

PLUMBING SYMBOLS	
	NEW PIPING
	UNDER SLAB PIPING
	CLEAN OUT
	TIE-IN POINT TAG
	STANDARD DETAIL TAG

HVAC SYMBOLS	
	NEW HVAC EQUIPMENT
	NEW DUCTWORK
	EXISTING HVAC EQUIPMENT/DUCTWORK
	EXTERNALLY INSULATED DUCTWORK
	RETURN/EXHAUST DUCT DOWN
	RETURN/EXHAUST DUCT UP
	SUPPLY DUCT DOWN
	SUPPLY DUCT UP
	AIR FLOW DIRECTION
	GRILLE NO.
	NECK SIZE
	AIR FLOW RATE

ABBREVIATIONS LIST	
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
NG	NATURAL GAS
PD	PROCESS DRAIN
DR	DRAIN

PROCESS GENERAL NOTES	
1.	PIPE ROUTING SHOWN SCHEMATICALLY FOR CLARITY ON THE DRAWING. REFER TO ENLARGED PLANS, SECTIONS AND DETAILS FOR FURTHER INFORMATION. DIMENSIONS SHOWN ARE APPROXIMATE, FIELD CONFIRM ALL DIMENSIONS AND SITE CONSTRAINTS PRIOR TO WORK.
2.	REFER TO PIPING SPECIFICATION SECTIONS REGARDING MAXIMUM PIPE SPACING BETWEEN SUPPORTS, PIPING SPECIFICATIONS, VALVE SPECIFICATIONS AND ADDITIONAL DETAILS.
3.	(E) DENOTES EXISTING EQUIPMENT AND PIPING.
4.	CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS AND ROUTE PIPING WITHIN THE FIELD TO AVOID INTERFERENCES WITH EXISTING SYSTEMS (IE: ELECTRICAL EQUIPMENT, POTABLE WATER SYSTEMS, LIFE SAFETY SYSTEM, PROCESS SYSTEM, ETC).
5.	CONTRACTOR SHALL PROVIDE A SPECIFIC WORK PLAN TO THE CONTRACT ADMINISTRATOR TO COMPLETE EACH PIPING SYSTEM TIE-IN AND EXPECTED TIMELINES REQUIRED FOR SHUT DOWN PERIODS, PRIOR TO COMMENCING WORK. OBTAIN APPROVAL FROM CONTRACT ADMINISTRATOR PRIOR TO PERFORMING WORK.
6.	NEW EQUIPMENT AND PIPE ROUTING SHALL BE INSTALLED TO AVOID INTERFERENCE WITH OPERATION OF THE DOORWAYS, ELECTRICAL PANELS, AND EQUIPMENT.
7.	DRAWINGS DO NOT SHOW ALL REQUIRED PIPE HANGERS AND SUPPORTS, PROVIDE ALL PIPE SUPPORTS IN ACCORDANCE WITH SPECIFICATIONS.
8.	COORDINATE FINAL LOCATIONS OF ALL WALL, FLOOR AND CEILING PENETRATIONS WITH CONTRACT ADMINISTRATOR PRIOR TO INSTALLATION. SCAN FLOOR AND WALLS AND LOCATE PIPE PENETRATIONS TO AVOID REBAR, STRUCTURAL STEEL AND FLOOR BEAMS. SEAL COMPLETELY AROUND ALL FLOOR AND INTERIOR WALL PIPE PENETRATIONS WITH NON-SHRINK CEMENTITIOUS GROUT.
9.	ENSURE ALL VERTICAL PIPING IS SUPPORTED LATERALLY TO NEARBY BY STRUCTURAL SUPPORTS OR CONCRETE.
10.	COORDINATE WITH CONTRACT ADMINISTRATOR WHERE RELOCATION OF EXISTING CITY OF WINNIPEG FURNITURE OR WORK AREA IS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT OR SYSTEMS.
11.	EQUIPMENT SHOWN ON GENERAL ARRANGEMENT DRAWINGS PROVIDE OVERALL DIMENSIONS AND SHALL BE REVIEWED IN CONJUNCTION WITH ALL CONSTRUCTION DOCUMENTS (SPECIFICATIONS, DATA SHEETS, LISTS, ETC) PRIOR TO ORDERING AND INSTALLATION OF EQUIPMENT.

