BILL OF MATERIALS				
ITEM	QTY	DESCRIPTION	MANUFACTURER	MODEL No.
1	1	TWO DOOR FLOOR MOUNTED TYPE 12 ENCLOSURE	HOFFMAN	A726010ULPG
2	1	BACK PAN	HOFFMAN	A72P60
3	2	PANEL METER, 24VDC, 4 RELAYS, 4–20mA OUTPUT	PRECISION DIGITAL	PD6000–7H7
4	1	SURGE ARRESTER MODULE 120V	PHOENIX CONTACT	PLT–SEC–T3–120–P (2905234)
5	1	SURGE ARRESTER BASE	PHOENIX CONTACT	PT–BE.FM (2839282)
6	AS REQ'D	35mm DIN RAIL	PHOENIX CONTACT	0801733
7	AS REQ'D	NARROW SLOT WIRING DUCT AND COVER, 1.75"X3.12" GREY	PANDUIT	–
8	AS REQ'D	NARROW SLOT WIRING DUCT AND COVER, 2.25"X3.12" GREY	PANDUIT	–
9	AS REQ'D	FEED THROUGH TERMINAL	PHOENIX CONTACT	3046184
10	AS REQ'D	FUSED TERMINAL	PHOENIX CONTACT	3046142
11	AS REQ'D	FUSE CONNECTOR	PHOENIX CONTACT	3036806
12	AS REQ'D	KNIFE DISCONNECT TERMINAL	PHOENIX CONTACT	3046139
13	AS REQ'D	POTENTIAL–EARTH TERMINAL	PHOENIX CONTACT	3046207
14	AS REQ'D	TERMINAL END PLATE	PHOENIX CONTACT	3047141
15	AS REQ'D	TERMINAL END CLAMP – CLIPFIX	PHOENIX CONTACT	3022218
16	AS REQ'D	DOUBLE LEVEL FUSED TERMINAL	PHOENIX CONTACT	3044720
17	1	DRAWING HOLDER	HOFFMAN	–
18	AS REQ'D	DOUBLE LEVEL TERMINAL END PLATE	PHOENIX CONTACT	3047293
19	AS REQ'D	PLUG–IN BRIDGE	PHOENIX CONTACT	3030365
20	AS REQ'D	TERMINAL BLOCK MARKER – KLM–A	PHOENIX CONTACT	1004348
21	3	GROUND BAR, 14 TAPS	ILSCO	D167–14
22	1	RECEPTACLE, 125V, 15A, DIN RAIL MOUNTED	PHOENIX CONTACT	SD–UD/SC/LA/GY (2963860)
23	1	CELLULAR MODEM 9SUPPLIED BY CITY	SIXNET RV50X	SIERRA S414–24
24	1	PSTN MODEM	PHOENIX CONTACT	PSI–DATA/BASIC–MODEM/RS232 (2313067)
25	1	12" TOUCHSCREEN HMI	SCHNEIDER ELECTRIC	HMI GTO 6310
26	1	PUSHBUTTON, 22mm, 1N.O., RED	SCHNEIDER ELECTRIC	ZB4BA4
			SCHNEIDER ELECTRIC	ZB4BZ009
			SCHNEIDER ELECTRIC	ZBE101
27	1	PUSHBUTTON, 22mm, 1N.O., BLUE	SCHNEIDER ELECTRIC	XB4BA61
28	1	PUSHBUTTON, 22mm, 1N.C., YELLOW	SCHNEIDER ELECTRIC	ZB4BA5
			SCHNEIDER ELECTRIC	ZB4BZ009
			SCHNEIDER ELECTRIC	ZBE102
29	2	SELECTOR SWITCH, 2 POS'N, MAINTAINED, 1N.O., 1N.C.	SCHNEIDER ELECTRIC	XB4BD25
30	2	RELAY, 120VAC, SPDP, LED, AND BASE	OMRON	G2R–1–SN–AC120(S), P2RF–05
31	1	24VDC REDUNDANCY MODULE	PHOENIX CONTACT	QUINT–ORING–24DC–2X10–1X20_2D
32	2	MOULDED CASE CIRCUIT BREAKER, 10A, DIN RAIL MOUNTED	PHOENIX CONTACT	TMC 1 F1 100 10.0A (0914167)
33	1	MOULDED CASE CIRCUIT BREAKER, 5A, DIN RAIL MOUNTED	PHOENIX CONTACT	TMC 1 F1 100 5.0A (0914138)
34	1	ETHERNET PATCH CORD, CAT6, RJ45	–	–
35	1	SERIAL RS–232 COMMUNICATION CABLE, RJ45 TO 9 PIN D–SHELL CONNECTOR	–	–
36	AS REQ'D	LAMACOID WHITE WITH BLACK TEXT	–	–
37	1	24VDC UNINTERRUPTIBLE POWER SUPPLY, QUINT SERIES, 10A, WITH 12AH BATTERY	PHOENIX CONTACT	QUINT–UPS/24DC/24DC/10 (2320225), QUINT–BAT/PB/24DC/12AH (1274119)
38	2	24VDC POWER SUPPLY, QUINT SERIES, 10A	PHOENIX CONTACT	QUINT–PS/1AC/24DC/10 (2866763)
39	1	M580 PLC RACK – AS PER DETAIL '1'.	SCHNEIDER ELECTRIC	–
40	8	RELAY, 24VDC, 4PDT, LED, DIODE, AND BASE	OMRON	G2R–1–SND–DC24(S), P2RF–05
41	3	RELAY, 24VDC, 4PDT, LED, AND BASE	OMRON	LY4N–DC24, PTF4A

