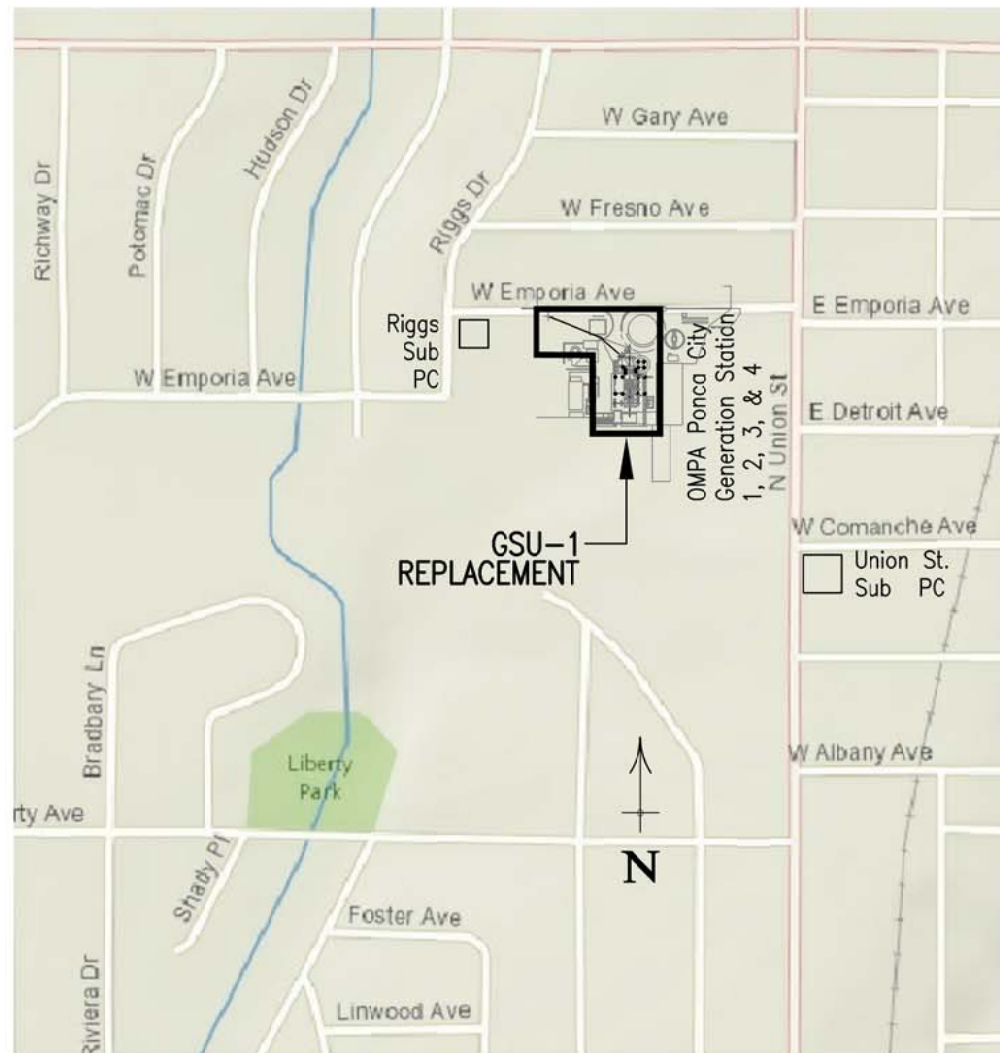


STATE OF OKLAHOMA



NE 1/4 SEC. 21, T26N, R2E
KAY COUNTY, OKLAHOMA



LOCATION MAP
NOT To Scale



**ENGINEERS
ARCHITECTS
CONSULTANTS**


**OMPA
OK04634-047
EDMOND, OKLAHOMA**

**GSU-1 REPLACEMENT - PC U1 GSU PROJECT
PONCA CITY, OKLAHOMA
SEPTEMBER - 2017**

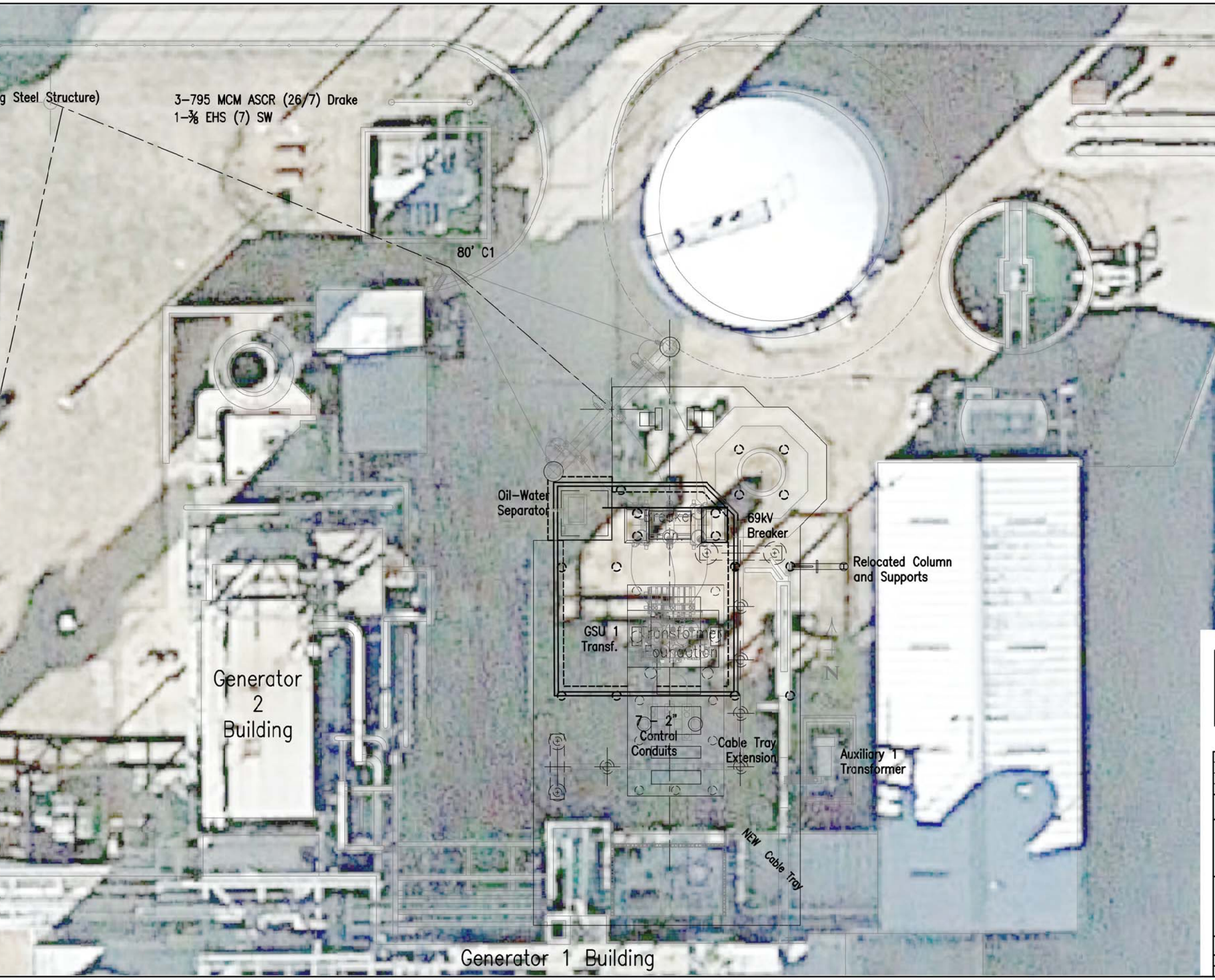
DRAWING INDEX

SHEET TITLE	DESCRIPTION	SHEET NUMBER OK04634047-XX
ONE LINE DIAGRAM	ONE LINE DIAGRAM	01
OVERALL VIEW	OVERALL PLAN VIEW OF SITE & EQUIPMENT LOCATIONS	02
PLAN VIEW	DETAIL PLAN VIEW OF EQUIPMENT LOCATIONS	03
SECTION A-A	STRUCTURE PROFILE VIEW	04
SECTIONS B-B, C-C	HIGH SIDE STRUCTURE PROFILE VIEW	05
SECTIONS D-D, E-E	BREAKER HIGH SIDE STRUCTURE PROFILE VIEW	06
SECTIONS F-F, G-G, F-G	TRANSFORMER HIGH SIDE STRUCTURE PROFILE VIEW	07
SECTIONS H-H, I-I, H-I	LOW SIDE STRUCTURE PROFILE VIEW	08
SECTIONS J-J	NEW OUTDOOR CABLE TRAY	09
FOUNDATION PLAN	FOUNDATION ARRANGEMENT	10
FOUNDATION DETAILS - SUB	FOUNDATION DETAILS - TRANSFORMER and BREAKER ("B" & "C")	11
FOUNDATION DETAILS - SUB	FOUNDATION DETAILS - "A", "D" & "E"	12
FOUNDATION DETAILS - LINE	FOUNDATION DETAILS - TRANSMISSION LINE POLES	13
PROTECTION WALL	PROTECTION WALL PLAN and DETAILS	14
GROUNDING PLAN	GROUNDING LAYOUT PLAN	15
OIL CONTAINMENT	OIL / WATER SEPARATOR DETAIL	16
CABLE TRAY	CABLE TRAY ROUTE AND EXPANSION	17
DEMOLITION - MCC AREA	DEMO EXISTING MCC-1A, MCC-1B AND SWITCHGEAR	18
MCC / SWITCHGEAR	480 V SWITCHGEAR AND FEEDER SCHEDULE	19
MCC / SWITCHGEAR	INSTALL MCC-1 AND 480V SWITCHGEAR	20
TRANSMISSION LINE	TRANSMISSION LINE ALIGNMENT AND STRUCTURES	21
TRANSMISSION STRUCTURES	POLEHEAD DETAIL - STRUCTURES 1 AND 6	22
TRANSMISSION STRUCTURES	POLEHEAD DETAIL - STRUCTURES 2 AND 5	23
TRANSMISSION STRUCTURES	POLEHEAD DETAIL - STRUCTURES 3 AND 4	24
RELAY PANEL	RELAY PANEL	25
15 KV SWITCHGEAR LAYOUT	15 KV SWITCHGEAR LAYOUT	26
CONDUIT PLAN	CONDUIT ROUTES	27
DEMOLITION - OUTDOOR SUB	EXISTING CONCRETE REMOVAL IN SUBSTATION AREA	28




+	+	+	+
REV.	DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PC U1 GSU PROJECT 1 - LINE DIAGRAM			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-01	REVISION
DRN. BY pmd	CHK. BY PJF		
APPR. BY PMD	CONTRACT NO. OK-04634-047	SHEET NO. 1	OF X

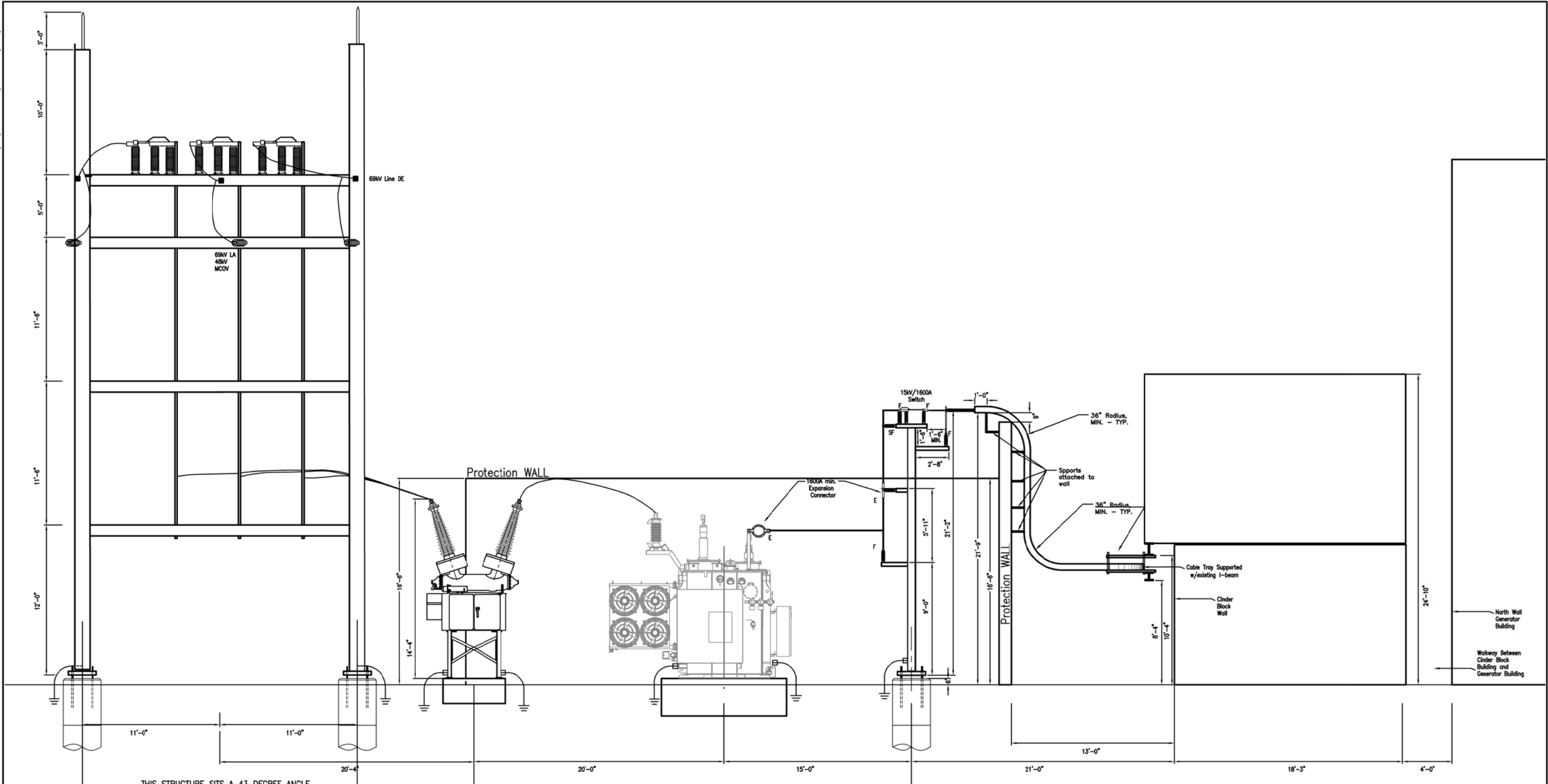
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**INTERIM WORK PRODUCT
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REV.	DATE	DESCRIPTION	APPROVED
		OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA	
PC U1 GSU PROJECT OVERALL SITE VIEW and EQUIPMENT LOCATION			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-02	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 2 OF 2

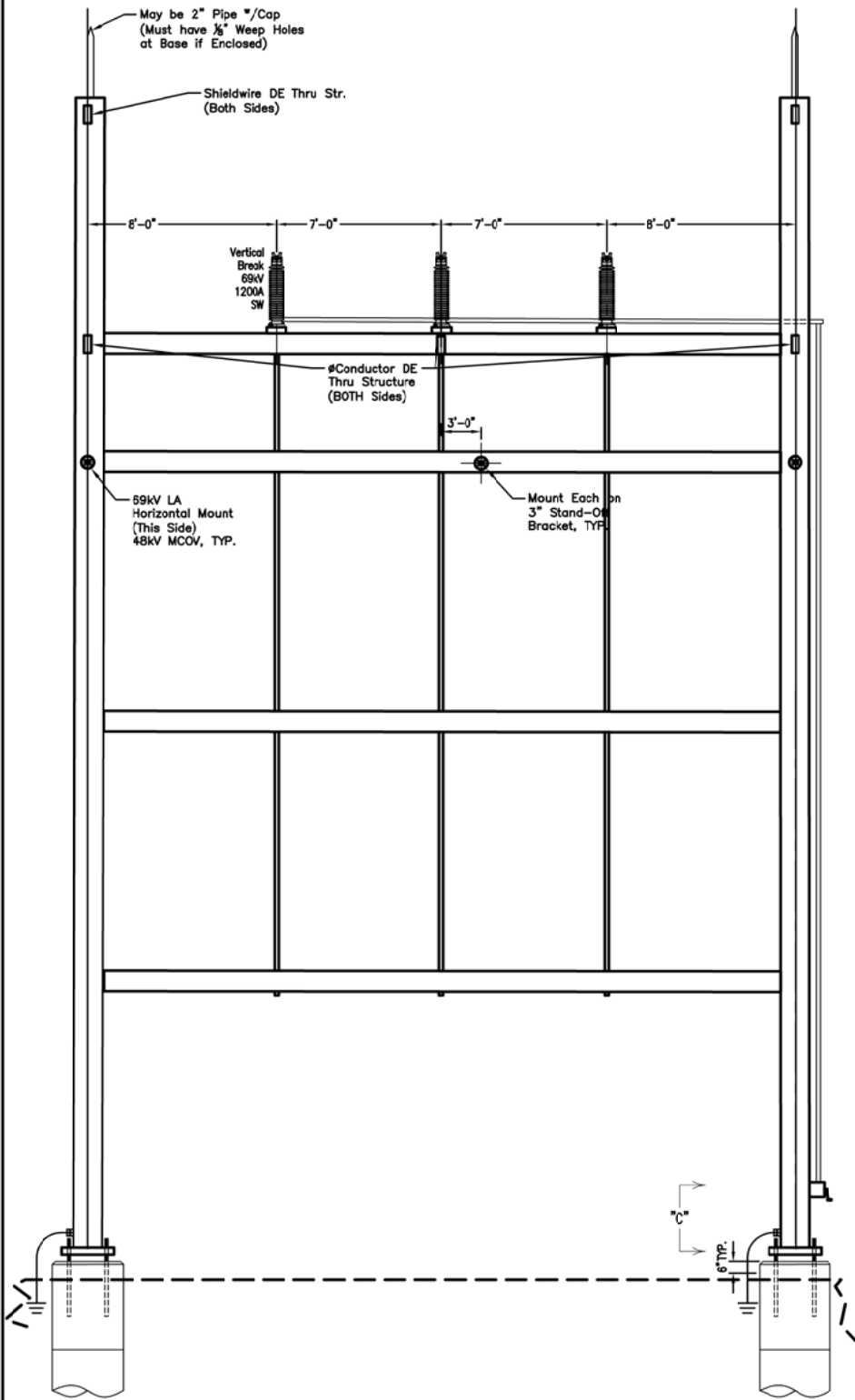




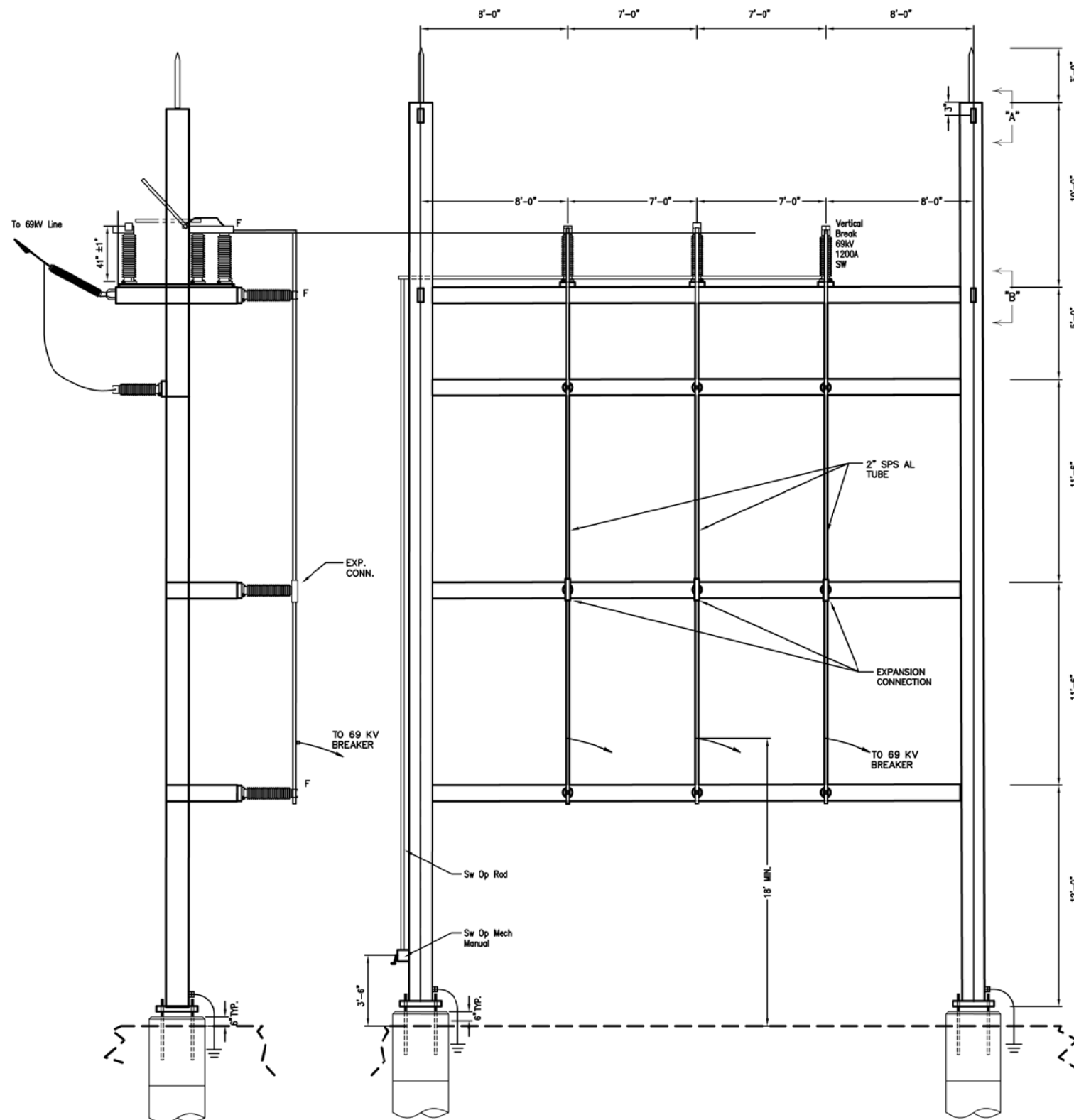
Section A-A

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

REV.	DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PC U1 GSU PROJECT SECTION A-A			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-04	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 4 OF 4

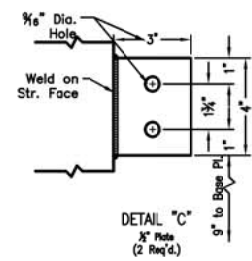
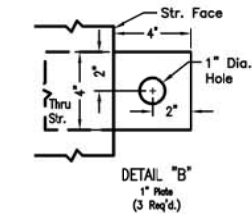
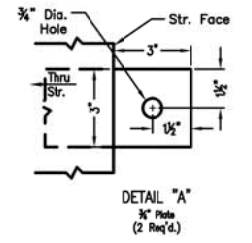


