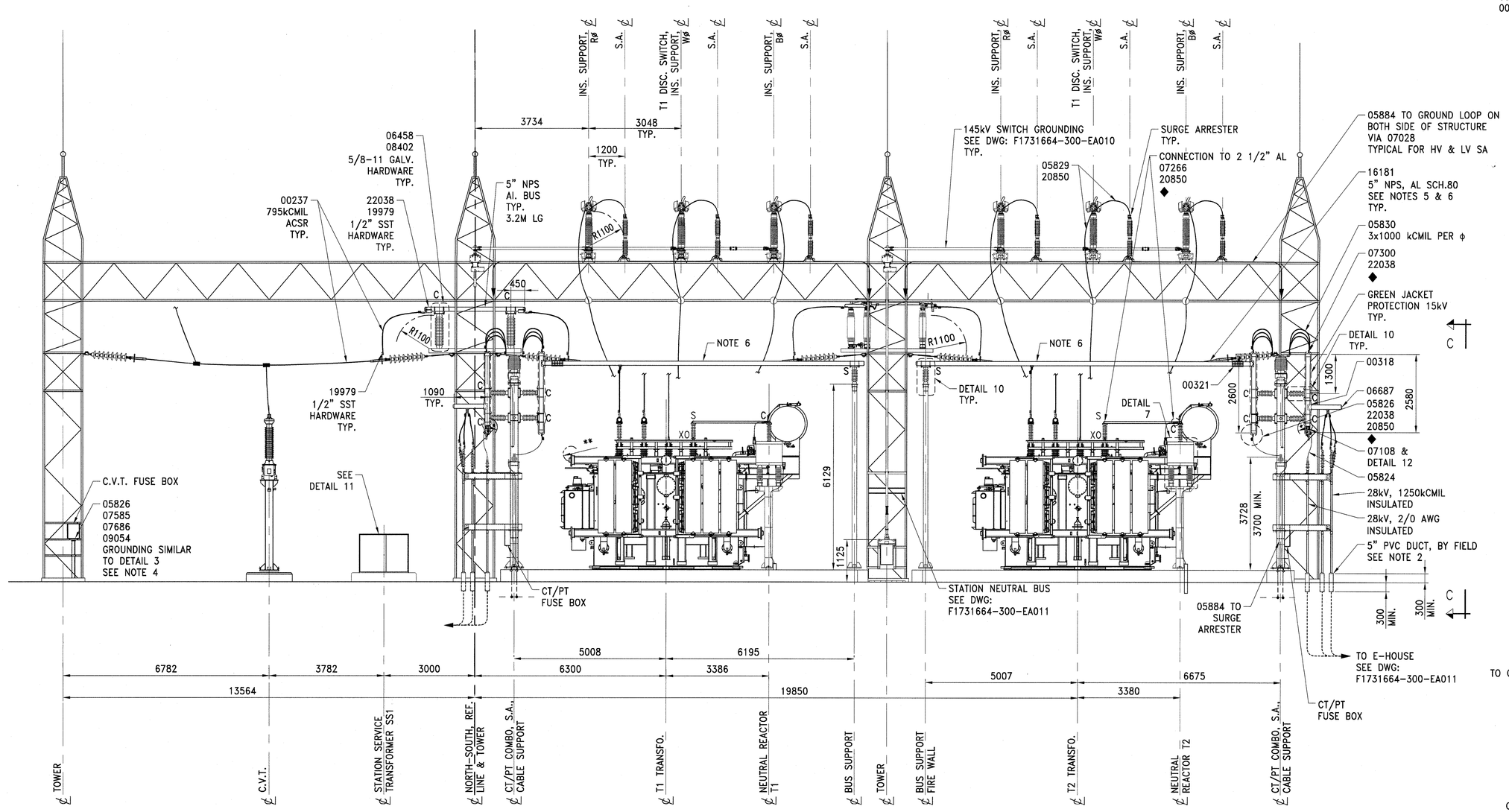
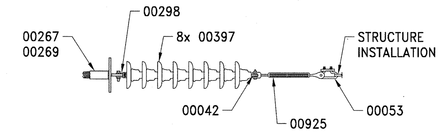


