

NO.	DRAWING TITLE	DRAWING NUMBER
REFERENCE DRAWING		



00	ISSUED FOR TENDER	2025-02-26	TW	MS
NO.	REVISIONS	DATE	DESIGN	CHECK

AECOM	
DESIGNED BY: CT	CHECKED BY: SB
DRAWN BY: TW	APPROVED BY: SRB
SCALE: NTS	RELEASED FOR CONSTRUCTION BY:
DATE: 2023-07-24	DATE:
CONSULTANT NO.: UO-E605	





Winnipeg

THE CITY OF WINNIPEG

WATER AND WASTE DEPARTMENT

NEWPCC - SECONDARY EFFLUENT

UV DISINFECTION FACILITY

ELECTRICAL

MCC ELEVATION

600V AND 480VAC MCC

CITY DRAWING NUMBER

SHEET

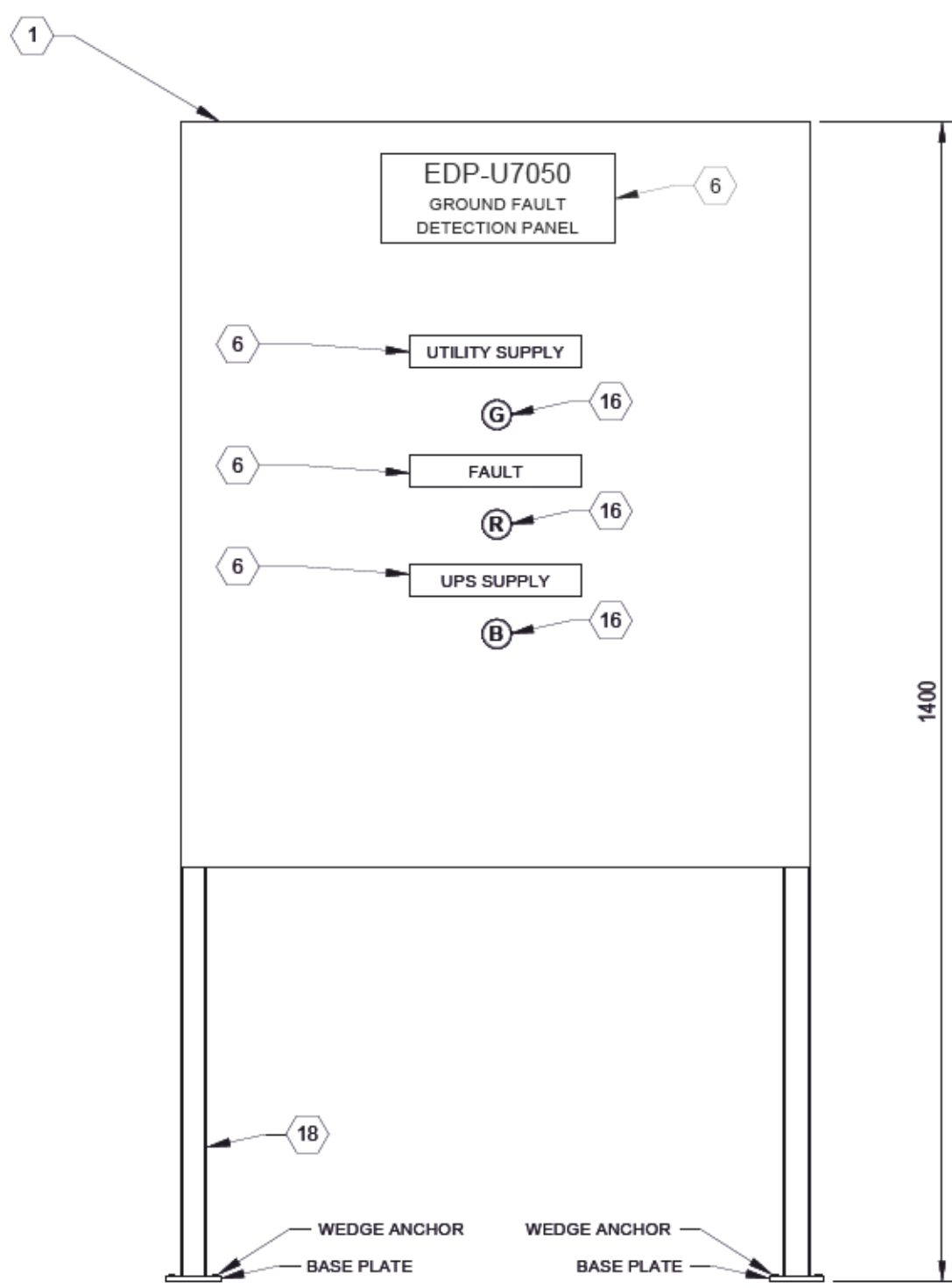
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REV.

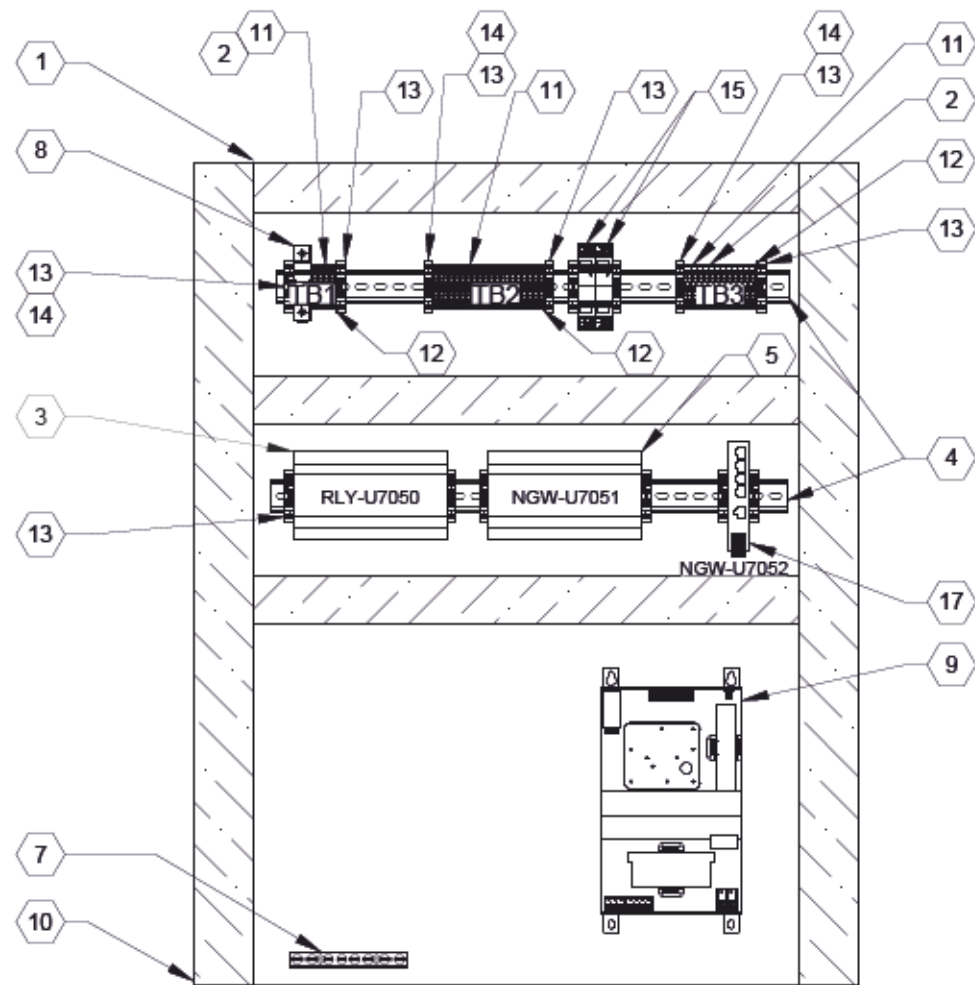
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SIZE

A1



EXTERIOR PANEL VIEW



INTERIOR PANEL VIEW

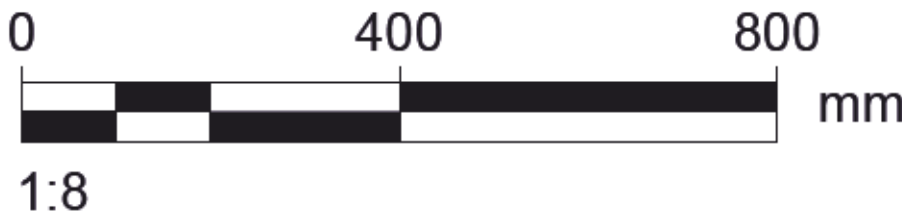
BILL OF MATERIAL				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	CATALOG NUMBER
1	1	NEMA 12, 780mm (W) X 900mm (H) X 400mm (D) ENCLOSURE, COMPLETE WITH (W X H) 704mm X 870mm MOUNTING PLATE	RITTAL	WM8017.594
2	AS REQ'D	POTENTIAL EARTH TERMINAL	PHOENIX CONTACT	3046207
3	1	RCMS490-D-2 BLINDSPOT	BENDER	B94053006
4	AS REQ'D	35mm TOP HAT DIN RAIL	PHOENIX CONTACT	0801733
5	1	COM465IP	BENDER	B95061065
6	AS REQ'D	LAMACOID, WHITE BACKGROUND, BLACK TEXT	N/A	N/A
7	1	GROUND BAR	ILSCO	D167-8
8	1	1P FUSE HOLDER C/W 6A CLASS CC FUSE	MERSEN	USCC11
9	1	UPS 1.5kVA 120VAC	PHOENIX CONTACT	1136804
10	AS REQ'D	WIRE WAY	PANDUIT	AS REQ'D
11	AS REQ'D	TERMINAL BLOCKS FEED THROUGH UT4	PHOENIX CONTACT	3044102
12	AS REQ'D	D-UT 2,5/10 END COVER	PHOENIX CONTACT	3047028
13	AS REQ'D	END CLAMP	PHOENIX CONTACT	0800886
14	AS REQ'D	TERMINAL STRIP MARKER	PHOENIX CONTACT	1004348
15	2	STEP-PS/1 AC/24 DC/0.5	PHOENIX CONTACT	2868596
16	3	PANEL LIGHT GREEN/ RED/ BLUE + CONTACT HOLDER	ABB	MP1-11G/MP1-11R/MP1-11L MCBH-00
17	1	4 PORT UNMANAGED NETWORK SWITCH	PHOENIX CONTACT	1085039
18	AS REQ'D	UNISTRUT STEEL FRAME		

* THIS BILL OF MATERIALS MAY NOT INCLUDE ALL MISCELLANEOUS MATERIALS REQUIRED, AND IS INTENDED TO BE USED AS A GENERAL GUIDELINE ONLY.IT IS THE RESPONSIBILITY OF THE VENDOR/ FABRICATOR TO PROVIDE ALL REQUIRED MATERIALS FOR A COMPLETE AND WORKING SYSTEM.

GENERAL NOTES:

- CONTROL WIRING TO BE TEW/MTW, 600V RATED (FOR CIRCUITS 120V & BELOW WIRING), 105°C INSULATION, STRANDED COPPER, 14 AWG OR LARGER.
- COMPONENTS ARE TO BE LABELED AS SHOWN ON THE DRAWINGS.
- ALL FUSES ARE TO BE PROVIDED. IN ADDITION, TWO SPARES OF EACH FUSE SIZE ARE TO BE PROVIDED.
- TEST ALL WIRING AND COMPONENTS FOR FUNCTIONAL OPERATION, CORRECT CONNECTION, AND CONTINUITY. DOCUMENT ALL TEST RESULTS.
- ALL MAJOR COMPONENTS INSIDE THE PANEL ARE TO BE LABELED WITH LAMACOIDS IN ACCORDANCE WITH MAJOR DESCRIPTIONS ON THE DRAWINGS.
- PROVIDE WIDE BARREL FERRULES FOR WIRING.
- ALL TERMINAL BLOCKS SHALL BE NUMBERED AS SHOWN IN THE DRAWING, COMPLETE WITH GROUP LABELING.
- ALL WIRES SHALL BE MARKED AS INDICATED ON THE DRAWINGS.
- JUMPER BARS SHALL BE USED INSTEAD OF WIRE JUMPERS WHERE POSSIBLE.
- THE PANEL IS TO BE FABRICATED BY A CSA CERTIFIED PANEL SHOP. PROVIDE METAL CSA CERTIFICATION PLATE RIVETED TO ENCLOSURE DOOR.
- DESIGNATE A SEPARATE WIRE WAY FOR NETWORK, 24VDC AND 120VAC WIRING WITHIN THE PANEL. COMPLY WITH CITY OF WINNIPEG ELECTRICAL DESIGN GUIDE TABLE 4-9 FOR SEGREGATION OF SIGNAL AND VOLTAGE CABLES.

NO.	DRAWING TITLE	DRAWING NUMBER
1	POWER DISTRIBUTION SCHEMATIC GROUND FAULT PANEL	U0-E606
REFERENCE DRAWING		



DESIGNED BY: MS	CHECKED BY: SB
DRAWN BY: TW	APPROVED BY: SSB
SCALE: NTS	RELEASED FOR CONSTRUCTION BY: DATE:
DATE: 2023-07-24	DATE:

00	ISSUED FOR TENDER	2025-02-26	TW	SB
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ENGINEERS SEAL

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

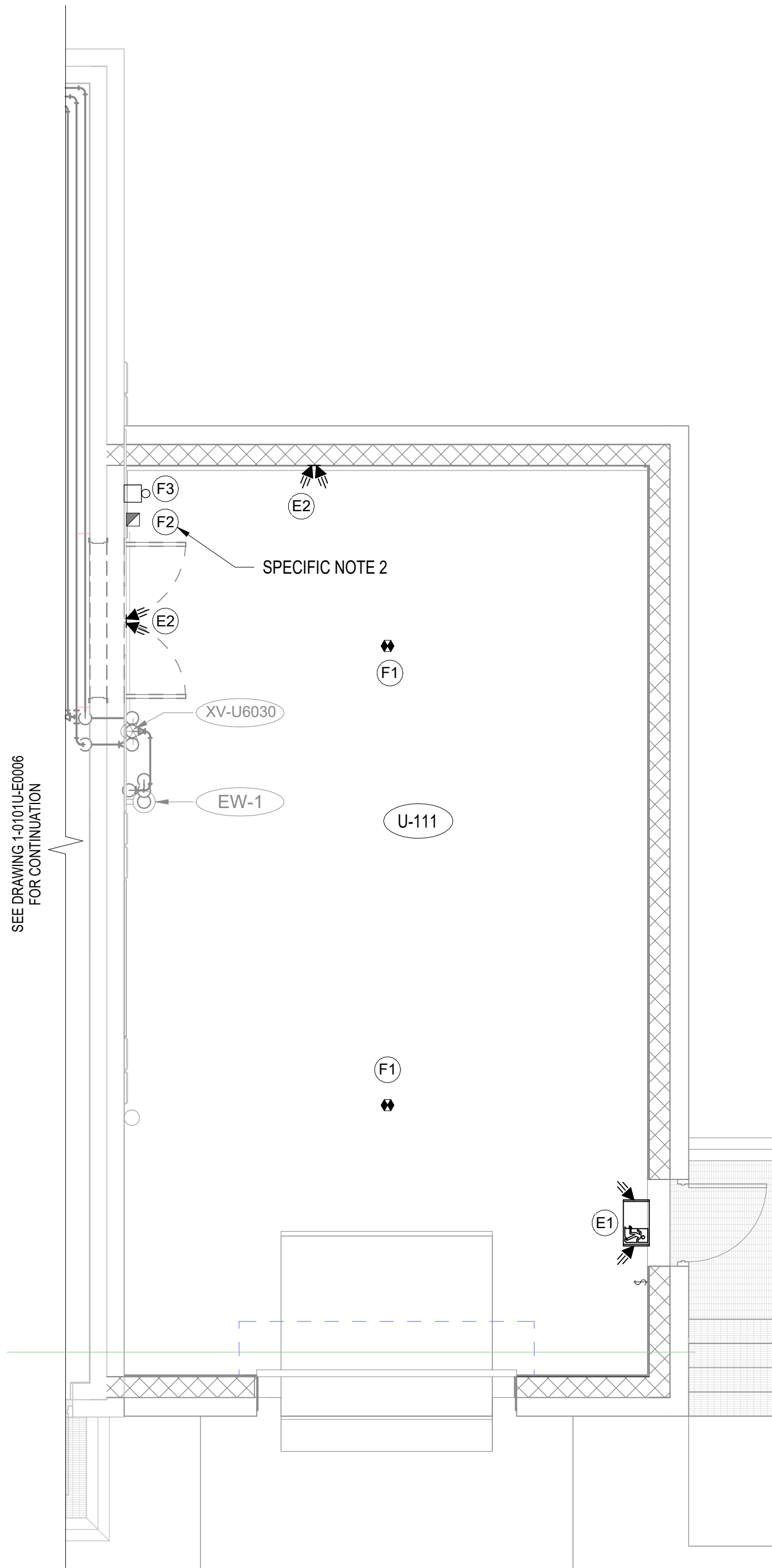
NEWPCC - SECONDARY EFFLUENT
UV DISINFECTION FACILITY
ELECTRICAL
PANEL LAYOUT
GROUND FAULT DETECTION PANEL EDP-U7050

CITY DRAWING NUMBER	SHEET 001	REV. 00	SIZE A1
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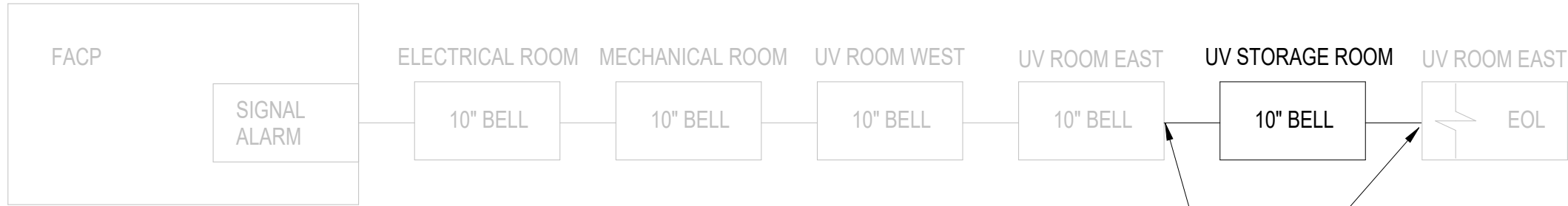
EMERGENCY DEVICE SCHEDULE			
TYPE MARK	MANUFACTURER	MODEL	DESCRIPTION
E1	LUMACELL	LNC1W12N60LD10	GREEN PICTOGRAM SINGLE FACE EGRESS SIGN WITH EMERGENCY BACK UP LAMPS
E2	ABB	RG-NX SERIES	MR16 LED, 12V-6W

FIRE ALARM DEVICE SCHEDULE			
TYPE MARK	MANUFACTURER	MODEL	DESCRIPTION
F1	NOTIFIER	I3	SMOKE DETECTOR
F2	NOTIFIER	MPS-950 SERIES	PULL STATION (MOUTN 1300mm ABOVE FINISHED FLOOR)
F3	NOTIFIER	KMS-10-24A	FIRE ALARM BELL



- NOTES:
- SEAL WALL CORE, AROUND CONDUIT BETWEEN EXISTING PROCESS ROOM AND NEW UV STORAGE.
 - FIRE ALARM SIGNAL CIRCUIT IS BASE ON EXISTING INFORMATION AND HAS NOT BEEN FIELD VERIFIED. CONTRACTOR TO FIELD VERIFY AND PROVIDE REVISED SIGNAL CIRCUIT TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
 - EXIT LIGHT COMPLETE WITH EMERGENCY BACK UP LAMPS, RATED AT 60W FOR 30 MINUTES. TOTAL LOAD WITH REMOTE HEAD AT 36W, OPERATING DESIGN TIME >60 MINUTES.
 - ALL WIRING ASSOCIATED WITH FIRE ALARM EQUIPMENT SHALL BE RUN IN RED CONDUIT.
 - UTILIZE A MINIMUM OF #12 AWG WIRE SIZE FOR SIGNAL CIRCUIT.
 - CONTRACTOR TO COORDINATE WITH THE CITY AND FIRE DEPARTMENT TO INTEGRATE THE SYSTEM WITH NEW DEVICES. CONTRACTOR TO PERFORM FIRE ALARM VERIFICATION ON THE NEW INSTALLATION.

- SPECIFIC NOTES:
- CONTRACTOR TO TIE IN NEW SIGNAL DEVICE BETWEEN EXISTING DEVICES AS DEPICTED.
 - MOUNT 1300mm ABOVE FINISHED FLOOR



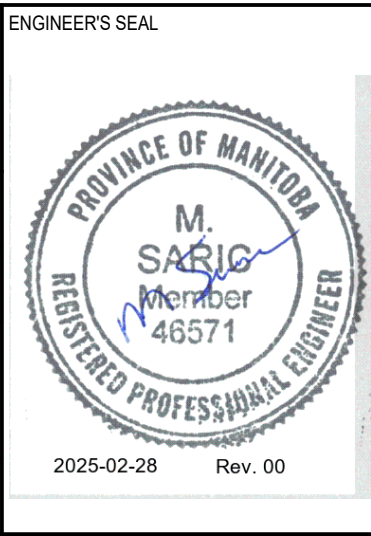
1 STORAGE ROOM - FIRE DETECTION AND EMERGENCY LIGHTING LAYOUT
SCALE: 1 : 50

NO.	DRAWING TITLE	DRAWING NUMBER
1	C.C.T.V., FIRE ALARM, SECURITY AND LIGHTING	66303D-CE1.06
REFERENCE DRAWING		



NO.	REVISIONS	DATE	DESIGN	CHECK
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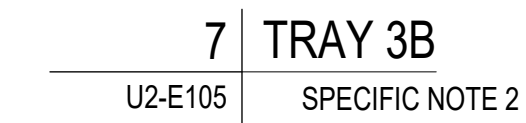
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DRAWN BY: TW	APPROVED BY: SB
SCALE: As indicated	RELEASED FOR CONSTRUCTION BY: SB
DATE: 2023-07-24	DATE:
CONSULTANT NO.: U2-E103	



TENDER NO. 30-2025	
THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT	
NORTH END SEWAGE TREATMENT PLANT NEWPCC UV UPGRADES ELECTRICAL STORAGE ROOM FIRE DETECTION AND EMERGENCY LIGHTING LAYOUT	
CITY DRAWING NUMBER	SHEET
REV. 00	SIZE A1

SPECIFIC NOTES:

1. MAINTAIN 100% CABLE SPACING, USING CABLE CLAMPS.
2. MAINTAIN 100% CABLE SPACING USING CABLE CLAMPS FOR ALL 2/0 CONDUCTORS. ALL OTHER CABLES HAVE BEEN DE-RATED BY 50%.

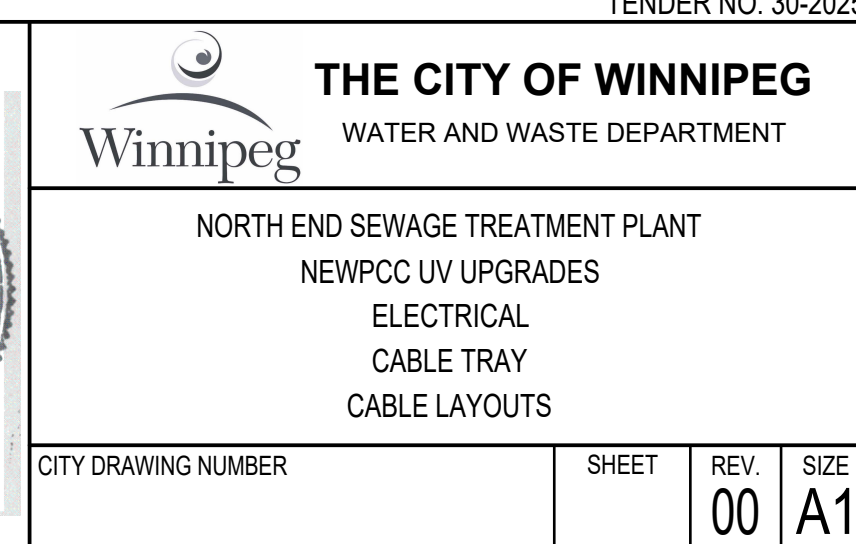
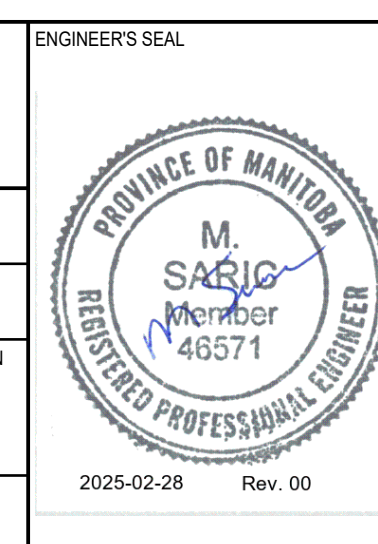
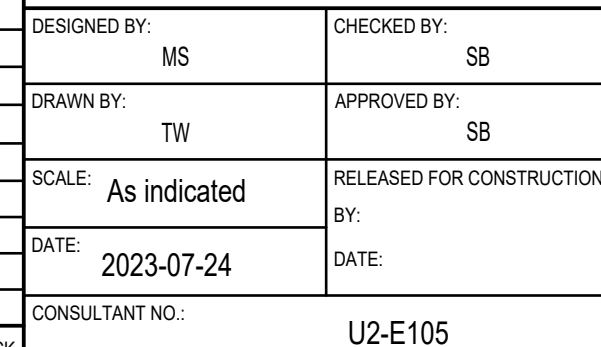


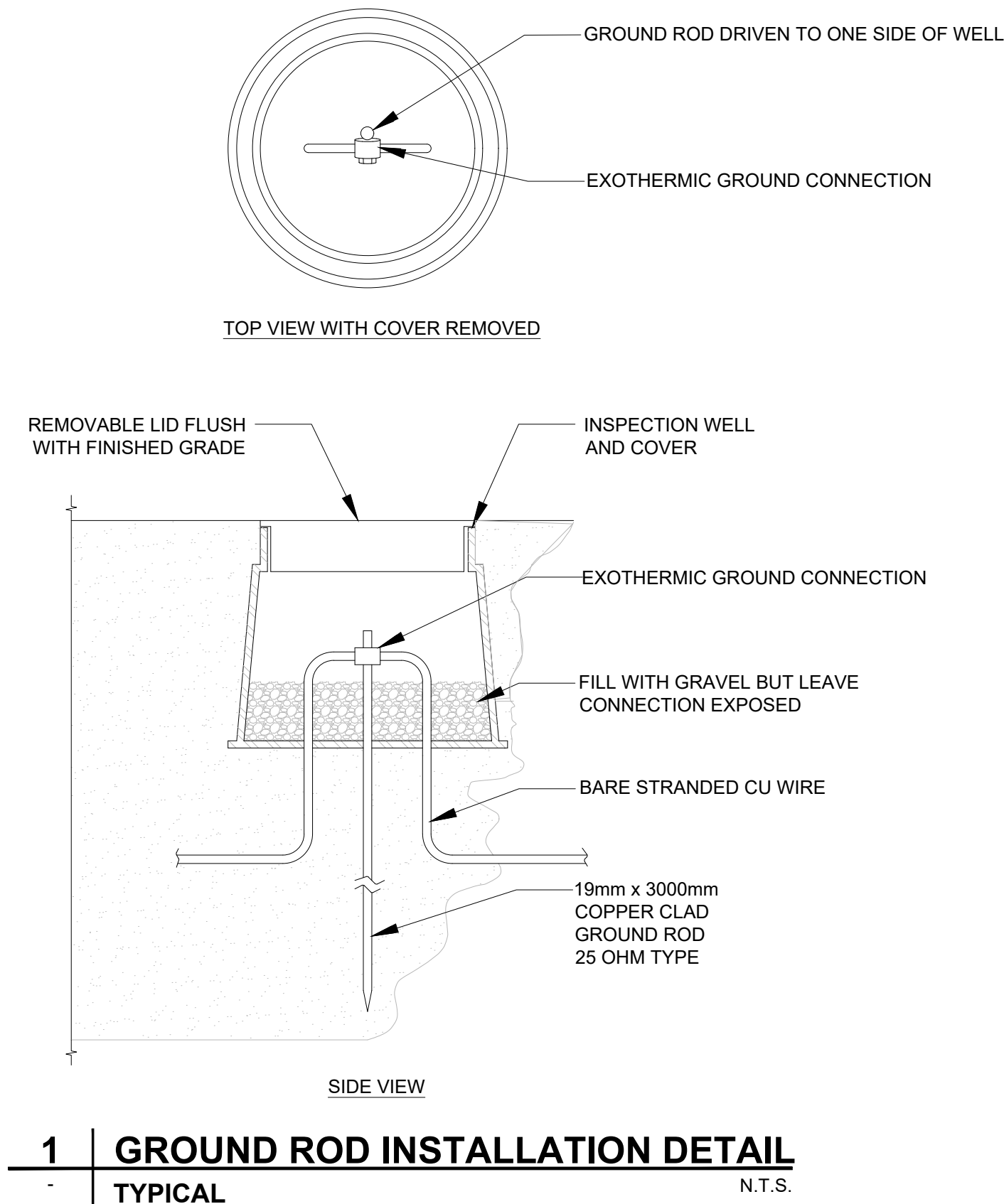
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REFERENCE DRAWING