Section B-B




Section B-C

Section C-C

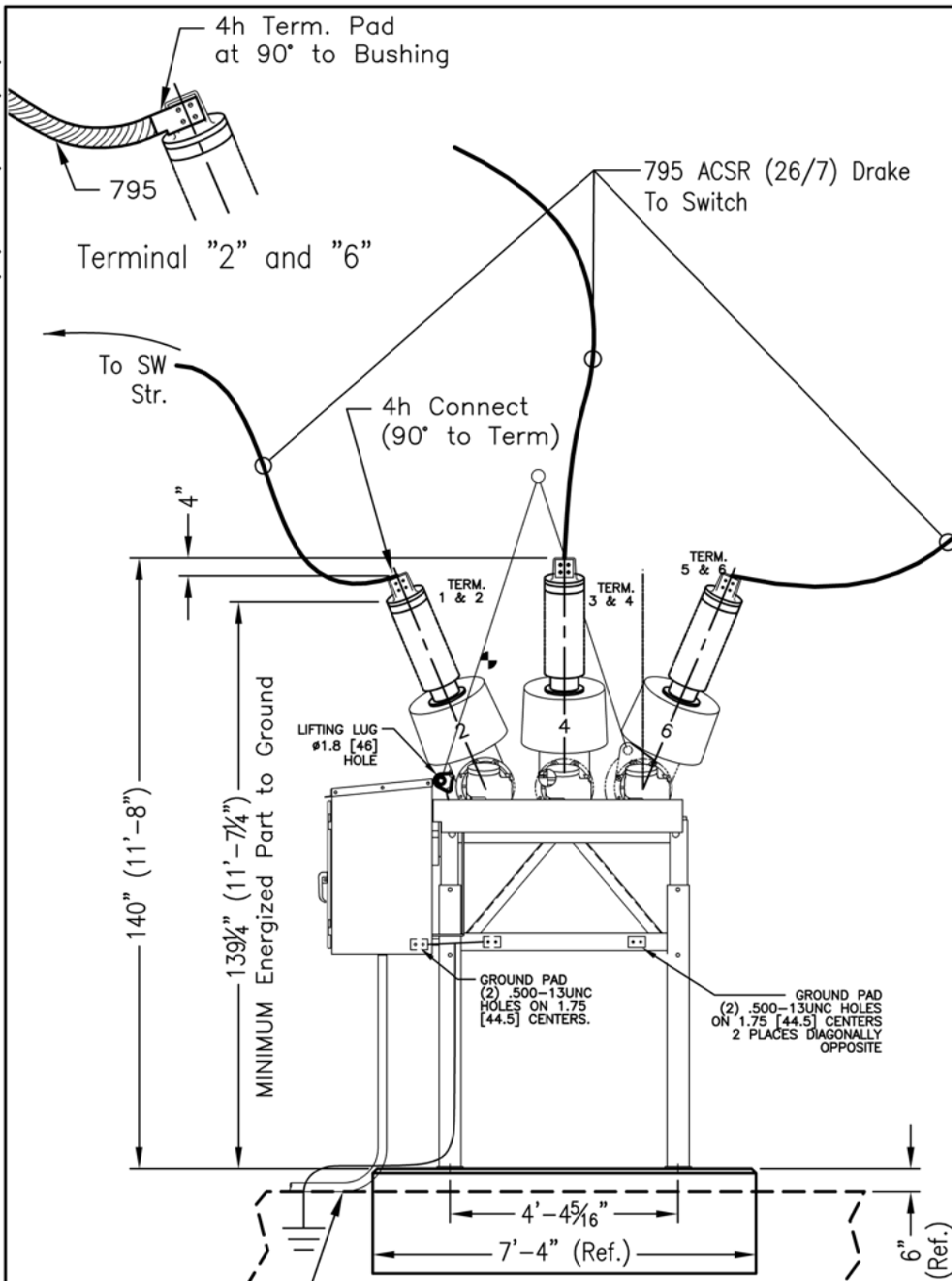


Chamfer ALL Plate Edges and Holes (Details "A", "B" & "C")

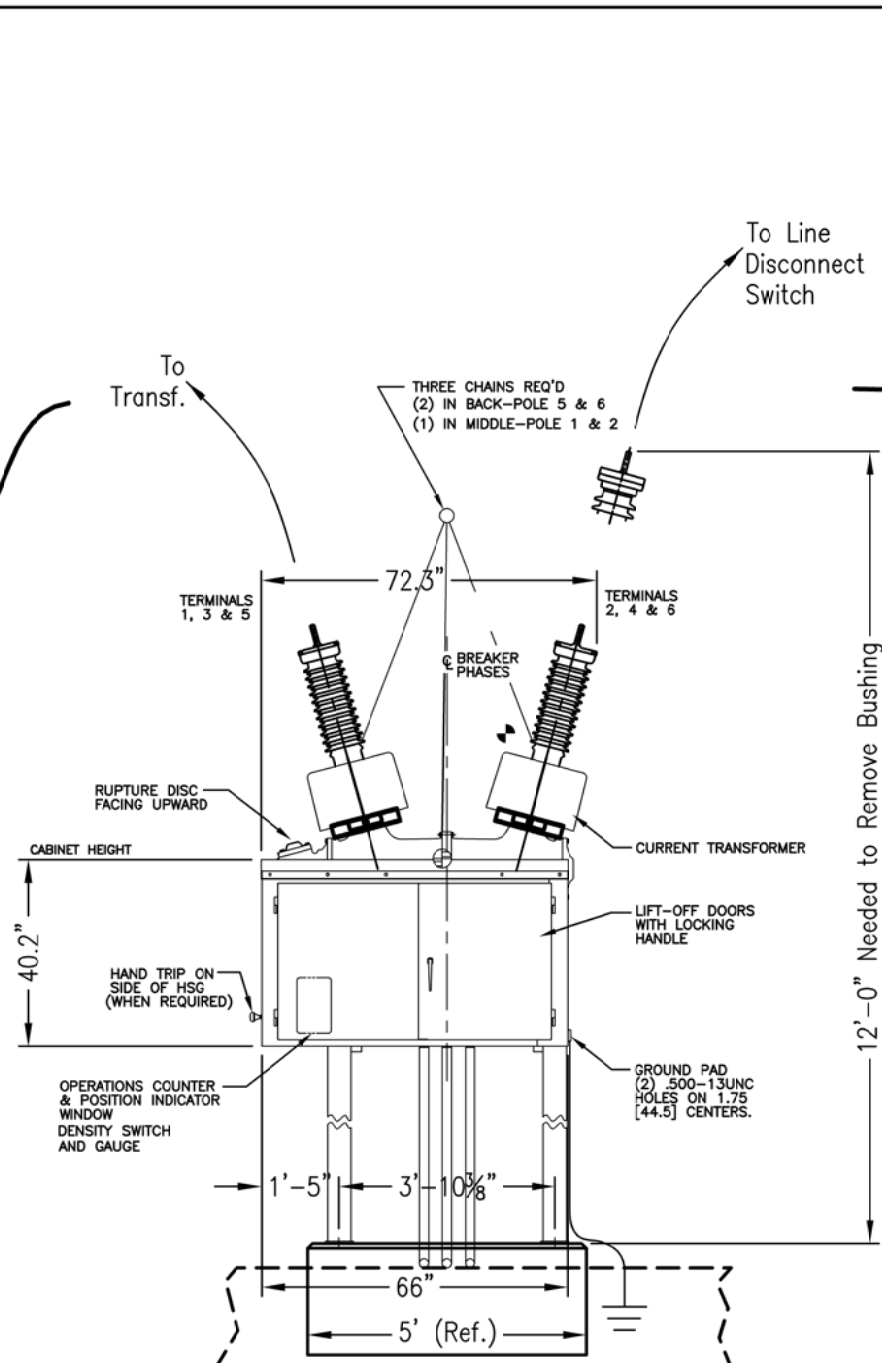
**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

REV.	DATE	DESCRIPTION	APPROVED
1	09-2017	OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA	
PC U1 GSU PROJECT SECTION B-B and C-C			
		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634-047-05	REVISION
DRN. BY pmd	CHK. BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 5 OF 5

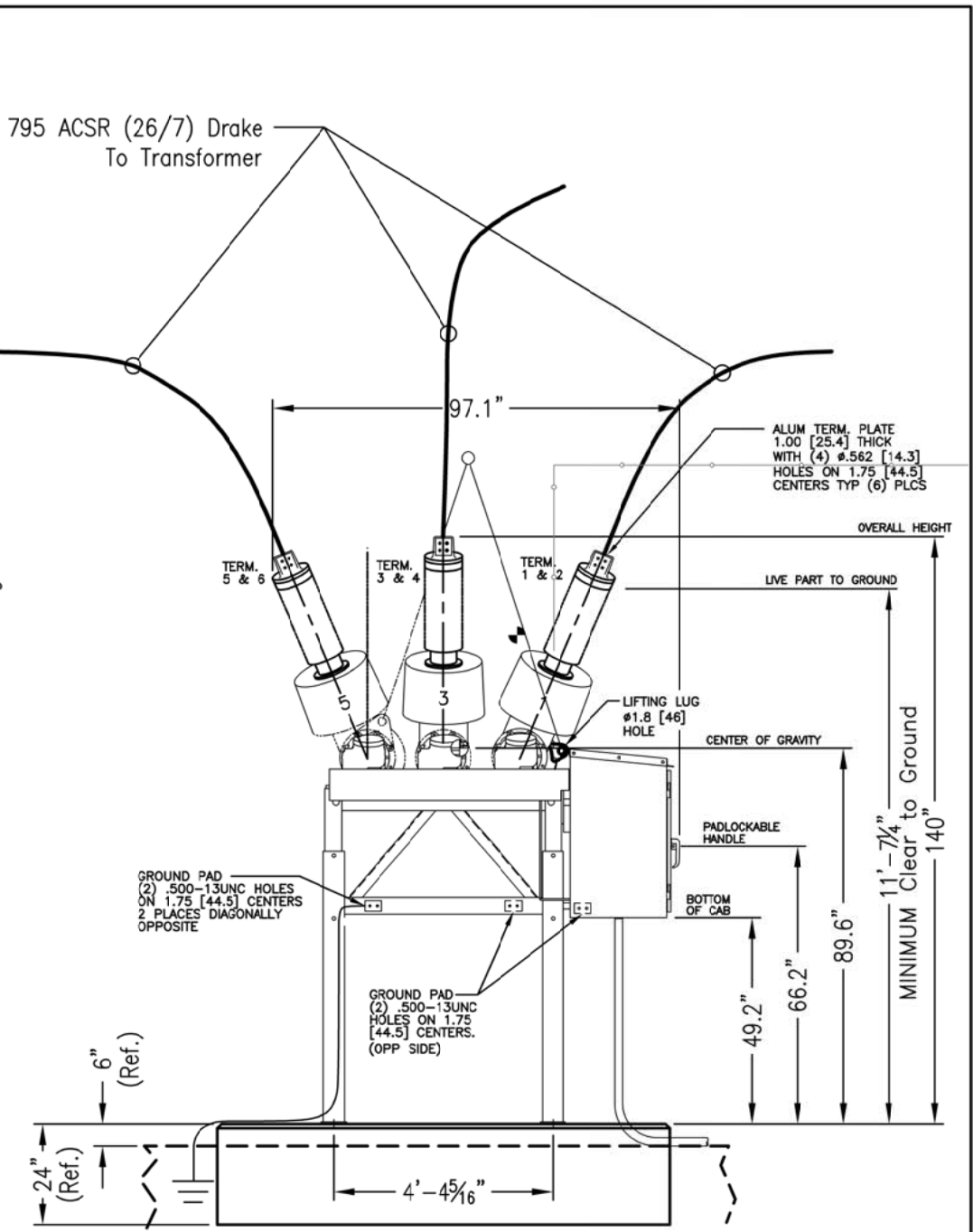
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C.H. GUERNSEY & COMPANY - OK CA (10) PE Expires 06/30/2018



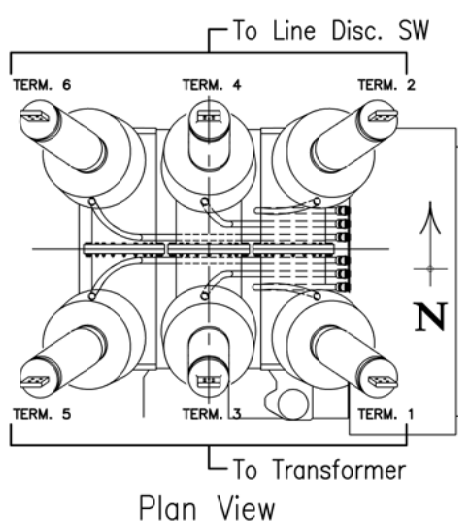
Section D-D



Section D-E



Section E-E



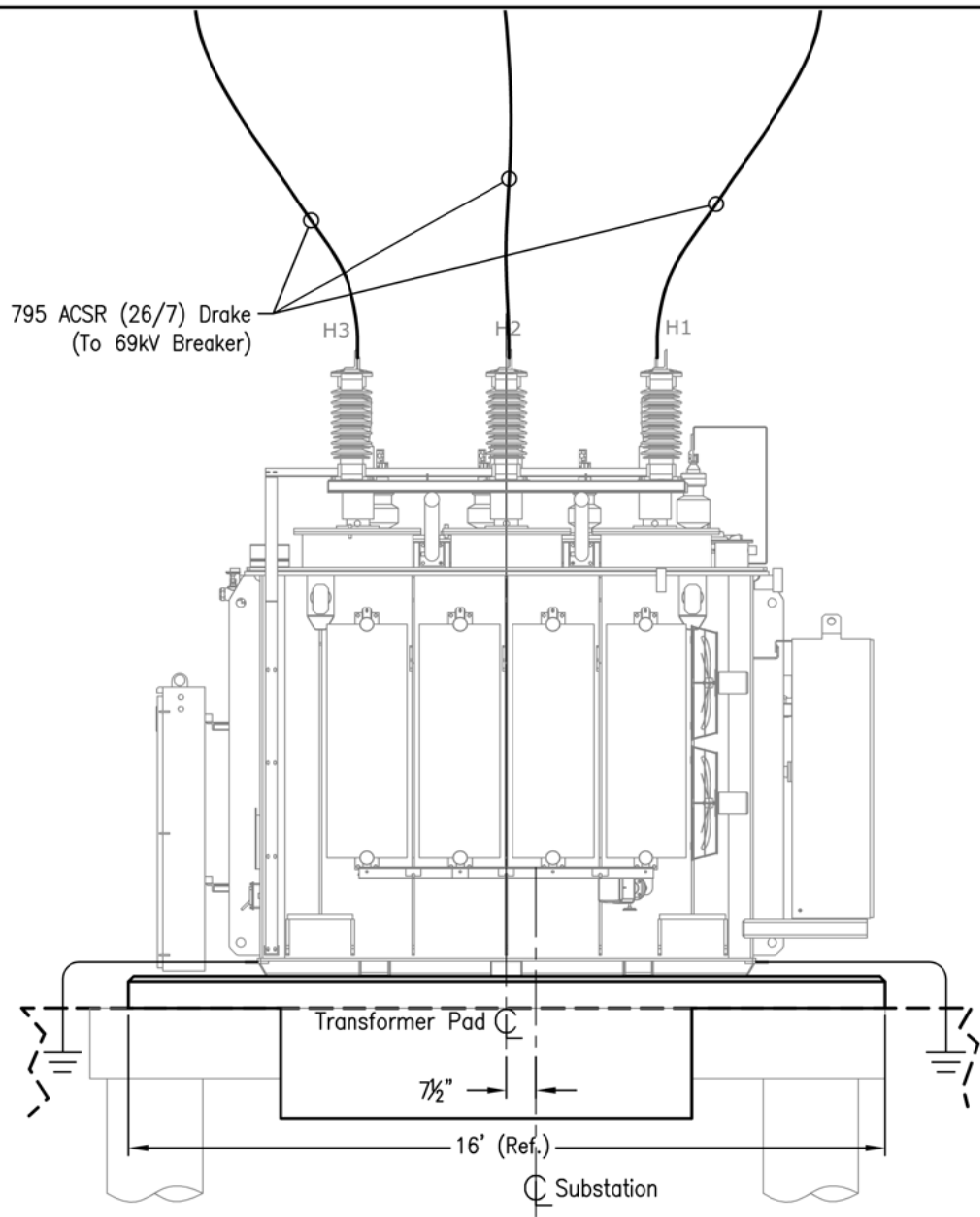
Plan View

NOTE:

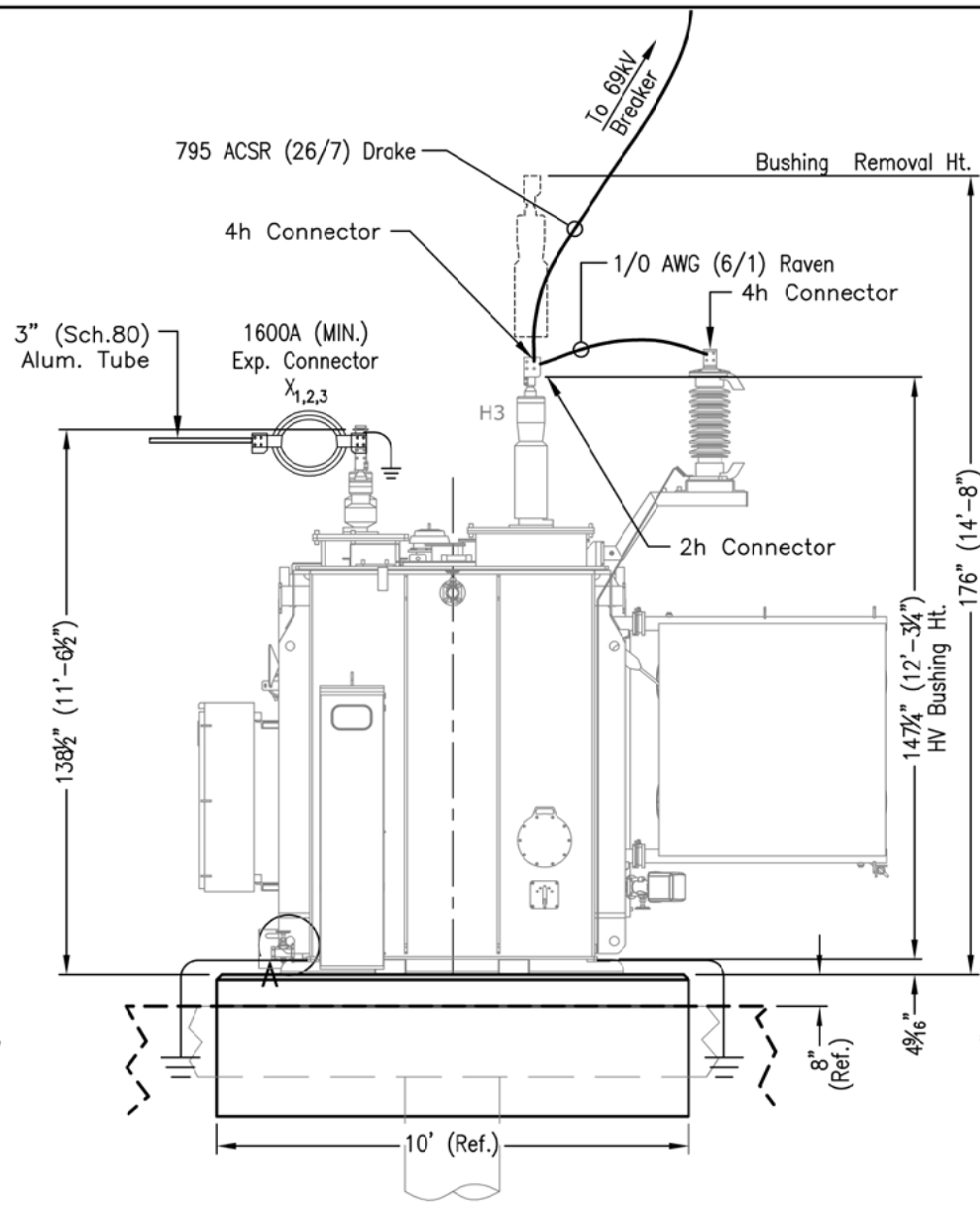
1. See Foundation Details OK04634047-11.

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

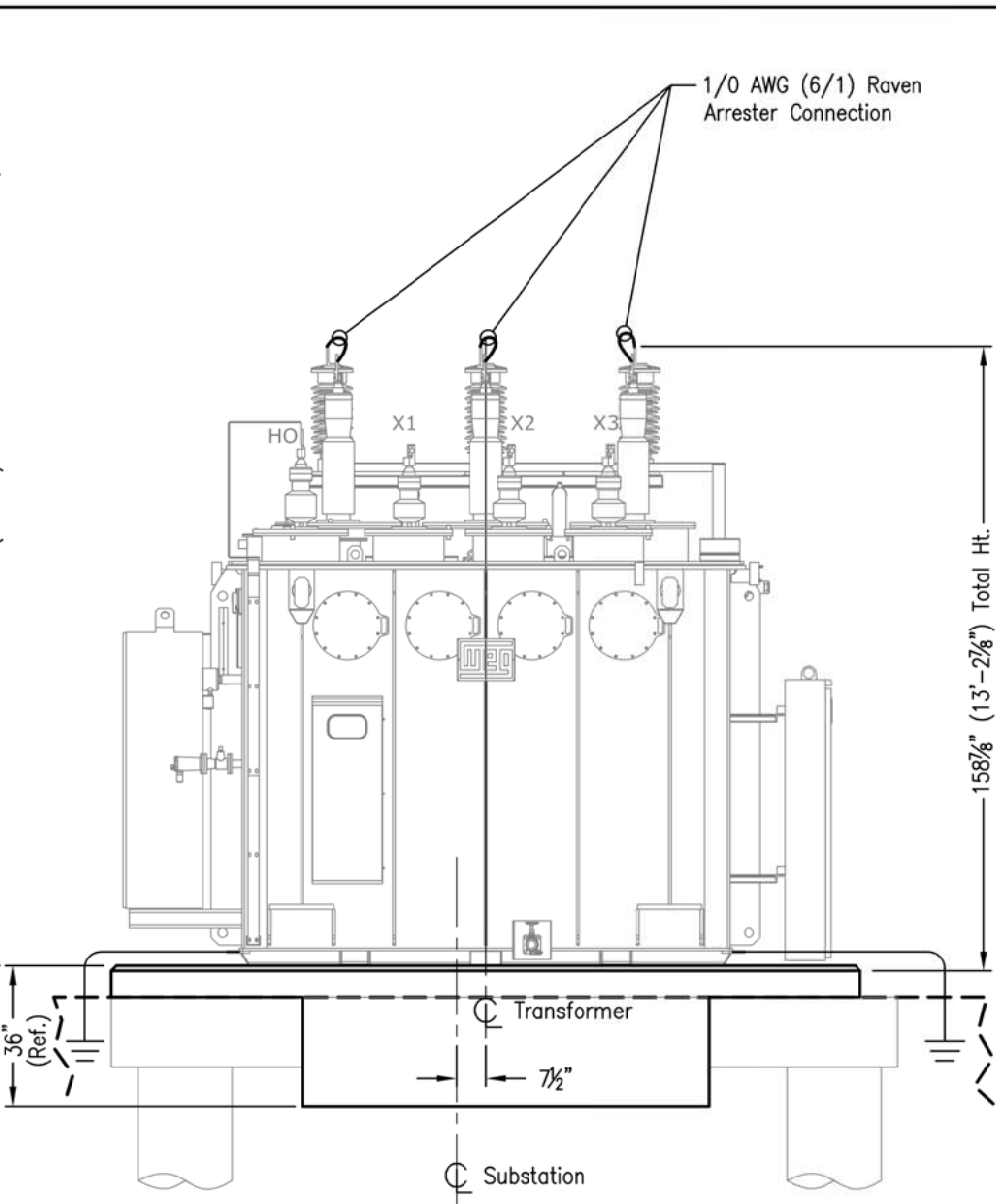
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PC U1 GSU PROJECT SECTION D-D, D-E and E-E			
		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-05	REVISION
DRN. BY pmd	CHK. BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 6 OF 12



