

**LEGEND**

- UNION
- CAP
- GATE VALVE
- CONTROL VALVE
- BALL VALVE - NORMALLY OPEN
- BALL VALVE - NORMALLY CLOSED
- CHECK VALVE
- BUTTERFLY VALVE
- FLEXIBLE PIPE CONNECTOR
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- VENT
- FLOW ARROW
- ELBOW TURNED UP
- ELBOW TURNED DOWN
- EQUIPMENT TYPE & NUMBER  
EF = EXHAUST AIR FAN  
P = PUMP  
MX = MIXER
- INSULATED PIPING
- LOUVER TYPE
- LOUVER NECK SIZE
- AIR FLOW (L/S)
- DETAIL NUMBER (NUMBER/LETTER)
- SHEET NO. WHERE ITEM ORIGINATED
- SECTION SYMBOL
- THERMOSTAT
- BACKDRAFT DAMPER
- MOTORIZED DAMPER
- EXHAUST OR RETURN AIR DUCT IN SECTION
- SUPPLY OR OUTSIDE AIR DUCT IN SECTION
- ROUND DUCT OR PIPE IN SECTION

**GENERAL NOTES:**

1. DIMENSIONS AND BUILDING ORIENTATION SHOWN ON THE DRAWING ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE TO VERIFY EQUIPMENT/BUILDING LOCATIONS AND DIMENSIONS ON SITE.
2. PATCH ALL OPENINGS REMAINING AFTER EQUIPMENT, DUCT, OR PIPING INSTALLATION/REMOVALS. PATCHING TO ACHIEVE COLOUR MATCHED FINISH OF LIKE MATERIALS TO THE SURROUNDING SURFACE MATERIAL.
3. CUT ALL NEW OPENINGS REQUIRED FOR NEW INSTALLATIONS OR DEMOLITION WORK USING DUE CARE AND APPROPRIATE TOOLS AND METHODS TO MAINTAIN THE INTEGRITY OF THE STRUCTURE/ASSEMBLY IN WHICH THE OPENING IS BEING CUT. MECHANICAL CONTRACTOR SHALL SUPPLY GALVANIZED STEEL SHEET METAL AND SLEEVES FOR EQUIPMENT PENETRATING THE WALL.
4. ELECTRICALLY ISOLATE ALL DISSIMILAR METALS.
5. PROVIDE ADDITIONAL FRAMING AT ALL WALL PENETRATIONS.
6. PERFORM ALL WORK IN CO-ORDINATION WITH ALL OTHER TRADES AND CONTRACTORS. PROVIDE COMPLETE FUNCTIONAL AND CODE COMPLIANT SYSTEMS.
7. CONTRACTOR IS RESPONSIBLE FOR TAKING OUT PERMITS AND PAYING ALL FEES RELATED TO DEMOLITION/MODIFICATION OF THE EXISTING SYSTEMS, CONSTRUCTION, MODIFICATION AND INSTALLATION OF NEW SYSTEMS.
8. DEMOLITION/MODIFICATION/DISPOSAL/INSTALLATION OF MECHANICAL WHICH INVOLVE NATURAL GAS PIPING AND EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANITOBA FIRE CODE, REGULATIONS, INDUSTRY STANDARDS AND LOCAL BYLAWS.
9. USE SKILLED AND LICENSED LABOURERS AND JOURNEYMEN TO PERFORM ALL WORK.
10. ALL WASTE IS TO BE DISPOSED OF OFF SITE IN AN APPROVED FACILITY LICENSED TO ACCEPT SUCH WASTE.
11. CONTRACTOR IS RESPONSIBLE TO REMOVE ANY CONTAMINATED OR HAZARDOUS WASTE/REFUSE, WHICH IS CAUSED BY THIS CONSTRUCTION WORK, AND TO DISPOSE THEM OFF SITE AS PER CODE.
12. CONTRACTOR TO PROVIDE PROTECTION TO OWNER EQUIPMENT DURING CONSTRUCTION. WORK WITH EXTREME CARE AROUND OPERATING EQUIPMENT.
13. COORDINATE THE TIMING, DURATION AND SAFETY REQUIREMENTS FOR SHUT-DOWNS TO ALLOW PIPING TIE-INS AND WORK IN HAZARDOUS ATMOSPHERE WITH THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT.
14. VERIFY CONFINED SPACES ENTRY REQUIREMENTS WITH CITY PRIOR TO ENTERING SUCH SPACES.
15. CONTRACTOR SHALL PROVIDE REQUIRED PERSONNEL FACILITIES FOR STAFF ON SITE.

