MECHANICAL SPECIFICATION

1.0 GENERAL
- .1 VISIT JOBSITE DURING BID. DRAWINGS INDICATE APPROXIMATE LOCATION OF EXISTING MECHANICAL EQUIPMENT AND SERVICES. VERIFY EXACT LOCATIONS OF EXISTING MECHANICAL EQUIPMENT AND SERVICES AND ALLOW FOR NECESSARY RELOCATING OF NOTED SERVICES (OR RECONNECTION TO EXISTING SERVICES) TO SUIT NEW CONSTRUCTION.
- .2 ALL WORK SHALL CONFORM TO MANITOBA BUILDING CODE AND LOCAL AUTHORITIES. APPLY FOR, OBTAIN AND PAY FOR ALL NECESSARY PERMITS.
- .3 COORDINATE INSTALLATION WITH ALL RELATED TRADES, ARCHITECTURAL DRAWINGS, INTERIOR DESIGN PLANS AND REFLECTED CEILING PLANS. VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING EQUIPMENT AND SERVICES PRIOR TO PROCEEDING WITH WORK.
- .4 SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT TO CONTRACT ADMINISTRATOR.
- .5 PROVIDE ONE-YEAR WARRANTY FOR ALL EQUIPMENT.
- .6 ALL CONNECTIONS TO EXISTING BUILDING MECHANICAL SERVICES SHALL BE COORDINATED WITH THE CONTRACT ADMINISTRATOR.
- .7 ALL NECESSARY CUTTING AND PATCHING SHALL BE PERFORMED BY COMPETENT SUB-TRADES EMPLOYED BY MECHANICAL SUBCONTRACTOR TO SATISFACTION OF THE CONTRACT ADMINISTRATOR.
  OR
- .7 ALL NECESSARY CUTTING AND PATCHING SHALL BE PERFORMED BY GENERAL CONTRACTOR. MECHANICAL SUBCONTRACTOR TO CO-ORDINATE ON SITE.
- .8 REFER TO INSTRUCTIONS TO BIDDERS FOR REQUIREMENTS REGARDING PROJECT PHASING, WORKING HOURS, SHUT-DOWN PROCEDURES, ACCESS, ETC.
- .9 PROVIDE MILCOR ACCESS DOORS IN DRYWALL CEILINGS AND WALLS FOR ACCESS TO MECHANICAL EQUIPMENT. MINIMUM SIZE 24" X 18".
- .10 PRIOR TO DRILLING HOLES AND/OR OPENINGS IN EXISTING STRUCTURE, CONTRACTOR SHALL RETAIN SERVICES OF INDEPENDENT GPR SCANNING COMPANY QUALIFIED AND LICENSED TO PRACTICE IN PROVINCE OF MANITOBA TO LOCATE AND MARK ALL STRUCTURAL STEEL LOCATED IN AREA WHERE CUTTING OR DRILLING IS PROPOSED. AT NO TIME SHALL STEEL BE CUT WITHOUT PRIOR WRITTEN APPROVAL FROM CONTRACT ADMINISTRATOR.
- .11 ALL INTERIOR SPACE POWER HAMMERING, DRILLING AND OTHER NOISY WORK SHALL BE COORDINATED WITH THE CONTRACT ADMINISTRATOR.
- .12 BID QUOTATIONS SHALL BE BASED ON THE USE OF SPECIFIED EQUIPMENT, UNLESS ACCEPTANCE FOR THE USE OF EQUAL MANUFACTURERS IN ACCORDANCE WITH B6 IS OBTAINED FROM THE CONTRACT ADMINISTRATOR PRIOR TO SUBMISSION OF BIDS. ALTERNATE MANUFACTURERS MAY BE QUOTED AS AN INCREASE OR DECREASE AMOUNT TO THE TENDER PRICE, WITHOUT PRIOR ACCEPTANCE OF THE CONTRACT ADMINISTRATOR.
- .13 FURNISH TO THE CITY THREE (3) COMPLETE SETS OF MANUFACTURER'S OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT REQUIRING MAINTENANCE. REVIEW INSTRUCTIONS WITH CONTRACT ADMINISTRATOR TO ENSURE A THOROUGH UNDERSTANDING OF THE EQUIPMENT AND ITS OPERATION.
- .14 PROVIDE A MARK-UP OF THE CONTRACT DRAWINGS FOR RECORD "AS-BUILT" DRAWINGS, REVISED AS REQUIRED TO SHOW ANY CHANGES FROM THAT ORIGINALLY SHOWN.