Section F–F



Section F–G




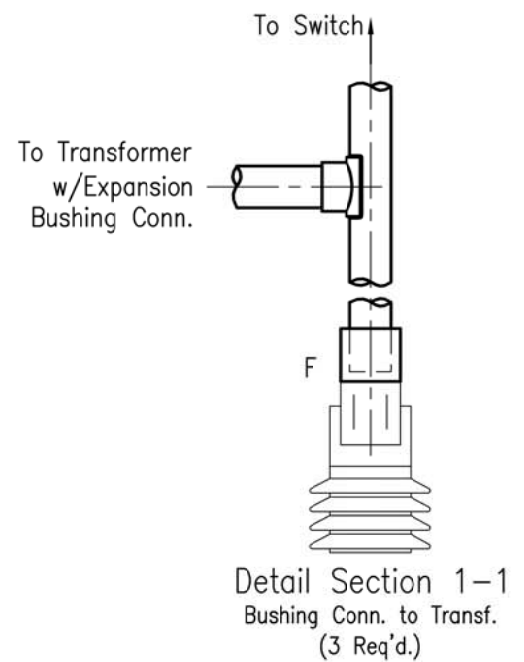
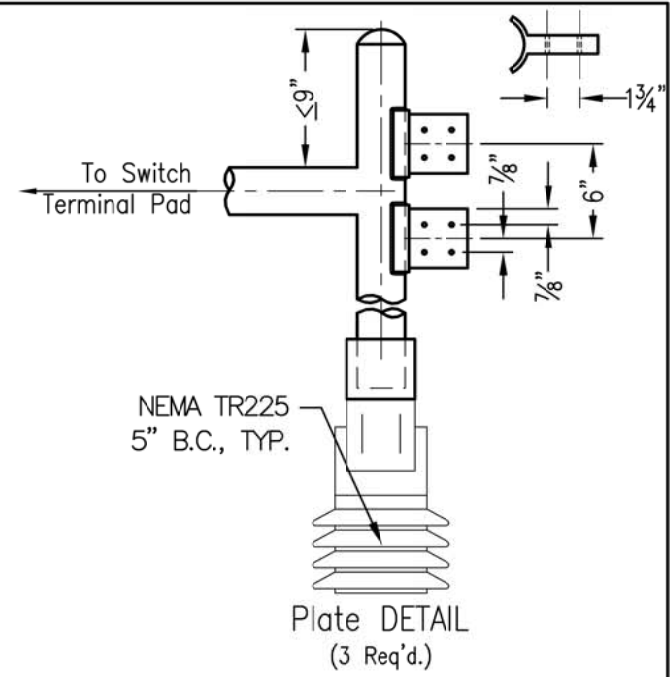
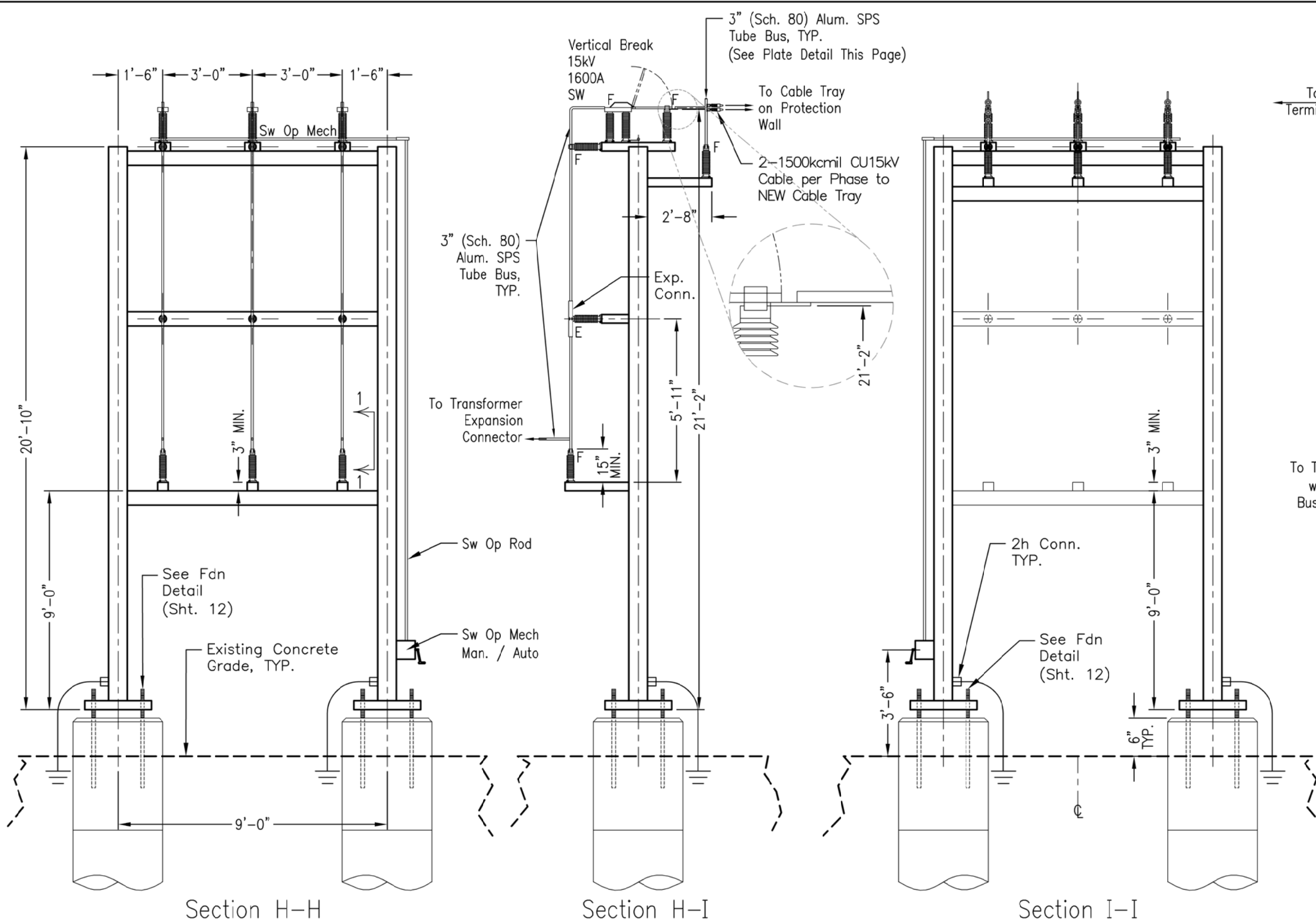
Section G–G

NOTE:
1. See OK04634047-11 for Foundation Details.

69Y/39.83kV–12.5kV Transformer

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**


REV.	DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PC U1 GSU PROJECT SECTION F–F, F–G and G–G			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-07	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 7 OF 11



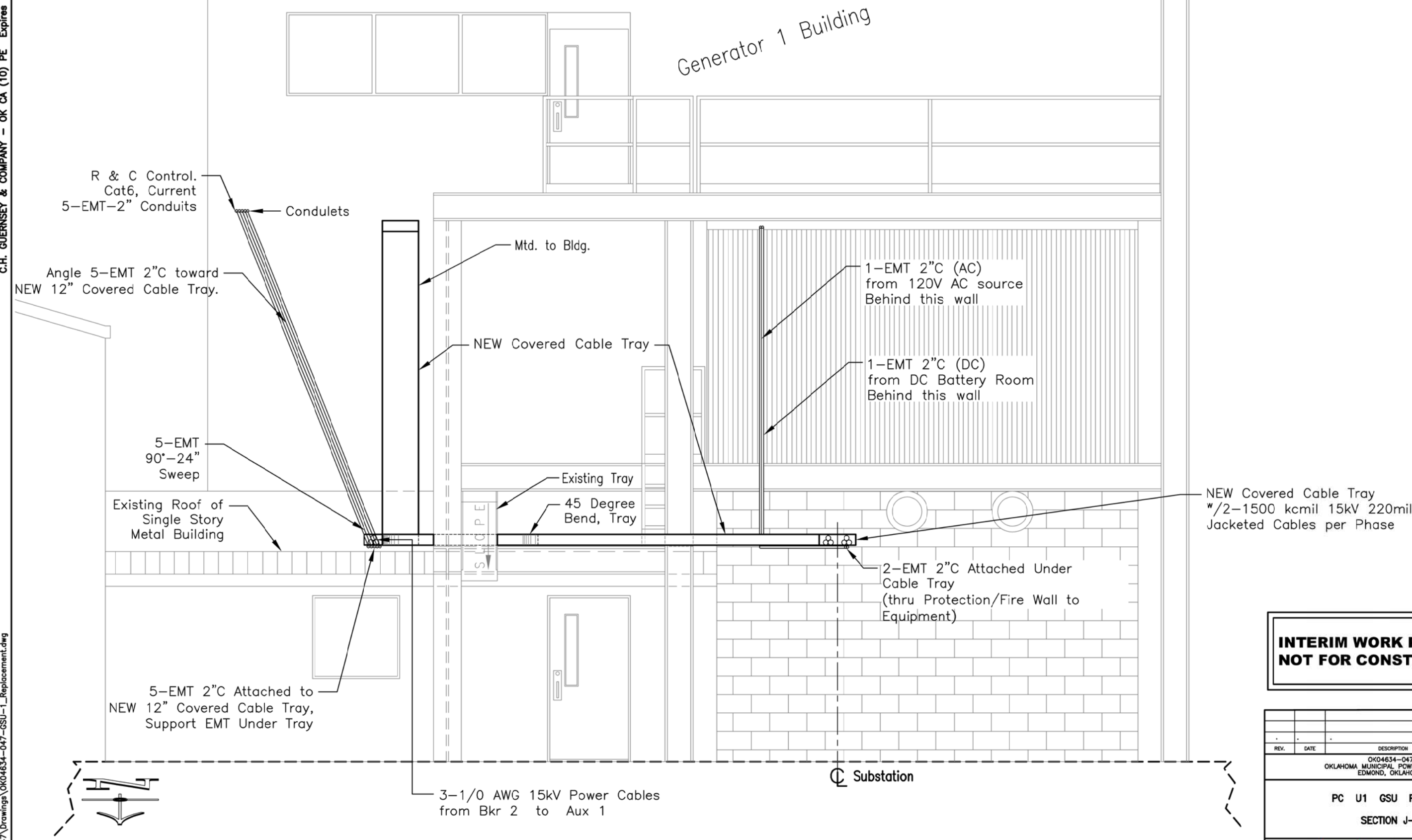
LEGEND
E = Expansion
F = Fixed
SF = Slip Fit

NOTE:
All insulators to have 5" Bolt Center (NEMA TR225)

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**


OK04634-047			
OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PC U1 GSU PROJECT 15 kV SWITCH STRUCTURE SECTION H-H, H-I and I-I			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634-047-08	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 8 OF 11

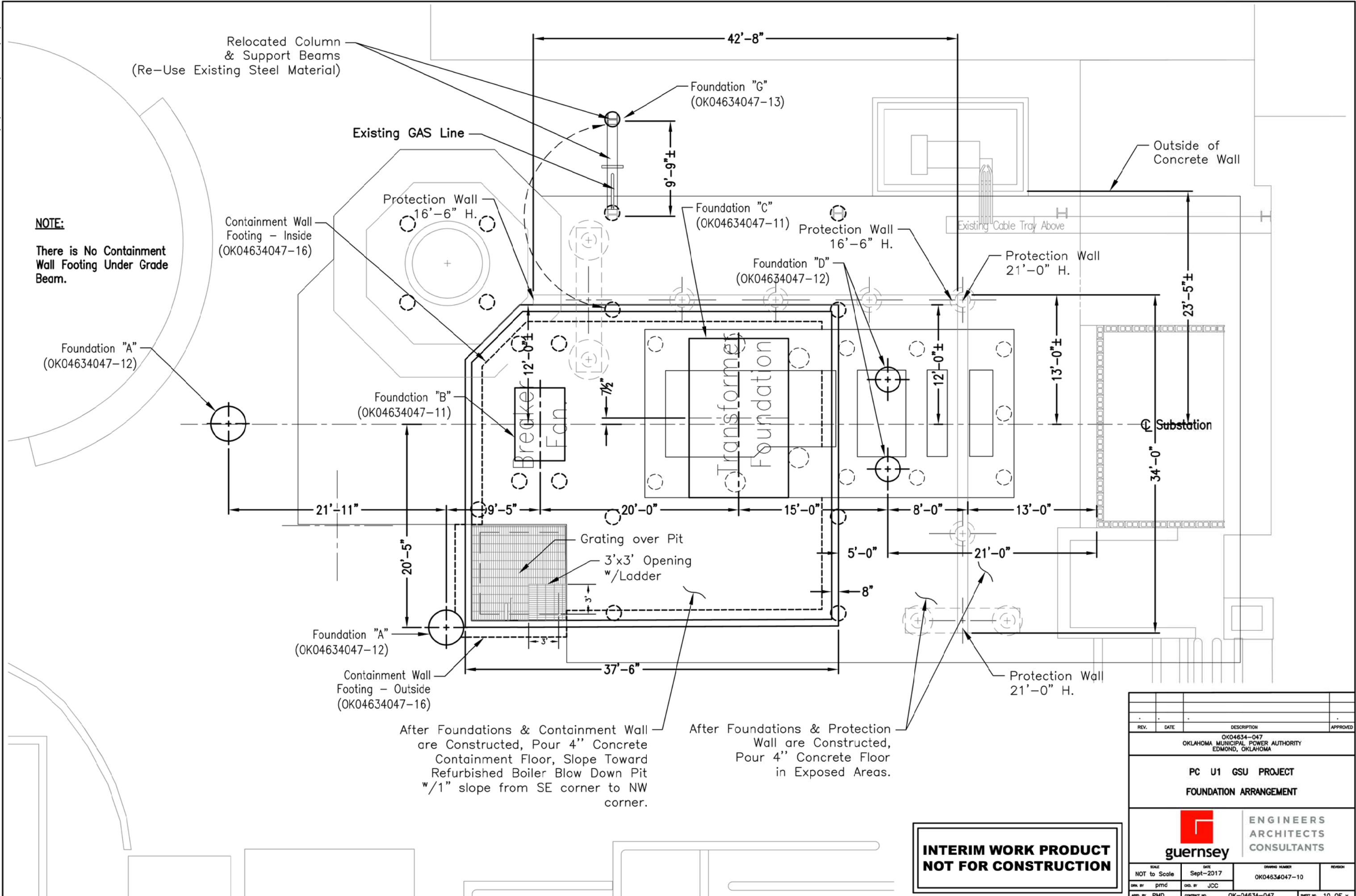
6/24/2015 3:27 PM TAB: 09-Section-JJ K:\Design\OK\04634\047\Drawings\OK04634-047-GSU-1_Replacement.dwg C.H. GUERNSEY & COMPANY - OK CA (10) PE Expires 06/30/2018




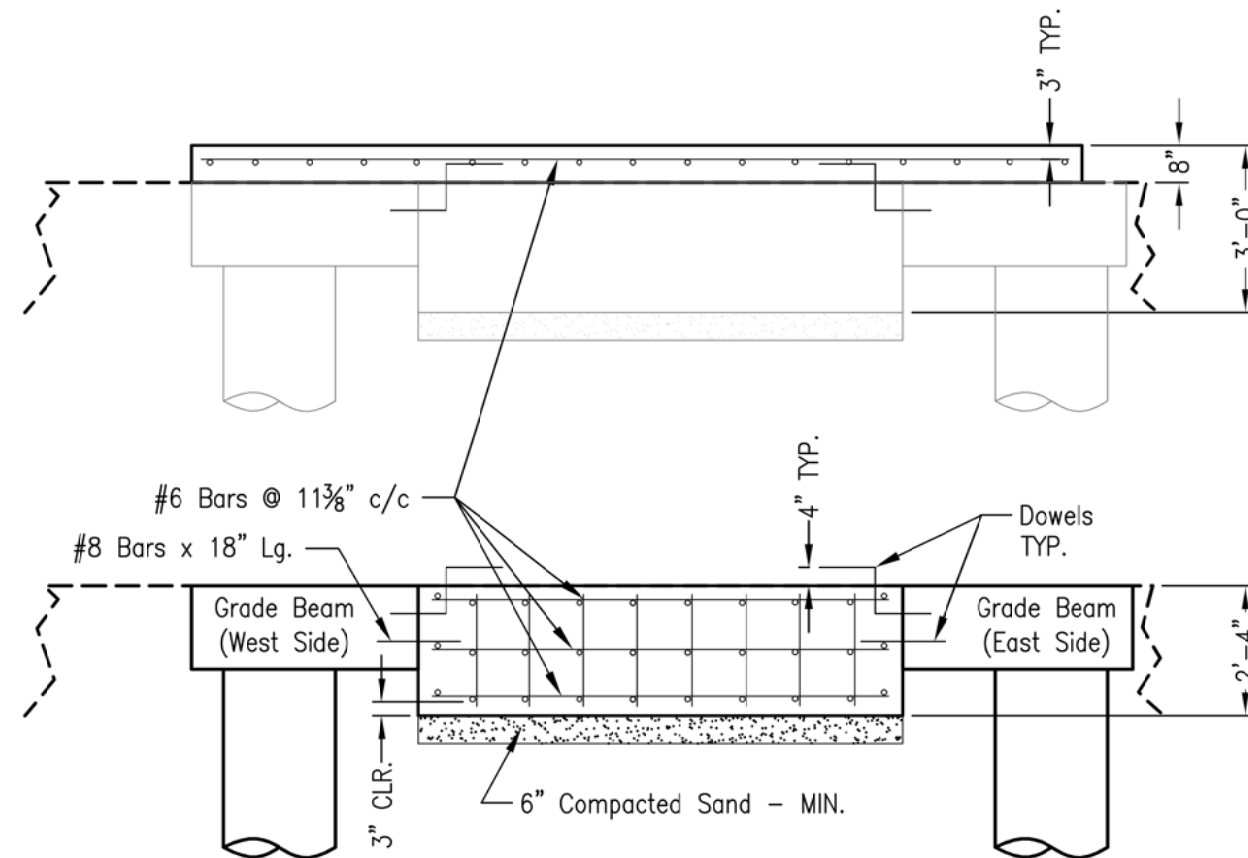
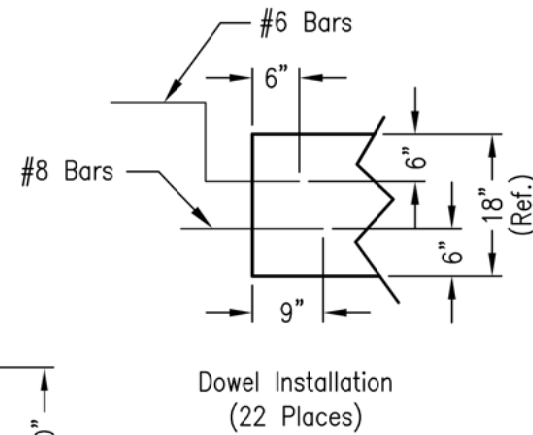
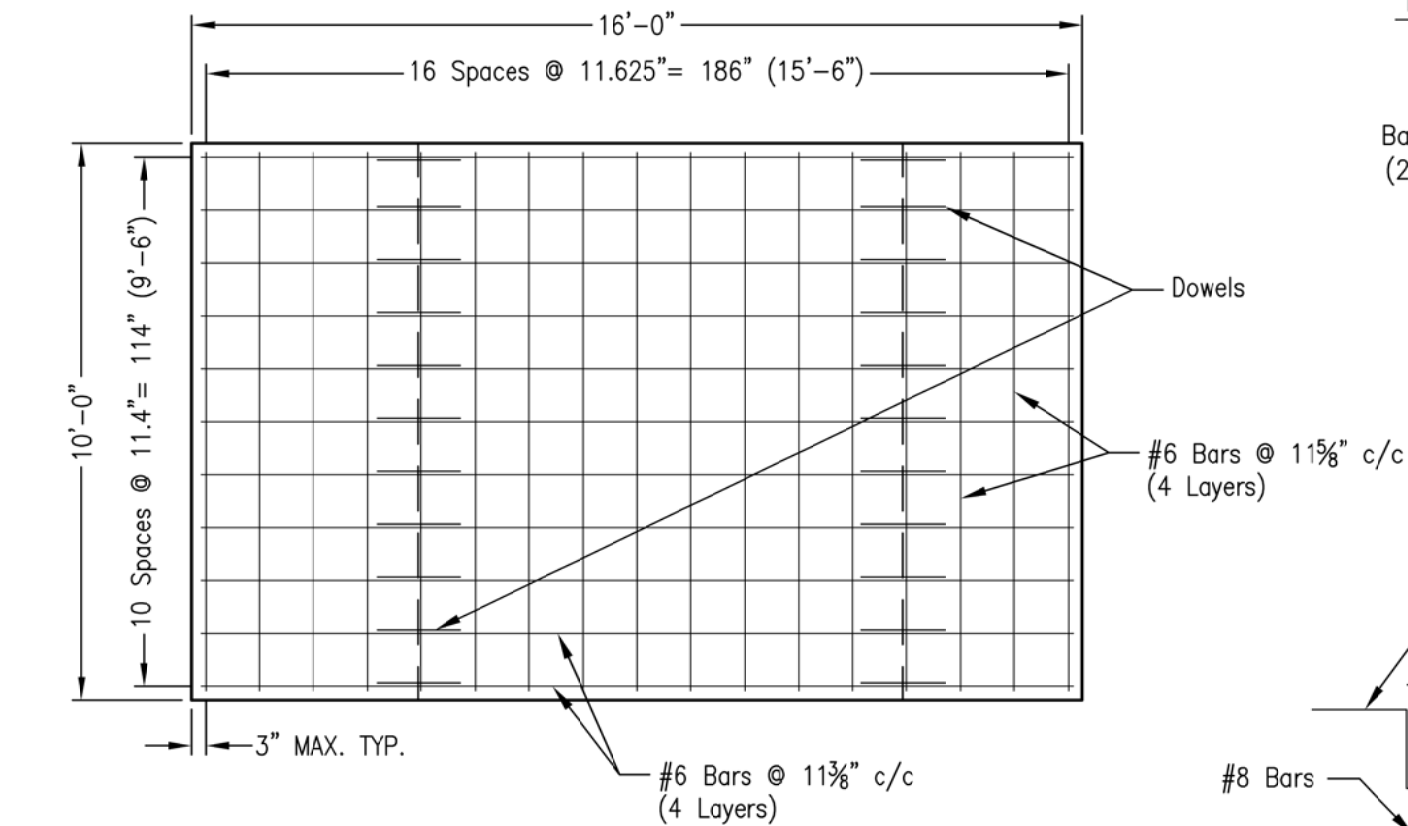
Section J-J

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

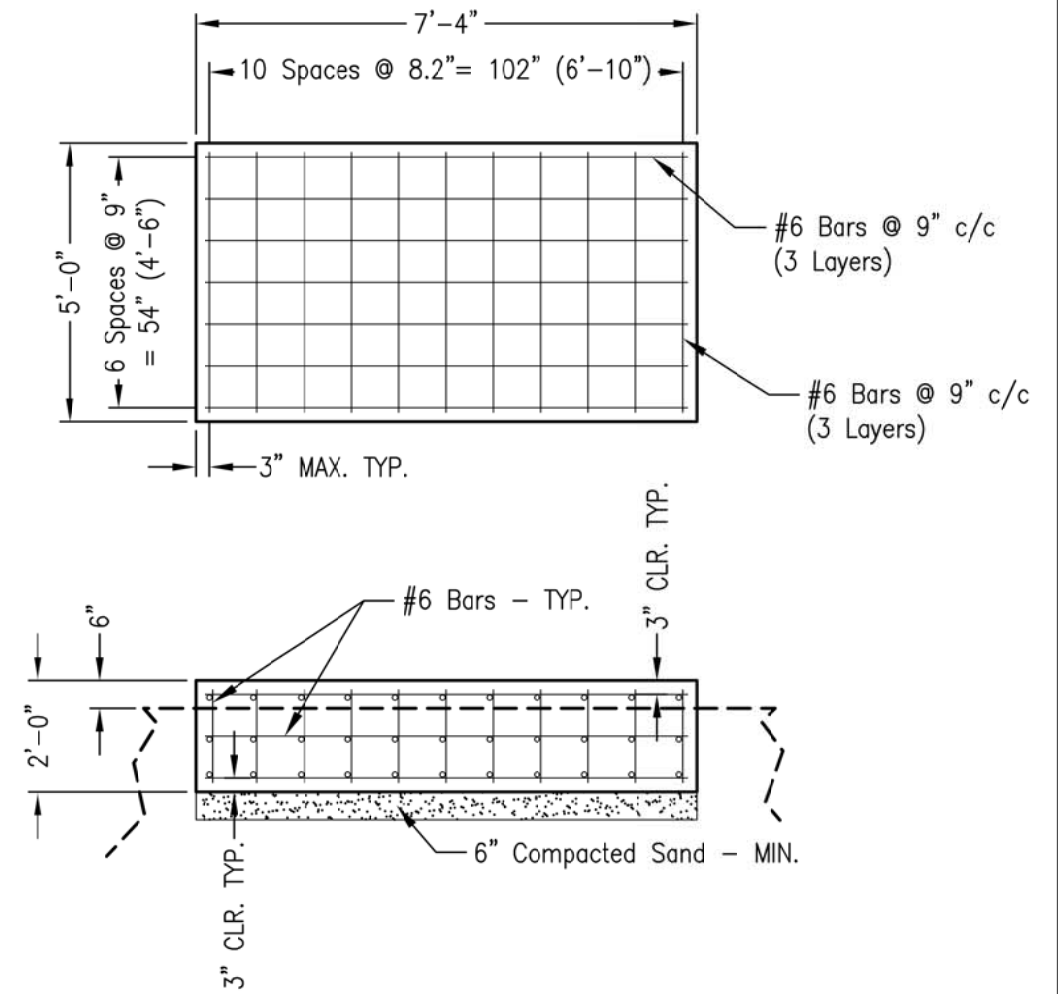
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OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PC U1 GSU PROJECT SECTION J-J			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-09	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 9 OF 11