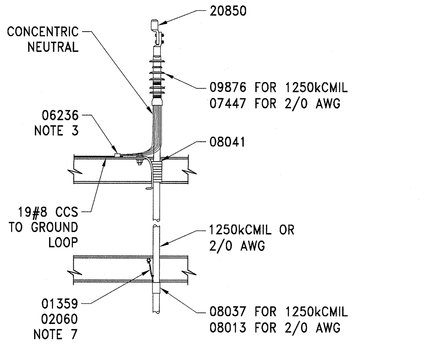
ELEVATION A–A

DWG: F1731664-300-EA001



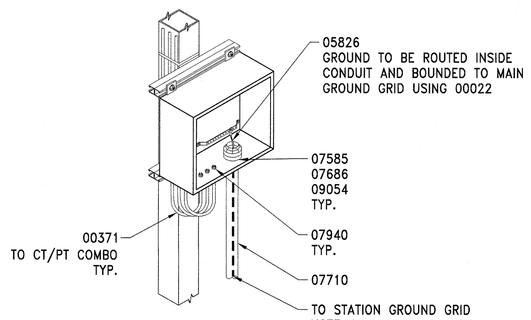
DETAIL 1

N.T.S.



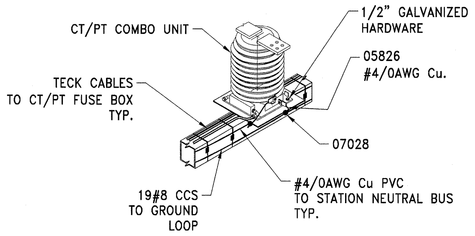
DETAIL 2

N.T.S.



DETAIL 3

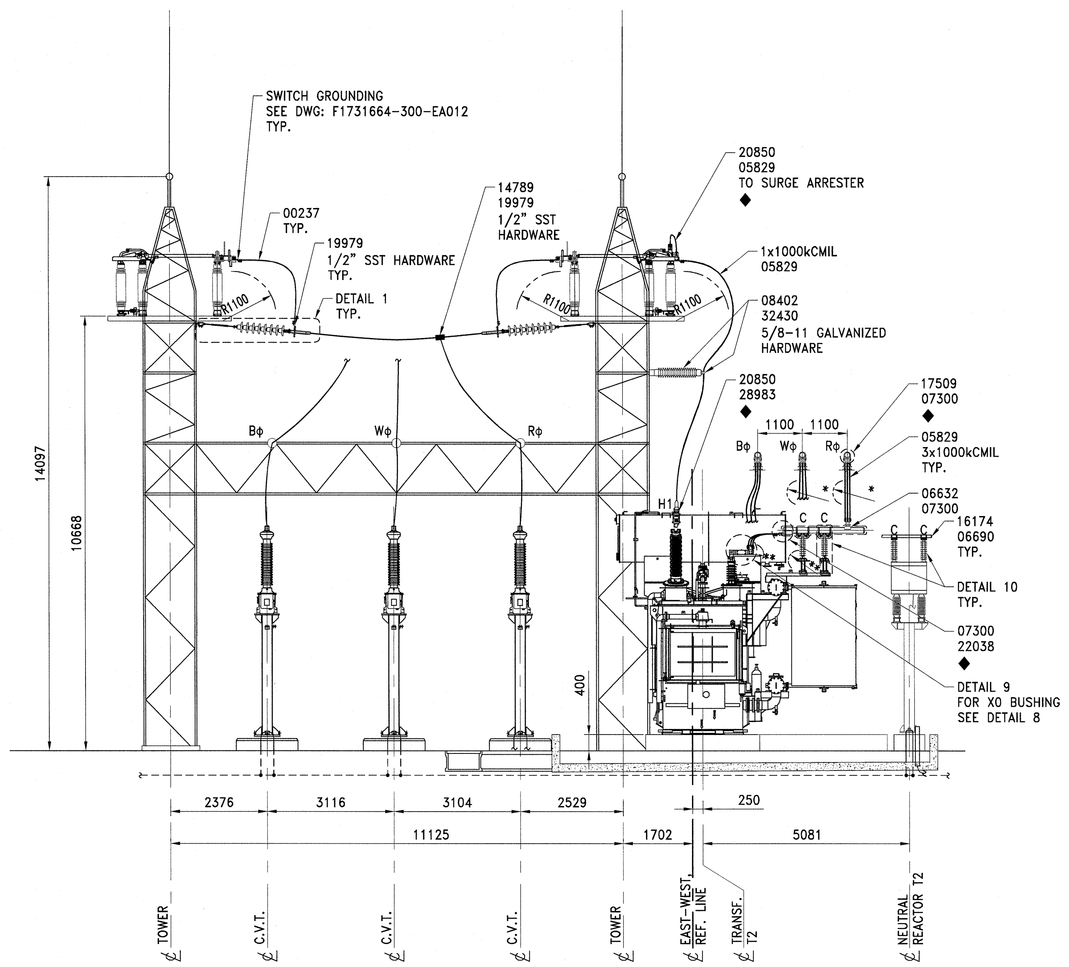
N.T.S.