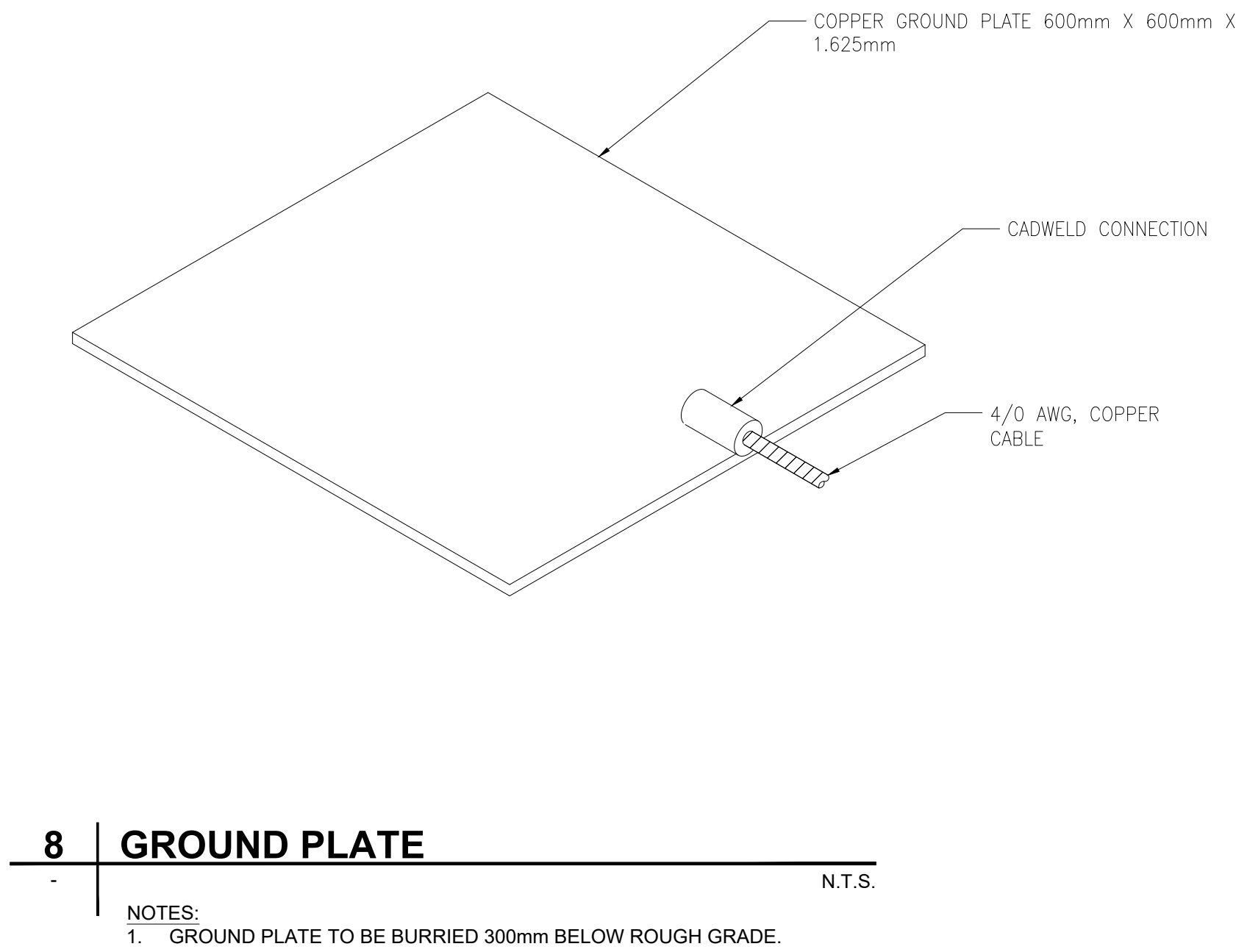
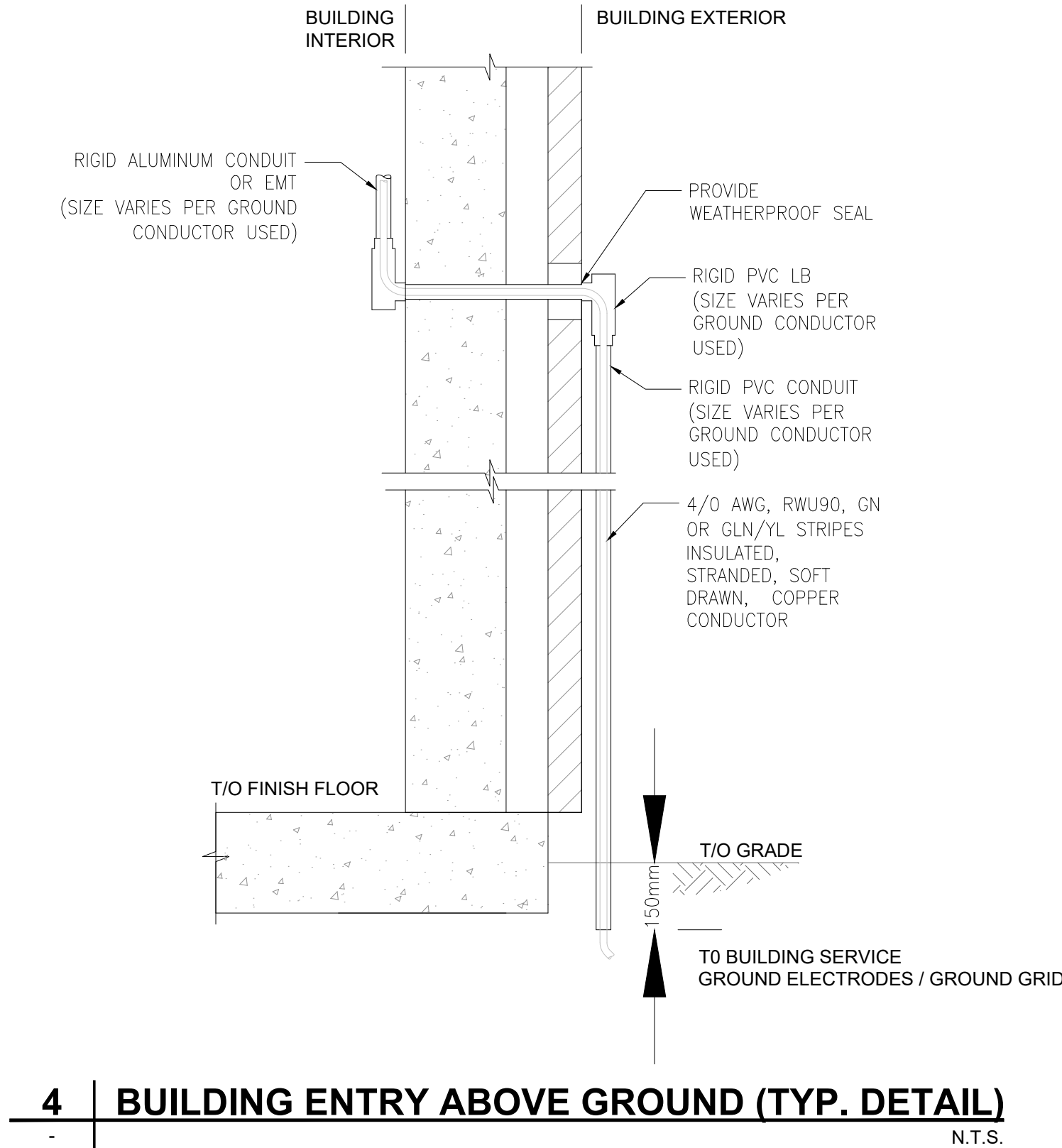
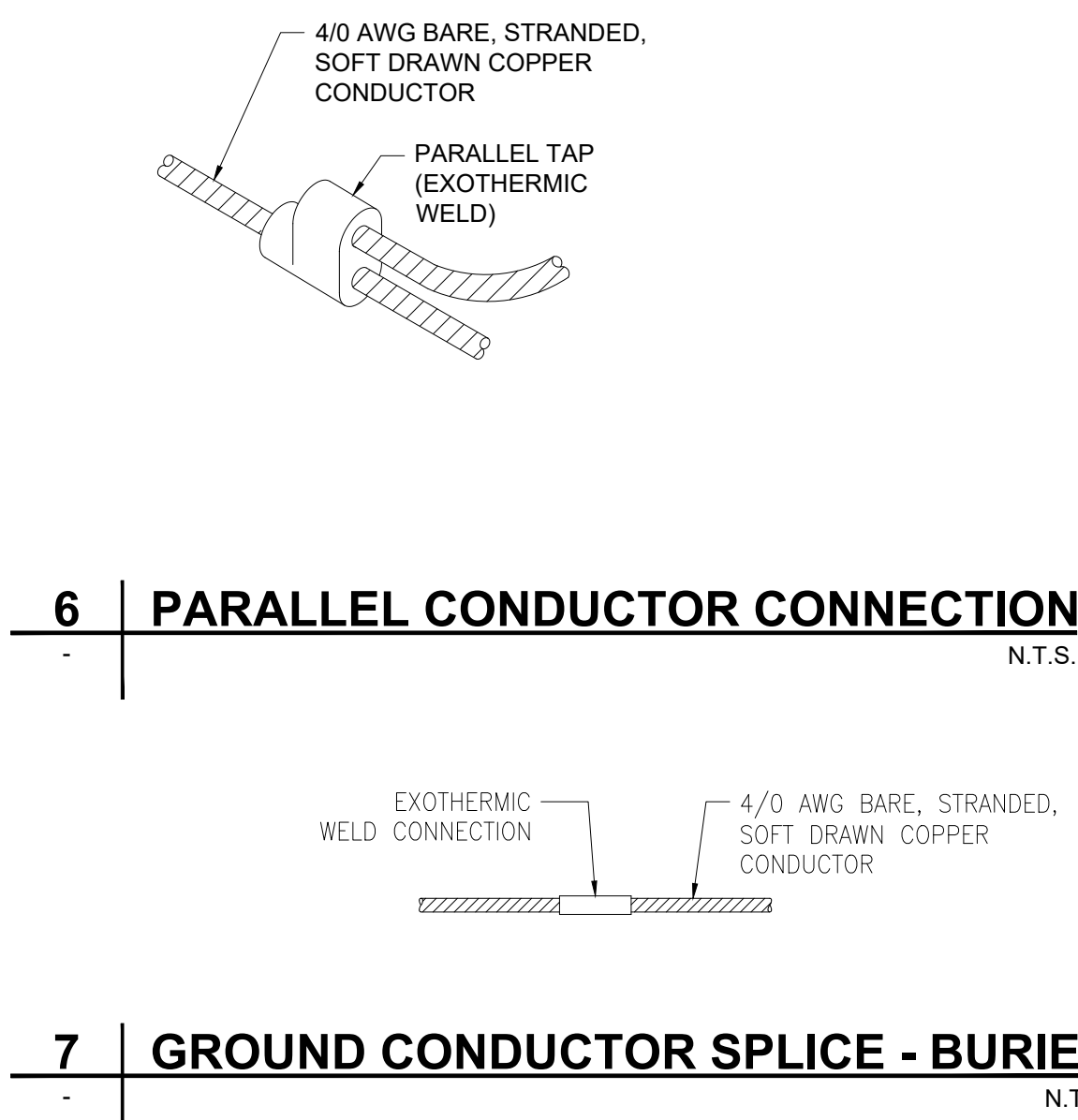
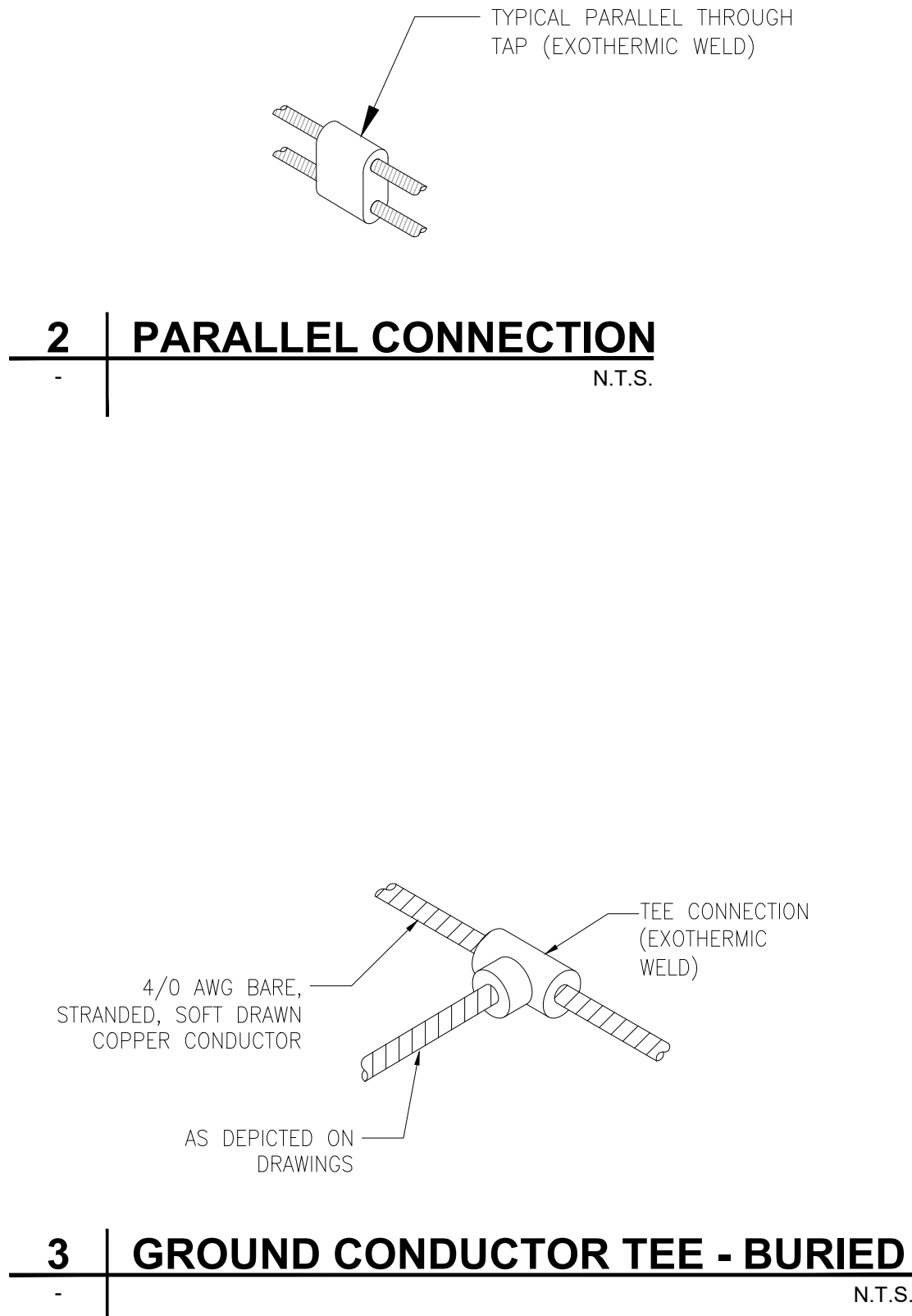
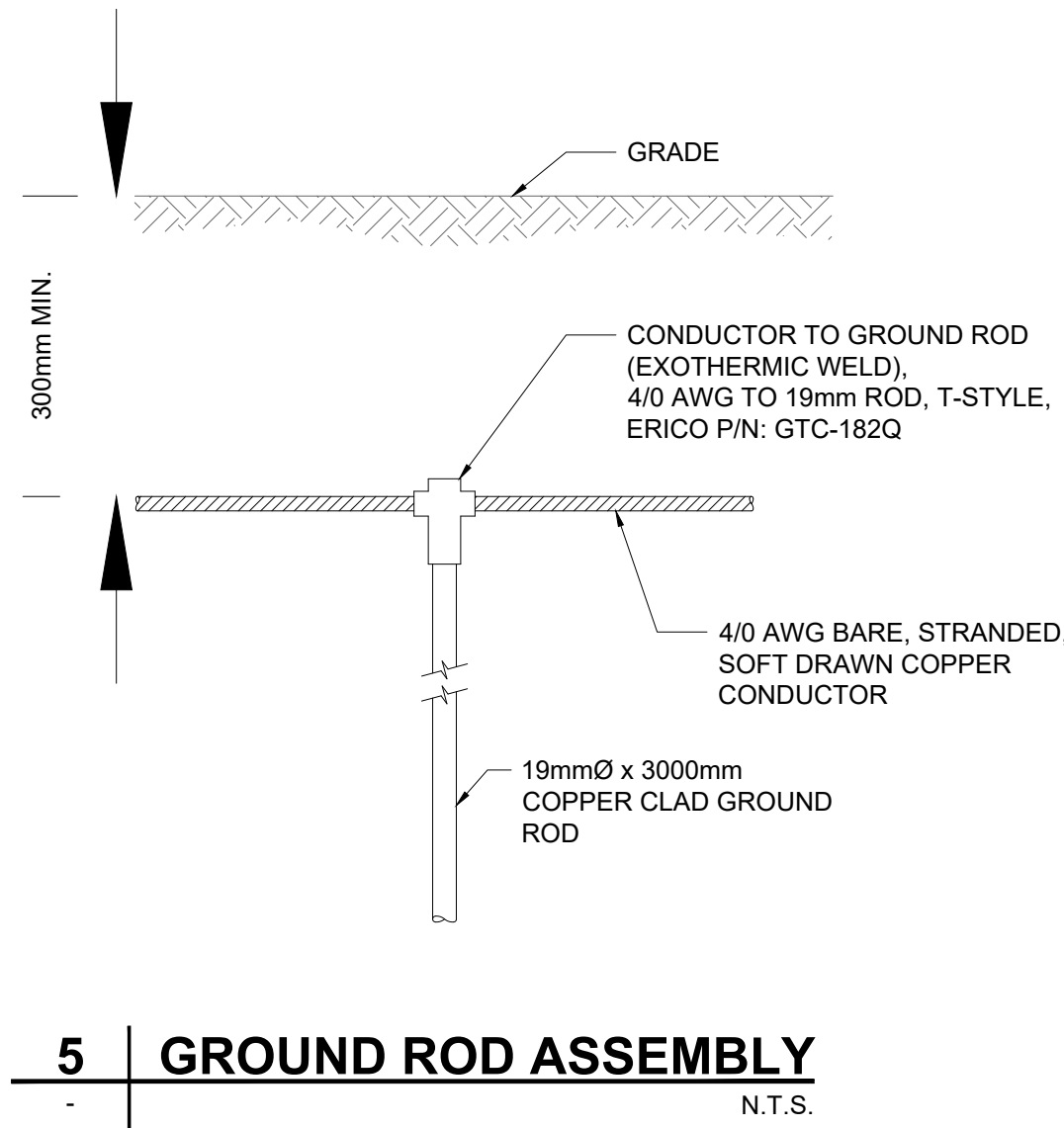


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NO.	REVISIONS	DATE	DESIGN	CHECK





- NOTES:
1. THE SIZE OF BARE STRANDED CU WIRE MAY VARY. REFER TO ELECTRICAL DRAWINGS FOR SIZE.
 2. GROUNDING RODS SHALL BE BONDED TO THE GROUNDING CONDUCTOR (NOT SPLICED).

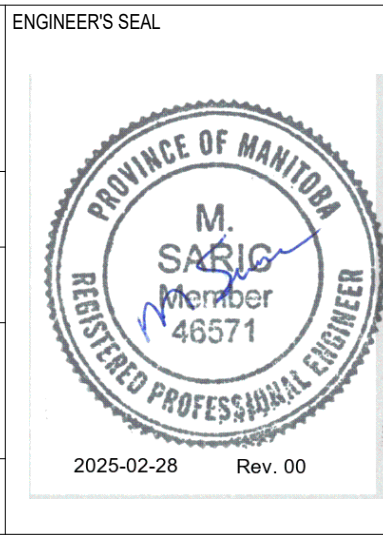


1		
NO.	DRAWING TITLE	DRAWING NUMBER
1	ELECTRICAL UV FACILITY SITE PLAN GROUNDING DETAIL	0646630D-CE.1.02
REFERENCE DRAWING		

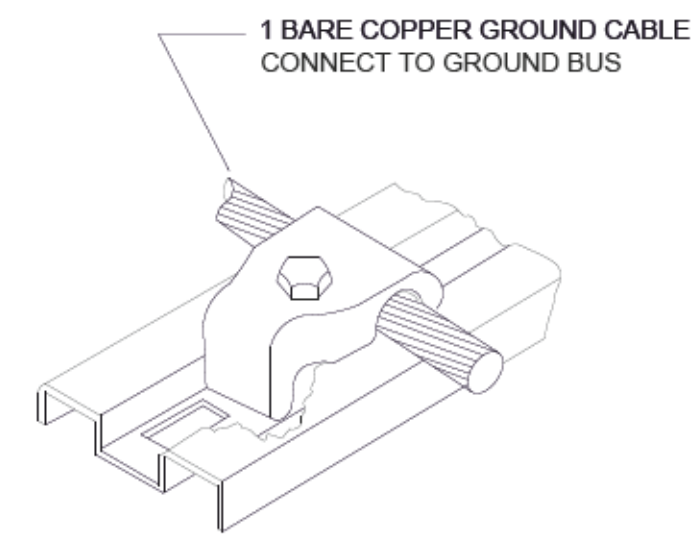


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NO.	REVISIONS	DATE	DESIGN	CHECK

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SCALE: NTS	RELEASED FOR CONSTRUCTION BY: DATE
DATE: 2023-07-24	DATE:
CONSULTANT NO.: YE-E501	

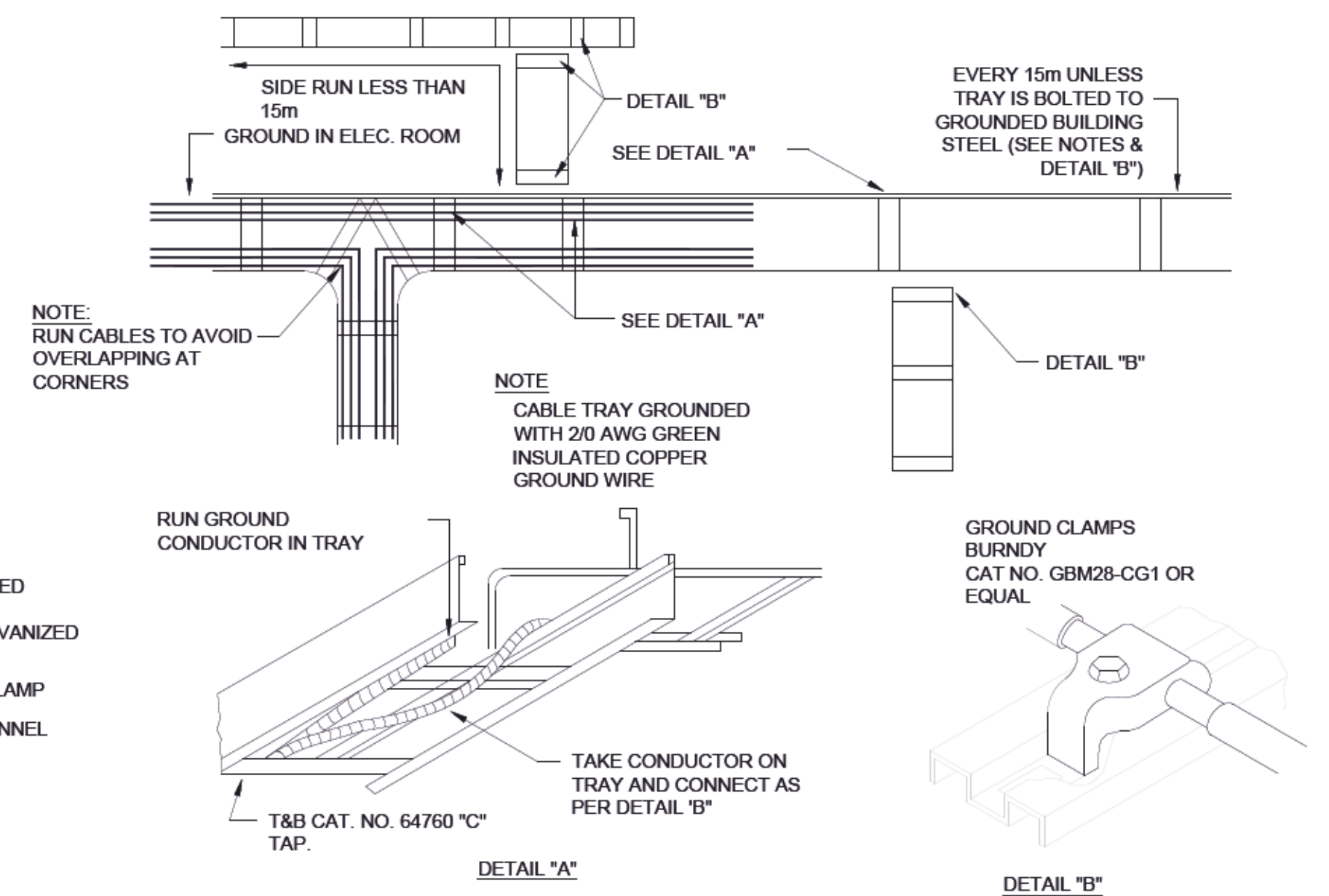


THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT		
NEWPCC - SECONDARY EFFLUENT UV DISINFECTION FACILITY ELECTRICAL GROUNDING DETAIL		
CITY DRAWING NUMBER	SHEET 001	REV. 00
		SIZE A1



3	GROUND CLAMP
-	TYPICAL N.T.S.

- NOTES:
1. ONE PER EACH TRAY LENGTH.



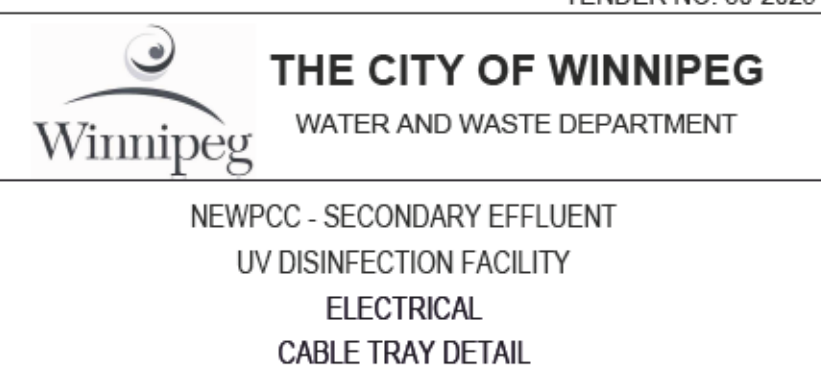
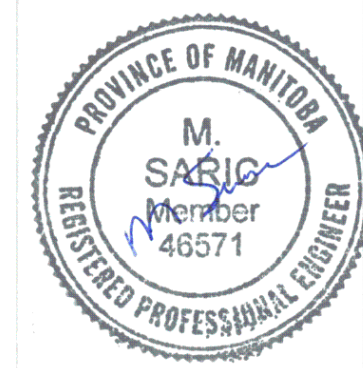
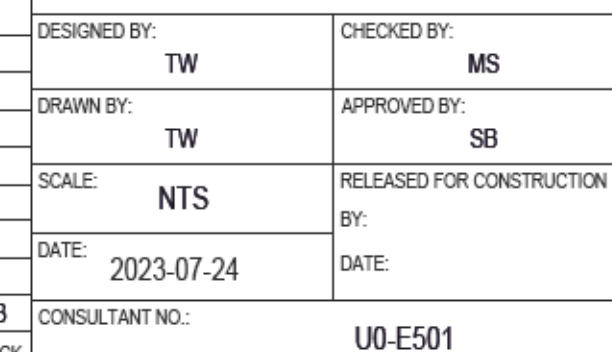
7	CABLE TRAY GROUNDING
-	TYPICAL N.T.S.

- NOTES:**
1. THE CABLE TRAY SHALL BE ADEQUATELY BONDED AT INTERVALS NOT EXCEEDING 15m AS SHOWN.