REV.	DATE	DESCRIPTION	APPROVED
		OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA	
PC U1 GSU PROJECT FOUNDATION ARRANGEMENT			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-10	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 10 OF 11



Transformer Foundation - "C"
(18.8/25.1/31.4 MVA)
Approx. 12.0 CY. (1 Req'd Total)




Breaker Foundation - "B"
(69 kV)
Approx. 2.8 CY. (1 Req'd Total)

NOTES:

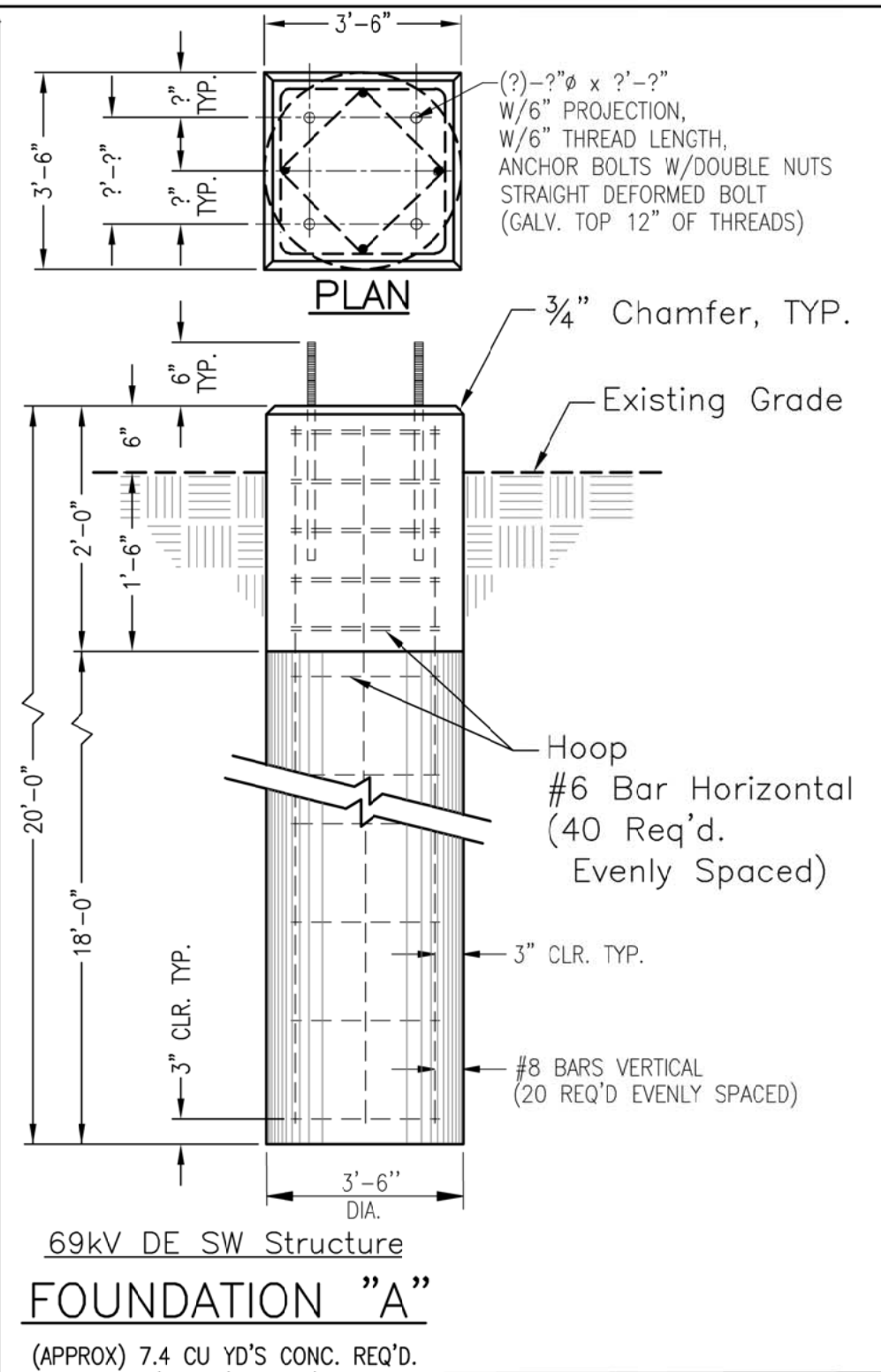
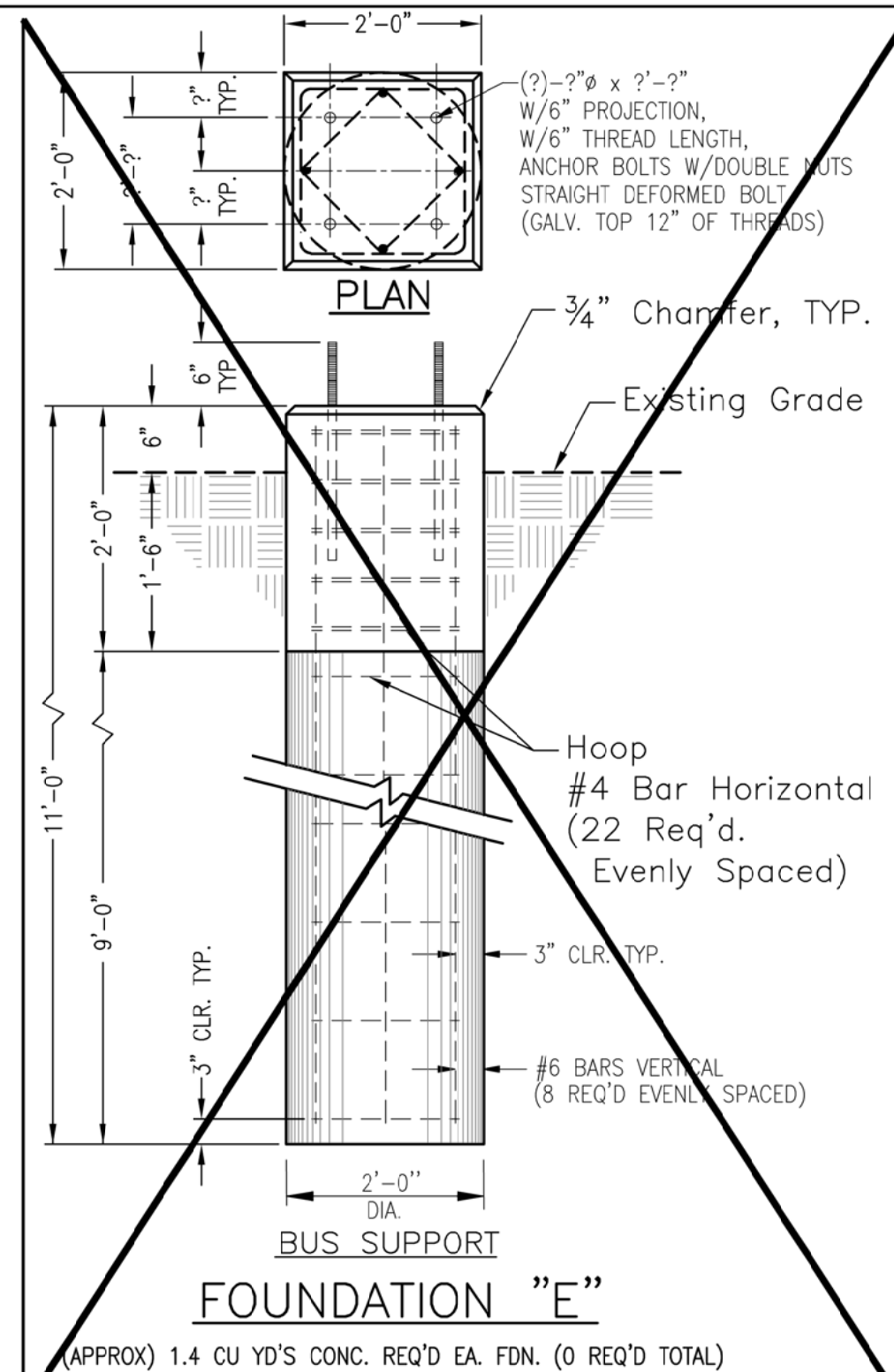
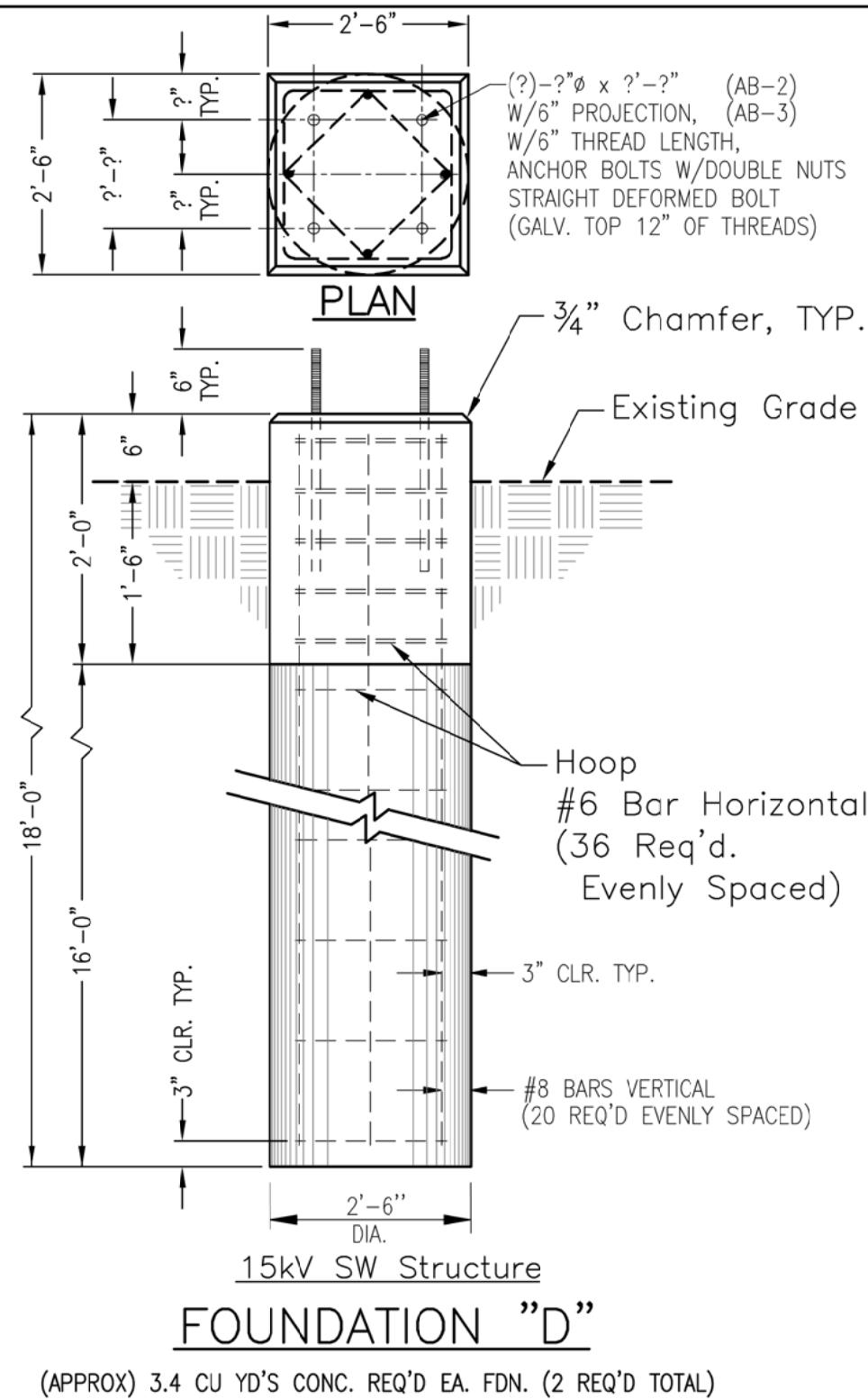
1. Two (2) Ground rods to be installed on North side and South side of Transformer foundation "C", as shown on OK04634047-15.
2. One (1) Ground rod to be installed on North side and South side of Breaker foundation "B", as shown on OK04634047-15.
3. Top of Ground rods to be 12" deep.
4. Refer to OK04634047-15 for Ground rod connections to Ground Grid.

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

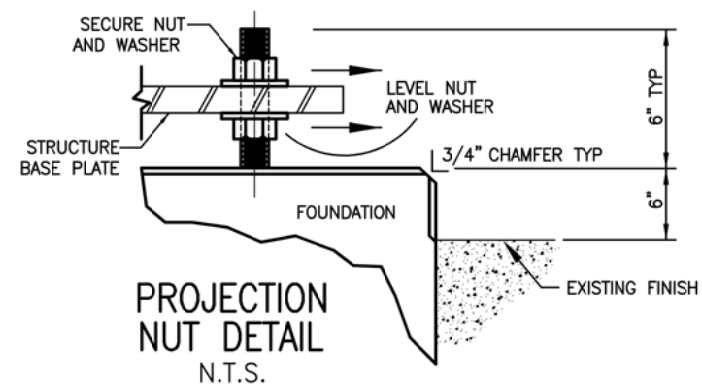
REV.	DATE	DESCRIPTION	APPROVED
		OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA	
PC U1 GSU PROJECT FOUNDATION DETAILS - B & C Transformer and Breaker			
		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-11	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 11 OF 11

Foundation Details

6/24/2015 3:27 PM TAB: 12-Foundations K:\Design\OK\04634\047\Drawings\OK04634-047-GSU-1_Replacement.dwg C.H. GUERNSEY & COMPANY - OK CA (10) PE Expires 06/30/2018

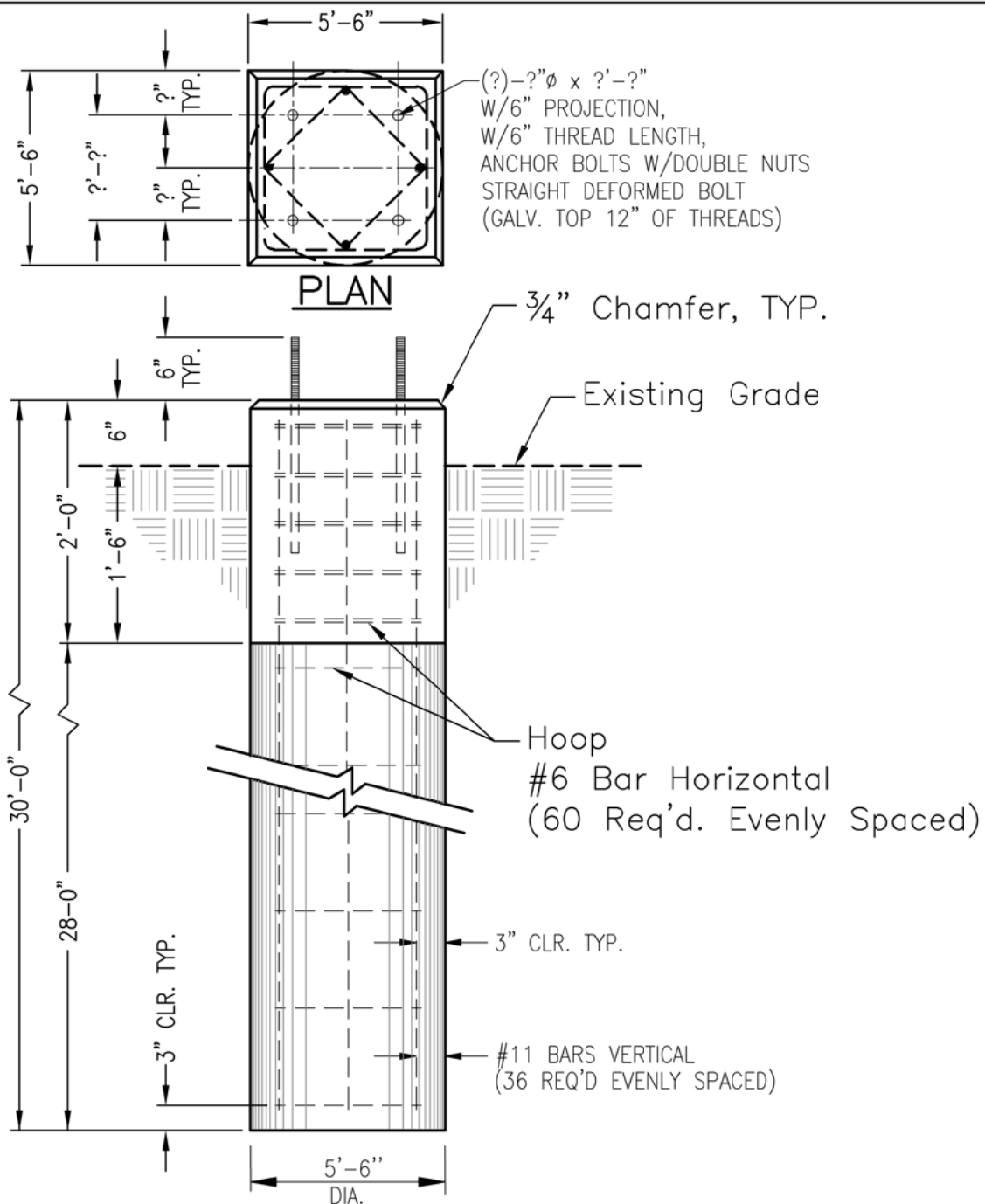


- NOTES:
1. See steel manufacturer drawings for anchor bolt size and spacing, for each structure.
 2. Ground rods to be installed in each corner of foundation while open and before concrete is poured and one for each pier, all outside forms.
 3. Ground rods are not to be covered with concrete, thus rods are outside of foundation forms.
 4. Grid connect to ground rods is to happen later in construction.

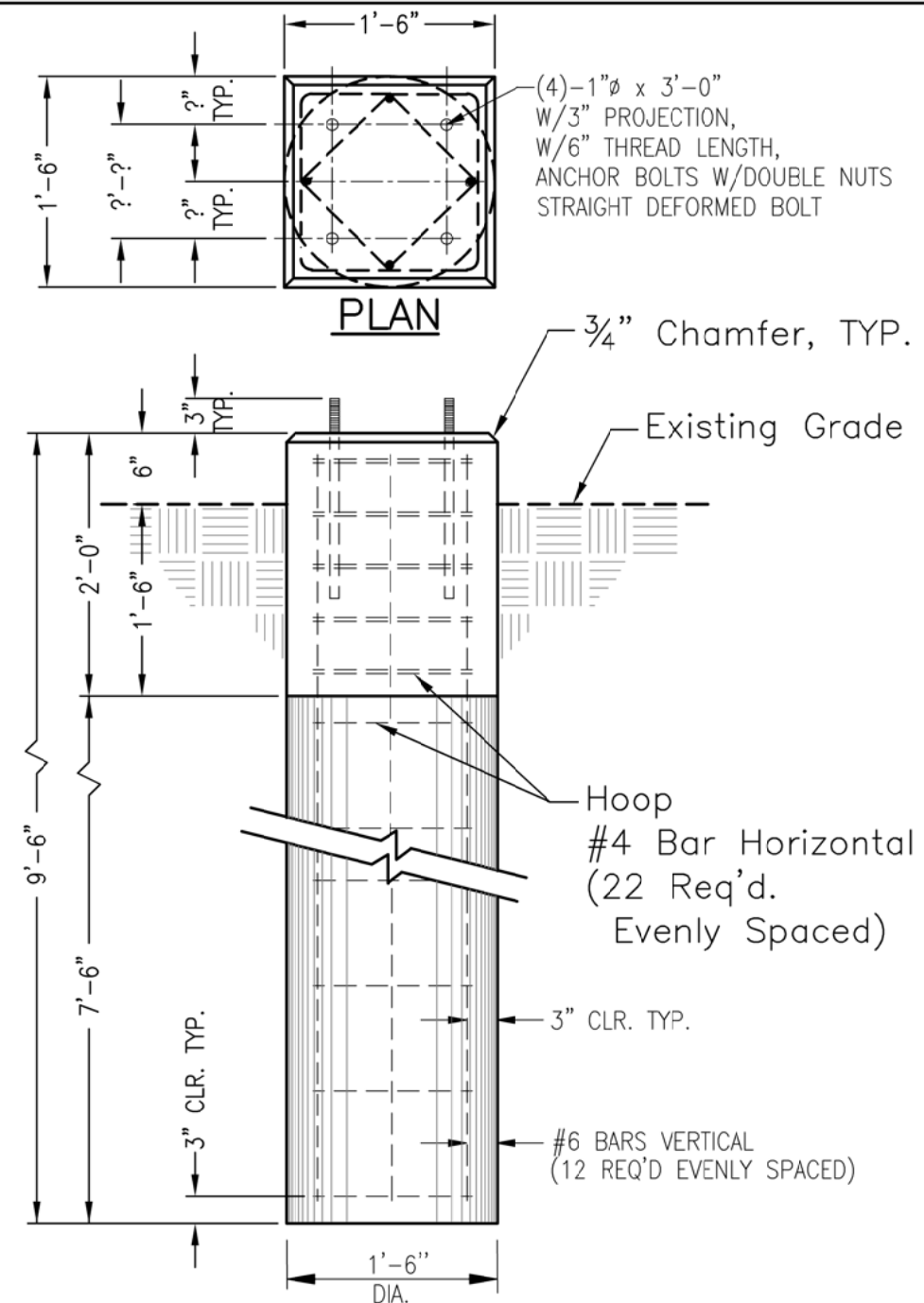


INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PC U1 GSU PROJECT STRUCTURE FOUNDATIONS DETAILS "A", "D" and "E"			
		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-12	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 12 OF 12
APPROVED BY PMD			



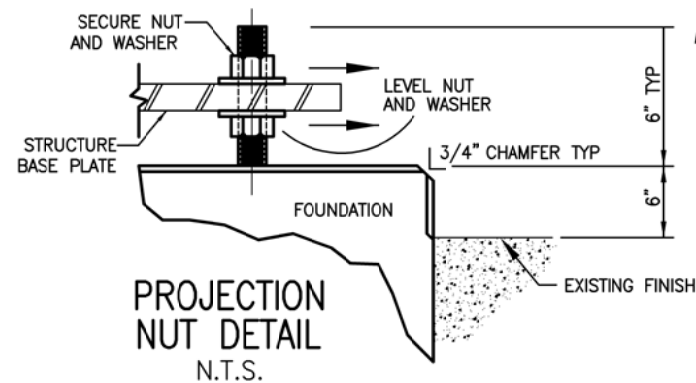
TRANS DDE & SWDE Structures 2 & 5
FOUNDATION "F"
(APPROX) 26.9 CU YD'S CONC. REQ'D EA. FDN. (2 REQ'D TOTAL)



COLUMN RELOCATION
FOUNDATION "G"
(APPROX) 0.7 CU YD'S CONC. REQ'D EA. FDN. (1 REQ'D TOTAL)

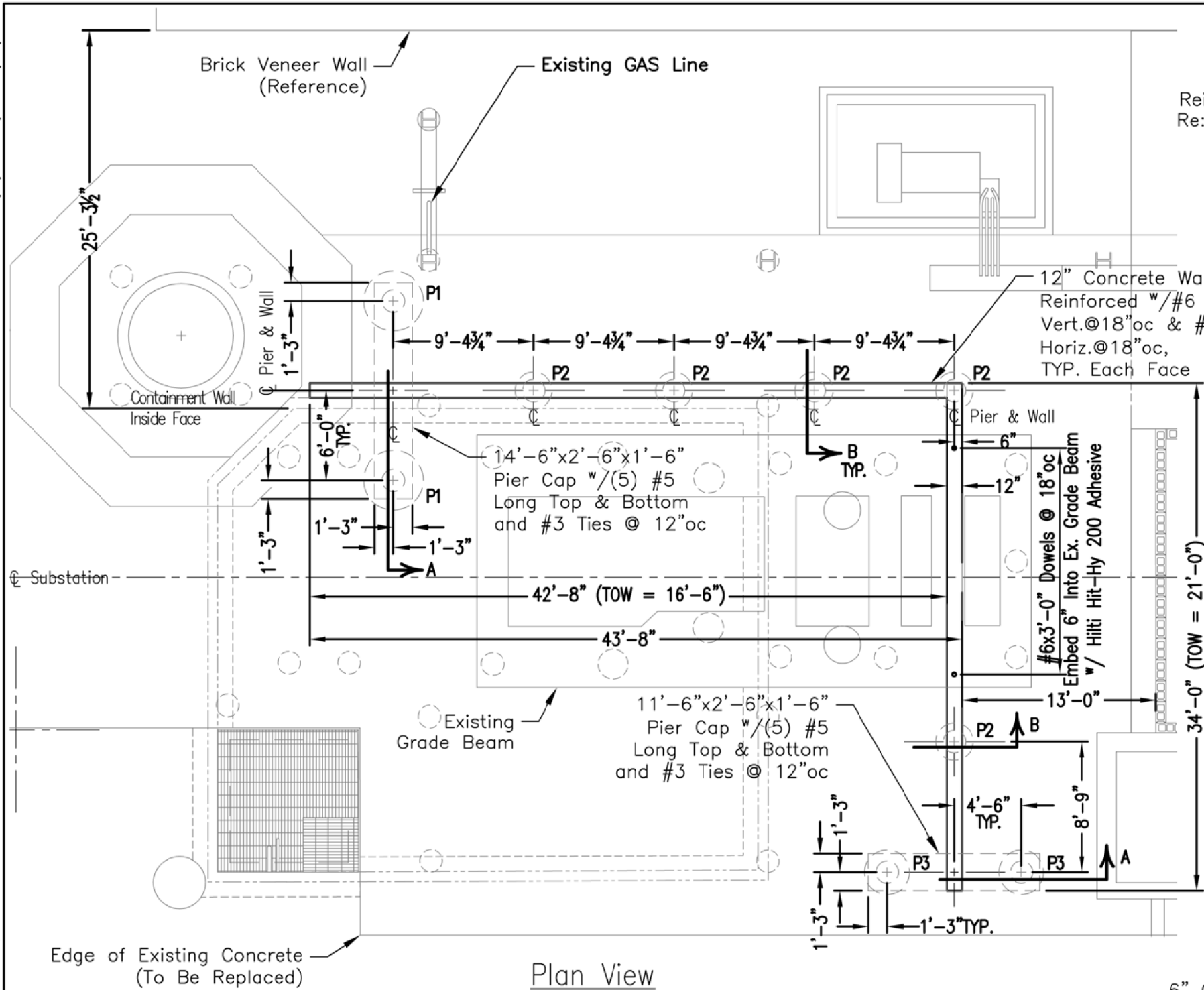
NOTES:

1. See steel manufacturer drawings for anchor bolt size and spacing, for each structure.
2. Ground rods to be installed in each corner of foundation while open and before concrete is poured and one for each pier, all outside forms.
3. Ground rods are not to be covered with concrete, thus rods are outside of foundation forms.
4. Grid connect to ground rods is to happen later in construction.



