

**MECHANICAL DRAWING LIST:**

NO.	NAME	DESCRIPTION
1 OF 9	M001	MECHANICAL LEGEND, DRAWING LIST, GENERAL NOTES
2 OF 9	M002	MECHANICAL SCHEMATICS - VRF REFRIGERANT PIPING SCHEMATIC
3 OF 9	M003	MECHANICAL SCHEMATICS - ERV-101 AIR SCHEMATIC
4 OF 9	M100	CONSTRUCTION PHASING
5 OF 9	M101	MECHANICAL MAIN LEVEL - HVAC DEMOLITION
6 OF 9	M102	MECHANICAL ROOF - HVAC DEMOLITION
7 OF 9	M201	MECHANICAL MAIN LEVEL - HVAC NEW
8 OF 9	M202	MECHANICAL ROOF - HVAC NEW
9 OF 9	M500	MECHANICAL EQUIPMENT SCHEDULES

- GENERAL NOTES :**
- THESE CONTRACT DRAWINGS ARE IN PART DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE GENERAL ARRANGEMENT OF EQUIPMENT AND PIPING. THE CONTRACTOR SHALL CONFIRM AND LAY-OUT EXACT LOCATIONS, SIZES, AND ELEVATIONS OF ALL CRITICAL LOCATIONS AND DIMENSIONS AT THE SITE AND PROVIDE ANY NECESSARY OFFSETS AND ADJUSTMENTS TO SUIT SITE CONDITIONS AND AVOID CONFLICT WITH OTHER TRADES PRIOR TO COMMENCING WITH WORK.
  - ALL TRADES TO CLOSELY COORDINATE ALL WORK WITH THE PRIME CONTRACTOR, AS WELL AS ALL OTHER AFFECTED SUB-TRADES.
  - THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE COMPLIMENTARY. ANYTHING CALLED FOR IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS SHALL BE CONSIDERED AS APPEARING IN BOTH. EACH DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS FROM ALL OTHER DISCIPLINES, AS WELL AS WITH ALL APPLICABLE SECTIONS OF THE SPECIFICATIONS.
  - UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND EQUIPMENT REQUIRED FOR THIS WORK SHALL BE NEW, OF GOOD QUALITY AND SHALL BE FURNISHED, DELIVERED, ERRECTED, CONNECTED AND FINISHED IN EVERY DETAIL, AND SHALL BE SELECTED AND ARRANGED SO AS TO FIT PROPERLY INTO THE BUILDING SPACES. WHERE NO SPECIFIC KIND OR QUALITY OF MATERIAL IS GIVEN, A GOOD STANDARD ITEM AS APPROVED BY THE CONSULTANT SHALL BE FURNISHED. WHERE SPECIFIC INSTALLATION METHOD IS NOT GIVEN, INSTALL IN ACCORDANCE WITH GOOD PRACTICE.
  - USE SKILLED AND QUALIFIED, FITTERS, PLUMBERS, METAL WORKERS, WELDERS, HELPERS, AND LABOURERS REQUIRED TO UNLOAD, TRANSFER, ERECT, CONNECT UP, ADJUST, START, OPERATE AND TEST SUCH SYSTEMS. HELPERS AND UNQUALIFIED WORKERS SHALL BE DIRECTLY SUPERVISED AT ALL TIMES WHILE WORKING ON THE SITE BY QUALIFIED TRADES PERSONS.
  - PATCH AND MAKE GOOD ALL CEILINGS, ROOFS, WALLS, FLOORS, AND ALL ARCHITECTURAL FEATURES ALTERED OR REMOVED IN THE PERFORMANCE OF THE WORK.
  - PATCH AND MAKE GOOD ALL CEILINGS, ROOFS, WALLS, AND FLOOR OPENINGS CAUSED AS A RESULT OF DEMOLISHED EQUIPMENT, DUCTING, PIPING AND/OR CONDUIT.

- SPRINKLER NOTES:**
- EXISTING FIRE SUPPRESSION SYSTEM SHALL REMAIN OPERATIONAL.
  - EXISTING FIRE SUPPRESSION SPRINKLER HEAD LOCATIONS AND SPRINKLER COVERAGE TO REMAIN.
  - MAKE ADJUSTMENTS TO SPRINKLER HEAD ESCUTCHEONS TO SUIT NEW CEILING REPLACEMENTS.

**MECHANICAL LEGEND:**

**TAGS AND SYMBOLS**

AIR TERMINAL TAG  
 SUPPLY S  
 RETURN R  
 EXHAUST E  
 LOUVRE L

AIR FLOW TAG FOR EXISTING AIR TERMINAL (L/S)  
 169  
 250x250  
 SIZE (MM)

MECHANICAL EQUIPMENT TAG  
 RTU 1 OR EXIST. RTU 1

CONNECT TO EXISTING  
 CE

EXISTING TO REMAIN  
 ER

SPECIFIC KEY NOTE  
 # OR #

DRAWING REVISION NO.  
 2

SECTION NO. AND CUT LINE  
 3 M2.01

SECTION/DETAIL DESCRIPTION  
 3 M2.01 SECTION/DETAIL SCALE: 1:50

ACCESS PANEL (450X450) U.N.O.

DOOR UNDERCUT 25MM

FLOW DIRECTION - AIR

FLOW DIRECTION - FLUID

**HVAC DUCTING SYMBOLS**

SQUARE ELBOW WITH MULTI-BLADE TURNING VANES

SUPPLY DUCT TOWARD, AWAY

RETURN OR TRANSFER DUCT TOWARD, AWAY

EXHAUST DUCT TOWARD, AWAY

OUTDOOR AIR DUCT TOWARD, AWAY

ROUND DUCT TOWARD, AWAY

BRANCH TAKEOFF SQUARE->SQUARE

BRANCH TAKEOFF SQUARE->ROUND

BRANCH TAKEOFF ROUND->ROUND

**HVAC**

	NEW	EXISTING
DUCTWORK RECTANGULAR	300x400	300x400
DUCTWORK ROUND	300ø	300ø
SINGLE LINE DUCTWORK	300ø	300ø
CAPPED OFF DUCT	300ø CAP	300ø CAP
ACOUSTIC DUCT LINER		
BALANCING DAMPER		
BACKDRAFT DAMPER BDD = BACKDRAFT DAMPER BBD = "BALANCED" BACKDRAFT DAMPER		
FIRE DAMPER		
SUPPLY AIR GRILLE OR DIFFUSER		
RETURN AIR GRILLE		
EXHAUST AIR GRILLE		
HEATING WATER SUPPLY PIPING	HWS	HWS
HEATING WATER RETURN PIPING	HWR	HWR
HVAC DRAINAGE PIPING	D	D
HVAC MAKE-UP WATER PIPING	MAKE-UP	MAKE-UP

**PLUMBING**

	NEW	EXISTING
GAS PIPING	G	G
DOMESTIC COLD WATER PIPING	DCW	DCW
DOMESTIC HOT WATER PIPING	DHW	DHW
DOM. HOT WATER RECIRC. PIPING	DHWR	DHWR
SANITARY PIPING	SAN	SAN
SANITARY PIPING BELOW SLAB	SAN	SAN
STORM PIPING	ST	ST
STORM PIPING BELOW SLAB	ST	ST
SANITARY VENT PIPING	V	V
FLOOR DRAIN	FD	FD

**FIRE SUPPRESSION**

	NEW	EXISTING
FIRE MAIN PIPING	F	F
SPRINKLER PIPING	SP	SP
SPRINKLER HEAD - PENDANT		
SPRINKLER HEAD - UPRIGHT		
SPRINKLER HEAD - SIDEWALL		

**HVAC PIPING SYMBOLS**

FLANGE CONNECTION  
 UNION CONNECTION  
 PIPE CAP  
 PIPE BREAK  
 PIPING ELBOW DOWN  
 PIPING ELBOW UP  
 PIPING TEE UP  
 PIPING TEE DOWN  
 PIPING TEE  
 GATE VALVE  
 GLOBE VALVE  
 PRESSURE REDUCING VALVE  
 CHECK VALVE - SWING GATE TYPE  
 RELIEF VALVE - PRESSURE AND TEMPERATURE  
 CIRCUIT BALANCING VALVE C/W PRESSURE PORTS  
 STRAINER  
 RELIEF AIR VALVE (AT EACH HIGHPOINT)  
 PUMP WITH REDUCER ON BOTH ENDS  
 PIPE THERMOMETER  
 PIPE PRESSURE GAUGE  
 PIPE PRESSURE GAUGE AND COCK  
 BACKFLOW PREVENTER, REDUCED PRESSURE ZONE (RPZ) TYPE  
 2-WAY CONTROL VALVE C/W ACTUATOR - CONNECT TO DDC  
 3-WAY CONTROL VALVE C/W ACTUATOR - CONNECT TO DDC  
 SOLENOID VALVE  
 PIPE TEMPERATURE SENSOR - CONNECT TO DDC  
 PIPE PRESSURE SENSOR - CONNECT TO DDC  
 PIPE FLOW SWITCH - CONNECT TO DDC  
 HEAT TRACING (ELECTRIC)

**HVAC CONTROLS SYMBOLS**

CONTROL WIRING  
 THERMOSTAT  
 WALL MOUNTED SWITCH  
 WALL MOUNTED VARIABLE SPEED SWITCH  
 CARBON DIOXIDE SENSOR  
 OCCUPANCY SENSOR  
 SMOKE SENSOR  
 MOTORIZED DAMPER C/W ACTUATOR

**DEMOLITION**

EXISTING EQUIPMENT TO BE REMOVED  
 EXISTING DUCTWORK OR PIPING TO BE REMOVED  
 EXISTING DIFFUSER OR GRILLE TO BE REMOVED  
 EXISTING THERMOSTAT, SENSOR, OR SWITCH TO BE REMOVED  
 EXISTING VALVE ACCESSORIES TO BE REMOVED  
 RELOCATE EXISTING EQUIPMENT

Revision/Revisions	Description/Description	Date/Date
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**CORRECTIONAL SERVICE CANADA**

