

MECHANICAL SPECIFICATIONS

MECHANICAL CONTRACTOR SHALL SUBMIT PRICE FOR THE COST OF SUPPLY AND INSTALLATION OF EQUIPMENT AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND OPERATING MECHANICAL PACKAGE. MECHANICAL PACKAGE TO CONSIST OF EQUIPMENT AND MATERIALS AS DESCRIBED IN THIS OUTLINE SPECIFICATION. REFER TO MECHANICAL PLANS FOR ACTUAL REQUIREMENTS OF EQUIPMENT.

A. GENERAL CONDITIONS

- PROVIDE ALL LABOUR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN ON ALL MECHANICAL DRAWINGS INCLUSIVE AND AS SPECIFIED HEREIN.
- ALL NECESSARY PERMITS SHALL BE OBTAINED AND ALL FEES SHALL BE PAID TO CARRY OUT THE SPECIFIED WORK. PROVIDE ALL REQUIRED LOCAL PROVINCIAL ENGINEERING SEALS FOR DRAWINGS AND DESIGNS TO OBTAIN BUILDING CONSTRUCTION PERMITS, ETC.
- ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF COMPLETED WORK ACCEPTANCE BY THE ARCHITECT. SUBMIT DOCUMENTATION IDENTIFYING ADDITIONAL EQUIPMENT WARRANTY COVERAGE AND TIME FRAMES.
- ALL WORK SHALL COMPLY IN EVERY RESPECT WITH ALL NATIONAL, PROVINCIAL, AND LOCAL BY-LAWS AND CODES, WHICH SHALL BE CONSIDERED PART OF THIS SPECIFICATION.
- ALL CUTTING, PATCHING, FLASHING FOR WORK AS REQUIRED HEREIN SHALL BE BY THE GENERAL CONTRACTOR.
- THE MECHANICAL CONTRACTOR SHALL INSTALL HEATING, AIR CONDITIONING, AND PLUMBING SYSTEMS IN COMPLETE ACCORDANCE WITH THE RECOMMENDATIONS OF THE ASHRAE, NATIONAL WARM AIR STANDARDS, SMACNA LATEST EDITION DUCT STANDARDS, AND LOCAL PLUMBING CODES.
- CO-ORDINATE WORK WITH WORK OF OTHER TRADES TO AVOID CONFLICT.
- ALTER THE LOCATION OF DUCTS OR PIPES AT THE DIRECTION OF THE ENGINEER WITHOUT CHARGE TO THE OWNER, PROVIDED THE CHANGE IS MADE BEFORE INSTALLATION AND DOES NOT NECESSITATE ADDITIONAL MATERIALS.

- TENDER QUOTATIONS SHALL BE BASED ON THE USE OF SPECIFIED MANUFACTURERS. UNLESS APPROVAL FOR THE USE OF EQUAL MANUFACTURERS IS OBTAINED FROM THE ENGINEER PRIOR TO SUBMISSION OF TENDERS. ALTERNATE MANUFACTURERS MAY BE QUOTED AS AN INCREASE OR DECREASE AMOUNT TO THE TENDER PRICE, WITHOUT PRIOR APPROVAL OF THE ENGINEER. THE USE OF AN EQUAL OR ALTERNATE MANUFACTURER SHALL IN NO WAY RELIEVE THE MECHANICAL CONTRACTOR FROM THE RESPONSIBILITY OF PROVIDING ALL WORK THAT MAY BE REQUIRED, BY REASON OF DIFFERENT SPACE, WEIGHT, ELECTRICAL, OR OTHER REQUIREMENTS FROM THAT OF THE SPECIFIED MANUFACTURER.

- FURNISH TO THE ENGINEER ELECTRONIC PDF COPIES CONTAINING THEREIN ONE (1) COMPLETE SET OF MANUFACTURERS' OPERATING AND MAINTENANCE INSTRUCTIONS SHOWING ALL MAJOR EQUIPMENT, AND APPARATUS REQUIRING MAINTENANCE. INSTRUCTIONS SHALL BE COMPLETE FOR INSTALLATION, OPERATION AND MAINTENANCE AND SHALL INCLUDE PERTINENT INFORMATION SUCH AS DETAILED DRAWINGS AND OPERATION CURVES. SPARE PARTS, SUPPLIER LISTS AND ADDRESSES SHALL BE SUPPLIED. INSTRUCTIONS SHALL BE REQUIRED WITH THE OWNERS' REPRESENTATIVE TO ENSURE A THOROUGH UNDERSTANDING OF THE EQUIPMENT AND ITS OPERATION.

- ALL WIRING AND SUPPLY AND INSTALLATION OF DISCONNECT SWITCHES FOR EQUIPMENT SPECIFIED HEREIN SHALL BE PERFORMED BY THE ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED.

- PRIOR TO SUBMITTING TENDER PRICE, CONTRACTOR SHALL EXAMINE THE SITE AND CONDITIONS AFFECTING WORK, METHODS OF CONNECTION AND LOCATION OF ALL SERVICES INVOLVED UNDER THIS CONTRACT. FAILURE TO MAKE THIS VISIT IN NO WAY ALLEVIATES THE MECHANICAL CONTRACTOR FROM RESPONSIBILITY FOR COMPLETING THE MECHANICAL WORK OF THIS CONTRACT IN A WORKMANLIKE MANNER. NO ALLOWANCE WILL BE MADE AFTER CONTRACT AWARD FOR ANY EXPENSE INCURRED THROUGH A FAILURE TO MAKE THIS EXAMINATION AND INVESTIGATION.

- SCHEDULING OF ALL WORK SHALL BE ARRANGED WITH THE OWNER, AND THE OWNER SHALL BE NOTIFIED AND HIS APPROVAL OBTAINED PRIOR TO SHUTTING OFF EXISTING SERVICES FOR PURPOSES OF CONNECTING NEW WORK.

- PROVIDE AN AUTOCAD FILE COPY OF THE CONTRACT DRAWINGS FOR RECORD 'AS-BUILT' DRAWINGS, REVISED AS REQUIRED TO SHOW ANY DEVIATIONS OF LAYOUTS FROM THAT ORIGINALLY SHOWN.

- PROVIDE ONE SET OF SPECIAL TOOLS REQUIRED TO SERVICE EQUIPMENT AS RECOMMENDED BY MANUFACTURERS.

- PROVIDE DIELECTRIC COUPLINGS WHEREVER PIPES OF DISSIMILAR METALS ARE JOINED.

- THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROVIDE TEMPORARY HEATING AS REQUIRED FOR THE PROPER AND PROGRESS OF THE WORK.

- THE MECHANICAL CONTRACTOR SHALL PROVIDE ELECTRONIC PDF COPIES OF SHOP DRAWINGS FOR ALL EQUIPMENT FOR REVIEW AND APPROVAL BY ENGINEERS.

- PIPE HANGERS WHERE REQUIRED SHALL BE GRINNELL FIG. 65 FOR STEEL PIPE AND FIG. CP65 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 FLOOR JOIST AND ROOF JOIST. FOR INSULATED PIPING, PROVIDE PROTECTION SADDLES SIZE HANGER TO ACCOMMODATE INSULATION WHERE APPLIED. (NO PERFORATED STRAP HANGERS WILL BE ACCEPTED FOR SUPPORT METHOD.

- ARRANGE, SCHEDULE AND PERFORM WORK WITH MINIMUM DISTURBANCE TO EXISTING FACILITIES AND SERVICES.

- SUBMIT A COMPLETE SCHEDULE OF SERVICE INTERRUPTIONS AND CHANGEOVERS WITH APPROXIMATE DATES, REQUIRED DURATIONS AND TIMES OF DAY, FOR APPROVAL BEFORE PROCEEDING.

- NOTIFY OWNER IN WRITING AT LEAST 72 HOURS IN ADVANCE OF PLANNED INTERRUPTION TO EXISTING SERVICES.

- INTERRUPTION OF SERVICE MUST OCCUR AT THE TIMES AND FOR THE DURATION STIPULATED BY THE OWNER.

- KEEP SERVICE INTERRUPTION DURATION TO AN ABSOLUTE MINIMUM. CARRY OUT ALL PREPARATORY WORK, MEASUREMENTS, ETC., WITHOUT INTERRUPTION OF EXISTING SERVICES.

- IF SERVICE INTERRUPTIONS ARE REQUIRED BY THE OWNER DURING THE NIGHT OR ON WEEKENDS, ETC., PREMIUM TIME SHALL BE INCLUDED AT THE CONTRACT PRICE. NO EXTRA CHARGES WILL BE ALLOWED AT A LATER DATE FOR FAILURE TO INCLUDE SAME.

B. SHOP DRAWINGS

- SHOP DRAWINGS AND DATA SHEETS FOR EQUIPMENT INTENDED FOR INSTALLATION UNDER THIS CONTRACT SHALL BE REVIEWED, DATED AND STAMPED BY MECHANICAL CONTRACTOR FIRST AND THEN SUBMITTED FOR CONSULTANT'S REVIEW. AFTER CONSULTANT'S REVIEW, SHOP DRAWINGS WILL BE RETURNED TO THE MECHANICAL CONTRACTOR.
 - PLUMBING FIXTURES.
 - GRILLES, DIFFUSERS & REGISTERS.
 - WALL BOXES.
 - RANGE HOOD.

C. GUARANTEE

- THE CONTRACTOR SHALL EXECUTE AND DELIVER TO THE OWNER, BEFORE FINAL PAYMENT, A WRITTEN GUARANTEE IN FORM SATISFACTORY TO THE OWNER THAT ALL LABOUR AND MATERIALS FURNISHED AND WORK PERFORMED BY THE CONTRACTOR ARE IN ACCORDANCE WITH THE CONTRACT. CONTRACT DRAWINGS, SPECIFICATIONS AND AUTHORIZED ALTERATIONS AND ADDITIONS THERETO AND, SHOULD ANY DEFECT DEVELOP DURING THE CONTRACT GUARANTEE PERIOD, AS HEREINAFTER DEFINED DUE TO IMPROPER MATERIALS, WORKMANSHIP OR ARRANGEMENT, THE SAME TOGETHER WITH ANY OTHER WORK AFFECTED IN CORRECTING SUCH DEFECT SHALL, UPON WRITTEN NOTICE BE MADE GOOD BY THE CONTRACTOR WITHOUT EXPENSE TO THE OWNER.