DETAIL 6

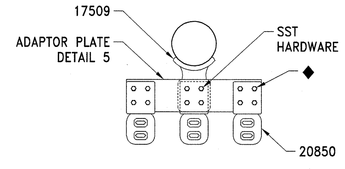
TYPICAL CT/PT COMBO UNIT INSTALLATION. REMOVE GROUND STRAP.
N.T.S.

BIL	NOMINAL VOLTAGE	MINIMUM STRIKING DISTANCE PH TO GRD	MINIMUM STRIKING DISTANCE PH TO PH
110	15kV	250mm (**)	300mm (*)
550	115kV	1100mm	1300mm



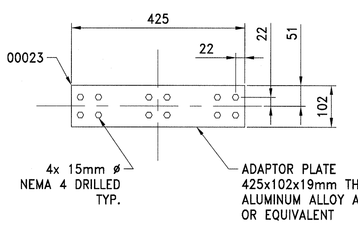
ELEVATION B–B

DWG: F1731664-300-EA001



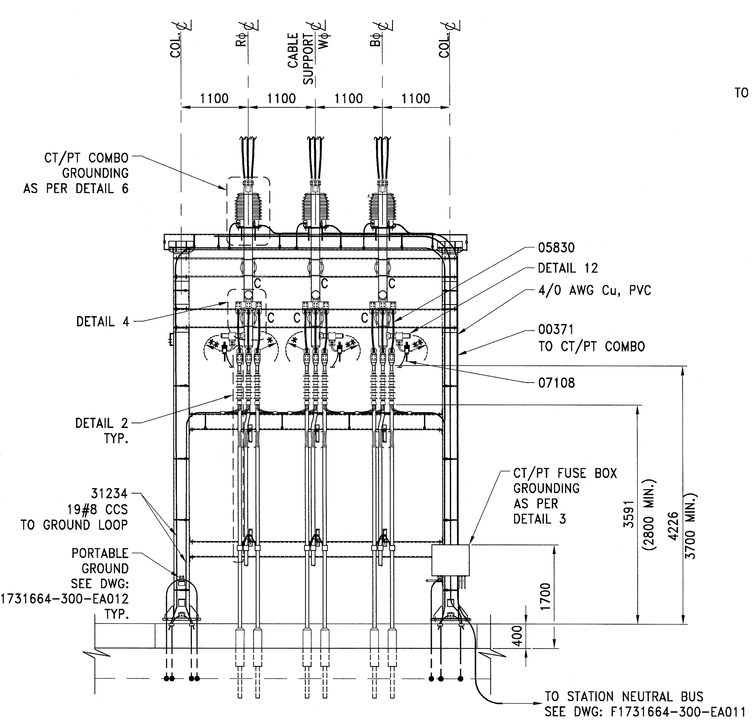
DETAIL 4

N.T.S.



