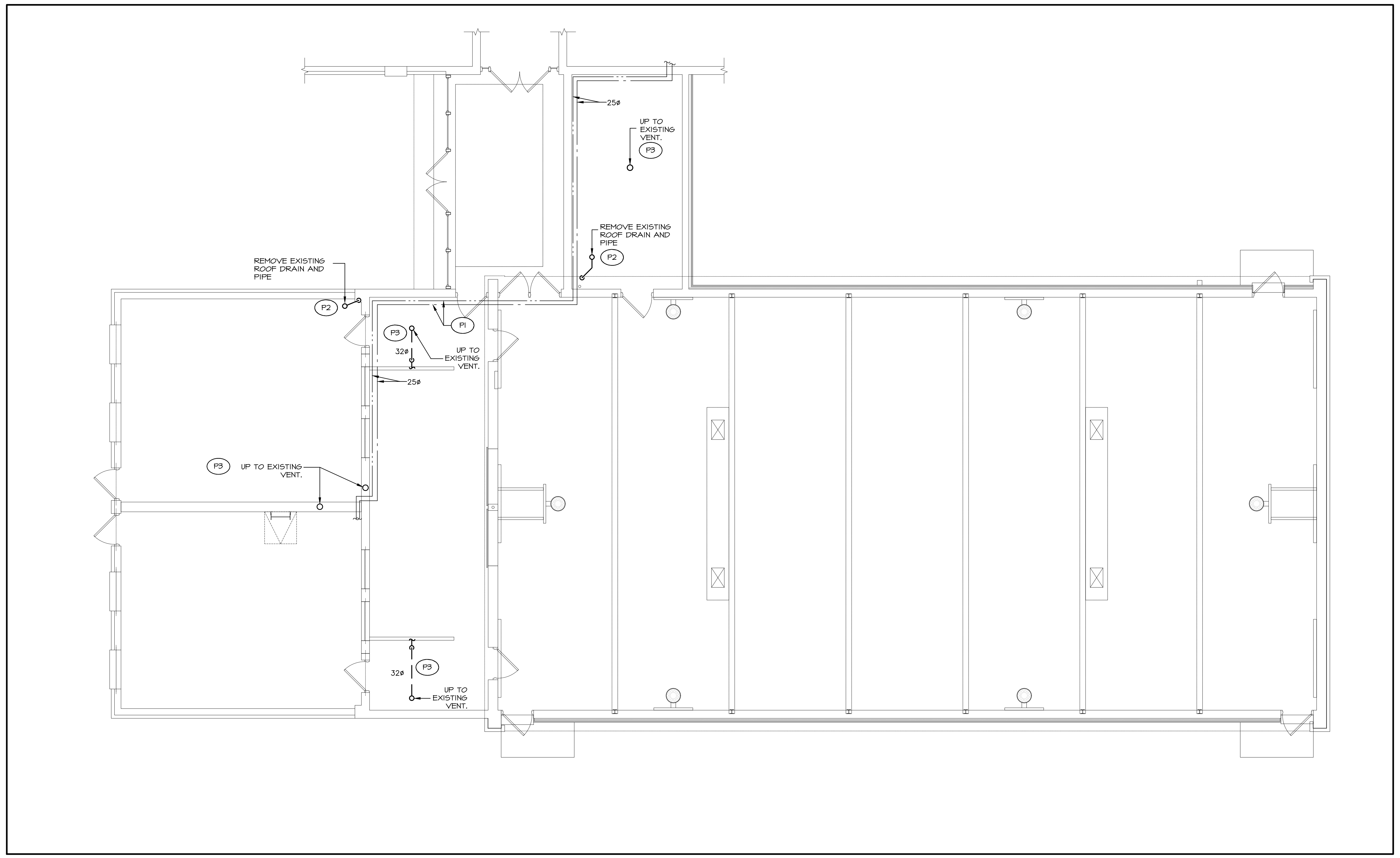
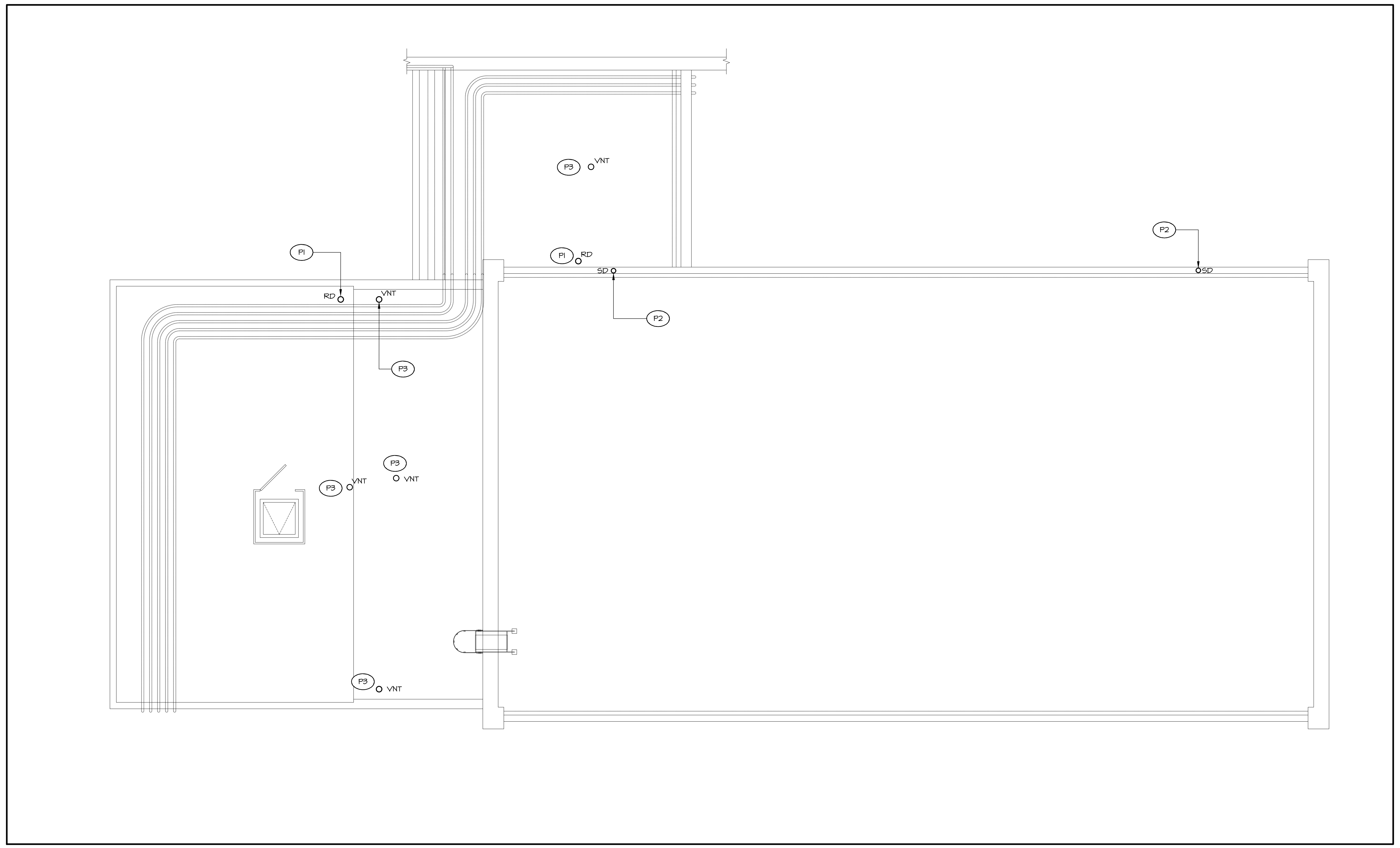


1 / M1-1 PART GROUND FLOOR PLAN - DEMOLITION PLUMBING LAYOUT

1:100



2 / M1-1 PART ROOF PLAN - DEMOLITION PLUMBING LAYOUT

1:100

GROUND FLOOR PLUMBING NOTES (P#)

1. EXISTING DCW AND DHW PIPING SHALL BE REMOVED AND REPLACED WITH NEW TO MATCH EXISTING, AS REQUIRED FOR ROOF REPLACEMENT. REMOVE PIPING SUPPORTED FROM CEILING/HIGH LEVEL BACK TO A SECURELY ANCHORED POINT. PROVIDE TEMPORARY SUPPORTS/BRACING AND CAP EXISTING PIPES DURING WORK AS NECESSARY. REINSTALL WITH FULL SUPPORTS. PROVIDE NEW PIPING, VALVES, AND INSULATION/JACKETING AS REQUIRED.
2. DEMOLISH EXISTING STORM WATER PIPE SERVING EXISTING ROOF DRAIN. PROVIDE TEMPORARY SUPPORTS/BRACING AND CAP PIPE DURING WORK AS REQUIRED. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING PIPE DISTRIBUTION PRIOR TO STARTING WORK.
3. DEMOLISH EXISTING PLUMBING VENT PIPE SERVING EXISTING VENT ON ROOF. REMOVE VENT PIPING SUPPORTED FROM THE CEILING/HIGH LEVEL BACK TO A SECURELY ANCHORED POINT. PROVIDE TEMPORARY SUPPORTS/BRACING DURING WORK AS NECESSARY. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING PIPE DISTRIBUTION PRIOR TO STARTING WORK.

ROOF PLUMBING NOTES (P#)

1. EXISTING ROOF DRAINS SHALL BE REMOVED REPLACED WITH NEW TO ACCOMMODATE ROOF REPLACEMENT.
2. EXISTING SCUPPER DRAINS SHALL BE REMOVED AND REPLACED WITH NEW TO ACCOMMODATE ROOF REPLACEMENT.
3. EXISTING PLUMBING VENTS SHALL BE REMOVED AND REPLACED WITH NEW TO ACCOMMODATE ROOF REPLACEMENT.