- THE CONTRACTOR'S AFORESAID GUARANTEE SHALL COVER ALL WORK UNDER THE CONTRACT, WHETHER OR NOT ANY PORTION OR TRADE HAS BEEN ASSIGNED OR SUBLET. IN THE EVENT ANY PORTION OF THE WORK IS PERFORMED BY ASSIGNEES AND SUBCONTRACTORS THEIR WRITTEN GUARANTEE TO THE OWNER COVERING THEIR RESPECTIVE PORTIONS OF THE WORK FOR THE PERIODS SPECIFIED AND SHALL DELIVER SAME, TOGETHER WITH HIS OWN GUARANTEE, TO THE OWNER. ASSIGNEES AND SUBCONTRACTORS' GUARANTEES SHALL EXPRESSLY PROVIDE THAT THE SAME SHALL BE ENFORCEABLE DIRECTLY BY THE OWNER AND SHALL RUN CONCURRENTLY WITH THE CONTRACTOR'S GUARANTEE.

D. CLOSE-OUT DOCUMENTS AND INSTRUCTIONS

- AS-BUILT DRAWINGS
- EQUIPMENT TESTING AND STARTUP REPORT
- WARRANTIES
- ALL APPROVAL AND VERIFICATION CERTIFICATES
- MAINTENANCE MANUALS
- INSTRUCT OWNER IN THE OPERATION OF ALL EQUIPMENT AND MAKE FAMILIAR WITH SYSTEM
- AIR TESTING AND BALANCING REPORT

E. COMMISSIONING AND DEMONSTRATION

- THE COMMISSIONING PROCESS REQUIRES THE COMPLETE PROCESS TO TEST, ADJUST AND BALANCE SYSTEMS TO PERFORM IN ACCORDANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS AND TO DO ALL OTHER WORK AS SPECIFIED IN THIS SECTION.

- THE MECHANICAL CONTRACTOR SHALL ACT AS THE COMMISSIONING AGENT FOR THIS PROJECT.

- TO ADJUST AND REGULATE EQUIPMENT AND SYSTEMS SO AS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS AND TO ACHIEVE SPECIFIED INTERACTION WITH ALL OTHER RELATED SYSTEMS UNDER ALL NORMAL AND EMERGENCY LOADS AND OPERATING CONDITIONS.

- BALANCE SYSTEMS AND EQUIPMENT TO REGULATE FLOW RATES TO MATCH LOAD REQUIREMENTS OVER FULL OPERATING RANGES.

F. PLUMBING

- PROVIDE COMPLETE FUNCTIONAL PLUMBING SYSTEM COMPRISED OF DOMESTIC WATER PIPING, NATURAL GAS PIPING, VENT PIPING, SANITARY DRAINAGE PIPING, ETC.

- SANITARY DRAINAGE AND VENT PIPING MATERIAL SHALL BE CAST IRON CERTIFIED TO CAN/CSA-B70 OR PVC DRAIN, WASTE, AND VENT PIPE AND PIPE FITTINGS CERTIFIED TO CAN/CSA-B181.2. ABS PIPING IS NOT ACCEPTABLE.

- PROVIDE IPEX SYSTEM XFR PIPE AND FITTINGS C/W APPROVED FIRE STOPS TO CAN/ULC-S115 IN AREA WHERE THE CEILING SPACE IS UTILIZED AS RETURN AIR PLENUM OR WHEN INSTALLED IN A BUILDING CLASSIFIED AS A HIGH BUILDING.

- STORMWATER DRAINAGE PIPING MATERIAL SHALL BE CAST IRON CERTIFIED TO CSA-B70 OR PVC DRAIN, WASTE AND VENT PIPE AND PIPE FITTINGS CERTIFIED TO CAN/CSA-B181.2. ABS PIPING IS NOT ACCEPTABLE.

- DOMESTIC HOT AND COLD WATER PIPING SHALL BE TYPE "L" HARD COPPER TUBING WITH SOLDERED FITTINGS FLEX. PEX PIPE NOT ACCEPTABLE.

- DRAINS AND VENT PIPING ABOVE GROUND INSIDE BUILDING SHALL BE DWV COPPER, CAST IRON CLASS 4000 OR PLASTIC PIPE WHERE APPLICABLE OR APPROVED BY LOCAL AUTHORITIES. JOINTS SHALL BE SOLDERED FOR COPPER, MECHANICAL JOINT FOR CAST IRON PIPE, AND SOLVENT CEMENT FOR PLASTIC PIPE.

- MECHANICAL CONTRACTOR SHALL VERIFY ON SITE ALL CONNECTION POINTS TO EXISTING SERVICES. EXTEND ALL SERVICES INSIDE BUILDING AS SHOWN ON DRAWINGS. CONNECT SEWER AND WATER SERVICES TO EXTERIOR BUILDING SERVICES. CONFIRM AND VERIFY EXACT LOCATIONS AND INVERTS OF BUILDING SERVICES WITH SITE CONDITIONS. ALL CONNECTIONS TO BE MADE IN ACCORDANCE WITH LOCAL PROVINCIAL CODE REQUIREMENTS.

- USE 95.5 TIN ANTIMONY BRAZING SOLDER ON ALL HOT AND COLD WATER PIPING. USE NON-CORROSIVE NON-LEADED FLUX.

- ALL VALVES TO BE BY ONE MANUFACTURER.

- MECHANICAL CONTRACTOR SHALL ALLOW FOR IN TENDER QUOTATION ANY ADDITIONAL LABOUR, MATERIALS, ETC. DEEMED NECESSARY DUE TO EXACT SITE CONDITIONS WHICH HAVE NOT BEEN REFLECTED ON MECHANICAL DRAWING OR IN MECHANICAL SPECIFICATION.

- MECHANICAL CONTRACTOR SHALL CONNECT DOMESTIC WATER LINES, VENT LINES, SANITARY DRAIN SERVICES AS SHOWN FOR ALL PLUMBING FIXTURE INSTALLATIONS.

- PROVIDE ACCESS DOORS, CLEANOUT COVERS, ETC FOR ALL EQUIPMENT REQUIRING ACCESS FOR SERVICING OR OPERATING PURPOSES. ACCESS DOORS TO BE PROVIDED BY DIVISION 15 FOR INSTALLATION BY SUB-TRADE PROVIDING WALL, CEILING, FLOORING, ETC.

- PROVIDE SHUT-OFF VALVES ON BOTH DOMESTIC WATER LINES SERVING EACH PIECE OF EQUIPMENT, PLUMBING FIXTURE, ETC.

- PROVIDE ESCUTCHEON PLATE COVERS OVER ANY DOMESTIC WATER LINES, DRAIN LINES, ETC PENETRATING WALLS.

- PROVIDE TRAP PRIMERS AND PRIMER LINES. INSTALL IN CONCEALED LOCATION WITH ACCESS PANEL..

G. PIPING AND EQUIPMENT IDENTIFICATION

- IDENTIFY ALL PIPING SYSTEMS. INDICATE PIPE SIZE, SERVICE AND DIRECTION OF FLOW.

- THE LETTERING SHALL BE PROPORTIONAL TO THE OUTSIDE DIAMETER OF THE PIPE OR COVERING RANGING FROM 13MM HIGH TO 20MM O.D., PIPE OR COVERING UP TO 100MM HIGH ON 300MM O.D. PIPE OR COVERING. BRADLEY PIPE TAG SHALL BE THE STANDARD OF LABELS. PIPES SMALLER THAN 20MM O.D. PIPE OR COVERING MAY BE Banded WITH COLOURED PLASTIC TAPE IN LIEU OF PAINT AND THE CONTENTS IDENTIFIED BY MEANS OF "DYMO" EMBOSSED PLASTIC LABELS. STENCIL A DIRECTION-OF-FLOW ARROW ON EACH COLOUR BAND. PIPE IDENTIFICATION SHALL BE APPLIED AT EACH HORIZONTAL OR VERTICAL CHANGE IN DIRECTION AND A MAXIMUM OF 12 METER APART.

H. PIPING INSULATION

- ALL WATER LINES LISTED BELOW SHALL BE INSULATED WITH 25MM THICK DUAL TEMPERATURE GLASS FIBRE PIPE INSULATION. INSULATION SHALL BE MANUFACTURED BY FIBREGLOSS OF CANADA.

- THIS INSULATION SHALL BE SUPPLIED COMPLETE WITH FLAME RETARDANT VAPOUR BARRIER JACKET CONSISTING OF GLASS FIBRE, REINFORCED LAMINATE OF ALUMINUM FOIL AND KRAFT PAPER. LONGITUDINAL SEAMS OF THE VAPOUR BARRIER JACKET SHALL BE SEALED WITH VAPOUR-PROOF ADHESIVE, FLINTKOTE TYPE 32. INSULATE AND TAPE ALL VALVES AND FITTINGS. EXPOSED PIPING INSULATION TO BE FINISHED WITH 8 OZ. FATTAL U.L.C. LISTED CANVAS AND CHILDERS LAGGING. NON-U.L.C. LISTED CANVAS WILL NOT BE ACCEPTED.

- PROVIDE POLYVINYL JACKETING FOR ALL PIPING INSIDE MECHANICAL ROOM AND IN AREAS EXPOSED TO VIEW.