- .15 ALL DUCTWORK AND PIPING TO BE INSTALLED STRAIGHT, PARALLEL TO THE BUILDING WALLS.
- .16 WHERE PIPES OR DUCTS GO THROUGH AN EXTERIOR ROOF OR WALL, THEY SHOULD BE BOXED-IN, FLASHED AND WATERPROOFED. ALLOW FOR EXPANSION AND CONTRACTION OF PIPE.
- .17 PIPE HANGERS SHALL BE GRINNELL FIG. 65 FOR STEEL PIPE AND FIG. C765 FOR COPPER PIPE, ALL WITH FIG. 140 THREADED ROD ATTACHED TO FIG. 117 EXPANSION CASE SET IN HOLES DRILLED IN CONCRETE, OR ATTACHED TO FIG. 225 OR 227 CLAMP ATTACHED TO JOISTS OR BEAMS.
- .18 TREATED WOOD SLEEPERS (4" X 4") AND FLASHING FOR EQUIPMENT INSTALLED ON ROOF TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- .19 ALL EXTRANEOUS MATERIAL IN CEILING SPACE UNRELATED TO NEW AND REVISED WORK SHOWN, INCLUDING PIPING, CONTROL TUBING, DUCTWORK, ETC. SHALL BE REMOVED.
- .20 PROVIDE FIRESTOPPING FOR ALL OPENINGS IN FIRE SEPARATIONS FOR PASSAGE OF PIPES, DUCTS, ETC. TO MAINTAIN INTEGRITY OF FIRE SEPARATIONS AS PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
- .21 INSTALLATION OF WORK SHALL BE COORDINATED WITH THE CONTRACTOR AND SHALL BE SCHEDULED SO AS NOT TO ENDANGER OR DISTURB THE USERS OF THE BUILDING. SHUTDOWN OF EXISTING BUILDING SYSTEMS SHALL BE COORDINATED WITH THE CONTRACT ADMINISTRATOR.
- .22 ALL WIRING FOR EQUIPMENT SPECIFIED HEREIN SHALL BE BY THE ELECTRICAL SUBCONTRACTOR, UNLESS OTHERWISE NOTED.
- .23 MECHANICAL SUB-CONTRACTOR SHALL REVIEW ALL EQUIPMENT REQUIRING ELECTRICAL HOOK-UP WITH ELECTRICAL SUBCONTRACTOR AND ELECTRICAL DRAWINGS PRIOR TO ORDERING EQUIPMENT. ENSURE PROPER ELECTRICAL CHARACTERISTICS ARE DETERMINED FOR ALL AFFECTED AND RELATED WORK.
- .24 PRIOR TO INSTALLATION OF THE CEILING, NOTIFY THE CONTRACT ADMINISTRATOR AND ARRANGE FOR A FINAL REVIEW OF THE WORK. FOR UNDERTAKING THIS REVIEW, THE FOLLOWING SHALL BE COMPLETED:
  - .1 ALL SYSTEMS TO BE FULLY OPERATIONAL, AS-BUILT DRAWINGS SUPPLIED AND OPERATING AND MAINTENANCE MANUALS SUBMITTED. TWO (2) DAYS NOTIFICATION (IN WRITING) IS REQUIRED TO BE GIVEN TO THE CONSULTANTS PRIOR TO REVIEWS BEING UNDERTAKEN.
  - .2 ALL DEFICIENCIES SHALL BE COMPLETED WITHIN TWO (2) WEEKS OF AN AGREED PERIOD OF TIME AFTER FINAL REVIEW AND A LETTER SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR WITHIN THAT TIME ADVISING OF SUCH. FAILURE TO COMPLETE WORK MAY RESULT IN WORK BEING DONE BY THE CITY OF WINNIPEG AND THE COSTS DEDUCTED FROM FINAL PAYMENT.
- .25 WHERE MECHANICAL SERVICES ARE CONCEALED WITHIN WALLS, FLOORS OR CEILINGS AND CANNOT BE VISUALLY IDENTIFIED, PROVIDE ELECTRONIC SCANNING DEVICES OR OTHER APPROVED MEANS TO LOCATE AND IDENTIFY CONCEALED SERVICES PRIOR TO WORK START. MAKE GOOD ANY DAMAGE TO EXISTING MECHANICAL SERVICES AT NO COST TO THE CONTRACT.
- .26 SILICONE ALL FIXTURES TO ADJACENT WALLS, FLOORS OR COUNTERTOPS ETC.