**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

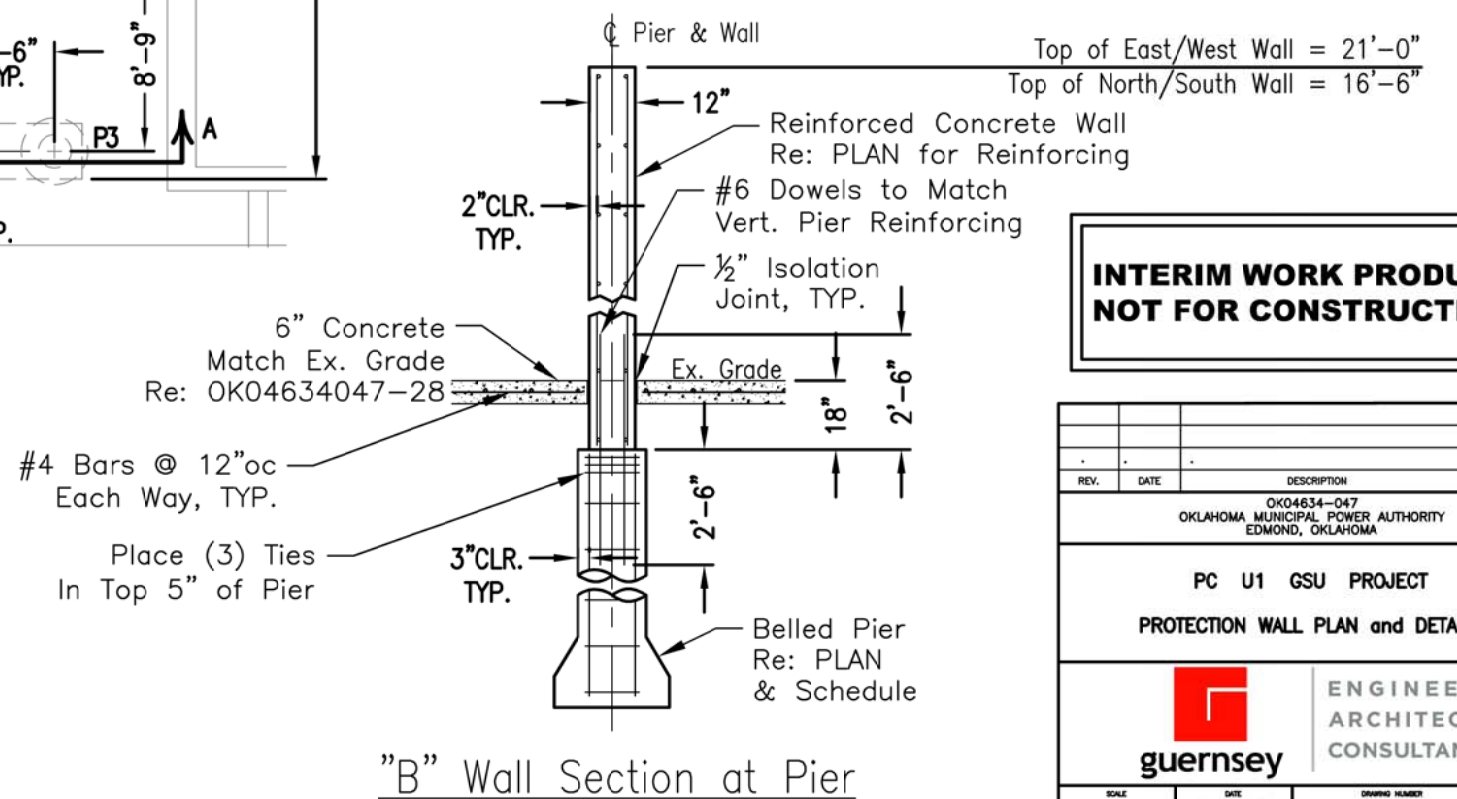
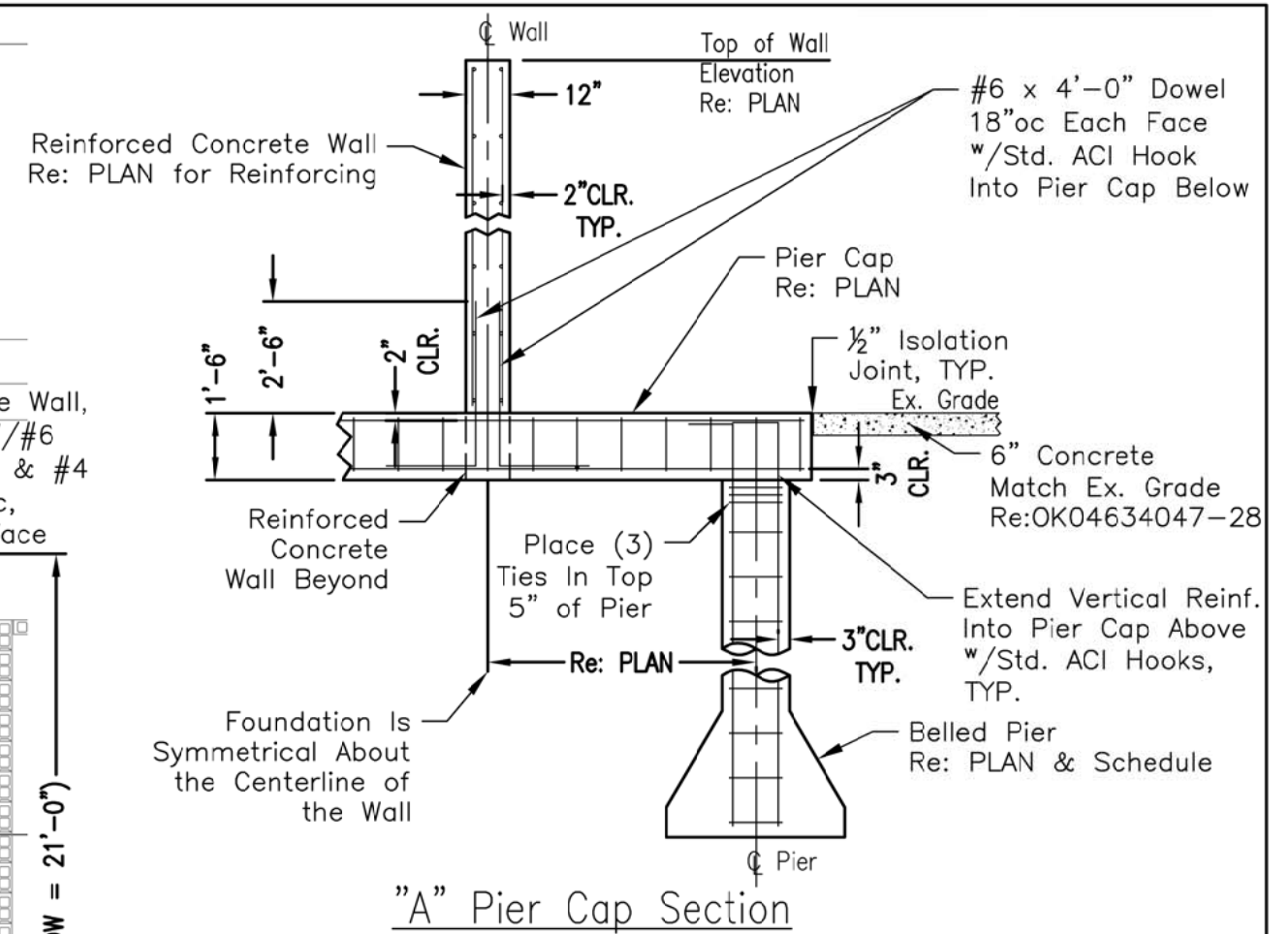
REV.	DATE	DESCRIPTION	APPROVED
		OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA	
PC U1 GSU PROJECT STRUCTURE FOUNDATIONS TRANSMISSION LINE POLE DETAILS - STRUCTURE 2 and 5			
		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-13	REVISION
DRAWN BY pmd	CHECKED BY JCC	APPROVED BY PMD	CONTRACT NO. OK-04634-047
		SHEET NO. 13 OF 14	




DRILLED PIER SCHEDULE					
MARK	D _p (in)	D _b (in)	VERT. REINF.	TIES	NOTES
P1	18	48	(6) #6	#4 @ 12" o.c.	
P2	18	30	(6) #6	#4 @ 12" o.c.	
P3	18	36	(6) #6	#4 @ 12" o.c.	

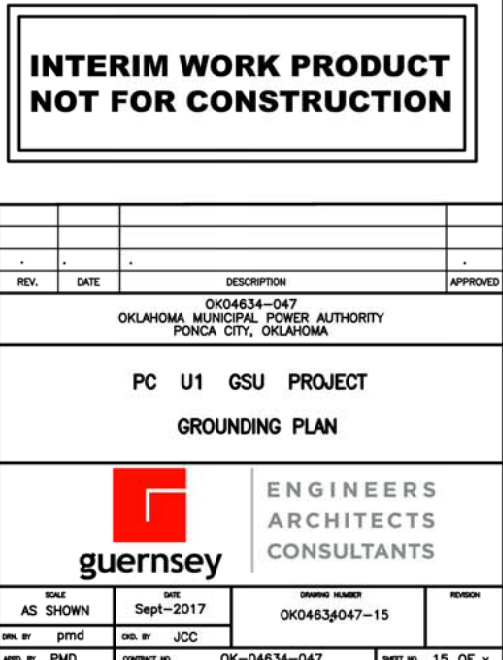
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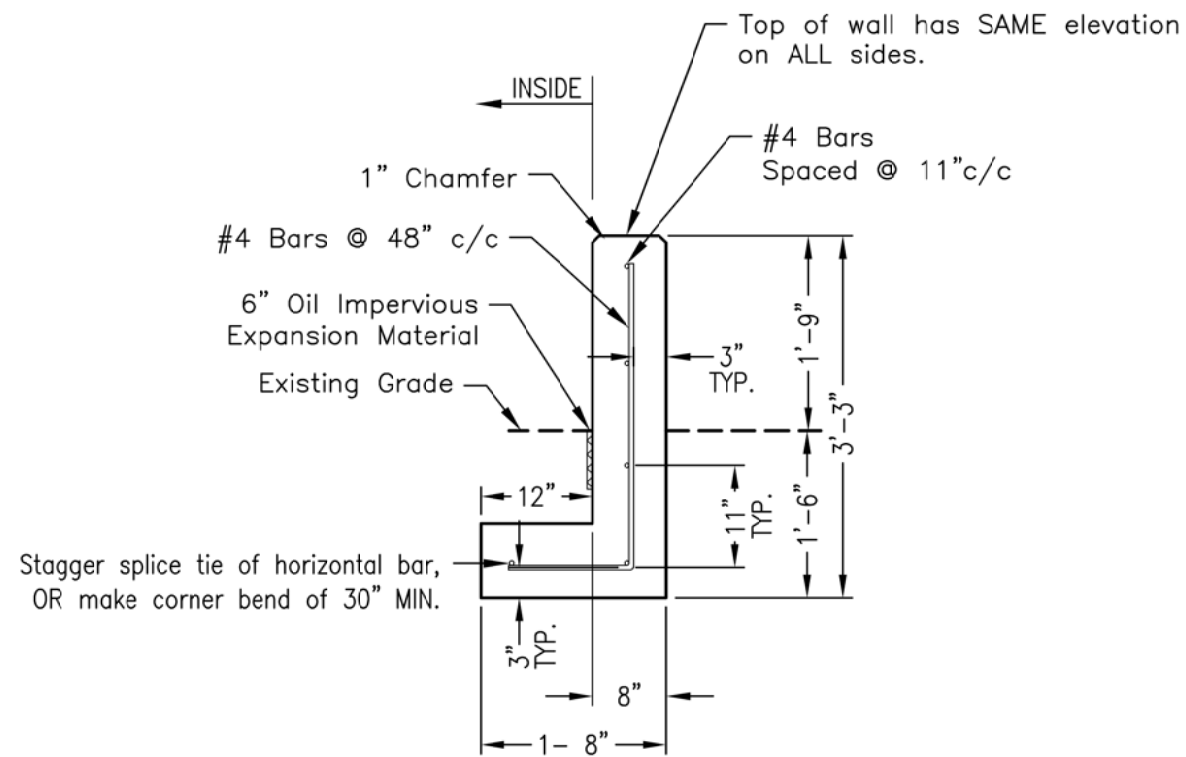
1. RE: PLANS FOR PIER MARK.
2. SEE SPECIFICATIONS FOR CONSTRUCTION TOLERANCES.
3. BEARING SURFACE SHALL BE LEVEL AND FREE OF LOOSE MATERIAL.
4. EXTEND STRAIGHT DOWELS TO WITHIN 1½" OF TOP OF PIER CAP OR DEVELOPMENT LENGTH SHOWN INTO WALL. PIER IS TO BE EMBEDDED 2" INTO BOTTOM OF PIER CAP.
5. PIER VERTICAL REINFORCING SHALL EXTEND A MINIMUM OF 30" FROM TOP OF PIER, UNLESS PIER LENGTH IS SHORTER THAN THAT LENGTH DUE TO BEDROCK DEPTH, IN WHICH CASE THE PIER SHALL BE REINFORCED FULL DEPTH. REINFORCING IS NOT REQUIRED BEYOND THE 30" DEPTH FROM TOP OF PIER.



**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

-	-	-			-
REV.	DATE	DESCRIPTION			APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA					
PC U1 GSU PROJECT PROTECTION WALL PLAN and DETAILS					
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS			
SCALE NOT to Scale		DATE Sept-2017		DRAWING NUMBER OK04634047-14	
DRN. BY pmd		CDS. BY JCC		REVISION	
APPR. BY PMD		CONTRACT NO. OK-04634-047		SHEET NO. 14 OF 24	