- INSULATE THE FOLLOWING PIPING, FITTINGS AND COMPONENTS:

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER AND RECIRCULATION
- INTERNAL RAIN WATER LEADERS ABOVE GRADE
- SANITARY VENTS
- CONDENSATE DRAINS

- UNBURIED DOMESTIC COLD WATER PIPING: HEAVY DENSITY GLASS FIBRE PREFORMED PIPE INSULATION WITH MAXIMUM OF 0.033 W/M-K CONDUCTIVITY AT 24°C MEAN WITH FACTORY APPLIED VINYL FOIL KRAFT LAMINATED GLASS FIBRE REINFORCED FIRE RESISTIVE VAPOUR BARRIER JACKET WITH NOT MORE THAN 1.15 PERM RATING (ASJ) WITH SEALED LAPPED JOINTS. USE 1" (25 MM) THICKNESS ON PIPING UP TO 1-1/2" (38 MM) SIZE, AND 2" (50 MM) THICKNESS ON PIPING 1-1/2" (38 MM) AND ABOVE.

- UNBURIED DOMESTIC HOT WATER RECIRCULATING PIPING: HEAVY DENSITY GLASS FIBRE PREFORMED PIPE INSULATION WITH MAXIMUM 0.035 W/MK CONDUCTIVITY AT 38°C MEAN WITH FACTORY APPLIED FIRE RESISTIVE VAPOUR BARRIER JACKET OF NOT MORE THAN 1.15 PERM RATING. USE 2" (50 MM) THICKNESS ON ALL DOMESTIC HOT WATER RECIRCULATING PIPING.

- UNBURIED DOMESTIC HOT WATER PIPING: HEAVY DENSITY GLASS FIBRE PREFORMED PIPE INSULATION WITH A MAXIMUM 0.035 W/M-K CONDUCTIVITY AT A MEAN TEMPERATURE OF 38°C WITH FACTORY APPLIED FIRE RESISTIVE VAPOUR BARRIER JACKET OF NOT MORE THAN 1.15 PERM RATING. INSULATE ALL PIPES BETWEEN THE HOT WATER SOURCE OR RECIRCULATION LOOP AND THE FIXTURE USING THE FOLLOWING MINIMUM THICKNESSES: USE 1" (25 MM) THICKNESS ON PIPING UP TO 1-1/2" (38 MM) SIZE, AND 2" (50 MM) THICKNESS ON PIPING 1-1/2" (38 MM) AND ABOVE.

- EXPOSED HORIZONTAL & VERTICAL RUNS OF SANITARY DRAINS EXCEPT AS NOTED ABOVE: 1" FIBERGLASS INSULATION WITH POLYVINYL COVERING C/W PVC JACKETS.

- VENT PIPING: INSULATE THE FIRST 3.0M OF ALL VENT PIPING INSIDE THE BUILDING BETWEEN THE POINTS THEY EXIT AT THE ROOF LEVEL AND THROUGH THE SLAB ON GRADE INSULATION. USE 2" HEAVY DENSITY GLASS FIBRE PREFORMED PIPE INSULATION WITH A POLYVINYL COVERING AND A MAXIMUM 0.035 W/M-K CONDUCTIVITY AT A MEAN TEMPERATURE OF 38°C.

- VALVES AND FITTINGS: 2" (50 MM) GLASS FIBRE BLANKET CONFORMING TO CGSB #51-BF11 COMPRESSED TO SAME THICKNESS AS ADJOINING INSULATION AND SECURED WITH JUTE TWINE. OVER THIS APPLY SMOOTH COAT OF INSULATING CEMENT AND RECOVER WITH 4 OZ (135.6 G/M²) CANVAS. ON COLD WATER PIPING WRAP BLANKET WITH FOIL FACED FRICTION TAPE OVERLAPPED TO FORM VAPOUR BARRIER BEFORE APPLYING INSULATION CEMENT. SEAL ALL VAPOUR BARRIERS.

- END JOINTS SHALL BE COVERED WITH A 4" (100 MM) WIDE FACTORY SUPPLIED STRIP OF THE SAME MATERIAL AS THE INSULATION JACKET AND SEALED WITH ADHESIVE.

- AT ALL FITTINGS AND VALVES, INSULATION ENDS SHALL BE MITRED AND FITTINGS, ETC., SHALL BE TIGHTLY WRAPPED WITH GLASS FIBRE BLANKET BUILT UP TO AN EQUIVALENT THICKNESS. ALUMINUM FOIL 2 MIL THICKNESS SHALL BE WRAPPED OVER THE BLANKET INSULATION TO PROVIDE A VAPOUR BARRIER AND THE WHOLE WRAPPED WITH GLASS FABRIC MEMBRANES SATURATED WITH BRUSH COAT OF VAPOUR PROOF MASTIC.

- CONDENSATE PIPING: 0.5" (13 MM) THICK GLASS FIBER PIPE INSULATION. ENSURE CONTINUOUS VAPOUR BARRIER.

I. FIRESTOPPING

- THIS CONTRACTOR SHALL WORK WITH ALL OTHER CONTRACTORS ON THE PROJECT IN PROVIDING ONE COMMON METHOD OF FIRE STOPPING ALL PENETRATIONS MADE IN FIRE RATED ASSEMBLIES.

- APPROVED FIRE STOPPING AND SMOKE SEAL MATERIAL IN ALL FIRE SEPARATIONS AND FIRE RATINGS WITHIN ANNULAR SPACE BETWEEN PIPES, DUCTS, INSULATION AND ADJACENT FIRE SEPARATION AND/OR FIRE RATING.

- DO NOT USE CEMENTIOUS OR RIGID SEALS AROUND PENETRATIONS FOR PIPE, DUCTWORK, OR OTHER MECHANICAL ITEMS.

- INSULATED PIPES AND DUCTS: ENSURE INTEGRITY OF INSULATION AND VAPOUR BARRIER AT FIRE SEPARATION.

- PROVIDE MATERIALS AND SYSTEMS CAPABLE OF MAINTAINING EFFECTIVE BARRIER AGAINST FLAME, SMOKE AND GASES. ENSURE CONTINUITY AND INTEGRITY OF FIRE SEPARATION.

- COMPLY WITH THE REQUIREMENTS ON CAN4-S115-M35, AND DO NOT EXCEED OPENING SIZED FOR WHICH THEY HAVE BEEN TESTED.

- SYSTEMS TO HAVE AN F OR FT RATING (AS APPLICABLE) NOT LESS THAN THE FIRE PROTECTION RATING REQUIRED FOR CLOSURES IN FIRE SEPARATION. PROVIDE "FIRE WRAP" BLANKET AROUND SERVICES PENETRATING FIRE WALLS. EXTENT OF BLANKET MUST CORRESPOND TO ULC RECOMMENDATIONS.

- THE FIRE STOPPING MATERIALS ARE NOT TO SHRINK, SLUMP OR SAG AND TO BE FREE OF ASBESTOS, HALOGENS AND VOLATILE SOLVENTS.

- FIRESTOPPING MATERIALS ARE TO CONSIST OF A COMPONENT SEALANT APPLIED WITH A CONVENTIONAL CAULKING GUN AND TROWEL.

- FIRE STOP MATERIALS ARE TO BE CAPABLE OF RECEIVING FINISH MATERIALS IN THOSE AREAS WHICH ARE EXPOSED AND SCHEDULED TO RECEIVE FINISHES. EXPOSED SURFACES ARE TO BE ACCEPTABLE TO CONSULTANT PRIOR TO APPLICATION OF FINISH.

- FIRESTOPPING SHALL BE INSPECTED AND APPROVED BY LOCAL AUTHORITY PRIOR TO CONCEALMENT OR ENCLOSURE.

- INSTALL MATERIALS AND COMPONENTS IN ACCORDANCE WITH ULC CERTIFICATION, MANUFACTURER'S INSTRUCTIONS AND LOCAL AUTHORITY.

- SUBMIT PRODUCT LITERATURE AND INSTALLATION MATERIAL ON FIRE STOPPING IN SHOP DRAWING AND PRODUCT DATA MANUAL. MAINTAIN COPIES OF THESE ON SITE FOR VIEWING BY INSTALLERS AND CONSULTANT.

- MANUFACTURER OF PRODUCT SHALL PROVIDE CERTIFICATION OF INSTALLATION. SUBMIT LETTER TO THE CONSULTANT.

- ACCEPTABLE MANUFACTURER: 3M, HILTI OR APPROVED EQUIVALENT.

DO NOT SCALE DRAWING. DIMENSIONS ARE TO BE CHECKED AND VERIFIED BY THE CONTRACTOR ON SITE. ALL DRAWINGS, SPECIFICATIONS, AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF THE ARCHITECT AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS, AND RELATED DOCUMENTS IN WHOLE OR IN PART IS STRICTLY FORBIDDEN WITHOUT THE ARCHITECT'S WRITTEN PERMISSION.



B	ISSUED FOR PERMIT / TENDER	2025.03.06
A	ISSUED FOR CLIENT REVIEW	2025.03.03
#	DESCRIPTION	ISSUE DATE

PROJECT NAME:

BISHOP RYAN CATHOLIC SECONDARY SCHOOL PROPOSED LIFE-SKILLS ROOM

PROJECT ADDRESS:
1824 RYMAL RD E.,
HANNON, ON LOR 1P0

PROJECT NO:
25007

DRAWING TITLE:

MECHANICAL SPECIFICATIONS-I

SCALE:

NTS

DRAWN BY:

IP

CHECKED BY:

CK

PLOT DATE:

2025.02.20

DRAWING NO:

MO.01

MECHANICAL SPECIFICATIONS

J. HEATING, VENTILATION & AIR CONDITIONING

1. PROVIDE SUPPLY AIR, RETURN AIR, AND EXHAUST AIR DUCT SYSTEMS FROM H.V.A.C. EQUIPMENT SUCH AS ROOFTOP UNITS, MAKE UP AIR UNITS, FANCOIL UNITS, HEAT PUMPS, ENERGY RECOVERY VENTILATORS, FANS AS SHOWN.
2. ALL DUCTWORK INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH SMACNA LATEST EDITION DUCT STANDARDS.
3. THIS CONTRACTOR SHALL SUPPLY AND INSTALL ALL DUCTWORK INCLUDING APPURTENANCES, HANGERS, DAMPERS, ETC.