2.0 INSULATION
- .1 INSULATE ALL DOMESTIC WATER PIPING WITH 1/2" FIBERGLAS 7 LB. DENSITY, PIPE INSULATION WITH ASJ AS PER MFG. RECOMMENDATIONS. SEAL ALL BREAKS, JOINTS WITH ASJ TAPE.
- .2 INSULATION ON PIPING IN FINISHED AREAS TO BE RECANVASSED OR COVERED WITH WHITE P.V.C. INSULATION COVER.

3.0 PLUMBING
- .1 PROVIDE LABOUR, MATERIAL, EQUIPMENT AND SERVICES NECESSARY FOR AND INCIDENTAL TO SUPPLY AND INSTALLATION OF SYSTEMS SHOWN ON DRAWINGS. GENERALLY THIS SHALL INCLUDE:
  - .1 DRAINAGE SYSTEM
  - .2 WATER SUPPLY SYSTEM
- .2 DRAINAGE SYSTEMS
  - .1 PROVIDE COMPLETE SYSTEMS OF DRAINAGE AND VENTING TO SERVE ALL FIXTURES, EQUIPMENT, ETC. AS NOTED ON DRAWINGS AND IN ACCORDANCE WITH LOCAL CODES.
  - .2 ALL DRAINAGE PIPING TO W.C.'S SHALL BE 3" DIAM. MIN.
  - .3 CLEANOUTS:
    - .1 INSTALL CLEANOUTS AT ALL CHANGES OF DIRECTION, AT INTERVALS OF NOT OVER FIFTY FEET (50) IN HORIZONTAL RUNS, AT ALL POINTS WHERE OBSTRUCTIONS MIGHT BE FORMED AND AT ALL POINTS REQUIRED BY PLUMBING REGULATIONS OR SHOWN ON DRAWINGS.
- .3 WATER SUPPLY
  - .1 PROVIDE COMPLETE SYSTEM OF WATER SUPPLY PIPING AS NOTED ON DRAWINGS.
  - .2 GRADE HORIZONTAL RUNS OF PIPING TO DRAIN THROUGH RISERS.
  - .3 INSTALL DRAIN VALVES IN MAINS FOR COMPLETE DRAINAGE.
  - .4 INSTALL DIELECTRIC INSULATING COUPLINGS BETWEEN ALL PIPES CONSTRUCTED OF DISSIMILAR METALS.
  - .5 PROVIDE SHOCK ABSORBER UPSTREAM OF EVERY SOLENOID VALVE OR QUICK CLOSING VALVE. THIS APPLIES ALSO TO NIC EQUIPMENT HAVING SOLENOID VALVES SUPPLIED BY OTHER DIVISIONS, SUCH AS WASHING MACHINES, DISHWASHERS, ETC. REVIEW PROPOSED LOCATION AND TYPE OF SHOCK ABSORBERS WITH CONTRACT ADMINISTRATOR PRIOR TO INSTALLATION.
- .4 DRAIN AND VENT PIPING
  - .1 PIPE AND FITTINGS SHALL CONFORM TO STANDARDS LISTED IN APPLICABLE BUILDING CODE (LATEST REVISION).
  - .2 ALL CAST IRON SOIL PIPE SHALL BE CLASS 4000.
  - .3 NO PLASTIC, ASBESTOS OR ALUMINUM PIPE WILL BE ACCEPTED UNLESS SPECIFICALLY CALLED FOR.
- .5 WATER PIPING
  - .1 PIPE - TYPE 'L' THIRD PARTY CERTIFIED HARD COPPER TUBE.
  - .2 FITTINGS - WROT OR CAST SOLDER JOINT.
- .6 BALL VALVES
  - .1 TOYO FIG. 5049A.
- .7 CLEANOUTS
  - .1 CLEANOUTS IN CAST IRON SOIL PIPE SHALL CONSIST OF CAST IRON FERRULE WITH BRASS PLUG HAVING RAISED HEAD.
  - .2 CLEANOUTS IN COPPER DRAINAGE TUBE SHALL BE BRASS SCREWED PLUGS WITH RAISED HEAD.
- .8 CLEANOUT ACCESS COVER
  - .1 ZURN ZANB-1460-13-7" DIAM. POLISHED NICKEL BRONZE FRAME AND COVER. CLEANOUT ACCESS COVERS IN AREAS HAVING FLOOR FINISH SUCH AS V.A. TILE, TERRAZZO, OR CARPET, SHALL BE SELECTED TO SUIT FINISH. COOPERATE WITH APPROPRIATE TRADES TO APPLY FINISH TO CLEANOUT COVERS SO THAT THEY WILL BE FLUSH WITH FLOOR, INCONSPICUOUS, AND ACCESSIBLE.