KEYNOTE:

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CONNECTOR LEGEND:

S1 BMX FCW 303
40–WAY CONNECTOR WITH FLYING LEADS

S2 BMX FTB 2010
SCREW CLAMP TERMINAL BLOCK

S3 BMX FCW 38S
28–WAY REMOVABLE TERMINAL BLOCK WITH FLYING LEADS

1 PLC–L81 LAYOUT
SCALE:NTS

10	1–0162L–A0016–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 ANALOG OUTPUT RACK 1, MODULE 1
9	1–0162L–A0015–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 ANALOG INPUT RACK 1, MODULE 0
8	1–0162L–A0014–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 ANALOG INPUT RACK 0, MODULE 11
7	1–0162L–A0013–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 ANALOG INPUT RACK 0, MODULE 10
6	1–0162L–A0012–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 ANALOG INPUT RACK 0, MODULE 9
5	1–0162L–A0011–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 ANALOG INPUT RACK 0, MODULE 8
4	1–0162L–A0010–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 DISCRETE OUTPUT RACK 0, MODULE 7
3	1–0162L–A0009–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 DISCRETE INPUT RACK 0, MODULE 6
2	1–0162L–A0008–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 DISCRETE INPUT RACK 0, MODULE 5
1	1–0162L–A0007–001	PLC I/O WRING DIAGRAM PLC CONTROL PANEL CP–L81 DISCRETE INPUT RACK 0, MODULE 4
NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE

REFERENCE DRAWINGS

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
KGS Group
No. 245

B.M.
ELEV.

NO.	REVISIONS	DATE	BY
0	ISSUED FOR CONSTRUCTION	2023 03 24	DDW

KGS GROUP

DESIGNED BY A. NIRMAL
CHECKED BY DDW
DRAWN BY R. GASPAR
APPROVED BY DDW
SCALE:
HORIZONTAL NTS
VERTICAL NTS
RELEASED FOR CONSTRUCTION
DATE 2022/07/18
DATE
PLOT DATE: 2023 03 23

ENGINEER'S SEAL
PROVINCE OF MANITOBA
D. WILSON
Member
22552
2023-03-23
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NUMBER
22–0107–004–A04.02

BID OPPORTUNITY: 864-2022

Winnipeg

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

METCALFE LIFT PUMPING STATION
2022 UPGRADES
AUTOMATION

PANEL LAYOUT & BILL OF MATERIALS
PLC CONTROL PANEL CP–L81

CITY DRAWING NUMBER 1–0162L–A0004–002
SHEET 8 OF 109

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FILE NAME: 1-0162L-A0004-002.dwg