Project title/Titre du projet  
**MISSION MEDIUM INSTITUTION  
 MISSION, BC**

**BUILDINGS A-M, A-W, A-P  
 (ADMINISTRATION)  
 HVAC REVITALIZATION**

Consultant Signature Box Only

Designed by/Concept par  
**LB / KB**

Drawn by/Dessine par  
**LB**

PWGSC Project Manager/Administrateur de Projets TPSGC  
**Paul Rithaler**

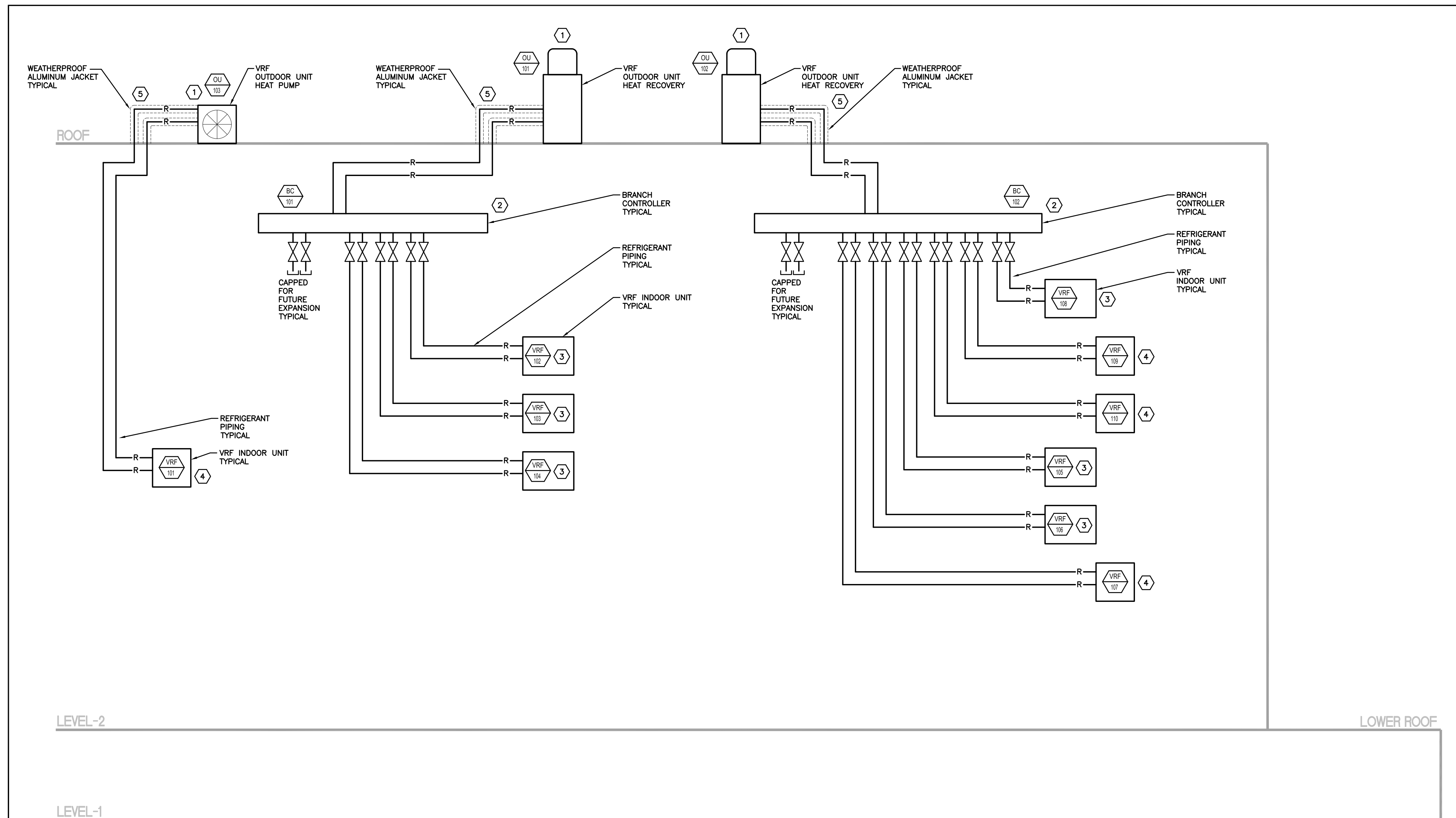
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 Gestionnaire régional, services d'architecture et de génie, TPSGC  
**Preetpal Paul**

Drawing title/Titre du dessin

**MECHANICAL LEGEND,  
 GENERAL NOTES,  
 AND SITE PLAN**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
<b>R.082622.001</b>	<b>M001</b>	<b>0</b>
	<b>1 OF 9</b>	





**GENERAL NOTES:**

- SEE SPECIFICATIONS FOR SUPPLEMENTAL REQUIREMENTS. SEE FLOOR PLANS FOR LAYOUT.
- PROVIDE COMPLETE INSTALLATION OF THE VARIABLE REFRIGERANT FLOW (VRF) CAPACITY SYSTEM INCLUDING ALL HARDWARE, OUTDOOR UNITS, INDOOR UNITS, BRANCH CONTROLLERS, REFRIGERANT LINES, CONNECTIONS, VALVES, CONTROL DEVICES, AND THERMOSTATS.
- PROVIDE "HEAT RECOVERY" VRF SYSTEM WITH SIMULTANEOUS HEATING AND COOLING CAPABILITIES WHERE INDICATED. THE SCHEMATIC IS DIAGRAMMATIC, AND MAY NOT INDICATE ALL REQUIRED COMPONENTS, REFRIGERANT LINES, AND CONTROLS. SEE SPECIFICATIONS, FLOOR PLANS, AND DETAILS FOR SUPPLEMENTAL REQUIREMENTS.
- PROVIDE "HEAT PUMP" VRF SYSTEM WHERE INDICATED. THE SCHEMATIC IS DIAGRAMMATIC, AND MAY NOT INDICATE ALL REQUIRED COMPONENTS, REFRIGERANT LINES, AND CONTROLS. SEE SPECIFICATIONS, FLOOR PLANS AND DETAILS FOR SUPPLEMENTAL REQUIREMENTS.
- PROVIDE THERMOSTAT AND BACNET INTERFACE TO ALLOW FULL CONTROL OF VRF SYSTEMS TO BUILDING AUTOMATION SYSTEM.
- PROVIDE STRUCTURAL SUPPORTS AND SEISMIC RESTRAINTS FOR ALL MAJOR EQUIPMENT.
- PROVIDE RIGID (THICK WALL, HARD STRAIGHT COPPER) REFRIGERANT PIPING C/W INSULATION AND ALUMINUM JACKET ON ALL REFRIGERANT PIPING ON ROOF. PROVIDE PIPE SUPPORTS.

**SPECIFIC KEY NOTES:**

- PROVIDE OUTDOOR UNIT.
- PROVIDE BRANCH CONTROLLER UNIT, C/W SPARE CAPACITY FOR FUTURE EXPANSION.
- PROVIDE INDOOR UNIT – CONCEALED DUCTED TYPE, MOUNTED WITHIN CEILING SPACE.
- PROVIDE INDOOR UNIT – CASSETTE TYPE, CEILING MOUNT.
- PROVIDE RIGID (THICK WALL, HARD STRAIGHT COPPER) REFRIGERANT PIPING.

**1** VRF REFRIGERANT PIPING SCHEMATIC  
M002 SCALE: N.T.S.

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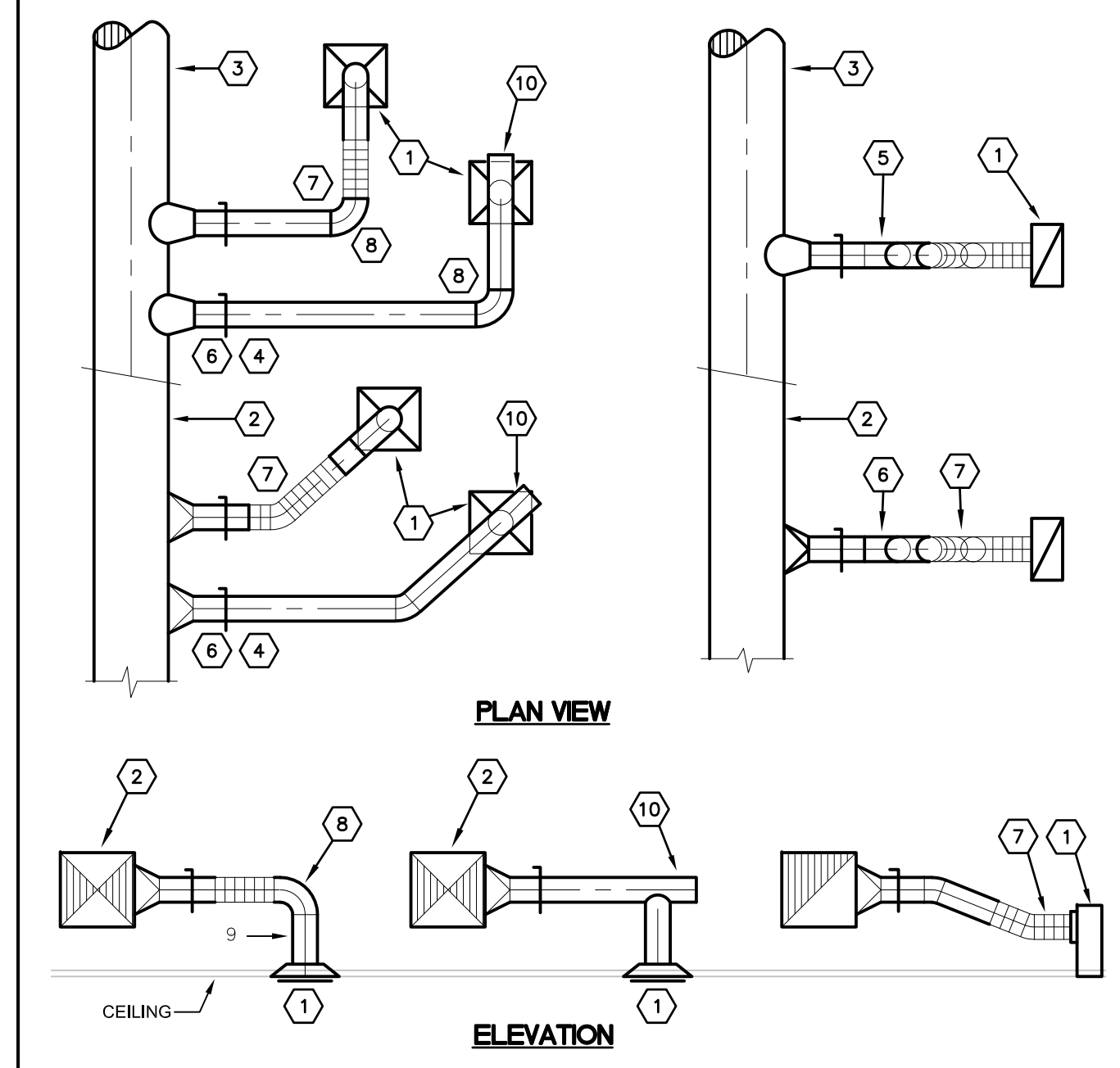
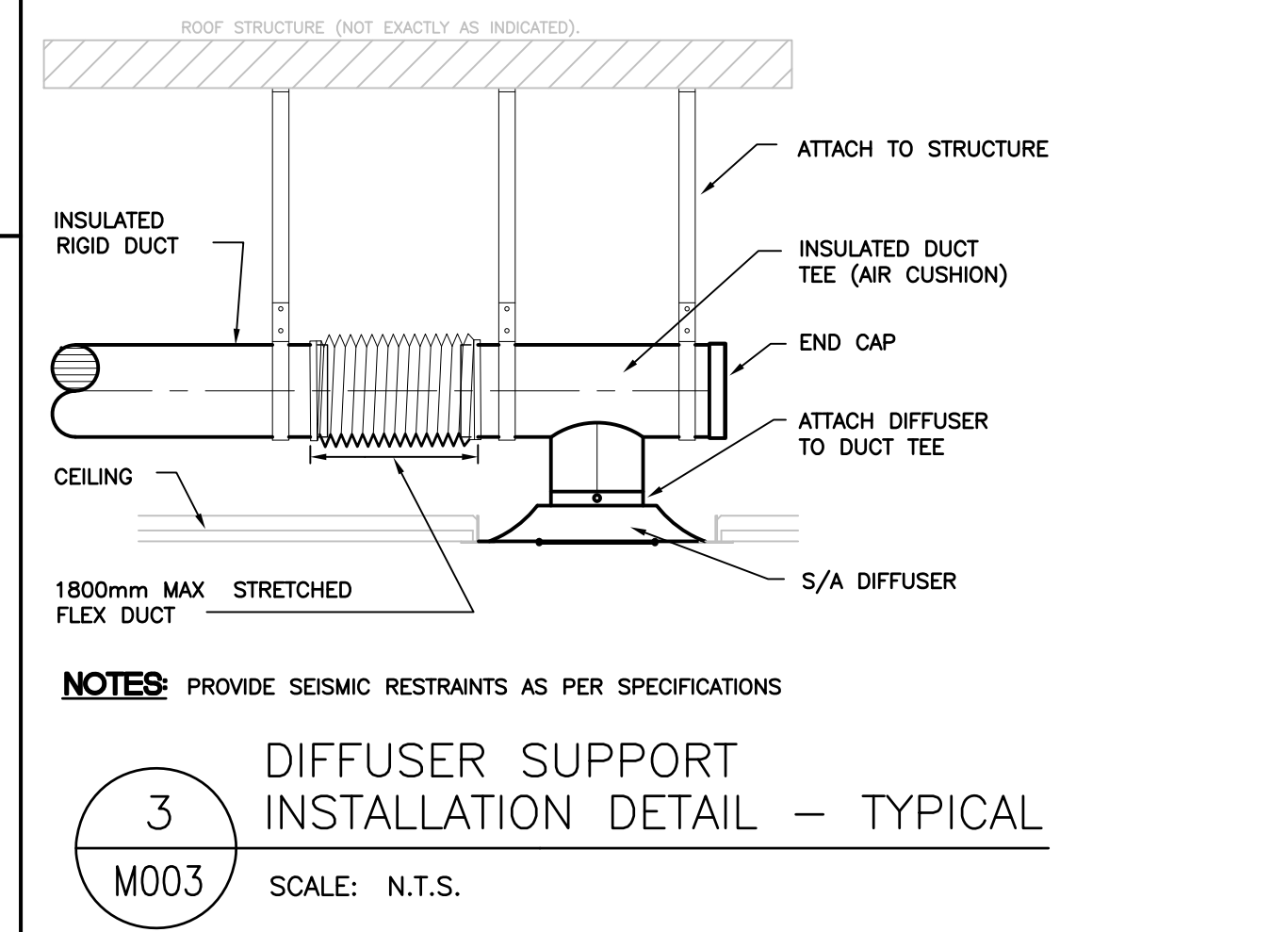
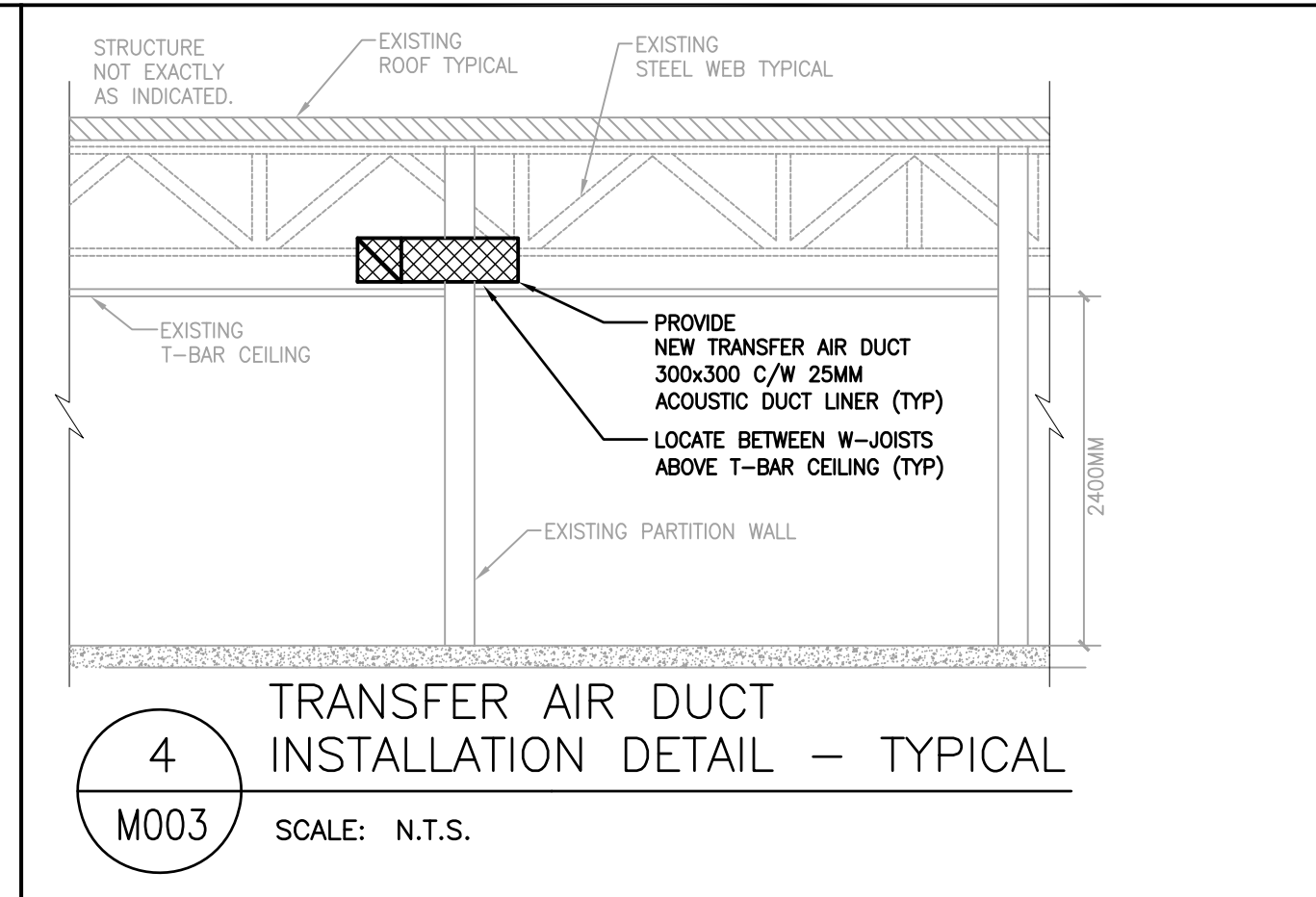
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**CORRECTIONAL SERVICE CANADA**