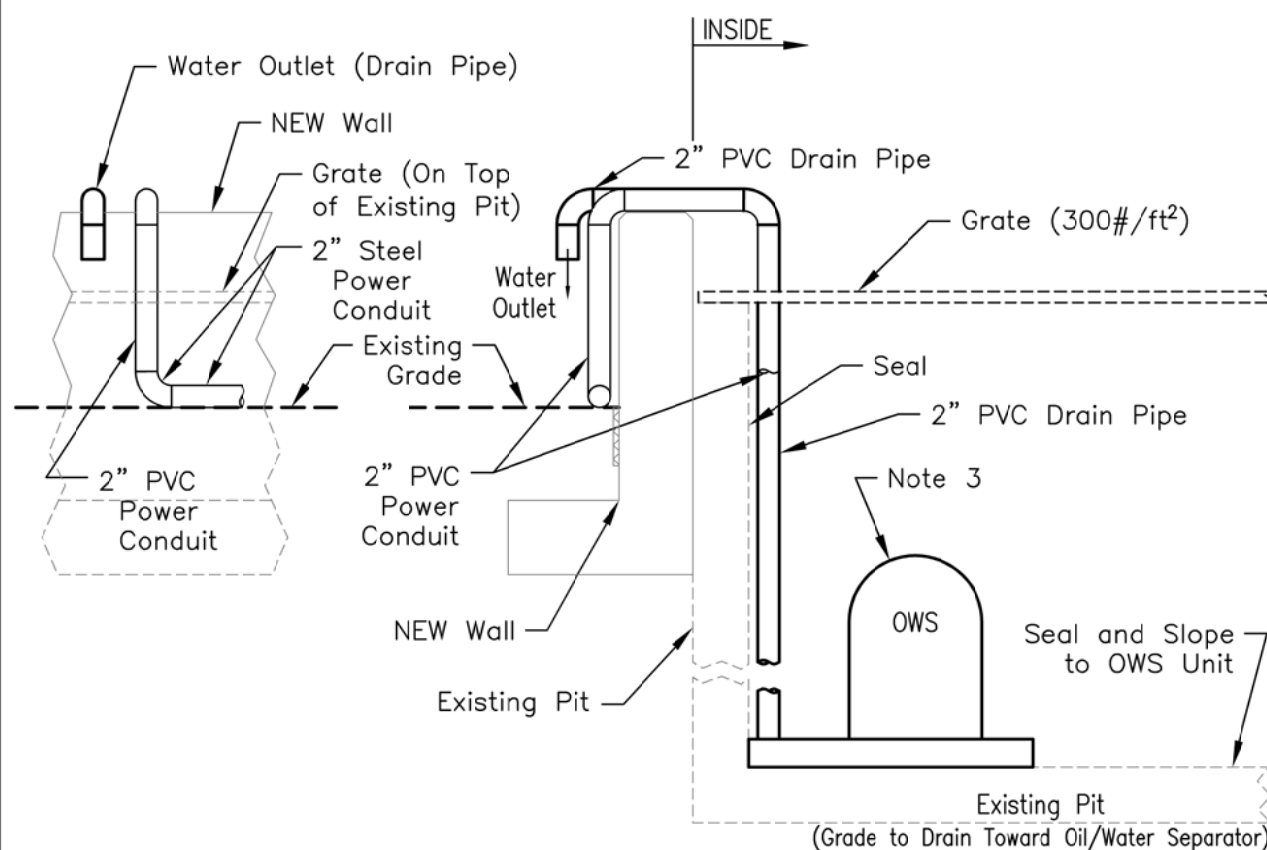




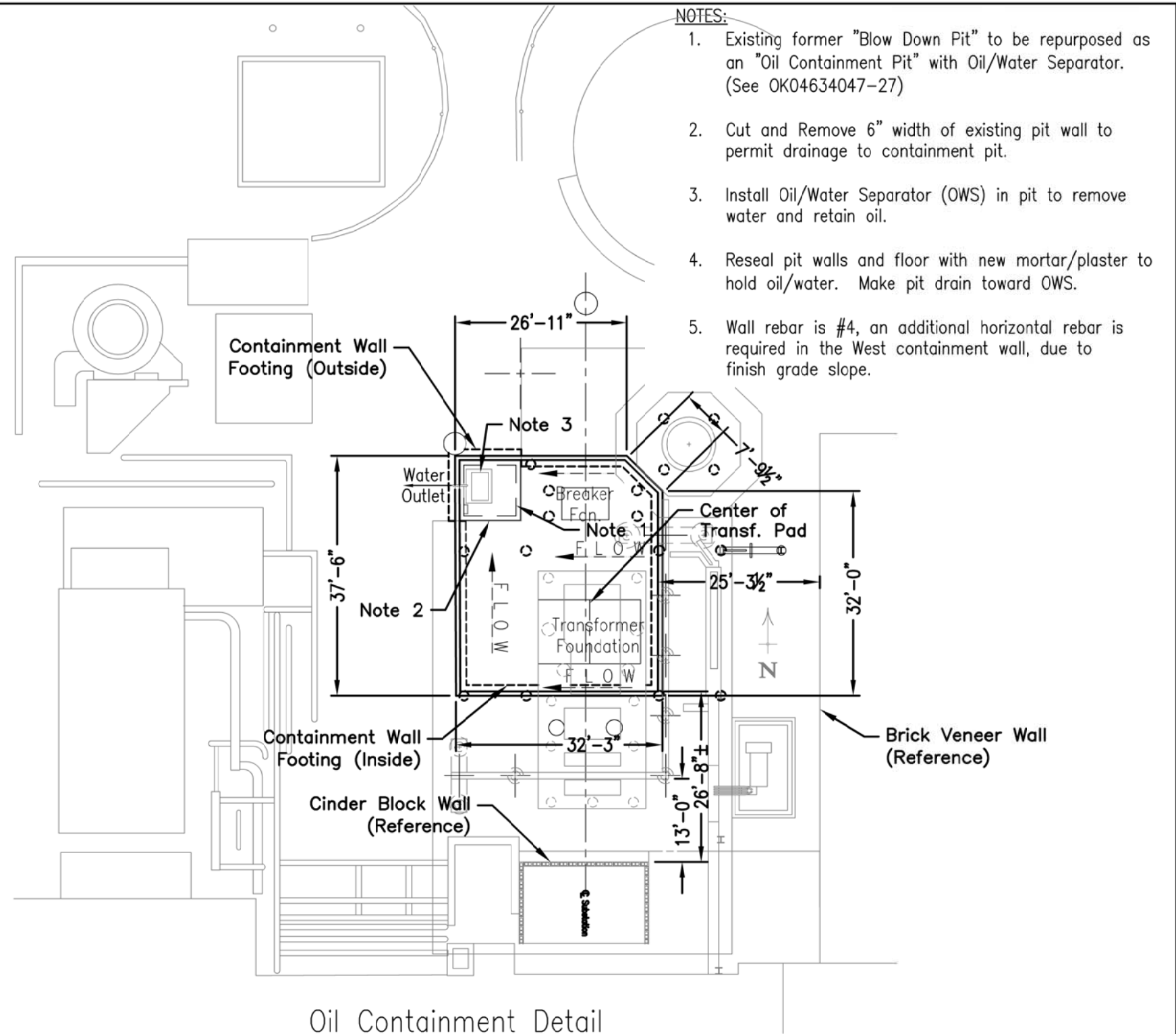
Wall Section

$$\text{Cu.Yd./ft.}=0.06$$

14.3 CY. Req'd.




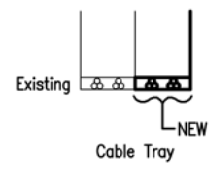
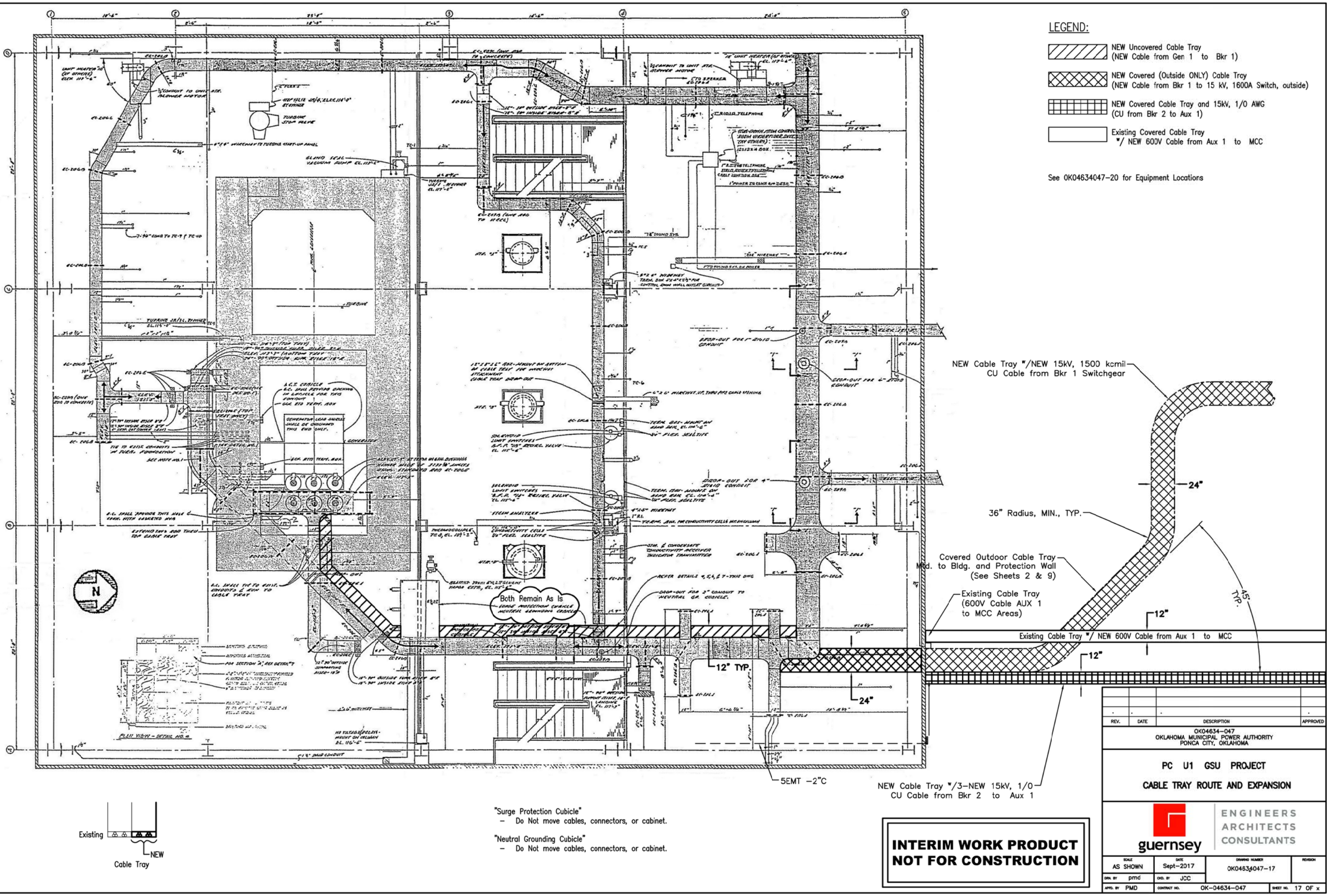
Outlet Section



Oil Containment Detail

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

REV.	DATE	DESCRIPTION	APPROVED
		OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA	
<p>PC U1 GSU PROJECT</p> <p>OIL CONTAINMENT DETAIL</p>			
 <p>guernsey</p>		<p>ENGINEERS ARCHITECTS CONSULTANTS</p>	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-16	REVISION
DRN. BY pmd	CHK. BY JCC		
APPLD. BY PMD	CONTRACT NO. OK-04634-047	SHEET NO. 16	OF 26

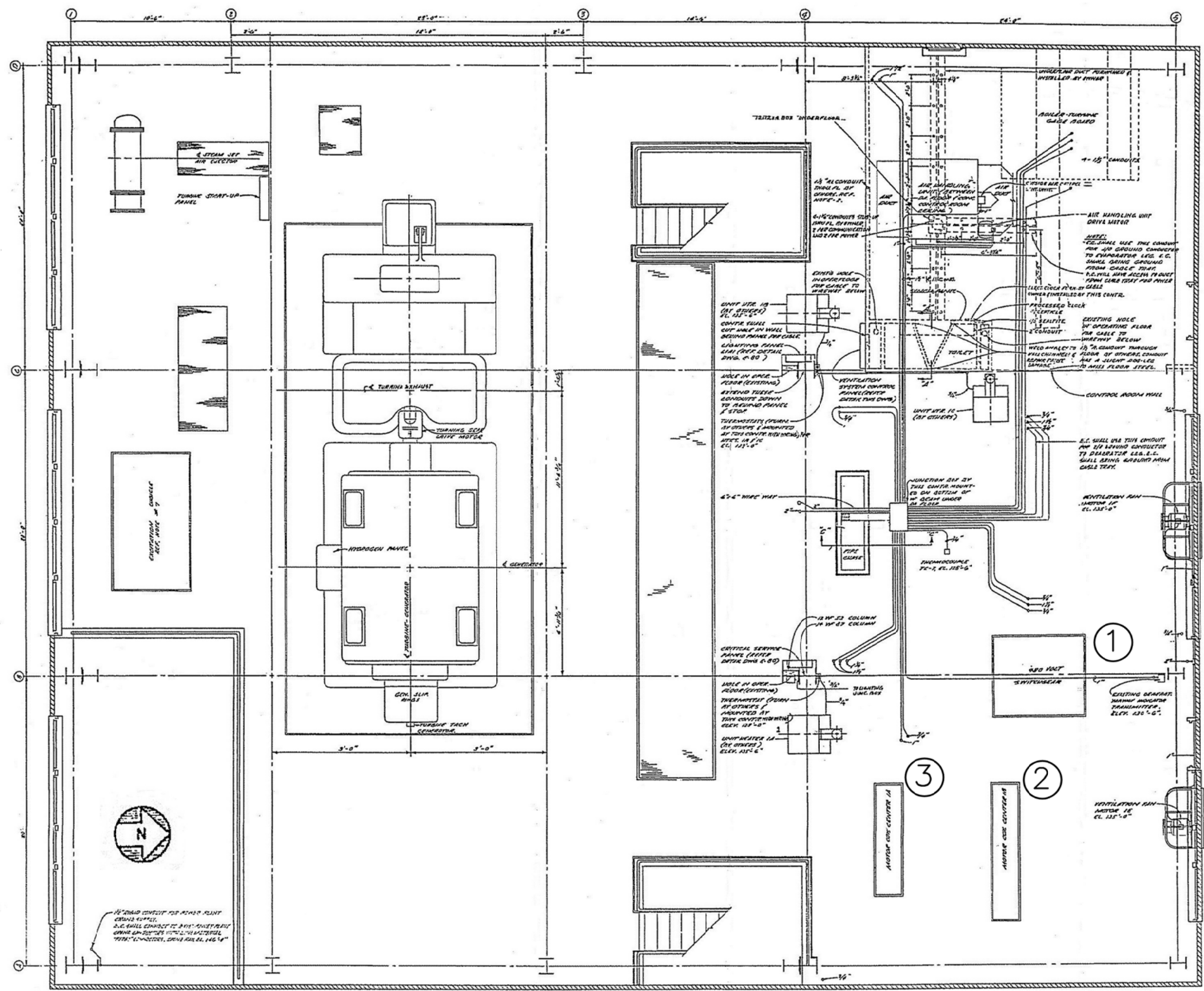


"Surge Protection Cubicle"
- Do Not move cables, connectors, or cabinet.

"Neutral Grounding Cubicle"
- Do Not move cables, connectors, or cabinet.

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**


REV.	DATE	DESCRIPTION	APPROVED
1	09-20-2017	OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY PONCA CITY, OKLAHOMA	
PC U1 GSU PROJECT CABLE TRAY ROUTE AND EXPANSION			
SCALE AS SHOWN	DATE Sept-2017	DRAWING NUMBER OK04634047-17	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 17 OF 21

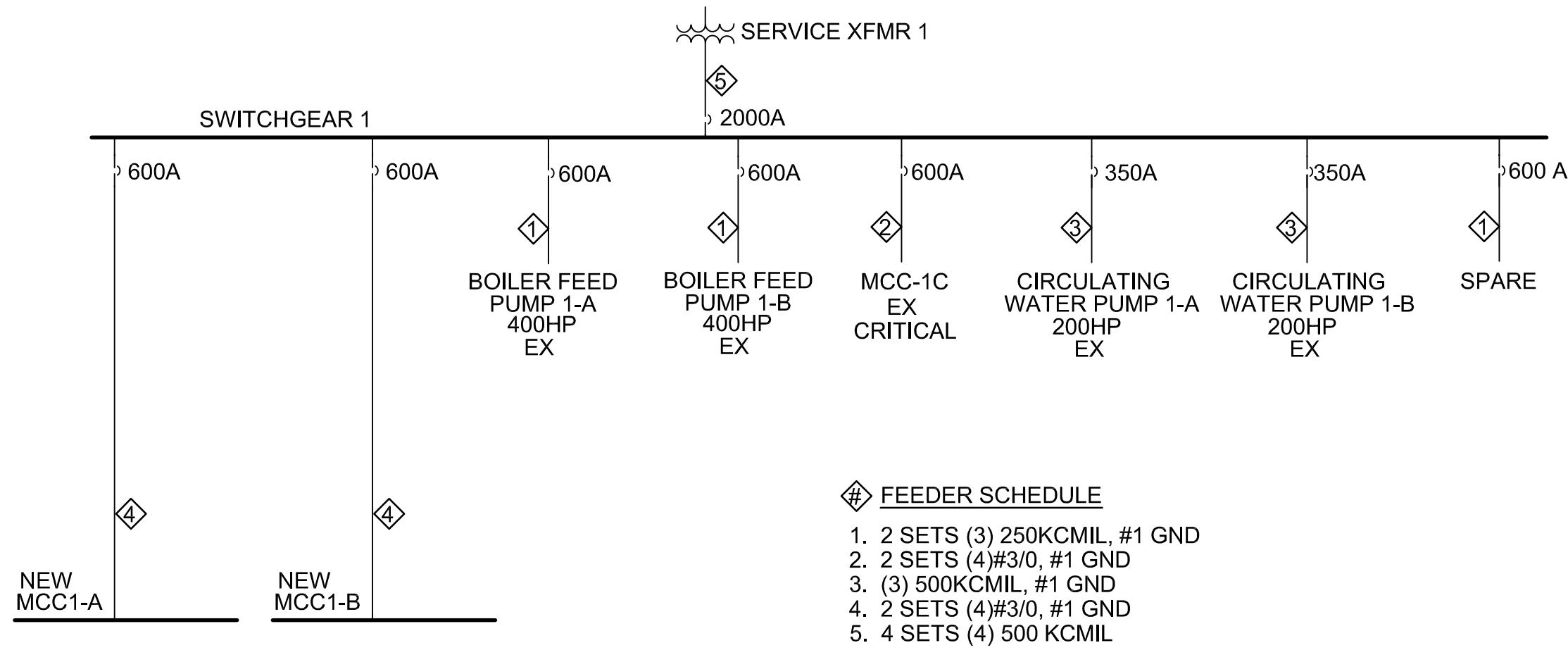


Notes:

1. Coordinate shutdown of system with owner and demo existing 480 V switchgear 1. Retain existing feeders and control wiring to all existing loads and reuse in new 480 V switchgear. Demo existing feeders to MCC-1A and MCC-1B.
2. Demo existing MCC-1A. Retain existing feeders and control for recirculating to new MCC-1. Completely demo pad and patch feeder penetrations as needed. Coordinate with new MV (15 kV) switchgear.
3. Demo existing MCC-1B. Retain existing feeders and control for recirculating to new MCC-1.

INTERIM WORK PRODUCT
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REV.	DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY PONCA CITY, OKLAHOMA			
PC U1 GSU PROJECT DEMO EXISTING MCC-1A, MCC-1B AND SWITCHGEAR			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE AS SHOWN	DATE Sept-2017	DRAWING NUMBER OK04634047-18	REVISION
DRN. BY pmd	CHK. BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 18 OF 21




- GENERAL NOTES:
1. FEEDER SIZES SHOWN ARE FOR THOSE LOADS THAT CAN NOT BE RELOCATED TO THE NEW PANEL. SPLICE EXTENSIONS ON EXISTING FEEDERS AS REQUIRED IN CABLE TRAY BELOW.
 2. FEEDER SIZES SHOWN IN MCC SCHEDULE ARE FOR THOSE LOADS THAT CAN NOT BE RELOCATED TO THE NEW PANEL.
 3. REROUTE ALL CONTROL CABLES FROM EXISTING LOADS IN MCC-1A AND 1B AS WELL AS EXISTING DCS CONTROL AND FEEDBACK CABLES TO NEW GEAR. TEST ALL CABLES AND FEEDERS PER NETA MTS AND REPLACE AS NEEDED.
 4. THE FOLLOWING FEEDERS ARE TO BE REPLACE REGARDLESS OF WHETHER THEY CAN REACH NEW LOCATION.
 - SERVICE TRANSFORMER TO SWITCHBOARD 1.
 - BOTH BOILER FEED PUMPS
 5. TEST ALL FEEDERS AND CONTROL WIRING AND REPLACE IF NECESSARY.
 6. ALL CRITICAL LOADS INCLUDING MCC1-C, AND ALL LISTED LOADS IN MCC1-A, MCC1-B SHALL BE FED FROM TEMPORARY 800A I-LINE PANEL SERVED FROM THE SERVICE TRANSFORMER.

[illegible]

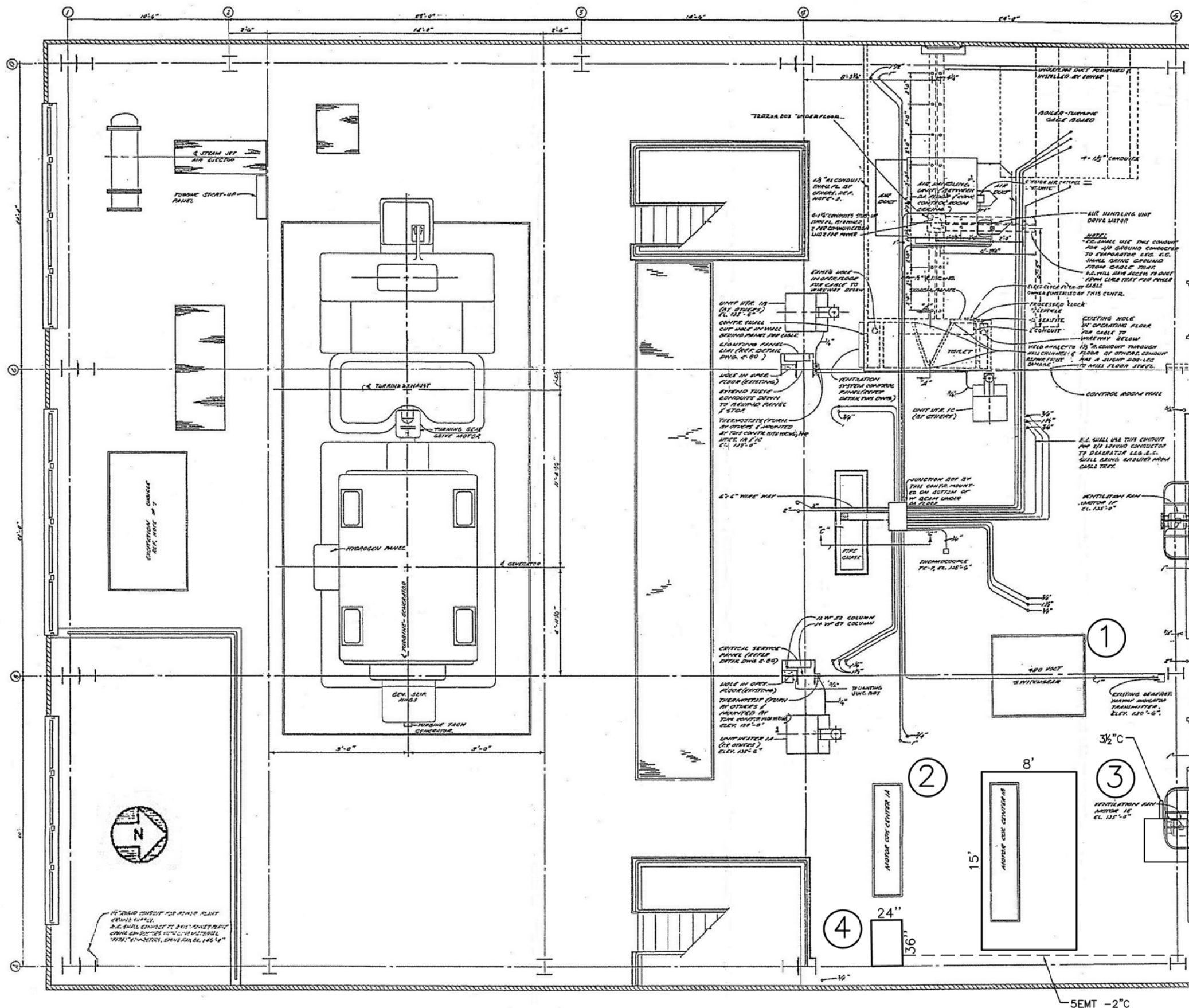
EXISTING BUCKET NO.	DESCRIPTION	SIZE	MOTOR H.P.	C.B. FA.	C.B. TRIP	AUX INT. A	AUX INT. B	TOTAL INT.	DIAGRAM	NAMEPLATE 1ST LINE	NAMEPLATE 2ND LINE	NAMEPLATE 3RD LINE	Feeder Size Per Ø	Critical Load
1A-A1	INC. LINE LUGS							0		INCOMING LINE				
1A-A2	C/B FEEDER		HEF	30				0	P4	ELECTRIC WELDER	SUPPLY BREAKER		1-12	
1A-B1	FVR C/B COMB.	1	1	EF	15	4	4	8	P12	CIRCULATING WATER	VALVE 1A		1-12	
1A-C1	FVNR C/B COMB.	1	10	EF	40	2	1	3	P8	A.C. BEARING &	SEAL OIL PUMP		1-10	
1A-C3	FVNR C/B COMB.	1	5	EF	15	2	2	4	P6	CIRCULATING WATER	BOOSTER PUMP 1A		1-12	
1A-C4	FVNR C/B COMB.	1	3	EF	15	1	2	3	P5	GLAND SEAL	VACUUM PUMP		1-12	
1A-C5	FVNR C/B COMB.	3	40	EF	100	1	3	4	P2	CONDENSATE PUMP 1A			1-4	
1A-D1	FVR C/B COMB.	1	5	EF	15	2	6	8	P12	BLANK			1-12	
1A-D2	C/B FEEDER		HEF	30				0	P4	BLANK			1-12	
1A-D3	C/B FEEDER		HEF	100				0	P4	TURBINE ROOM	CRANE	SUPPLY BREAKER	1-4	C
1A-D4	C/B FEEDER		HEF	100				0	P4	LIGHTING	TRANSFORMER 1A		1-4	C
1A-E1	FVNR C/B COMB.	1	3	EF	15	2	2	4	P10	BLANK			1-12	
**1A-E2	C/B FEEDER		HFK	150				0	P14	BLANK			1-2	
1A-E4	FVNR C/B COMB.	1	7.5	EF	30	2	1	3	P3	VENTILATION FAN 1A			1-12	
1A-E5	FVNR C/B COMB.	1	7.5	EF	30	2	1	3	P3	VENTILATION FAN 1C			1-12	
1A-E6	FVNR C/B COMB.	1	2	EF	15	2	1	3	P3	VENTILATION FAN 1E			1-12	

****RELOCATE AND INSTALL EXISTING KIRK KEY**

EXISTING BUCKET NO.	DESCRIPTION	SIZE	MOTOR H.P.	C.B. FA	C.B. TRIP	AUX. INT. A	AUX. INT. B	TOTAL INT.	DIAGRAM	NAMEPLATE 1ST LINE	NAMEPLATE 2ND LINE	NAMEPLATE 3RD LINE	Feeder Size Per Ø	Critical Loads
1B-B1	FVNR C/B COMB.	1	5	EF	15	2	2	4	P6	CIRCULATING WATER	BOOSTER PUMP 1B		1-12	
1B-B3	FVNR C/B COMB.	3	40	EF	100	1	3	4	P2	CONDENSATE PUMP 1B			1-4	
1B-C1	FVNR C/B COMB.	1	0.5	EF	15	1	2	3	P5	BEARING DRAIN	ENLARGEMENT	VAPOR EXTRACTOR	1-12	
1B-C2	FVNR C/B COMB.	1	1.5	EF	15	2	2	4	P9	TURNING GEAR	DRIVE		1-12	
1B-C3	C/B FEEDER			HEF	50			0	P4	CRITICAL SERVICE	TRANSFORMER		1-10	C
1B-C4	FVR C/B COMB.	1	1	EF	15	4	4	8	P12	CIRCULATING WATER	VALVE 1B		1-12	
1B-C5	FVNR C/B COMB.	3	30	EF	70	2	1	3	P8	AUXILIARY	OIL PUMP		1-8	
1B-D3	C/B FEEDER			HEF	70			0	P4	LIGHTING	TRANSFORMER 1B		1-8	C
1B-D5	FVNR C/B COMB.	1	7.5	EF	30	2	1	3	P3	VENTILATION FAN 1B			1-12	
1B-D6	FVNR C/B COMB.	1	7.5	EF	30	2	1	3	P3	VENTILATION FAN 1D			1-12	
1B-D7	FVNR C/B COMB.	1	2	EF	15	2	1	3	P3	VENTILATION FAN 1F			1-12	
1B-E2	FVNR C/B COMB.	1	0.8	EF	15	1	2	3	P5	OIL TANK	VAPOR EXTRACTOR		1-12	
1B-F5	FVNR C/B COMB.	1	0.3	EF	125	2	2	4	P6	1APC-XFR-1	CNT-HAVC		1-4	

REV.	DATE	DESCRIPTION			APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA					
PC U1 GSU PROJECT 480V MCC AND SWITCHGEAR					
 guernsey			ENGINEERS ARCHITECTS CONSULTANTS		
SCALE NOT to Scale		DATE AUG-17		DRAWING NUMBER OK0463047-19	
DRWL BY TM		CHKD. BY ZK		REVISION	
APPD. BY ZK		CONTRACT NO. OK-04634-047			
				SHEET NO.	19 OF x

**INTERIM WORK PRODUCT
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**INTERIM WORK PRODUCT
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Notes:

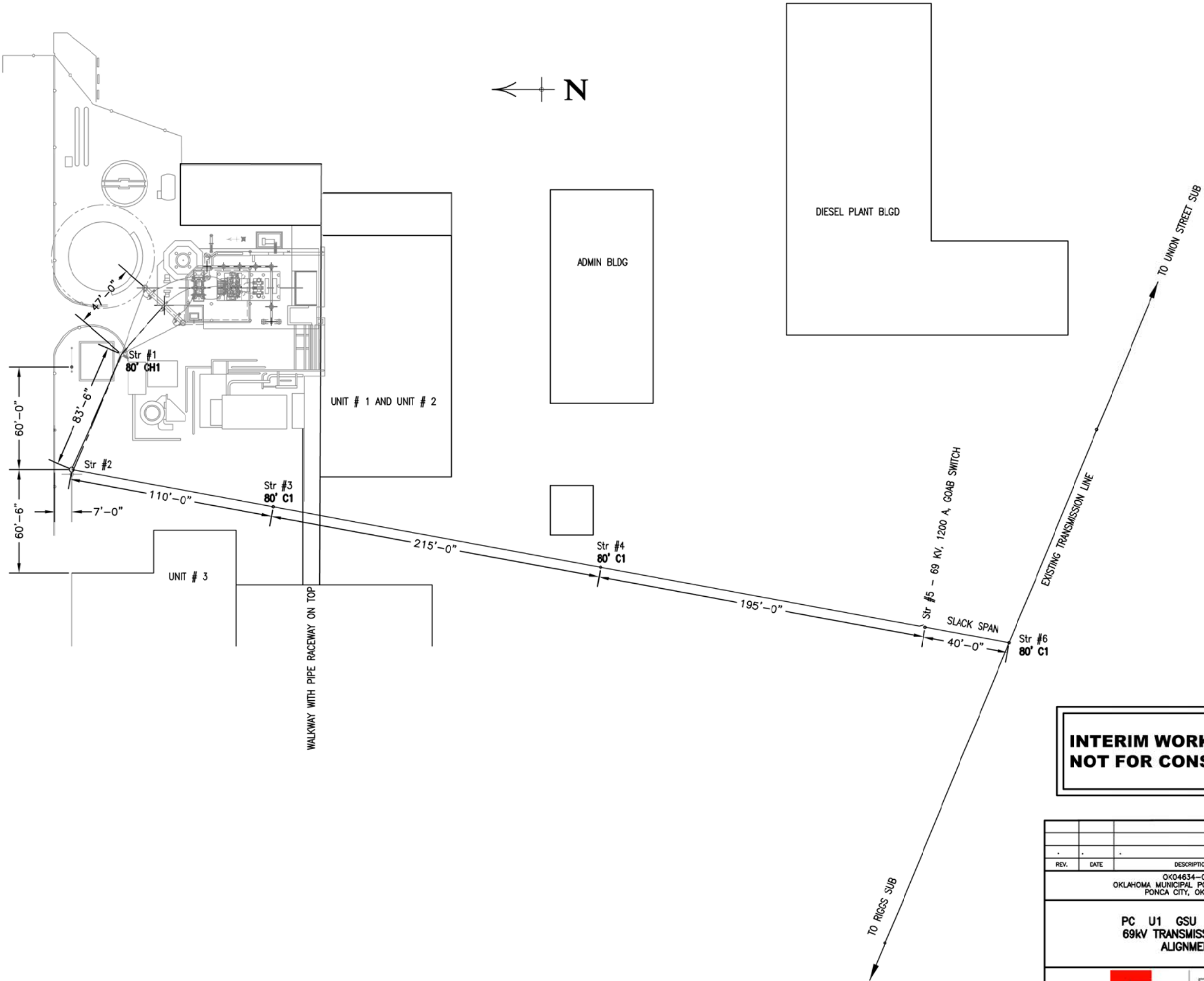
1. Install new 480 V switchgear in same location as existing. Extend Pad as required. Reconnect existing loads to new breakers. If feeders or control wiring will not reach new breakerm splice new feeders at accessible location below.
2. Install new MCC-1 on existing pad. Estend pad as required. Maintain clearance between new MCC-1 and new 15 kV switchgear. Route existing feeders and controls from demolished MCC-1A and MM-1B. If feeders are not long enough to reach new location (former MCC-1B), splice new feeders underfloor in accessible location and extend to MCC-1. If control wiring will not reach new location, provide hinged box underfloor, mounted to deck and terminate existing wiring on fully rated terminal blocks with crimp on ring terminals and extend new wiring from terminal to new location.
3. Install 15 kV switchgear.
4. Install R & C Cabinet (36'w X 24"d). Align front with NEW MCC.

