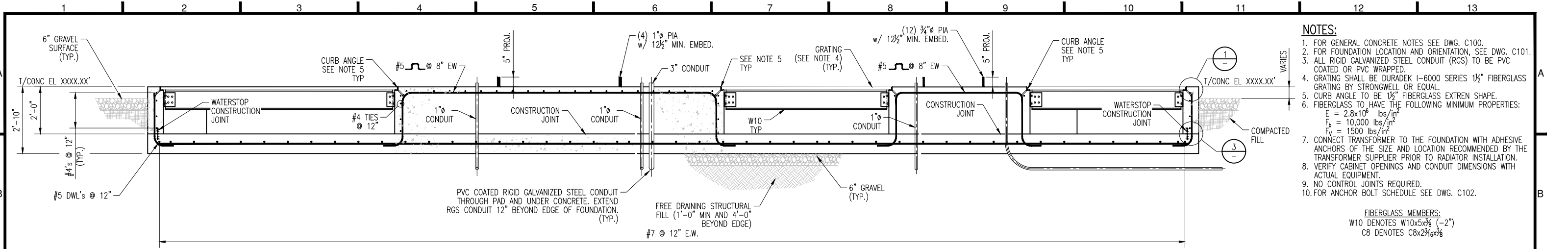
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ND	Des By:	DJV	Date	08/06/24
E	Drown By:	DJV	Date	08/06/24
	Ch'k'd. By:	EJS	Date	
Y	ENGR.	DJV	Date	
NG, IS S	APPD.	-	Date	-
	APPD.	-	Date	-

WASHINGTON CITY
GRAPEVINE SUBSTATION
CONCRETE
TRANSFORMER PLAN VIEW

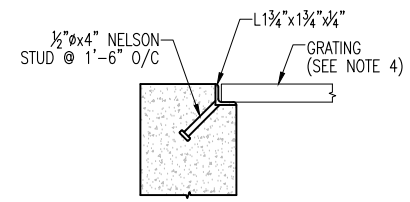
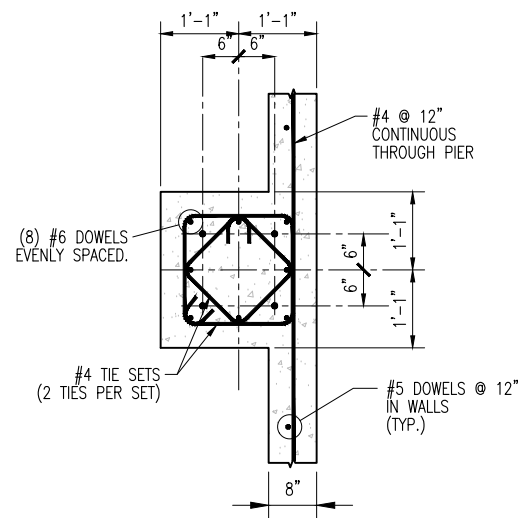
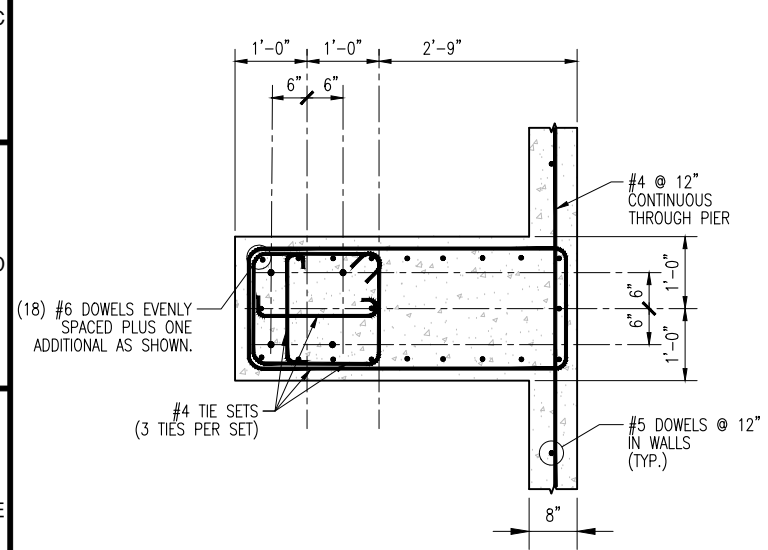
SCALE 1"=20'-0"	DRAWING No. 071-080-C104	REVISION B
Project No. 071-080		