CONSTRUCTION NORTH

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Revision Record

No.	Description	Date (m/d/y)
B	ISSUED FOR TENDER	04/14/26
A	ISSUED FOR PERMIT	03/30/26
No.	Description	Date (m/d/y)

Issue Record

General Notes:

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Consulting Engineers
1709 Upper James Street
Hamilton, ON L9B 1K7
Tel: (905) 777-1454
Fax: (905) 336-8142

Regina Mundi Catholic Elementary School

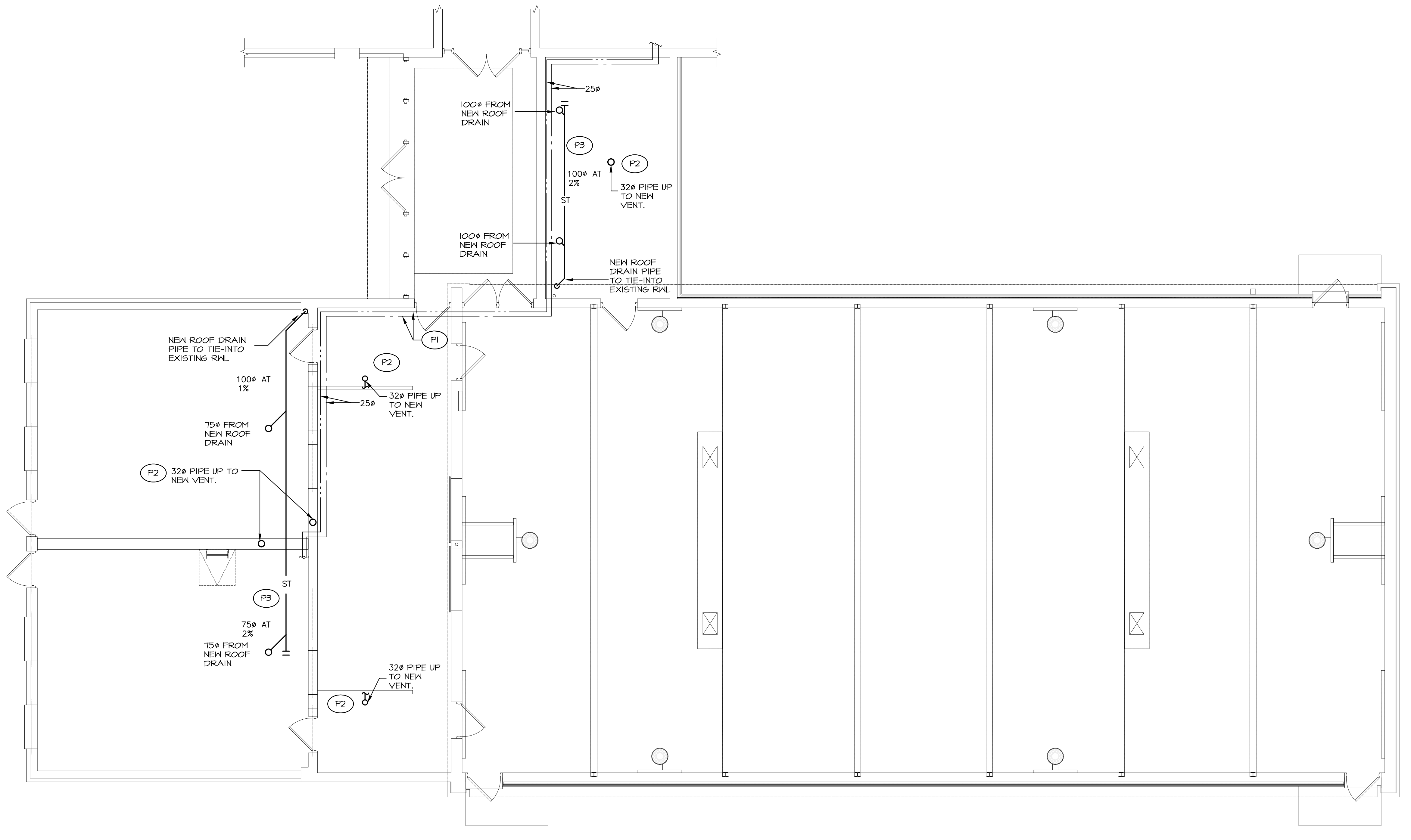
ROOF ASSEMBLY
REPLACEMENT
675 MOHAWK ROAD WEST
HAMILTON, ONTARIO

Date:	JANUARY 2026
Drawn By:	DM
Chkd By:	CP
Scale:	AS STATED

Drawing title:
GROUND FLOOR AND ROOF PART PLANS - PLUMBING DEMO

Project No.:	Drawing No.:	Rev.:
26032(A)	M1-1	B

Plot Date:

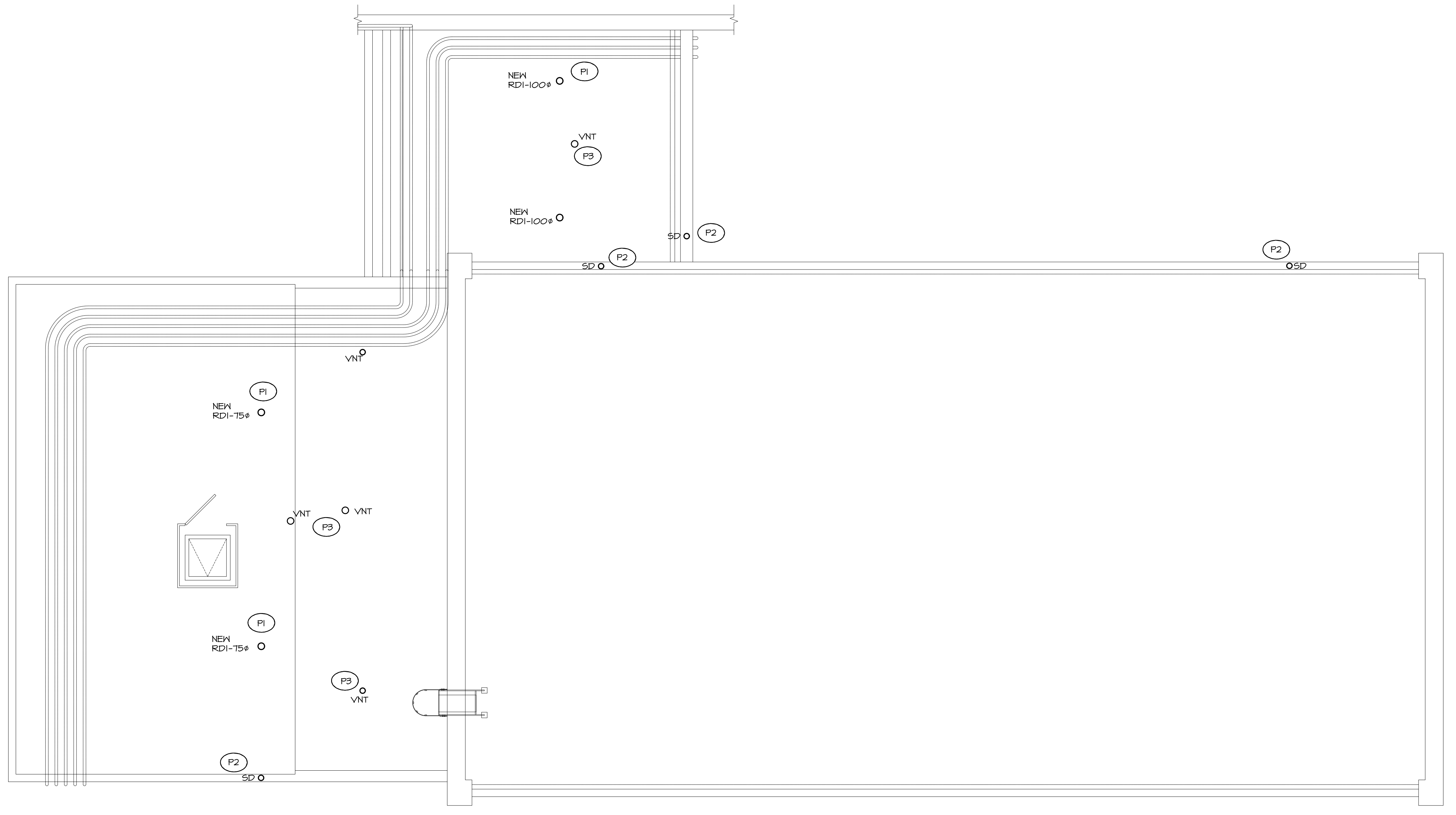


1 / M1-2 PART GROUND FLOOR PLAN – PROPOSED PLUMBING LAYOUT

1:100

GROUND FLOOR PLUMBING NOTES (P#)

1. PROVIDE DCW AND DHW PIPING. INSTALL WITH FULL SUPPORTS. PROVIDE NEW PIPING, VALVES, AND INSULATION/JACKETING AS REQUIRED.
2. PROVIDE PLUMBING VENT PIPE. INSTALL WITH FULL SUPPORTS AND VENT TERMINATIONS.
3. PROVIDE STORM WATER PIPING AND ALL ASSOCIATED COMPONENTS AS INDICATED. INSTALL WITH FULL SUPPORTS.



2 / M1-2 PART ROOF PLAN - PROPOSED PLUMBING LAYOUT

1:100

ROOF PLUMBING NOTES (P#)

1. INSTALL ROOF DRAIN. INSTALL PROVIDE SEALANTS AT ROOF PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
2. INSTALL SCUPPER DRAIN. INSTALL PROVIDE NEW SHEET METAL FLASHING, MEMBRANE INTEGRATION, AND SEALANTS AT ROOF EDGE/OPENING. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
3. INSTALL PLUMBING VENT LINE. INSTALL ROOF FLASHING, RAIN COLLAR AND SEALANTS AT PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL.