**NOTE:**

ALL CONNECTION LOCATIONS AND ENGINE INFORMATION SHOWN HEREIN IS BASED ON PRELIMINARY DESIGN INFORMATION FOR A CATERPILLAR G3512TA ENGINE. PIPE SIZES FOR COMBUSTION AIR, EXHAUST, WATER AND SEWER, AND FUEL ARE BASED ON PUBLISHED VALUES FOR CATERPILLAR (G3512TA) SERIES AND WAUKESHA (VHP F35XX) SERIES ENGINES, WITH ROUTINGS APPROXIMATELY AS SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONNECTION LOCATION DESIGN CHANGES THAT MAY BE REQUIRED FOR USE OF A WAUKESHA ENGINE. BOTH ENGINES WILL BE GIVEN EQUAL CONSIDERATION BY THE CITY OF WINNIPEG.

**IMPORTANT: ASBESTOS NOTIFICATION AND ACKNOWLEDGMENT**

Every effort has been made to identify known asbestos containing materials within the areas of the proposed work. As a precautionary measure, where material is encountered by trades and contractors that is suspect or suspicious, the Trade/Contractor/Subcontractor is to contact the Contact Administrator who will have samples taken and tested to confirm its composition.

Mt. Reg. 53-88 (Workplace Health Hazard Regulation), Mt. Reg. 100-88R (Fibrosis and Silicosis Regulation) and associated Guidelines apply to all maintenance and renovation work that may disturb asbestos or suspect asbestos-containing materials in the Workplace. Such regulations and guidelines state that any disturbance of asbestos-containing materials may only be performed by workers or by an outside contractor who have first received the required training in asbestos-related precautions.

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS CAN CAUSE VARIOUS TYPES OF LUNG DISEASE INCLUDING CANCER. SMOKING INCREASES THE RISK OF LUNG CANCER FROM ASBESTOS EXPOSURE.

**ACKNOWLEDGMENT:**

In undertaking the work of this project, we the trade or contractor agree to perform our work in such a manner so as NOT to disturb any asbestos-containing materials without:

1. giving notice to the appropriate supervisor, individual manager and/or project coordinator at the Water and Waste Department that known or suspected asbestos-containing material(s) will be/needs to be disturbed, or
2. halting work and giving notice to the Contact Administrator when unforeseen suspected asbestos-containing materials are uncovered during the provisions of services/materials.

NOTE:

DRN	CHK	DES	ENG	IDR
<i>MA</i>	<i>CC</i>			<i>BP</i>
UMA   AECOM REVIEW				

B.M. ELEV.	FIELD BOOK #:	UMA   AECOM	ENGINEER'S SEAL	<b>THE CITY OF WINNIPEG</b> WATER AND WASTE DEPARTMENT <b>G. C. MACLEAN PUMPING STATION</b> Contract No. Natural Gas Engine Drives Replacement Mechanical GENERAL NOTES AND LEGEND
POSTED TO LBIS		DESIGNED BY <b>CAC</b>	CHECKED BY	REGISTERED PROFESSIONAL ENGINEER
		DRAWN BY <b>RJP</b>	APPROVED BY	
		HOR. SCALE <b>NTS</b>	RELEASED FOR CONSTRUCTION	
		VERTICAL <b>NTS</b>	DATE	
<b>C</b> ISSUED FOR BID	07/06/15	<b>RJP</b>		
<b>B</b> ISSUED FOR 99% REVIEW	07/05/04	<b>RJP</b>		
<b>A</b> ISSUED FOR 75% REVIEW	07/03/15	<b>RJP</b>		
NO. REVISIONS	DATE	BY	FILENAME: D265-199-00_01-M-0001_RX.dwg	
			CITY DRAWING NUMBER	SHEET REV. SIZE
			1-0630A-D-M0001	001 C D

Certificate of Authorization  
 UMA Engineering Ltd. (MB)  
 No. 256 Date: *June 15-07*