HVAC GENERAL NOTES	
1.	PERFORM WORK IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.
2.	REVIEW EQUIPMENT LOCATIONS WITH CONTRACT ADMINISTRATOR PRIOR TO INSTALLATION.
3.	EQUIPMENT LOCATIONS, DUCT, AND PIPE ROUTING INDICATED ON THE DRAWINGS IS APPROXIMATE ONLY. CONFIRM IN THE FIELD. REROUTE DUCTWORK AND PIPING AS REQUIRED TO ELIMINATE FIELD INTERFERENCES WITH BUILDING STRUCTURE, ELECTRICAL, ETC. CONFIRM CHANGES WITH CONTRACT ADMINISTRATOR. COORDINATE WORK WITH ALL SUBTRADES. WHERE DIMENSIONS ARE INDICATED FOR PIPING, DUCTWORK, DUCT SIZES, EQUIPMENT SIZES, ETC. THESE ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO ORDERING EQUIPMENT AND COMMENCING INSTALLATION WITHOUT EXTRA CHARGES TO THE PROJECT. THE CONTRACTOR IS RESPONSIBLE TO ENSURE ALL EQUIPMENT, DUCTWORK, AND PIPING FITS IN THE SPACE AVAILABLE AND TO MAINTAIN THE GENERAL DESIGN INTENT FOR THE SYSTEMS.
4.	CONFORM TO SMACNA STANDARDS FOR SUPPLY AND INSTALLATION OF DUCTWORK. SEAL ALL DUCT JOINTS.
5.	SEAL ALL FLOOR, ROOF AND WALL PENETRATIONS WATER AND AIR TIGHT.
6.	FIRE SEAL ALL PENETRATIONS THROUGH FIRE SEPARATIONS.
7.	MAINTAIN SERVICE CLEARANCES FOR ALL EQUIPMENT AS PER SUPPLIER RECOMMENDATIONS.
8.	CONFORM TO NATIONAL GAS INSTALLATION CODE CAN/CGA-B149.1 AND MANITOBA GAS NOTICES FOR INSTALLATION OF GAS PIPING. OBTAIN APPROVAL FOR INSTALLATION OF EQUIPMENT FROM INSPECTION AND TECHNICAL SERVICES MANITOBA PRIOR TO INSTALLATION.
9.	REFER TO SPECIFICATIONS FOR EQUIPMENT SCHEDULES AND CONTROL SEQUENCES.
10.	REFER TO DUCTWORK INSULATION SPECIFICATIONS FOR REQUIREMENTS.
11.	REFER TO STRUCTURAL DRAWINGS FOR WALL AND FLOOR PENETRATION DETAILS. COORDINATE FINAL PENETRATION LOCATIONS TO SUITE EXTERIOR MASONRY FINISH.
12.	SUPPORT ALL DUCTWORK AS PER SPECIFICATIONS AND STANDARD DETAILS.

PLUMBING GENERAL NOTES	
1.	CONFORM TO MANITOBA PLUMBING CODE AND ALL LOCAL CODES AND AUTHORITY HAVING JURISDICTION FOR DESIGN, SUPPLY AND INSTALLATION OF PLUMBING AND VENT SYSTEM. INSTALL VENTS CONCEALED INSIDE WALLS ACCORDING TO CODE. MINIMIZE ROOF PENETRATIONS.
2.	EQUIPMENT LOCATIONS AND PIPE ROUTING INDICATED ON THE DRAWINGS IS APPROXIMATE ONLY. CONFIRM IN THE FIELD. REROUTE PIPING AS REQUIRED TO ELIMINATE FIELD INTERFERENCES WITH BUILDING STRUCTURE, ELECTRICAL, ETC. CONFIRM CHANGES WITH CONTRACT ADMINISTRATOR. COORDINATE WORK WITH ALL SUBTRADES. WHERE DIMENSIONS ARE INDICATED FOR PIPING EQUIPMENT SIZES, ETC. THESE ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO ORDERING EQUIPMENT AND COMMENCING INSTALLATION WITHOUT EXTRA CHARGES TO THE PROJECT. THE CONTRACTOR IS RESPONSIBLE TO ENSURE ALL EQUIPMENT, DUCTWORK AND PIPING FITS IN THE SPACE AVAILABLE AND TO MAINTAIN THE GENERAL DESIGN INTENT FOR THE SYSTEMS.
3.	CONFIRM ADEQUATE PIPE SLOPES EXIST FOR ALL NEW DRAINAGE PIPING.
4.	PROVIDE TRAP PRIMERS FOR ALL NEW FLOOR DRAINS.
5.	PROVIDE CLEANOUTS AS PER PLUMBING CODE.
6.	REFER TO PIPING INSULATION SPECIFICATIONS FOR INSULATION REQUIREMENTS.
7.	FIRE SEAL ALL PENETRATIONS THROUGH FIRE SEPARATIONS.
8.	PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR NEW PIPING (WATER AND DRAINAGE). FINISH ALL PENETRATIONS AND MAKE GOOD.
9.	REFER TO STRUCTURAL DRAWINGS FOR WALL AND FLOOR PENETRATION DETAILS. COORDINATE FINAL PENETRATION LOCATIONS TO SUITE EXTERIOR MASONRY FINISH.
10.	SUPPORT ALL PIPING AS PER SPECIFICATIONS.