CONSTRUCTION NORTH

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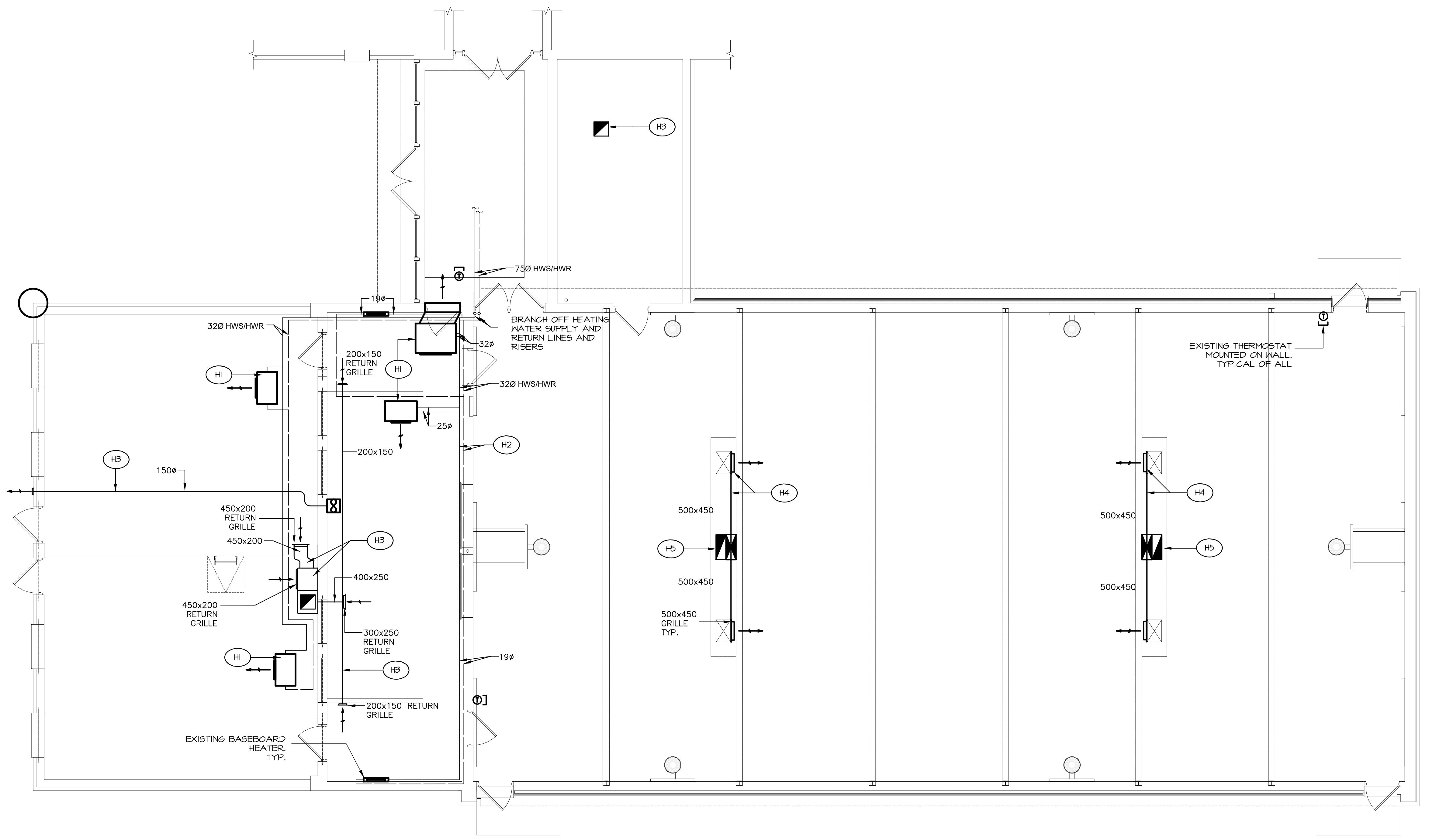
ROOF ASSEMBLY REPLACEMENT

675 MOHAWK ROAD WEST
HAMILTON, ONTARIO

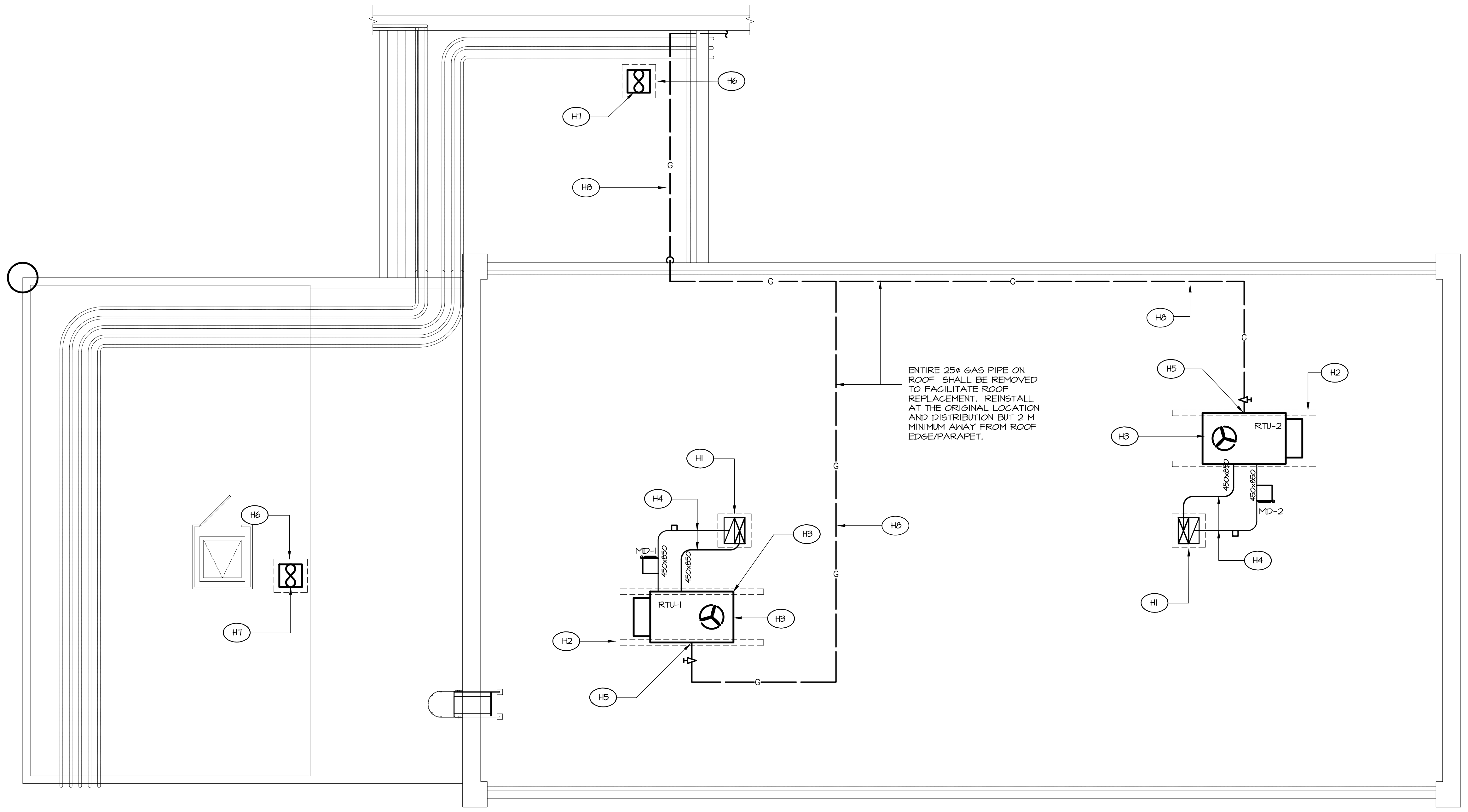
Date: JANUARY 2026
Drawn By: DM
Chkd By: CP
Scale: AS STATED

Drawing title:
GROUND FLOOR AND ROOF PART PLANS – PLUMBING PROPOSED

Project No.: 26032(A)
Drawing No.: M1-2
Rev.: B
Plot Date:



1
M2-1
PART GROUND FLOOR PLAN - H V A C LAYOUT
1:100



2
M2-1
PART ROOF PLAN - H V A C LAYOUT
1:100

GROUND FLOOR HVAC NOTES (H#)

1. EXISTING CEILING MOUNTED FORCED FLOW HEATER AND ALL ASSOCIATED COMPONENTS SHALL BE REMOVED TO FACILITATE ROOF REPLACEMENT. REINSTALL AT THE AT THE ORIGINAL LOCATION AND CONDITION.
2. EXISTING HYDRONIC HEATING SUPPLY AND RETURN PIPING SHALL BE REMOVED TO FACILITATE ROOF REPLACEMENT. REMOVE PIPING SUPPORTED FROM CEILING/HIGH LEVEL BACK TO A SECURELY ANCHORED POINT. PROVIDE TEMPORARY SUPPORTS/BRACING AND CAP EXISTING PIPES DURING WORK AS NECESSARY. REINSTALL AT THE AT THE ORIGINAL LOCATION AND CONDITION. PROVIDE NEW PIPING, VALVES, AND INSULATION/JACKETING AS REQUIRED.
3. EXISTING DUCTWORK SHALL BE REMOVED TO FACILITATE ROOF REPLACEMENT. REMOVE DUCTWORK SUPPORTED FROM CEILING/HIGH LEVEL BACK TO A SECURELY ANCHORED POINT. PROVIDE TEMPORARY SUPPORTS/BRACING DURING WORK AS NECESSARY. REINSTALL AT THE AT THE ORIGINAL LOCATION AND CONDITION WITH FULL SUPPORTS, PROVIDE NEW DUCTWORK AND ASSOCIATED COMPONENTS AS REQUIRED.
4. EXISTING SUPPLY AND RETURN DUCTWORK AND ALL ASSOCIATED COMPONENTS INCLUDING SUPPLY AIR REGISTERS SHALL BE REMOVED TO FACILITATE ROOF REPLACEMENT. REINSTALL AT THE ORIGINAL LOCATION AND CONDITION. PROVIDE NEW DUCTWORK AND ASSOCIATED COMPONENTS AS NECESSARY.
5. DUCTED RETURN AIR GRILLE REF. "RGI" TO BE REPLACED. SIZE SHALL MATCH EXISTING AND TO BE VERIFIED ON SITE.