Project title/Titre du projet  
**MISSION MEDIUM INSTITUTION MISSION, BC**  
**BUILDINGS A-M, A-W, A-P (ADMINISTRATION) HVAC REVITALIZATION**

Consultant Signature Box Only  
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Drawing title/Titre du dessin  
**MECHANICAL SCHEMATICS VRF REFRIGERANT PIPING SCHEMATIC**

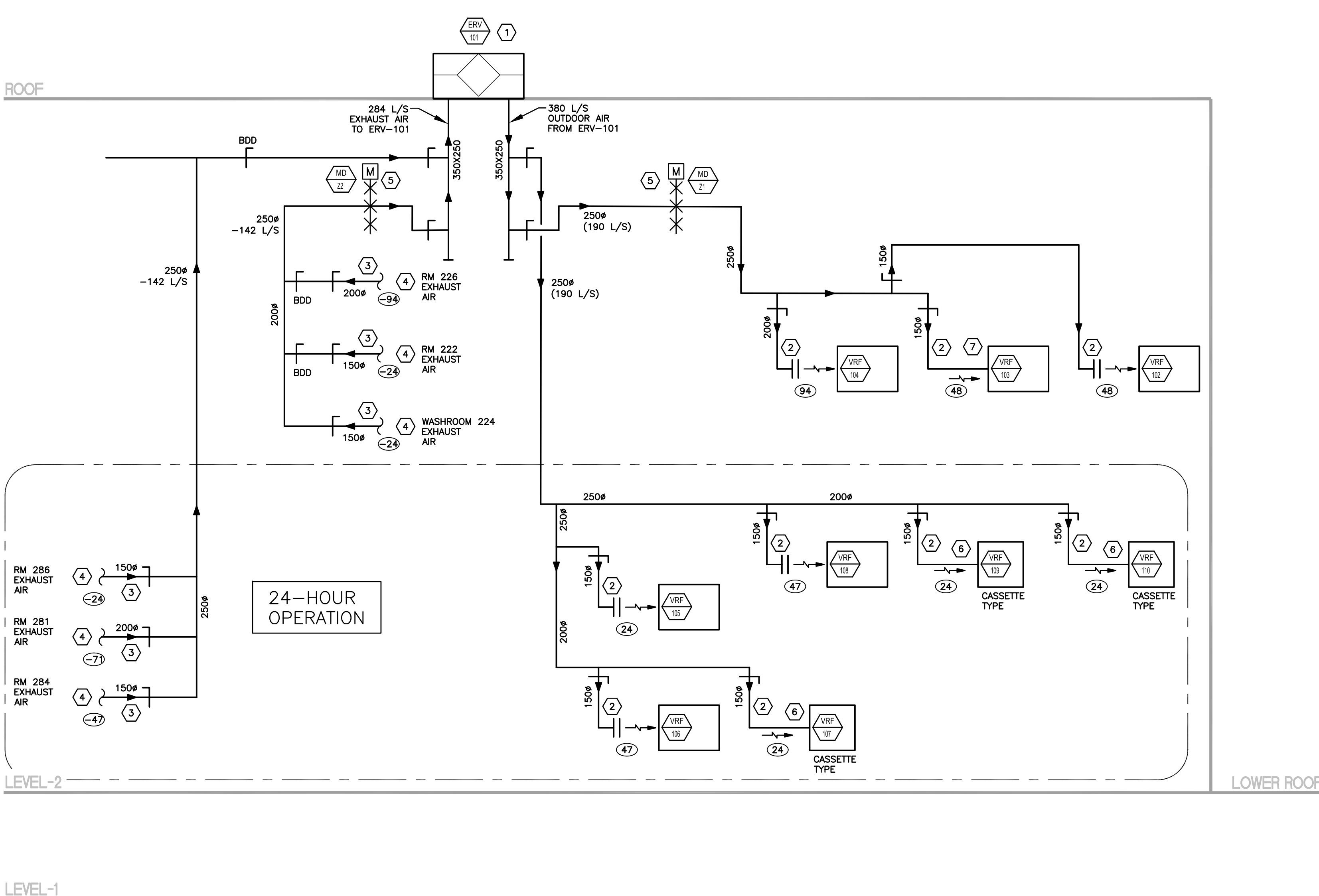
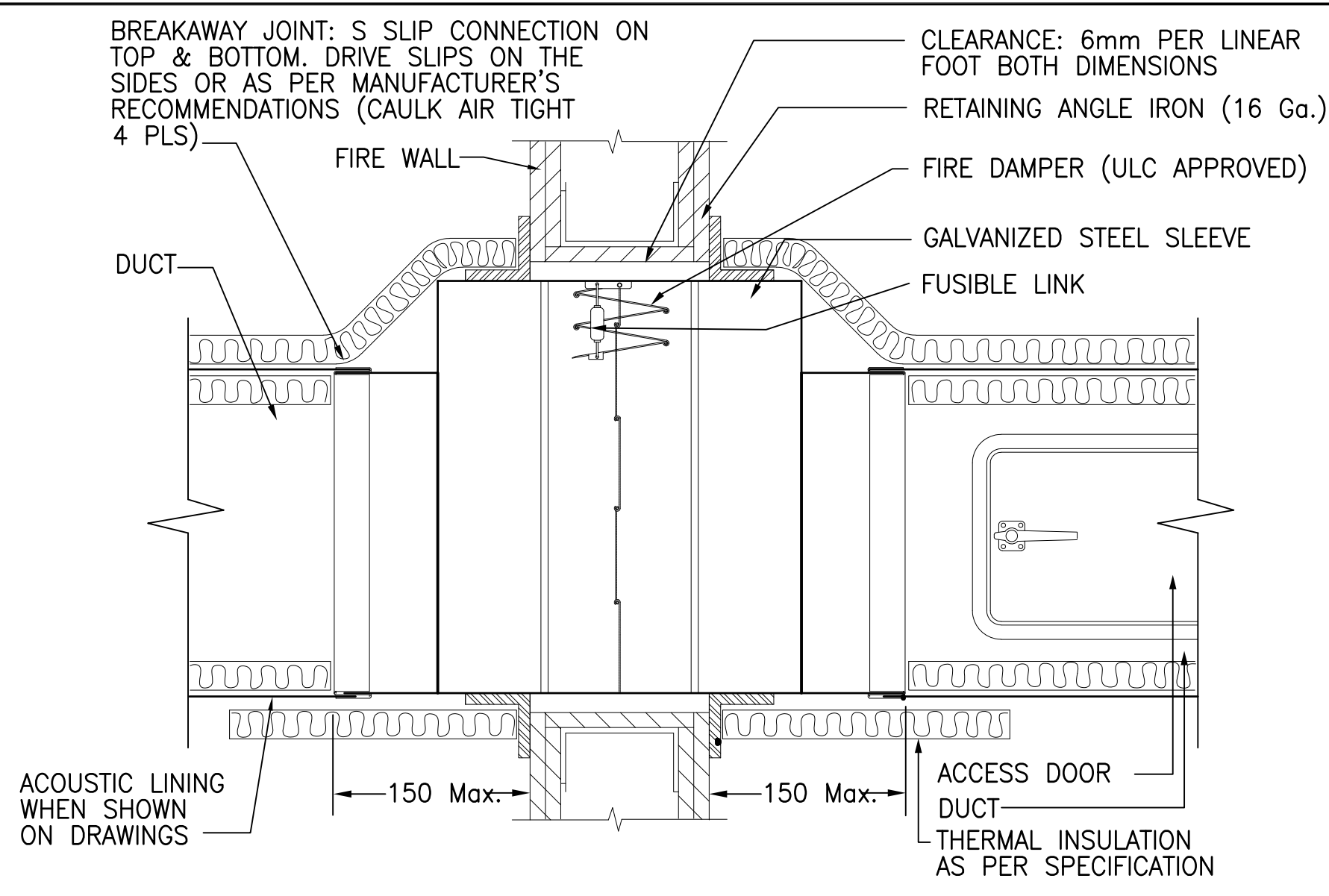
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**SPECIFIC KEY NOTES:**

- 1 AIR TERMINAL UNIT AS SCHEDULED
- 2 RECTANGULAR DUCT - TYP
- 3 ROUND DUCT - TYP
- 4 DUCT SIZE TO MATCH DIFFUSER NECK SIZE
- 5 DUCT SIZE AS PER DRAWINGS
- 6 RIGID DUCT
- 7 FLEX DUCT - MAX. LENGTH AS SPECIFIED, MAX. BEND PERMITTED 45 DEG
- 8 RIGID DUCT ELBOW - RADIUS = 1.5 x DIA. MIN.
- 9 RIGID DUCT MIN. 1 DUCT DIA. LONG FROM ELBOW TO DIFFUSER
- 10 PROVIDE CUSHION HEAD FOR DIFFUSER WHERE CEILING SPACE IS LIMITED, TRANSITION TO EQUIVALENT RECTANGULAR DUCT AS REQUIRED, CUSHION HEAD LENGTH = 1x DIFFUSER DIAMETER

USE ALL RIGID DUCT FOR EXPOSED STRUCTURE



**NOTES:**

- SEE FLOOR PLANS FOR SUPPLEMENTAL DETAILS AND CONTINUATION OF DUCT SYSTEMS.
- TEST AND BALANCE OUTDOOR AIR AND EXHAUST AIR FLOWS. AIR BALANCER SHALL ADJUST AND RECORD VFD SPEED SETTINGS AS REQUIRED.