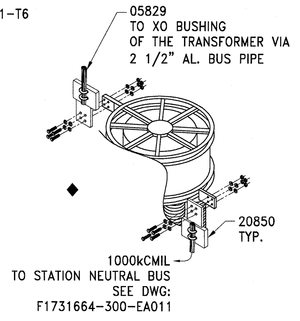
DETAIL 5

ADAPTOR PLATE.
SCALE: 1:10



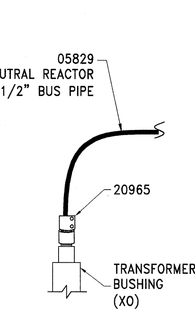
ELEVATION C–C

SCALE: 1:50



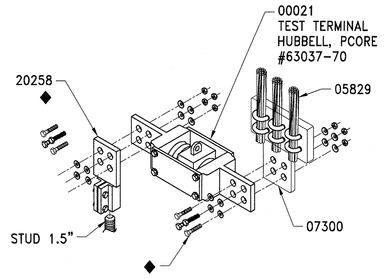
DETAIL 7

N.T.S.



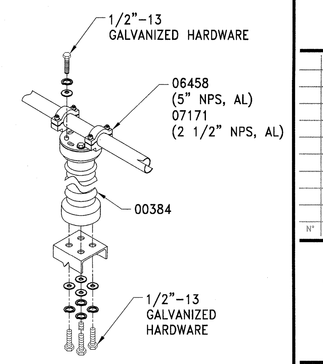
DETAIL 8

CONNECTION TO XO BUSHING
N.T.S

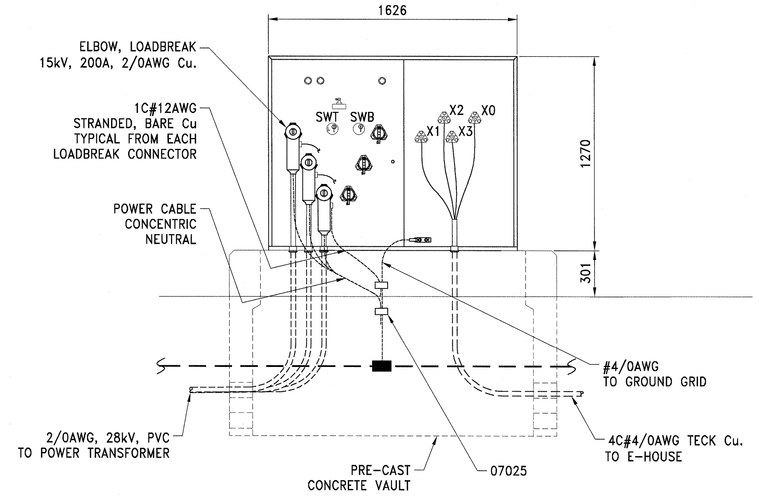


DETAIL 9

CONNECTION TO LV BUSHING
N.T.S

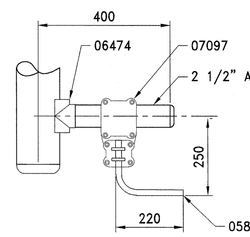


DETAIL 10



DETAIL 11

STATION SERVICE TRANSFORMER
SCALE: 1:20



DETAIL 12

N.T.S.

BILL OF MATERIAL (NOTE 8)