ROOF HVAC NOTES (H#)

1. NEW ROOF CURBS SHALL BE PROVIDED AS PART OF ROOF REPLACEMENT. NEW CURBS SHALL MATCH EXISTING LOCATION TO SUIT NEW DUCTWORK PENETRATIONS. CONTRACTOR TO FIELD VERIFY DIMENSIONS BEFORE REMOVAL. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR CURB DETAILS.
2. NEW ROOF CURBS SHALL BE PROVIDED AS PART OF ROOF REPLACEMENT. NEW CURBS SHALL MATCH EXISTING LOCATIONS TO SUIT REINSTALLATION OF EXISTING RTU. CONTRACTOR TO FIELD VERIFY DIMENSIONS BEFORE REMOVAL. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR CURB DETAILS.
3. EXISTING RTU SHALL BE REMOVED TO FACILITATE ROOF REPLACEMENT. REINSTALL AT THE AT THE ORIGINAL LOCATION AND CONDITION.
4. EXISTING SUPPLY AND RETURN DUCTWORK AND ALL ASSOCIATED COMPONENTS (INCLUDING SENSORS, OUTDOOR AIR INTAKES, MOTORIZED DAMPERS, AND ACCESSORIES) SHALL BE REMOVED AND REPLACED WITH NEW AS REQUIRED AS PART OF ROOF REPLACEMENT. REINSTALL AT ORIGINAL LOCATION AND CONFIGURATION, MODIFY AS REQUIRED TO SUIT NEW ROOF CURBS AND ROOF ASSEMBLY.
5. DISCONNECT GAS CONNECTION TO RTU TO FACILITATE ROOF REPLACEMENT AND RECONNECT UPON COMPLETION OF WORK.
6. NEW ROOF CURBS SHALL BE PROVIDED AS PART OF ROOF REPLACEMENT. NEW CURBS SHALL MATCH LOCATION TO SUIT REINSTALLATION OF EXISTING EXHAUST FAN. CONTRACTOR TO VERIFY DIMENSIONS BEFORE REMOVAL. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR CURB DETAILS.
7. EXISTING EXHAUST FAN SHALL BE REMOVED TO FACILITATE ROOF REPLACEMENT. REINSTALL AT THE ORIGINAL LOCATION AND CONDITION.
8. FOR EXISTING GAS PIPE, WHERE RUST IS APPEARING, REMOVE RUST BY SANDING DOWN, MAKE SMOOTH AND REFINISH WITH PAINT.

CONSTRUCTION NORTH

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ROOF ASSEMBLY REPLACEMENT

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Date:	JANUARY 2026
Drawn By:	DM
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Scale:	AS STATED

Drawing title:
GROUND FLOOR AND ROOF PART PLANS - HVAC LAYOUT

Project No.:	Drawing No.:	Rev.:
26032(A)	M2-1	B

Plot Date:

GENERAL NOTES:

1. ANY COMBUSTIBLE MATERIALS INSTALLED IN THE CEILING SPACE USED AS A RETURN AIR PLENUM, SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50. PLUMBING AND HVAC CONTRACTORS SHALL COORDINATE WITH ALL OTHER TRADES.
2. WHERE CEILING SPACE IS TO BE USED AS A RETURN AIR PLENUM, ALL WIRING FOR CONTROL, TELEPHONE, DATA, SECURITY, SPEAKER WIRE ETC., SHALL BE FT6, CMP, MPP OR PLENUM VERIFIED.
3. THE SPECIFIED MANUFACTURERS MEANS THAT THE ITEM NAMED AND SPECIFIED, FORMS PART OF SPECIFICATION AND SETS STANDARD REGARDING PERFORMANCE, QUALITY OF MATERIAL AND WORKMANSHIP. ALTERNATE MANUFACTURERS WILL BE CONSIDERED AND ACCEPTED AS EQUAL PROVIDED THEY MEET THE STANDARD SPECIFIED.