**SPECIFIC KEY NOTES:**

- PROVIDE ROOF MOUNTED ENERGY RECOVERY VENTILATOR (ERV-101).
- PROVIDE VRF INDOOR UNIT, BALANCE OUTDOOR AIR FLOW, SEE FLOOR PLANS.
- PROVIDE BALANCE DAMPER AT EACH EXHAUST MAIN BRANCH.
- SEE FLOOR PLANS FOR CONTINUATION OF EXHAUST AIR DUCT SYSTEM.
- PROVIDE ZONE DAMPER (MD-Z1, MD-Z2).
- CONNECT O/A DIRECTLY TO VRF O/A INTAKE.
- CONNECT O/A DIRECTLY TO VRF R/A PLENUM.

**1**  
M003  
ERV-101 AIR SCHEMATIC  
SCALE: N.T.S.

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**MISSION MEDIUM INSTITUTION  
MISSION, BC**

**BUILDINGS A-M, A-W, A-P  
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HVAC REVITALIZATION**

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**LB / KB**

Drawn by/Dessiné par  
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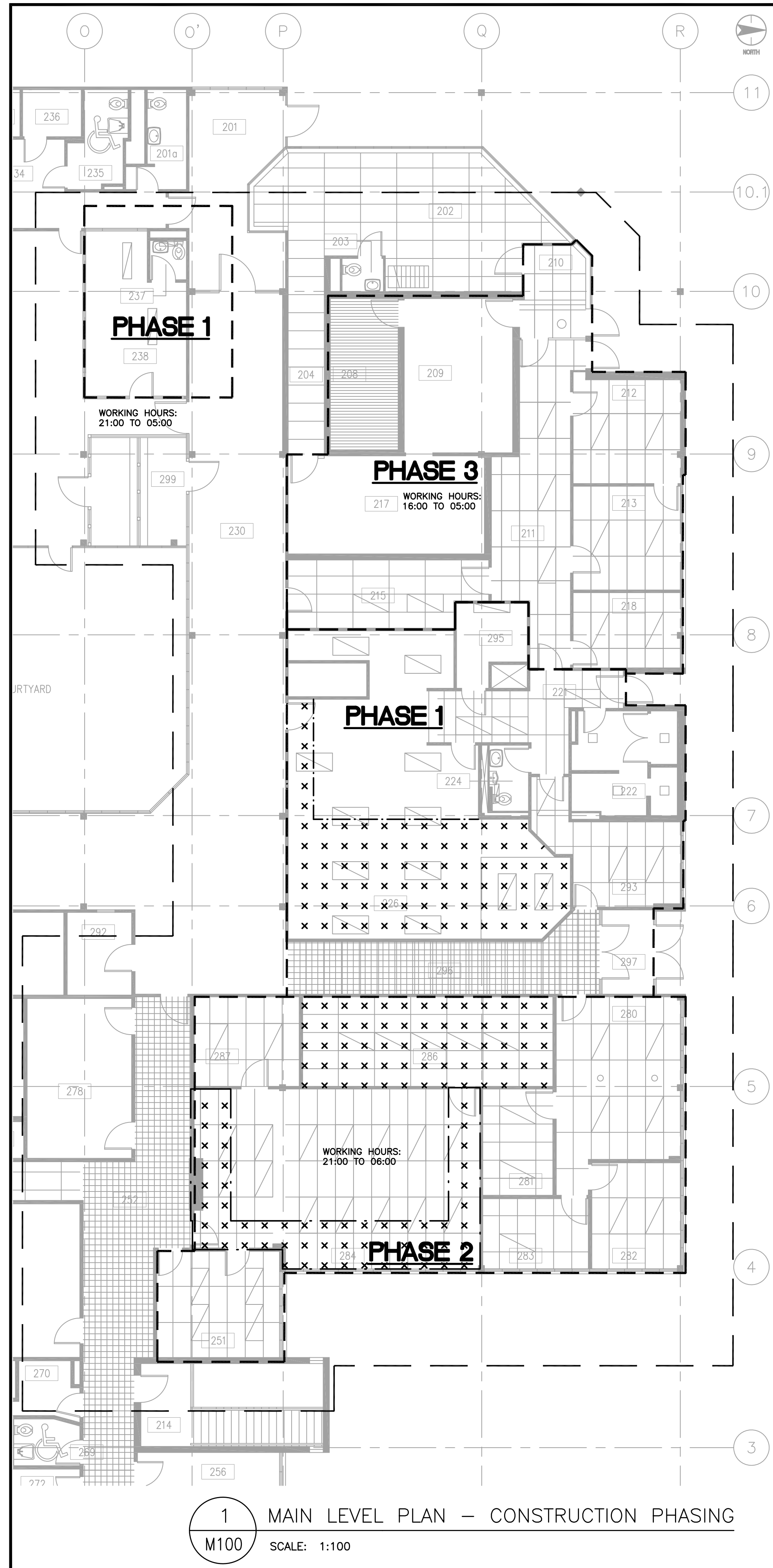
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**Preetpal Paul**

Drawing title/Titre du dessin  
**MECHANICAL SCHEMATICS  
ERV-101 AIR SCHEMATIC**

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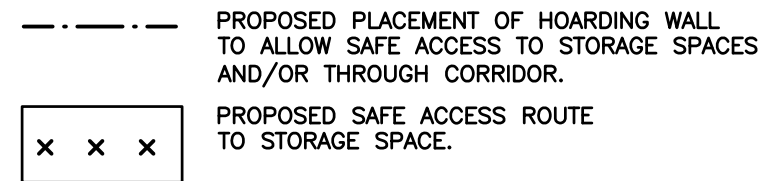
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1 MAIN LEVEL PLAN - CONSTRUCTION PHASING  
 M100 SCALE: 1:100

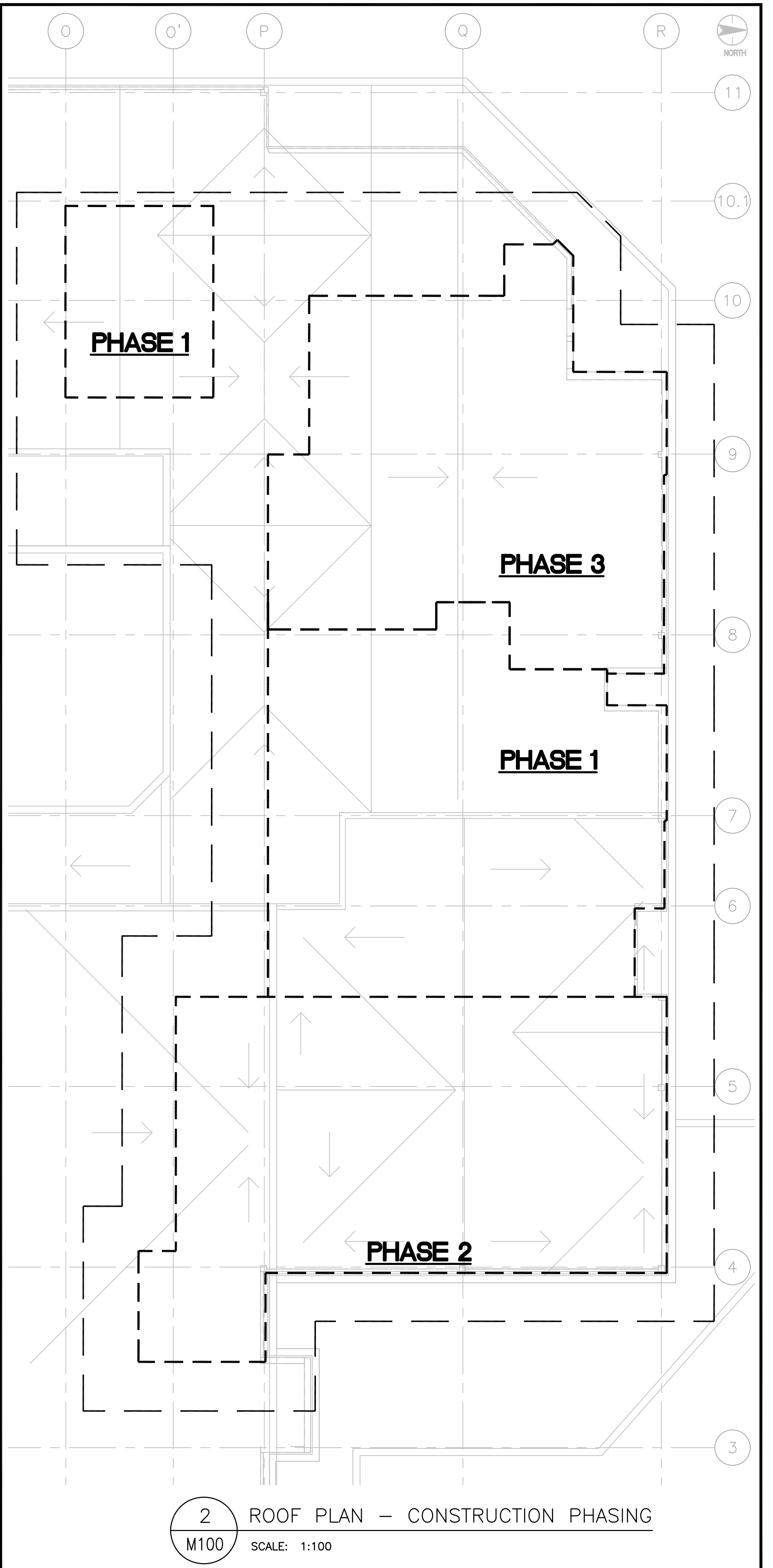
**CONSTRUCTION PHASING PLAN**

- CONSTRUCTION PHASING PLAN:
  - DEVELOP A "CONSTRUCTION PHASING PLAN" THAT INCORPORATES THE CONSTRUCTION SCHEDULE, CONSTRUCTION PHASING REQUIREMENTS, USE OF SWING SPACE, AND THE PROJECT SCOPE OF WORK
  - REVIEW THE PLAN WITH THE DEPARTMENTAL REPRESENTATIVE AT THE INITIAL PROJECT KICK-OFF MEETING.
  - MODIFY THE PLAN AS NEEDED.
- CONSTRUCTION PHASES:
  - THE PROJECT SCOPE OF WORK HAS BEEN DIVIDED INTO THREE MAIN CONSTRUCTION PHASES TO PRIMARILY ALLOW THE FACILITY TO REMAIN OPERATIONAL WHILE WORK IS COMPLETED IN THE RESPECTIVE CONSTRUCTION PHASE ZONE BOUNDARY.
  - NO WORK SHALL COMMENCE WITHOUT PRIOR ARRANGEMENTS. COMMENCE WORK SEQUENTIALLY STARTING WITH:
    - PHASE-1
    - PHASE-2
    - PHASE-3
- WORKING HOURS (SEE FLOOR PLAN):
  - DAY SEE SPECIFICATIONS SECTION 00 01 50.
  - NIGHT 18:00 TO 05:00
  - NIGHT 16:00 TO 23:00 (EXCESSIVE NOISE ACTIVITIES)
- OPERATIONAL REQUIREMENTS:
  - MAINTAIN MINIMUM OPERATIONAL REQUIREMENTS DURING CONSTRUCTION, WHICH INCLUDES:
    - HEALTH AND SAFETY REQUIREMENTS
    - NO EXCESSIVE NOISE AFTER 23:00.
    - CLEANLINESS AND DUST CONTROL
    - TEMPORARY LIGHTING (AS NEEDED)
    - TEMPORARY HEATING AND VENTILATION (AS NEEDED)
    - ACCESSIBILITY TO SPECIFIC AREAS, INCLUDING:
      - 226 - ADMISSION & DISCHARGE
      - 286 - RECORDS VAULT
      - 296 - CORRIDOR
- SWING SPACE:
  - SWING SPACE WILL BE PROVIDED BY THE FACILITY. THE STORED ITEMS IN THE ROOMS WILL BE RELOCATED BY THE FACILITY. THE SHELVES, FIXTURES, AND FURNITURE SHALL BE RELOCATED BY THE CONTRACTOR. SWING SPACE MAY INCLUDE A SEPARATE TRAILER, OR ADJACENT SPACE IN THE FACILITY.
- HOARDING:
  - FOR EACH PHASE, ARRANGE HOARDING TO MAINTAIN SAFE OCCUPANT ACCESS TO SPECIFIC AREAS AND CORRIDORS (MINIMUM 900MM WIDTH). THE BUILDING SHALL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION.
  - PERFORM ALL HOARDING SETUP, MODIFICATION, AND REMOVAL AFTER HOURS (NIGHT) FOR MINIMAL DISRUPTION TO BUILDING OPERATIONS.
  - COORDINATE EXACT PLACEMENT OF HOARDING WALLS WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO SETUP. MODIFY DURING CONSTRUCTION AS NEEDED.