5-EMT Conduits, Attached to Wall, Angled toward 12" Cable Tray, Attached Under Tray


5-2" Condulets

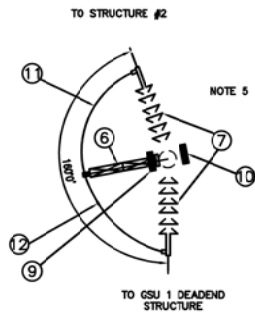
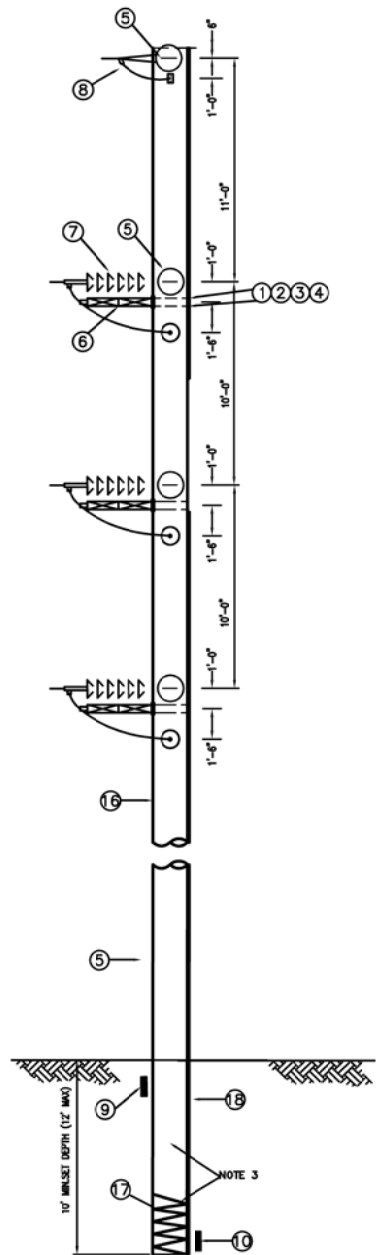
REV.	DATE	DESCRIPTION		APPROVED
		OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY PONCA CITY, OKLAHOMA		
PC U1 GSU PROJECT INSTALL MCC-1, 480V SWITCHGEAR AND R & C CABINET				
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS		
SCALE AS SHOWN		DATE Sept-2017		DRAWING NUMBER OK04634047-20
DRN. BY pmd		CDR. BY JCC		
APPLD. BY PMD		CONTRACT NO. OK-04634-047		
				SHEET NO. 20 OF 20

- Notes
1. Str #1 - 80' CH1 WOOD POLE. RAKE POLE 2.0' TO NE IN-LINE WITH CONDUCTOR SUPPORT STANDOFF INSULATORS. (See OK04634047-22)
 2. STR #2 - 70' SELF SUPPORTING STEEL AND FOUNDATION. (See OK04634047-13 & OK04634047-23)
 3. STR #3 - 80' C1 WOOD POLE. PLACE INSULATORS ON EAST SIDE OF POLE. RAKE POLE 1.5' TO NW. (See OK04634047-24)
 4. STR #4 - 80' C1 WOOD POLE. PLACE INSULATORS ON EAST SIDE OF POLE. RAKE POLE 1.5' TO NW. (See OK04634047-24)
 5. STR #5 - 70' SELF SUPPORTING STEEL AND FOUNDATION. ONE-WAY 69KV, 600A SWITCH ON EASTSIDE OF POLE. (See OK04634047-13 & OK04634047-23)
 6. STR #6 - REPLACE EXISTING POLE WITH 80' C1 WOOD POLE. (See OK04634047-22)
 7. DISTANCES SHOWN FROM CENTERLINE TO BUILDING STRUCTURES
 8. ALL LINE STRUCTURES WERE FIELD STAKED AUGUST 4, 2017
 9. SEE OK04634047-03 FOR SUBSTATION DEADEND STRUCTURE AND ITS ORIENTATION
 10. TANGENT STRUCTURES INSULATORS TO POINT ESE i.e. PERPENDICULAR TO CENTER LINE ON EAST SIDE OF WOODEN POLES
 11. SEE SAG AND TENSION CHARTS IN CONSTRUCTION DOCUMENT FOR BOTH 795 KCMIL (26/7) ACSR CONDUCTOR AND 3/8" EHS (7) SHIELD WIRE
 12. RULING SPAN IS 190'



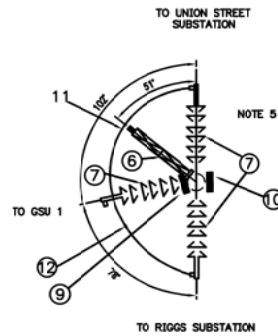
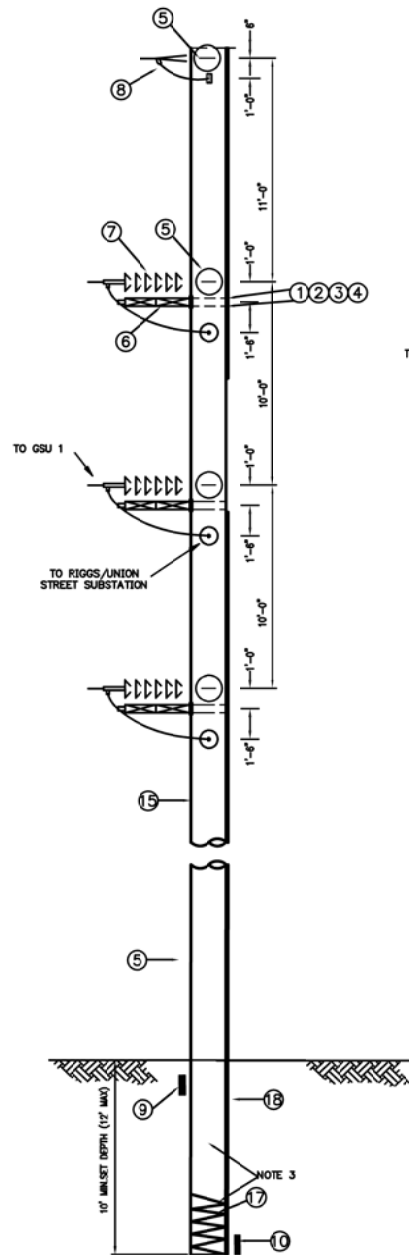
**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

REV.	DATE	DESCRIPTION	APPROVED
		OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY PONCA CITY, OKLAHOMA	
PC U1 GSU PROJECT 69KV TRANSMISSION LINE ALIGNMENT			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE AS SHOWN	DATE Sept-2017	DRAWING NUMBER OK04634047-21	REVISION
DRAWN BY pmd	CHECKED BY JCC	APPROVED BY PMD	CONTRACT NO. OK-04634-047
SHEET NO. 21 OF 21			



PLAN VIEW
STRUCTURE #1

STRUCTURE #1
69 KV WOOD DEADEND ANGLE POLE
TWO-WAY



PLAN VIEW
STRUCTURE #6

STRUCTURE #6
69 KV WOOD DEADEND ANGLE POLE
THREE-WAY

STRUCTURE #1 AND #6

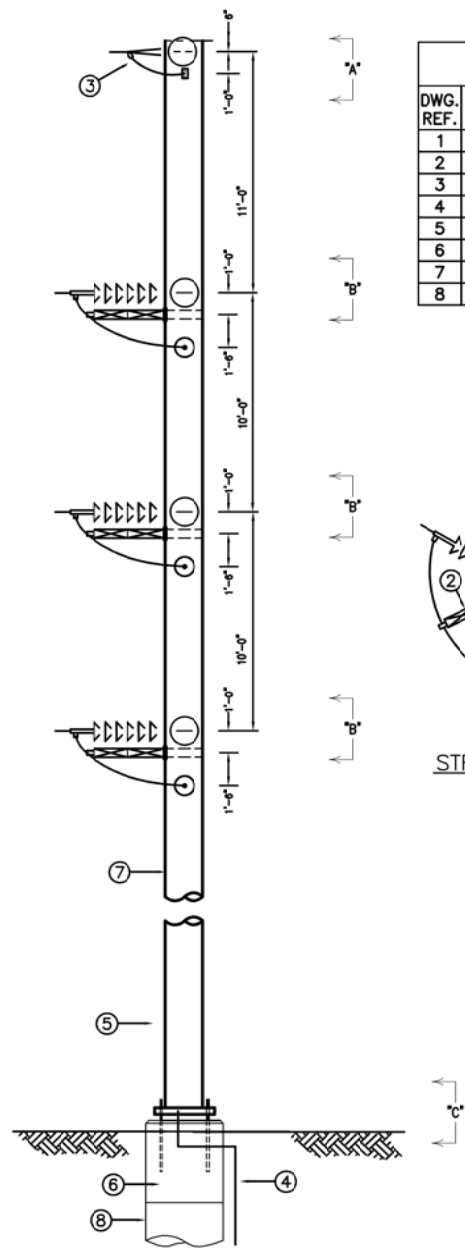
			LIST OF MATERIALS	
DWG. REF.	STR. #1 QTY.	STR. #6 QTY.	DESCRIPTION	DETAIL
1	6	6	3/4" BOLT, MACHINE, BY REQ'D LENGTH	
2	6	6	WASHER, CURVED, 4" SQ, X 1/4", 13/16" HOLE	
3	6	6	WASHER, SPRINGT, 13/16" HOLE	
4	6	6	3/4" LOCKNUT, MF TYPE	
5	1	1	STRUCTURE NUMBER	TM-60
6	3	3	INSULATOR, HORIZONTAL POST, W/CLAMP	TM-3
7	6	9	INSULATOR ASSEMBLY, DEADEND	TM-1
8	2	3	OHGW ASSEMBLY, DEADEND	TM-4
9	1	1	WOOD POLE KEY	PK-1
10	1	1	STEEL POLE KEY	PK-1
11	—	—	CONDUCTOR, 795 ACSR (26/7) DRAKE	
12	3	—	CONDUCTOR CLAMP, 795 ACSR TO 795 ACSR	
13	—	—	CONDUCTOR, 795 AAC ARBUTUS	
14	—	6	CONDUCTOR CLAMP, 795 ACSR TO 795 AAC	
15	1	1	POLE, WOOD, 80' CLASS 1	
16	1	1	POLE, WOOD, 80' CLASS H1	
17	1	1	POLE GROUND and BUTT WRAP	TM-9A
18	1	1	POLE BACKFILL	TM-101

NOTES:

- METAL SHIMS SHOULD BE USED TO ADJUST POST INSULATORS WHEN BRACKETS ARE LOCATED ON UNEVEN POLE SURFACES.
- DRAWING TE-1 GIVES GUIDANCE TO SUBASSEMBLY ALTERNATIVES.
- THE FOLLOWING MATERIALS ARE TO BE SPECIFIED ON PLAN DRAWINGS: POLES, POLE GROUNDING ASSEMBLY, AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.
- STRUCTURE 6 WOOD POLE KEY IS TO FACE SUPPORT INSULATOR.
- STRUCTURE 1 WOOD POLE KEY IS TO FACE SUPPORT INSULATOR.
- "WOODEN" POLE KEY MAYBE CONCRETE OF SAME DEMINSIONS AS WOOD, EITHER ARE BURIED MINIMUM 20".
- "STEEL" POLE KEY SHALL BE EXPANDED AT BUTT OF POLE TO FULL 270 SQ. IN. STEEL KEY SHALL BE CHANCE P4817 OR ENGINEERED APPROVED WQUAL.

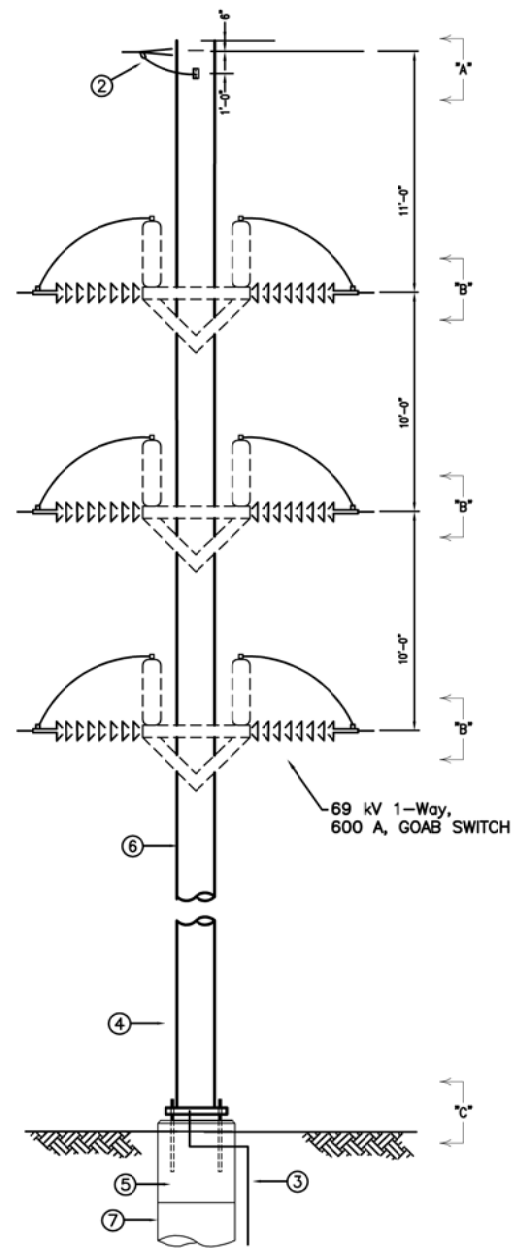
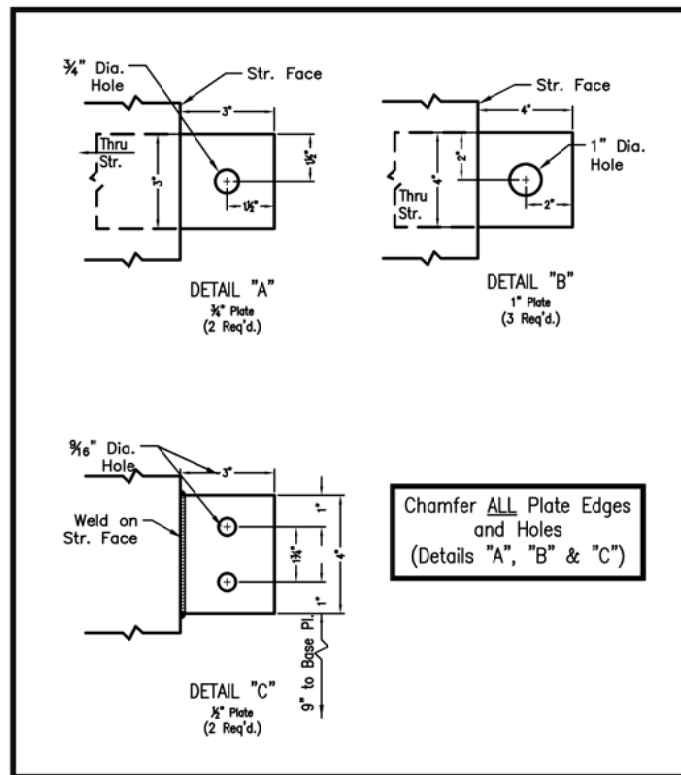
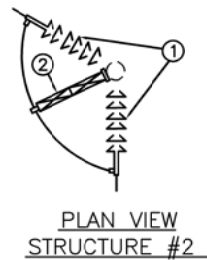
INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PC U1 GSU PROJECT TRANSMISSION LINE - STRUCTURES 1 & 6			
		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-22	REVISION
DRAWN BY pmd	CHECKED BY JCC	APPROVED BY PMD	CONTRACT NO. OK-04634-047
SHEET NO. 22 OF 22			



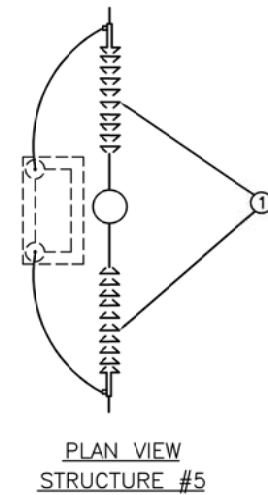
STRUCTURE #2
69 KV STEEL DEADEND ANGLE POLE

DWG. REF.	QTY.	DESCRIPTION	DETAIL
1	6	INSULATOR ASSEMBLY, DEADEND	TM-1
2	3	INSULATOR, HORIZONTAL POST, WITH CLAMP	TM-3
3	2	OHGW ASSEMBLY, DEADEND	TM-4
4	2	POLE GROUNDING, STEEL	TM-9S
5	1	STRUCTURE NUMBER	TM-60
6	1	ANCHOR BOLT CAGE	SEE MFR. DWG.
7	1	70' STEEL DEADEND POLE	SEE MFR. DWG.
8	1	FOUNDATION	SEE OK04634047-13



STRUCTURE #5
69 KV STEEL DEADEND SWITCH POLE

DWG. REF.	QTY.	DESCRIPTION	DETAIL
1	6	INSULATOR ASSEMBLY, DEADEND	TM-1
2	2	OHGW ASSEMBLY, DEADEND	TM-4
3	2	POLE GROUNDING, STEEL	TM-9S
4	1	STRUCTURE NUMBER	TM-60
5	1	ANCHOR BOLT CAGE	SEE MFR. DWG.
6	1	70' STEEL DEADEND POLE	SEE MFR. DWG.
7	1	FOUNDATION	SEE OK04634047-13




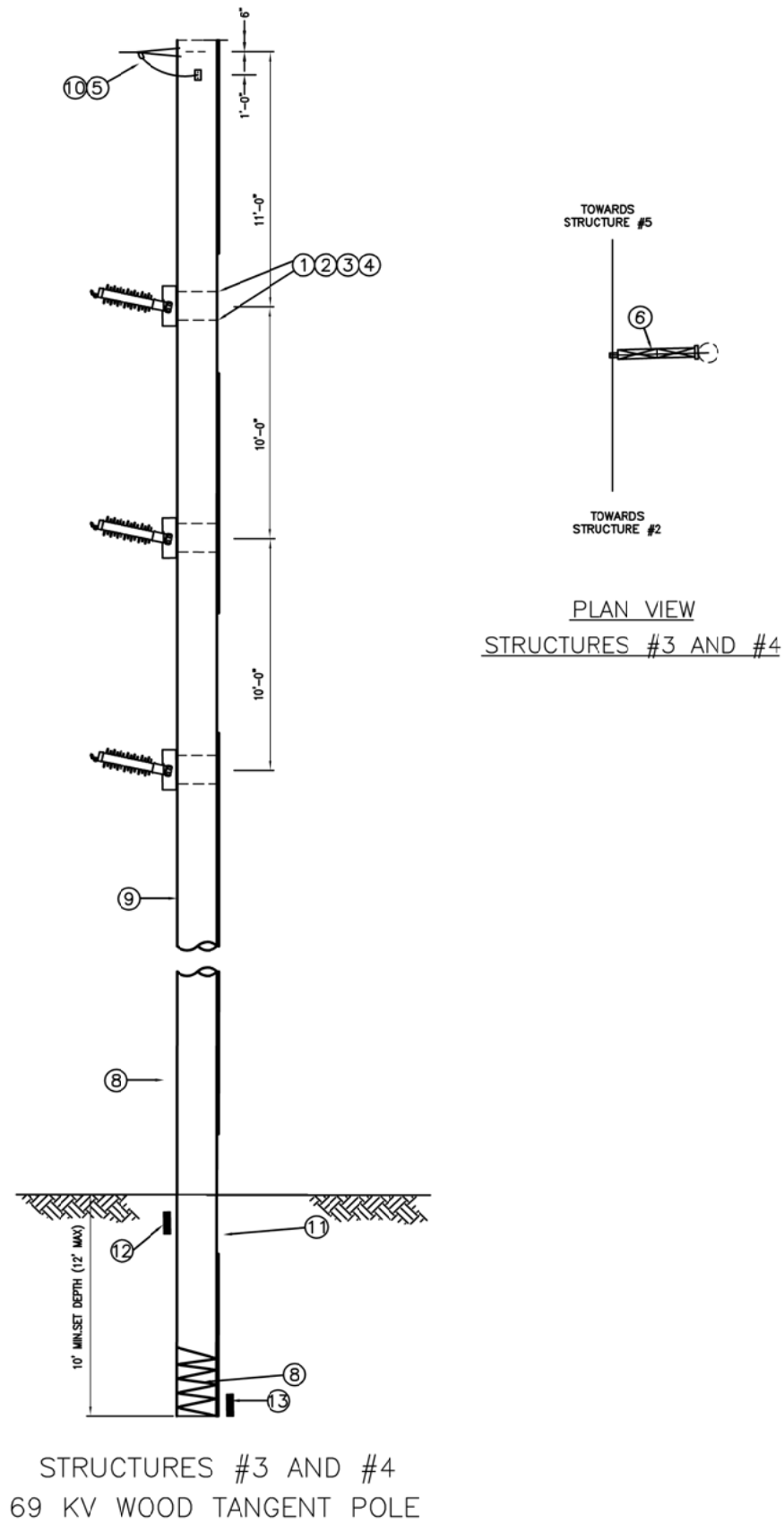
STRUCTURE #2 AND #5

NOTES (STRUCTURES #2 AND #5):

- For this project, all assemblies will be mounted on STEEL poles.
- Metal shims should be used to adjust post insulators when brackets are located on uneven pole surfaces.