ITEM	SHORT DESCRIPTION	UNIT	QTY.
00021	TEST TERMINAL HUBBELL, PCORE #63037-70	EA	6
00022	SWAGE CONNECTOR CROSS/TEE-CU-#4/0 RUN-#4/0 TAP	EA	4
00023	ADAPTOR PLATE, 3X NEMA DRILLED	EA	6
00042	BALL EYE, 5/8"SHANK,11/16'EYE,B/J HDWRE	EA	42
00053	VL LINK-STRAIN-5/8"-	EA	42
00237	BARE COND-ACSR-795KCMIL-26/7STRD-DRAKE	M	AR
00267	CONN,TERM,MULTI,COMP,AL,795KCMIL,4 HO	EA	42
00269	CONN,TERM,DE,COMP,ST,795,959KCML,7#8ALWD	EA	42
00298	CH ADAPTER-STRAIN-"J" SOCKET-135KN	EA	42
00318	CONN-TAP WLD -AL-5"IN NPS-5"IN NPS	EA	12
00321	CONN,SPL,COUP,AL,BLTD,P-P,5"-5"NPS AL	EA	12
00371	CONDUIT,FLEX LIQUID TITE,1",30 M LG	M	90
00384	INS SP-250BIL,1092LK,559H,2000LB,76-76BC	EA	48
00397	INS SUSP-GLASS,120KN,146L,BALL-SKT	EA	336
00925	PL TURNBUCKLE-CL/CL-5/8", 12" TAKEUP	EA	42
01359	BOLT,EYE GALV,STL,PLAIN,3/8"UNC,6-1/8"LG	EA	24
02060	PL TURNBUCKLE-HOOK/HOOK-	EA	24
05824	BARE COPPER COND-2/0AWG-259STRD SOFT DWN	M	15
05826	BARE COPPER COND-4/0AWG-259STRD SOFT DWN	M	14
05829	BARE COPPER COND-1000KCML-STRD-100/REEL, 97 STRANDS	M	122
05830	BARE COPPER COND-1000KCML-STRD-100/REEL, 427 STRANDS	M	100
05838	BUS BAR-CU-19.05MM OD-3660MM LG	FT	AR
05884	BLDG WIRE-600V-CU-4/0AWG-TWU-1COND	M	80
06236	CONN-TAP BLTD COND2COND-CU-350-500 -2/0-	EA	24
06458	CH BUS SUPP-BLTD-AL-5"NPS-SL-76/127MMBC	EA	48
06474	CONN-TAP WLD -AL-5"IN NPS-4"IN NPS	EA	6
06632	CONN,TAP,WELD,AL,P-PAD,5"NPS-4 HO PAD	EA	6
06687	PLUG,230KV,5"NPS,SCH.80	EA	26
06690	PLUG,230KV,2-1/2"NPS,INTERNAL,62.68MM ID	EA	10
07025	CONN,GRD,C-COMP,CU,3/0-250--3/0-250 R/T	EA	12
07028	CONN-GRD COMP-CU-350/500KCMIL-4/0AWG	EA	10
07108	CONN,CLAMP,LIVE,AL,0.806"-0.806" OD R/T	EA	6
07097	CONN,TAP,BLTD,AL,P-P,2.5"-0.75"NPS90 R/T	EA	6
07171	CH BUS SUPP-BLTD-AL-2.5"NPS-76/127MMBC	EA	4
07266	CONN,TAP,WELD,AL,P-PAD,2.5"NPS-4HO PAD	EA	36
07300	CONN,TERM,PAD,BLTD,CU,3x1000-1500MCM-4HO	EA	6
07447	CH TERM KIT-28KV-2/0AWG-COLD SHRINK	EA	6
07585	4" BUSHING, MALLEABLE IRON	EA	4
07686	ADAPT,RIGID CON,PVC-MET,MALE THXSOC4"	EA	4
07710	DUCT,PVC,4",DB2/ES2,BELL END	EA	2
07940	CONDUIT BOX, CONN,FLEX LIQ TIGHT,1"	EA	12
08013	SLEEVE,CABLE SUPPORT,CBL 43.2MM DIA	EA	6
08037	SLEEVE,CBL SUPPORT,71.1MM DIA,STR 305MM	EA	18
08041	SUPPORT,FOR CBL&MOLDD TERMINATION	EA	24
08402	INS SP-550BIL,2515LK,1143H,1700E,127-127	EA	12
09054	ADHESIVE, PVC SOLVENT CEMENT 500 ML	CAR	2
09876	CH TERM KIT-28KV-1250KCMIL-COLD SHRINK	EA	18
14789	CONN-TAP COMP-TEE-4 HO PAD-AL-795KCMIL-	EA	18
16174	BUS PIPE-ALUM-2-1/2"NPS-73MM ODSAP	FT	40
16181	BUS PIPE-ALUM-5NPS-141.3MM OD-, SCH.80	FT	215
17509	CONN,TAP,WELD,P-PAD,AL,5"NPS-4 HO PD,90	EA	12
19979	CONN,TERM,CBL-PAD,COMP,AL,795KCMIL ACSR	EA	36
20258	CONN-TERM-BLTD STUD-AL-4HO PD-1.5"STUD	EA	6
20850	CONN,TERM,CL-PAD,BLTD,CU,4/0-1000MCM-4HO	EA	54
20965	CONN,TERM,BLTD,CU,#2-1000KCMIL-1.5"STUD	EA	2
22038	CONN,TERM,P-PAD,WELD,AL,5"NPS-4 HO PAD	EA	30
28983	CONN,DOBLE TEST,230KV,2000A,STD TO PAD	EA	6
31234	19#8 CU-CLAD STEEL,DSA, 40% CONDUCTIVITY	FT	200
32430	CH BUS SUPP-BLTD-BRZ-4/0-1000KCMIL-127MM	EA	6

