LIFT STATION SECTION

SCALE: 1:30

GENERAL NOTES:

1. PERFORM WORK IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.
2. EQUIPMENT LOCATIONS, DUCT, AND PIPE ROUTING INDICATED ON THE DRAWINGS IS APPROXIMATE ONLY. CONFIRM IN THE FIELD. RE-ROUTE DUCTWORK AND PIPING AS REQUIRED TO ELIMINATE FIELD INTERFERENCES WITH BUILDING STURCTURES, ELECTRICAL, ETC. CONFIRM CHANGES WITH THE CONTRACT ADMINISTRATOR. WHERE DIMENSIONS ARE INDICATED FOR PIPING, DUCTWORK, DUCT SIZES, EQUIPMENT SIZES, ETC. THESE ARE FOR BIDDING PURPOSES ONLY.
3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS IN THE FIELD PRIOR TO ORDERING EQUIPMENT AND COMMENCING INSTALLATION WITHOUT EXTRA CHARGES TO THE PROJECT.
4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH WORK WITH ALL SUBTRADES RESPONSIBLE AND ENSURING THAT ALL EQUIPMENT, DUCTWORK AND PIPING FITS IN THE SPACES.
5. CONFORM TO SMACNA STANDARDS FOR SUPPLY AND INSTALLATION OF DUCTWORK.
6. SEAL ALL WALL PENETRATIONS AND DUCTWORK WATER AND AIRTIGHT.
7. PROVIDE ALL WALL AND FLOOR PENETRATIONS.
8. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW AND IS TO BE PROVIDED BY THE CONTRACTOR UNLESS OTHERWISE INDICATED AS EXISTING.

CONTINUOUS VENTILATION RATES							
AREA	VOLUME		MIN. AIR CHANGES	MIN. AIRFLOW		DESIGN AIRFLOW	
	FT3	m3	PER HOUR	CFM	L/s	CFM	L/s
MAIN FLOOR / ELECTRICAL ROOM (MAIN FLOOR)	1764	50.0	6	176	83	180	85
LOWER LEVEL LANDING (SUB-LEVEL 1)	851	24.1	6	85	40	96	45
MOTOR ROOM (SUB-LEVEL 2)	2149	60.9	6	215	101	244	115
PUMP ROOM (SUB-LEVEL 3)	1535	43.5	6	153	72	180	85
TOTAL	6299	178.5		629	297	700	330

HVAC DESIGN CRITERIA

GENERAL
THE BUILDING VENTILATION SYSTEM SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED TO:
- NATIONAL BUILDING CODE OF CANADA
- NATIONAL FIRE CODE OF CANADA
- NFPA 820 (2016) STANDARD FOR FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION FACILITIES

CLIMATE DATA
WINTER: −35.0°C D.B.
SUMMER: 30.3°C D.B., 21.3°C W.B.

INDOOR WINTER / HEATING DESIGN TEMPERATURES
ELECTRICAL ROOM: 18°C
PROCESS AREAS: 18°C

INDOOR SUMMER / COOLING DESIGN TEMPERATURES
ELECTRICAL ROOM: 26°C
PROCESS AREAS: MAXIMUM OF 5°C TEMPERATURE RISE ABOVE AMBIENT BY FREE COOLING

VENTILATION
A MINIMUM OF 6 AIR CHANGES PER HOUR (ACH) CONTINUOUS VENTILATION PROVIDED. WHEN THE STATION IS UNOCCUPIED, THE SYSTEM WILL CONTINUE TO PROVIDE 6 ACH WITH 75% RE-CIRCULATED AIR.

KEYNOTES:

1. SUPPLY AND INSTALL SUPPLY FAN, EXHAUST FAN AND ASSOCIATED MOTORIZED DAMPERS FOR RECIRCULATION FUNCTION. INSULATE DUCTWORK AS SHOWN AND SUPPORT EQUIPMENT AND DUCTWORK WITH HANGER SUPPORTS. REFER TO MANUFACTURER'S INSTALLATION REQUIREMENTS AND PROVIDE SUFFICIENT CLEARANCE ABOVE FANS FOR MOTOR AND BELT DRIVE.
2. SUPPLY AND INSTALL UNIT HEATER WITH HANGER SUPPORTS AND LOCAL THERMOSTAT.
3. SUPPLY AND INSTALL WALL MOUNTED AIR CONDITIONING UNIT WITH LOCAL THERMOSTAT.
4. SUPPLY AND INSTALL DOMESTIC WATER, DRAIN AND VENT PIPING INCLUDING PIPE SUPPORTS AND HANGERS AS REQUIRED FOR HOSE BIBS AND WET WELL LEVEL GAUGE FLUSH LINES AND VENTS.

LEGEND:

- NEW DUCTWORK AND EQUIPMENT
- NEW INSULATED DUCTWORK
- BALANCING DAMPER
- MD — MOTORIZED DAMPER
- LV1 450x450 330 L/s — GRILLE/LOUVER SCHEDULE

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

500 0 500 1000 1500 2000 2500
SCALE: 1:30mm

NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
5		
4		
3		
2	1-0162L-M0011-001	HVAC AND PLUMBING - STANDARD DETAILS
1	1-0162L-M0008-001	HVAC AND PLUMBING - PLANS

REFERENCE DRAWINGS

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
KGS Group
No. 245

B.M.
ELEV.

NO.	REVISIONS	DATE (YYYY/MM/DD)	BY
0	ISSUED FOR CONSTRUCTION	2023 03 24	

KGS GROUP

DESIGNED BY K. RADTKE
CHECKED BY
DRAWN BY R. PERALTA
APPROVED BY
SCALE: HORIZONTAL AS SHOWN
VERTICAL
RELEASED FOR CONSTRUCTION
DATE 2022 07 19
DATE
PLOT DATE: 2023 03 22

ENGINEER'S SEAL
PROVINCE OF MANITOBA
J.V. SMITH
2023-03-22
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NUMBER
22-0107-004_M07

BID OPPORTUNITY: 864-2022

Winnipeg

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

METCALFE LIFT PUMPING STATION
2022 UPGRADES
MECHANICAL
HVAC AND PLUMBING
SECTION

CITY DRAWING NUMBER 1-0162L-M0007-001
SHEET 78 OF 109

FILE PATH: P:\Projects\2022\22-0107-004\Dwg\Mech\
FILE NAME: 1-0162L-M0007-001.dwg