**ROOM SUMMARY**

NO.	NAME
208	ELECTRONICS
210	MCCP LOBBY
211	CORRIDOR
212	PREVENTIVE SECURITY
213	PREVENTIVE SECURITY
215	CORRIDOR
218	IPSO
221	CORRIDOR
222	INMATE WASH CHANGE
224	STAFF WASHROOM
226	ADMISSION DISCHARGE
230	CORRIDOR
238	V&C OFFICE
251	CHIEF ADMIN SERVICES
269	BARRIER-FREE WASHROOM
270	MECHANICAL/JANITOR ROOM
280	CORRECTIONAL MANAGERS
281	PRINTER PHOTOCOPIER
282	AWO
286	RECORDS VAULT
283	CM OPERATIONS
287	ADMIN STORAGE
284	ADMINISTRATION
293	TRANSFER COORDINATOR
294	OFFICE
295	OFFICE
296	CORRIDOR
297	NORTH ENTRANCE



2 ROOF PLAN - CONSTRUCTION PHASING  
 M100 SCALE: 1:100

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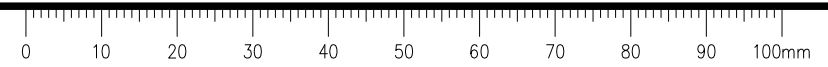
Client/client  
**CORRECTIONAL SERVICE CANADA**

Project title/Titre du projet  
**MISSION MEDIUM INSTITUTION  
 MISSION, BC**  
**BUILDINGS A-M, A-W, A-P  
 (ADMINISTRATION)  
 HVAC REVITALIZATION**

Consultant Signature Box Only  
 Designed by/Concept par  
**LB / KB**  
 Drawn by/Dessine par  
**LB**  
 PWGSC Project Manager/Administrateur de Projets TPS/SC  
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 Gestionnaire régional, services d'architecture et de génie, TPS/SC  
**Preetpal Paul**

Drawing title/Titre du dessin  
**CONSTRUCTION PHASING**

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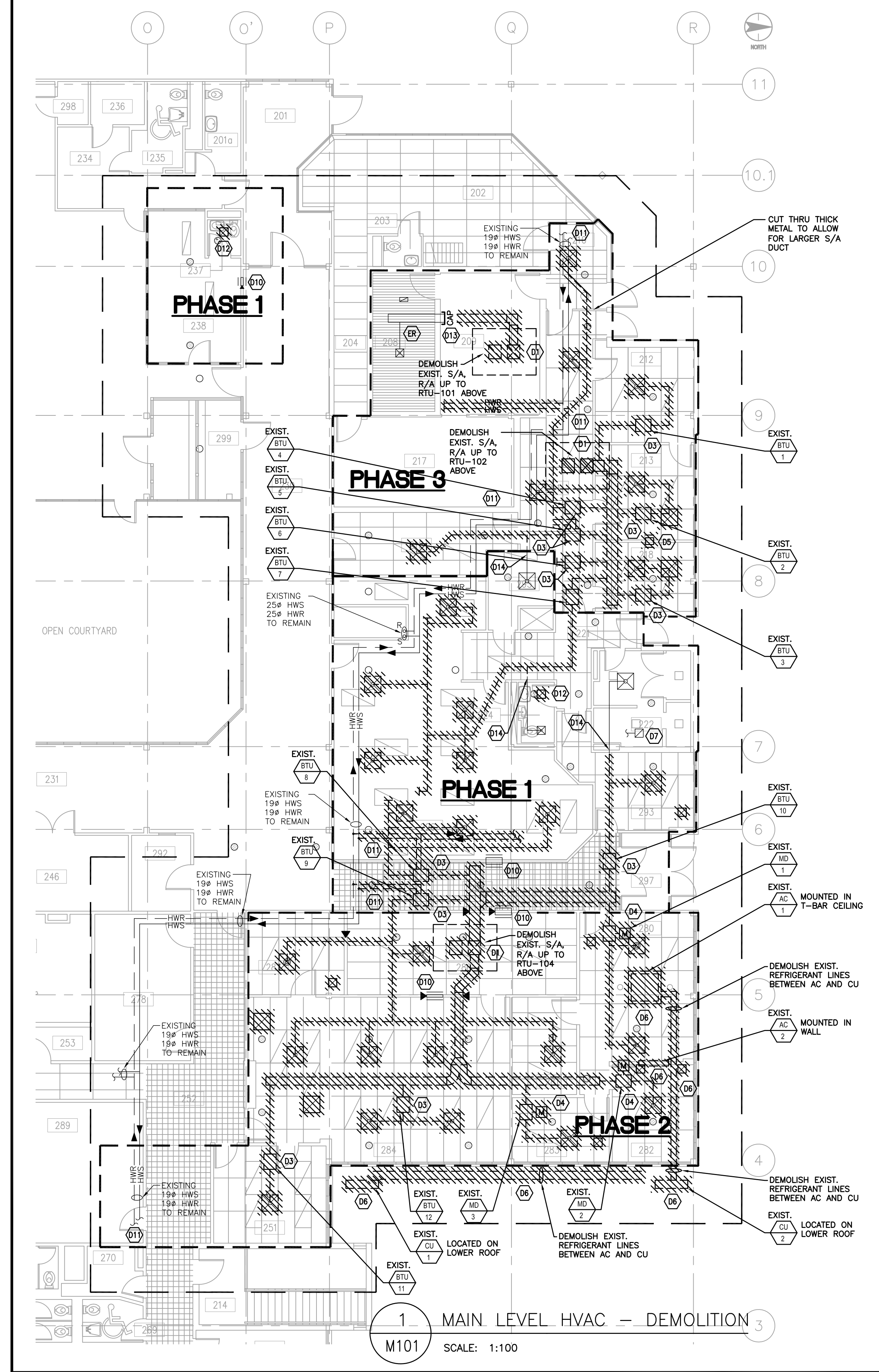


**GENERAL NOTES:**

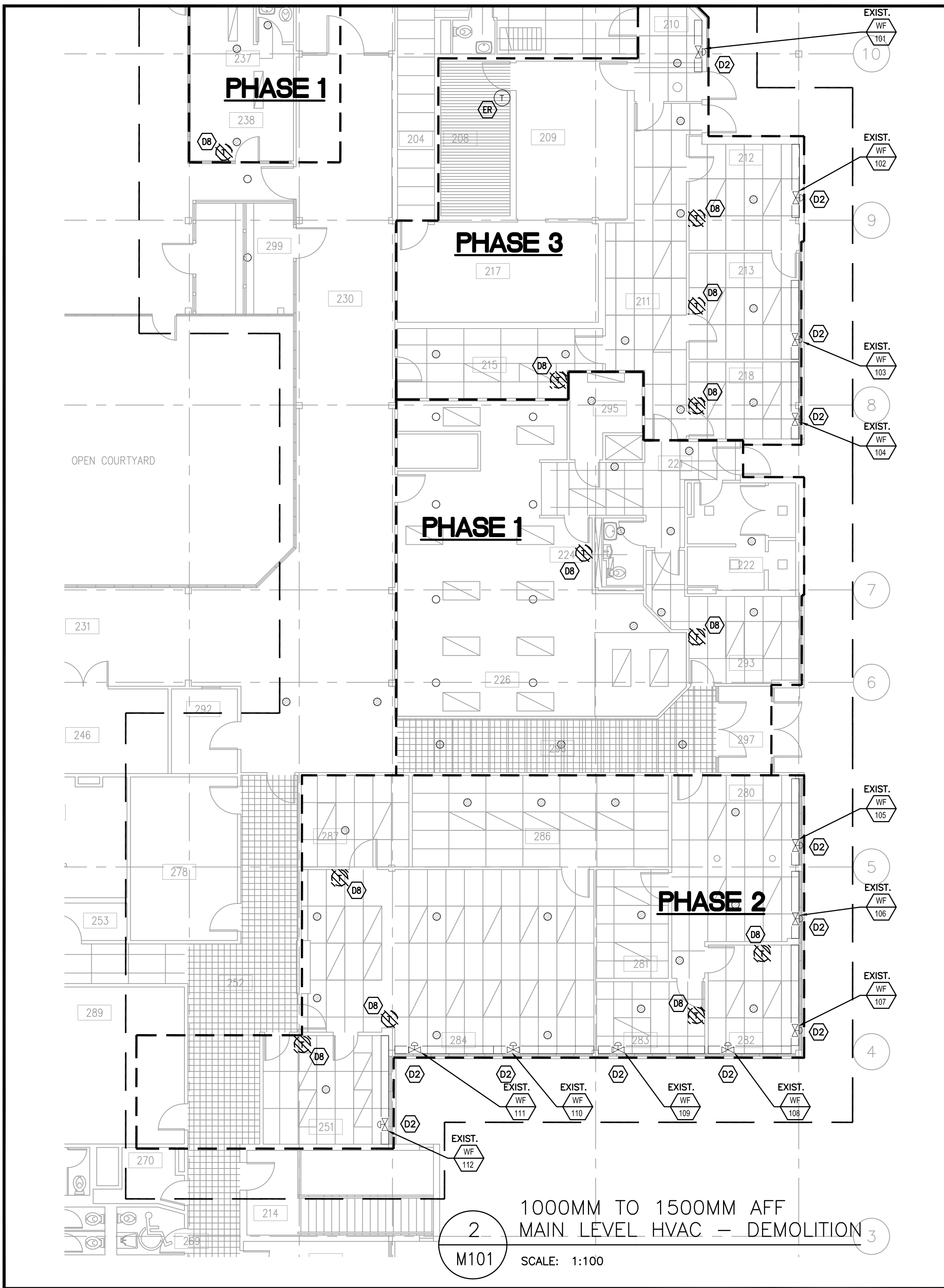
- DEMOLITION AND CONSTRUCTION WASTE MANAGEMENT SHALL COMPLY WITH SPECIFICATIONS, INCLUDING HAZARDOUS MATERIALS ABATEMENT AND ENVIRONMENTAL CANADA REQUIREMENTS.
- PROTECT EXISTING ROOF, ROOF SYSTEMS AND STRUCTURE FROM DAMAGE.
- PROTECT EXISTING EQUIPMENT, FURNITURE AND OFFICE EQUIPMENT FROM DAMAGE.
- DO NOT DISTURB EXISTING ROOF DRAINS AND PLUMBING VENTS.
- PATCH AND MAKE GOOD ALL DAMAGE CAUSED BY MECHANICAL WORK.
- DEMOLISH EXISTING HVAC SYSTEMS CONNECTED TO EXISTING RTU-101, RTU-102, RTU-104 AS NOTED, INCLUDING DUCT, PIPE, GAS, CONTROLS RELATED HARDWARE, WIRING, CONDUIT.
- REMOVE EXISTING SPLIT AIR CONDITIONING SYSTEMS (INDOOR UNIT AND OUTDOOR UNITS) AND RETURN TO THE DEPARTMENTAL REPRESENTATIVE FOR STORAGE, TAKE PRECAUTION DURING REMOVAL AND PROTECT FROM DAMAGE:  
-EXISTING AC-1 AND CU-1  
-EXISTING AC-2 AND CU-2  
FOLLOW ENVIRONMENTAL CANADA PROCEDURES WHEN HANDLING AND CAPTURING REFRIGERANT.
- DEMOLISH EXISTING HVAC CONTROLS SERVING DEMOLISHED HVAC EQUIPMENT.
- DEMOLISH HWR BRANCH PIPING THAT SERVES DEMOLISHED EQUIPMENT. MAIN HWR PIPING SHALL REMAIN. PROVIDE PIPE CAP-OFF AND INSULATE PIPE.