ALL EXPOSED ROUND DUCTWORK SHALL BE ROUND SPIRAL CONDUIT CONSTRUCTED OF ZINC COATED STEEL: ACCEPTABLE PRODUCT: UNITED SHEET METAL CO. SHOP FABRICATED DUCTWORK AND FITTINGS CONSTRUCTED IN A MANNER SIMILAR TO THE FACTORY TYPE SPECIFIED WILL BE ACCEPTED.

CONDUIT SIZE	GAUGE OF METAL
8" AND SMALLER	26
9" TO 22"	24
24" TO 36"	22

RECTANGULAR DUCTWORK SHALL BE CONSTRUCTED FROM GALVANIZED SHEET METAL OF THE FOLLOWING U.S. STANDARD GAUGES:

DUCTS UP TO 12" ON LONGEST DIMENSION 26 GA.
DUCTS 13" TO 28" ON LONGEST DIMENSION 24 GA.
DUCTS 29" TO 48" ON LONGEST DIMENSION 22 GA.

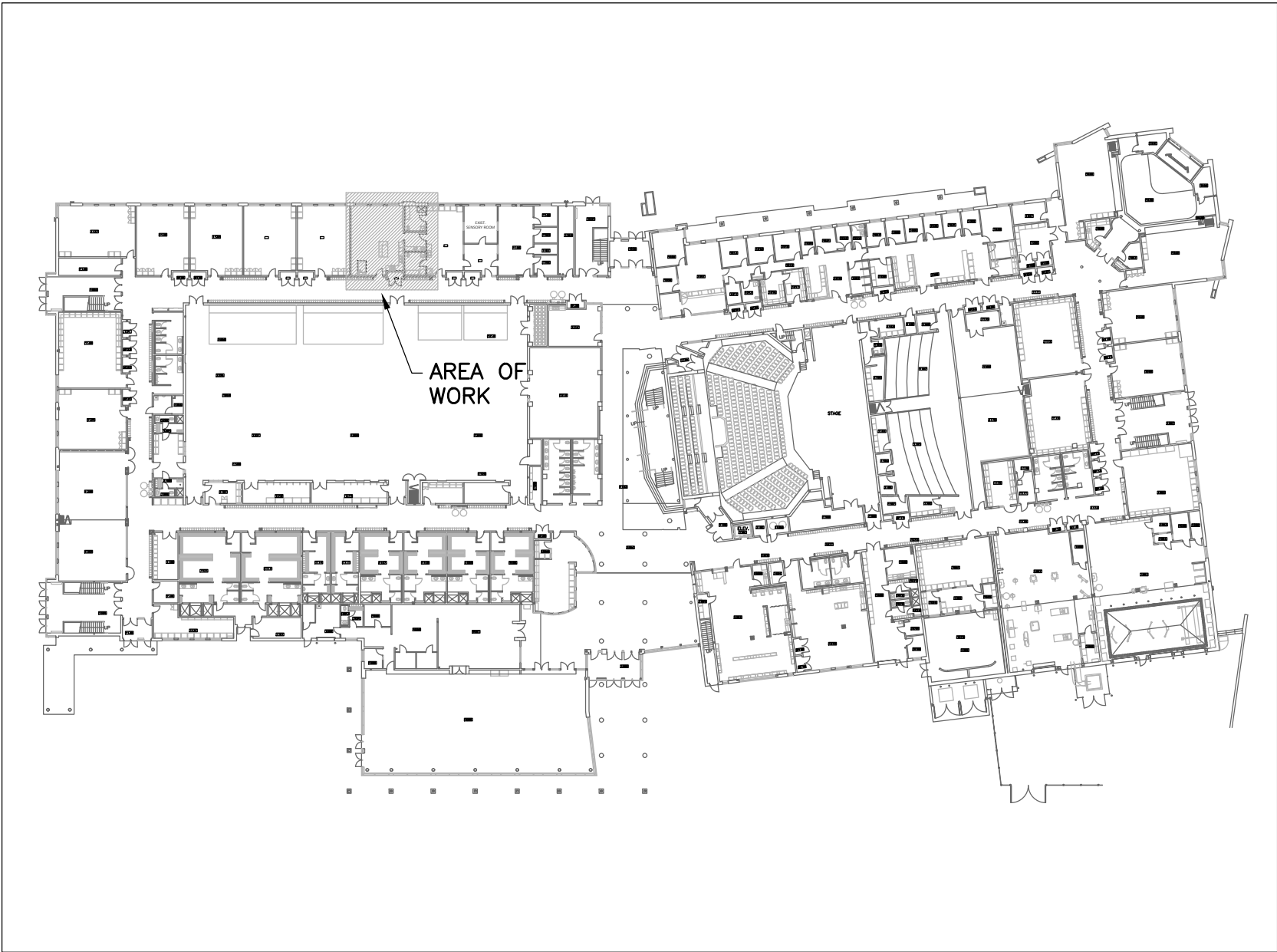
4. BALANCING DAMPERS SHALL BE CONSTRUCTED FROM GALVANIZED STEEL 2 GAUGES HEAVIER THAN THE DUCTWORK IN WHICH THEY ARE INSTALLED C/W LOCKING QUADRANT AND INDICATING DEVICE.
5. PROVIDE FIRE DAMPERS WHICH CONFORM TO NFPA REGULATIONS, BEAR ULC LABEL, AND HAVE APPROVAL OF DFC. DAMPERS TO BE TYPE 'B' AND INSTALLED IN DUCTWORK AT FIRE SEPARATIONS WHETHER SHOWN OR NOT.
6. ALL DUCTWORK SHALL BE SEALED USING DURO-DYNE S-2 DUCT SEALER THROUGHOUT ALL SEAMS AND JOINTS.
7. PROVIDE ACCESS DOORS WHERE REQUIRED FOR SERVICING OR OPERATING OF MECHANICAL EQUIPMENT.
8. PROVIDE 4" FLEXIBLE DUCT CONNECTIONS ON BOTH INLET AND OUTLET DISCHARGE SIDES OF EACH FAN, AIR HANDLING ROOFTOP UNIT, ETC. PROVIDE VIBRATION ISOLATORS.
9. INSULATION, JACKETS AND ADHESIVES SHALL BE INCOMBUSTIBLE AND IN COMPLIANCE WITH ONTARIO BUILDING CODE. PRODUCTS CONTAINING ASBESTOS SHALL NOT BE USED.
10. ALL INSULATION PRODUCTS USED SHALL BE FULLY TESTED AND APPROVED AS FIRE RETARDANT BY UNDERWRITERS LABORATORIES OF CANADA LIMITED.
11. MATERIALS SHALL BE OF CANADIAN MANUFACTURE WHERE AVAILABLE, OF BEST QUALITY OF THEIR RESPECTIVE KINDS AND OF UNIFORM PATTERN THROUGHOUT.
12. ALL INSULATING MATERIALS SHALL BE FIRE RETARDANT. ADHESIVES SHALL BE WATERPROOF AND INCOMBUSTIBLE FLAME RESISTANT. COMBUSTIBLE WRAPPINGS OR VAPOUR BARRIERS USED IN CONJUNCTION WITH THERMAL INSULATING MATERIALS SHALL BE TREATED TO REDUCE THEIR COMBUSTIBILITY SO THAT FLAME SPREAD CLASSIFICATION OF ENTIRE ASSEMBLY, AS DETERMINED ACCORDING TO METHOD OF FIRE HAZARD CLASSIFICATION FOR BUILDING MATERIALS A.S.T.M. #84_68, SHALL NOT EXCEED 25 AND SMOKE DEVELOPED NUMBER SHALL NOT EXCEED 50. SUBMIT REPORT FROM AN APPROVED TESTING LABORATORY CONFIRMING FOREGOING RATINGS.
13. WHEAT PASTES SHALL NOT BE USED.
14. THE CONSULTANT RESERVES RIGHT TO DEMAND TEST SAMPLES TO COMPOSITE INSULATION SYSTEMS FOR FIRE HAZARD TEST RATING.
15. BANDS AND CLIPS TO SECURE INSULATION AROUND DUCTS SHALL BE ½" ALUMINIUM BANDS.
16. DUCTWORK SHOWN CROSS HATCHED SHALL BE ACOUSTICALLY LINED WITH 1" THICK RIGID FIBERGLASS COVERED WITH BLACK PLASTIC COATED MAT FACING. SEAL ENDS. STANDARD OF ACCEPTANCE JOHNS-MANVILLE LINACOUSTIC OR APPROVED EQUAL. ALL DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR DIMENSIONS OF DUCTS NOT INCLUDING LINING & INSULATION. CONTRACTOR TO UPSIZE THE DUCT DIMENSIONS BASED ON REQUIRED ACOUSTICAL INTERNAL LINING.
17. INSULATE THE FOLLOWING DUCTWORK, PIPING, FITTINGS AND COMPONENTS:
 - MAIN SUPPLY AND RETURN DUCTWORK CONNECTED TO H.V.A.C. EQUIPMENT
 - BRANCH DUCTS AND TAKE OFFS INCLUDING FLEXIBLE DUCTS
 - OUTDOOR AIR INTAKE AND EXHAUST AIR OUTLET DUCTS AND PLENUMS

18. ALL CONCEALED SUPPLY AND RETURN AIR DUCTS: 1" (25 MM) THICK GLASS FIBRE 12 KG/M³ DENSITY (FOR RECTANGULAR DUCTS) OR 24 KG/M³ DENSITY (FOR ROUND DUCTS) DUCT INSULATION WITH REINFORCED FOIL FACED FLAME RESISTANT KRAFT VAPOUR BARRIER. INSULATION SHALL HAVE MAXIMUM VAPOR TRANSMISSION RATE OF 0.02 PERMS AND MINIMUM THERMAL RESISTANCE OF 0.75 M²K/W (FOR 1" THICKNESS). DUCT INSULATION VALUE OF R-6 (IN UNCONDITIONED SPACES) OR R-2 (INSIDE RETURN AIR PLENUMS).