B	02/21/25	DJV	ML	90% REVIEW			
A	08/23/24	DJV	ML	60% REVIEW			
No.	DATE	BY	APP	REVISION	REFERENCE DRAWING		NUMBER

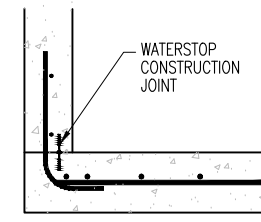


- NOTES:**
1. FOR GENERAL CONCRETE NOTES SEE DWG. C100.
 2. FOR FOUNDATION LOCATION AND ORIENTATION, SEE DWG. C101.
 3. ALL RIGID GALVANIZED STEEL CONDUIT (RGS) TO BE PVC COATED OR PVC WRAPPED.
 4. GRATING SHALL BE DURADEK I-6000 SERIES 1½" FIBERGLASS GRATING BY STRONGWELL OR EQUAL.
 5. CURB ANGLE TO BE 1½" FIBERGLASS EXTREN SHAPE.
 6. FIBERGLASS TO HAVE THE FOLLOWING MINIMUM PROPERTIES:
 $E = 2.8 \times 10^6 \text{ lbs/in}^2$
 $F_b = 10,000 \text{ lbs/in}^2$
 $F_v = 1500 \text{ lbs/in}^2$
 7. CONNECT TRANSFORMER TO THE FOUNDATION WITH ADHESIVE ANCHORS OF THE SIZE AND LOCATION RECOMMENDED BY THE TRANSFORMER SUPPLIER PRIOR TO RADIATOR INSTALLATION.
 8. VERIFY CABINET OPENINGS AND CONDUIT DIMENSIONS WITH ACTUAL EQUIPMENT.
 9. NO CONTROL JOINTS REQUIRED.
 10. FOR ANCHOR BOLT SCHEDULE SEE DWG. C102.
- FIBERGLASS MEMBERS:**
W10 DENOTES W10x5x½ (-2")
C8 DENOTES C8x2½x½

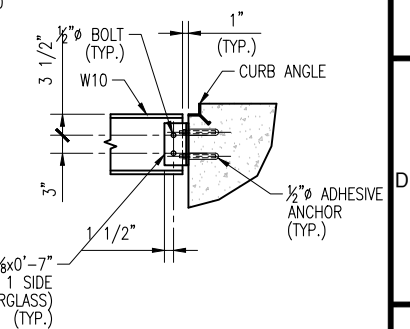
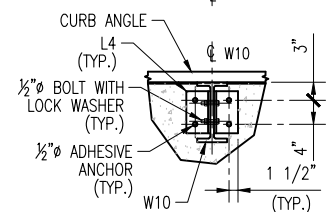
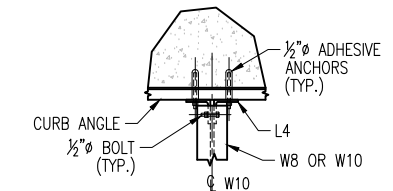
SECTION A
SCALE: 1"=2'-0"



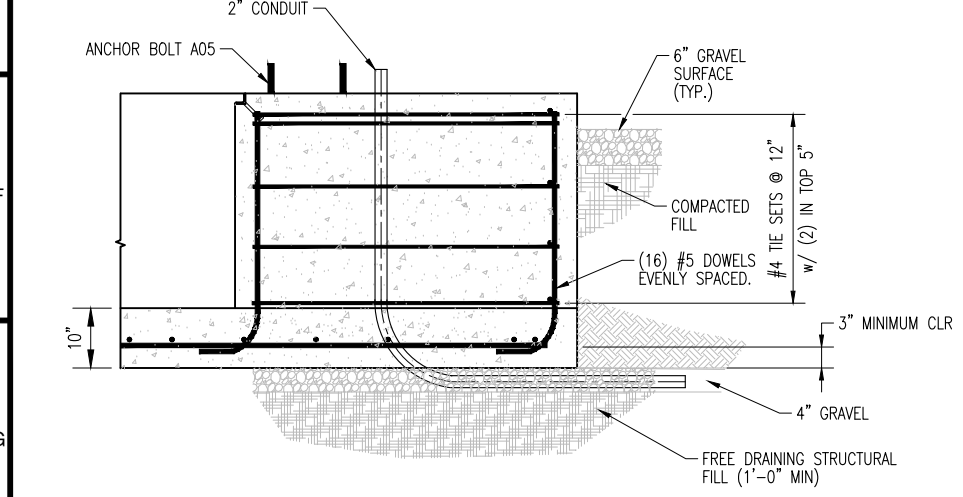
DETAIL 1
SCALE: 1 1/2"=1'-0"