NO.	DRAWING TITLE	DRAWING NUMBER
REFERENCE DRAWING		



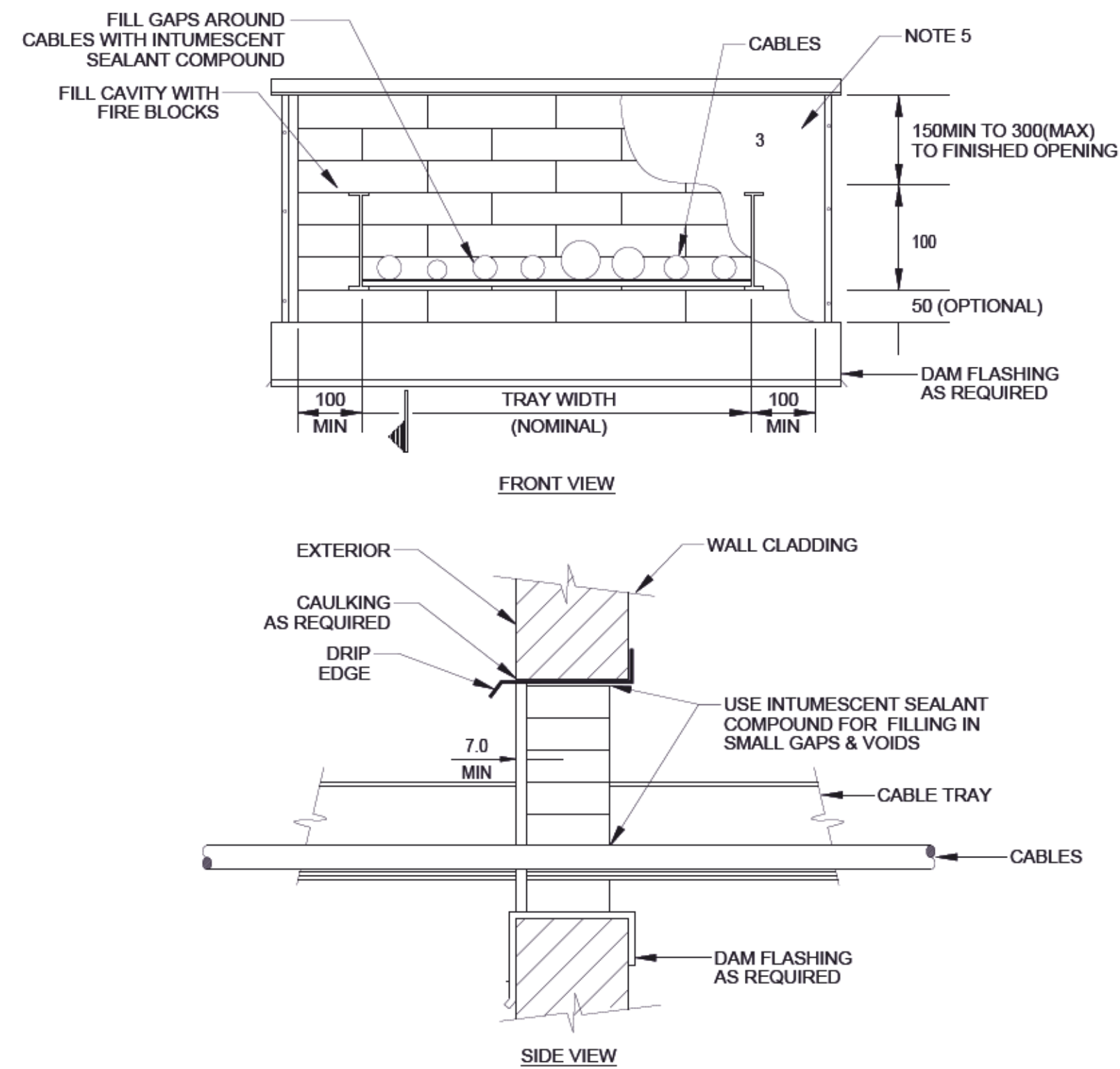
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NO.	REVISIONS	DATE	DESIGN	CHE



CITY DRAWING NUMBER

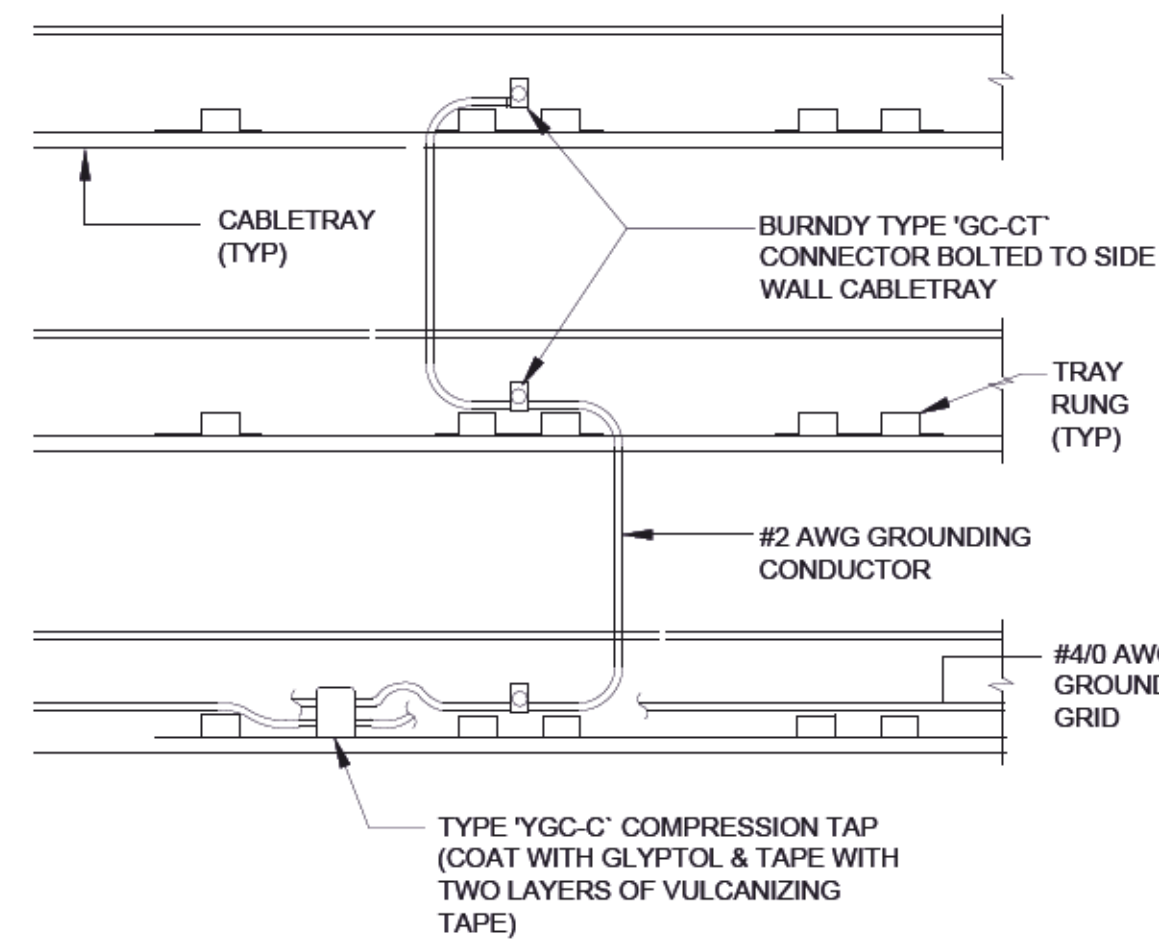
TENDER NO. 30-2025

SHEET 001	REV. 00	SIZE A1
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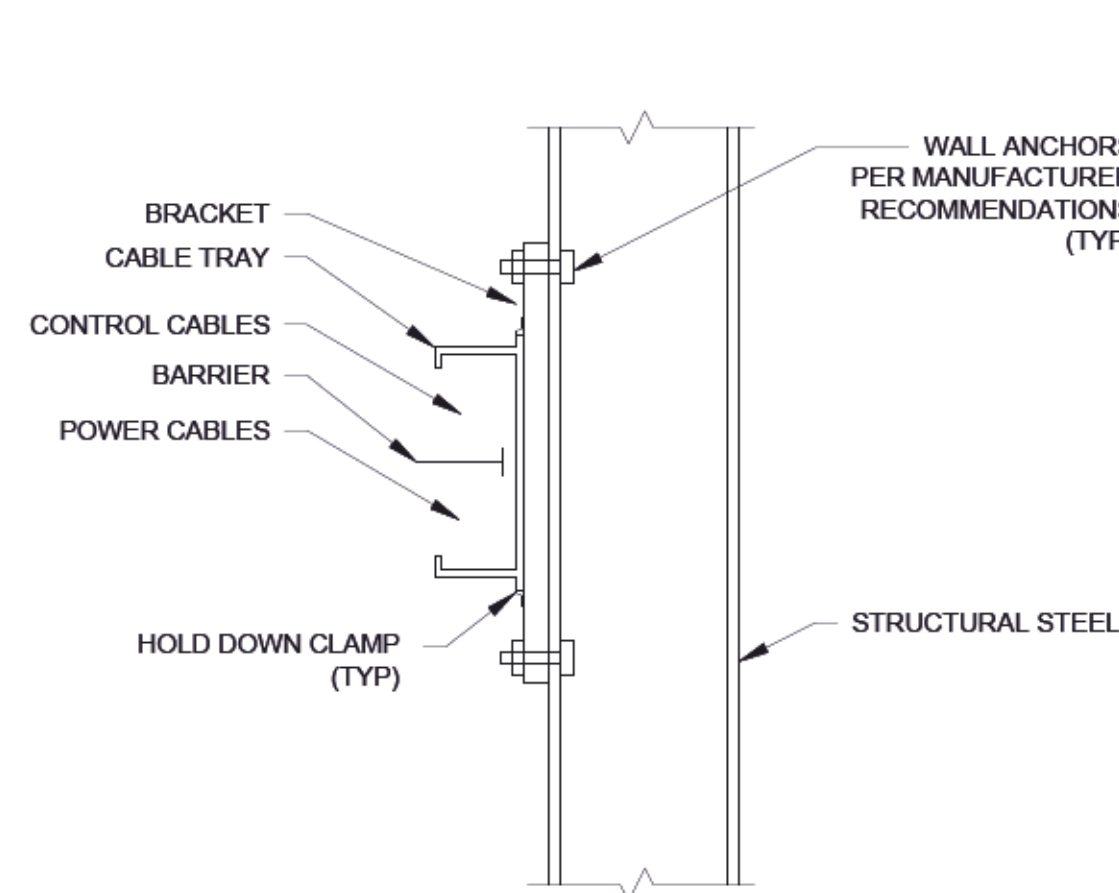
1	TYPICAL WALL PENETRATION SEALING DETAIL
	TYPICAL N.T.S.

- NOTES:**
1. FIRE STOP SYSTEM QUANTITIES DETERMINED FROM WALL SIZE OPENINGS.
 2. FIRE STOP SYSTEMS TO BE INSTALLED AFTER MECHANICAL COMPLETION OF ENTIRE ELECTRICAL SYSTEM.
 3. THIS DETAIL ILLUSTRATES A TYPICAL METHOD FOR WALL PENETRATION AND FIRESTOP INSTALLATION. ALL PENETRATED PENETRATIONS SHALL COMPLY WITH A TESTED CUL SYSTEM ARRANGEMENT. OPENING SIZE/TYPE AND SIZE OF PENETRATING ITEMS SHALL BE WITHIN THE RANGE SPECIFIED WITHIN THE CUL SYSTEM DETAIL.
 4. FIRE BLOCKS SHALL BE PROTECTED FROM ULTRAVIOLET RADIATION AND WATER BY AT LEAST A 7mm THICK COATING OF FIRESTOP ELASTOMERIC SEALANT.
 5. ALL SEALANTS SHALL BE APPLIED AS PER THE MANUFACTURES RECOMMENDATIONS.



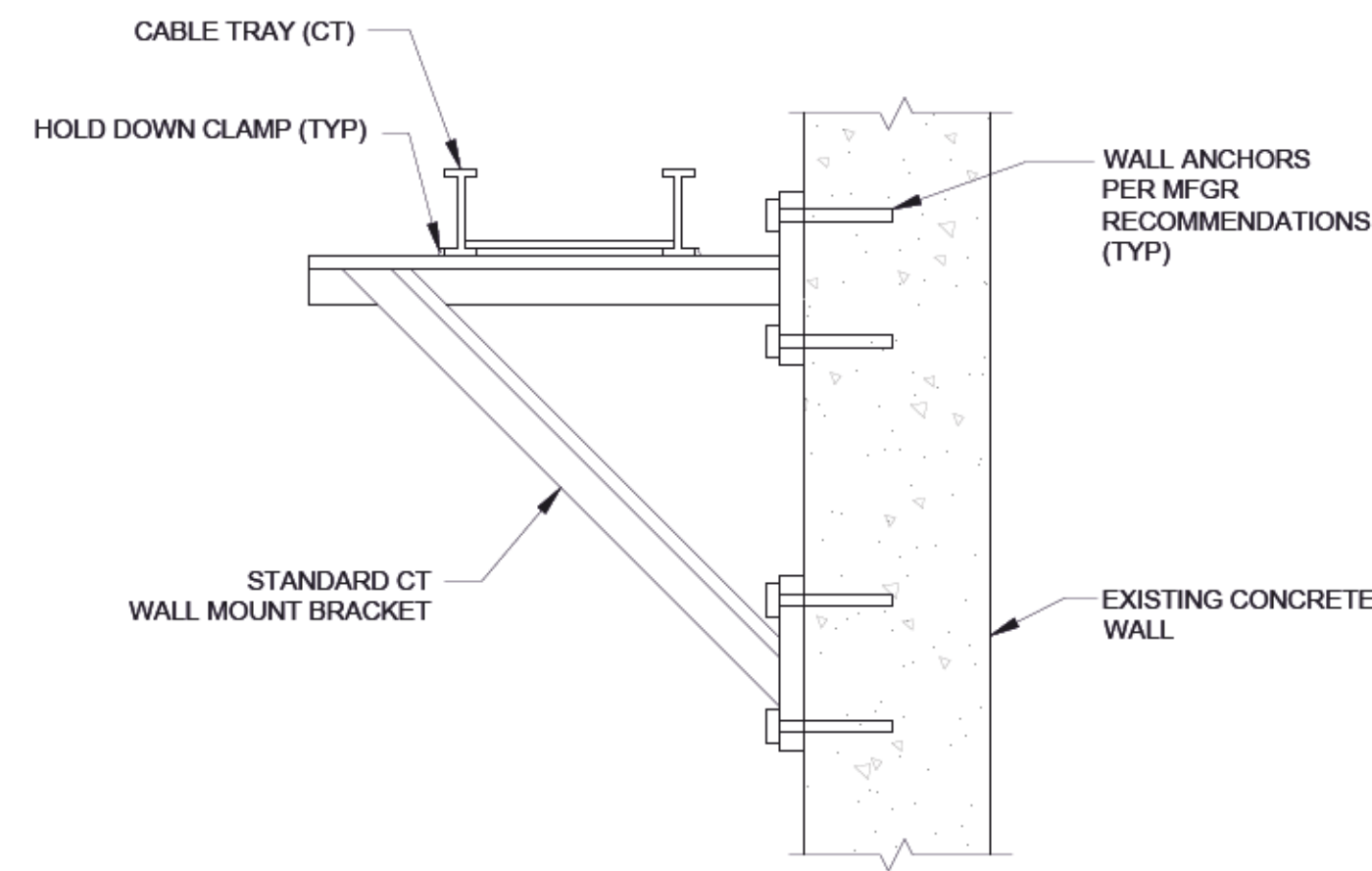
2	CABLE TRAY GROUNDING DETAIL (SIDE VIEW)
-	TYPICAL N.T.S.

- NOTES:
1. ALL STRUCTURAL SUPPORTS WILL BE DESIGNED BY A STRUCTURAL ENGINEER.



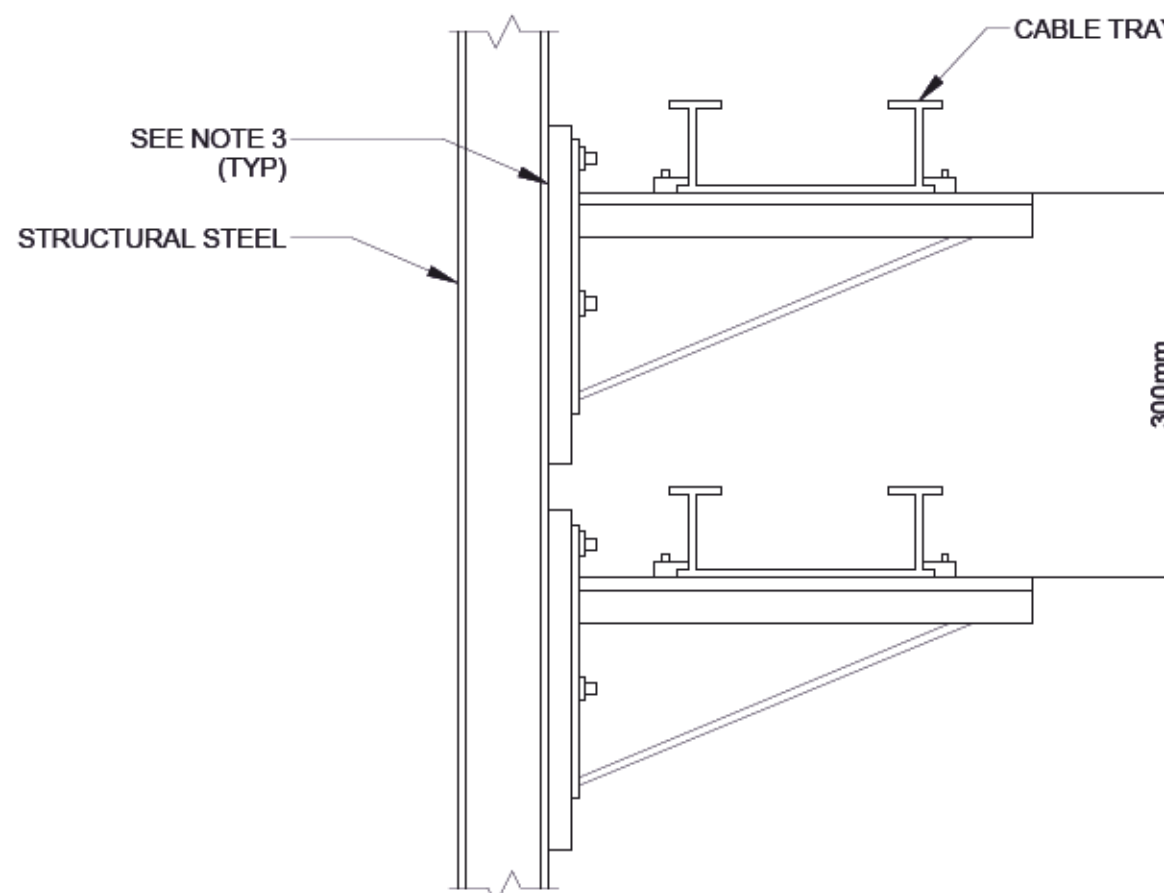
5	STRUCTURAL COLUMN & HANDRAIL MOUNTED CABLE TRAY DETAIL
-	TYPICAL N.T.S.

- NOTES:**
1. ALL STRUCTURAL SUPPORTS WILL BE DESIGNED BY A STRUCTURAL ENGINEER.
 2. STRUT CHANNEL SHALL BE WELDED ON BOTH SIDES TO COLUMN.
 3. MAXIMUM SUPPORT SPACING IS 6.0m.



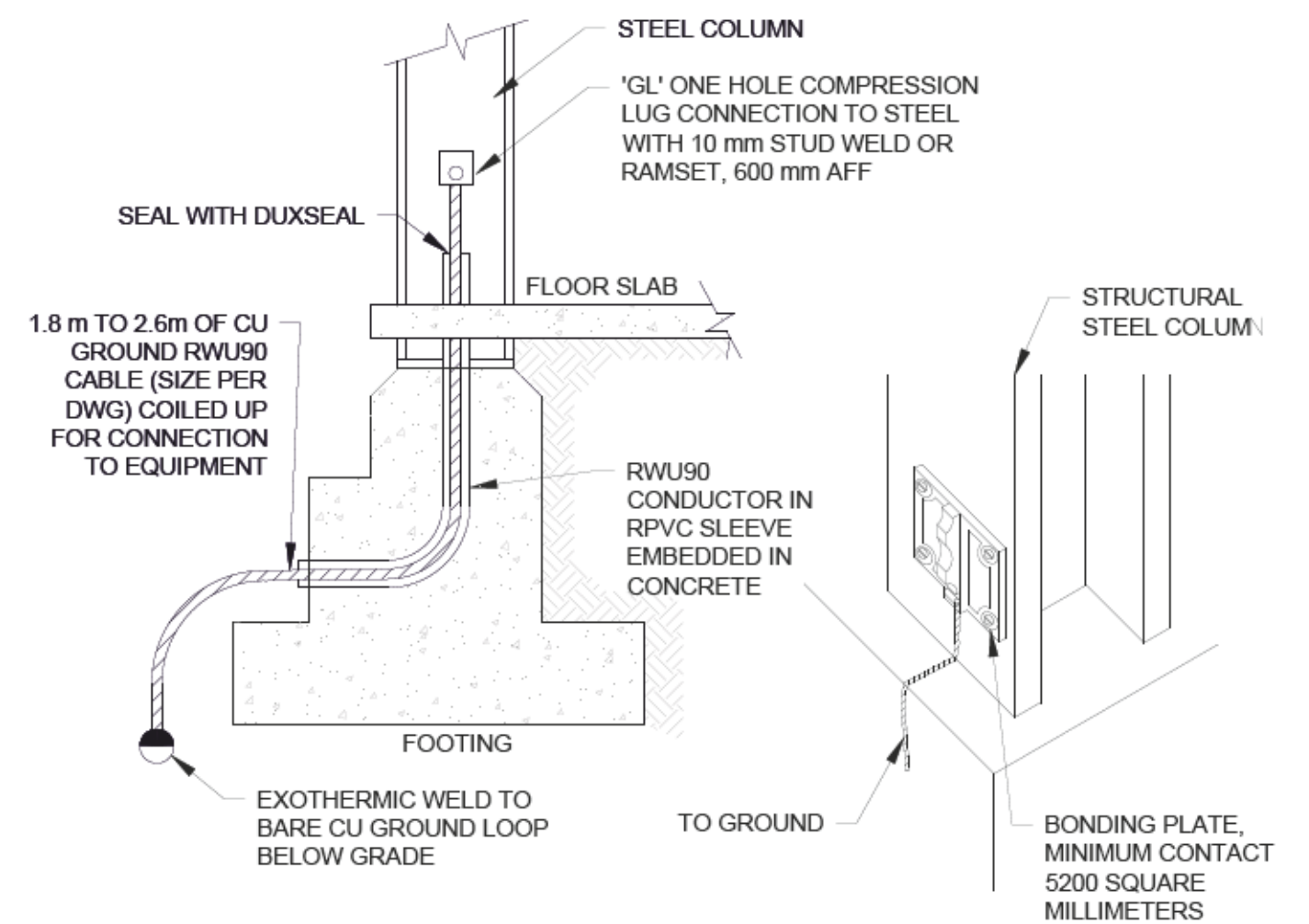
3	TYPICAL WALL MOUNTED CABLE TRAY DETAIL
-	TYPICAL N.T.S

- NOTES:**
1. CABLE SEGREGATION BY CITY OF WINNIPEG ELECTRICAL DESIGN GUIDE TABLE 4-9.
 2. ALL STRUCTURAL SUPPORTS WILL BE DESIGNED BY A STRUCTURAL ENGINEER.



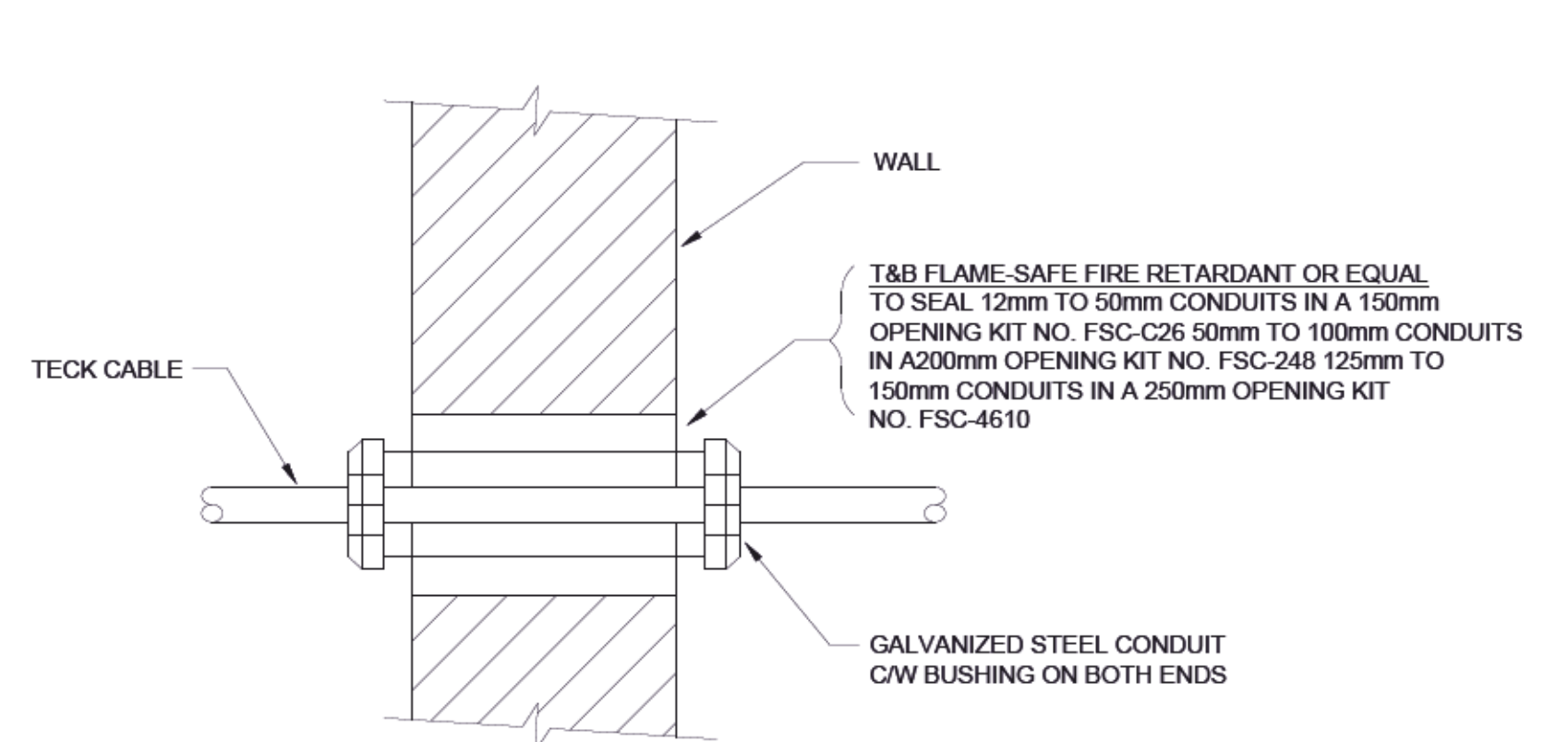
6	TYPICAL STACKED TRAY MOUNTING
-	TYPICAL N.T.S.

- NOTES:**
1. ALL STRUCTURAL SUPPORTS WILL BE DESIGNED BY A STRUCTURAL ENGINEER.
 2. STRUT CHANNEL SHALL BE WELDED ON BOTH SIDES TO COLUMN.
 3. MAXIMUM SUPPORT SPACING IS 6.0m.
 4. CABLE SEGREGATION BY CITY OF WINNIPEG ELECTRICAL DESIGN GUIDE TABLE 4-9.



4	STEEL COLUMN OF METAL BUILDING DETAIL
-	TYPICAL N.T.S.

- NOTES:**
1. ALL STRUCTURAL SUPPORTS WILL BE DESIGNED BY A STRUCTURAL ENGINEER.



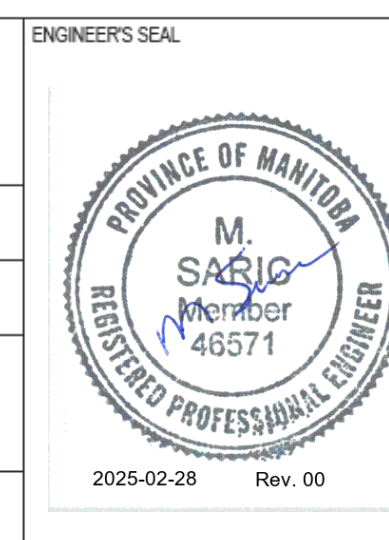
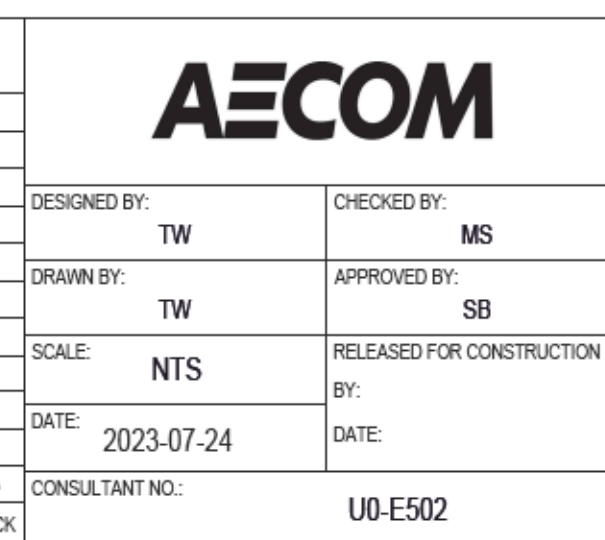
7	ABOVE GROUND CABLE WALL PENETRATION DETAIL
-	TYPICAL N.T.S.

- NOTES:**
1. VAPOR BARRIER SEAL. USE FIRE RATED SEALANT ON FIRE RATED WALLS, OTHERWISE USE APPROVED SEALANT. ENSURE SAME SEALANT BRIDGES THE GAP BETWEEN THE PIPE INSULATION AND WALL INTERFACE.
 2. FLASHING AND SEALING (IS REQUIRED AT ALL PENETRATIONS) TO MAINTAIN THE INTEGRITY OF SHEATHING MEMBRANE. COORDINATE FLASHING AND SEALING REQUIREMENTS WITH THE BUILDING MANUFACTURER, THE SPECIFICATION, AND BUILDING CODE.
 3. USE GALVANIZED METAL CONDUIT SLEEVE IN FIRE RATED WALLS, USE RPVC SLEEVING WHERE FIRE RATING IS NOT REQUIRED. FILL HOLE BETWEEN THE INSULATED METAL PANEL AND THE CONDUIT SLEEVE WITH APPROVED SEALANT. FILL BETWEEN THE ELECTRICAL CABLE AND CONDUIT WITH APPROVED SEALING THE ENTIRE LENGTH OF THE CONDUIT.
 4. PROVIDE FOR POSITIVE DRAINAGE OF CONDENSATION OCCURRING WITHIN WALL CONSTRUCTION AND WATER ENTERING JOINTS, TO EXTERIOR FACE OF WALL IN ACCORDANCE WITH NRC "RAIN SCREEN PRINCIPLES".

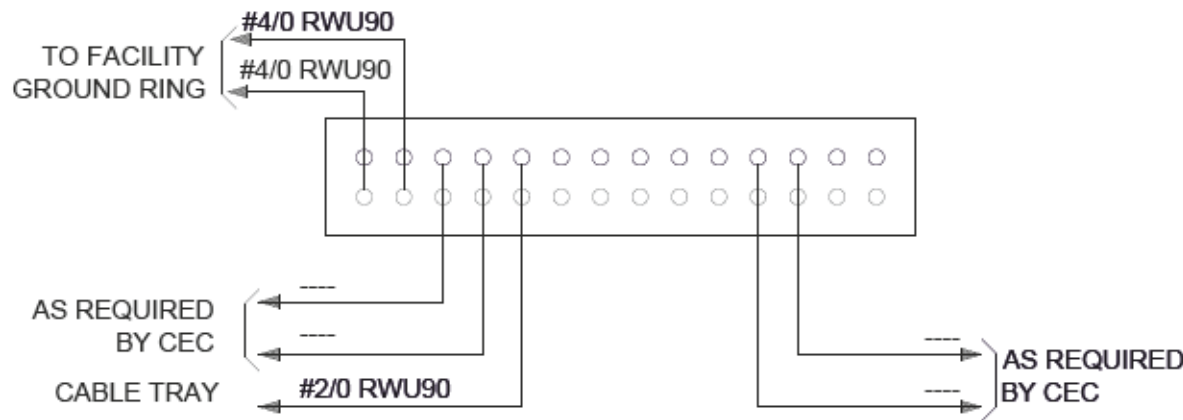
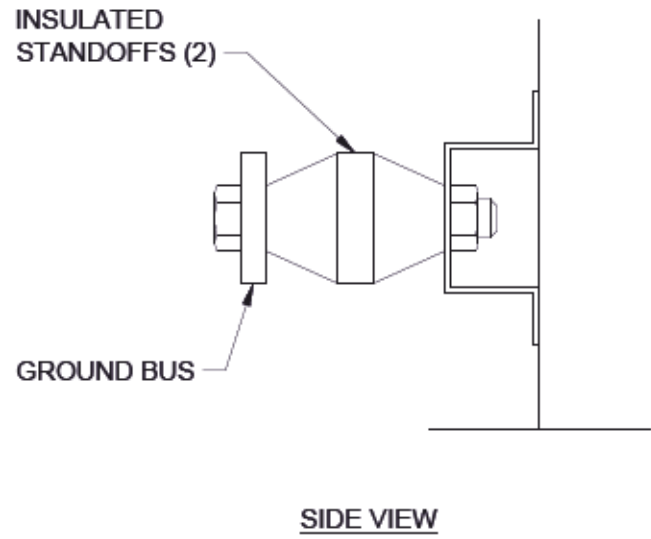
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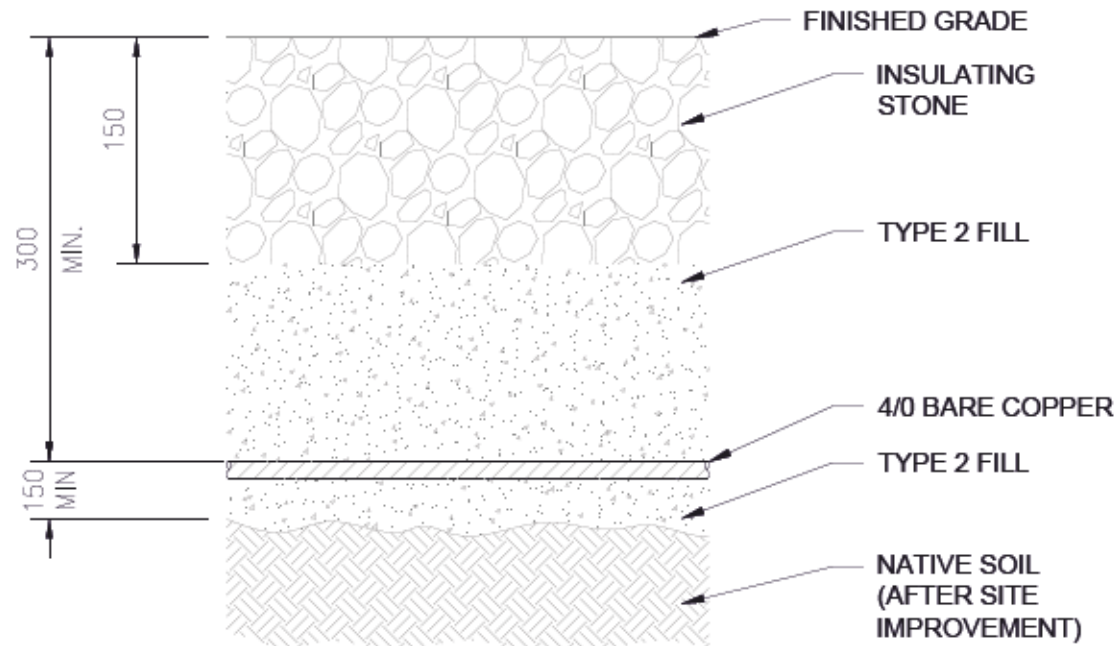
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NO.	REVISIONS	DATE	DESIGN	CHECKED



 THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT			
NEWPCC - SECONDARY EFFLUENT UV DISINFECTION FACILITY ELECTRICAL DETAILS			
CITY DRAWING NUMBER	SHEET 001	REV. 00	SIZE A1



1 | GROUNDING BUS DETAIL - FRONT VIEW
- | TYPICAL N.T.S.