K. AIR TESTING AND BALANCING

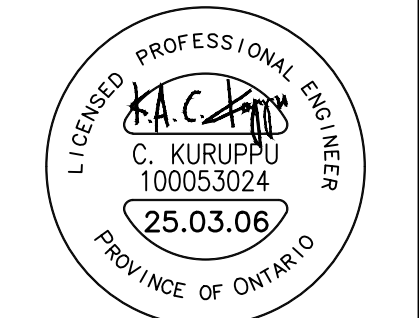
1. BALANCE AND ADJUST EACH FAN. SYSTEM VOLUMES SHALL BE WITHIN 5% OF REQUIREMENTS SHOWN. ADJUST AND SET BALANCE DAMPERS, FANS AND DRIVES TO GIVE THE SPECIFIED VOLUMES AT ALL OUTLETS. THE BALANCING OF AIR SYSTEMS IS TO BE DONE BY A BALANCING FIRM SPECIALIZING IN THIS WORK. CLEAN DUCT SYSTEMS, FILTERS, ETC., BEFORE TESTING IS DONE.
2. PROVIDE ELECTRONIC PDF COPIES OF THE AIR BALANCING REPORT. AIR QUANTITIES AT EACH OUTLET SHALL BE AS INDICATED IN THE DRAWINGS. THIS REPORT SHALL SHOW THE QUANTITIES, VELOCITIES AND AREA OF EACH OUTLET, TYPE AND MODEL, NUMBER OF FANS AND MOTOR INSTALLED, ACTUAL AIR DELIVERED BY THE FAN WITH TOTAL STATIC PRESSURE AND AMPS DRAWN BY THE MOTORS. ADJUST AND RETEST TO THE SATISFACTION OF THE PROJECT COORDINATOR. PROVIDE ADDITIONAL COPY OF THE AIR BALANCE REPORT TO THE MECHANICAL CONSULTANT.
3. UPON COMPLETION OF THE AIR BALANCE TEST, SUBMIT THE AIR BALANCE REPORT TO THE OWNER. THIS CONTRACTOR SHALL PROVIDE, IF CALLED FOR, A SPOT CHECK ON THE SYSTEM WITH THE CONSULTANT. IF ACTUAL AIR QUANTITIES DO NOT AGREE WITH THE AIR BALANCE REPORT DATA, THIS CONTRACTOR MAY BE CALLED UPON TO COMPLETELY REBALANCE THE SYSTEM UNTIL REQUIREMENTS ARE ACHIEVED AND ACCEPTED BY THE CONSULTANT.

DRAWING LIST	
M0.01	MECHANICAL SPECIFICATIONS – I
M0.02	MECHANICAL SPECIFICATIONS – II, KEY PLAN & DRAWING LIST
M0.03	MECHANICAL SCHEDULES & MECHANICAL LEGEND
M1.01	HVAC NEW LAYOUT
M2.01	EXISTING SPRINKLER PLAN
P1.01	PLUMBING NEW LAYOUT – UNDERGROUND
P1.02	PLUMBING NEW LAYOUT – GROUND FLOOR



KEY PLAN

DO NOT SCALE. DRAWING DIMENSIONS ARE TO BE CHECKED AND VERIFIED BY THE CONTRACTOR ON SITE. ALL DRAWINGS, SPECIFICATIONS, AND RELATED DOCUMENTS ARE THE SOLE PROPERTY OF THE ARCHITECT AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS, AND RELATED DOCUMENTS IN WHOLE OR IN PART IS STRICTLY FORBIDDEN WITHOUT THE ARCHITECT'S WRITTEN PERMISSION.



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B	ISSUED FOR PERMIT/ TENDER	2025.03.06
A	ISSUED FOR CLIENT REVIEW	2025.03.03
#	DESCRIPTION	ISSUE DATE

PROJECT NAME:

BISHOP RYAN CATHOLIC
SECONDARY SCHOOL
PROPOSED LIFE-SKILLS
ROOM

PROJECT ADDRESS:

1824 RYMAL RD E,
HANNON, ON L0R 1P0

PROJECT NO:

25007

DRAWING TITLE:

MECHANICAL
SPECIFICATIONS-II, KEY
PLAN & DRAWING LIST

SCALE:

NTS

DRAWN BY:

JP

CHECKED BY:

CK

PLOT DATE:

2025.02.20

DRAWING NO:

M0.02

PLUMBING FIXTURE SCHEDULE								
TAG	SPECIFICATION	FIXTURE SIZE	CW	HW	WASTE	VENT	REMARKS	
LAV-1	AMERICAN STANDARD AQUALYN DROP IN LAVATORY, VITREOUS CHINA FOR BEAUTY CARE AREA WITH 518mm L X 441mm W X 178mm H. WHITE FINISH WITH FRONT OVERFLOW DRAIN HOLE WITH FAUCET LEDGE.	MOEN CHATEAU L64600 SERIES SINGLE HANDLE FAUCET, METAL CONSTRUCTION, PIVOT ACTION LEVER STYLE HANDLE, FLOW LIMIT OF 1.5 GPM AT 60 PSIG, MCGUIRE 155A STRAIGHT DRAIN, CAST BRASS CHROME PLATED OPEN GRID PO PLUG, 1-1/4" TAIL-PIECE DIAMETER, BRASS LOCKNUT AND MCGUIRE 8872CB HEAVY CAST BRASS P-TRAP.	13mm	13mm	32mm	32mm		
KS-1	FRANKE COMMERCIAL LBD6408-1-3 1140G STAINLESS STEEL, TYPE 302, 20 GAUGE, COUNTER MOUNTED -- DROP IN, WITH FAUCET LEDGE, DOUBLE COMPARTMENT, COMMERCIAL SINKS WITH OVERALL 794mm L X 521mm W X 203mm H.	CA87526 ADLER CHROME ONE HANDLE LOW ARC KITCHEN FAUCET, CAST BRASS CHROME PLATED, IN-LINE FILTER, 0.5 GPM LAMINAR FLOW, LAWLER #TMM-1070 BELOW DECK WATER MIXING VALVE, MCGUIRE #LFH165LKN3 ANGLE STOPS, MCGUIRE #8912CB HEAVY CAST BRASS ADJUSTABLE BODY P-TRAP.	13mm	13mm	38mm	32mm		
MXV	LAWLER #TMM-1070, BELOW DECK MECHANICAL WATER MIXING VALVE, BRONZE BODY, TEMPERATURE ADJUSTING DIAL, HIGH TEMPERATURE THERMOSTATIC LIMIT STOP, INTEGRAL CHECKS.	-	13mm	13mm	-	-		
CO	ZURN ZN-1602 CAST IRON CLEAN OUT WITH 5" NICKEL BRONZE COVER.	-	-	-	-	-		
NOTES: 1. EACH PLUMBING FIXTURE SHALL BE LOW WATER CONSUMPTION IN ACCORDANCE TO ONTARIO BUILDING CODE. 2. PROVIDE ALL REQUIRED FITTINGS, TRAPS, VALVES, FAUCETS AND ESCUTCHEONS TO COMPLETE EACH FIXTURE INSTALLATION. 3. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL BEFORE ORDERING ANY FIXTURE. 4. ALL ANGLE STOPS TO BE DAHL 1/4 TURN MINI BALL VALVE. NO ALTERNATE WILL BE ACCEPTABLE. 5. PROVIDE INSULATION AND COVERING FOR ALL BARRIER FREE KITCHEN SINK AND LAVATORY PIPING.								

RANGE HOOD SCHEDULE											
TAG	SERVICE	MAKE	MODEL NO.	AIR QUANTITY (CFM)	STATIC PRESSURE (IN WG)	ELECTRICAL		MOUNTING ARRANGEMENT	WEIGHT (LBS)	STARTER	REMARKS
						V/PH/HZ	MCA				
RH-1	PROPOSED LIFE-SKILLS ROOM	LG	MVEL2137	400	-	120/1/60	15	UNDER CABINET	61.5	-	30" WIDE MICROWAVE & RANGE HOOD COMBO UNIT C/W CHARCOAL FILTER & LED LIGHT. STAINLESS STEEL FINISH.

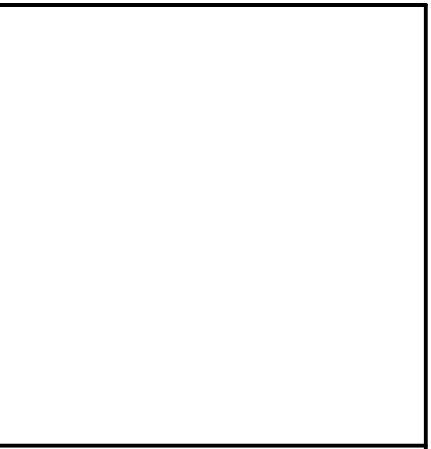
EX. FAN COIL UNIT SCHEDULE (FOR INFORMATION ONLY)																				
TAG	MANUFACTURER	MODEL	SERVICE	TYPE	AIRFLOW (CFM)	ESP (" w.c.)	COOLING					HEATING					ELECTRICAL			REMARKS
							TOTAL (MBH)	PD (ft)	GPM	EWT (°F)	LWT (°F)	TOTAL (MBH)	PD (ft)	GPM	EWT (°F)	LWT (°F)	V/PH/HZ	MCA	MOCP	
FC-1.22/FC-1.23	TRANE	VERT.	1142/1143	DUCTED VERTICAL	900	0.4	15	6	6.04	44	56	-	-	-	-	-	600/3/60	-	-	-

EXHAUST FAN SCHEDULE											
TAG	SERVICE	MANUFACTURER	MODEL NO.	AIR QUANTITY (CFM)	STATIC PRESS. (IN WG)	ELECTRICAL			MOUNTING ARRANGEMENT	STARTER	REMARKS
						V/PH/HZ	POWER(W)	MCA(A)			
EF-1	BEAUTY/PERSONAL CARE AREA	GREENHECK	SP-A125	100	0.3"	115/1/60	20	0.2	CEILING MOUNTED	SEE NOTE 1	c/w GALVANIZED STEEL HOUSING AND GRILLE, CENTRIFUGAL FORWARD CURVED WHEEL, DIRECT DRIVEN MOTOR IN THE AIR STREAM
NOTES: 1. FAN TO OPERATE THROUGH WALL MOUNTED SWITCH. 2. FANS TO SUPPLY BY MECHANICAL AND WIRED BY ELECTRICAL. 3. ACCEPTABLE ALTERNATES: PENNBARRY, COOK.											