MECHANICAL GENERAL REQUIREMENTS

1. DESCRIPTION OF WORK
   - .1 THE MECHANICAL CONTRACTOR SHALL FURNISH ALL LABOUR, MATERIAL, TOOLS, EQUIPMENT, SUPERVISION AND OTHER SERVICES AS MAY BE REQUIRED TO EXECUTE THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS.
2. SITE EXAMINATION
   - .1 BEFORE SUBMITTING TENDERS, CAREFULLY EXAMINE THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS HAVING A BEARING ON THE WORK. VISIT THE EXISTING BUILDING AND THOROUGHLY ASCERTAIN THE EXTENT AND NATURE OF ALL CONDITIONS AFFECTING THE PERFORMANCE OF WORK.
3. CODES AND STANDARDS
   - .1 THE INSTALLATION SHALL COMPLY WITH THE LATEST EDITIONS AND ALL AMENDMENTS OF THE FOLLOWING CODES AND STANDARDS. WHERE CONFLICTS IN REQUIREMENTS OCCUR, THE HIGHER STANDARDS WILL APPLY: ONTARIO BUILDING CODE, ONTARIO FIRE CODE, N.F.P.A., ASHRAE, NATURAL GAS INSTALLATION STANDARD CSA–B149.1 AND LOCAL CODES, STANDARDS AND BY–LAWS.
4. REGULATIONS, PERMITS, FEES, CONNECTION CHARGES AND CERTIFICATES
   - .1 ALL MATERIALS AND WORKMANSHIP SHALL MEET ALL PROVINCIAL BUILDING, MUNICIPAL, N.F.P.A., AND FIRE MARSHALL REGULATIONS, CODES AND BYLAWS IN FORCE IN THE AREA OF THE PROJECT.
   - .2 EACH CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND PAY FOR ALL FEES AND CONNECTION CHARGES FOR ALL SERVICES PROVIDED BY THIS DIVISION.
5. COOPERATION OF TRADES
   - .1 READ SPECIFICATIONS AND DRAWINGS OF OTHER TRADES AND CONFORM WITH THEIR REQUIREMENTS BEFORE PROCEEDING WITH ANY WORK SPECIFIED IN THIS DIVISION RELATED TO OTHER TRADES.
6. DRAWINGS
   - .1 CONTRACT DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF THE MECHANICAL SYSTEMS AND WORK INCLUDED IN THE CONTRACT.
   - .2 WHERE THE EXACT LOCATIONS OF FIXTURES AND EQUIPMENT ARE NOT DEFINITELY ESTABLISHED, THE CONTRACTOR SHALL OBTAIN THIS INFORMATION FROM THE OWNER AND ENGINEER.
7. REMOVAL OF EXISTING EQUIPMENT
   - .1 EXAMINE THE EXISTING BUILDING AND INCLUDE IN TENDER PRICE ALL NECESSARY ALLOWANCES TO REMOVE EXISTING EQUIPMENT AS DETAILED ON DRAWINGS.
   - .2 MATERIALS REMOVED BY THIS DIVISION SHALL BECOME CONTRACTOR'S PROPERTY AND BE REMOVED FROM WORK SITE, PROVIDED:
     - .1 THE ITEMS HAVE BEEN INSPECTED BY THE OWNER AND GENERAL CONTRACTOR AND RELEASED FOR REMOVAL.
     - .2 ITEMS HAVE NOT BEEN DESIGNATED FOR REUSE IN OTHER SECTIONS OF SPECIFICATIONS OR DRAWINGS.
8. ALTERATION TO EXISTING
   - .1 PRIOR TO REMOVAL AND ALTERATION OF THE EXISTING SYSTEMS, THE CONTRACTOR SHALL IDENTIFY TO THE ENGINEER AT WHICH SECTIONS OF THE EXISTING MECHANICAL EQUIPMENT, PIPING AND DUCTWORK SHALL BE CUT BACK AND REMOVED.
   - .2 RELOCATE EXISTING MECHANICAL EQUIPMENT AND APPURTENANCES AS SPECIFICALLY INDICATED ON DRAWINGS OR SPECIFIED AND AS REQUIRED TO SUIT ALTERATION WORK. CLEAN RELOCATED EQUIPMENT AND INSTALL IN NEW LOCATION, IN A NEAT ORDERLY MANNER WITH SAME ATTENTION AS GIVEN TO NEW EQUIPMENT. WHERE EXISTING MATERIAL OR EQUIPMENT IS NO LONGER REQUIRED, SHALL BE CUT BACK AND MAKE GOOD TO SATISFACTION OF THE ENGINEER. WHEN EXISTING MATERIAL OR EQUIPMENT IS DISCONNECTED OR DISASSEMBLED TO FACILITATE RELOCATION, REINSTALL AS ORIGINAL, INCLUDING AUXILIARY WORK, INSULATION, ELECTRICAL WORK ETC.
   - .3 WHERE EXISTING MATERIAL OR EQUIPMENT IS DAMAGED, MAKE GOOD TO THE SATISFACTION OF ENGINEER. IF IT IS FOUND IN AN UNSUITABLE CONDITION, NOTIFY ENGINEER FOR INSTRUCTIONS.
   - .4 OBTAIN WRITTEN AUTHORIZATION FROM ENGINEER FOR ALTERATION WORK THAT IS NOT SPECIFICALLY CALLED FOR OR CLEARLY INDICATED ON DRAWINGS.
9. PROTECTION OF OPENINGS
   - .1 PROTECT EQUIPMENT AND SYSTEMS OPENINGS FROM DIRT, DUST, AND OTHER FOREIGN MATERIALS.
   - .2 THIS CONTRACTOR SHALL PROTECT FINISHED AND UNFINISHED WORK OF HIS OWN AND OTHER SUBCONTRACTORS FROM DAMAGE DUE TO CARRYING OUT HIS WORK. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONDITION OF ALL MATERIALS AND EQUIPMENT SUPPLIED UNDER THIS CONTRACT OR REMOVED FROM EXISTING BUILDING FOR REUSE AND SHALL PROVIDE ALL NECESSARY PROTECTION FOR SAME. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF THE WORK OF THIS SECTION, UNTIL THE BUILDING HAS BEEN COMPLETED AND ACCEPTED.
10. CUTTING AND PATCHING
    - .1 RESPONSIBILITY FOR CUTTING OF OPENINGS TO WALLS, FLOORS, ROOF AND ANY OTHER SURFACES IN THE STRUCTURE SHALL BE COORDINATED WITH GENERAL CONTRACTOR. IN ADDITION, RESPONSIBILITY FOR THE PATCHING AND FINISHING OF THESE SURFACES AND ASSEMBLIES SHALL ALSO BE COORDINATED WITH GENERAL CONTRACTOR. WORK SHALL BE PERFORMED BY THE EXPERT TRADE WHO SPECIALIZE IN THEIR WORK. IN THE EVENT THE GENERAL CONTRACTOR WILL NOT BE RESPONSIBLE FOR THIS WORK, THIS SCOPE OF WORK SHALL BE INCLUDED UNDER THE MECHANICAL CONTRACTOR.
    - .2 BEFORE CUTTING OF OPENINGS IN THE STRUCTURE, THE CONTRACTOR SHALL IDENTIFY TO THE STRUCTURAL ENGINEER AND THE OWNER'S REPRESENTATIVE AT WHICH SECTIONS OF THE BUILDING STRUCTURE ARE TO BE CUT BACK. THE CUTTING, PATCHING AND FINISHING OF THE ASSEMBLIES RESTRICTED BY THE WORK OF THIS DIVISION SHALL BE PERFORMED BY THE AFFECTED/EXPERT TRADE.
    - .3 UNDER NO CIRCUMSTANCES SHALL ANY CUTTING OR BURNING OF THE STRUCTURAL PARTS OF THE BUILDING BE UNDERTAKEN WITHOUT THE WRITTEN AUTHORITY OF THE ENGINEER.
11. EQUIPMENT INSTALLATION
    - .1 ALL EQUIPMENT, FIXTURES, PIPES, INSULATION AND ASSOCIATED APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
    - .2 SPACE FOR SERVICING, DISASSEMBLY AND REMOVAL OF EQUIPMENT AND COMPONENTS: PROVIDE AS RECOMMENDED BY MANUFACTURER OR AS INDICATED.
    - .3 CONTROL PANELS, ELECTRICAL PANELS AND WIRING TERMINATION POINTS PROVIDE MINIMUM 40" CLEARANCE.
    - .4 EQUIPMENT DRAINS: PIPE TO FLOOR DRAINS.
12. ROOF CONES AND FLASHING
    - .1 ROOF CONES FOR PIPES AND ROUND DUCTS PENETRATING ROOF SHALL BE SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR.
    - .2 IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO SEE THAT ACCEPTABLE FLASHING ARE INSTALLED WHERE NECESSARY FOR THE WORK OF HIS TRADE. COUNTER FLASHING IS BY ROOFING CONTRACTOR AT THE EXPENSE OF THE MECHANICAL CONTRACTOR.
13. SLEEVES
    - .1 THIS CONTRACTOR SHALL SUPPLY AND INSTALL SUITABLE SLEEVES FOR PIPING AND DUCTWORK PENETRATIONS TO THE BUILDING STRUCTURE.
    - .2 PIPE SLEEVES: INSTALL AT POINTS WHERE PIPES PASS THROUGH MASONRY, CONCRETE OR U.L.C. FIRE RATED ASSEMBLIES AND AS INDICATED.
    - .3 SCHEDULE 40 STEEL PIPE.
    - .4 SLEEVES WITH ANNULAR FIN CONTINUOUSLY WELDED AT MIDPOINT:
    - .5 SIZES: 1/4" CLEARANCE ALL AROUND, BETWEEN SLEEVE AND NON–INSULATED PIPE OR BETWEEN SLEEVE AND INSULATION.
    - .6 TERMINATE SLEEVES FLUSH WITH SURFACE OF CONCRETE AND MASONRY WALLS AND CONCRETE FLOORS ON GRADE IN FINISHED AREAS.
    - .7 FILL VOIDS AROUND PIPES:
      - .1 WHERE SLEEVES PASS THROUGH WALLS, PROVIDE SPACE FOR FIRE STOPPING. WHERE PIPES PASS THROUGH FIRE RATED WALLS AND PARTITIONS, MAINTAIN FIRE RATING INTEGRITY.
      - .2 ENSURE NO CONTACT BETWEEN COPPER TUBE OR PIPE AND FERROUS SLEEVE.
      - .3 FILL FUTURE–USE SLEEVES WITH LIME PLASTER OR OTHER EASILY REMOVABLE FILLER.
      - .4 COAT EXPOSED EXTERIOR SURFACES OF FERROUS SLEEVES WITH HEAVY APPLICATION OF ZINC RICH PAINT
14. PREPARATION FOR FIRE STOPPING
    - .1 FIRE STOPPING MATERIALS AND INSTALLATION WITHIN ANNULAR SPACE BETWEEN PIPES, DUCTS, INSULATION AND ADJACENT FIRE SEPARATION: TO THE APPROVAL OF THE ENGINEER.
    - .2 UNINSULATED UNHEATED PIPES NOT SUBJECT TO MOVEMENT: NO SPECIAL PREPARATION.
    - .3 UNINSULATED HEATED PIPES SUBJECT TO MOVEMENT: WRAP WITH NON–COMBUSTIBLE SMOOTH MATERIAL TO PERMIT PIPE TO MOVE WITHOUT DAMAGING FIRE STOPPING.
    - .4 INSULATED PIPES AND DUCTS: ENSURE INTEGRITY OF INSULATION AND VAPOUR BARRIER AT FIRE SEPARATION.
15. ESCUTCHEONS
    - .1 PROVIDE ON EXPOSED PIPES PASSING THROUGH WALLS, PARTITIONS, FLOORS AND CEILINGS ON FINISHED AREAS.
    - .2 CHROME OR NICKEL PLATED BRASS OR TYPE 302 STAINLESS STEEL, SPLIT PIECE TYPE WITH SET SCREWS.
    - .3 OUTSIDE DIAMETER TO COVER OPENING OR SLEEVE.
    - .4 INSIDE DIAMETER TO FIT AROUND FINISHED PIPE.
    - .5 SECURE TO PIPE OR FINISHED SURFACE BUT NOT INSULATION.
16. TESTS
    - .1 INSULATE OR CONCEAL WORK ONLY AFTER TESTING AND APPROVAL BY ENGINEER.
    - .2 BEAR ALL COSTS IN CONNECTION WITH ALL TESTS, INCLUDING REPAIRING LEAKS RETESTING AND MAKING GOOD.