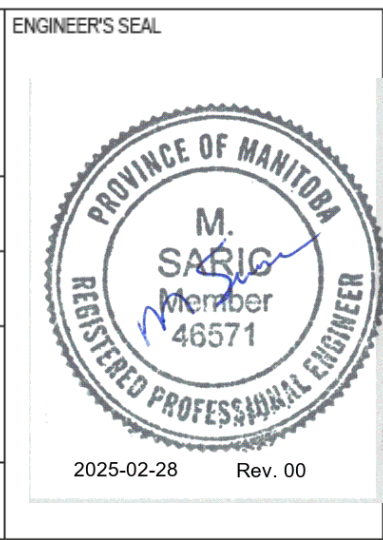
2 | TRANSFORMER PAD GROUND GRID TYPICAL
- | N.T.S.

1	ELECTRICAL UV FACILITY SITE PLAN GROUNDING DETAIL	0646630D-CE.1.02
NO.	DRAWING TITLE	DRAWING NUMBER
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AECOM	
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SCALE: NTS	RELEASED FOR CONSTRUCTION BY: DATE:
DATE: 2023-07-24	DATE:
CONSULTANT NO.: U0-E503	



TENDER NO. 30-2025			
THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT			
NEWPCC - SECONDARY EFFLUENT UV DISINFECTION FACILITY ELECTRICAL DETAILS			
CITY DRAWING NUMBER	SHEET 001	REV. 00	SIZE A1

BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	MANUFACTURER / PART NUMBER
1	AS REQ'D	UNIVERSAL SERVIT, COPPER RUN 1/0 - 2/0 AND TAP #8-2/0 AWG	BURNDY / KSU26
2	AS REQ'D	FENCE POST GROUNDING CONNECTOR, HOT DIPPED TIN PLATED COPPER 40mm O.D. PIPE SIZE TO 2/0 AWG - 250 MCM CABLE	BURNDY / GAR1729W
3	AS REQ'D	FENCE LINE GROUNDING CONNECTOR, HOT DIPPED TIN PLATED COPPER 50mm O.D. PIPE SIZE TO 2/0 AWG - 250 MCM CABLE	BURNDY / GAR1829W
4	AS REQ'D	FENCE CORNER POST GROUNDING CONNECTOR, HOT DIPPED TIN PLATED COPPER 80 O.D. PIPE SIZE TO 2/0 AWG - 250 MCM CABLE	BURNDY / GAR2029W
5	AS REQ'D	FENCE GATE POST GROUNDING CONNECTOR, HOT DIPPED TIN PLATED COPPER 115mm O.D. PIPE SIZE TO 2/0 AWG - 250 MCM CABLE	BURNDY / GAR2229W
6	AS REQ'D	COMPRESSION CONNECTOR, COPPER, RUN #1-2/0 AWG TO TAP #1-2/0 AWG	BURNDY / YGHC26C26
7	AS REQ'D	1/0 AWG EXTRA FLEX COPPER TIN-PLATED CABLE (FT)	(GENERIC)
8	AS REQ'D	2/0 AWG STR. CU CABLE TIN-PLATED (FT)	(GENERIC)

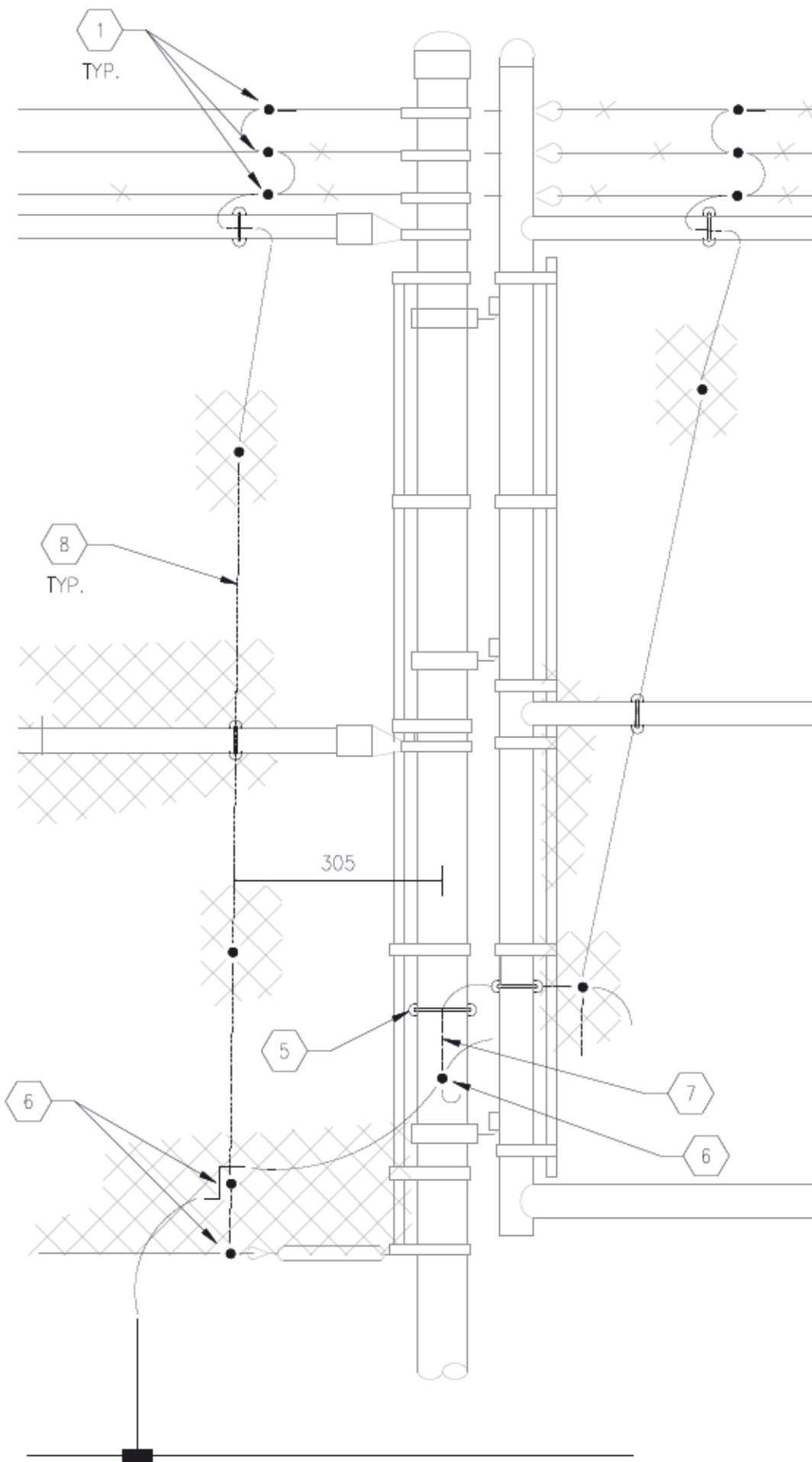
* THIS BILL OF MATERIALS IS INDICATIVE ONLY AND DOES NOT NECESSARILY INCLUDE ALL MATERIALS OR MISCELLANEOUS MATERIALS REQUIRED. IT IS INTENDED TO BE USED AS A GENERAL GUIDELINE ONLY AND IT IS THE RESPONSIBILITY OF THE VENDOR/FABRICATOR/ELECTRICAL CONTRACTOR TO PROVIDE ALL MATERIALS REQUIRED FOR A COMPLETE AND WORKING SYSTEM.

GENERAL NOTES:

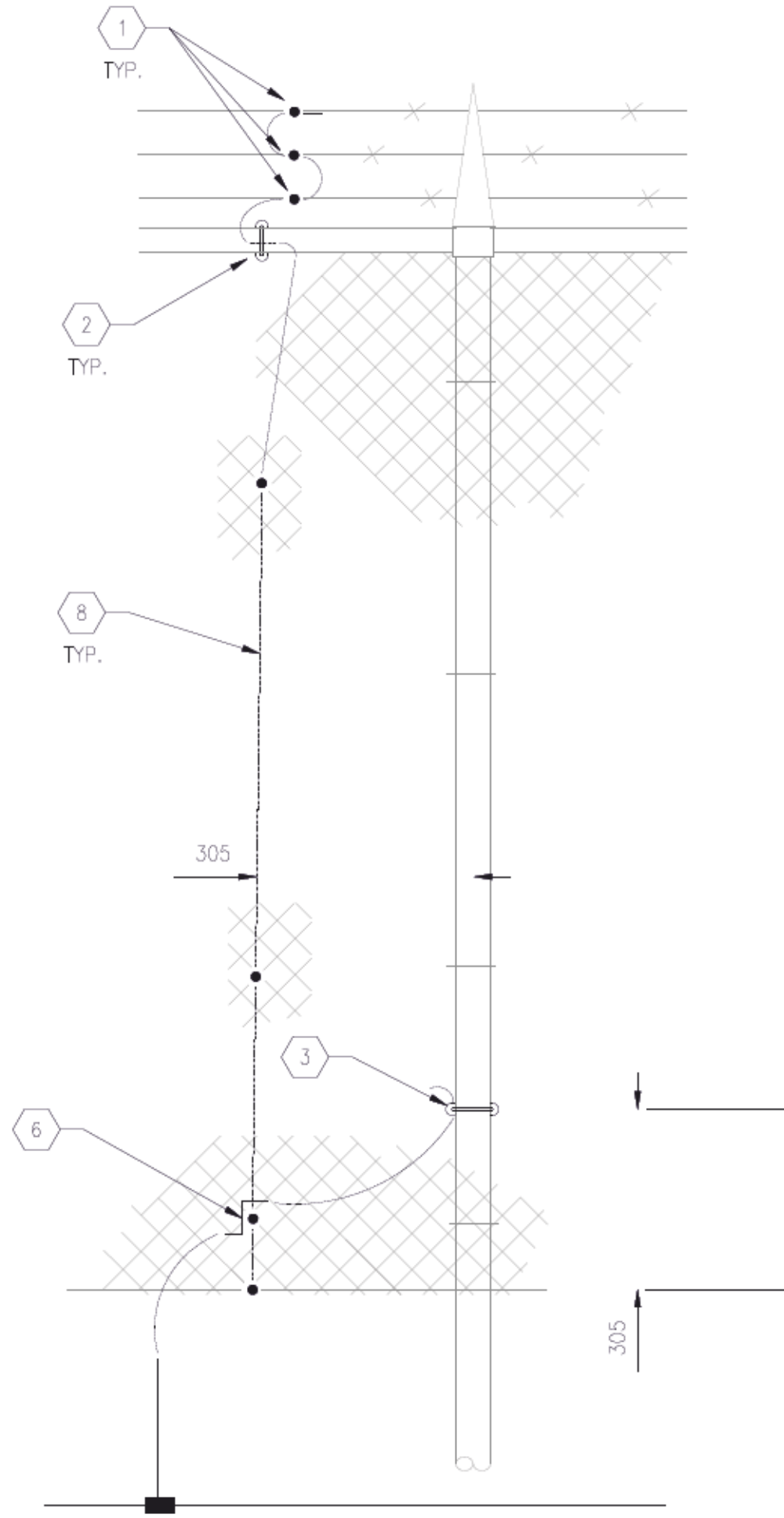
- THE FENCE SHALL BE BONDED TO THE GROUND GRID AT EVERY CORNER POST, GATE POST, AND AT INTERVALS NOT EXCEEDING 12m ALONG THE FENCE LENGTH.
- THE FENCE BONDING CONDUCTOR SHALL BE WEAVED THROUGH THE FENCE A MINIMUM OF TWO TIMES.
- "DANGER: HIGH VOLTAGE" SIGNS SHALL BE MOUNTED ON THE OUTSIDE OF EACH FENCE GATE AND EVERY 12m ALONG THE FENCE AT A HEIGHT OF 4 FEET ABOVE GROUND.

LEGEND:

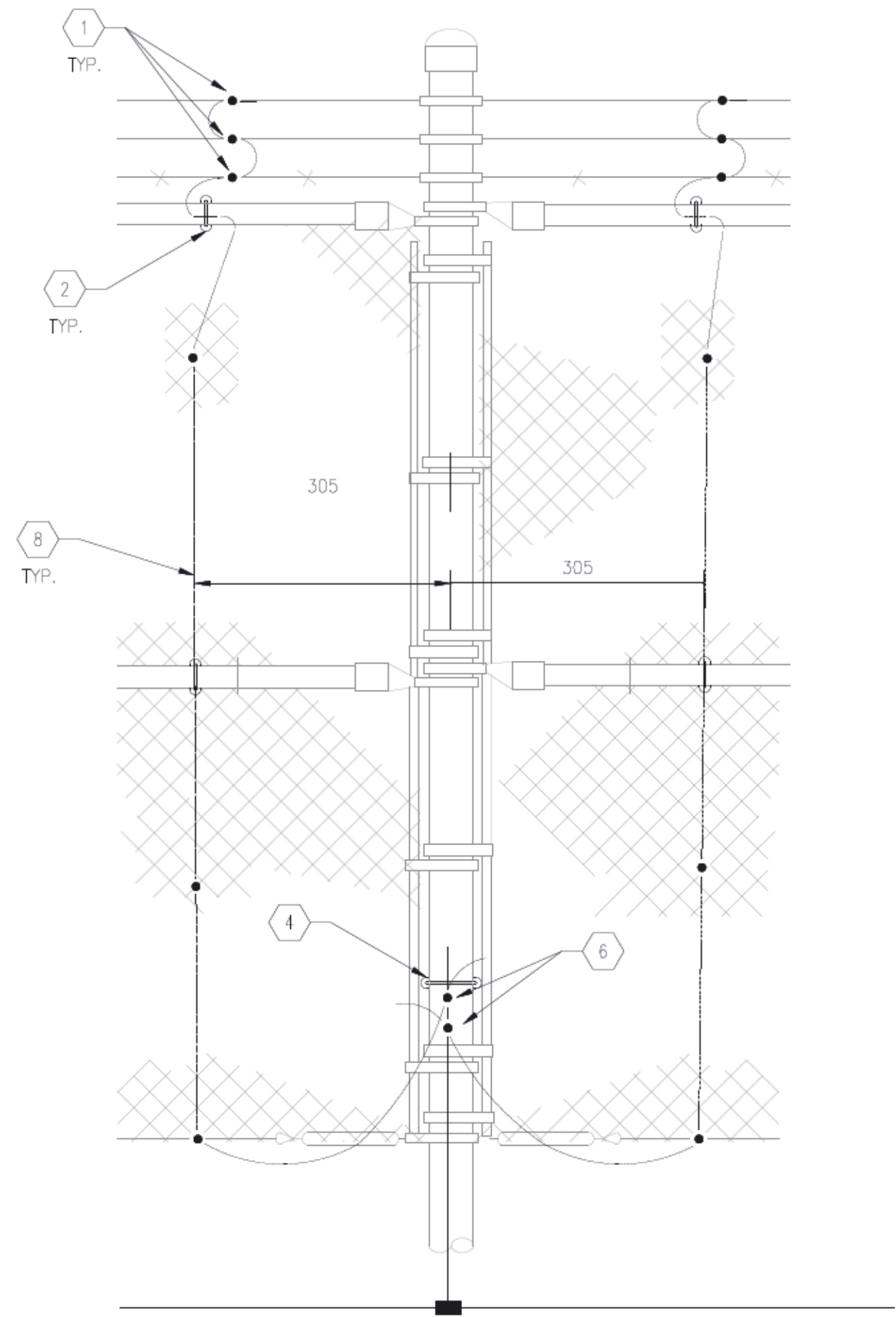
- 2/0 TINNED CU GROUND CONDUCTOR
- 4/0 TINNED CU GROUND CONDUCTOR
- COMPRESSION CONNECTION
- EXOTHERMIC CONNECTION



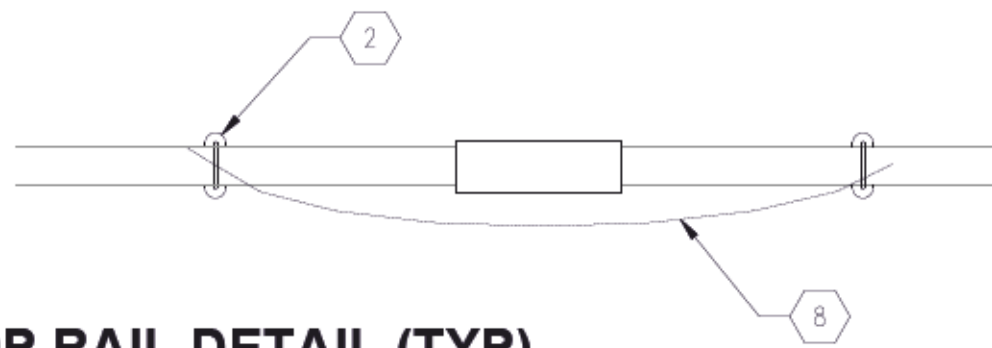
1 | GATE POST DETAIL (TYP)
- N.T.S.



2 | LINE POST DETAIL (TYP)
- N.T.S.



3 | GATE POST DETAIL (TYP)
- N.T.S.



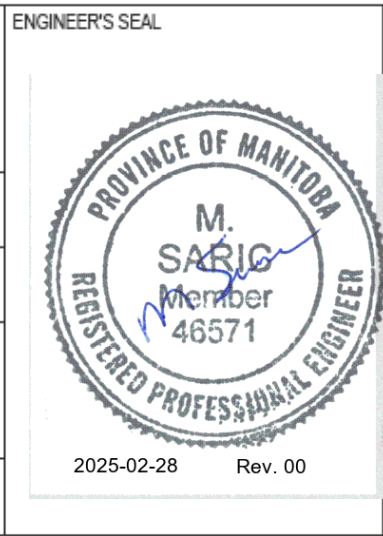
4 | TOP RAIL DETAIL (TYP)
- N.T.S.

1	ELECTRICAL UV FACILITY SITE PLAN GROUNDING DETAIL	0646630D-CE.1.02
NO.	DRAWING TITLE	DRAWING NUMBER
REFERENCE DRAWING		

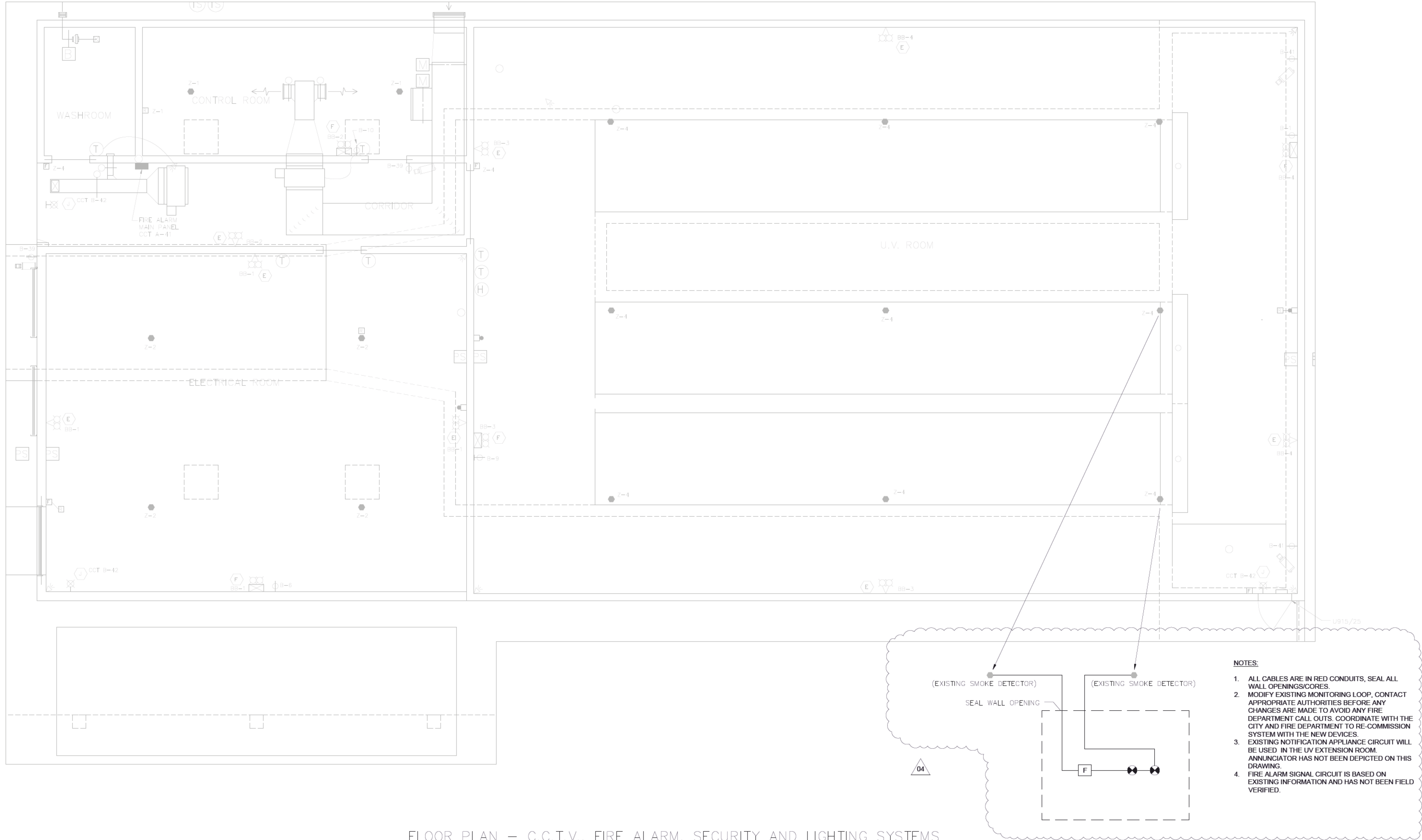


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NO.	REVISIONS	DATE	DESIGN	CHECK

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DESIGNED BY: TW	CHECKED BY: MS
DRAWN BY: TW	APPROVED BY: SB
SCALE: NTS	RELEASED FOR CONSTRUCTION BY: DATE: 2023-07-24
DATE: 2023-07-24	DATE:
CONSULTANT NO.:	UO-E504



THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT	
NEWPCC - SECONDARY EFFLUENT UV DISINFECTION FACILITY ELECTRICAL FENCE BONDING DETAILS	
CITY DRAWING NUMBER	SHEET REV. SIZE 001 00 A1



FLOOR PLAN – C.C.T.V., FIRE ALARM, SECURITY AND LIGHTING SYSTEMS
SCALE 1:50

- NOTES:**
1. ALL CABLES ARE IN RED CONDUITS, SEAL ALL WALL OPENINGS/CORES.
 2. MODIFY EXISTING MONITORING LOOP, CONTACT APPROPRIATE AUTHORITIES BEFORE ANY CHANGES ARE MADE TO AVOID ANY FIRE DEPARTMENT CALL OUTS. COORDINATE WITH THE CITY AND FIRE DEPARTMENT TO RE-COMMISSION SYSTEM WITH THE NEW DEVICES.
 3. EXISTING NOTIFICATION APPLIANCE CIRCUIT WILL BE USED IN THE UV EXTENSION ROOM. ANNUNCIATOR HAS NOT BEEN DEPICTED ON THIS DRAWING.
 4. FIRE ALARM SIGNAL CIRCUIT IS BASED ON EXISTING INFORMATION AND HAS NOT BEEN FIELD VERIFIED.

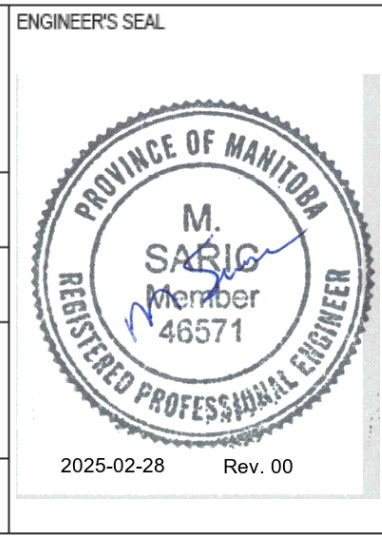
NO.	DRAWING TITLE	DRAWING NUMBER
1	STORAGE ROOM FIRE DETECTION AND EMERGENCY LIGHTING LAYOUT	U2-E104
REFERENCE DRAWING		

REVISION 04: CHANGES THE ENGINEER'S DESIGN RESPONSIBILITIES ARE LIMITED TO THE CHANGES INDICATED IN THE CLOUDED WORK			
DESIGNED BY:	SB	CHECKED BY:	SB
DRAWN BY:	MS	APPROVED BY:	SB
DATE:	2025-02-26	RELEASED FOR CONSTR. DATE:	



NO.	REVISIONS	DATE	DESIGN	CHECK
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PA	ISSUED FOR 90% REVIEW	2024-11-29	MS	SB
3	AS-CONSTRUCTED DRAWING	02/06/09	DS	SB
2	REVISED AS BUILT	07/08/02	DS	
1	ISSUED FOR CONSTRUCTION	05/06/08	CLG	
0	ISSUED FOR TENDER	05/02/18	JEH	

AECOM	
DESIGNED BY: MS	CHECKED BY: SB
DRAWN BY: TW	APPROVED BY: SB
SCALE: 1:50	RELEASED FOR CONSTRUCTION BY: DATE:
DATE: 2023-07-24	
CONSULTANT NO.: 66303D-CE1.06	



THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT	
NEWPCC - SECONDARY EFFLUENT UV DISINFECTION FACILITY ELECTRICAL EXISTING C.C.T.V., FIRE ALARM, SECURITY AND LIGHTING SYSTEMS	
CITY DRAWING NUMBER 1-0101U-E0009	SHEET 001
REV. 04	SIZE A1

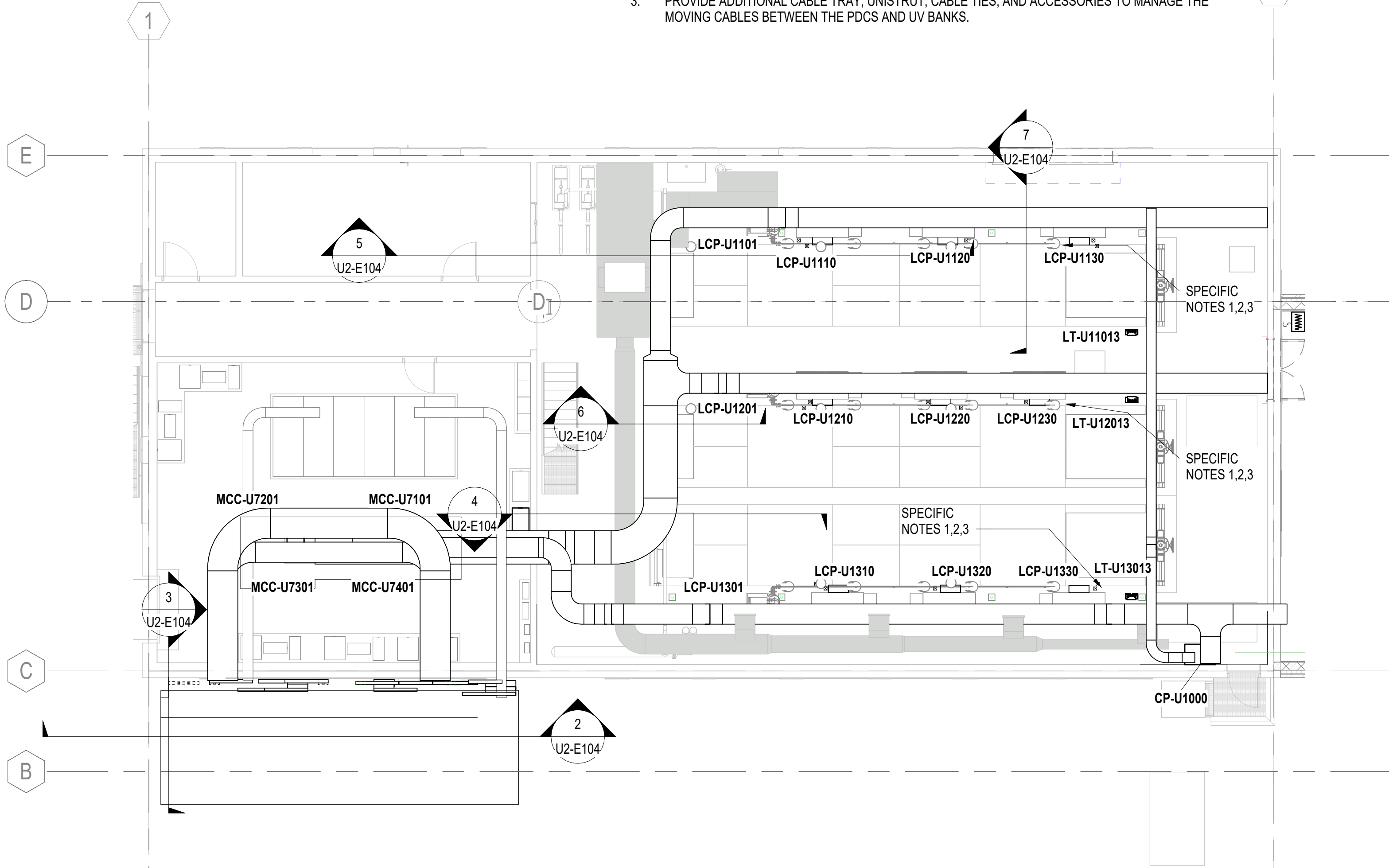
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A1 SIZE: 594mm x 841mm

GENERAL NOTES:

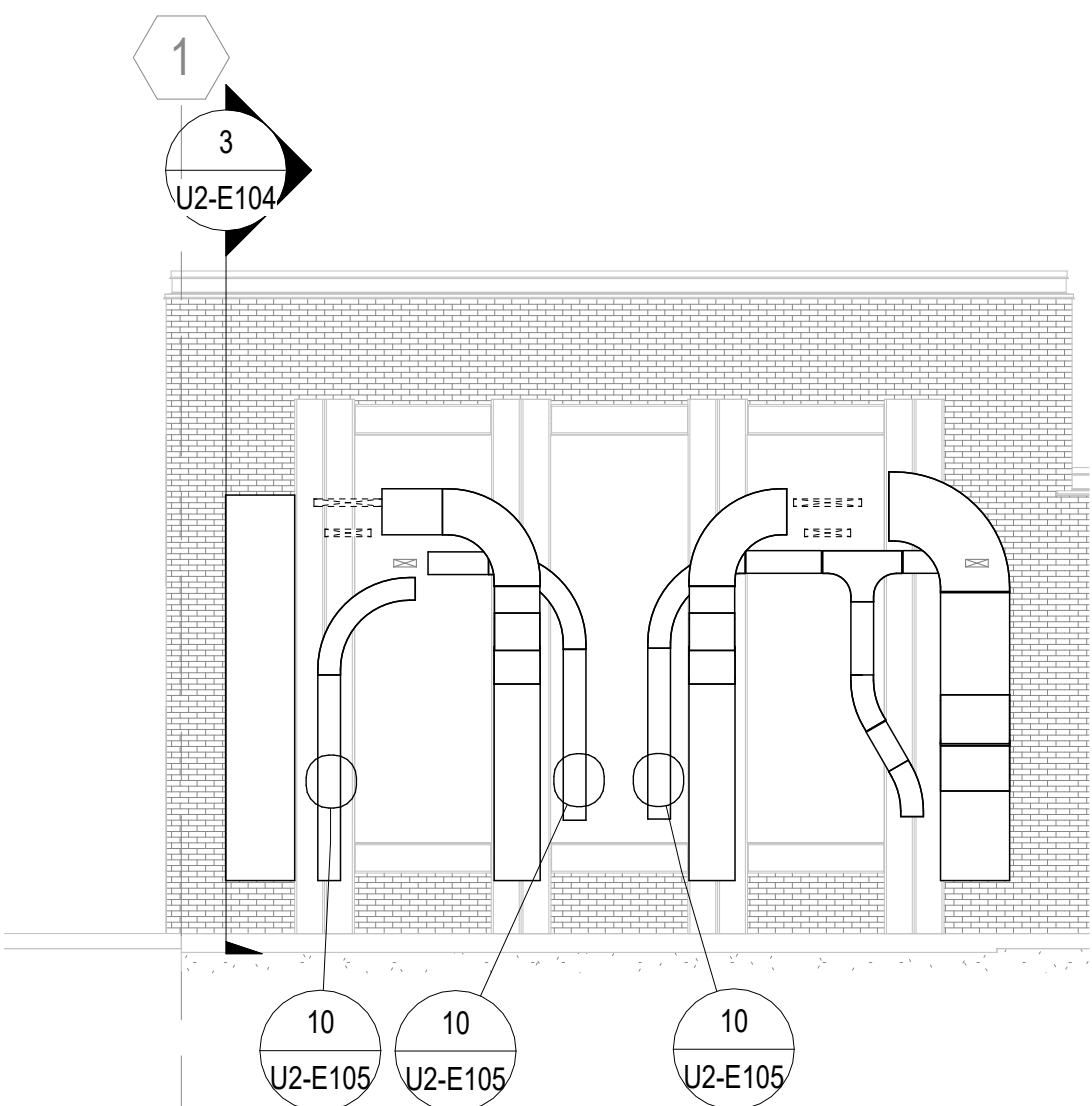
1. ALL OUTDOOR CABLE TRAY WILL BE PROTECTED BY UV COVERS.
2. VERTICAL CABLE RUNS WILL BE CLAMPED AT 1 METER INTERVALS.
3. VERTICAL RUN OF CABLE TRAY WILL BE FASTENED TO EXISTING WALL.