EX. GRILLE AND DIFFUSER SCHEDULE (FOR INFORMATION ONLY)								
TAG	MANUFACTURER	MODEL	TYPE	SIZE	FINISH	MOUNTING	DAMPER	REMARKS
S1	E.H. PRICE	600x600 SCDA	SUPPLY	NECK UP TO 150 CFM - 150ø, 151 TO 250 CFM - 200ø	B-12	T-BAR	-	ADJUSTABLE DIFFUSER
S2	E.H. PRICE	300x300 SCDA	SUPPLY	NECK UP TO 150 CFM - 150ø, 151 TO 250 CFM - 200ø	B-12	T-BAR	-	ADJUSTABLE DIFFUSER
R1	E.H. PRICE	TB80	RETURN	50 TO 400 CFM - 300x300, 401 TO 700 CFM - 300x600, 701 TO 1400 CFM - 600x600	B-12	T-BAR	-	-
R2	E.H. PRICE	NT80	RETURN		B-12	DRY WALL	-	-

EX. EXHAUST FAN SCHEDULE (FOR INFORMATION ONLY)									
TAG	SERVICE	MANUFACTURER	MODEL NO.	AIR QUANTITY (CFM)	STATIC PRESS. (IN WG)	ELECTRICAL			REMARKS
						V/PH/HZ	LOAD(A)	MCA(A)	
EF-71B	1145	FANTECH	DBF4XLT	140	0.5"	120/1/60	15	-	INLINE FAN
EF-21	1144	PENN ZEPHYR	Z8S	200	0.3"	120/1/60	5	-	RA TYPE 2 SPEED FAN
EF-22	1144	PENN ZEPHYR	Z8H	300	0.3"	120/1/60	5	-	RA TYPE 2 SPEED FAN
EF-23	1144	PENN ZEPHYR	Z8S	200	0.3"	120/1/60	5	-	RA TYPE 2 SPEED FAN

MECHANICAL LEGEND			
HVAC		ANNOTATION LEGEND	
<div>— BD</div> <div>— CD</div> <div>R.A.</div> <div>S.A.</div> <div>Ⓢ</div> <div> FD</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	DUCT WORK	CTE	CONNECT TO EXISTING
	BALANCING DAMPER	T/B	TO BELOW
	CONSTANT AIRFLOW REGULATOR	T/A	TO ABOVE
	RETURN AIR DUCT	F/B	FROM BELOW
	SUPPLY AIR DUCT	F/A	FROM ABOVE
	THERMOSTAT	SITE PLAN	
	FIRE DAMPER		EXISTING BUILDING
	SUPPLY DUCT UP		NEW BUILDING
	RETURN OR EXHAUST UP		SITE BOUNDARY
	SUPPLY TURNING DOWN		SANITARY SEWER
	RETURN OR EXHAUST DOWN	PIPING/PLUMBING	
	FLEXIBLE DUCT		SANITARY LINE
HVAC EQUIPMENT TAG			SANITARY LINE BURIED
DIFFUSER			DOMESTIC COLD WATER (DCW)
RETURN AIR GRILLE			DOMESTIC HOT WATER (DHW)
200-CFM A-TYPE 300-SIZE (mm)			DOMESTIC HOT WATER RECIRCULATION (DHW)
DUCT WITH ACCOUSTIC LINING			VENT PIPE
DUCT WITH ACCOUSTIC LINING			PIPE UP
			PIPE DOWN
			CLEAN OUT



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A	ISSUED FOR CLIENT REVIEW	2025.03.03	
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PROJECT NAME:
BISHOP RYAN CATHOLIC SECONDARY SCHOOL
PROPOSED LIFE-SKILLS ROOM

PROJECT ADDRESS:
1824 RYMAL RD E,
HANNON, ON L0R 1P0

PROJECT NO:
25007

DRAWING TITLE:
MECHANICAL
SCHEDULES &
MECHANICAL LEGEND

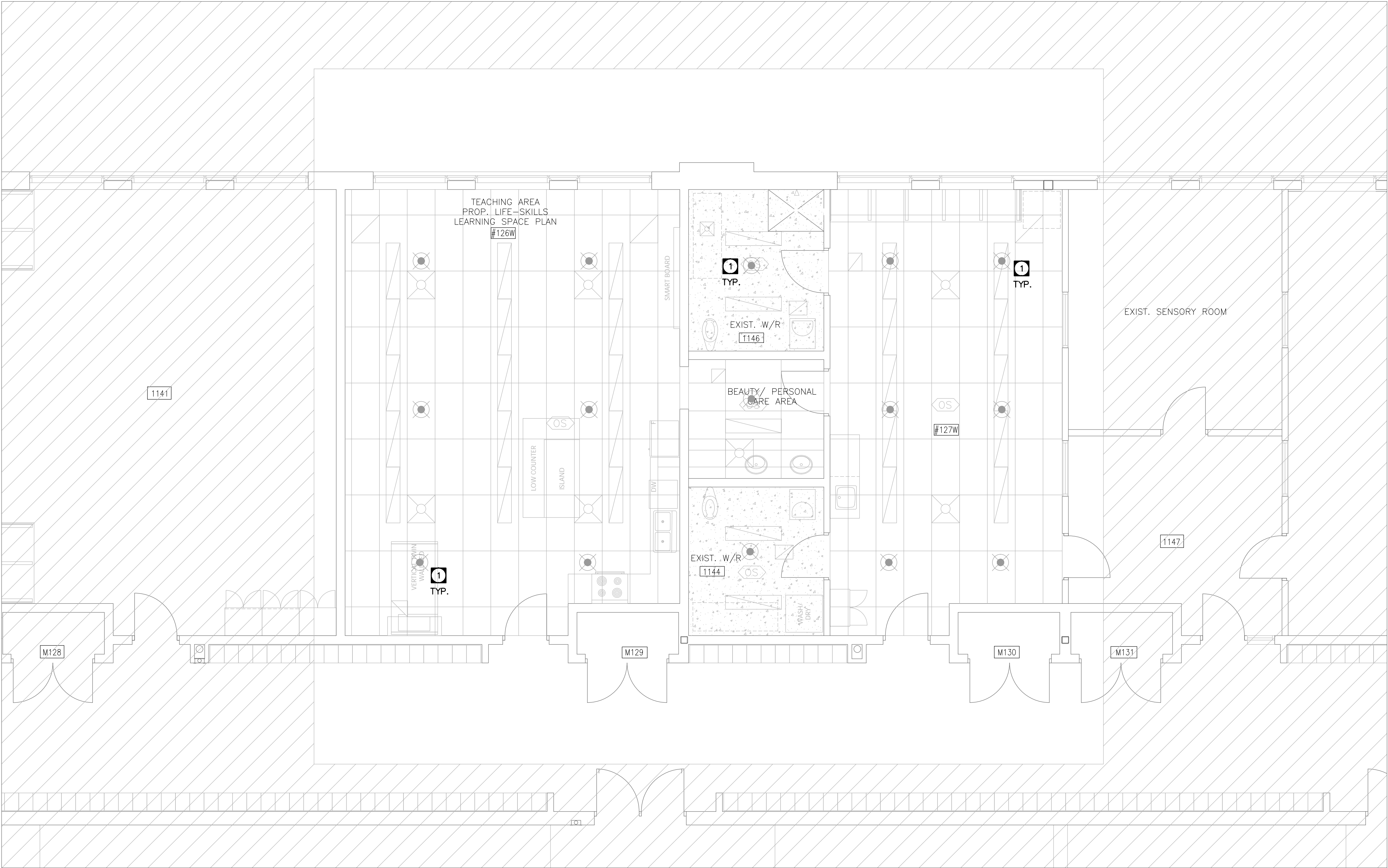
SCALE:
NTS

DRAWN BY:
JP

CHECKED BY:
CK

PLOT DATE:
2025.02.20

DRAWING NO:
M0.03



GENERAL NOTES:

- MECHANICAL CONTRACTOR SHALL CARRYOUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES, BEFORE THE COMMENCEMENT OF ANY WORK.
- SPRINKLER CONTRACTOR TO INCLUDE FOR OFFSETS IN SPRINKLER PIPING AND SUPPLY AND INSTALLATION OF TRAPEZE HANGERS WHERE REQUIRED.
- CONTRACTOR TO COORDINATE SPRINKLER LOCATION WITH REFLECTED CEILING, LIGHTS, DIFFUSERS, DUCTWORK, AND OTHER SERVICES. REFER TO ARCHITECTURAL DRAWINGS.

DRAWING NOTES:

- 1** EXISTING SPRINKLER LOCATIONS REMAINED NO CHANGED. (TYP.)