    - .3 PRIOR TO TESTS, ISOLATE ALL EQUIPMENT AND OTHER PARTS WHICH ARE NOT DESIGNED TO WITHSTAND TEST PRESSURES OR TEST MEDIUM.
    - .4 PROVIDE CERTIFICATES INDICATING RESULTS OF ALL TESTS INCLUDING TEST LOGS.
    - .5 PIPING:
      - .1 PLUMBING LINES SHALL BE TESTED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.
      - .2 NATURAL GAS LINES SHALL BE TESTED IN ACCORDANCE WITH STANDARD CSA–B149.1.
17. PIPE FLUSHING AND CLEANING
    - .1 AFTER PRESSURE TESTS ARE COMPLETED AND APPROVED, PRIOR TO START–UP AND PLACING INTO OPERATION, FLUSH AND CLEAN OUT ALL PIPING SYSTEMS.
    - .2 FOR DOMESTIC WATER SYSTEM, CLEAN AS PER ONTARIO BUILDING CODE AND LOCAL REQUIREMENTS.
18. ACCESS DOORS
    - .1 SUPPLY ACCESS DOORS TO CONCEALED MECHANICAL EQUIPMENT FOR OPERATING, INSPECTING, ADJUSTING AND SERVICING.
    - .2 ACCESS DOORS REQUIRED IN LISTED FIRE SEPARATION SHALL BEAR A ULC LABEL TO MATCH WALL CLASSIFICATION.
19. DIELECTRIC COUPLINGS
    - .1 PROVIDE WHERE PIPES OF DISSIMILAR METALS ARE JOINED. SHALL BE COMPATIBLE WITH AND TO SUIT PRESSURE RATING OF PIPING SYSTEM.
    - .2 PIPES NPS 2 AND UNDER SHALL BE WITH ISOLATING UNIONS. PIPES NPS 2 1/2 AND OVER SHALL BE ISOLATING FLANGES.
    - .3 PROVIDE FELT OR RUBBER GASKET TO PREVENT DISSIMILAR METALS CONTACT.
20. DRAIN VALVES
    - .1 LOCATE AT LOW POINTS AND AT SECTION ISOLATING VALVES UNLESS OTHERWISE SPECIFIED.
    - .2 MINIMUM NPS 3/4 UNLESS OTHERWISE SPECIFIED: BRONZE, WITH HOSE END MALE THREAD.
21. EQUIPMENT SUPPORTS
    - .1 EQUIPMENT SUPPORTS NOT SUPPLIED BY EQUIPMENT MANUFACTURER SHALL BE FABRICATED FROM STRUCTURAL GRADE STEEL.
    - .2 RESPONSIBILITY FOR ROOFING AND REINFORCING OF ROOF FOR MECHANICAL EQUIPMENT SUPPORT SHALL BE COORDINATED WITH GENERAL CONTRACTOR. IN THE EVENT THE GENERAL CONTRACTOR WILL NOT BE RESPONSIBLE FOR THIS WORK, THIS SCOPE OF WORK SHALL BE INCLUDED UNDER THE MECHANICAL CONTRACTOR.
22. PIPE HANGERS AND SUPPORTS
    - .1 PROVIDE UPPER ATTACHMENTS, MIDDLE ATTACHMENT ROD, PIPE ATTACHMENT, RISER CLAMPS, SADDLES, SHIELDS AND OTHER DEVICES. RIGID, SWING OR ANY OTHER HANGER SYSTEM SHALL BE SUITABLE FOR THE APPLICATION AND TAKE INTO ACCOUNT ATTACHMENT IN AREAS MADE OF CONCRETE SLAB, STEEL BEAM, WOOD JOISTS AND STEEL JOISTS AND FOR EXPANSION OF PIPING.
    - .2 HANGER SPACING AND MIDDLE ATTACHMENT (ROD) DIAMETER AS PER REGULATORY AUTHORITIES AND MANUFACTURER'S RECOMMENDATIONS.
    - .3 INSTALL HANGER SO THAT ROD IS VERTICAL UNDER OPERATING CONDITIONS. ADJUST HANGERS TO EQUALIZE LOAD. SUPPORT FROM STRUCTURAL MEMBERS. WHERE STRUCTURAL BEARING DOES NOT EXIST OR INSERTS ARE NOT IN SUITABLE LOCATIONS, PROVIDE SUPPLEMENTARY STRUCTURAL STEEL MEMBERS.
    - .4 WHERE SUPPORTING COPPER PIPE, IT SHALL BE ISOLATED FROM ANY NON–COPPER HANGER WITH ELECTROLYTIC ACTION TAPE OR EQUIVALENT.
23. SHOP DRAWINGS AND PRODUCT DATA
    - .1 EQUIPMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
    - .2 SHOP DRAWINGS AND PRODUCT DATA SHALL SHOW:
      - .1 MOUNTING ARRANGEMENTS.
      - .2 OPERATING AND MAINTENANCE CLEARANCES. EG. ACCESS DOOR, SWING SPACES.
    - .3 TYPE, NAME, CATALOGUE NUMBERS, TECHNICAL PERFORMANCE DATA, WIRING DIAGRAMS ETC
24. PAINTING
    - .1 APPLY AT LEAST ONE COAT OF CORROSION RESISTANT PRIMER PAINT TO FERROUS SUPPORTS AND SITE FABRICATED WORK.
    - .2 PRIME AND TOUCH UP MARRED FINISHED PAINT WORK TO MATCH ORIGINAL.
    - .3 RESTORE TO NEW CONDITION, FINISHES WHICH HAVE BEEN DAMAGED TO EXTENSIVELY TO BE MERELY PRIMED AND TOUCHED UP.
    - .4 AT AREAS WHERE CUTTING AND PATCHING HAS TAKEN PLACE, PAINTING OF THESE AREAS SHALL BE UNDERTAKEN BY THE AFFECTED (EXPERT) TRADE AT THE EXPENSE OF THE MECHANICAL CONTRACTOR.
25. IDENTIFICATION
    - .1 IDENTIFY AND LABEL EQUIPMENT AND PIPEWORK SERVICES ON COMPLETION OF THE PROJECT.
    - .2 DOMESTIC WATER LINES SHALL SHOW SERVICE AND DIRECTION OF FLOW.
    - .3 EQUIPMENT, PANELS AND CABINETS, SYSTEM NAMEPLATES SHALL BE 1/8"THICK LAMINATED PLASTIC WITH LETTERS AND NUMBERS MACHINE ENGRAVED INTO CORE.
26. ELECTRICAL WORK
    - .1 ALL WIRING AND CONDUIT FOR POWER AND CONTROL SHALL BE BY ELECTRICAL DIVISION, EXCEPT FOR WIRING, CONDUIT AND CONNECTIONS BELOW 50V WHICH ARE RELATED TO AUTOMATIC CONTROL SYSTEMS SHALL BE BY MECHANICAL CONTRACTOR.
    - .2 COORDINATE WITH ELECTRICAL CONTRACTOR FOR WRING AND TESTING OF ALL MECHANICAL EQUIPMENT.
27. CLEANING
    - .1 UPON COMPLETION AND IN PREPARATION FOR FINAL ACCEPTANCE, CONTRACTOR SHALL REMOVE PROTECTIVE COVERINGS, CLEAN AND REFURBISH ALL EQUIPMENT, FREE ALL OBSTRUCTIONS, REPLACE FILTERS, CLEAN STRAINERS AND LEAVE IN OPERATING CONDITION. ALL SURPLUS AND WASTE MATERIAL SHALL BE PROMPTLY REMOVED FROM THE PREMISES.
28. TRIAL USAGE
    - .1 OBTAIN WRITTEN PERMISSION FROM ENGINEER TO START AND TEST PERMANENT EQUIPMENT AND SYSTEMS TO ACCEPTANCE BY OWNER.
    - .2 ENGINEER AND OWNER MAY USE EQUIPMENT AND SYSTEMS FOR TEST PURPOSES PRIOR TO ACCEPTANCE. SUPPLY LABOUR, MATERIAL AND INSTRUMENTS REQUIRED FOR TESTING.
29. TESTING, ADJUSTING AND BALANCING (TAB)
    - .1 THIS OPERATION SHALL BE UNDERTAKEN BY A CONTRACTOR WHOSE PRINCIPAL BUSINESS IS THAT OF TESTING, ADJUSTING AND BALANCING. THIS CONTRACTOR IS TO CONDUCT ACCEPTANCE TESTS TO DEMONSTRATE THAT THE EQUIPMENT AND SYSTEMS ACTUALLY MEET THE SPECIFIED REQUIREMENTS. TESTS MAY BE CONDUCTED AS SOON AS CONDITIONS PERMIT. SUBMIT TAB REPORT TO ENGINEER FOR REVIEW.
    - .2 THE BALANCING CONTRACTOR SHALL BE AFFILIATED WITH AABC OR NEBB.
    - .3 THIS CONTRACTOR SHALL COORDINATE LOCATION AND INSTALLATION OF ALL "TAB" DEVICES, EQUIPMENT, ACCESSORIES, MEASUREMENT PORT AND FITTINGS. ALL NECESSARY TEST PORTS FOR HYDRONIC SYSTEM SHALL BE PROVIDED TO THE MECHANICAL CONTRACTOR FOR INSTALLATION. OPERATE SYSTEMS FOR LENGTH OF TIME REQUIRED FOR TAB. SUBMIT "TAB" REPORT TO ENGINEER FOR VERIFICATION. "TAB" SHALL BE CARRIED OUT FOR THE FOLLOWING SYSTEMS:
      - .1 ALL AIRFLOWS WHERE INDICATED.
      - .2 ALL EXHAUST FANS, FAN COILS, HEAT/ENERGY RECOVERY UNITS AND HVAC ROOFTOP UNITS.
      - .3 HYDRONIC FLOWS FOR NEW HEATING EQUIPMENT.
    - .4 TAB CONTRACTOR SHALL SUPPLY AND REPLACE PULLEYS AT THE EXISTING HVAC ROOFTOP UNITS RTU3 AND RTU4. ADJUST PULLEYS TO ACHIEVE AIRFLOWS INDICATED.
30. DEMONSTRATION, OPERATION AND MAINTENANCE INSTRUCTIONS
    - .1 SUPPLY TOOLS, EQUIPMENT AND PERSONNEL TO DEMONSTRATE AND INSTRUCT CLIENT'S REPRESENTATIVE DURING REGULAR WORK HOURS AND PRIOR TO ACCEPTANCE IN OPERATING, CONTROLLING, AND ADJUSTING OF ALL SYSTEMS AND EQUIPMENT.
31. OPERATION AND MAINTENANCE MANUAL
    - .1 PROVIDE OPERATION AND MAINTENANCE DATA FOR INCORPORATION INTO MANUAL.
    - .2 OPERATION AND MAINTENANCE MANUAL TO BE APPROVED BY AND FINAL COPIES DEPOSITED WITH ENGINEER BEFORE FINAL INSPECTION.
32. RECORD DRAWINGS
    - .1 SITE RECORDS:
      - .1 ON ONE SET OF AUTOCAD MECHANICAL DRAWINGS, MARK ALL CHANGES AS WORK PROGRESSES AND AS CHANGES OCCUR.
      - .2 MAKE AVAILABLE FOR REFERENCE PURPOSES AND INSPECTION AT ALL TIMES.
    - .2 AS–BUILT DRAWINGS:
      - .1 IDENTIFY EACH DRAWING IN LOWER RIGHT HAND CORNER IN LETTERS AT LEAST 1/2" HIGH AS FOLLOWS: "AS BUILT DRAWINGS: THIS DRAWING HAS BEEN REVISED TO SHOW MECHANICAL SYSTEMS AS INSTALLED" (SIGNATURE OF CONTRACTOR) (DATE).
      - .2 SUBMIT TO ENGINEER FOR APPROVAL AND MAKE CORRECTIONS AS DIRECTED.
      - .3 SUBMIT COMPLETED REPRODUCIBLE AS–BUILT DRAWINGS WITH OPERATING AND MAINTENANCE MANUALS.
33. GUARANTEE
    - .1 PROVIDE A WRITTEN GUARANTEE TO COVER ALL MATERIALS AND INSTALLATION OF THE COMPLETE MECHANICAL SYSTEMS. THIS GUARANTEE SHALL EXTEND FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE CERTIFICATE OF SUBSTANTIAL COMPLETION.
    - .2 SPECIFIC GUARANTEE OF MANUFACTURERS WHOSE WARRANTY NORMALLY EXTENDS OVER LONGER OR SHORTER PERIODS THAN ONE YEAR, SHALL IN NO WAY LIMIT THE GUARANTEE OF THE MECHANICAL WORK.
    - .3 ANY DEFECTS OCCURRING WITHIN THE GUARANTEE PERIOD SHALL BE REPAIRED/REPLACED AT NO COST TO THE OWNER.
    - .4 WHERE PERMANENT EQUIPMENT IS USED TO PROVIDE TEMPORARY SERVICES, THE WARRANTY SHALL BE EXTENDED SO THAT THE WARRANTY PERIOD DOES NOT COMMENCE UNTIL THE CERTIFICATE OF SUBSTANTIAL COMPLETION IS ISSUED.