  - .2 CLEANOUTS IN WALLS SHALL BE LOCATED ADJACENT TO AN ACCESS DOOR, OR SHALL HAVE SUITABLY FINISHED ACCESS COVER FLUSH WITH WALL SO AS TO PRESENT NEAT FINISHED APPEARANCE AND LEAVE CLEANOUT EASILY ACCESSIBLE.
- .9 JOINTING
  - .1 MAKE ALL JOINTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  - .2 BRACE FITTINGS NECESSARY TO PREVENT JOINTS FROM COMING APART UNDER PRESSURE.
  - .3 MAKE JOINTS IN DOMESTIC WATER AND DRAINAGE SYSTEMS WITH SOLDER CONTAINING NO LEAD. SOLDER MATERIAL SHALL BE SILVERBRITE 100 OR EQUAL CONSISTING OF COMBINATION OF TIN, COPPER AND SILVER.
- .10 CLEANING AND FLUSHING
  - .1 ON COMPLETION, FLUSH OUT PIPING SYSTEM TO REMOVE ANY FOREIGN MATERIAL IN PIPING.
- .11 TESTING
  - .1 PRESSURE TEST ALL PIPING SYSTEMS AS FOLLOWS:
    - .1 PLUMBING SYSTEM - IN ACCORDANCE WITH LOCAL REGULATIONS.
  - .2 WATER SUPPLY PIPING - TEST WITH WATER TO 100 PSIG AT HIGHEST POINT OF SYSTEM. MAINTAIN PRESSURE WITHOUT LOSS FOR 4 HOURS.
- .12 HANGERS
  - .1 WATER - GRINNELL CT65 PLATED CLEVIS.
  - .2 DRAINAGE - GRINNELL 260 CLEVIS.
  - .3 INSTALL HANGERS 6 FT. ON CENTRE FOR PIPES UP TO 1", 8 FT. ON CENTRE FOR PIPES 1 1/4" AND LARGER.
- .13 FIXTURES
  - .1 WC-2 WATER CLOSET
    - .1 AMERICAN STANDARD MADERA™ FLOWISE® 16-1/2" HEIGHT ELONGATED FLUSHOMETER TOILET. FLOOR MOUNT FLUSHOMETER VALVE TOILET, VITREOUS CHINA, HIGH EFFICIENCY, LOW CONSUMPTION. OPERATES IN THE RANGE OF 1.1 GPF TO 1.6 GPF (4.2 LPF TO 6.0 LPF), MEETS DEFINITION OF HET (HIGH EFFICIENCY TOILET) WHEN USED WITH A HIGH EFFICIENCY FLUSH VALVE (1.28 GPF OR 1.6 / 1.1 GPF DUAL FLUSH),PERMANENT EVERCLEAN® SURFACE INHIBITS THE GROWTH OF STAIN AND ODOR-CAUSING BACTERIA, MOLD, AND MILDEW ON THE SURFACE, FULLY GLAZED 2-1/8" TRAPWAY, ELONGATED BOWL,10" OR 12" ROUGHING-IN, 16-1/2" RIM HEIGHT FOR ACCESSIBLE APPLICATION, CONDENSATION CHANNEL, POWERFUL DIRECT-FED SIPHON JET ACTION, 10" X 12" WATER SURFACE AREA, 1-1/2" INLET SPUD,2 BOLT CAPS. COLOR: WHITE.
      SEAT: AMERICAN STANDARD #5905.100 EXTRA HEAVY DUTY OPEN FRONT LESS COVER.
    - .2 ELECTRONIC, SENSOR ACTIVATED TOILET FLUSH VALVE SHALL FEATURE SELF-CLEANING PISTON VALVE WITH INTEGRAL WIPER SPRING IN REFILL ORIFICE TO PREVENT CLOGGING. INCLUDES A LONG-LIFE BATTERY PACK (WITH 10 YEAR LIFE) AND FULLY MECHANICAL MANUAL OVERRIDE THAT CAN FLUSH THE VALVE WITHOUT POWER. INCLUDES DEZINCIFICATION-RESISTANT BRASS VALVE BODY AND METAL COVER WITH CHROME FINISH. INCLUDES ANGLE STOP WITH BACK-FLOW PROTECTION & VANDAL-RESISTANT CAP. SWEAT SOLDER KIT AND HIGH BACK PRESSURE VACUUM BREAKER ALSO INCLUDED. 1.28 GPF / 4.8 LPF FLUSH VALVE SHALL BE AMERICAN STANDARD MODEL # 6066.121.002.