SPRINKLER HEAD LEGEND

SYMBOL	DESCRIPTION	REMARKS
	PENDENT SPRINKLER HEAD	UL/ULC LISTED, FM APPROVED

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BISHOP RYAN CATHOLIC SECONDARY SCHOOL
PROPOSED LIFE-SKILLS ROOM

PROJECT ADDRESS:
1824 RYMAL RD E,
HANNON, ON L0R 1P0

PROJECT NO:
25007

DRAWING TITLE:

EXISTING SPRINKLER PLAN

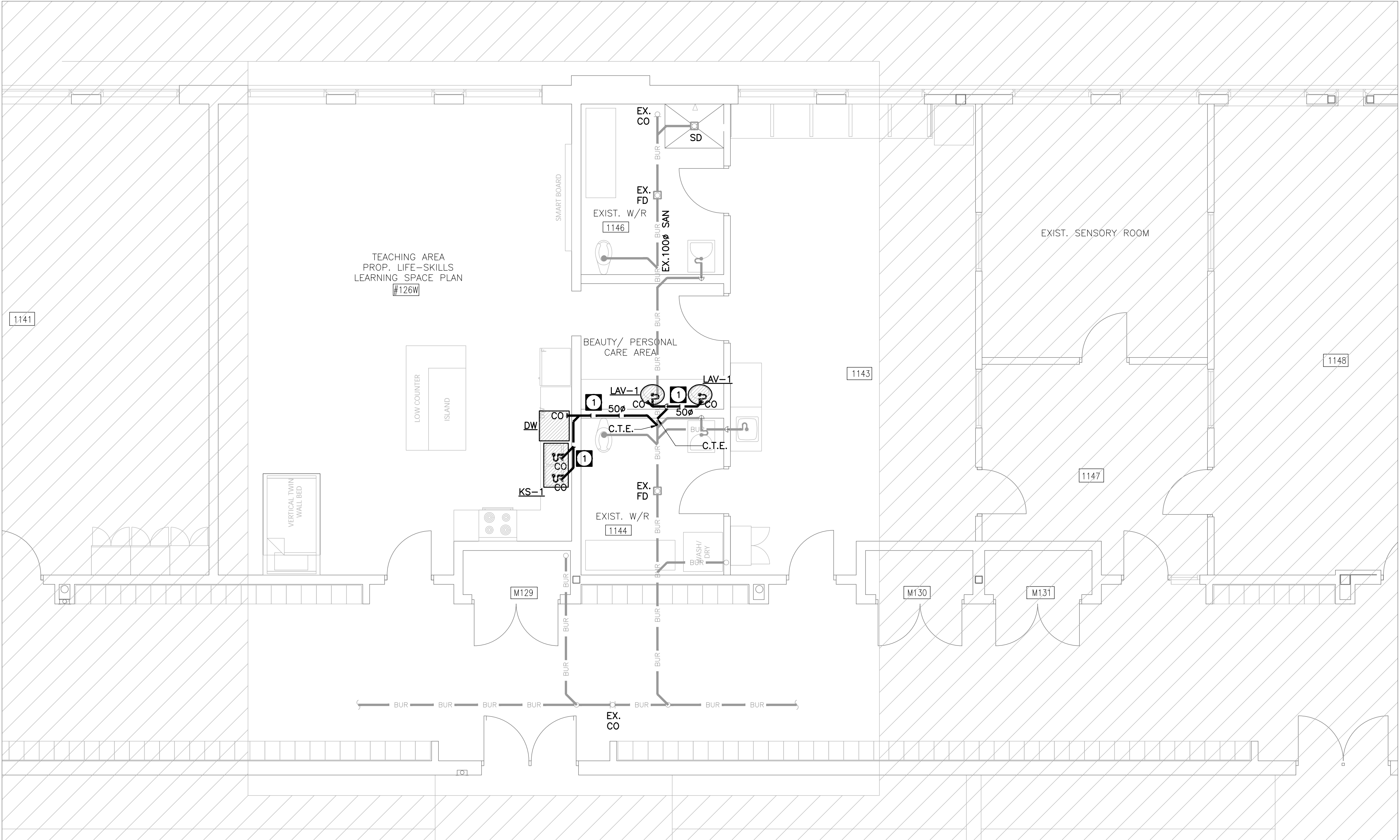
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CHECKED BY:
CK

PLOT DATE:
2025.02.20

DRAWING NO:
M2.01

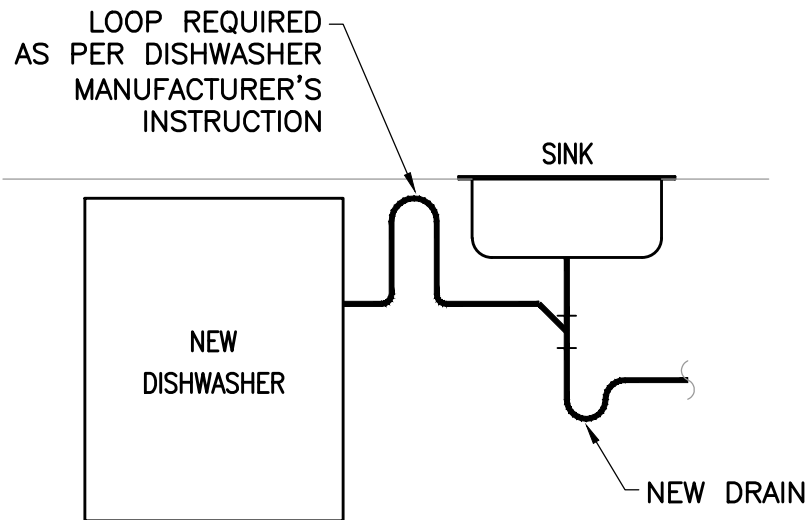


GENERAL NOTES:

- ALL PLUMBING WORK TO CONFORM TO ONTARIO BUILDING CODE, PROVIDE COMPLETE VENT SYSTEM TO MEET SECTION 7 OF ONTARIO BUILDING CODE.
- SANITARY DRAINAGE AND VENT PIPING SHALL BE CERTIFIED TO CAN/CSA-B181.2 "PVC DRAIN, WASTE, AND VENT PIPE AND PIPE FITTINGS" SEE NOTE C WHERE PIPING RUNS IN RETURN AIR PLENUM SPACE. ABS PIPE AND FITTINGS ARE MADE FROM A THERMOPLASTIC RESIN CALLED ACRYLONITRILE-BUTADIENE-STYRENE (ABS FOR SHORT) ARE NOT ACCEPTABLE.
- IPEX SYSTEM XFR 15-50 PIPE AND FITTINGS C/W APPROVED FIRE STOPS IN AREA WHERE THE CEILING SPACE IS UTILIZED AS RETURN AIR PLENUM.
- COORDINATE PIPE INSTALLATION WITH SHEET METAL CONTRACTOR.
- CONTRACTOR TO FIELD VERIFY WORK SITE CONDITIONS.
- COORDINATE PIPES WITH DUCTS, ELECTRICAL AND STRUCTURAL, OFFSET IF REQUIRED.
- INSULATE ALL DCW, DHW AND DHWR PIPES WITH PIPE INSULATION. COVER EXPOSED PIPES WITH PVC JACKETS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING LAYOUT.
- INSULATE ALL EXPOSED SANITARY PIPING WITH FIBERGLASS INSULATION WITH POLYVINYL COVERING. VENT PIPING TO BE INSULATED UP TO 3.0METRES FROM THE POINT OF ROOF PENETRATION WITH INSULATION.
- INSULATE ALL CONDENSATE PIPING WITH PIPE INSULATION. ALL EXPOSED DRAIN PIPING SHALL HAVE POLYVINYL COVERING OVER INSULATION.
- ALL RUNNING TRAPS TO BE COMPLETE WITH TRAP SEAL PRIMER CONNECTION AND MIFAB MI-GARD.
- ALL DOMESTIC WATER PIPING WITHIN FIRE RATED SHAFTS SHALL BE COPPER. IPEX AQUARISE PIPES AND FITTINGS ARE NOT ALLOWED IN FIRE RATED SHAFTS.
- INSTALL FIRE STOPS TO APPROVED STANDARD IN ALL PIPING PENETRATIONS THROUGH RATED WALLS.
- PROVIDE ACCESS DOORS FOR CLEANOUTS.
- ANY EXPOSED REFRIGERANT & CONDENSATE PIPING TO BE CONCEALED WITHIN LINE-SET COVERS.
- ALL MECHANICAL PENETRATIONS (PIPES, DUCTS) THROUGH SUITE WALLS AND BUILDING ENVELOPE (BASEMENT FLOORS, WALLS, ROOF DECK, ETC) SHALL BE AIR TIGHT SEALED, EXCLUDING FIRE DAMPERS.

PLUMBING DRAWING NOTES:

- 50mm SAN PIPE RUN HORIZONTALLY ALONG WALL, DROPPED VERTICALLY ALONG THE WALL AND RUN UNDERGROUND TO CONNECT EXISTING BURIED 100mm SAN PIPE.



DISHWASHER DRAIN DETAIL
N.T.S.