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

REV.	DATE	DESCRIPTION	APPROVED
1	09/11/2017	OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA	
PC U1 GSU PROJECT TRANSMISSION LINE - STRUCTURES 2 & 5			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-23	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 23 OF 24



LIST OF MATERIALS				
DWG. REF.	STR.#3 QTY.	STR.#4 QTY.	DESCRIPTION	DETAIL
1	6	6	3/4" BOLT, MACHINE, BY REQ'D LENGTH	
2	6	6	WASHER, CURVED, 4" SQ, X 1/4", 13/16" HOLE	
3	6	6	WASHER, SPRING, 13/16" HOLE	
4	6	6	3/4" LOCKNUT, MF TYPE	
5	1	1	OHGW ASSEMBLY	TM-4T
6	3	3	INSULATOR, HORIZONTAL POST, W/CLAMP	TM-3
7	1	1	POLE GROUND AND BUTT WRAP	TM-9
8	3	3	STRUCTURE NUMBER	TM-60
9	1	1	POLE, WOOD, 80' CLASS 1	
10	1	1	DOUBLE BOLT	TM-6
11	1	1	POLE BACKFILL	TM-101
12	1	1	WOOD POLE KEY	PK-1
10	1	1	STEEL POLE KEY	PK-1

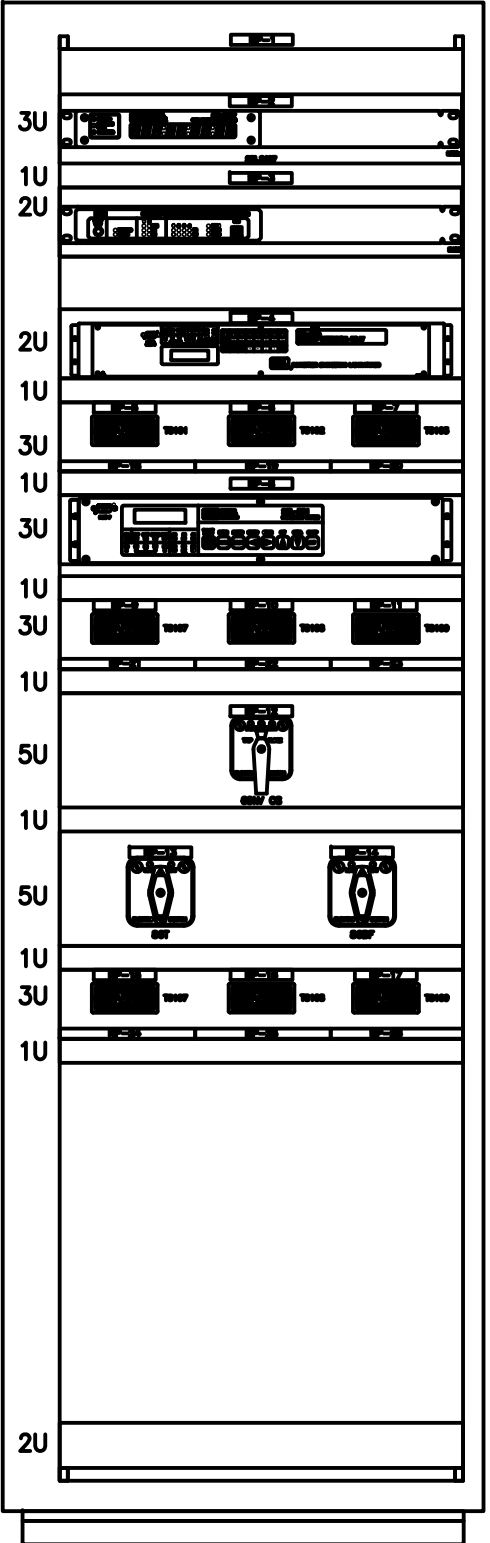
NOTES:
1. Metal shims should be used to adjust post insulators when brackets are located on uneven pole surfaces.

STRUCTURE #3 AND #4

INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION

REV.		DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA				
PC U1 GSU PROJECT TRANSMISSION LINE - STRUCTURES 3 & 4				
guernsey		ENGINEERS ARCHITECTS CONSULTANTS		
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-24	REVISION	
DRAWN BY pmd	CHECKED BY JCC	APPROVED BY PMD	CONTRACT NO. OK-04634-047	SHEET NO. 24 OF 24

PANEL LAYOUT
RELAY CABINET-GSU1



- UNIT 1 GSU
TRANSFORMER PROTECTION
PANEL
- NP-1
 - NP-2
 - NP-3
 - NP-4
 - NP-5
 - NP-6
 - NP-7
 - NP-8
 - NP-9
 - NP-10
 - NP-11
 - NP-12
 - NP-13
 - NP-14
 - NP-15
 - NP-16
 - NP-17

- NP-18
- NP-19
- NP-20
- NP-21
- NP-22
- NP-23
- NP-24
- NP-25
- NP-26

NOTE:

NAME PLATE
DETAIL

USE SMALL 4-40 SCREWS TO ATTACH
ALL NAME PLATES TO PANELS.
DRILL AND TAP HOLES IN PANELS

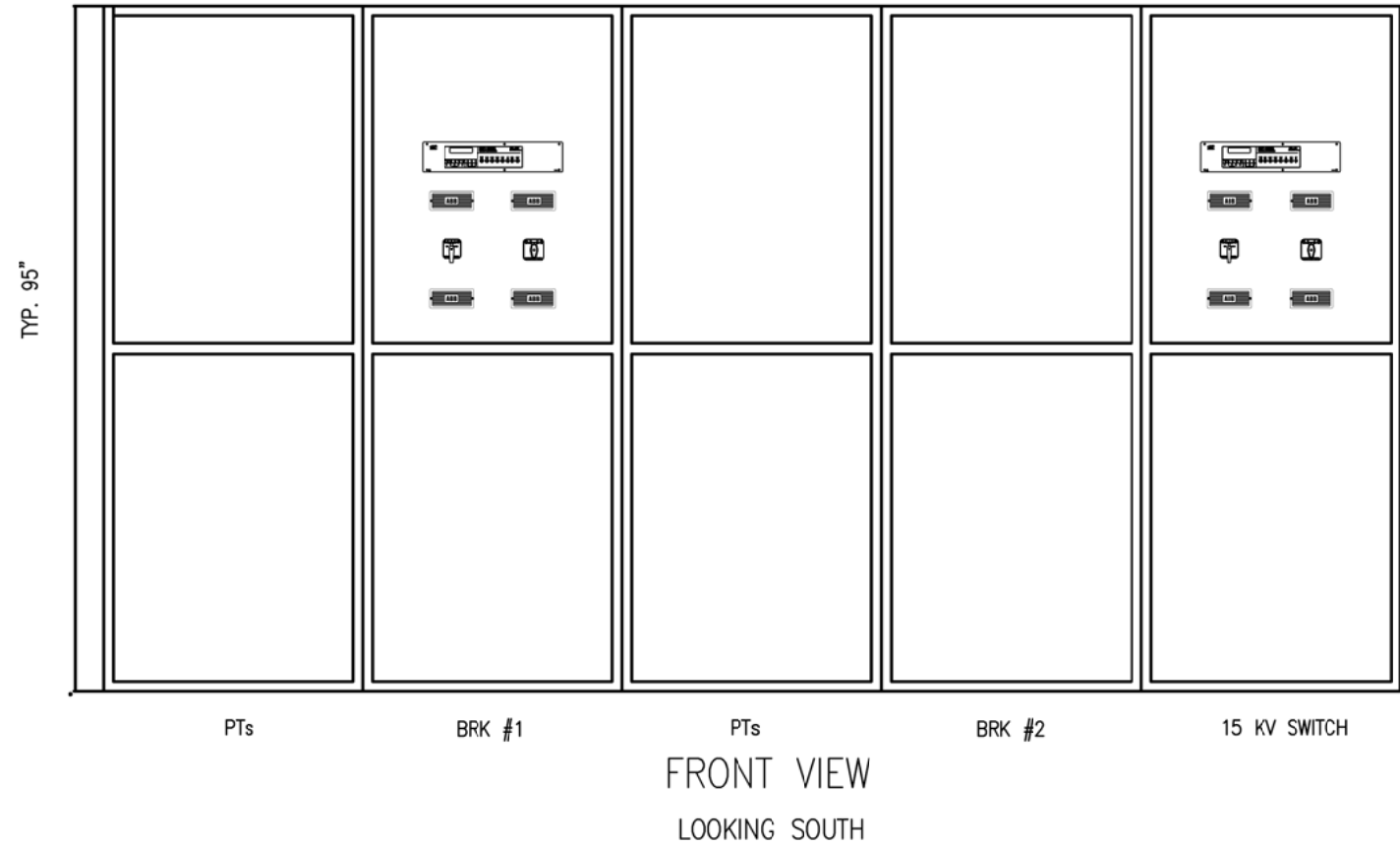
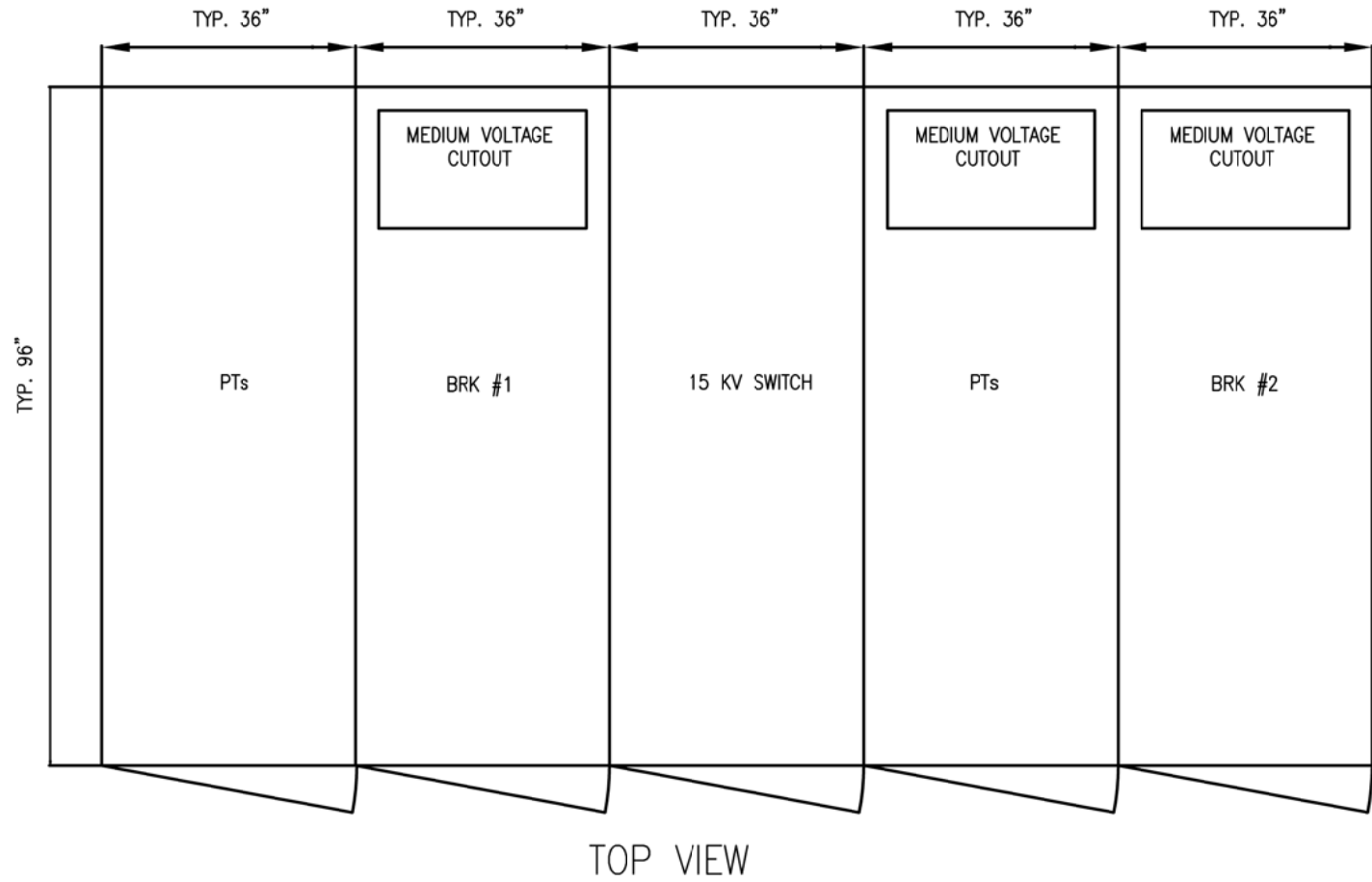
NAME PLATE SIZES: 1- LARGE SIZE: 2"x5"
2- LONG SIZE: 7/8"x6"
3- SMALL SIZE: 7/8"x3"

LETTERING SIZES: 1- LARGE SIZE: 1/4"
2- SMALL SIZE: 1/8"


RACK HIGH :: 1U = 1.79"
RACK WIDE :: 17.56"

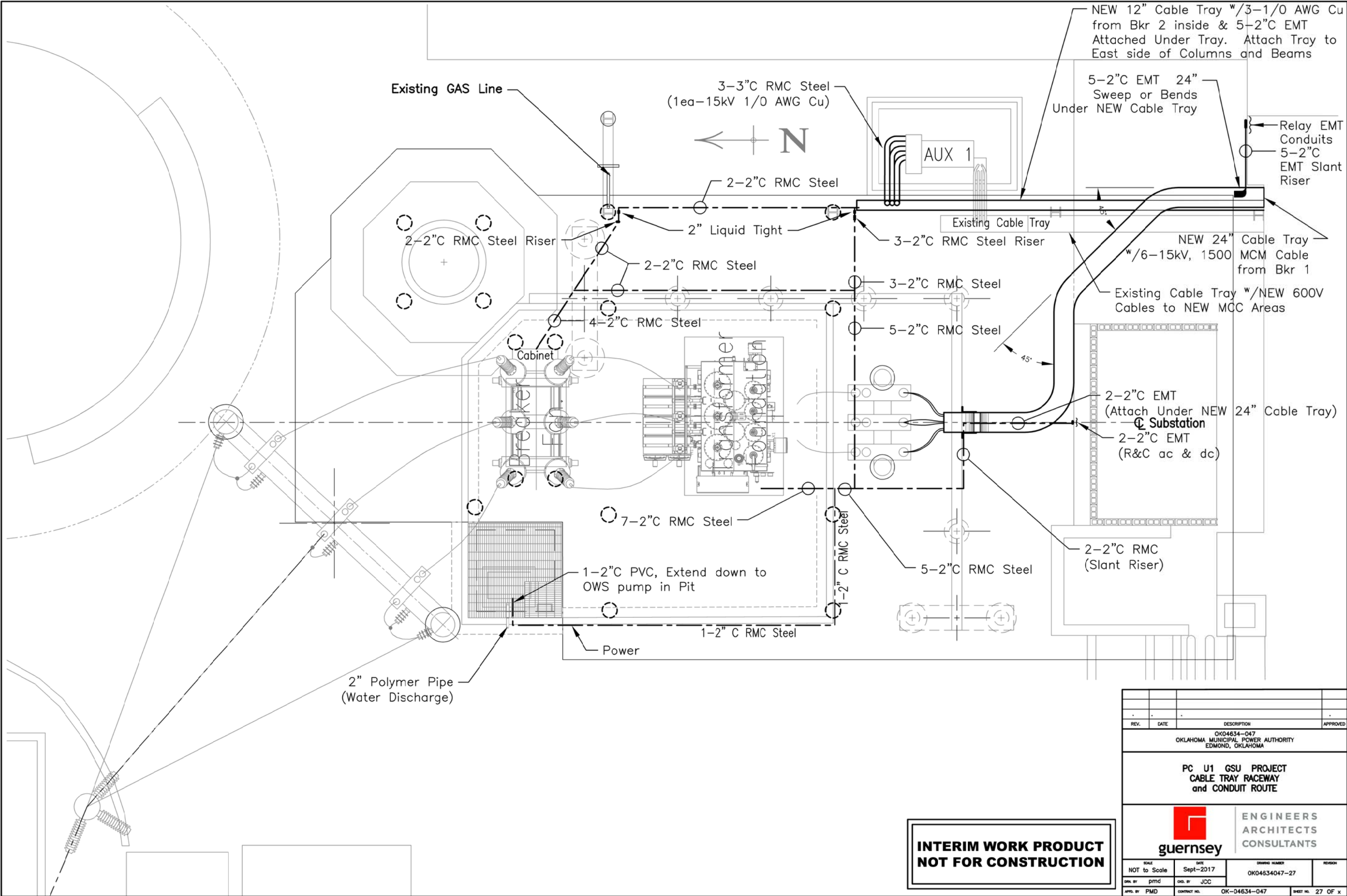
PRELIMINARY

REV.	DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PONCA CITY UNIT 1 GSU PROJECT GSU RELAY CABINET PANEL LAYOUT			
		ENGINEERS ARCHITECTS CONSULTANTS	
DATE N.T.S.	DATE AUG-17	OK04634047-25	
DES. BY P.J.F.	CHK. BY P.J.F.	APP. BY P.M.D.	
PROJECT NO. OK04634-047		SHEET NO. 25 OF 28	




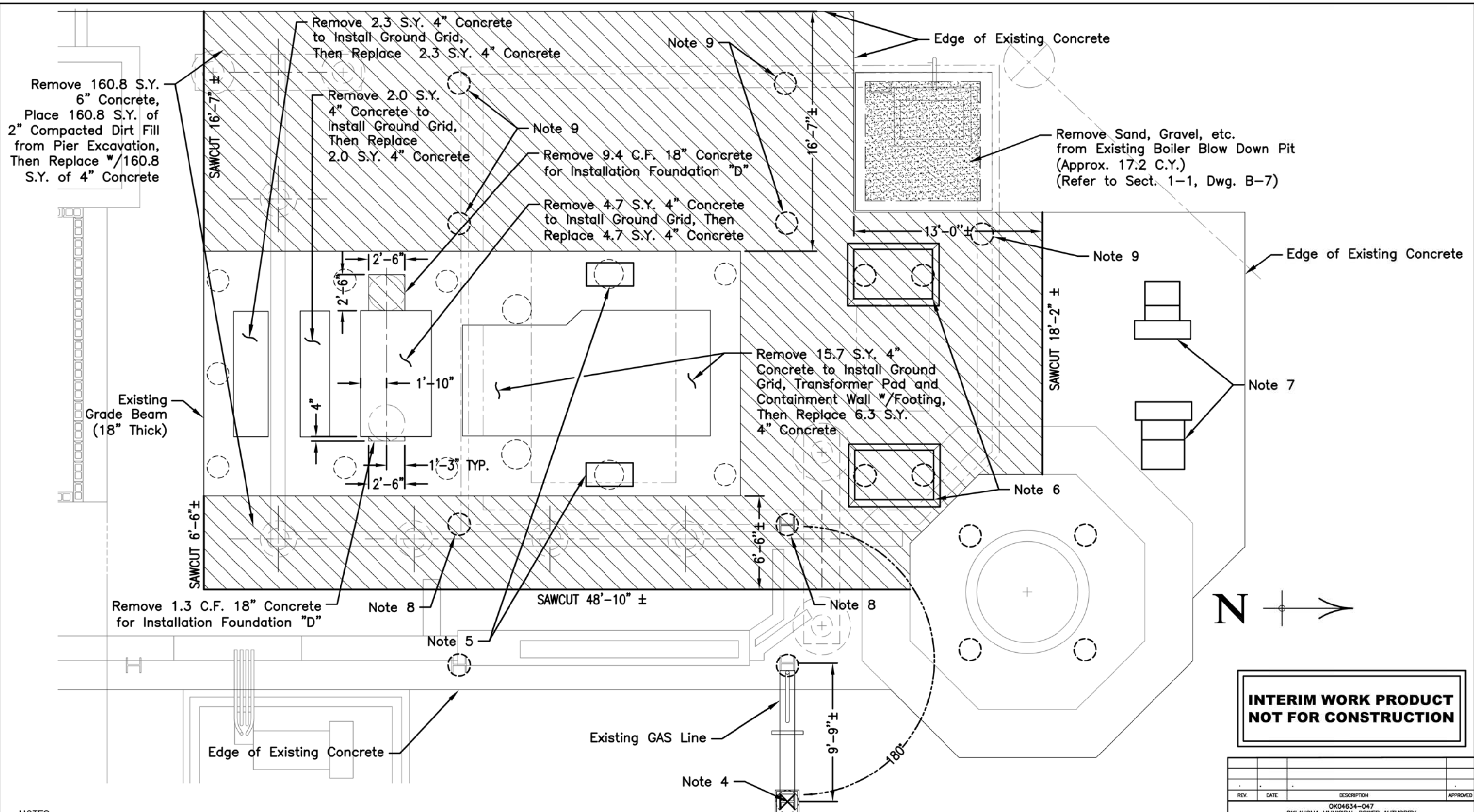
**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

REV.	DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PC U1 GSU PROJECT 15 KV SWITCHGEAR LAYOUT			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-26	REVISION
DRAWN BY pmd	CHECKED BY JCC	APPROVED BY PMD	CONTRACT NO. OK-04634-047
		SHEET NO. 26 OF 31	



**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

REV.	DATE	DESCRIPTION	APPROVED
OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA			
PC U1 GSU PROJECT CABLE TRAY RACEWAY and CONDUIT ROUTE			
 guernsey		ENGINEERS ARCHITECTS CONSULTANTS	
SCALE NOT to Scale	DATE Sept-2017	DRAWING NUMBER OK04634047-27	REVISION
DRAWN BY pmd	CHECKED BY JCC	CONTRACT NO. OK-04634-047	SHEET NO. 27 OF 31




NOTES:

1. Do NOT damage or remove the "Boiler Blow Down Pit".
2. Remove all surface concrete to a depth of 12" minimum.
3. Do NOT damage existing grounding conductor. It is to remain as undisturbed as possible, for re-use.
4. Existing column and support beam to be removed, then, reset with Foundation "G" (OK04634047-13) 180' from present location.
5. Remove existing concrete support structure to flush with existing Grade Beam. Cut off reinforcing steel that extends from grade beam to flush with grade beam. Refer to Section 7-7, Drawing B-7.

NOTES . . . Continued:

6. Remove existing concrete support structure to top of underlying pier (6" below grade). Cut off reinforcing steel that extends above grade from remaining underground structure. Refer to Section 8-8, Drawing B-7.
7. Remove above ground portions of existing concrete support structure. Cut off reinforcing steel that extends from pier into support structure. Refer to Section 10-10, Drawing B-7.
8. Remove upper portion of existing pier to clear Protection Wall construction. Refer to Typ. Pier Detail, Drawing B-7.
9. Remove upper 6" of existing pier. Refer to Typ. Pier Detail, Drawing B-7.

**INTERIM WORK PRODUCT
NOT FOR CONSTRUCTION**

REV.	DATE	DESCRIPTION						APPROVED	
<p style="text-align: center;">OK04634-047 OKLAHOMA MUNICIPAL POWER AUTHORITY EDMOND, OKLAHOMA</p>									
<p>PC U1 GSU PROJECT EXISTING CONCRETE REMOVAL SUBSTATION AREA</p>									
 guernsey					ENGINEERS ARCHITECTS CONSULTANTS				
SCALE NOT to Scale		DATE Sept-2017		DRAWING NUMBER OK04634047-2B				REVISION	
DRN. BY pmd		CHG. BY JCC							
APPLD. BY PMD		CONTRACT NO.		OK-04634-047				SHEET NO. 2B OF 2	