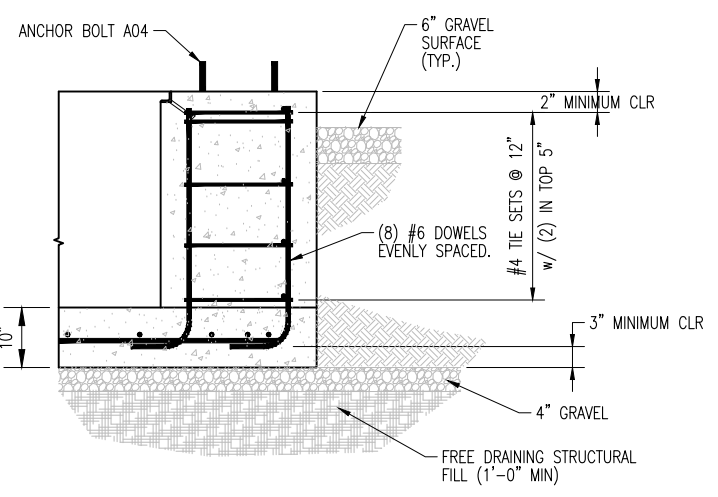
DETAIL 3
SCALE: 3/4"=1'-0"



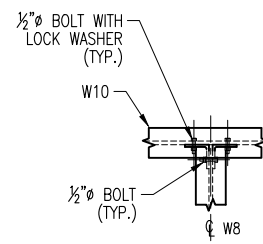
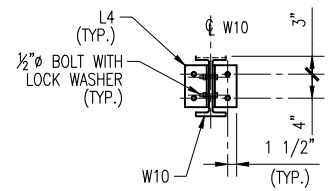
DETAIL 2
SCALE: 3/4"=1'-0"



SECTION B
SCALE: 3/4"=1'-0"



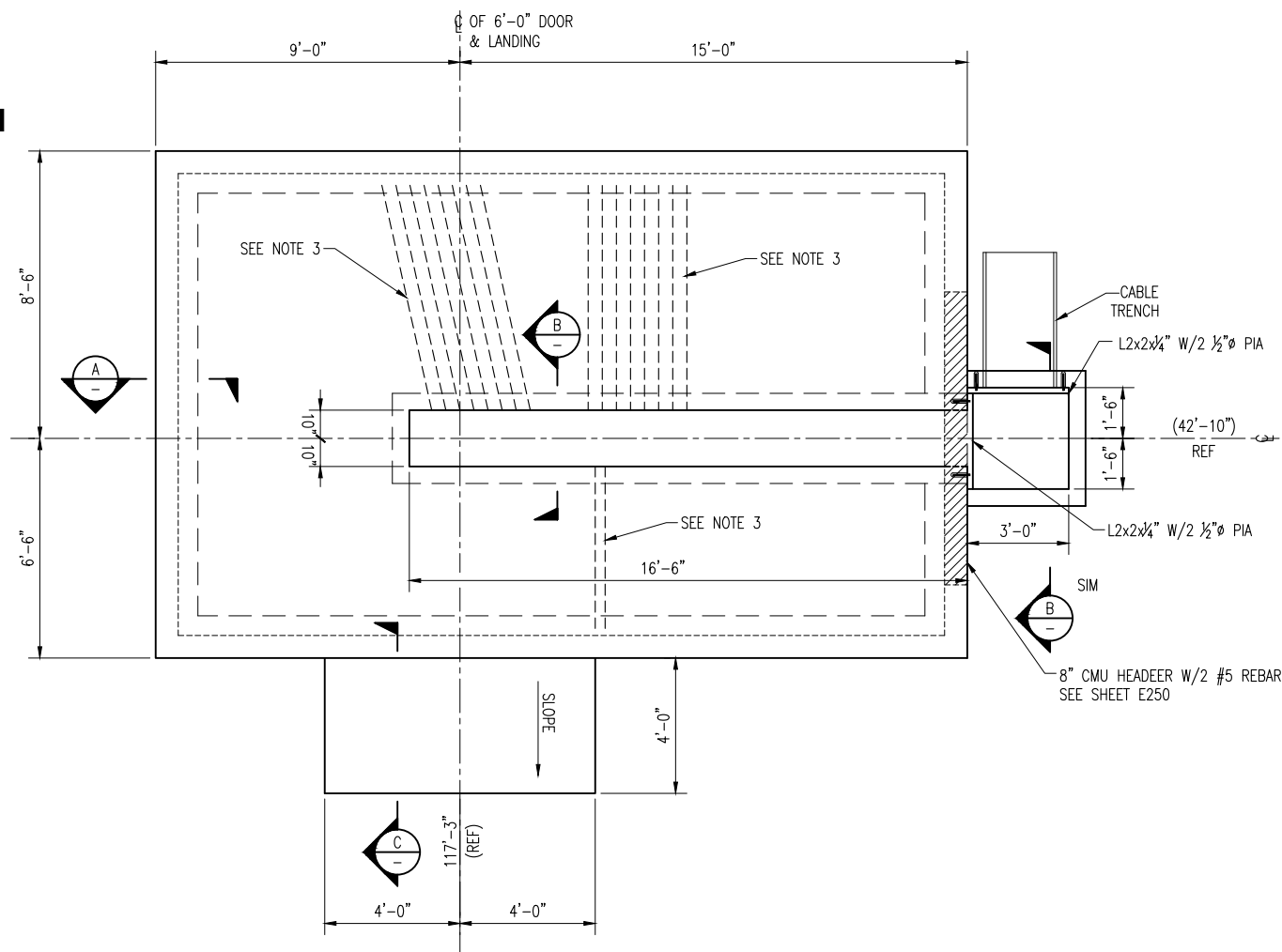
SECTION C
SCALE: 3/4"=1'-0"