SPECIFIC NOTES:

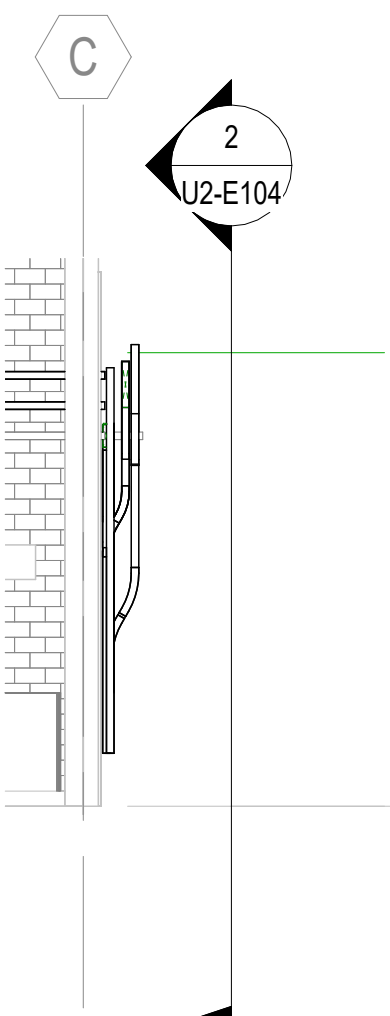
1. THE CONTRACTOR SHALL SUBMIT A CABLE MANAGEMENT PLAN TO CONTRACT ADMINISTRATOR AND THE CITY TO PROVIDE INSTALLATION DETAILS FOR THE CABLE RUN BETWEEN UV PDC PANELS AND UV BANKS. CONTRACTOR TO UTILIZE DETAILS PROVIDED IN THIS DRAWING TO MANAGE THE CABLE RUNS.
2. CONTRACTOR TO CONSIDER THE MOVEMENT OF UV BANKS IN THE CABLE MANAGEMENT TO AVOID ANY CABLES DAMAGES DURING UV BANKS MOVEMENT.
3. PROVIDE ADDITIONAL CABLE TRAY, UNISTRUT, CABLE TIES, AND ACCESSORIES TO MANAGE THE MOVING CABLES BETWEEN THE PDCS AND UV BANKS.



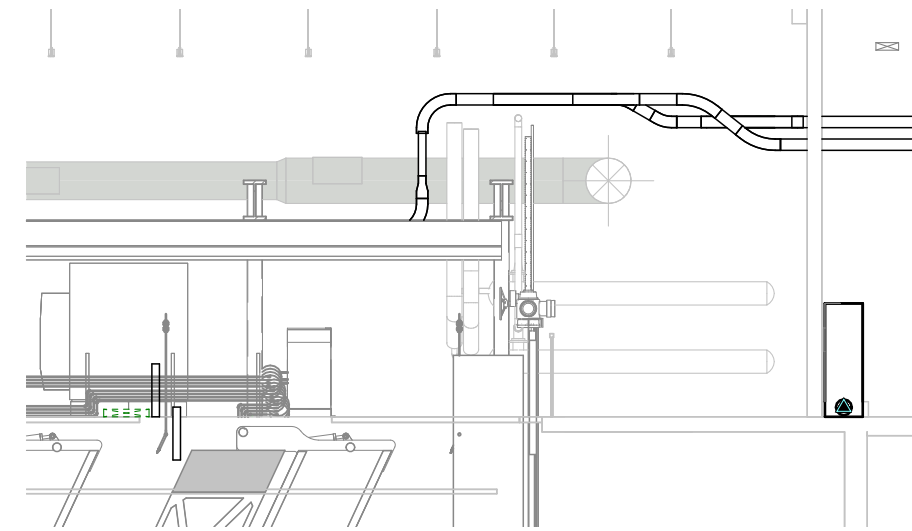
1 MAIN FLOOR - CABLE TRAY LAYOUT
SCALE: 1 : 100



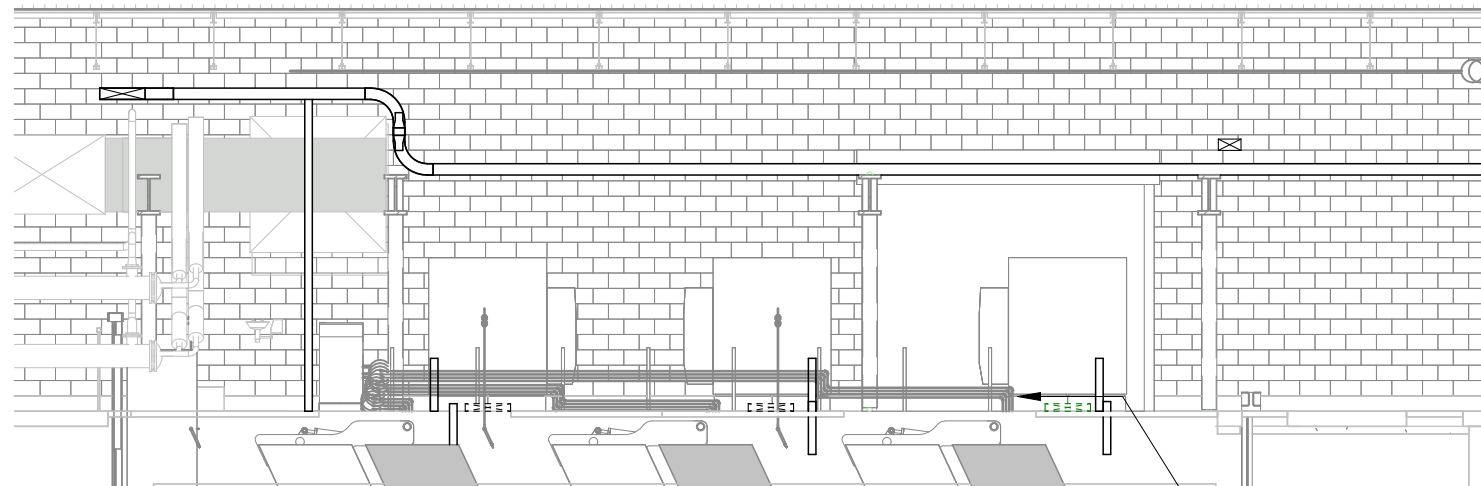
2 OUTSIDE WALL FRONT VIEW
U2-E104 SCALE: 1 : 100



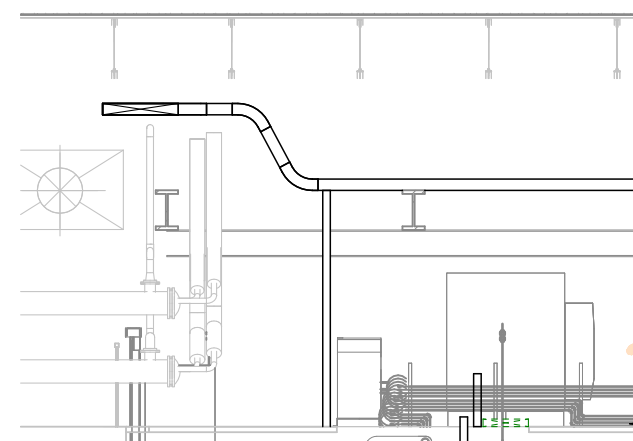
3 OUTSIDE WALL SIDE VIEW
U2-E104 SCALE: 1 : 100



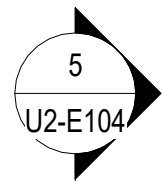
4 CHANNEL 3 SIDE VIEW
U2-E104 SCALE: 1 : 100



5 CHANNEL 1 SIDE VIEW
U2-E104 SCALE: 1 : 100



6 CHANNEL 2 SIDE VIEW
U2-E104 SCALE: 1 : 100



7 CHANNEL 1 FRONT VIEW
U2-E104 SCALE: 1 : 100

1 CABLE TRAY STORAGE ROOM			U2-E103
NO.	DRAWING TITLE	DRAWING NUMBER	
	REFERENCE DRAWING		



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00	ISSUED FOR TENDER	2025-02-26	MS	SB

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DESIGNED BY: MS	CHECKED BY: SB
DRAWN BY: TW	APPROVED BY: SB
SCALE: 1 : 100	RELEASED FOR CONSTRUCTION BY: SB
DATE: 2023-07-24	DATE:
CONSULTANT NO.:	U2-E104



THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT			
NORTH END SEWAGE TREATMENT PLANT NEWPCC UV UPGRADES ELECTRICAL CABLE TRAY CABLE ROUTE LAYOUT			
CITY DRAWING NUMBER	SHEET	REV.	SIZE
		00	A1

TENDER NO. 30-2025



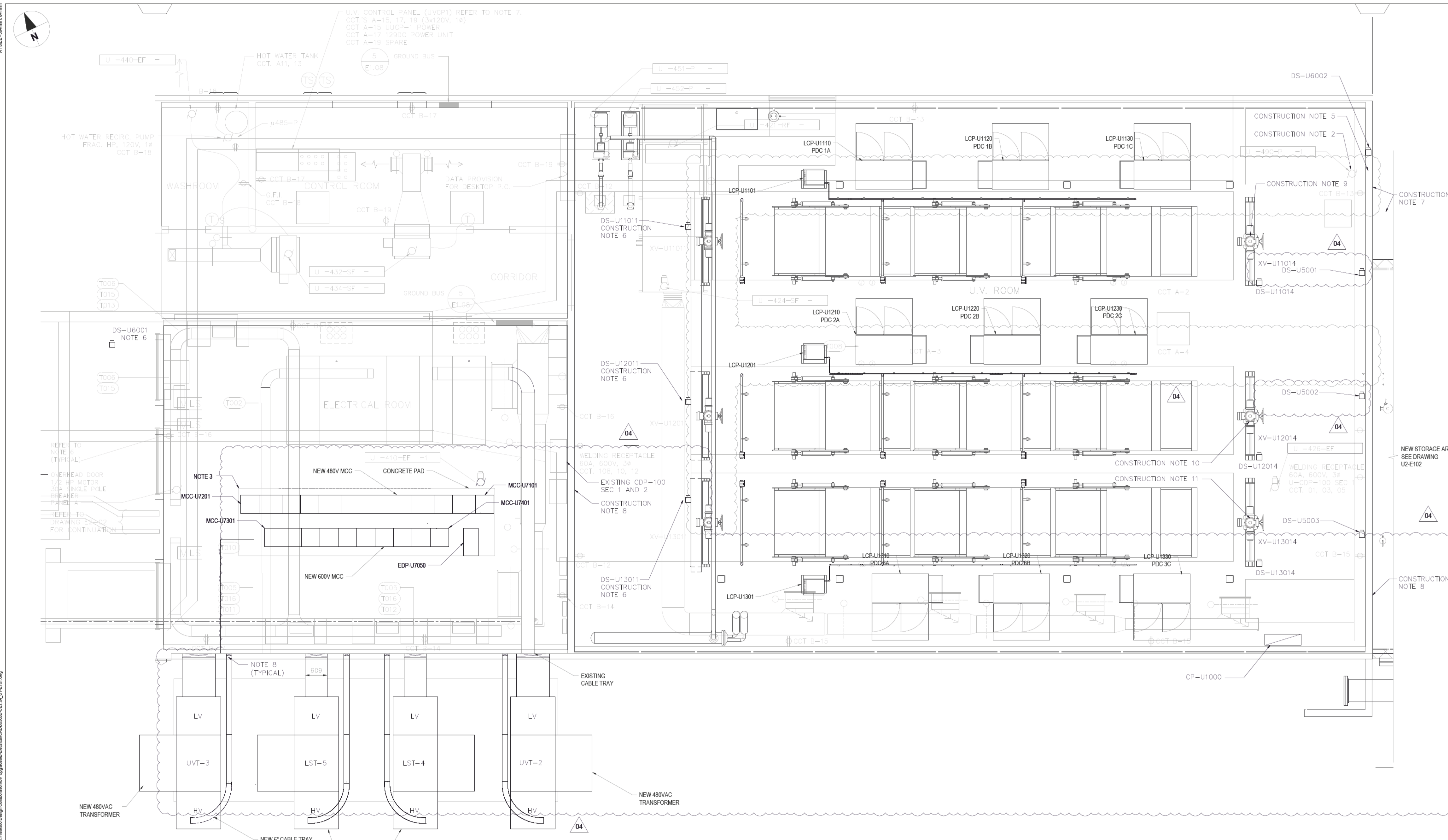
1. DEMOLISH AND REMOVE EXISTING CABLES TO PUMPS U-490 PUMPS. EXISTING PUMPS TO REMAIN. CABLES TO BE REPLACED BY NEW.
2. DEMOLISH UVT-2 AND UVT-3 TRANSFORMERS. EXISTING 4160V CABLE SHALL BE DEMOLISHED.
3. DEMOLISH LST-3 AND LST-4 TRANSFORMERS. DISCONNECT AND REMOVE EXISTING 4160V CABLE
4. DEMOLISH 600/480V AC SWITCHGEAR AND BUS DUCT UP TO TRANSITION BOXES.
5. DEMOLISH EXTERIOR CABLE TRAY BACK TO BUILDING.
6. DEMOLISH ALL EXISTING UV SYSTEMS INCLUDING LAMP BANKS, ASSOCIATED PDCS, SCC AND HSCS.
7. DEMOLISH EXISTING CABLE TRAYS AND CABLES.
8. DEMOLISH EXISTING RECEPTACLE, CABLING, CONDUITS AND ACCESSORIES. PROVIDE ADDITIONAL CABLES, CONDUITS AND ACCESSORIES TO KEEP REMAINING LOADS ON CIRCUIT CCT 13 OPERATIONAL.
9. DEMOLISH EXISTING ACTUATED GATE, ACCESSORIES AND CABLING.

1	TEMPORARY WORK	UD-E101_TW
NO.	DRAWING TITLE	DRAWING NUMBER
REFERENCE DRAWING		



												ENGINEER'S SEAL					THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT		
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NOTES:

- WHERE EXISTING SUPPORTING STRUCTURE IS DEMOLISHED (IE: CONDUITS, TRAYS ETC.) REPLACE EXISTING CABLES AND ACCESSORIES WITH NEW, RE-ROUTE AND RE-TERMINATE FROM SAME END LOCATIONS.
- ASSEMBLE AND INSTALL NEW PRE-PURCHASED MCCs.
- CONTRACTOR TO MOVE MISCELLANEOUS WIRING, SMALL PIPING, CONDUIT, INSTRUMENTS, ETC. TO MAKE ROOM FOR NEW OPENINGS.
- INSTALL PRE-PURCHASED TRANSFORMERS.
- INSTALL ALL PRE-PURCHASED UV EQUIPMENT AND ACCESSORIES.
- SEAL ALL PENETRATIONS.
- CONTRACTOR TO ENSURE THAT WATER INGRESS DOES NOT OCCUR FOR ALL OUTDOOR PENETRATIONS.
- PROVIDE CUTTING AND PATCHING AS REQUIRED. RETURN EXPOSED SURFACES TO AN AS-FOUND CONDITION.
- REFER TO DRAWING U2-E103 FOR CABLE TRAY LAYOUTS.
- EXTEND CONCRETE PAD TO HOUSE THE NEW MCC.
- RELOCATE ANY EXISTING DEVICES TO CREATE SUFFICIENT SPACE FOR NEW DOOR OPENING TO NEW STORAGE AREA. RELOCATE 1 METER FROM NEW DOOR, PROVIDE ALL NEW CABLING AND ACCESSORIES.

CONSTRUCTION NOTES:

- ALL CLOUDED EQUIPMENT SHOWN ARE NEW.
- RE-FED EXISTING PUMP U-490-P 1/2 FROM EXISTING 600V MCC WITH NEW CABLING AND ACCESSORIES.
- MODIFY EXISTING PAD TO ACCOMMODATE NEW MCCs, PAD TO EXTEND A MINIMUM OF 100mm ON EACH SIDE OF MCC. REFER TO STRUCTURAL DRAWING U2-S501 FOR PAD EXTENSION DETAIL.
- EQUIPMENT TO BE WALL MOUNTED.
- REFER TO DETAIL 7 ON PAGE U0-E502, FOR CABLE WALL PENETRATION.
- EQUIPMENT TO BE MOUNTED ON A UNISTRUT FRAME.
- INSTALL CABLE IN SLEEVE, FASTEN CONDUITS TO WALL AND THE GROUND FOR ALL CABLES LEAVING THE BUILDING.
- SEAL WALL OPENING (TYPICAL OF ALL PENETRATIONS), SEE DETAIL 1 ON DRAWING U0-E502.

CONSTRUCTION NOTES (CONT.):

- PROVIDE NEW AUTOMATION, POWER CABLING AND ACCESSORIES. REFER TO CABLE SCHEDULE, SOURCE POWER FROM EXISTING GDP-100 SEC 2 CCT 01, 03, 05.
- PROVIDE NEW AUTOMATION, POWER CABLING AND ACCESSORIES. REFER TO CABLE SCHEDULE, SOURCE POWER FROM EXISTING GDP-100 SEC 2 CCT 05, 07, 09.
- PROVIDE NEW AUTOMATION, POWER CABLING AND ACCESSORIES. REFER TO CABLE SCHEDULE, SOURCE POWER FROM EXISTING GDP-100 SEC 2 CCT 06, 08, 10.

REVISION 04 CHANGES THE ENGINEER'S DESIGN RESPONSIBILITIES ARE LIMITED TO THE CHANGES INDICATED IN THE CLOUDED WORK

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DRAWN BY:	DM	APPROVED BY:	SB
DATE:	2025-02-26	RELEASED FOR CONSTR. DATE:	

ENGINEERS
MANITOBA
Certificate of Authorization
AECOM Canada ULC
No. 4671

4	ISSUED FOR TENDER	2025-02-26	MS	SB
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2	REVISED AS BUILT	07/08/02	CDG	
1	ISSUED FOR CONSTRUCTION	05/06/08	GLG	
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NO.	REVISIONS	DATE	DESIGN	CHECK

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DESIGNED BY:	CR	CHECKED BY:	SB
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CONSULTANT NO.:	66303D-CE1.04		

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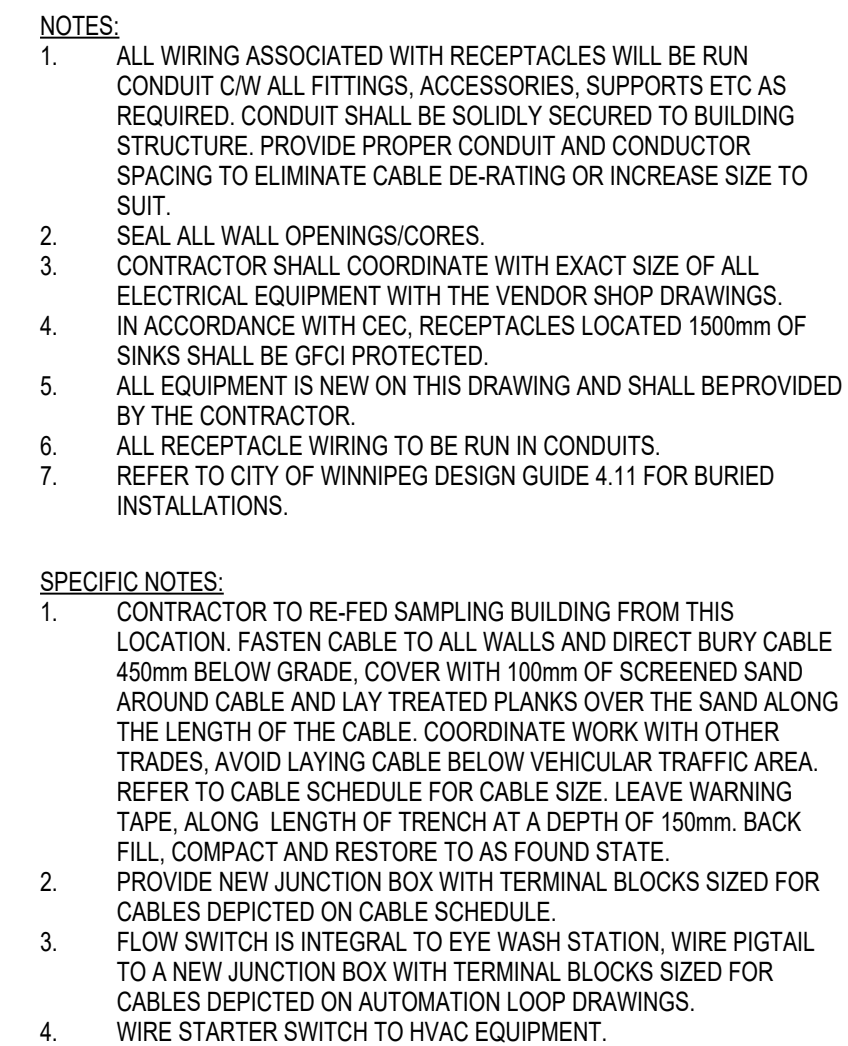
PROVINCE OF MANITOBA
M. SARIĆ
Member
46571
REGISTERED PROFESSIONAL ENGINEER
2025-02-28 Rev. 00

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

NEWPCC - SECONDARY EFFLUENT
UV DISINFECTION FACILITY
ELECTRICAL
EXISTING UV DISINFECTION FACILITY
FLOOR PLAN POWER

CITY DRAWING NUMBER	1-0101U-E0006	SHEET	001	REV.	04	SIZE	A1
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TENDER NO. 30-2025



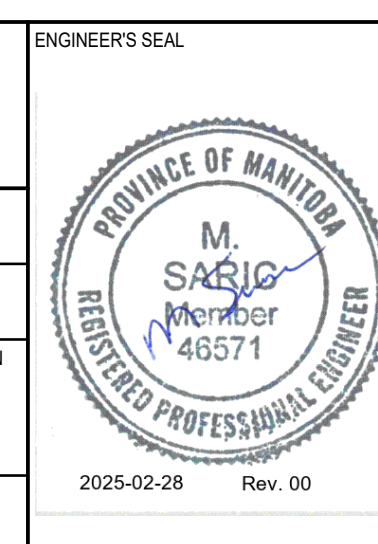
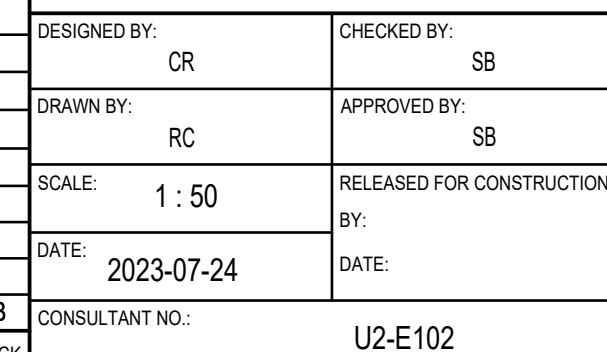
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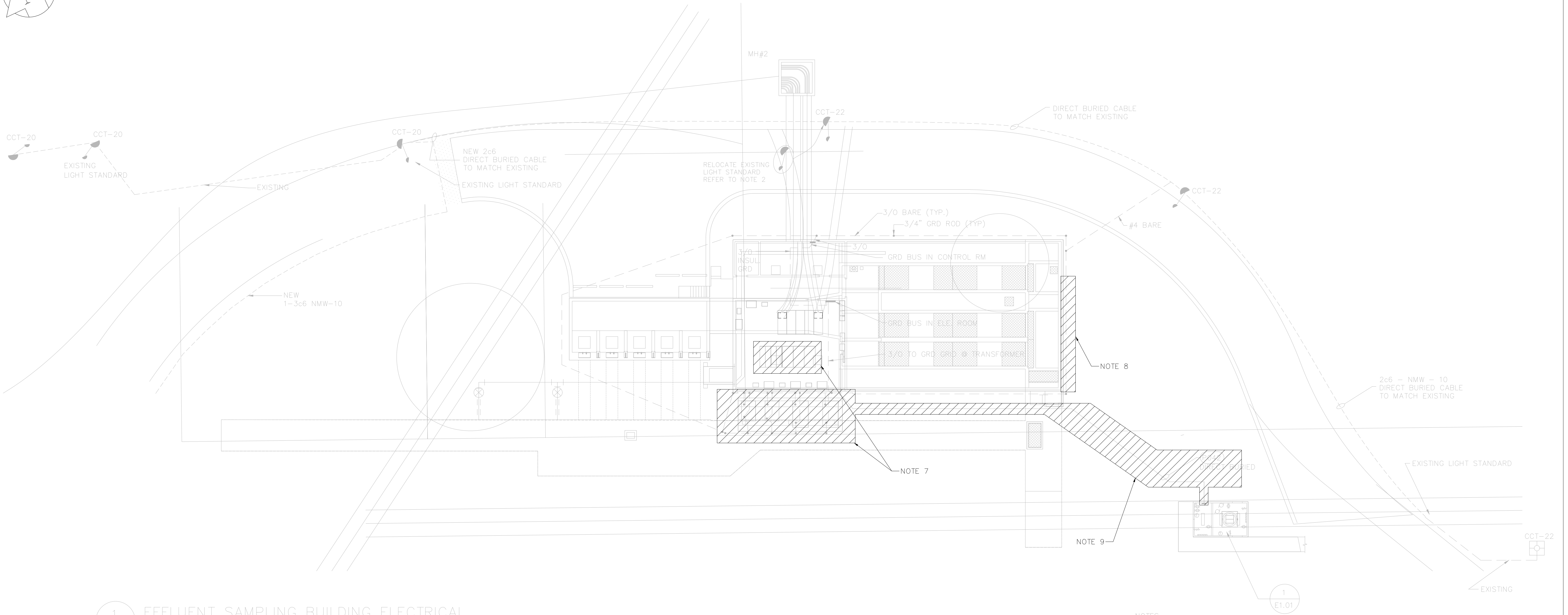
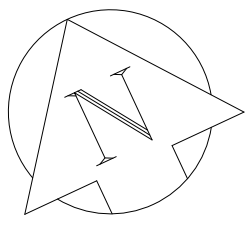
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NO.	REVISIONS	DATE	DESIGN	CHECK



 THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT		TENDER NO. 30-2023	
NORTH END SEWAGE TREATMENT PLANT NEWPCC UV UPGRADES ELECTRICAL NEW UV STORAGE ROOM POWER LAYOUT			
CITY DRAWING NUMBER	SHEET	REV. 00	SIZE A1



1 EFFLUENT SAMPLING BUILDING ELECTRICAL
E1.01 SCALE 1:200

- NOTES:
1. EXACT LOCATIONS OF EXISTING AND NEW EQUIPMENT SHALL BE DETERMINED ON SITE PRIOR TO PURCHASE AND INSTALLATION OF EQUIPMENT AND WIRING.
 2. RELOCATE TWO (2) EXISTING ROADWAY LIGHT STANDARDS. REMOVE EXISTING UNDERGROUND CABLE AT EACH STANDARD EAST AND WEST OF THE UNITS BEING RELOCATED. PROVIDE NEW UNDERGROUND WIRING TO MATCH EXISTING. CONNECT RELOCATED LIGHT STANDARDS TO ADJACENT REMAINING UNITS. PROVIDE NEW CONCRETE BASES TO MATCH EXISTING. REFER TO UNDERGROUND UTILITIES DRAWINGS FOR EXACT LIGHT STANDARD LOCATIONS.
 3. REFER TO DRAWING CE1.07 FOR UNDERGROUND DUCT BANK SECTIONS A, B, C, D AND E.
 4. REFER TO DRAWING CE1.09 FOR UNDERGROUND DUCT BANK SECTIONS F AND G.
 5. REFER TO SPECIFICATION SECTION 01700 FOR SITE RESTORATION.
 6. REFER TO GENERAL CONDITIONS FOR RESTORATION OF PROPERTY AFFECTED BY NEW CONSTRUCTION.
 7. EXISTING UVT-2, UVT-3, LST-4, LST-5 TRANSFORMERS AND ITS NGR, AND ASSOCIATED SWITCH GEAR, SHALL BE REMOVE AND SALVAGED. EXISTING GROUND GRID SHALL BE DEMOLISHED.
 8. DEMOLISH EXISTING GROUND GRID SECTION AND ASSOCIATED ACCESSORIES, INCLUSIVE BUT NOT LIMITED TO GROUND RODS AND WELLS.COORDINATE WITH OTHER TRADES FOR EXACT LOCATIONS.
 9. DEMOLISH EXISTING CABLE TO SAMPLING BUILDING.