PLUMBING GENERAL NOTES FOR INSTALLATION

1. DOMESTIC WATER PIPING WITHIN THE BUILDING:
   - .1 ABOVE GROUND SHALL BE SEAMLESS COPPER WATER TUBE, TYPE L WITH SOLDERED JOINTS.
2. GRAVITY SANITARY, STORM AND VENT PIPE AND FITTINGS:
   - .1 BELOW GRADE SHALL BE PVC–SDR35 (8 IN. AND LARGER), PVC–SDR28 (6 IN. AND SMALLER), ABS–DWV OR PVC–DWV WITH SOLVENT WELD FITTINGS.
   - .2 ABOVE GROUND UP TO 2–1/2" DIA. SHALL BE PVC–DWV ULC APPROVED WITH SOLVENT WELD FITTINGS OR COPPER DWV WITH WROUGHT COPPER FITTINGS.
   - .3 ABOVE GROUND FOR 3" AND OVER SHALL BE PVC–DWV, ULC APPROVED WITH SOLVENT WELD FITTINGS OR CAST IRON WITH MECHANICAL JOINTS, NEOPRENE OR BUTYL RUBBER COMPRESSION GASKETS AND STAINLESS STEEL CLAMPS.
   - .4 IN A RETURN AIR PLENUM USE FULLY CERTIFIED FIRE–RESISTANT PVC–DWV PIPE SUCH AS IPEX SYSTEM XFR 15–50. COORDINATE WITH ARCHITECTURAL AND HVAC DRAWINGS TO CLARIFY AREAS WITH RETURN AIR PLENUM.
   - .5 COMBUSTIBLE PIPE SHALL NOT BE INSTALLED IN A VERTICAL SERVICE SHAFT.
3. WHERE PLASTIC PIPE CROSSES A FIRE SEPARATION IT SHALL BE FITTED WITH APPROVED FIRE STOP DEVICES.
4. INSTALL PLUMBING VENT LINES AS PER OBC PART 7. DISTRIBUTION AND SIZING SHALL BE BY PLUMBING CONTRACTOR.
5. FOR ALL PIPE PENETRATIONS, VOIDS AROUND PIPES SHALL BE SEALED AND CAULKED TO KEEP REQUIRED INTEGRITY.
6. HOT WATER HEATING STEEL PIPING, VALVES AND FITTINGS.
   - .1 SHALL BE STEEL PIPE TO ASTM A53, GRADE B, SCHEDULE 40.
   - .2 PIPE JOINTS
     - .1 NPS 2 AND UNDER: SCREWED FITTINGS WITH TEFLON TAPE.
     - .2 NPS 2–1/2 AND OVER: WELDING FITTINGS AND FLANGES TO ANSI/ASME B16.5.
     - .3 ROLL GROOVED MECHANICAL COUPLING TO CSA B242.
   - .3 FITTINGS
     - .1 SCREWED FITTINGS: MALLEABLE IRON., TO ANSI/ASME B16.3, CLASS 150.
     - .2 PIPE FLANGES AND FLANGED FITTINGS: STEEL TO ANSI/ASME B16.5.
     - .3 BUTT_WELDING FITTINGS: STEEL, TO ANSI/ASME B16.9.
     - .4 UNIONS: MALLEABLE IRON, TO ASTM A47M AND ANSI/ASME B16.3.
     - .5 FITTINGS FOR ROLLED GROOVED PIPING: MALLEABLE IRON TO ASTM A47M OR DUCTILE IRON TO ASTM A536
7. PIPING INSULATION: PREFORMED SECTIONAL RIGID FIBREGLASS PIPE INSULATION WITH VAPOUR BARRIER JACKET AND FACING MATERIAL 0–850 DEG.F. SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50.
   - .1 APPLICATION:
     - .1 DOMESTIC COLD AND HOT WATER, HOT WATER RECIRCULATION LINE SHALL BE INSULATED THROUGHOUT IN ALL LOCATIONS.
     - .2 HYDRONIC HEATING SYSTEM PIPING SHALL BE INSULATED THROUGHOUT IN ALL LOCATIONS.
     - .3 HORIZONTAL RAIN WATER LINES.
   - .2 THICKNESS AND THERMAL CONDUCTIVITY AS PER FOLLOWING: RUNOUTS REFERS TO INDIVIDUAL PLUMBING FIXTURES OR TERMINAL UNITS NOT EXCEEDING 12FT.
     - .1 DOMESTIC COLD AND HOT WATER AND HOT WATER RECIRCULATION LINES: INSULATION THERMAL CONDUCTIVITY 0.24–0.28 BTU.IN/(H.FT2°F) AT 100 DEG. F MEAN TEMP. RATING. FOR HOT WATER AND RECIRCULATION PIPE DIAMETER UP TO 2 IN., INSULATION THICKNESS SHALL BE 1 IN. RUNOUTS UP TO 2 IN. NOMINAL PIPE SIZE AND COLD WATER LINE, THICKNESS SHALL BE 1/2 IN.
     - .2 HYDRONIC SYSTEM LINES: INSULATION THERMAL CONDUCTIVITY 0.25–0.29 BTU.IN/(H.FT2°F) AT 125 DEG. F MEAN TEMP. RATING. NOMINAL PIPE DIAMETER UP TO 4 IN., INSULATION THICKNESS FOR HEATING SYSTEM SHALL BE 1–1/2 IN.
     - .3 ALL HORIZONTAL RAIN WATER LINES AND ELBOW DROP TO THE STACK SHALL BE INSULATED WITH PREFORMED SECTIONAL FIBREGLASS PIPE INSULATION WITH VAPOUR BARRIER JACKET INSULATION, THERMAL CONDUCTIVITY SHALL BE 0.24–0.28 BTU.IN/H.FT2.°F) AT 100 DEG. F MEAN TEMP. RATING, 1 THICKNESS. UNDERSIDE OF ROOF DRAIN BODY SHALL BE INSULATED WITH FLEXIBLE FIBREGLASS WITH VAPOUR BARRIER JACKET, OF SAME THERMAL CONDUCTIVITY BUT 2 IN. THICKNESS.
   - .3 FASTENINGS:
     - .1 SELF ADHESIVE ALUMINUM TAPE ULC LABELLED.
     - .2 LAP SEAL ADHESIVE, QUICK SETTING FOR JOINTS AND LAP SEALING OF VAPOUR BARRIERS.
     - .3 LAGGING ADHESIVE FIRE RETARDANT COATING
8. ALL INSULATED EXPOSED DOMESTIC WATER LINES AND HYDRONIC HEATING LINES RUNNING INSIDE THE BUILDING SHALL SHALL BE ENTIRELY INSTALLED WITH WHITE PVC JACKETING, UV–RESISTANT WITH MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50.
9. WHERE SUPPORTING COPPER PIPE, IT SHALL BE ISOLATED FROM ANY NON–COPPER HANGER WITH ELECTROLYTIC ACTION TAPE OR EQUIVALENT.
10. INSTALL VALVED SUPPLIES AT ALL PLUMBING FIXTURES.
11. FOR THE REWORKING, EXTENDING AND REMOVAL OF EXISTING DOMESTIC WATER SYSTEM, THIS OPERATION SHALL BE CARRIED OUT BY FREEZING EXISTING DOMESTIC WATER LINES.
12. FOR THE REWORKING, EXTENDING AND REMOVAL OF EXISTING HYDRONIC HEATING LINES, THIS OPERATION SHALL BE CARRIED OUT BY FREEZING EXISTING SUPPLY AND RETURN LINES. THIS IS TO AVOID DISRUPTION OF THE HEATING SYSTEM.
13. WATER TREATMENT SYSTEMS – CLOSED HOT WATER HEATING SYSTEM
    - .1 THIS OPERATION SHALL BE UNDERTAKEN BY A CONTRACTOR WHOSE PRINCIPAL BUSINESS IS THAT OF CHEMICAL WATER TREATMENT SERVICES. THIS CONTRACTOR IS TO CONDUCT WATER TREATMENT, WATER ANALYSIS, SYSTEM STABILIZATION AND TREATMENT RECOMMENDATIONS. SYSTEM SHALL CONTROL SLUDGE, SCALE AND CORROSION AND TO BE COMPATIBLE WITH HYDRONIC SYSTEM MATERIALS. CONTRACTOR SHALL PROVIDE CERTIFICATE THAT THE SYSTEM HAS BEEN PROPERLY INSTALLED, CONNECTED, TESTED AND CHECKED. TESTS MAY BE CONDUCTED AS SOON AS CONDITIONS PERMIT.
    - .2 CHEMICAL TREATMENT COMPANY SHALL EXAMINE EXISTING SYSTEM AND PROVIDE TREATMENT CHEMICALS TO MATCH EXISTING.
    - .3 MECHANICAL CONTRACTOR SHALL OBTAIN PRICE RELATED TO THIS FROM THE CHEMICAL WATER TREATMENT CONTRACTOR AND INCLUDE IT IN THE BASE TENDER PRICE.