DETAIL 4
SCALE: 3/4"=1'-0"

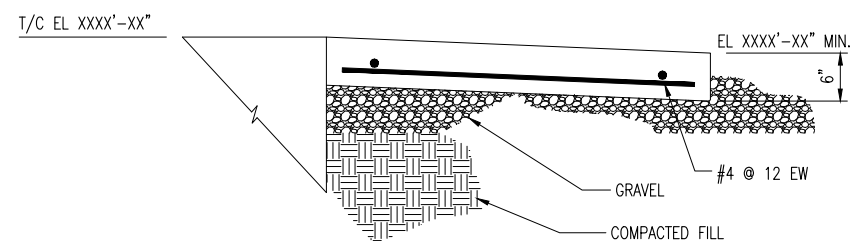
B 02/21/25 DJV ML 90% REVIEW				A 08/23/24 DJV ML 60% REVIEW				No. DATE BY APP				REVISION				REFERENCE DRAWING				NUMBER				Washington City Feels Like Home				ICPE CONSULTING ENGINEERS				CONFIDENTIAL				Des By: DJV Date: 08/06/24 Drawn By: DJV Date: 08/06/24 Chk'd By: EJS Date: - ENGR. DJV Date: - APPD. - Date: - APPD. - Date: -				NOT FOR CONSTRUCTION WASHINGTON CITY GRAPEVINE SUBSTATION CONCRETE TRANSFORMER SECTIONS/DETAILS SCALE: 1"=20'-0" DRAWING No. 071-080-C105 Project No. 071-080				REVISION B			
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PLOTTED ON 2/20/2025 BY DANIEL VELARDE, DRAWING LOCATION: L:\DWGS\WAS071 Washington City\WAS071-080 Grapevine Sub Design\201 Drawings\201.02 Structural Drawings\Concrete\071-080-C105.dwg