2	ELECTRICAL UV FACILITY SITE PLAN GROUNDING DETAIL	0646630D-CE.1.02
1	NEW STORAGE ROOM POWER LAYOUT	U2-E102
NO.	DRAWING TITLE	DRAWING NUMBER
REFERENCE DRAWING		



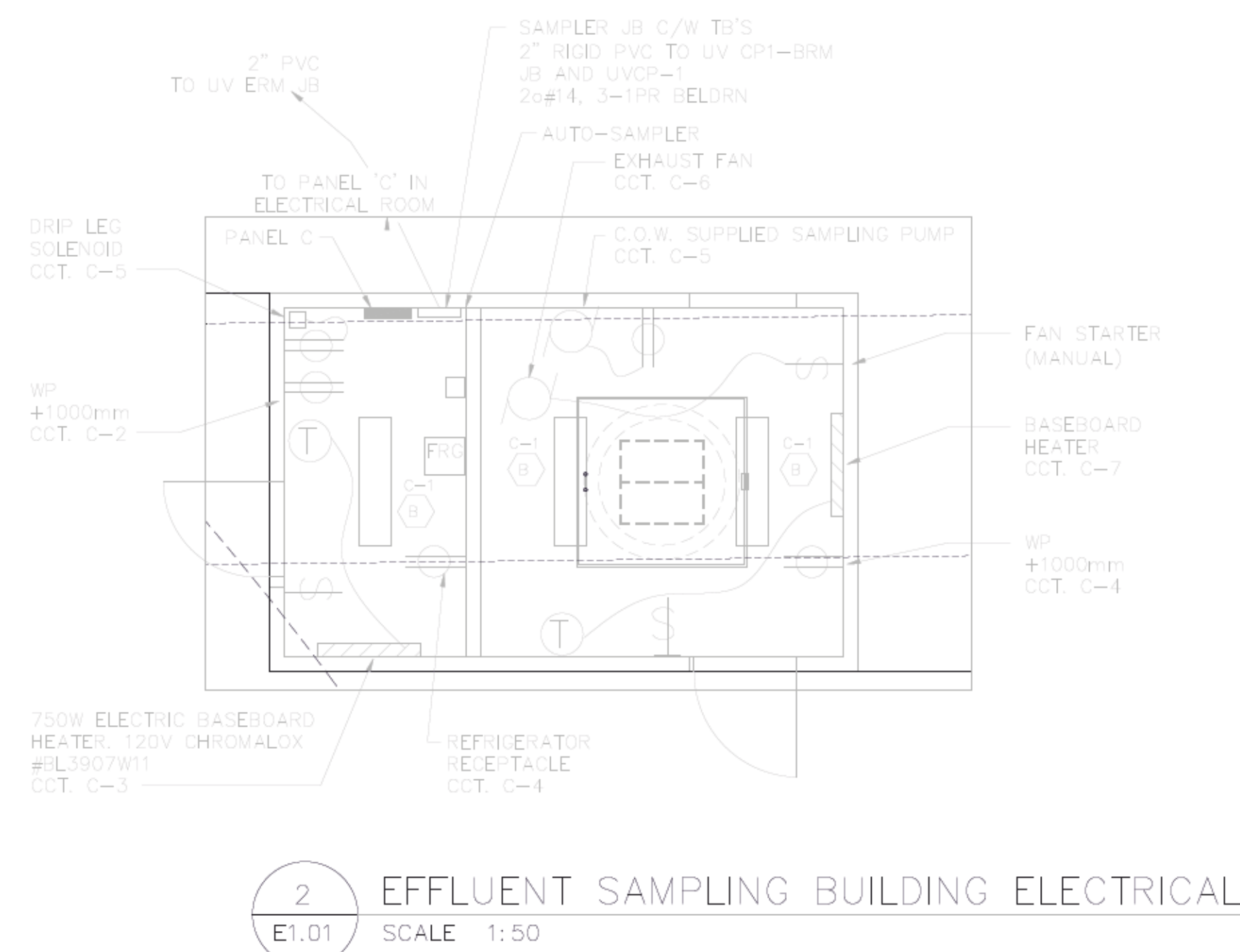
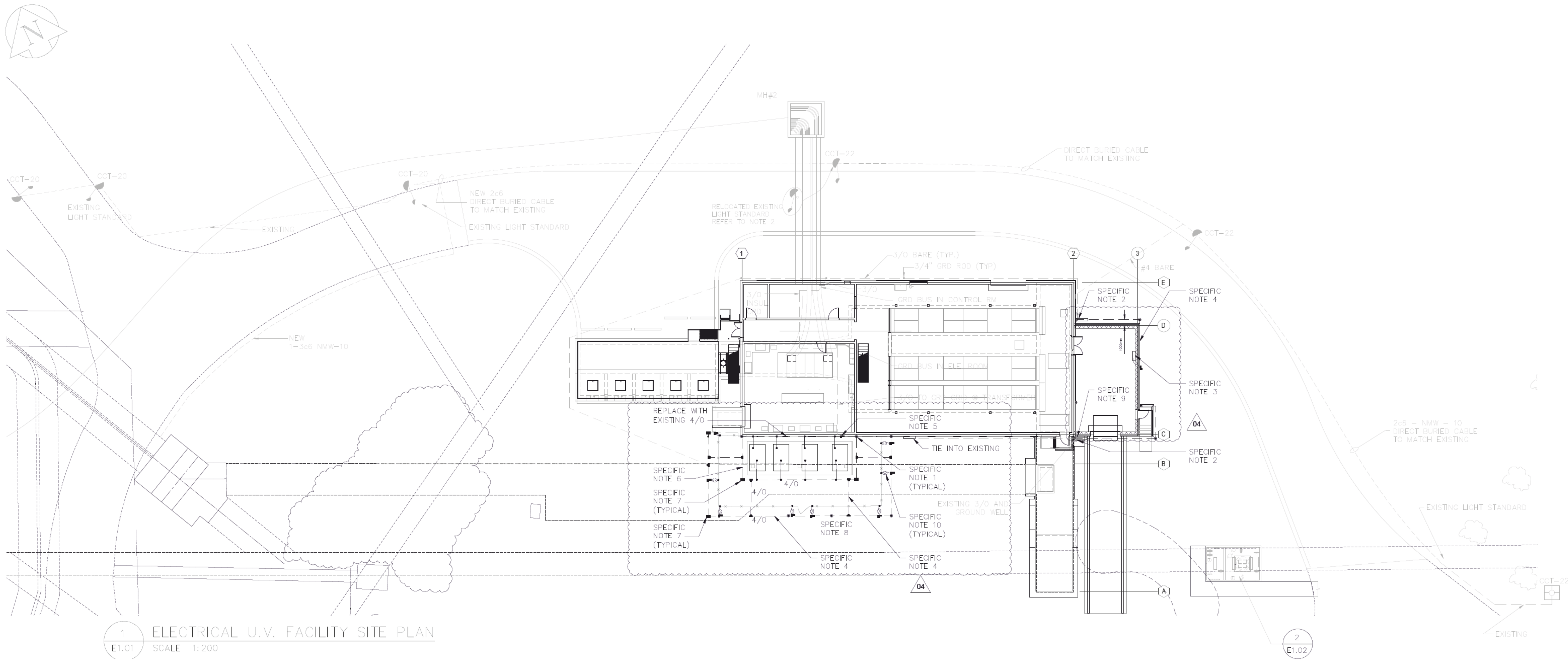
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NO.	REVISIONS	DATE	DESIGN CHECK		



TENDER NO. 30-2025			
THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT			
NEWPCC - SECONDARY EFFLUENT UV DISINFECTION FACILITY ELECTRICAL UV FACILITY SITE PLAN DEMOLITION			
CITY DRAWING NUMBER		SHEET 01	REV. 00
		SIZE A1	

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A1 SIZE: 594mm x 841mm



SPECIFIC NOTES:

1. INSTALL NEW GROUND RODS, ROD TO BE BURIED 300mm BELOW FINISHED GRADE.SEE YE-E501 DETAIL 5.
2. TIE NEW GROUND GRID BOND INTO EXISTING GROUND GRID USING EXOTHERMIC CONNECTION. SEE YE-E501 DETAIL 2.
3. WALL MOUNTED, GROUNDING PLATE BOND TO GROUND GRID.SEE U0-E503 DETAIL 1.
4. 4/0 BARE COPPER CONDUCTOR BURIED 300mm BELOW GRADE.
5. TIE EXISTING CONNECTION TO NEW GROUND GRID.
6. INSTALL 4/0 PERIMETER GROUND GRID, AROUND EXISTING TRANSFORMER PAD WITH MINIMUM 2m SPACING FROM THE PAD.
7. GROUND GRID PLATE SHALL BE BURIED 300mm BELOW FINISHED GRADE.SEE YE-E501 DETAIL 8.
8. ADD TYPE 2 FILL AND INSULATING STONE AS DEPICTED ON U0-E503 DETAIL 2, INSIDE FENCE AND 1m OUTSIDE OF THE FENCE.
9. CONTRACTOR TO CUT EXISTING BARE COPPER CONDUCTOR, AND BOND NEW GROUND GRID PERIMETER AS DEPICTED.
10. PROVIDE 2m PIGTAILS ON FENCE BONDS.

NOTES:

1. EXISTING GROUND CONDUCTOR SIZE HAS NOT BEEN FIELD VERIFIED. INFORMATION ON SIZING WAS BASED ON AVAILABLE INFORMATION. CONTRACTOR TO FIELD CONFIRM SIZE.
2. DEMOLISH EXISTING GROUND GRID SECTION AND ASSOCIATED ACCESSORIES, INCLUSIVE BUT NOT LIMITED TO GROUND RODS AND WELLS. CONTRACTOR SHALL PROVIDE SAFE WORKING PROCEDURE WHEN WORKING ON THE GROUND GRID WHILE THE ELECTRICAL SYSTEM IS ENERGIZED.
3. CONTRACTOR TO CUT EXISTING BARE COPPER CONDUCTOR, AND BOND NEW GROUND GRID PERIMETER AS DEPICTED.
4. NEW TRANSFORMER TANKS, NEUTRAL, AND ARRESTERS TO BE BONDED TO GROUND GRID. REFER TO VENDOR DRAWINGS FOR EXACT LOCATIONS AND QUANTITY OF BONDS.
5. CONTRACTOR SHALL HAND DIG AROUND THE AREA TO EXPOSE THE COPPER CONDUCTOR. USE OF HEAVY EQUIPMENT IS NOT PERMITTED.
6. PERIMETER FENCE TO BE BONDED TO EXISTING GROUND GRID. REFER TO U0-E504.
7. COORDINATE INSTALLATION OF THE GROUNDING GRID, WITH THE CONCRETE / CIVIL CONTRACTOR.
8. REFER TO YE-E501 FOR GROUND GRID DETAILS.

TENDER NO. 30-2025

NOTES:

1. REFER TO DRAWING E1.03 FOR LUMINAIRE SCHEDULE.

REVISION 04: CHANGES THE ENGINEER'S DESIGN RESPONSIBILITIES ARE LIMITED TO THE CHANGES INDICATED IN THE CLOUDED WORK			
DESIGNED BY:	CT	CHECKED BY:	KO
DRAWN BY:	DM	APPROVED BY:	SB
DATE:	2025-02-26	RELEASED FOR CONSTR. DATE:	

**ENGINEERS
GEOSCIENTISTS
MANITOBA**
Certificate of Authorization
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No. 4671

NO.	REVISIONS	DATE	DESIGN	CHECK
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02	ISSUED FOR 60% REVIEW	2024-09-06	CT	SB
01	AS CONSTRUCTED DRAWING	2015-08-07	CT	
00	ISSUED FOR CONSTRUCTION	2018-07-05	ERC	
00	ISSUED FOR TENDER	2008-06-05	CLG	
00	ISSUED FOR TENDER	2018-02-05	JEH	

AECOM

DESIGNED BY:	CT	CHECKED BY:	KO
DRAWN BY:	DM	APPROVED BY:	SB
SCALE:	NONE	RELEASED FOR CONSTRUCTION BY:	
DATE:	2023-07-24	DATE:	
CONSULTANT NO.:	66303D-CE1.02		

ENGINEERS SEAL

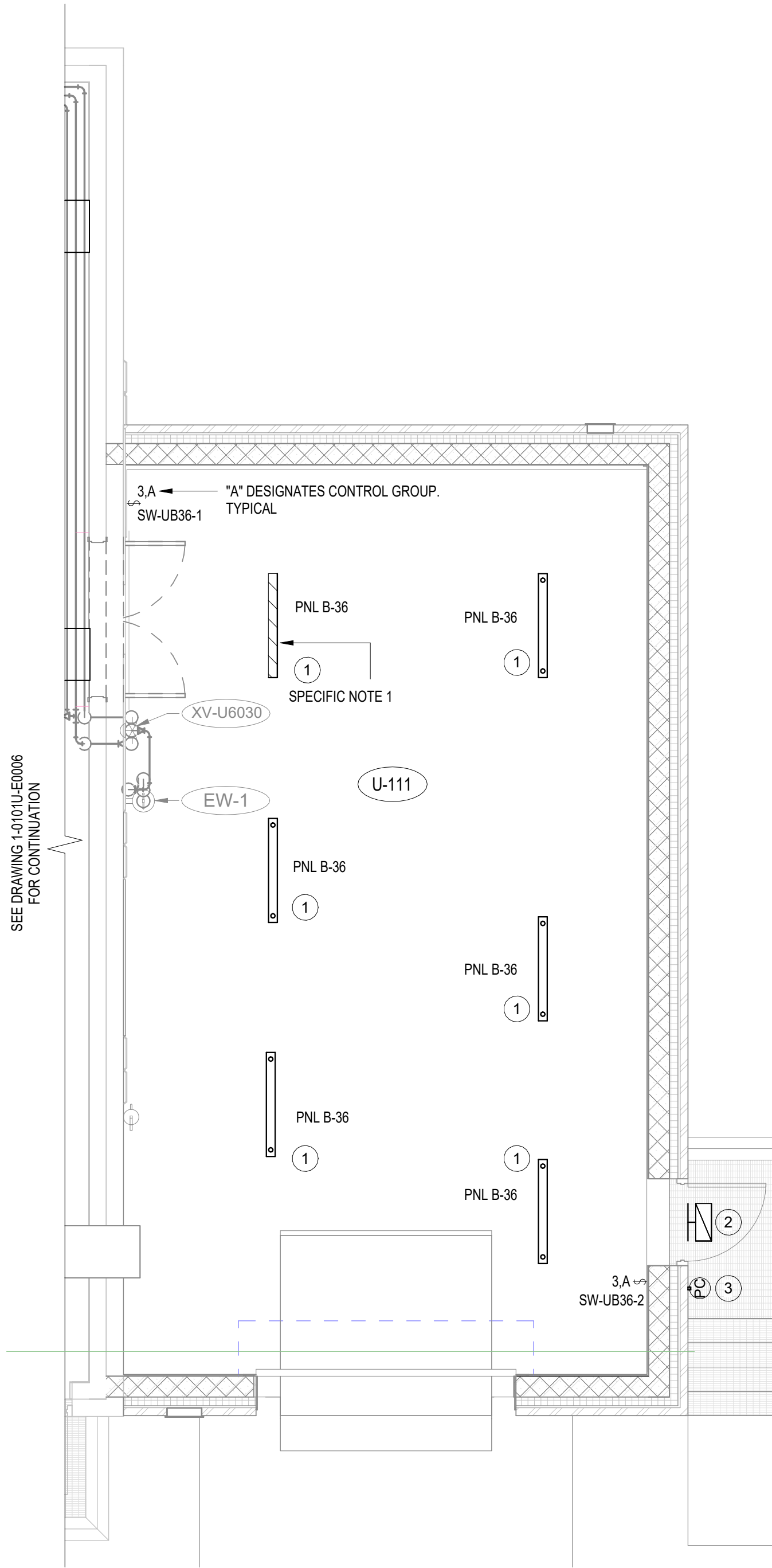
PROVINCE OF MANITOBA
M. SARIC
Member
46571
REGISTERED PROFESSIONAL ENGINEER
2025-02-26 Rev. 00

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

NEWPCC - SECONDARY EFFLUENT
UV DISINFECTION FACILITY
ELECTRICAL
UV FACILITY SITE PLAN
GROUNDING DETAIL

CITY DRAWING NUMBER	1-0101U-E0005	SHEET	01	REV.	04	SIZE	A1
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LIGHTING SCHEDULE				
TYPE MARK	MANUFACTURER	MODEL	LOAD	DESCRIPTION
1	BELUCE	4VT2-LD5-6-DR-UNV-L840-TH	70W	LED LIGHT FIXTURE
2	Stonco	LPW32-7		71W, 700mA
3	PRECISION	ST-15 SERIES		PHOTOCELL



- NOTES:
- SEAL ALL WALL OPENINGS/CORES.
 - WIRING SHALL BE RW90 RUN IN CONDUIT C/W ALL FITTINGS, ACCESSORIES, SUPPORTS ETC AS REQUIRED. CONDUIT SHALL BE SOLIDLY SECURED TO BUILDING STRUCTURE.
 - LUMINAIRES ARE SHOWN AT THE APPROXIMATE LOCATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE LOCATIONS, SO THAT EACH LUMINAIRE DOES NOT CONFLICT OR OBSTRUCT WITH OTHER SYSTEMS OR DEVICES.
 - LUMINAIRES SHALL EACH BE SOLIDLY SECURED AND INSTALLED. LOOSE HANGING OR SWINGING LUMINAIRES ARE NOT ACCEPTABLE.
 - LIGHT SWITCH SHALL BE TAGGED WITH HARD PLASTIC LAMACOID, TO INDICATE CIRCUIT NUMBER.
 - BUILDING ENTRY LIGHT WILL BE ILLUMINATED VIA PHOTOCELL CONTROL, FASTEN TO OUTER WALL OF FACILITY.
 - ALL EQUIPMENT IS NEW ON THIS DRAWING AND SHALL BE PROVIDED BY THE CONTRACTOR.

- SPECIFIC NOTES:
- WIRE LUMINAIRE TO REMAIN ACTIVE AT ALL TIME REGARDLESS OF SWITCH POSITION.

1 | STORAGE ROOM - LIGHTING LAYOUT
SCALE: 1 : 50

NO.	DRAWING TITLE	DRAWING NUMBER
REFERENCE DRAWING		



NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR TENDER	2025-02-26	MS	SB

DESIGNED BY: MS	CHECKED BY: SB
DRAWN BY: TW	APPROVED BY: SB
SCALE: 1 : 50	RELEASED FOR CONSTRUCTION BY:
DATE: 2023-07-24	DATE:
CONSULTANT NO.: U2-E101	

ENGINEER'S SEAL

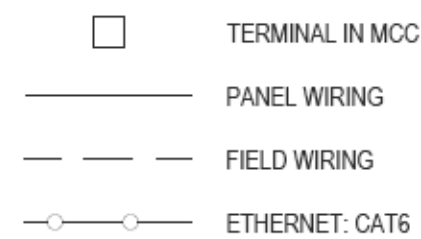
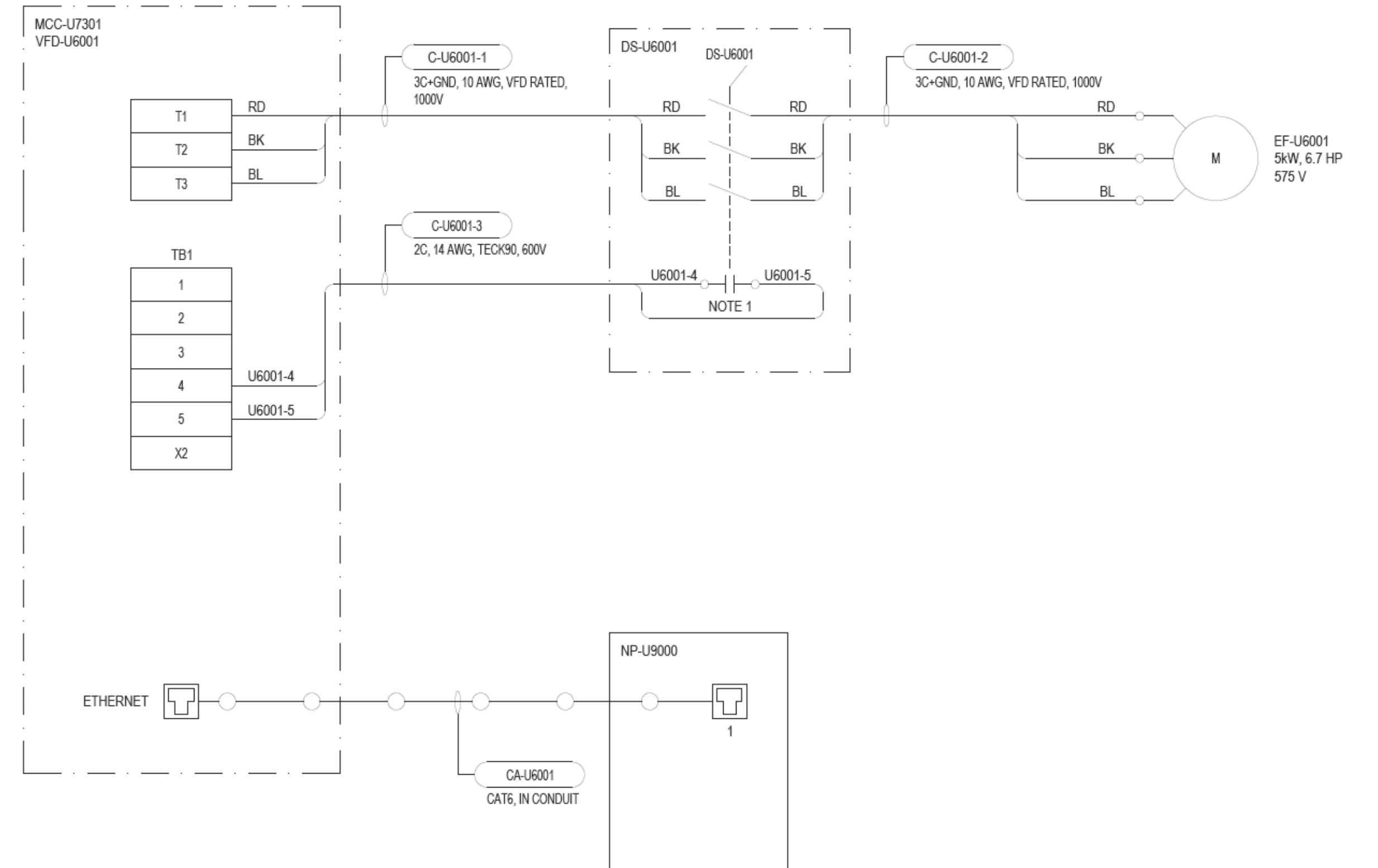
2025-02-28 Rev. 00

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

NORTH END SEWAGE TREATMENT PLANT
NEWPCC UV UPGRADES
ELECTRICAL
STORAGE ROOM
LIGHTING LAYOUT

CITY DRAWING NUMBER	SHEET	REV.	SIZE
		00	A1

FIELD CONNECTION DIAGRAM:



**ES ENGINEERS
GEOSCIENTISTS
MANITOBA**
Certificate of Authorization
AECOM Canada ULC
No. 4671

										AECOM		ENGINEER'S SEAL		 Winnipeg THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT NEWPCC - SECONDARY EFFLUENT UV DISINFECTION FACILITY ELECTRICAL MOTOR STARTER SCHEMATICS EF-U6001									
												 M. SASIC Member 46571 PROVINCE OF MANITOBA REGISTERED PROFESSIONAL ENGINEER		2025-02-28		Rev. 00		CITY DRAWING NUMBER		SHEET		REV	
00		ISSUED FOR TENDER				2025-02-26		TW		MS		CONSULTANT NO.:		U0-E603				001		00		A1	
NO.		REVISIONS				DATE		DESIGN		CHECK													

PANEL A											
DESCRIPTION: 120/208 3PH 4W, 225A						LOCATION: ELECTRICAL ROOM					
MFG / MODEL: GE						INTERRUPTING RATING: N/A					
MAIN BREAKER: N/A						INST. SETTINGS: N/A					
CCT NO	DESCRIPTION	LOAD (VA)	BKR	A	B	C	BKR	LOAD (VA)	DESCRIPTION	CCT NO	
1	HYDRAULIC SYSTEM 1A		70A	●			70A		HYDRAULIC SYSTEM 1B	2	
3	HYDRAULIC SYSTEM 2A		70A		●		70A		HYDRAULIC SYSTEM 2B	4	
5	HYDRAULIC SYSTEM 3A		70A			●	70A		HYDRAULIC SYSTEM 3B	6	
7	SYSTEM CONTROL CENTRE		30A	●			15A		U-430-AHU-1 CONT. RM	8	
9	U-440-EF-1 WR EX.FAN		15A		●		15A		U-430-AHU-2 CORRIDOR	10	
11	U-480-HWT		50A	●		●	15A		U-475-P-1 BOILER CIRC. PUMP	12	
13										14	
15	CONTROL PNL. CP-1		15A		●		15A		U-475-P-1 BOILER CIRC. PUMP	16	
17	CONTROL PNL. CP-1		15A			●				18	
19	CONTROL PNL. CP-1 + LIGHTS		15A	●			15A		LEVEL TRANSMITTER U105 LT	20	
21	SPARE		15A		●		15A		LEVEL TRANSMITTER U170	22	
23	UV SAMPLER PUMP		30A			●	15A		LEVEL TRANSMITTER U270	24	
25	UV SAMPLER FRIDGE		15A	●			15A		LEVEL TRANSMITTER U370	26	
27	AIR DRIER AD-1		15A		●		15A		SPARE	28	
29	AIR DRIER AD-2		15A			●	30A		ELECTRICAL RM. 103 O/H DOOR	30	
31	SPARE		15A	●			50A		PANEL "C" FEEDER	32	
33	SPARE		15A		●			34			
35	SPARE		15A			●	XXA		SPARE	36	
37	SPARE		15A	●			100A		PANEL "B" FEEDER	38	
39	SPARE		15A		●			40			
41	FIRE ALARM PANEL		15A			●				42	
PHASE A TOTAL :											
PHASE B TOTAL :											
PHASE C TOTAL :											
PANEL TOTAL :											
VOLTAGE: 208Y/120V, 3PH, 4 WIRE + GND											
MAIN BREAKER: N/A											
MAINS: 225A, 22kA SCCR											
MOUNTING: SURFACE											
NOTES:											

- NOTES:
- DEMOLISH AND REMOVE EXISTING LOAD CIRCUIT CABLES AS SHOWN IN THE CLOUDED AREAS. REPLACE PANEL SCHEDULED WITH UPDATED PRINTED SCHEDULE WITH LOADS SHOWN IN DRAWINGS U1-E601.
 - CONTRACTOR TO FIELD VERIFY IF ANY OF THE CIRCUITS ARE OPERATIONAL AFTER DEMOLITION WORK, CONTRACTOR WILL RED LINE ANY REQUIRED CHANGES.

1	PANELBOARD SCHEDULE PANEL A AND PANEL B	U1-E601
NO.	DRAWING TITLE	DRAWING NUMBER
	REFERENCE DRAWING	



PANEL B											
DESCRIPTION: 120/208 3PH 4W, 225A							LOCATION: ELECTRICAL ROOM				
MFG / MODEL: GE/A SERIES II							INTERRUPTING RATING: N/A				
MAIN BREAKER: N/A							INST. SETTINGS: N/A				
CCT NO.	DESCRIPTION	LOAD (VA)	BKR	A	B	C	BKR	LOAD (VA)	DESCRIPTION	CCT NO.	
1	UV PROCESS RM. LIGHTING		15A	●					ELECT.RM. LIGHTING	2	
3	UV PROCESS RM. LIGHTING		15A		●		15A		ELECT.RM. LIGHTING	4	
5	UV PROCESS RM. LIGHTING + CONTACTOR		15A			●	15A		ELECT.RM. LIGHTING	6	
7	UV PROCESS RM. LIGHTING		15A	●			15A		ELECT.RM. LIGHTING	8	
9	UV PROCESS RM. LIGHTING		15A		●		15A		CORRIDOR, CONT.RM, WR LTG.	10	
11	EXTERIOR LIGHTING		15A			●	15A		UV PROCESS RM. RECEPT.	12	
13	UV PROCESS RM. RECEPT.		15A	●			15A		ELECT.RM. RECEPT.	14	
15	UV PROCESS RM. RECEPT.		15A		●		15A		ELECT.RM. RECEPT.	16	
17	CONTROL RM. RECEPT.		15A			●	15A		WASHROOM RECEPT.	18	
19	CONTROL RM. RECEPT.		15A	●			15A		LIFT STATION RECEPT.	20	
21	MECH. MEZZ. LIGHTING		15A		●		15A		MECH. MEZZ. RECEPT.	22	
23	AIR HANDLING UNIT LIGHTING		15A			●	20A		SPACE HTR.- TRANS. UVT-2	24	
25	SPACE HTR. - TRANS. LST-5		20A	●			15A		TEMP.C. PNL.-TRANS.UVT-2	26	
27	TEMP.C.PNL.- TRANS.LST-5		15A		●		20A		SPACE HTR.- TRANS. UVT-3	28	
29	TEMP.C.PNL.- TRANS.LST-4		20A			●	15A		TEMP.C. PNL.-TRANS.UVT-3	30	
31	SPACE HTR. - TRANS. LST-4		15A	●			15A		SPARE	32	
33	NP-U900		15A		●		30A		SPARE	34	
35	SPARE		15A			●				36	
37	SPARE		15A	●			30A*		WASHER RECEPTACLES	38	
39	ELECT.RM.EXTERIOR CAMERA		15A		●					40	
41	UV PROCESS RM. CAMERA		15A			●	15A		EXIT LIGHTS	42	
PHASE A TOTAL :											
PHASE B TOTAL :											
PHASE C TOTAL :											
PANEL TOTAL :											
VOLTAGE: 208Y/120V, 3PH, 4 WIRE + GND											
MAIN BREAKER: N/A											
MAINS: 225A, 22kA SCCR											
MOUNTING: SURFACE											
NOTES:											
* - WITH PUSH TO TEST											

NOTE 2

TENDER NO. 30-2025

				AECOM		ENGINEER'S SEAL	
				DESIGNED BY: TW	CHECKED BY: MS		
				DRAWN BY: TW	APPROVED BY: SB		
				SCALE: NONE	RELEASED FOR CONSTRUCTION BY: DATE:		
				DATE: 2023-07-24			
00	ISSUED FOR TENDER	2025-02-26	TW	CR	CONSULTANT NO.: UD-E603	2025-02-28	Rev. 00
NO.	REVISIONS	DATE	DESIGN	CHECK			

NORTH END SEWAGE TREATMENT PLANT
NEWPCC UV UPGRADES
ELECTRICAL
PANELBOARD SCHEDULE
PANEL A AND PANEL B DEMOLITION

CITY DRAWING NUMBER	SHEET 001	REV. 00	SIZE A1
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A1 SIZE - 594mm x 841mm

PANEL A											
DESCRIPTION: 120/208 3PH 4W, 225A						LOCATION: ELECTRICAL ROOM					
MFG / MODEL: GE						INTERRUPTING RATING: N/A					
MAIN BREAKER: N/A						INST. SETTINGS: N/A					
CCT NO.	DESCRIPTION	LOAD (VA)	BKR	A	B	C	BKR	LOAD (VA)	DESCRIPTION	CCT NO.	
1	SPARE		70A	●			70A		SPARE	2	
3	SPARE		70A		●		70A		SPARE	4	
5	SPARE		70A			●	70A		SPARE	6	
7	SPARE		30A	●			15A		U-430-AHU-1 CONT. RM	8	
9	U-440-EF-1 WR EX.FAN		15A		●		15A		U-430-AHU-2 CORRIDOR	10	
11	U-480-HWT		50A	●		●	15A		U-475-P-1 BOILER CIRC. PUMP	12	
13										14	
15	CONTROL PNL. CP-1		15A		●					16	
17	CONTROL PNL. CP-1		15A			●	15A		LEVEL TRANSMITTER U005 LIT	18	
19	CONTROL PNL. CP-1 + LIGHTS		15A	●			15A		LEVEL TRANSMITTER U060 LIT	20	
21	EF-U6003 EXHAUST FAN		15A		●		15A		SPARE	22	
23	UV SAMPLER PUMP		30A			●	15A		SPARE	24	
25	UV SAMPLER FRIDGE		15A	●			15A		CP-U1000 UV CONTROL PANEL	26	
27	AIR DRIER AD-1		15A		●		15A		DAMPER CONTROL PANEL	28	
29	AIR DRIER AD-2		15A			●	30A		ELECTRICAL RM. 103 O/H DOOR	30	
31	CP-U1000 UV CONTROL PANEL UPS POWER		30A NOTE 1	●			50A		PANEL "C" FEEDER	32	
33	LT-UT11013 CHANNEL 1 LEVEL SENSOR CONTROL BOX		15A		●			34			
35	LT-UT12013 CHANNEL 2 LEVEL SENSOR CONTROL BOX		15A			●	SPARE		SPARE	36	
37	LT-UT13013 CHANNEL 3 LEVEL SENSOR CONTROL BOX		15A	●			100A		PANEL "B" FEEDER	38	
39	EDP-U7050 GROUND FAULT PANEL		15A		●			40			
41	FIRE ALARM PANEL		15A			●				42	
PHASE A TOTAL :											
PHASE B TOTAL :											
PHASE C TOTAL :											
PANEL TOTAL :											
VOLTAGE: 208Y/120V, 3PH, 4 WIRE + GND											
MAIN BREAKER: N/A											
MAINS: 225A, 22kA SCCR											
MOUNTING: SURFACE											
NOTES:											

- NOTES:
- PROVIDE AND INSTALL NEW BREAKERS.
 - THE SCOPE OF WORK IS LIMITED TO THE ITEMS SHOWN IN CLOUDED AREA. CONTRACTOR TO FIELD VERIFY IF ANY OF THE CIRCUITS ARE OPERATIONAL AFTER DEMOLITION WORK, CONTRACTOR WILL RED LINE ANY REQUIRED CHANGES.
 -



PANEL B											
DESCRIPTION: 120/208 3PH 4W, 225A						LOCATION: ELECTRICAL ROOM					
MFG / MODEL: GE/A SERIES II						INTERRUPTING RATING: N/A					
MAIN BREAKER: N/A						INST. SETTINGS: N/A					
CCT NO.	DESCRIPTION	LOAD (VA)	BKR	A	B	C	BKR	LOAD (VA)	DESCRIPTION	CCT NO.	
1	UV PROCESS RM. LIGHTING		15A	●					ELECT.RM. LIGHTING	2	
3	UV PROCESS RM. LIGHTING		15A		●		15A		ELECT.RM. LIGHTING	4	
5	UV PROCESS RM. LIGHTING + CONTACTOR		15A			●	15A		ELECT.RM. LIGHTING	6	
7	UV PROCESS RM. LIGHTING		15A	●			15A		ELECT.RM. LIGHTING	8	
9	UV PROCESS RM. LIGHTING		15A		●		15A		CORRIDOR, CONT.RM, WR LTG.	10	
11	EXTERIOR LIGHTING		15A			●	15A		UV PROCESS RM. RECEPT.	12	
13	UV PROCESS RM. RECEPT.		15A	●			15A		ELECT.RM. RECEPT.	14	
15	UV PROCESS RM. RECEPT.		15A		●		15A		ELECT.RM. RECEPT.	16	
17	CONTROL RM. RECEPT.		15A			●	15A		WASHROOM RECEPT.	18	
19	CONTROL RM. RECEPT.		15A	●			15A		LIFT STATION RECEPT.	20	
21	MECH. MEZZ. LIGHTING		15A		●		15A		MECH. MEZZ. RECEPT.	22	
23	AIR HANDLING UNIT LIGHTING		15A			●	20A		SPACE HTR.- TRANS. UVT-2	24	
25	SPACE HTR. - TRANS. LST-5		20A	●			15A		TEMP.C. PNL.-TRANS.UVT-2	26	
27	TEMP.C.PNL.- TRANS.LST-5		15A		●		20A		SPACE HTR.- TRANS. UVT-3	28	
29	TEMP.C.PNL.- TRANS.LST-4		20A			●	15A		TEMP.C. PNL.-TRANS.UVT-3	30	
31	SPACE HTR. - TRANS. LST-4		15A	●						32	
33	NP-U900		15A		●		50A		SPARE	34	
35	EMERGENCY & EXIT LIGHTING - UV STORAGE		15A			●	15A		LIGHTS - UV STORAGE	36	
37	UV STORAGE RECEPTACLES GFCI		15A	●						38	
39	ELECT.RM.EXTERIOR CAMERA		15A		●		30A*		WASHER RECEPTACLES	40	
41	UV PROCESS RM. CAMERA		15A			●	15A		EXIT LIGHTS	42	
PHASE A TOTAL :											
PHASE B TOTAL :											
PHASE C TOTAL :											
PANEL TOTAL :											
VOLTAGE: 208Y/120V, 3PH, 4 WIRE + GND											
MAIN BREAKER: N/A											
MAINS: 225A, 22kA SCCR											
MOUNTING: SURFACE											
NOTES:											
* - WITH PUSH TO TEST											

NOTE 3

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	REFERENCE DRAWING	

TENDER NO. 30-2025

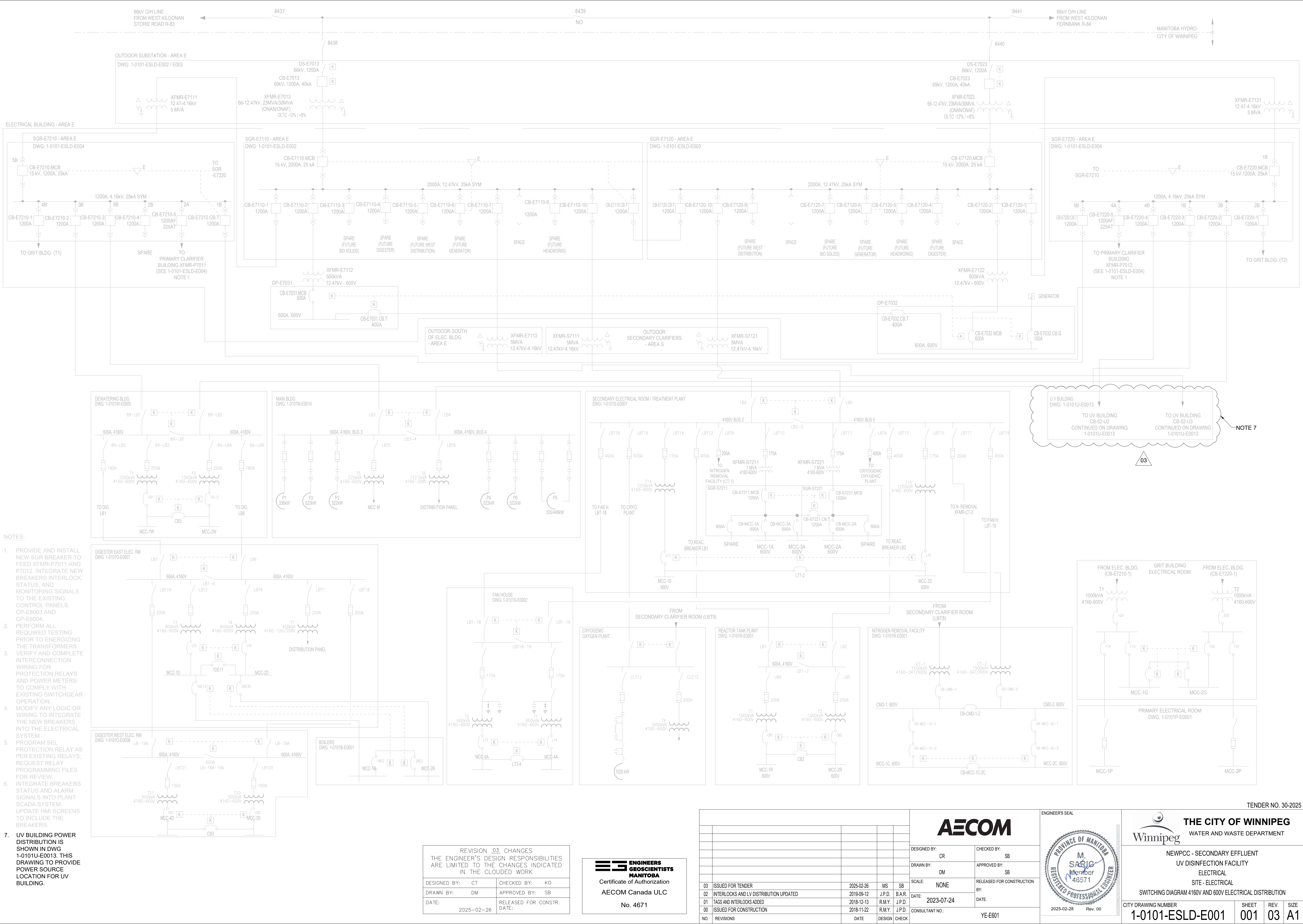
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 CHECKED BY: SB
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 DATE: 2023-07-24
 CONSULTANT NO.: U1-E601

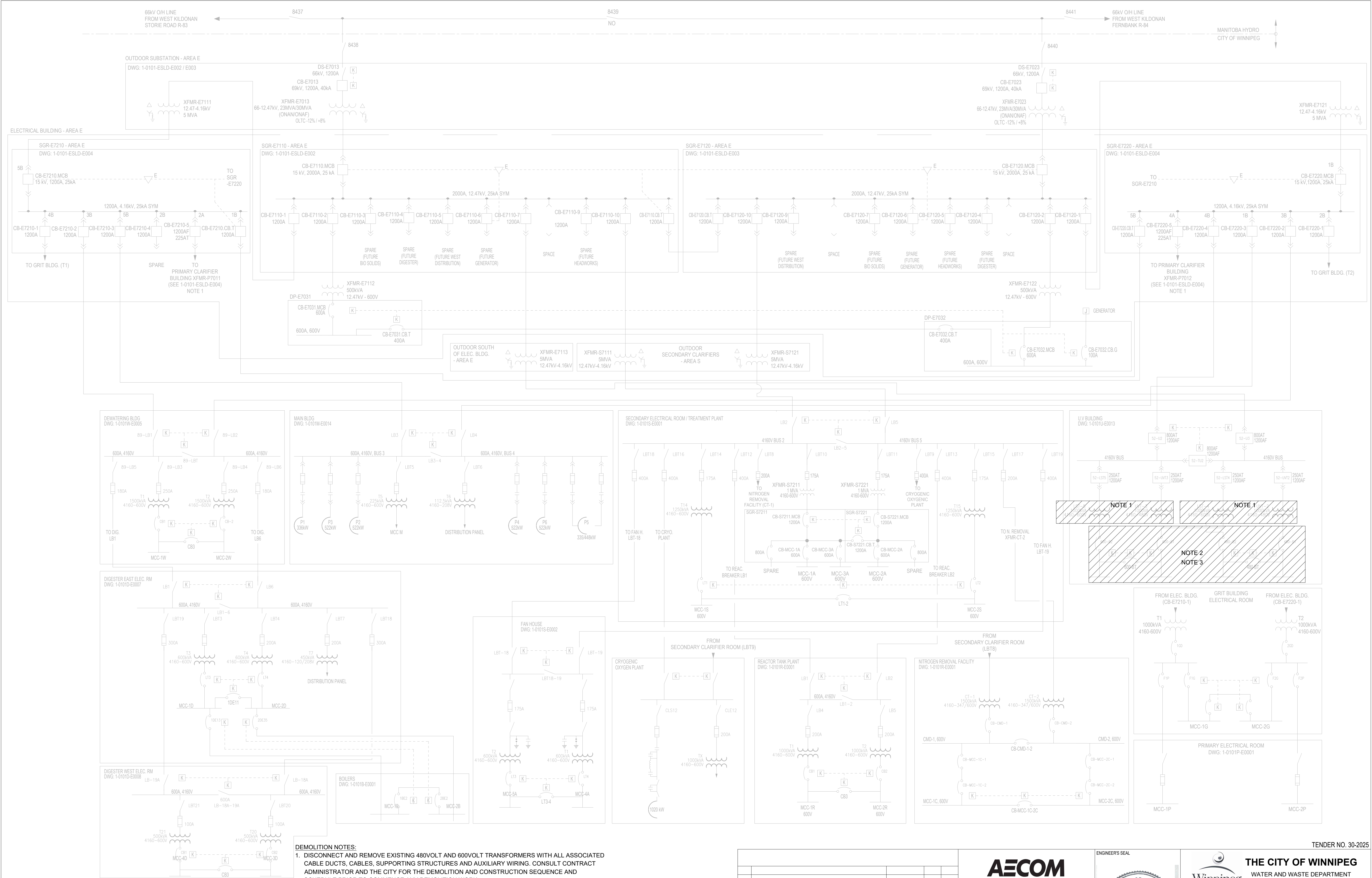
ENGINEERS SEAL

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

NORTH END SEWAGE TREATMENT PLANT
NEWPCC UV UPGRADES
ELECTRICAL
PANELBOARD SCHEDULE
PANEL A AND PANEL B

CITY DRAWING NUMBER
 SHEET 001
 REV. 00
 SIZE A1





NO.	DRAWING TITLE	DRAWING NUMBER
	REFERENCE DRAWING	



DESIGNED BY:	KO	CHECKED BY:	KO
DRAWN BY:	DM	APPROVED BY:	SB
SCALE:	NONE	RELEASED FOR CONSTRUCTION BY:	
DATE:	2023-07-24	DATE:	
ISSUED FOR TENDER	2025-02-26	CONSULTANT NO.:	YD-E601
NO.	REVISIONS	DATE	DESIGN CHECK

AECOM

ENGINEERS SEAL

PROVINCE OF MANITOBA
M. SARIO
Member
46571
REGISTERED PROFESSIONAL ENGINEER

2025-02-28 Rev. 00

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

NEWPCC - SECONDARY EFFLUENT
UV DISINFECTION FACILITY
ELECTRICAL
SWITCHING DIAGRAM
4160V AND 600V ELECTRICAL DISTRIBUTION

CITY DRAWING NUMBER

SHEET
001

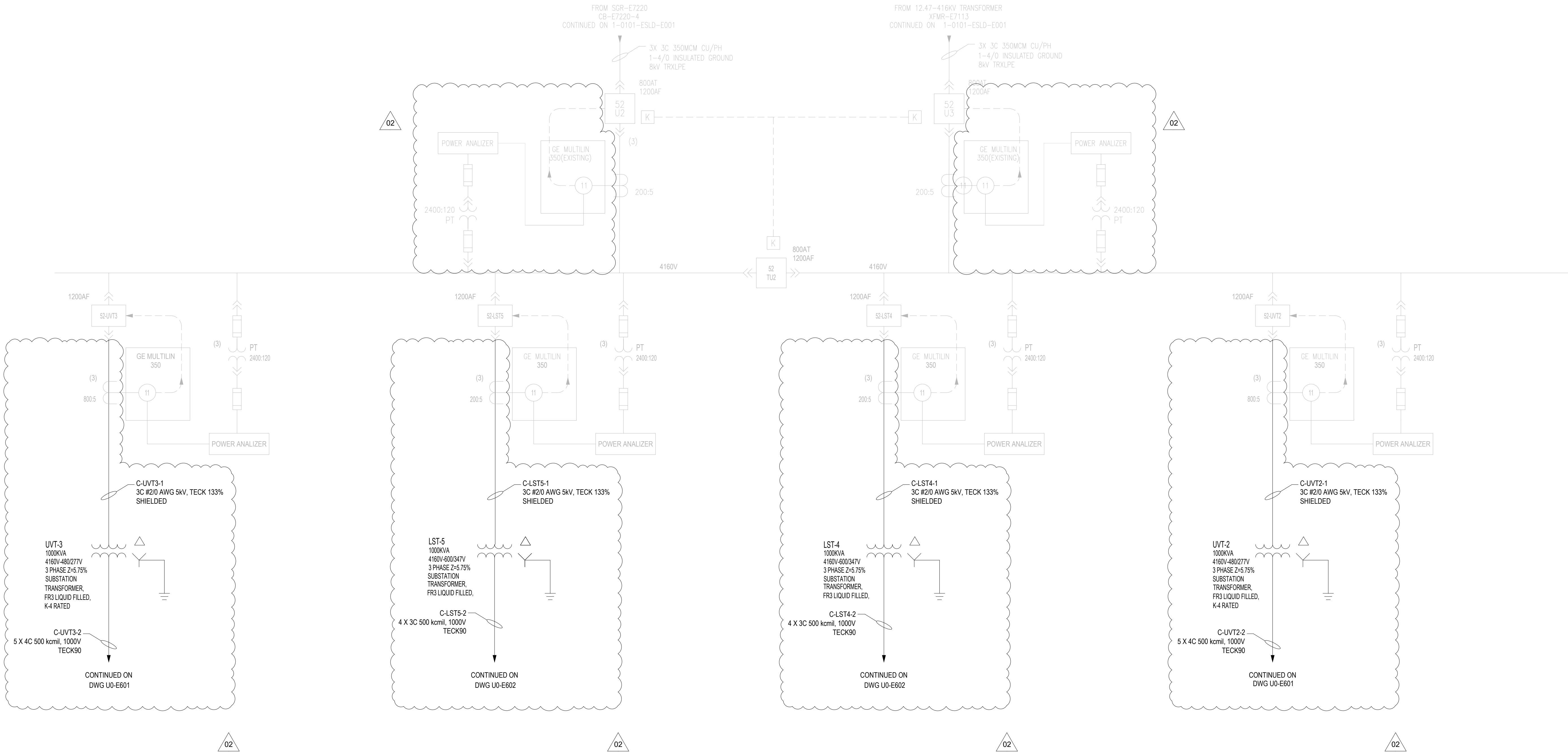
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SIZE
A1

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- GENERAL NOTES:
- CONSULTANT WILL PERFORM ARCH FLASH, COORDINATION, SHORT CIRCUIT STUDY.
 - CONTRACTOR TO MODIFY ALL BREAKER SETTINGS AS NOTED IN TABLE, AND RETEST RELAYS.
 - CONTRACTOR TO APPLY ARC FLASH STICKERS.
 - MAIN BREAKER PROTECTION RELAY EQUIPMENT AND SETTINGS HAVE NOT BEEN FIELD VERIFIED.

BREAKER PROTECTION SETTINGS					
CIRCUIT BREAKER	FEED DESCRIPTION	PROTECTION RELAY	51 TOC PICKUP	50 IOC PICKUP	CURVE SETTING
52-U2	MAIN BREAKER	GE MULTILIN 350	TBD	TBD	TBD
52-U3	MAIN BREAKER	GE MULTILIN 350	TBD	TBD	TBD
52-UVT3	UVT3 BRANCH BREAKER	GE MULTILIN 350	TBD	TBD	TBD
52-LST5	LST5 BRANCH BREAKER	GE MULTILIN 350	TBD	TBD	TBD
52-LST4	LST4 BRANCH BREAKER	GE MULTILIN 350	TBD	TBD	TBD
52-UVT2	UVT2 BRANCH BREAKER	GE MULTILIN 350	TBD	TBD	TBD



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REVISION 02, CHANGES THE ENGINEER'S DESIGN RESPONSIBILITIES ARE LIMITED TO THE CHANGES INDICATED IN THE CLOUDED WORK			
DESIGNED BY:	CT	CHECKED BY:	KO
DRAWN BY:	DM	APPROVED BY:	SB
DATE:	2025-02-26	RELEASED FOR CONSTR. DATE:	



NO.	REVISIONS	DATE	DESIGN	CHECK
02	ISSUED FOR TENDER	2025-02-26	MS	SB
01	REVISED DRAWING NUMBER, WAS 1-0101U-F-E0007	2008/03/03	EFB	
00	ISSUED FOR CITY USE	2007/07/05	CJR	
PA	ISSUED FOR REVIEW	2007/02/19	CJR	

AECOM	
DESIGNED BY:	CR
CHECKED BY:	KO
DRAWN BY:	DM
APPROVED BY:	SB
SCALE:	NONE
RELEASED FOR CONSTRUCTION BY:	
DATE:	2023-07-24
DATE:	
CONSULTANT NO.:	YE-E602



THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

NEWPCC - SECONDARY EFFLUENT
UV DISINFECTION FACILITY
ELECTRICAL
SITE - ELECTRICAL
SINGLE LINE DIAGRAM 4160V ELECTRICAL DISTRIBUTION

CITY DRAWING NUMBER
1-0101U-E0013-001

SHEET
001

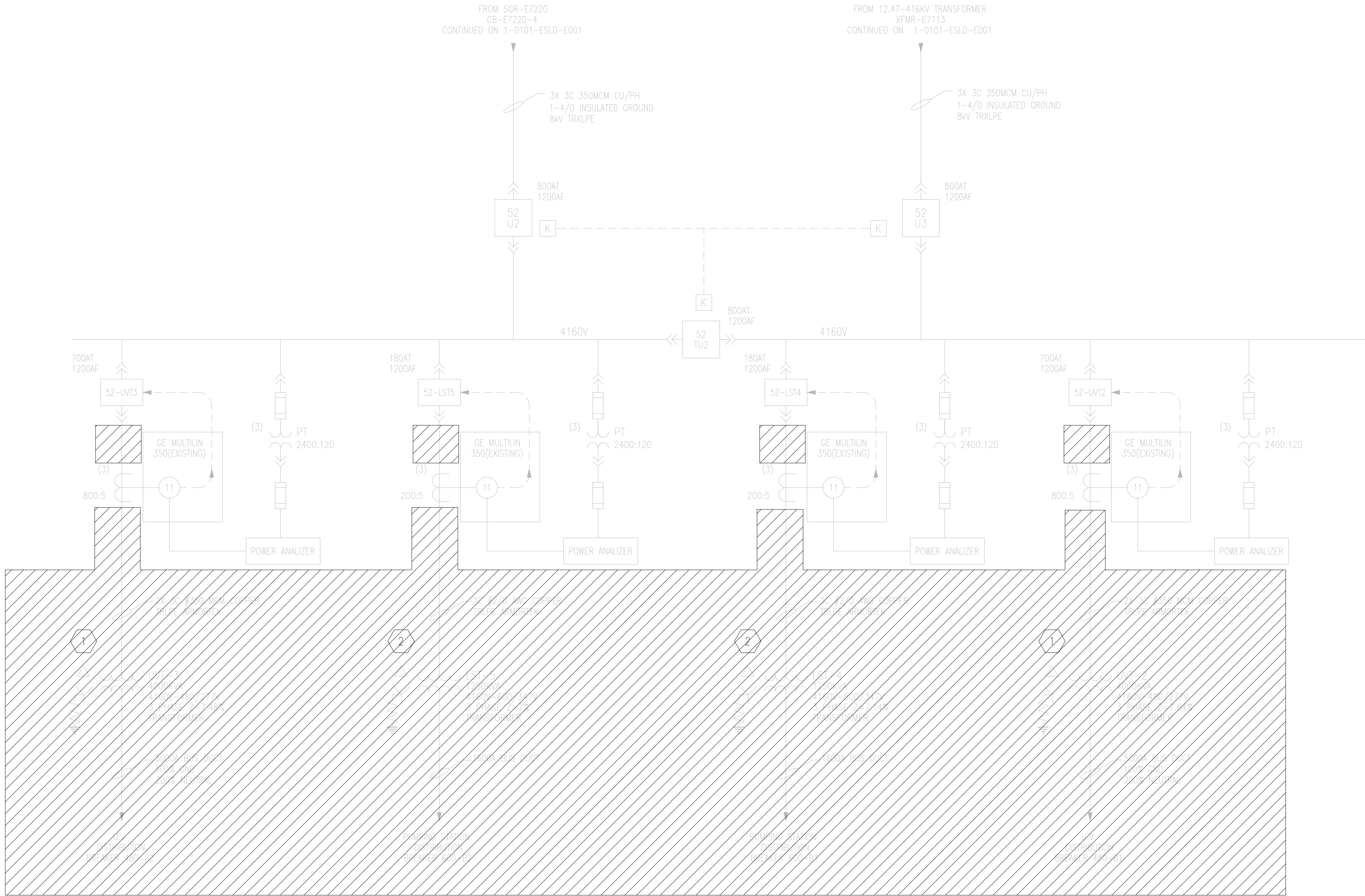
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02

SIZE
A1

TENDER NO. 30-2025

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A1 SIZE: 594mm x 841mm



- DEMOLITION KEYNOTES:
- DEMOLISH TRANSFORMERS UVT-3 AND UVT-2.
 - DEMOLISH TRANSFORMERS LST-4 AND LST-5.

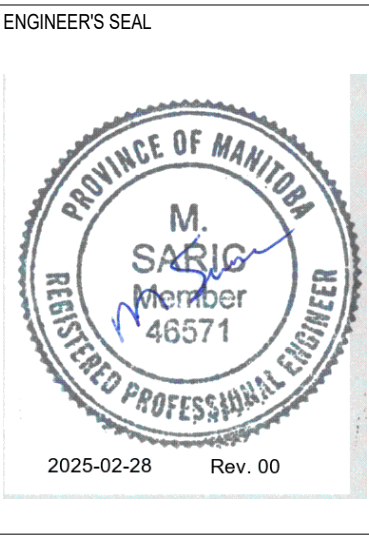
- GENERAL NOTES:
- GREY LINETYPE DENOTES EXISTING.
 - DISPOSE OF MATERIALS AS PER OWNER'S REQUIREMENTS. PATCH ALL HOLES AND REPAIR ANY DAMAGED CAUSED BY DEMOLITION WORKS.
 - EXISTING PROTECTION SYSTEM HAS NOT BEEN EVALUATED, AND WILL REMAIN FUNCTIONAL.