  - .2 LAV-1 WASHROOM SINK
    - .1 KOHLER PINOIR WALL-MOUNT BATHROOM SINK K-2035-1, SINGLE FAUCET HOLE, OVAL BASIN, OVERFLOW DRAIN. COMBINATION CONSISTS OF THE K-2028-1 BASIN AND THE K-2057 SHROUD. MATERIAL: VITREOUS CHINA. COLOR WHITE. ADA COMPLIANT.
    - .2 THE LAV-1 FAUCET SHALL BE DELTA(TECK COMMERCIAL) LAVATORY FAUCET MODEL 591T1220. SUPPLIED AS COMPLETE PRODUCT, 102MM (4") ELECTRONIC FAUCET; CAST ONE-PIECE SYNERGY BODY WITH INTEGRAL WATERPROOF SENSOR AND CONNECTOR; POLISHED CHROME PLATED TRIM; BATTERY (4 'C' CELL); INFRARED ELECTRONIC HANDWASH; H2OPTICS™ TECHNOLOGY - NO EXTERNAL ADJUSTMENTS REQUIRED; ADJUSTABLE SENSING RANGE AND TIMEOUT; AUDIBLE LOW BATTERY INDICATOR; SERVICEABLE FILTER SCREEN UPSTREAM OF THE VALVE; METAL HOLD-DOWN PACKAGE; TEMPERED WATER SUPPLIED TO SOLENOID VALVE,1.5 GPM.
    - .3 THERMOSTATIC MIXING VALVE SHALL BE DELTA (TECK COMMERCIAL) MODEL R3070-MIXLF. POINT OF USE THERMOSTATIC MIXING VALVE, THERMOSTATIC ELEMENT SENSES THE OUTLET WATER TEMPERATURE AND REACTS TO MAINTAIN A CONSTANT DELIVERY TEMPERATURE EVEN UNDER CHANGING FLOWS OR VARIATIONS IN SUPPLY TEMPERATURES OR PRESSURES, INTEGRAL CHECK VALVES IN HOT AND COLD INLETS TO PREVENT CROSSFLOW, FORGED BRASS BODY CONSTRUCTION, OUTLET TEMPERATURE RANGE 95 - 120°F (35 - 49°C), MAXIMUM FLOW RATE 5.8 GPM (22 L/MIN) @ 45 PSI PRESSURE LOSS, MINIMUM FLOW RATE 0.35 GPM (1.3 L/MIN), MAXIMUM WORKING PRESSURE 230 PSI (1600 KPA). PRESSURE DIFFERENCE BETWEEN HOT AND COLD SHALL BE LESS THAN 20%, MAXIMUM HOT WATER SUPPLY TEMPERATURE 195°F (90°C), MINIMUM 15°F GREATER THAN OUTLET TEMPERATURE, INLETS/OUTLETS: 3/8" COMPRESSION, SNAP-ON COVER OVER A SPINDLE MECHANISM THAT REQUIRES A SPECIAL TOOL TO ADJUST TEMPERATURE. THIS SPECIAL TOOL IS PROVIDED WITH EACH VALVE, REGULATING PISTON MADE FROM ENGINEERED POLYMER, OUTLET FLOW REDUCED TO A TRICKLE IN THE EVENT OF A COLD WATER SUPPLY FAILURE.
    - .4 THE LAV-1 DRAINAGE/SUPPLIES SHALL BE DELTA MODEL 33T311, 1-1/4 P TRAP, 14-1/2" FROM CENTERLINE OF INLET TO OUTLET, WITH CLEANOUT PLUG, POLISHED CHROME PLATED, CAST BRASS BODY, ADJUSTABLE.
    - .5 FLOOR MOUNTED LAVATORY CARRIER WITH CONCEALED ARMS SHALL BE WATTS WCA-411/WCA-411-WC FLOOR MOUNTED CONCEALED ARM LAVATORY CARRIER WITH HEAVY GAUGE STEEL OFFSET UPRIGHTS WITH INTEGRAL WELDED FEET, ADJUSTABLE EPOXY COATED CAST IRON ARMS WITH LEVELING SCREWS AND BASIN LOCKING DEVICE, UPPER TIE ROD, AND PLATED HARD[1]WARE. CARRIER COMPLIES WITH REQUIREMENTS OF ASME A112.6.1M UP TO A 250 LB (113 KG) STATIC LOAD.