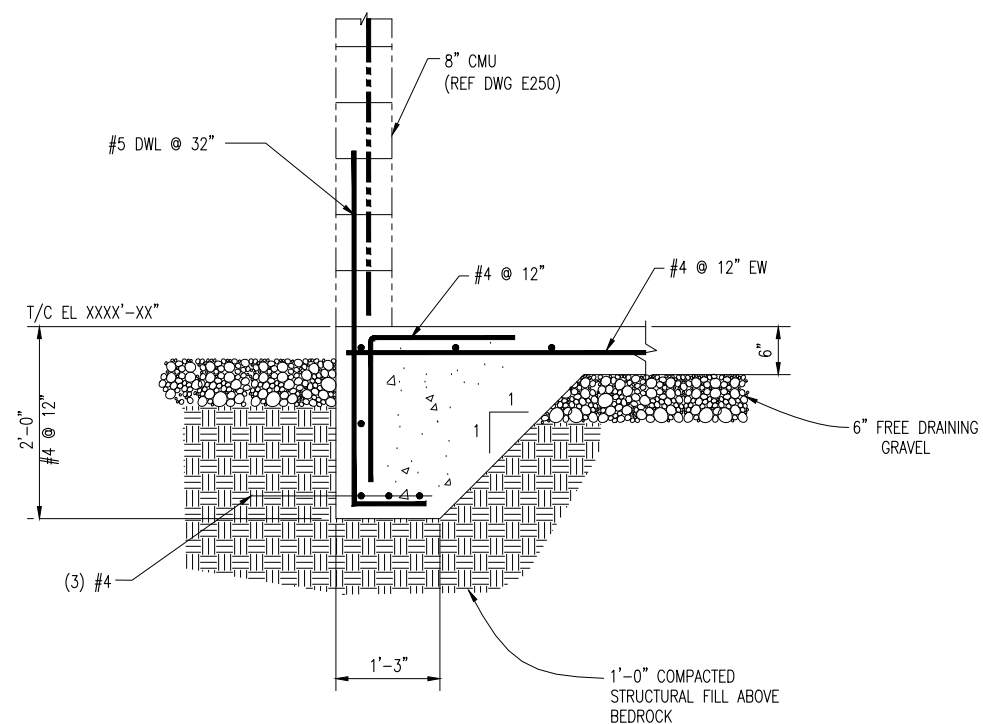


SCALE: 3/8"=1'-0"

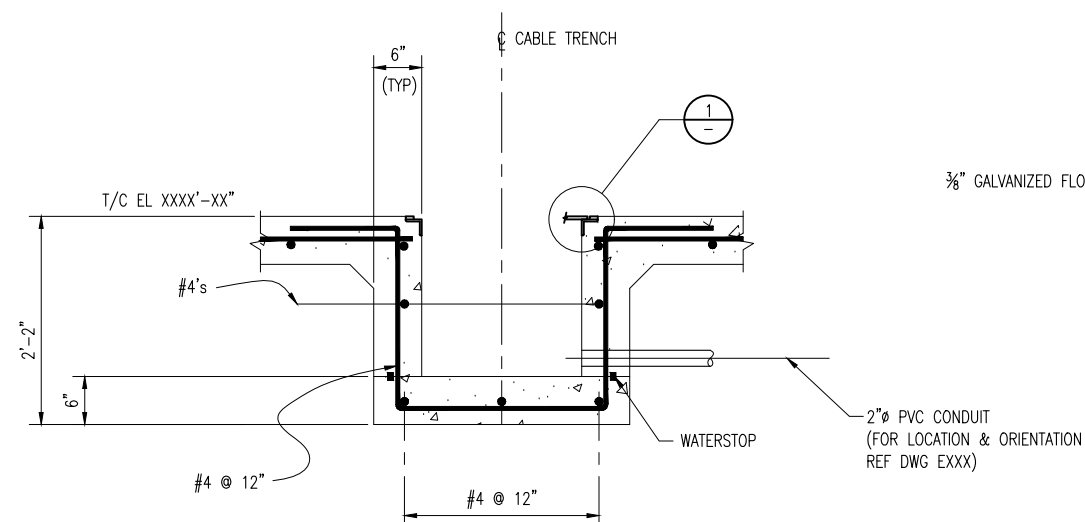
BASE BID (1 REQUIRED)



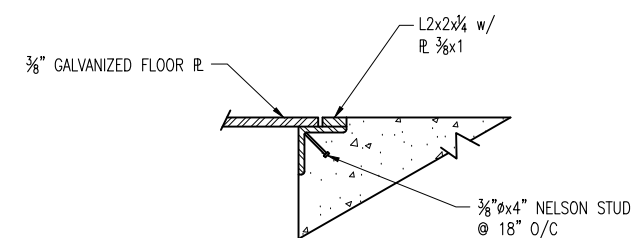
SCALE: 1"=1'-0"



SCALE: 1/2"=1'-0"



SCALE: 1"=1'-0"



SCALE: 3"=1'-0"

1. FOR GENERAL CONCRETE NOTES, SEE DWG. C100
2. FOR GENERAL STEEL NOTES, SEE DWG S001
3. FOR CONDUIT QUANTITY/LOCATION, SEE DWG E253