IMPERIAL PIPE SIZE CHART
(METRIC EQUIVALENT)

IN	MM	IN	MM
1/8	= 3	20	= 500
1/4	= 6	22	= 550
3/8	= 10	24	= 600
1/2	= 15	26	= 650
3/4	= 20	28	= 700
1	= 25	30	= 750
1 1/4	= 32	32	= 800
1 1/2	= 40	34	= 850
2	= 50	36	= 900
2 1/2	= 65	38	= 950
3	= 75	40	= 1000
4	= 100	42	= 1050
6	= 150	44	= 1100
8	= 200	46	= 1150
10	= 250	48	= 1200
12	= 300	50	= 1250
14	= 350	52	= 1300
16	= 400	54	= 1350
18	= 450		

REFER TO DRAWINGS M3.01, M3.02 AND M3.03 FOR P&ID LEGEND AND SYMBOLS.

DEMOLITION GENERAL NOTES	
1.	PERFORM WORK IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.
2.	EQUIPMENT LOCATIONS, AND PIPE ROUTING INDICATED ON THE DRAWINGS IS APPROXIMATE ONLY. CONFIRM IN THE FIELD. REROUTE DUCTWORK AND PIPING AS REQUIRED TO ELIMINATE FIELD INTERFERENCES WITH BUILDING STRUCTURE, ELECTRICAL, ETC. CONFIRM CHANGES WITH CONTRACT ADMINISTRATOR. COORDINATE WORK WITH ALL SUBTRADES. WHERE DIMENSIONS ARE INDICATED FOR PIPING, DUCTWORK, DUCT SIZES, EQUIPMENT SIZES, ETC. THESE ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO ORDERING EQUIPMENT AND COMMENCING INSTALLATION WITHOUT EXTRA CHARGES TO THE PROJECT. THE CONTRACTOR IS RESPONSIBLE TO ENSURE ALL EQUIPMENT, DUCTWORK, AND PIPING FITS IN THE SPACE AVAILABLE AND TO MAINTAIN THE GENERAL DESIGN INTENT FOR THE SYSTEMS.
3.	ALL REMOVED EQUIPMENT SHALL BE DISPOSED OFF SITE. CONFIRM WORK WITH CONTRACT ADMINISTRATOR IF ANY MATERIAL SHALL BE TURNED OVER TO CONTRACT ADMINISTRATOR.
4.	SEAL ALL OPENINGS REMAINING FROM REMOVED EQUIPMENT, DUCTWORK AND PIPING MAKE GOOD.

10	-	-
9	-	-
8	-	-
7	-	-
6	-	-
5	-	-
4	-	-
3	-	-
2	-	-
1	-	-
NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
		REFERENCE DRAWINGS



TEMPORARY

B.M. ELEV.			
CONSTRUCTION COMPLETION DATE: YYYY MM DD			
NO.	REVISIONS	DATE	BY
1	RE-ISSUED FOR CONSTRUCTION	2023 10 18	
0	ISSUED FOR CONSTRUCTION	2023 10 05	JS

KGS GROUP	
DESIGNED BY	-
CHECKED BY	AJF
DRAWN BY	RP
APPROVED BY	JS
SCALE:	N. T. S.
RELEASED FOR CONSTRUCTION	
DATE	2023 09 21

ENGINEER'S SEAL	
CONSULTANT DRAWING NUMBER	23-0107-010_M1.01

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 ENGINEERING DIVISION
NORTH END SEWAGE TREATMENT PLANT (NEWPCC)
 INTERIM BACKUP BOILER SYSTEM
 AREA B - BOILER ROOM
MECHANICAL
LEGEND AND GENERAL NOTES

CITY DRAWING NUMBER

SHEET 1 OF 1