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B	ISSUED FOR PERMIT/TENDER	2025.03.06
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PROJECT NAME:

BISHOP RYAN CATHOLIC
SECONDARY SCHOOL
PROPOSED LIFE-SKILLS
ROOM

PROJECT ADDRESS:
1824 RYMAL RD E,
HANNON, ON L0R 1P0

PROJECT NO:
25007

DRAWING TITLE:
**PLUMBING NEW LAYOUT
UNDERGROUND**

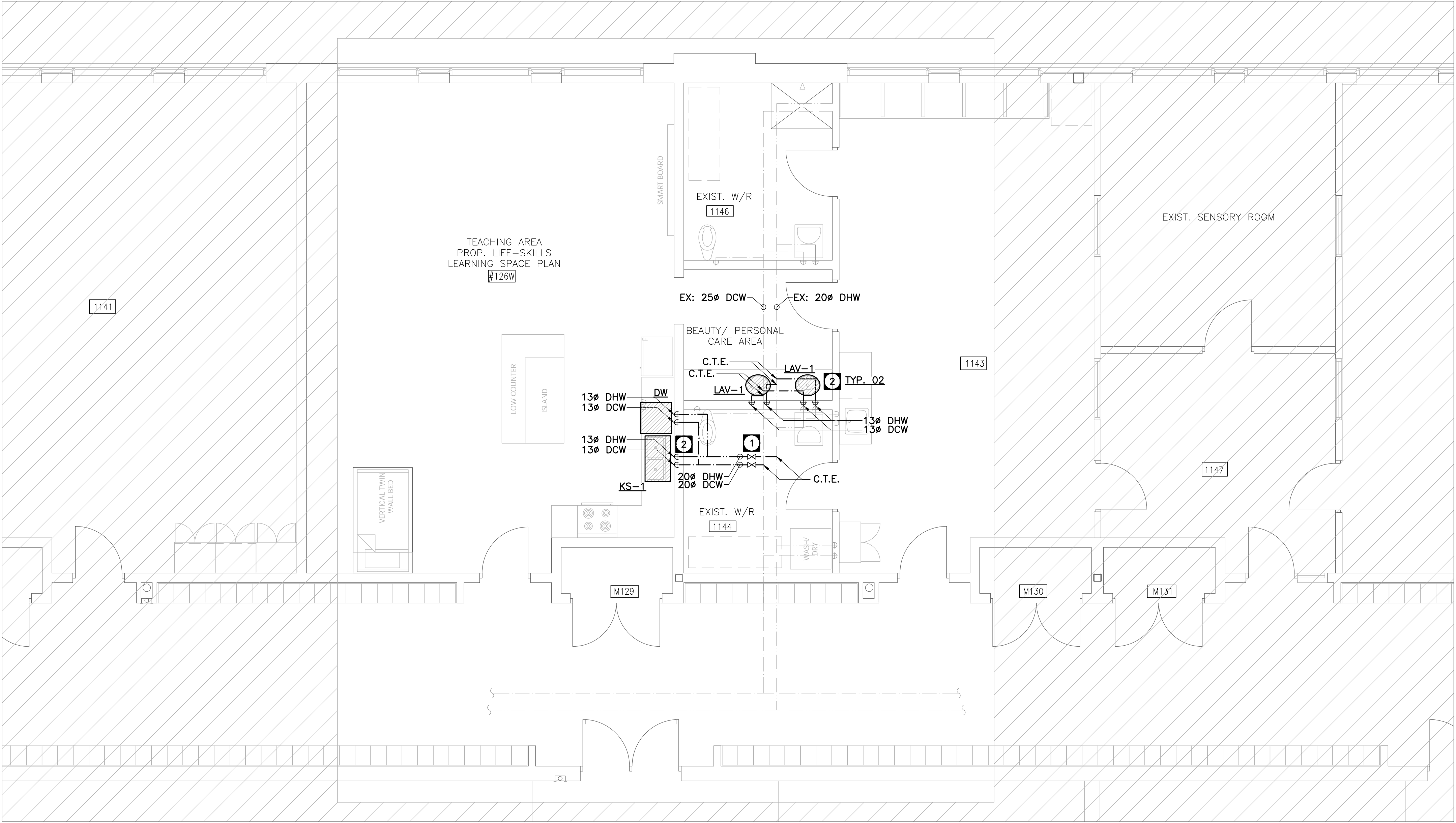
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1:50

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CHECKED BY:
CK

PLOT DATE:
2025.02.20

DRAWING NO:
P1.01

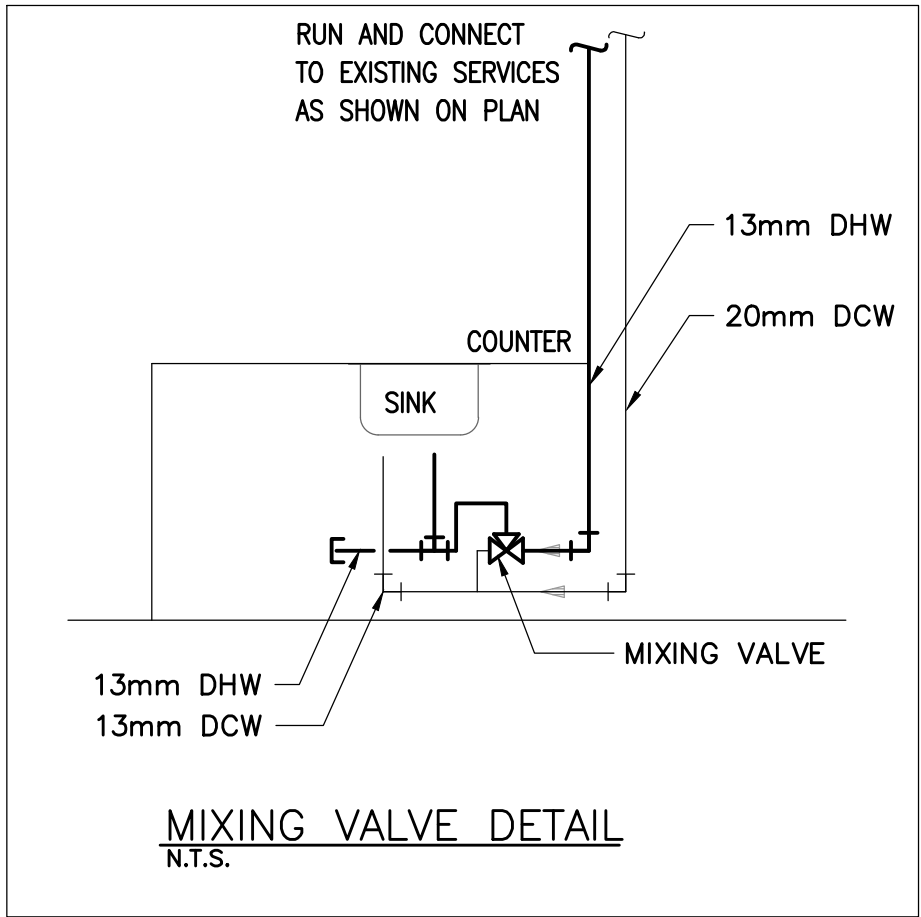


GENERAL NOTES:

- A. ALL PLUMBING WORK TO CONFORM TO ONTARIO BUILDING CODE, PROVIDE COMPLETE VENT SYSTEM TO MEET SECTION 7 OF ONTARIO BUILDING CODE.
- B. SANITARY DRAINAGE AND VENT PIPING SHALL BE CERTIFIED TO CAN/CSA-B181.2 "PVC DRAIN, WASTE, AND VENT PIPE AND PIPE FITTINGS" SEE NOTE C WHERE PIPING RUNS IN RETURN AIR PLENUM SPACE. ABS PIPE AND FITTINGS ARE MADE FROM A THERMOPLASTIC RESIN CALLED ACRYLONITRILE-BUTADIENE-STYRENE (ABS FOR SHORT) ARE NOT ACCEPTABLE.
- C. IPEX SYSTEM XFR 15-50 PIPE AND FITTINGS C/W APPROVED FIRE STOPS IN AREA WHERE THE CEILING SPACE IS UTILIZED AS RETURN AIR PLENUM.
- D. COORDINATE PIPE INSTALLATION WITH SHEET METAL CONTRACTOR.
- E. CONTRACTOR TO FIELD VERIFY WORK SITE CONDITIONS.
- F. COORDINATE PIPES WITH DUCTS, ELECTRICAL AND STRUCTURAL, OFFSET IF REQUIRED.
- G. INSULATE ALL DCW, DHW AND DHWR PIPES WITH PIPE INSULATION. COVER EXPOSED PIPES WITH PVC JACKETS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING LAYOUT.
- H. INSULATE ALL EXPOSED SANITARY PIPING WITH FIBERGLASS INSULATION WITH POLYVINYL COVERING. VENT PIPING TO BE INSULATED UP TO 3.0METRES FROM THE POINT OF ROOF PENETRATION WITH INSULATION.
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- J. ALL RUNNING TRAPS TO BE COMPLETE WITH TRAP SEAL PRIMER CONNECTION AND MIFAB MI-GARD.
- K. ALL DOMESTIC WATER PIPING WITHIN FIRE RATED SHAFTS SHALL BE COPPER. IPEX AQUARISE PIPES AND FITTINGS ARE NOT ALLOWED IN FIRE RATED SHAFTS.
- L. INSTALL FIRE STOPS TO APPROVED STANDARD IN ALL PIPING PENETRATIONS THROUGH RATED WALLS.
- M. PROVIDE ACCESS DOORS FOR CLEANOUTS.
- N. ANY EXPOSED REFRIGERANT & CONDENSATE PIPING TO BE CONCEALED WITHIN LINE-SET COVERS.
- O. ALL MECHANICAL PENETRATIONS (PIPES, DUCTS) THROUGH SUITE WALLS AND BUILDING ENVELOPE (BASEMENT FLOORS, WALLS, ROOF DECK, ETC) SHALL BE AIR TIGHT SEALED, EXCLUDING FIRE DAMPERS.

PLUMBING DRAWING NOTES:

- 1 PROVIDE NEW 20mm DCW & 20mm DHW CONNECTIONS TO SUPPLY WATER TO NEW KITCHEN SINK & NEW DISH WASHER c/w ISOLATION VALVES. PROVIDE MIXING VALVE FOR KITCHEN SINK REFER TO DETAIL SHOWN IN THIS DRAWING.
- 2 PROVIDE NEW 13mm DCW & 13mm DHW CONNECTIONS TO SUPPLY WATER TO NEW WASH BASINS. PROVIDE MIXING VALVE FOR EACH SINK REFER TO DETAIL SHOWN IN THIS DRAWING.



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SECONDARY SCHOOL
PROPOSED LIFE-SKILLS
ROOM**

PROJECT ADDRESS:
**1824 RYMAL RD E,
HANNON, ON L0R 1P0**

PROJECT NO:
25007

DRAWING TITLE:
**PLUMBING NEW LAYOUT
GROUND FLOOR**

SCALE:
1:50

DRAWN BY:
IP

CHECKED BY:
CK

PLOT DATE:
2025.02.20

DRAWING NO:
P1.02