<i>NOT FOR CONSTRUCTION</i>			
4	WASHINGTON CITY		
4	GRAPEVINE SUBSTATION		
	CONCRETE		
	CONTROL HOUSE FOUNDATION		
SCALE	AS NOTED	DRAWING No.	REVISION
Project No.	071-080	071-080-C106	B

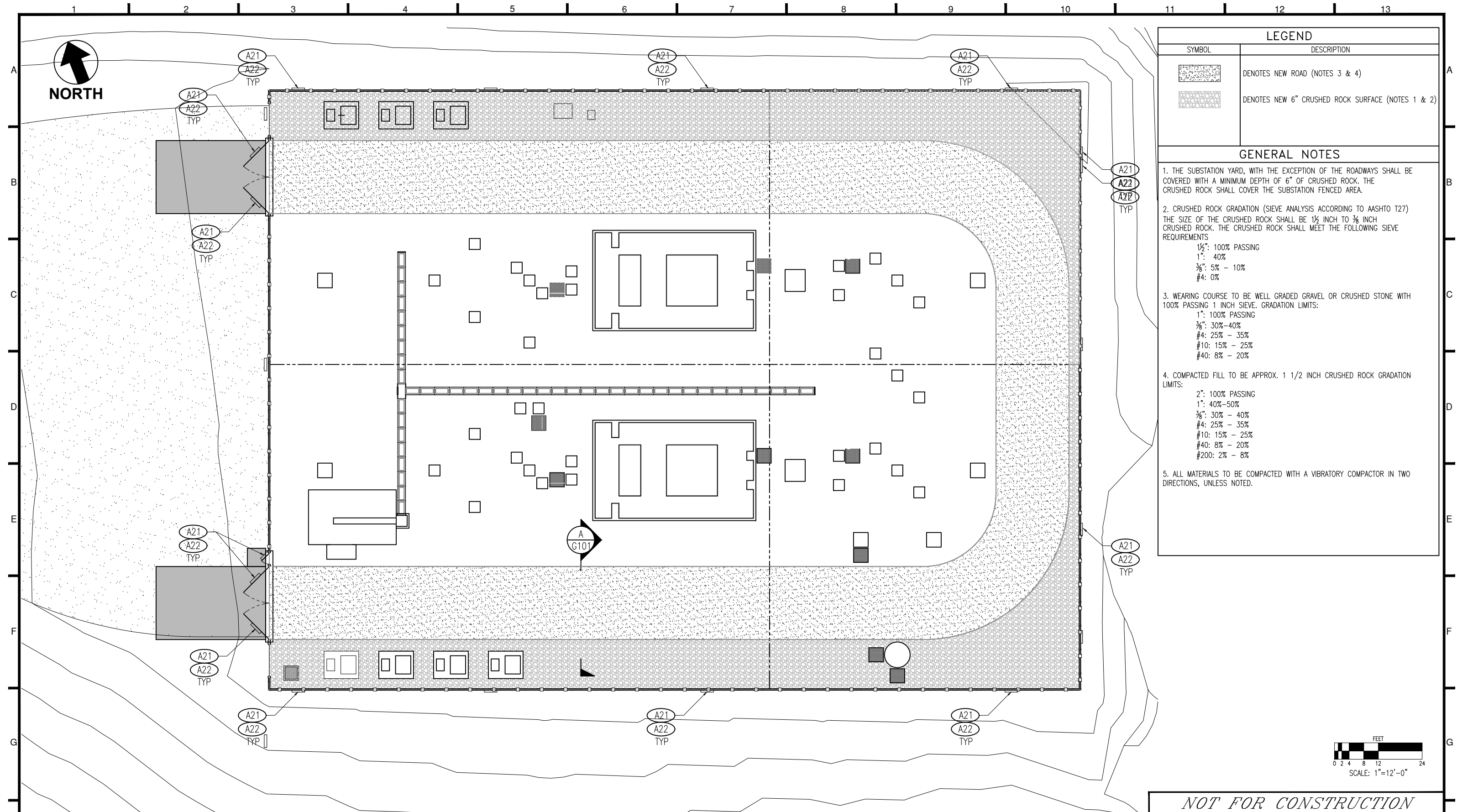
B	02/21/25	DJV	ML	90% REVIEW			
A	08/23/24	DJV	ML	60% REVIEW			
No.	DATE	BY	APP	REVISION	REFERENCE DRAWING	NUMBER	



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