**SPECIFIC KEY NOTES :**

- DEMOLISH EXISTING S/A AND R/A FROM RTU ABOVE.
- DECOMMISSION EXISTING WALL-FIN HEATER CABINET. DRAIN PIPES, CLOSE ISOLATION VALVES, REMOVE HANDLE, REMOVE CONTROL VALVE ACTUATOR, PROVIDE LABEL INDICATING HEATER IS DECOMMISSIONED. WALL-FIN CABINET AND HEATING PIPE TO REMAIN.
- DEMOLISH EXISTING BYPASS TERMINAL UNIT (BTU), REHEAT COIL, ASSOCIATED CONTROLS, DUCTING AND PIPING.
- DEMOLISH EXISTING MOTORIZED ZONE DAMPER, CONTROLS, THERMOSTAT, ASSOCIATED DUCTING AND PIPING.
- DEMOLISH EXISTING TRANSFER AIR DUCT.
- DEMOLISH EXISTING INDOOR AIR CONDITIONING (AC) UNIT, OUTDOOR CONDENSING UNIT (CU), REFRIGERANT LINES, AND CONTROLS. RETURN EQUIPMENT TO THE DEPARTMENTAL REPRESENTATIVE FOR STORAGE.
- DEMOLISH EXISTING DUCT CONNECTION TO DEMOLISHED FAN. NEW DUCT SHALL CONNECT TO EXISTING BRANCH AND GRILLE.
- DEMOLISH EXISTING THERMOSTAT, AND ASSOCIATED TUBING, WIRE, CONDUIT.
- EXISTING EXHAUST FAN AND DUCTWORK TO REMAIN. DO NOT DISTURB.
- EXISTING TRANSFER AIR DUCT TO REMAIN. DO NOT DISTURB.
- EXISTING MAIN HWS/HWR PIPING TO EXISTING EQUIPMENT TO REMAIN. DO NOT DISTURB.
- DEMOLISH BRANCH HWS/HWR PIPING TO DEMOLISHED BYPASS TERMINAL BOXES. PROVIDE PIPE CAP-OFF.
- DEMOLISH EXISTING FAN, DUCTWORK AND GRILLE.
- PROVIDE DUCT CAP.
- EXISTING DIFFUSER/GRILLE TO REMAIN. DISCONNECT BRANCH DUCT TO ALLOW FOR NEW DUCT CONNECTION. DO NOT DISTURB GWB CEILING.



1 MAIN LEVEL HVAC -- DEMOLITION  
M101 SCALE: 1:100



2 100MM TO 150MM AFF  
MAIN LEVEL HVAC -- DEMOLITION  
M101 SCALE: 1:100

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HVAC REVITALIZATION**

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PWGSC Project Manager/Administrateur de Projets TPSGC  
**Paul Rithaler**  
PWGSC, Regional Manager, Architectural and Engineering Services/  
Gestionnaire régional, services d'architecture et de génie, TPSGC  
**Preetpal Paul**

Drawing title/Titre du dessin  
**MECHANICAL  
MAIN LEVEL HVAC  
DEMOLITION**

Project No./No. du projet <b>R.082622.001</b>	Sheet/Feuille <b>M101</b>	Revision no./ Lo Révision no. <b>0</b>
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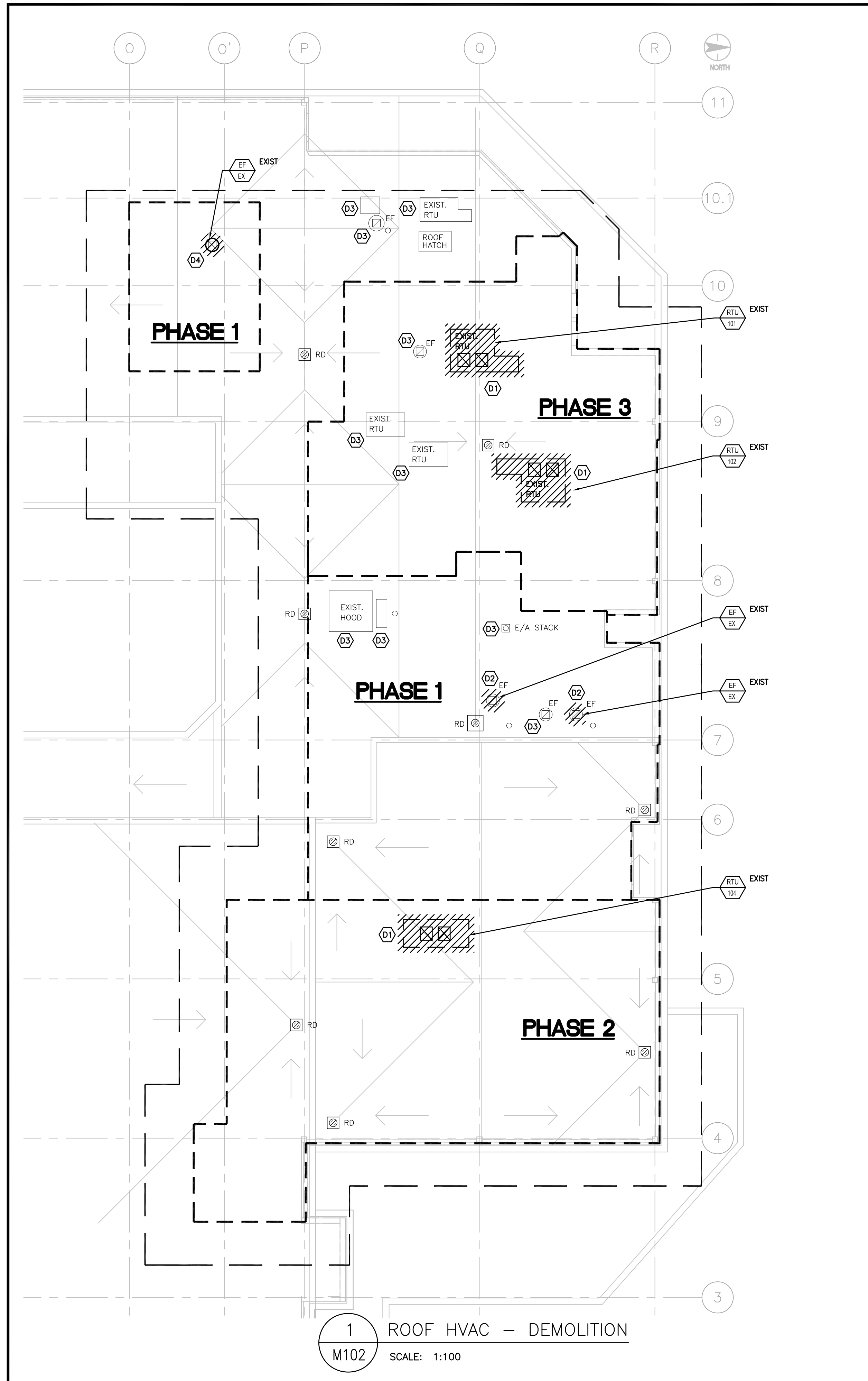


**GENERAL NOTES:**

- DEMOLITION AND CONSTRUCTION WASTE MANAGEMENT SHALL COMPLY WITH SPECIFICATIONS, INCLUDING HAZARDOUS MATERIALS ABATEMENT AND ENVIRONMENTAL CANADA REQUIREMENTS.
- PROTECT EXISTING ROOF, ROOF SYSTEMS AND STRUCTURE FROM DAMAGE.
- PROTECT EXISTING EQUIPMENT FROM DAMAGE.
- DO NOT DISTURB EXISTING ROOF DRAINS AND PLUMBING VENTS.
- PATCH AND MAKE GOOD ALL DAMAGE CAUSED BY MECHANICAL WORK.
- PATCH AND MAKE GOOD ALL EXISTING ROOF, CEILING PENETRATIONS FOR MECHANICAL DEMOLITION AND RENOVATION WORK.
- DEMOLISH EXISTING HVAC SYSTEMS CONNECTED TO EXISTING RTU-101, RTU-102, RTU-104 AS NOTED, INCLUDING DUCT, PIPE, GAS, CONTROLS RELATED HARDWARE, WIRING, CONDUIT.
- REMOVE EXISTING SPLIT AIR CONDITIONING SYSTEMS (INDOOR UNIT AND OUTDOOR UNITS) AND RETURN TO THE DEPARTMENTAL REPRESENTATIVE FOR STORAGE, TAKE PRECAUTION DURING REMOVAL AND PROTECT FROM DAMAGE.  
 -EXISTING AC-1 AND CU-1  
 -EXISTING AC-2 AND CU-2.  
 FOLLOW ENVIRONMENTAL CANADA PROCEDURES WHEN HANDLING AND CAPTURING REFRIGERANT.
- DEMOLISH EXISTING HVAC CONTROLS SERVING DEMOLISHED HVAC EQUIPMENT.
- PROVIDE PIPE CAP FOR DISCONNECTED GAS PIPING SERVING DEMOLISHED RTUs.

**SPECIFIC KEY NOTES :**

- (D1) DEMOLISH EXISTING RTU, ROOF CURB, DUCT CONNECTIONS, GAS PIPING, CONTROLS.
- (D2) DEMOLISH EXISTING EXHAUST FAN, ROOF CURB, DUCT CONNECTIONS, AND CONTROLS.
- (D3) DO NOT DISTURB EXISTING HVAC EQUIPMENT SERVING ADJACENT SPACES.
- (D4) DEMOLISH EXISTING EXHAUST FAN, DUCT CONNECTIONS, AND CONTROLS. REUSE EXISTING ROOF CURB.