ASBESTOS

ASBESTOS MAYBE PRESENT
BEHIND WALLS, CEILING SPACES & FLOORS.
IF ASBESTOS OR ANY HAZARDOUS MATERIAL IS FOUND, STOP WORK IMMEDIATELY AND CONTACT CITY OF WINNIPEG CENTRAL CONTROLS @ 204 986-2351.

PROVINCE OF MANITOBA
2025-05-6
X. WU
Member
REGISTERED PROFESSIONAL ENGINEER

No.	REVISION/DESCRIPTION	BY	DATE
0	ISSUED FOR CONSTRUCTION	XYW	05.01 2025

SEAL

2025.05.01 DATE	XYW DESIGNED	HA DRAWN	XYW CHECKED	XYW APPROVED

Winnipeg

THE CITY OF WINNIPEG
ASSETS & PROJECT MANAGEMENT DEPARTMENT
MUNICIPAL ACCOMMODATIONS DIVISION
3-65 GARRY STREET, R3C 4K4

PROJECT
FLEET MANAGEMENT OFFICES
WASHROOM UPGARDE

770 ROSS AVENUE

SHEET TITLE
MECHANICAL SPECIFICATIONS

SCALE	PROJECT No:	SHEET No:
AS SHOWN	2024-119	M3

DRAWING SHEET SIZE: D (24" x 36") PLOT 1:1