HVAC GENERAL NOTES FOR INSTALLATION

1. UNLESS OTHERWISE NOTED ALL DUCTWORK AND DUCTWORK ACCESSORIES SHALL BE GALVANIZED STEEL LOW PRESSURE. DUCTWORK CONSTRUCTION AND INSTALLATION SHALL BE AS PER THE REQUIREMENTS OF SMACNA.
2. ALL DUCTWORK TRANSVERSE JOINTS AND CONNECTIONS SHALL BE SEALED.
   - .1 DUCTWORK EXPOSED TO THE EXTERIOR SHALL BE WATERTIGHT.
3. INTAKE AND EXHAUST DUCTWORK OPENINGS ON ROOF, SHALL BE INSTALLED WITH BIRDSCREEN.
4. DUCTWORK SHALL BE INSULATED AS FOLLOWS. ALL INSULATION SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50.
   - .1 EXHAUST DUCT 8 FT. FROM EXTERIOR WALL AND ROOF, SHALL BE INSULATED WITH 2 IN. THICKNESS OF FIBREGLASS FLEXIBLE DUCT INSULATION WITH REINFORCED FOIL/KRAFT VAPOUR RETARDER FACING, DENSITY 0.75 PCF AND NOMINAL R–VALUE OF 6.7 H.FT2.°F/BTU.
   - .2 ENTIRE AIR INTAKE DUCT FROM EXTERIOR WALL AND ROOF, SHALL BE INSULATED WITH 2 IN. THICKNESS OF FIBREGLASS FLEXIBLE DUCT INSULATION WITH REINFORCED FOIL/KRAFT VAPOUR RETARDER FACING, DENSITY 0.75 PCF AND NOMINAL R–VALUE OF 6.7 H.FT2.°F/BTU
   - .3 SUPPLY AIR DUCTS LOCATED INSIDE THE BUILDING ENVELOPE IN CEILING SPACES AND BULKHEADS SHALL BE INSULATED WITH 1–1/2 IN. THICKNESS OF FLEXIBLE DUCTWRAP INSULATION WITH REINFORCED FOIL/KRAFT VAPOUR BARRIER RETARDER FACING, DENSITY 0.75 PCF AND NOMINAL R–VALUE OF 5.0 H.FT2.°F/BTU.
   - .4 SUPPLY AND RETURN AIR DUCTS LOCATED EXPOSED TO OUTDOOR CONDITIONS, SHALL BE INSULATED WITH TWO LAYERS OF 1–1/2" THICKNESS OF OF RIGID FIBREGLASS INSULATION WITH REINFORCED FOIL/KRAFT VAPOUR RETARDER FACING, DENSITY OF 3.00 PCF AND THERMAL CONDUCTIVITY OF 0.23 BTU.IN/H.FT2.°F AT 75 DEG. F MEAN TEMPERATURE TO PROVIDE NOMINAL R–VALUE OF 12.0 H.FT2.°F/BTU. INSTALL FLEXIBLE SELF–ADHERING WEATHERPROOFING SYSTEM WITH PEEL OFF RELEASE PAPER AND PRESS MEMBRANE INTO PLACE. SHALL BE SUITABLE FOR EXTERIOR USE WITH STUCCO–EMBOSSED ALUMINIUM, WEATHER RESISTANT, UV STABLE FOR EXTERIOR, SHALL EXCEED 25/50 FLAME/SMOKE RATING AND RESIST VAPOUR TRANSMISSION.
   - .5 FASTENINGS:
     - .1 SELF ADHESIVE ALUMINUM TAPE ULC LABELLED.
     - .2 LAP SEAL ADHESIVE, QUICK SETTING FOR JOINTS AND LAP SEALING OF VAPOUR BARRIERS.
     - .3 CONTACT ADHESIVE QUICK SETTING.
5. WHERE INDICATED ON THE DRAWINGS AND AS SPECIFIED BELOW, ACOUSTIC LINER FOR DUCTWORK SHALL BE 1" THICKNESS RIGID FIBREGLASS OF DENSITY 2.0 PCF. INSULATION SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50. DUCT SIZE DIMENSION INDICATED ON DRAWING IS THE INTERNAL DIMENSION OF THE ASSEMBLED DUCT WITH ACOUSTIC LINER.
6. WHERE DUCTS CROSS A FIRE SEPARATION, INSTALL FIRE DAMPERS TO SUIT APPLICATION. FIRE DAMPERS SHALL BE OF THE DYNAMIC CLOSURE TYPE WITH BLADE OUT OF AIRSTREAM, ULC LISTED AND FUSIBLE LINK WITH TEMPERATURE RATING TO SUIT APPLICATION. SHALL BE INSTALLED AS PER NFPA 90A WITH BREAKAWAY JOINTS, RETAINING ANGLES AND ACCESS DOOR ADJACENT TO FIRE DAMPER.
7. FOR DUCT PENETRATIONS AT WALL, VOIDS AROUND DUCT SHALL BE SEALED AND CAULKED TO MAINTAIN REQUIRED INTEGRITY.
8. WHERE INDICATED ON THE DRAWINGS AND AS SPECIFIED BELOW, FLEXIBLE CONNECTIONS SHALL BE GALVANIZED SHEET METAL FRAME 24 GAUGE WITH FABRIC CLENCHED BY MEANS OF DOUBLE LOCKED SEAMS. DIMENSIONS 3 IN. METAL, 3 IN. FABRIC, 3 IN. METAL. NEOPRENE DOUBLE COATED GLASS FABRIC, NON–COMBUSTIBLE, SELF–EXTINGUISHING, AIRTIGHT AND WATERPROOF, TEMPERATURE RATED AT –40 DEG.F TO PLUS 200 DEG. F AND DENSITY OF 39 OZ./YD2.
9. NATURAL GAS PIPE INSTALLATION:
   - .1 ABOVE GROUND NATURAL GAS PIPING SHALL BE INSTALLED AS PER THE REQUIREMENTS OF NATURAL GAS INSTALLATION CODE, CSA–B149.1, LOCAL UTILITY REQUIREMENTS AND TSSA REQUIREMENTS.
   - .2 FOR ROOFTOP PIPE SUPPORTS SUPPLY AND INSTALL DURA–BLOK SERIES TYPE COMPLETE WITH RUBBER SUPPORT BASES UV RESISTANT WITH CHANNEL. CHANNELS SHALL BE GALVANIZED STEEL AND FITTINGS AND HARDWARE SHALL BE ELECTRO–PLATED STEEL.
   - .3 GAS PIPE EXTERIOR TO THE BUILDING SHALL BE PAINTED IN YELLOW PAINT AND INSIDE THE BUILDING SHALL BE IDENTIFIED WITH YELLOW BANDS

PLUMBING FIXTURES SCHEDULE

RD1 ROOF DRAIN, WATTS RD–100BED, CONTROL FLOW TYPE, EPOXY COATED WITH DEEP SUMP, FLASHING RING AND GRAVEL STOP, ADJUSTABLE DECK CLAMP POLYETHYLENE DOME STRAINER.

HVAC EQUIPMENT SCHEDULE

THE SPECIFIED MANUFACTURERS MEANS THAT THE ITEM NAMED AND SPECIFIED, FORMS PART OF SPECIFICATION AND SETS STANDARD REGARDING PERFORMANCE, QUALITY OF MATERIAL AND WORKMANSHIP. ALTERNATE MANUFACTURERS WILL BE CONSIDERED AND ACCEPTED AS EQUAL PROVIDED THEY MEET THE STANDARD SPECIFIED.

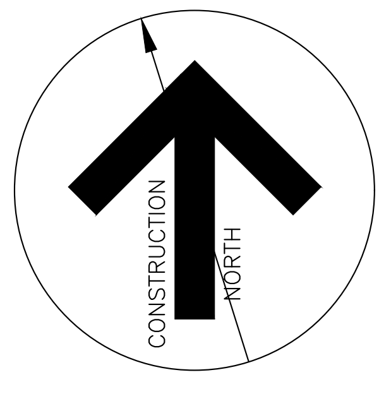
DIFFUSERS, GRILLES AND REGISTERS BY E.H. PRICE UNLESS OTHERWISE INDICATED. COLOUR TO BE FINALIZED ON SITE WITH ARCHITECT.
REF. RG1: RETURN GRILLE, EGG CRATE TYPE 80/F. PLASTIC IS NOT ACCEPTABLE.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
———	EXISTING LINES
—✕—✕—✕—	LINES TO BE REMOVED
———	NEW LINES
RL	EQUIPMENT TO BE RELOCATED
——○	PIPE RISE
——◌	PIPE DROP
— —S— —	SANITARY LINE BELOW GRADE
——S——	SANITARY LINE ABOVE GRADE
——PS——	PROCESS SANITARY LINE
— —ST— —	STORM DRAIN LINE BELOW GRADE
——ST——	STORM DRAIN LINE ABOVE GRADE
—— · ——	DOMESTIC COLD WATER CW
- · · — · · -	DOMESTIC HOT WATER SUPPLY HW
—— · · · ——	DOMESTIC HOT WATER RECIRCULATION LINE
——CD——	CONDENSATE DRAIN LINE
——HWR——	HEATING WATER SUPPLY
— —HWS— —	HEATING WATER RETURN
———]	CAPPED LINE
⦶FD	FLOOR DRAIN
—◒	FLOOR CLEANOUT
‖——	LINE CLEANOUT
⋈	GATE VALVE
⊖	BALL VALVE
N	CHECK VALVE
N BFP	BACKFLOW PREVENTOR
⊤	HOSE BIB
⧖	DRAIN VALVE WITH HOSE THREADED END
⩛	SAFETY RELIEF VALVE
Ⓦ	WATER METER
▶	PUMP

HVAC LEGEND

SYMBOL	DESCRIPTION
— — —	EQUIPMENT TO REMAIN
—✕—✕—✕—	EQUIPMENT TO BE REMOVED
———	NEW EQUIPMENT
RL →	EQUIPMENT TO BE RELOCATED
RV →	EQUIPMENT TO BE REMOVED
——]	DUCTING TO BE CAPPED
⧓	SUPPLY DUCT RISER
◪	EXHAUST/RETURN DUCT RISER
⊠	SUPPLY DUCT DROP
⧄	EXHAUST/RETURN DUCT DROP
⊠	SUPPLY DIFFUSER/GRILLE
◎	ROUND DIFFUSER
⧄	EXHAUST/RETURN GRILLE
⊠	DIFFUSER WITH BLANK SIDES
A 2/3	DIFFUSER/GRILLE DATA: A–REF, 2–L/S, 3–MM
∼∼	FLEXIBLE DUCT
└—	VOLUME CONTROL DAMPER
└—SD	SPLITTER DAMPER
——FD	FIRE DAMPER
8	EXHAUST FAN / TRANSFER FAN
Ⓣ	THERMOSTAT
Ⓣ]	THERMOSTAT WITH LOCKABLE COVER
Ⓣ R	THERMOSTAT REVERSE ACTING, 110V/1/60
Ⓥ	VARIABLE SPEED CONTROLLER
▨	ACOUSTIC LINING
I—I DG	DOOR GRILLE
▨	TRANSFER AIR ELBOW ACOUSTICALLY LINED
⌐	DOUBLE THICKNESS TURNING VANES
⧄	VARIABLE VOLUME TERMINAL
⊸⋈	MOTORIZED DAMPER
⧄	BYPASS TERMINAL
—G—	GAS PIPE
∇	GAS COCK
⊏⊐ FFH	ELECTRIC FAN FORCED HEATER–BY ELECTR. DIV.
▭ BBH	ELECTRIC BASEBOARD HEATER–BY ELECTR. DIV.



Contractor must verify all dimensions on the Project Site and report any discrepancies before proceeding with the Work.

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Revision Record

No.	Description	Date (m/d/y)
B	ISSUED FOR TENDER	04/14/26
A	ISSUED FOR PERMIT	03/30/26
No.	Description	Date (m/d/y)

Issue Record

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ROOF ASSEMBLY REPLACEMENT

675 MOHAWK ROAD WEST
HAMILTON, ONTARIO

Date: JANUARY 2026
Drawn By: DM
Chkd By: CP
Scale: N/A

Drawing title:
LEGENDS, NOTES, AND SCHEDULES

Project No.: 26032(A)
Drawing No.: M3-1
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