1 ROOF HVAC -- DEMOLITION  
 M102 SCALE: 1:100

Revision/Revisión	Description/Description	Date/Date
0	ISSUED FOR TENDER	2020.10.25

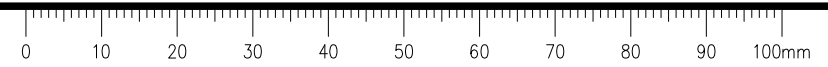
Client/client  
**CORRECTIONAL SERVICE CANADA**

Project title/Titre du projet  
**MISSION MEDIUM INSTITUTION  
 MISSION, BC**  
**BUILDINGS A-M, A-W, A-P  
 (ADMINISTRATION)  
 HVAC REVITALIZATION**

Consultant Signature Box Only  
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**LB / KB**  
 Drawn by/Dessine par  
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 PWGSC Project Manager/Administrateur de Projets TPSGC  
**Paul Rithaler**  
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Drawing title/Titre du dessin  
**MECHANICAL  
 ROOF HVAC  
 DEMOLITION**

Project No./No. du projet <b>R.082622.001</b>	Sheet/Feuille <b>M102</b> 6 OF 9	Revision no./ La Révision no. <b>0</b>
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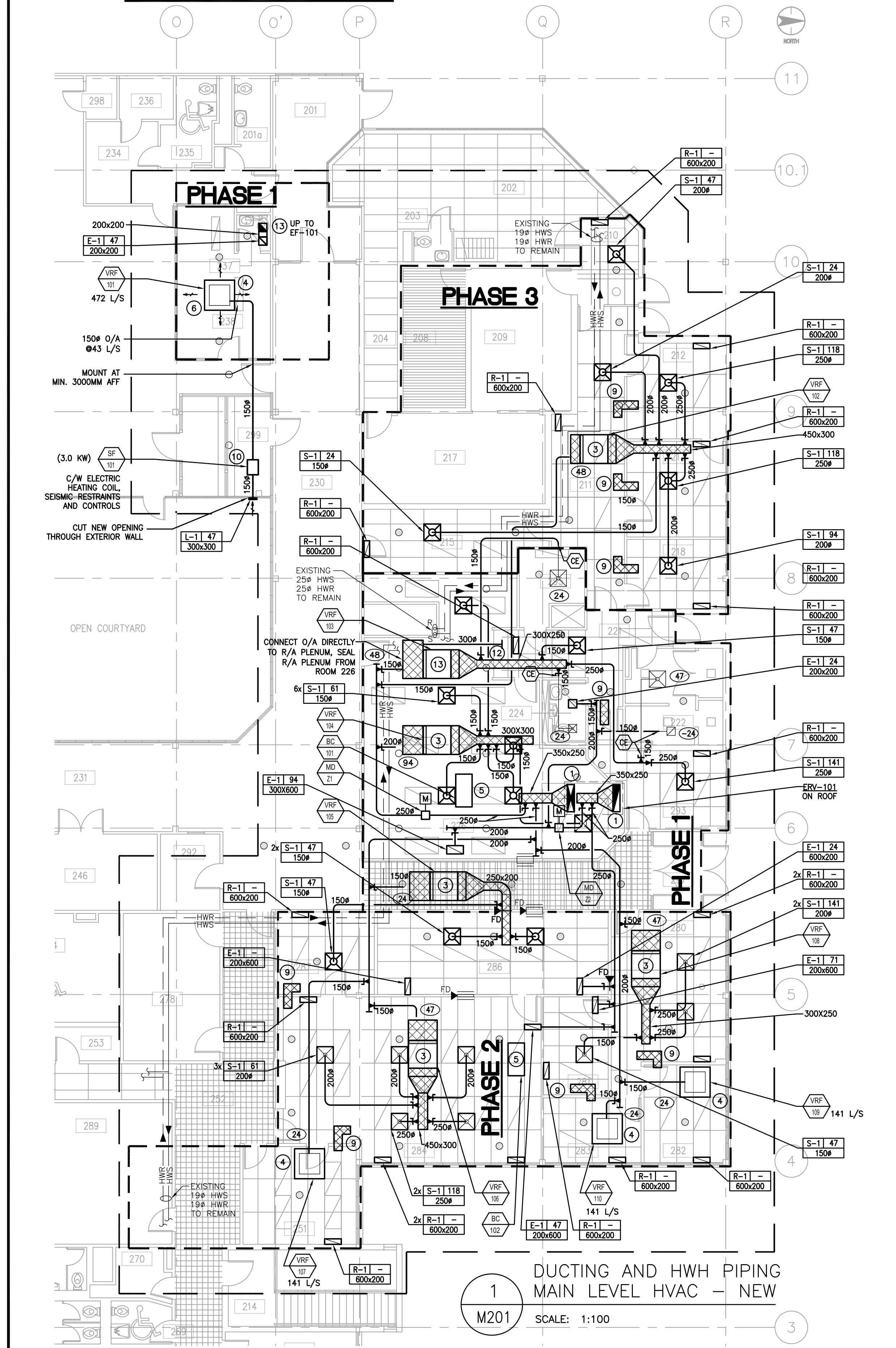
**GENERAL NOTES:**

1. PROVIDE COMPLETE INSTALLATION OF NEW DDC SYSTEM COMPONENTS, C/W NEW THERMOSTATS, SENSORS, ACTUATORS, WIRING, CONDUIT, INTERFACES AND CONTROL PANEL. UPDATE GRAPHICS AND SEQUENCE OF OPERATION PROGRAMMING. COORDINATE ROUTING OF ALL CONDUIT WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO INSTALLATION.
2. PROVIDE COMPLETE INSTALLATION OF NEW VRF SYSTEM C/W INDOOR UNIT, OUTDOOR UNIT, BRANCH CONTROLLER, CONTROLS, REFRIGERANT PIPING, 25MM CONDENSATE DRAIN LINES, CONDENSATE DRAIN PUMP, STRUCTURAL SUPPORTS, AND SEISMIC RESTRAINTS. REFRIGERANT PIPING SHALL BE INDEPENDENTLY SUPPORTED AND INSULATED.
3. PROVIDE COMPLETE INSTALLATION OF NEW 25MM CONDENSATE DRAIN LINES AND PIPE SUPPORTS FOR EACH VRF INDOOR UNIT AND BRANCH CONTROLLER. COMBINE CONDENSATE DRAIN LINES AND DISCHARGE AT EXISTING SINK P-TRAP.
4. PROVIDE NEW WALL, ROOF, AND CEILING PENETRATIONS AS REQUIRED TO INSTALL NEW MECHANICAL SERVICES. CUT THROUGH BUILDING ENVELOPE AS REQUIRED. COORDINATE EXACT LOCATIONS OF ALL NEW WALL AND CEILING PENETRATIONS WITH ARCHITECTURAL AND STRUCTURAL.
5. PROVIDE ALL DUCT AND PIPE EXTENSIONS, ELBOWS, TRANSITIONS AND JOINTS AS REQUIRED TO AVOID EXISTING STRUCTURE, PIPING, SPRINKLER HEADS, AND OTHER EXISTING SERVICES.
6. PROVIDE SEISMIC RESTRAINTS AND SEISMIC LETTER OF ASSURANCE FROM LICENSED SEISMIC ENGINEER FOR ALL ROOF TOP UNITS, AIR CONDITIONING UNITS, FANS, CEILING HUNG EQUIPMENT AND WHERE NOTED.
7. PROVIDE FIRE STOPPING AT ALL NEW WALL AND CEILING PENETRATIONS THRU FIRE SEPARATIONS.
8. PROVIDE FIRE DAMPERS AT ALL NEW WALL PENETRATIONS INTO ROOM 286.
9. PATCH AND MAKE GOOD ALL DAMAGE CAUSED BY MECHANICAL WORK.
10. PROVIDE COMPLETE REFRIGERANT PIPING SYSTEM C/W PIPE SUPPORTS, PIPE ACCESSORIES, INSULATION, AND LABELING. SEE REFRIGERANT PIPING SCHEMATIC.
11. COORDINATE EXACT PLACEMENT OF CEILING MOUNTED EQUIPMENT, DIFFUSERS, AND GRILLES TO AVOID EXISTING CEILING FIXTURES, LIGHTING, AND SPRINKLER HEADS. PROVIDE SEISMIC RESTRAINTS.

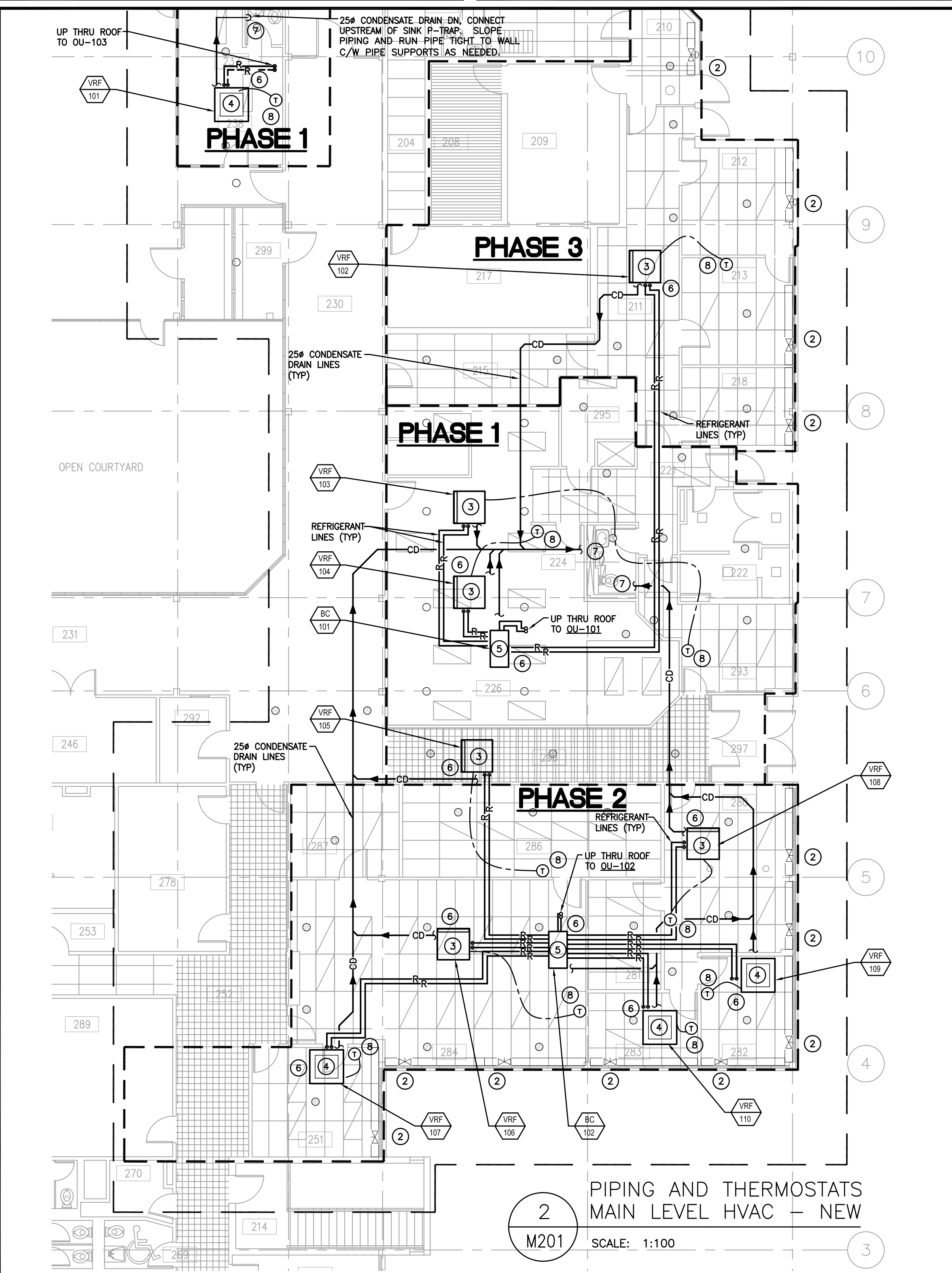
**SPECIFIC KEY NOTES:**

1. PROVIDE NEW CUSTOM DUCT TRANSITION FOR S/A AND R/A DUCTING C/W 25MM ACOUSTIC LINING FROM ERV-101 ON ROOF.
2. DECOMMISSIONED WALL-FIN HEATER. PROVIDE LABEL INDICATING WALL-FIN CABINET HEATER SYSTEM HAS BEEN DECOMMISSIONED.
3. PROVIDE NEW VRF INDOOR UNIT, CONCEALED DUCTED TYPE, C/W CONDENSATE PUMP. BALANCE OUTDOOR AIR SUPPLY AS INDICATED. PROVIDE WIRE MESH SCREEN (25MM OPENINGS) ON R/A INTAKE, R/A OPEN TO SPACE. MOUNT WITHIN CEILING SPACE.
4. PROVIDE NEW VRF INDOOR UNIT, CASSETTE CEILING MOUNTED TYPE, C/W CONDENSATE PUMP. BALANCE OUTDOOR AIR SUPPLY AS INDICATED. CONNECT O/A TO VRF O/A INTAKE. CLOSE-OFF S/A DISCHARGE VENT IF TOO CLOSE TO WALL. MOUNT IN T-BAR CEILING.
5. PROVIDE NEW VRF BRANCH CONTROLLER, C/W CONDENSATE PUMP.
6. PROVIDE NEW INDOOR VRF UNIT, OUTDOOR UNIT, BRANCH CONTROLLER, REFRIGERANT PIPES, C/W STRUCTURAL SUPPORTS, SEISMIC RESTRAINTS, AND CONTROLS. CONNECT TO NEW THERMOSTAT AND DDC. PROVIDE NEW REFRIGERANT PIPES BETWEEN NEW INDOOR UNIT, OUTDOOR UNIT, AND BRANCH CONTROLLER C/W SUPPORTS AND INSULATION THROUGHOUT. SEE ROOF PLAN FOR CONTINUATION.
7. CONNECT 25MM CONDENSATE DRAIN DOWN TO P-TRAP OF EXISTING SINK. PROVIDE NEW P-TRAP.
8. PROVIDE NEW THERMOSTAT TO SERVE VRF SYSTEM, CONNECT TO DDC, MOUNT AT 1500MM AFF.
9. PROVIDE NEW 300x300 TRANSFER AIR DUCT IN CEILING SPACE, C/W 25MM ACOUSTIC LINING.
10. PROVIDE NEW SUPPLY FAN IN CEILING SPACE C/W ELECTRIC HEATING COIL, DUCTING, CONTROLS AND SEISMIC RESTRAINTS.
11. EXISTING HWS/HWR PIPING TO EXISTING EQUIPMENT TO REMAIN. DO NOT DISTURB.
12. PROVIDE R/A DUCT OPENING IN CEILING C/W WIRE MESH SCREEN.
13. PROVIDE NEW VRF INDOOR UNIT, CONCEALED DUCTED TYPE, C/W CONDENSATE PUMP. BALANCE OUTDOOR AIR SUPPLY AS INDICATED. CONNECT O/A TO R/A PLENUM, R/A PLENUM SEALED.