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. USE HEAT SHRINKABLE SLEEVE ALONG WITH SEALANT (MM # 30023391).
3. EXTEND MIN 50MM CCS FROM CONNECTION IF REQUIRED & COAT THE END WITH CORROSION INHIBITOR COMPOUND.
4. RUN GROUND CONDUCTOR INSIDE CONDUIT. NO EXTERNAL GROUND REQUIRED.
5. DRILL 2 HOLES ON THE BOTTOM OF BUS FOR DRAINAGE.
6. 4/0 AWG 600V INSULATED (05884) INSIDE RIGID BUS. FOR DAMPER INSTALLATION.
7. APPLY ZINC BASED COATING AFTER DRILLING, "GALVICON" OR EQUIVALENT.
8. QUANTITIES ARE PROVIDED FOR REFERENCE ONLY.

REFERENCE DRAWINGS:

1. 115/13.8KV STATION, BASIC LAYOUT, ELECTRICAL ARRANGEMENT — --F1731664-300-EA001
2. 115kV AREA, DISCONNECT SWITCH, GROUNDING DETAILS, ELECTRICAL ARRANGEMENT — --F1731664-300-EA010
3. 115/13.8KV STATION, CABLE, CONDUITS, NEUTRAL & LIGHTING, PLAN & DETAILS, ELECTRICAL ARRANGEMENT — --F1731664-300-EA011
4. 115/13.8KV STATION, MAIN GROUNDING GRID, PLAN & DETAILS, ELECTRICAL ARRANGEMENT — --F1731664-300-EA012

LEGEND:

SYMBOL	DESCRIPTION
C	CLAMP BUS SUPPORT
S	SLIDE BUS SUPPORT
◆	1/2" SILICON-BRONZE HARDWARE

PROFESSIONALS:

N°	DATE	TRANSMISSION	BY ENG

SMi THE S.M. GROUP INTERNATIONAL INC.
6200B Airport rd, Suite 205, Mississauga (Ontario) L4V 1E3
Tel. : 905 677.3009 / Fax : 905 677.3604
www.groupsmi.com

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STAMP:

LICENSED PROFESSIONAL ENGINEER Y. Lessard 100128937 PROVINCE OF ONTARIO

CLIENT:

PROJECT:

MCMASTER UNIVERSITY–NF91

TITLE:

115/13.8KV STATION
ELEVATIONS
ELECTRICAL ARRANGEMENT

PREPARED BY: M. LAROCQUE	DATE: 2018-08-17
DRAWN BY: C.BAZINET	SCALE: 1:75 & AS SHOWN
VERIFIED BY: M. LAROCQUE	DISCIPLINE: ELECTRICAL ARRANGEMENT
APPROVED BY: Y. LESSARD	CAD FILE NAME: F1731664-300-EA009.dwg

PROJECT No: F1731664 | LOT: 300 | DWG. #: EA009 | REV: 00 | PAGE: