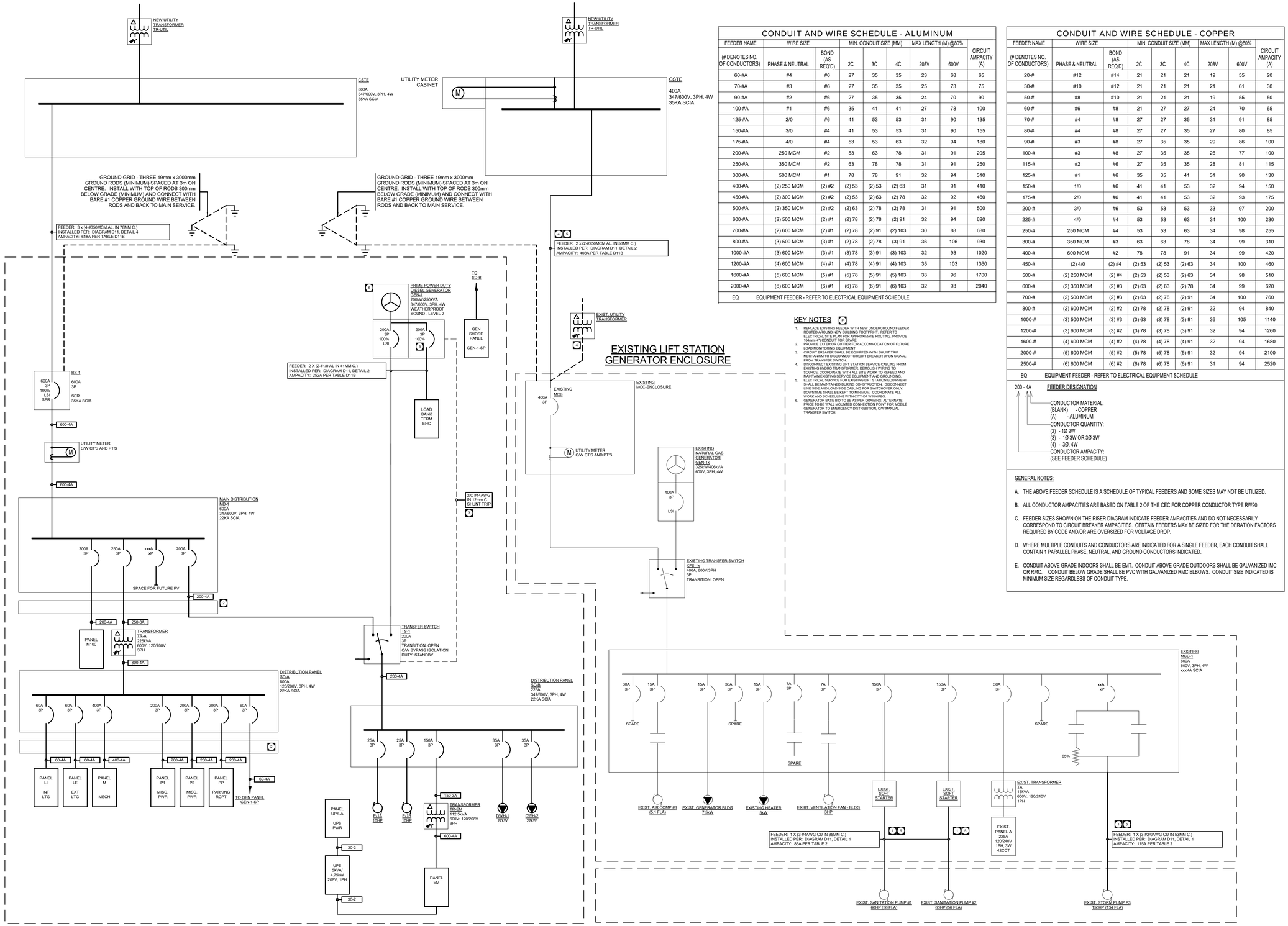

CONDUIT AND WIRE SCHEDULE - ALUMINUM

FEEDER NAME	WIRE SIZE		MIN. CONDUIT SIZE (MM)			MAX LENGTH (M) @80%		
(# DENOTES NO. OF CONDUCTORS)	PHASE & NEUTRAL	BOND (AS REQ'D)	2C	3C	4C	208V	600V	CIRCUIT AMPACITY (A)
60-#A	#4	#6	27	35	35	23	68	65
70-#A	#3	#6	27	35	35	25	73	75
90-#A	#2	#6	27	35	35	24	70	90
100-#A	#1	#6	35	41	41	27	78	100
125-#A	2/0	#6	41	53	53	31	90	135
150-#A	3/0	#4	41	53	53	31	90	155
175-#A	4/0	#4	53	53	63	32	94	180
200-#A	250 MCM	#2	53	63	78	31	91	205
250-#A	350 MCM	#2	63	78	78	31	91	250
300-#A	500 MCM	#1	78	78	91	32	94	310
400-#A	(2) 250 MCM	(2) #2	(2) 53	(2) 53	(2) 63	31	91	410
450-#A	(2) 300 MCM	(2) #2	(2) 53	(2) 63	(2) 78	32	92	460
500-#A	(2) 350 MCM	(2) #2	(2) 63	(2) 78	(2) 78	31	91	500
600-#A	(2) 500 MCM	(2) #1	(2) 78	(2) 78	(2) 91	32	94	620
700-#A	(2) 600 MCM	(2) #1	(2) 78	(2) 91	(2) 103	30	88	680
800-#A	(3) 500 MCM	(3) #1	(2) 78	(2) 78	(3) 91	36	106	930
1000-#A	(3) 600 MCM	(3) #1	(3) 78	(3) 91	(3) 103	32	93	1020
1200-#A	(4) 600 MCM	(4) #1	(4) 78	(4) 91	(4) 103	35	103	1360
1600-#A	(5) 600 MCM	(5) #1	(5) 78	(5) 91	(5) 103	33	96	1700
2000-#A	(6) 600 MCM	(6) #1	(6) 78	(6) 91	(6) 103	32	93	2040
EQ	EQUIPMENT FEEDER - REFER TO ELECTRICAL EQUIPMENT SCHEDULE							

KEY NOTES

1. REPLACE EXISTING FEEDER WITH NEW UNDERGROUND FEEDER ROUTED AROUND NEW BUILDING FOOTPRINT. REFER TO ELECTRICAL SITE PLAN FOR APPROXIMATE ROUTING. PROVIDE 104mm HT CONDUIT FOR SPARE.
2. PROVIDE EXTERIOR GUTTER FOR ACCOMMODATION OF FUTURE LOAD MONITORING EQUIPMENT.
3. CIRCUIT BREAKER SHALL BE EQUIPPED WITH SHUNT TRIP MECHANISM TO DISCONNECT CIRCUIT BREAKER UPON SIGNAL FROM TRANSFER SWITCH.
4. DISCONNECT EXISTING LIFT STATION SERVICE CABLING FROM EXISTING HYDRO TRANSFORMER. DEMOLISH WIRING TO SOURCE. COORDINATE WITH ALL SITE WORK TO REFEED AND MAINTAIN EXISTING SERVICE EQUIPMENT AND GROUNDING.
5. EXISTING LIFT STATION SERVICE EQUIPMENT AND EQUIPMENT SHALL BE MAINTAINED DURING CONSTRUCTION. DISCONNECT LINE SIDE AND LOAD SIDE CABLING FOR SWITCHOVER ONLY. DOWNTIME SHALL BE KEPT TO MINIMUM. COORDINATE ALL WORK AND SCHEDULING WITH CITY OF WINNIPEG.
6. GENERATOR BASE BID TO BE AS PER DRAWING. ALTERNATE PRICE TO BE WALL MOUNTED CONNECTION POINT FOR MOBILE GENERATOR TO EMERGENCY DISTRIBUTION, C/W MANUAL TRANSFER SWITCH.

CONDUIT AND WIRE SCHEDULE - COPPER

FEEDER NAME	WIRE SIZE		MIN. CONDUIT SIZE (MM)			MAX LENGTH (M) @80%		
(# DENOTES NO. OF CONDUCTORS)	PHASE & NEUTRAL	BOND (AS REQ'D)	2C	3C	4C	208V	600V	CIRCUIT AMPACITY (A)
20-#	#12	#14	21	21	21	19	55	20
30-#	#10	#12	21	21	21	21	61	30
50-#	#8	#10	21	21	21	19	55	50
60-#	#6	#8	21	27	27	24	70	65
70-#	#4	#8	27	27	35	31	91	85
80-#	#4	#8	27	27	35	27	80	85
90-#	#3	#8	27	35	35	29	86	100
100-#	#3	#8	27	35	35	26	77	100
115-#	#2	#6	27	35	35	28	81	115
125-#	#1	#6	35	35	41	31	90	130
150-#	1/0	#6	41	41	53	32	94	150
175-#	2/0	#6	41	41	53	32	93	175
200-#	3/0	#6	53	53	53	33	97	200
225-#	4/0	#4	53	53	63	34	100	230
250-#	250 MCM	#4	53	53	63	34	98	255
300-#	350 MCM	#3	63	63	78	34	99	310
400-#	600 MCM	#2	78	78	91	34	99	420
450-#	(2) 4/0	(2) #4	(2) 53	(2) 53	(2) 63	34	100	460
500-#	(2) 250 MCM	(2) #4	(2) 53	(2) 53	(2) 63	34	98	510
600-#	(2) 350 MCM	(2) #3	(2) 63	(2) 63	(2) 78	34	99	620
700-#	(2) 500 MCM	(2) #3	(2) 63	(2) 78	(2) 91	34	100	760
800-#	(2) 600 MCM	(2) #2	(2) 78	(2) 78	(2) 91	32	94	840
1000-#	(3) 500 MCM	(3) #3	(3) 63	(3) 78	(3) 91	36	105	1140
1200-#	(3) 600 MCM	(3) #2	(3) 78	(3) 78	(3) 91	32	94	1260
1600-#	(4) 600 MCM	(4) #2	(4) 78	(4) 78	(4) 91	32	94	1680
2000-#	(5) 600 MCM	(5) #2	(5) 78	(5) 78	(5) 91	32	94	2100
2500-#	(6) 600 MCM	(6) #2	(6) 78	(6) 78	(6) 91	31	94	2520
EQ	EQUIPMENT FEEDER - REFER TO ELECTRICAL EQUIPMENT SCHEDULE							

200 - 4A — FEEDER DESIGNATION

- CONDUCTOR MATERIAL: (BLANK) - COPPER; (A) - ALUMINUM
- CONDUCTOR QUANTITY: (2) - 1Ø 2W; (3) - 1Ø 3W OR 3Ø 3W; (4) - 3Ø, 4W
- CONDUCTOR AMPACITY: (SEE FEEDER SCHEDULE)

GENERAL NOTES:

A. THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED.

B. ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 2 OF THE CEC FOR COPPER CONDUCTOR TYPE RW90.

C. FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DERATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.

D. WHERE MULTIPLE CONDUITS AND CONDUCTORS ARE INDICATED FOR A SINGLE FEEDER, EACH CONDUIT SHALL CONTAIN 1 PARALLEL PHASE, NEUTRAL, AND GROUND CONDUCTORS INDICATED.

E. CONDUIT ABOVE GRADE INDOORS SHALL BE EMT. CONDUIT ABOVE GRADE OUTDOORS SHALL BE GALVANIZED IMC OR RMC. CONDUIT BELOW GRADE SHALL BE PVC WITH GALVANIZED RMC ELBOWS. CONDUIT SIZE INDICATED IS MINIMUM SIZE REGARDLESS OF CONDUIT TYPE.

1 / E5.1 ELECTRICAL SINGLE LINE DIAGRAM
SCALE: NTS

NEW WFPS STATION 9 BUILDING

EXISTING LIFT STATION

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PROVINCE OF MANITOBA — A.O. SOWUNMI — Member 43015 — 2023-02-03 — REGISTERED PROFESSIONAL ENGINEER

Project
WFPS STATION 9
1083 AUTUMNWOOD DRIVE

Sheet Title
ELECTRICAL DIAGRAMS

Project No. 22028

Sheet E5.1

CIBINEL - Arch D - 24" X 36"