NO.	DRAWING TITLE	DRAWING NUMBER
	REFERENCE DRAWING	



NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR TENDER	2025-02-26	MS	SB

AECOM	
DESIGNED BY: KO	CHECKED BY: KO
DRAWN BY: DM	APPROVED BY: SB
SCALE: NONE	RELEASED FOR CONSTRUCTION BY: DATE: 2023-07-24
DATE: 2023-07-24	DATE: 2023-07-24
CONSULTANT NO.:	UD-E601



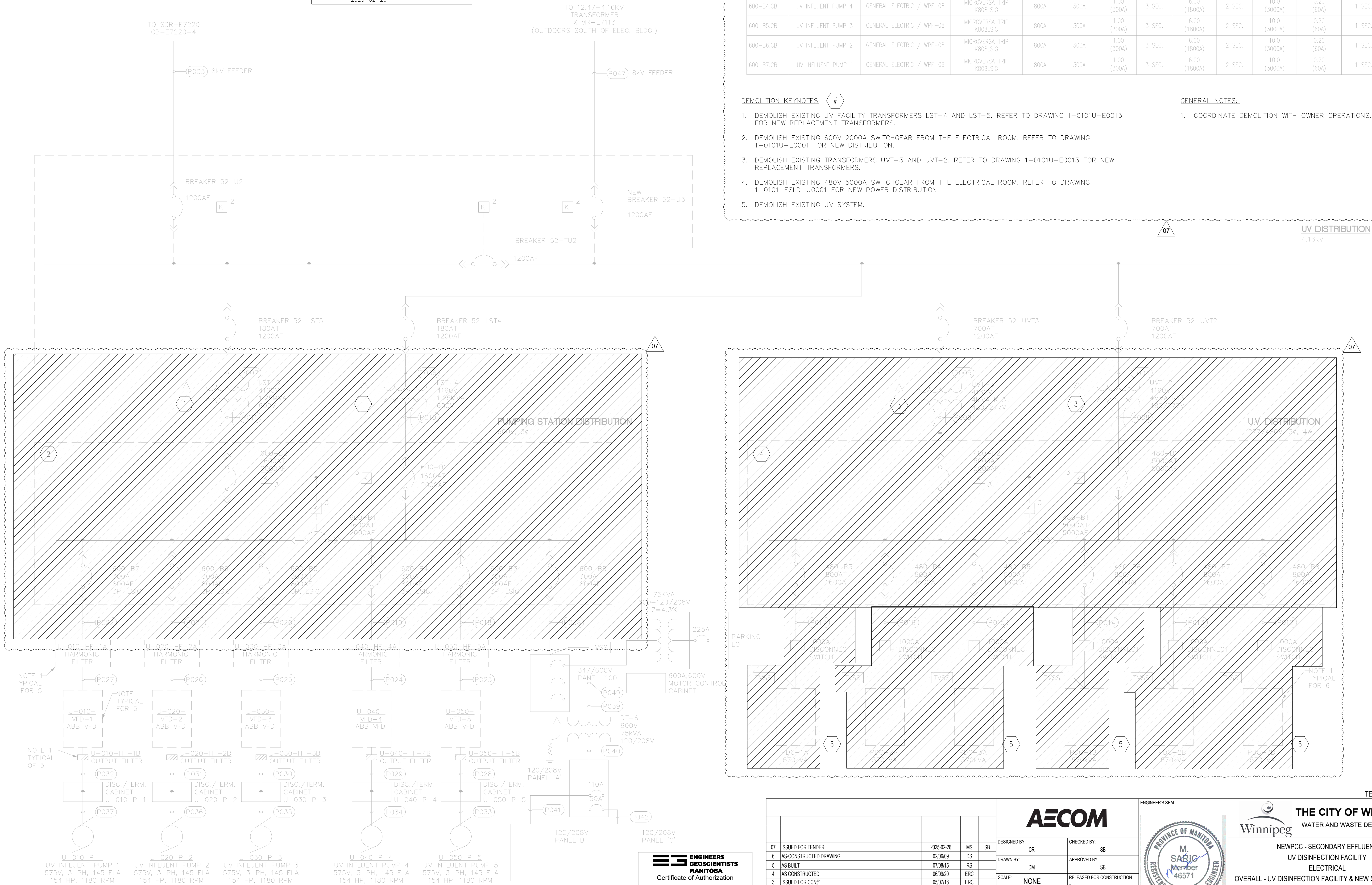
TENDER NO. 30-2025			
THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT			
NEWPCC - SECONDARY EFFLUENT UV DISINFECTION FACILITY ELECTRICAL 4160V ELECTRICAL DISTRIBUTION DEMOLITION			
CITY DRAWING NUMBER	SHEET 001	REV. 00	SIZE A1

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PATH: C:\Users\ChavezD\OneDrive\AECOM\City of Winnipeg - NEWPCC Upgrades 2023\Project Files\900 Design Collaboration\U Upgrade\Electrical\CAUD-EE002.dwg

NOTES

1. THE PDC UNITS, THE VFD'S FOR PUMPS 1 TO 5 AND THE HARMONIC FILTERS AND OUTPUT FILTERS FOR PUMPS 1 TO 5 WERE SUPPLIED TO THE CONTRACTOR FOR CONNECTION (PDC) AND INSTALLATION (FILTERS & VFD'S).

REVISION 07 CHANGES THE ENGINEER'S DESIGN RESPONSIBILITIES ARE LIMITED TO THE CHANGES INDICATED IN THE CLOUDED WORK			
DESIGNED BY:	CR	CHECKED BY:	SB
DRAWN BY:	DM	APPROVED BY:	SB
DATE:	2025-02-26	RELEASED FOR CONSTR. DATE:	



BREAKER PROTECTION SETTINGS

CIRCUIT BREAKER	FEED DESCRIPTION	MODEL / BREAKER	TRIP UNIT	FRAME	SENSOR/TRIP UNIT	LT PICKUP	LT DELAY	ST PICKUP	ST DELAY	INST. PICKUP	GF PICKUP	GF DELAY
600-B3.CB	UV INFLUENT PUMP 5	GENERAL ELECTRIC / WPF-08	MICROVERSA TRIP K80LSIG	800A	300A	1.00 (300A)	3 SEC.	6.00 (1800A)	2 SEC.	10.0 (3000A)	0.20 (60A)	1 SEC.
600-B4.CB	UV INFLUENT PUMP 4	GENERAL ELECTRIC / WPF-08	MICROVERSA TRIP K80LSIG	800A	300A	1.00 (300A)	3 SEC.	6.00 (1800A)	2 SEC.	10.0 (3000A)	0.20 (60A)	1 SEC.
600-B5.CB	UV INFLUENT PUMP 3	GENERAL ELECTRIC / WPF-08	MICROVERSA TRIP K80LSIG	800A	300A	1.00 (300A)	3 SEC.	6.00 (1800A)	2 SEC.	10.0 (3000A)	0.20 (60A)	1 SEC.
600-B6.CB	UV INFLUENT PUMP 2	GENERAL ELECTRIC / WPF-08	MICROVERSA TRIP K80LSIG	800A	300A	1.00 (300A)	3 SEC.	6.00 (1800A)	2 SEC.	10.0 (3000A)	0.20 (60A)	1 SEC.
600-B7.CB	UV INFLUENT PUMP 1	GENERAL ELECTRIC / WPF-08	MICROVERSA TRIP K80LSIG	800A	300A	1.00 (300A)	3 SEC.	6.00 (1800A)	2 SEC.	10.0 (3000A)	0.20 (60A)	1 SEC.

DEMOLITION KEYNOTES:



- DEMOLISH EXISTING UV FACILITY TRANSFORMERS LST-4 AND LST-5. REFER TO DRAWING 1-0101U-E0013 FOR NEW REPLACEMENT TRANSFORMERS.
- DEMOLISH EXISTING 600V 2000A SWITCHGEAR FROM THE ELECTRICAL ROOM. REFER TO DRAWING 1-0101U-E0001 FOR NEW DISTRIBUTION.
- DEMOLISH EXISTING TRANSFORMERS UVT-3 AND UVT-2. REFER TO DRAWING 1-0101U-E0013 FOR NEW REPLACEMENT TRANSFORMERS.
- DEMOLISH EXISTING 480V 5000A SWITCHGEAR FROM THE ELECTRICAL ROOM. REFER TO DRAWING 1-0101-ESLD-U0001 FOR NEW POWER DISTRIBUTION.
- DEMOLISH EXISTING UV SYSTEM.

GENERAL NOTES:

- COORDINATE DEMOLITION WITH OWNER OPERATIONS.

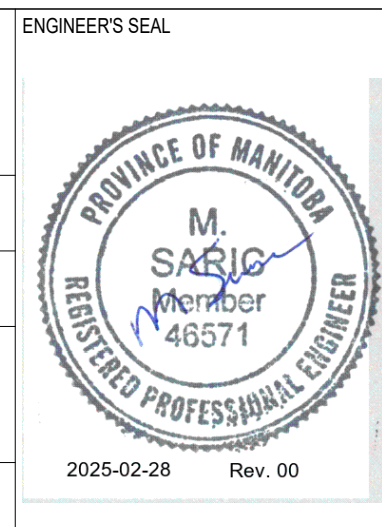
UV DISTRIBUTION
4.16kV

UV DISTRIBUTION
4.16kV

TENDER NO. 30-2025

NO.	REVISIONS	DATE	DESIGN	CHECK
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6	AS-BUILT	02/06/09	DS	
5	AS BUILT	07/08/15	RS	
4	AS CONSTRUCTED	06/09/20	ERC	
3	ISSUED FOR CONN#1	05/07/18	ERC	
2	ISSUED FOR CONSTRUCTION	05/06/08	GLG	
1	ISSUED FOR ADDENDUM 1	05/03/11	ERC	
0	ISSUED FOR TENDER	05/02/18	JEH	

DESIGNED BY: CR		CHECKED BY: SB	
DRAWN BY: DM		APPROVED BY: SB	
SCALE: NONE		RELEASED FOR CONSTRUCTION BY:	
DATE: 2023-07-24		DATE:	
CONSULTANT NO.: 66303D-CE2.01			



THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

NEWPCC - SECONDARY EFFLUENT
UV DISINFECTION FACILITY
ELECTRICAL

OVERALL - UV DISINFECTION FACILITY & NEW STORAGE ROOM
SINGLE LINE DIAGRAM - DEMOLITION

CITY DRAWING NUMBER
1-0101U-E001-001-06

SHEET
07

REV.
A1

SIZE
A1

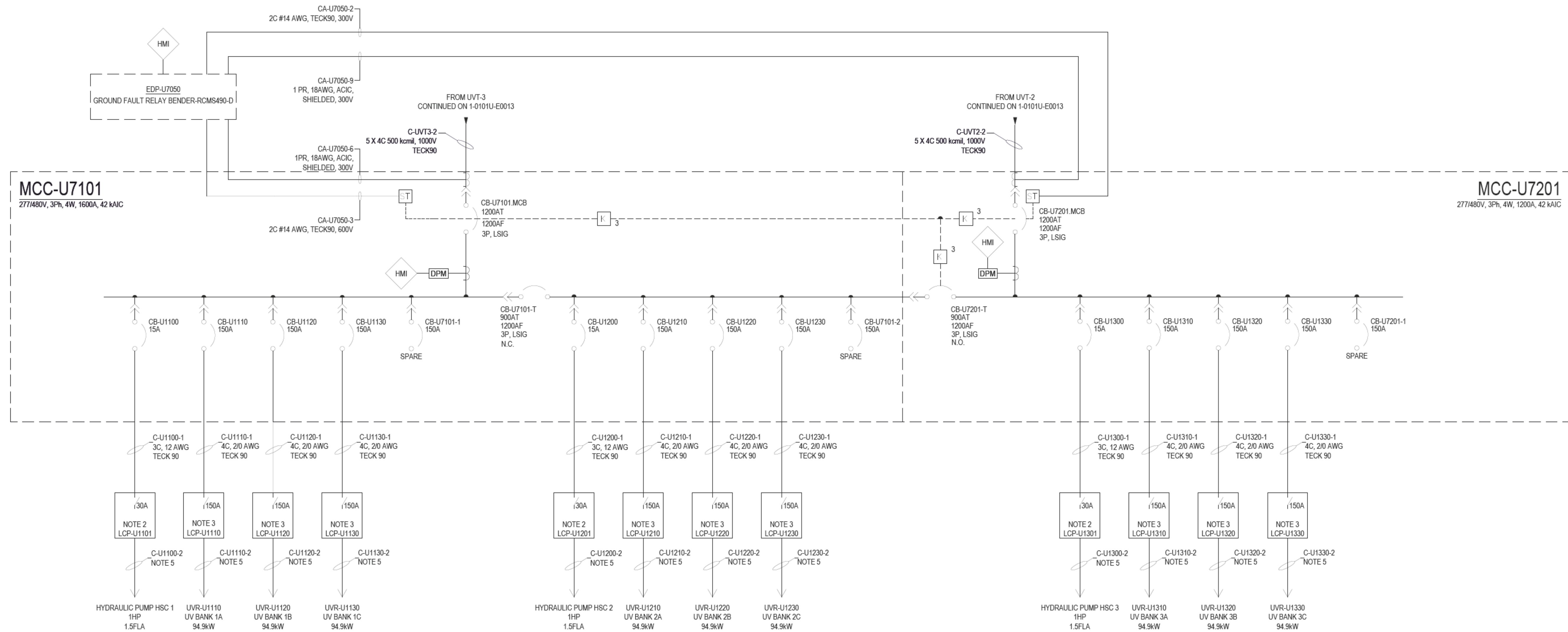
ENGINEERS
GEOSCIENTISTS
MANITOBA

Certificate of Authorization
AECOM Canada ULC

No. 4671

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PATH: C:\Users\Chen\OneDrive\AECOM\City of Winnipeg - NEMPOC Upgrades 2023\Project Files\400 Design Collaboration\UV Upgrades\Electrical\CA\U0-E601.dwg

- NOTES:
1. UVR AND HSCs ARE VENDOR SUPPLIED. INSTALLATION BY ELECTRICAL CONTRACTOR.
 2. HSC INCLUDES INTEGRAL MAIN DISCONNECT BY VENDOR.
 3. PDC INCLUDES INTEGRAL MAIN DISCONNECT BY VENDOR.
 4. CABLING PROVIDED BY U.V. SYSTEM EQUIPMENT VENDOR. CONTRACTOR TO CONNECT CABLING BETWEEN RESPECTIVE LCP AND UVR & HYDRAULIC PUMP PER UV VENDOR REQUIREMENT.



BREAKER PROTECTION SETTINGS												
CIRCUIT BREAKER	FEED DESCRIPTION	MODEL / BREAKER	TRIP UNIT	FRAME	SENSOR/TRIP UNIT	LT PICKUP	LT DELAY	ST PICKUP	ST DELAY	INST PICKUP	GF PICKUP	GF DELAY
CB-U7101.MCB	U7101 MAIN BREAKER	SCHNEIDER TBD	1200A	1200A	LSIG	TBD	TBD	TBD	TBD	TBD	TBD	TBD
CB-U7201.MCB	U7201 MAIN BREAKER	SCHNEIDER TBD	1200A	1200A	LSIG	TBD	TBD	TBD	TBD	TBD	TBD	TBD
CB-U7101.T1	U7101 TIE BREAKER	SCHNEIDER TBD	900A	1200A	LSIG	TBD	TBD	TBD	TBD	TBD	TBD	TBD
CB-U7101.T2	U7101 TIE BREAKER	SCHNEIDER TBD	900A	1200A	LSIG	TBD	TBD	TBD	TBD	TBD	TBD	TBD

POWER DISTRIBUTION SCHEMATIC GROUND FAULT PANEL			U0-E606
NO.	DRAWING TITLE	DRAWING NUMBER	
	REFERENCE DRAWING		



DESIGNED BY: DR	CHECKED BY: SB
DRAWN BY: TW	APPROVED BY: SB
SCALE: NONE	RELEASED FOR CONSTRUCTION BY: DATE: 2023-07-24
DATE: 2025-02-26	DATE: 2025-02-26
ISSUED FOR TENDER	REVISIONS
2025-02-26	MS SB
DATE	DESIGN CHECK

ENGINEERS SEAL

THE CITY OF WINNIPEG

WATER AND WASTE DEPARTMENT

NORTH END SEWAGE TREATMENT PLANT

NEWPCC UV UPGRADES

ELECTRICAL

UV DISINFECTION FACILITY

SINGLE LINE DIAGRAM - 480V SYSTEM

CITY DRAWING NUMBER

SHEET 01

REV. 00

SIZE A1

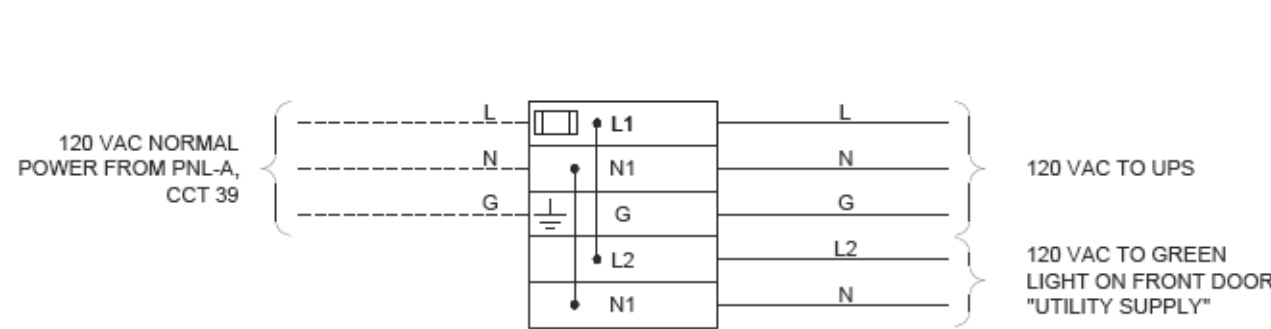
TENDER NO. 30-2025

575V, 3Ph, 3W, 1200A, 42kAIC

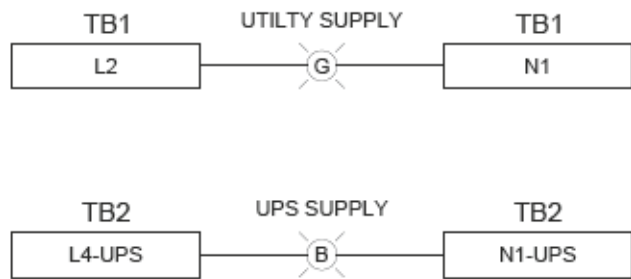


 THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT			
NORTH END SEWAGE TREATMENT PLANT NEWPCC UV UPGRADES ELECTRICAL OVERALL - UV DISINFECTION FACILITY & NEW STORAGE ROOM SINGLE LINE DIAGRAM - 600V SYSTEM			
CITY DRAWING NUMBER	SHEET 001	REV. 00	SIZE A1

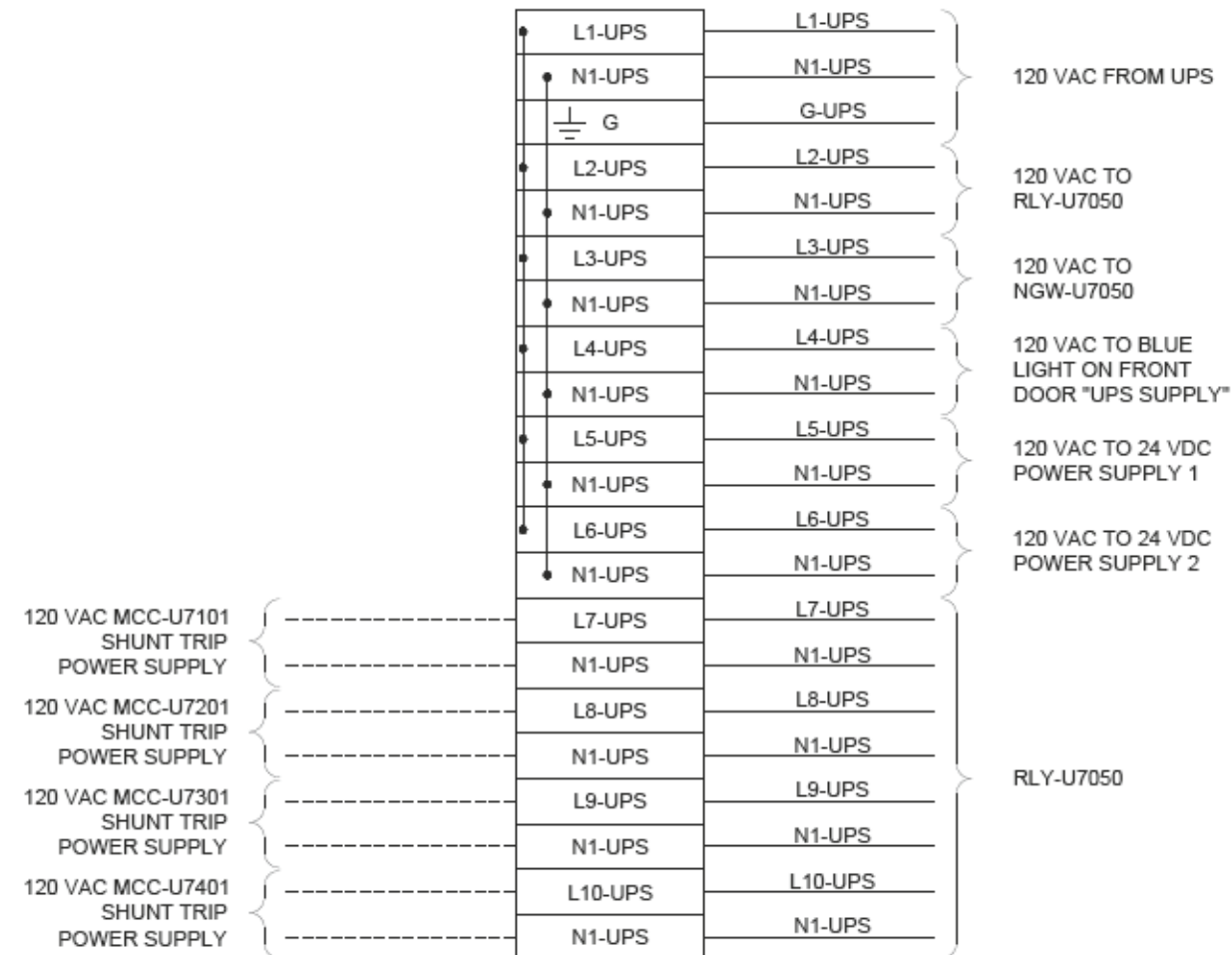
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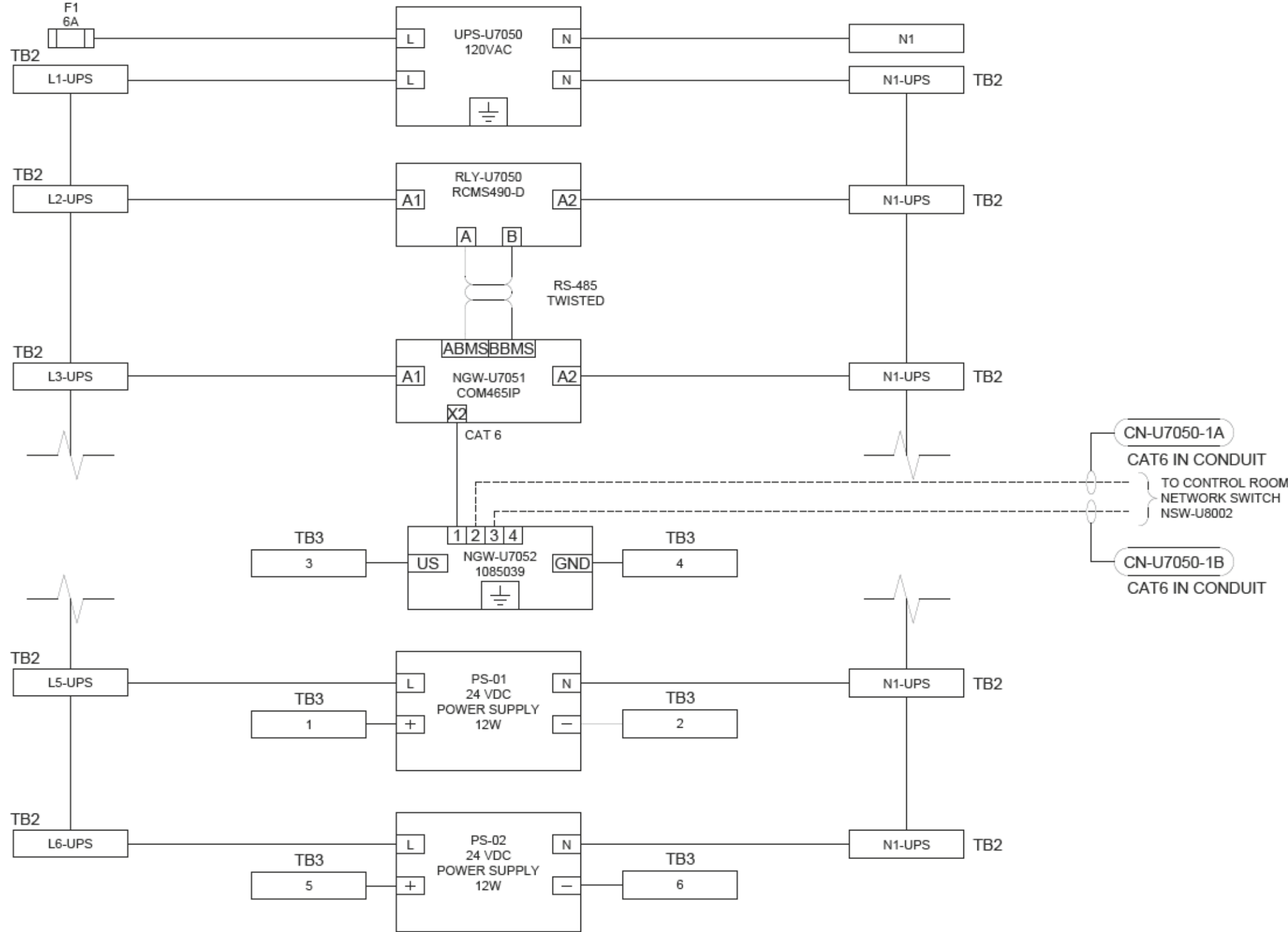
TB1 LAYOUT



PANEL LIGHTING



TB2 LAYOUT

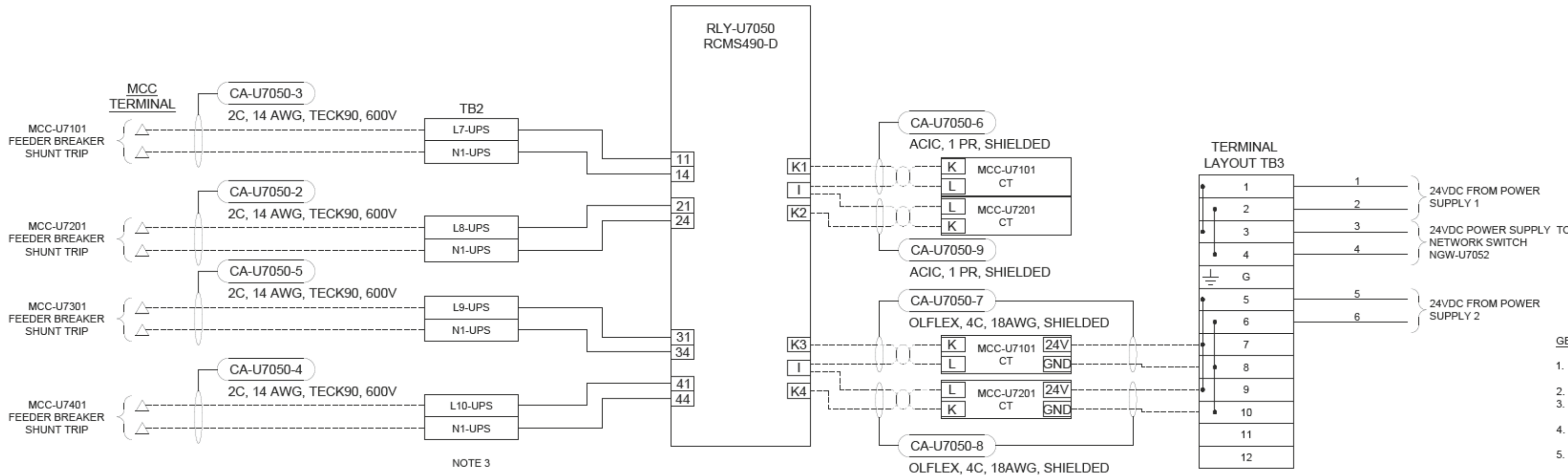


POWER CONNECTIONS AND COMMUNICATION

NOTE 1

NOTES:

1. CIRCUIT GROUNDING IS NOT DEPICTED ON THIS DRAWING.
2. REFER TO MCC PRE-PACKAGE DRAWING FOR SHUNT TRIP TERMINATION LOCATIONS.
3. DESIGN BASED ON A 120VAC SUPPLY TO THE SHUNT TRIP COIL, CONTRACTOR TO REVIEW MCC VENDOR DRAWINGS FOR CURRENT/VOLTAGE REQUIREMENTS AND RED LINE ANY CHANGES.



GROUND FAULT RELAY CONNECTIONS

TB3 LAYOUT

GENERAL NOTES:

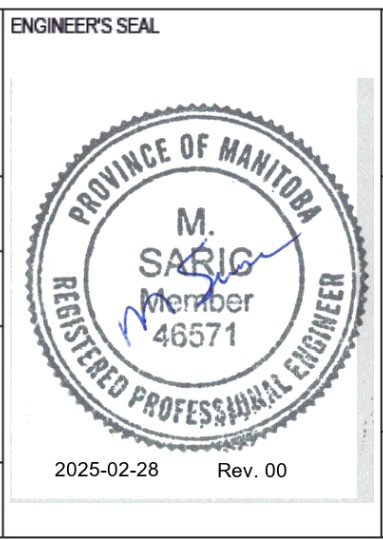
1. CONTROL WIRING TO BE TEWM/TW, 600V RATED (FOR CIRCUITS 120V & BELOW WIRING), 105°C INSULATION, STRANDED COPPER, 14 AWG OR LARGER.
2. COMPONENTS ARE TO BE LABELED AS SHOWN ON THE DRAWINGS.
3. ALL FUSES ARE TO BE PROVIDED. IN ADDITION, TWO SPARES OF EACH FUSE SIZE ARE TO BE PROVIDED.
4. TEST ALL WIRING AND COMPONENTS FOR FUNCTIONAL OPERATION, CORRECT CONNECTION, AND CONTINUITY. DOCUMENT ALL TEST RESULTS.
5. ALL MAJOR COMPONENTS INSIDE THE PANEL ARE TO BE LABELED WITH LAMACIODS IN ACCORDANCE WITH MAJOR DESCRIPTIONS ON THE DRAWINGS.
6. PROVIDE WIDE BARREL FERRULES FOR WIRING.
7. ALL TERMINAL BLOCKS SHALL BE NUMBERED AS SHOWN IN THE DRAWING, COMPLETE WITH GROUP LABELING.
8. ALL WIRES SHALL BE MARKED AS INDICATED ON THE DRAWINGS.
9. JUMPER BARS SHALL BE USED INSTEAD OF WIRE JUMPERS WHERE POSSIBLE.
10. THE PANEL IS TO BE FABRICATED BY A CSA CERTIFIED PANEL SHOP. PROVIDE METAL CSA CERTIFICATION PLATE RIVETED TO ENCLOSURE DOOR.
11. DESIGNATE A SEPARATE WIRE WAY FOR NETWORK, 24VDC AND 120VAC WIRING WITHIN THE PANEL. COMPLY WITH CITY OF WINNIPEG ELECTRICAL DESIGN GUIDE TABLE 4-9 FOR SEGREGATION OF SIGNAL AND VOLTAGE CABLES.
12. CONFIRM COMMUNICATION BETWEEN COM465IP AND RCMS490 AT FACTORY PRIOR TO SHIPPING.

NO.	DRAWING TITLE	DRAWING NUMBER
2	OVERALL - UV DISINFECTION FACILITY & NEW STORAGE ROOM SINGLE LINE DIAGRAM	U0-E602
2	UV DISINFECTION FACILITY - SINGLE LINE DIAGRAM - 480V SYSTEM	U0-E601
1	PANEL LAYOUT - GROUND FAULT DETECTION PANEL EDP-U7050	U0-E401
NO.	DRAWING TITLE	DRAWING NUMBER
	REFERENCE DRAWING	



NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR TENDER	2025-02-26	MS	SB

DESIGNED BY:	CHECKED BY:
MS	SB
DRAWN BY:	APPROVED BY:
TW	NW
SCALE:	RELEASED FOR CONSTRUCTION BY:
NONE	
DATE:	DATE:
2023-07-24	
CONSULTANT NO.:	
U0-E606	



THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT			
NEWPCC - SECONDARY EFFLUENT UV DISINFECTION FACILITY AUTOMATION POWER DISTRIBUTION SCHEMATIC GROUND FAULT PANEL			
CITY DRAWING NUMBER		SHEET	REV.
		001	00
		SIZE	
		A1	

TENDER NO. 30-2025