MOUNT MECHANICAL EQUIPMENT AS HIGH AS POSSIBLE TO MAINTAIN EXISTING CEILING HEIGHTS.



1 DUCTING AND HWH PIPING MAIN LEVEL HVAC - NEW  
 M201 SCALE: 1:100



2 PIPING AND THERMOSTATS MAIN LEVEL HVAC - NEW  
 M201 SCALE: 1:100

Revision/Revisión	Description/Description	Date/Date
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**CORRECTIONAL SERVICE CANADA**

Project title/Titre du projet  
**MISSION MEDIUM INSTITUTION MISSION, BC**

**BUILDINGS A-M, A-W, A-P (ADMINISTRATION) HVAC REVITALIZATION**

Consultant Signature Box Only

Designed by/Concept par  
**LB / KB**

Drawn by/Dessiné par  
**LB**

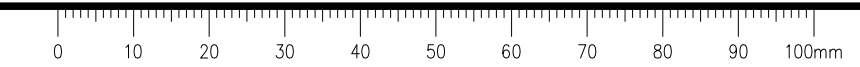
PWOSC Project Manager/Administrateur de Projets TPSGC  
**Paul Rithaler**

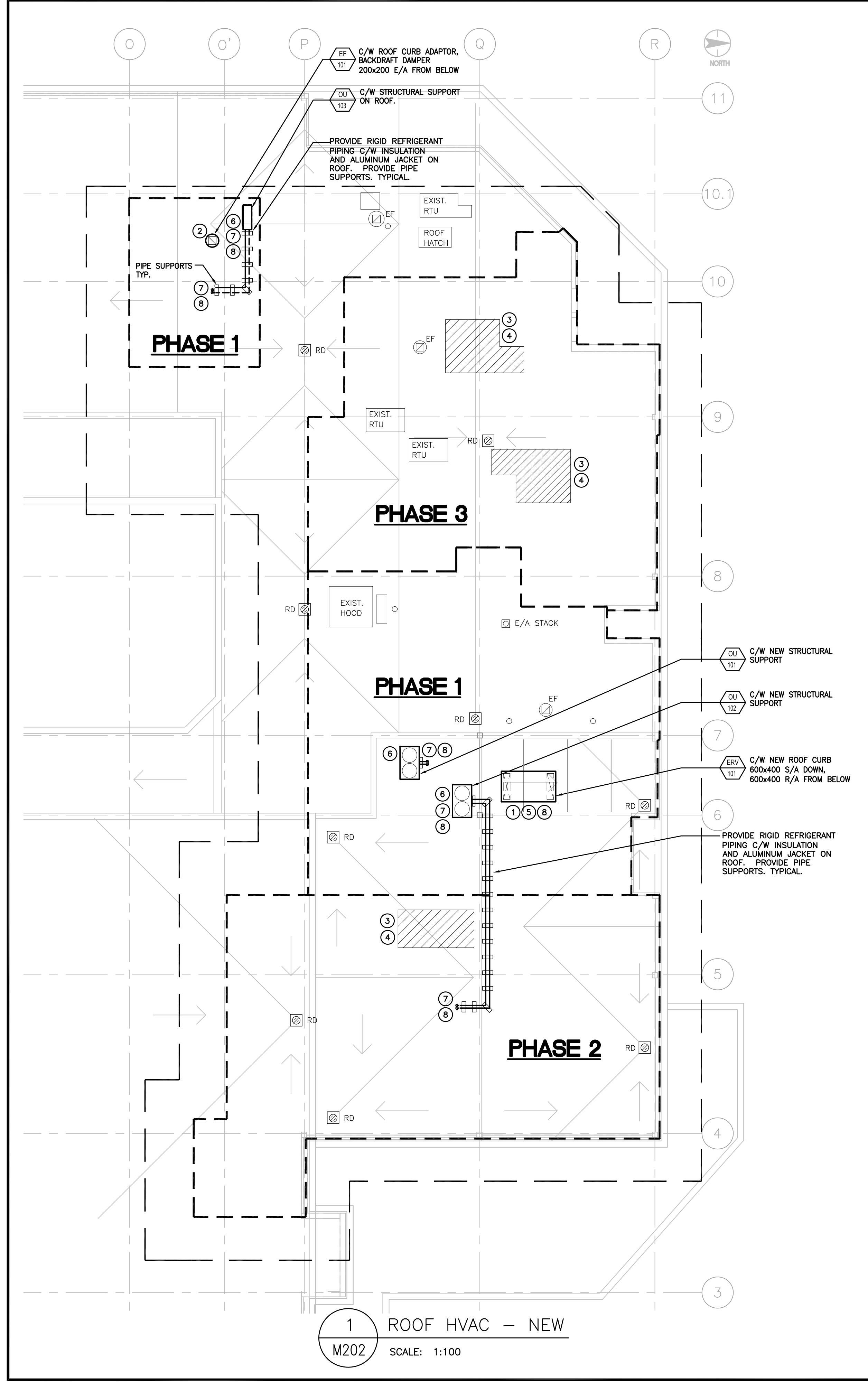
PWOSC, Regional Manager, Architectural and Engineering Services/  
 Gestionnaire régional, services d'architecture et de génie, TPSGC  
**Preetpal Paul**

Drawing title/Titre du dessin

**MECHANICAL MAIN LEVEL HVAC NEW**

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1 ROOF HVAC -- NEW  
 M202 SCALE: 1:100

**GENERAL NOTES:**

1. PROVIDE COMPLETE INSTALLATION OF NEW DDC SYSTEM AND COMPONENTS, C/W NEW THERMOSTATS, SENSORS, ACTUATORS, WIRING, CONDUIT, INTERFACES AND CONTROL PANEL. UPDATE GRAPHICS AND SEQUENCE OF OPERATION PROGRAMMING. COORDINATE ROUTING OF ALL CONDUIT WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO INSTALLATION.
2. PROVIDE COMPLETE INSTALLATION OF NEW VARIABLE REFRIGERANT FLOW (VRF) SYSTEM C/W INDOOR UNIT, OUTDOOR UNIT, CONTROLS, RIGID REFRIGERANT PIPING, CONDENSATE DRAIN LINES, CONDENSATE DRAIN PUMP, STRUCTURAL SUPPORTS, AND SEISMIC RESTRAINTS. ALL REFRIGERANT PIPING SHALL BE INDEPENDENTLY SUPPORTED AND INSULATED.
3. PROVIDE COMPLETE INSTALLATION OF NEW SUPPLY AND EXHAUST FAN SYSTEMS C/W FAN, DUCTING, DUCT ACCESSORIES, SEISMIC RESTRAINTS, AND CONTROLS.
4. PROVIDE NEW ROOF PENETRATIONS AS REQUIRED TO INSTALL NEW MECHANICAL SERVICES. CUT THROUGH BUILDING ENVELOPE AS REQUIRED. COORDINATE EXACT LOCATIONS OF ALL NEW ROOF PENETRATIONS WITH ARCHITECTURAL AND STRUCTURAL.
5. PROVIDE SEISMIC RESTRAINTS AND SEISMIC LETTER OF ASSURANCE FROM LICENSED SEISMIC ENGINEER FOR ALL ROOF TOP UNITS, VRF OUTDOOR UNITS, FANS, AND WHERE NOTED.
6. PROVIDE FIRE STOPPING AT ALL NEW ROOF PENETRATIONS.
7. PROVIDE PIPE SUPPORTS FOR ALL PIPING ON ROOF.
8. PROTECT EXISTING EQUIPMENT FROM DAMAGE.
9. PATCH AND MAKE GOOD ALL EXISTING ROOF, CEILING, WALL, FLOOR PENETRATIONS FOR MECHANICAL DEMOLITION AND RENOVATION WORK.
10. PATCH AND MAKE GOOD ALL DAMAGE CAUSED BY MECHANICAL WORK.
11. DO NOT DISTURB EXISTING ROOF DRAINS AND PLUMBING VENTS.
12. PLACE ALL OUTDOOR AIR INTAKES A MINIMUM 3000MM FROM ALL EXHAUST OPENINGS AND PLUMBING VENT TERMINATIONS.
13. PROVIDE COMPLETE INSTALLATION OF NEW ENERGY RECOVERY VENTILATOR (ERV-101) C/W CONTROLS, SEISMIC ROOF CURB, DUCTING, STRUCTURAL SUPPORT, AND SEISMIC RESTRAINTS.
14. PROVIDE WEATHER-TIGHT AND SEALED MECHANICAL PENETRATIONS TO EXTERIOR.

**SPECIFIC KEY NOTES :**

- 1 PROVIDE NEW ROOFTOP ENERGY RECOVERY VENTILATOR (ERV) C/W NEW SEISMIC ROOF CURB (INSULATED). REFER TO ARCHITECTURAL AND STRUCTURAL DETAIL. PROVIDE NEW S/A AND R/A TO BELOW.
- 2 PROVIDE NEW EXHAUST FAN C/W NEW SEISMIC ROOF CURB ADAPTOR (INSULATED), VERIFY ROOF CURB ADAPTOR DIMENSIONS AND CONNECT TO EXISTING ROOF CURB.
- 3 PROVIDE PIPE CAP FOR DISCONNECTED GAS LINES TO DEMOLISHED RTUs.
- 4 PATCH ROOF OPENING. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- 5 PROVIDE NEW ROOF OPENING FOR NEW ROOF MOUNTED EQUIPMENT. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- 6 PROVIDE NEW OUTDOOR VRF UNIT C/W NEW STRUCTURAL SUPPORTS.
- 7 PROVIDE NEW RIGID REFRIGERANT LINES FROM OUTDOOR UNIT DOWN TO INDOOR UNITS AND BRANCH CONTROLLER IN CEILING SPACES BELOW. PROVIDE INSULATION AND ALUMINUM JACKET ON ALL REFRIGERANT PIPING. PROVIDE PIPE SUPPORTS IN CEILING AND ON ROOF.
- 8 PROVIDE NEW ROOF JACK OPENING FOR HVAC SYSTEM PIPING AND CONDUIT.

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**CORRECTIONAL SERVICE CANADA**

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 MISSION, BC**  
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**Preetpal Paul**

Drawing title/Titre du dessin  
**MECHANICAL  
 ROOF HVAC  
 NEW**

Project No./No. du projet <b>R.082622.001</b>	Sheet/Feuille <b>M202</b> 8 OF 9	Revision no./ La Révision no. <b>0</b>
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**VARIABLE REFRIGERANT CAPACITY SYSTEM SCHEDULE**

UNIT TAG	TYPE	LOCATION	DESCRIPTION	RATED COOLING CAPACITY (MBH)	RATED HEATING CAPACITY (MBH)	SUPPLY AIR FLOW L/S (CFM)	PRIMARY AIR FLOW L/S	EXTERNAL S.P. Pa	FILTER	REFRIG.	MAXIMUM SOUND PRESS. RATING dB(A)	MCA A	UNIT ELECTRICAL VOLT/PH/HZ	FAN SPEED OPTIONS	NOTES	PHYSICAL DIMENSIONS				EXTENDED WARRANTY YEARS	BASIS OF DESIGN		ACCEPTABLE MATERIALS
																HEIGHT MM	WIDTH MM	DEPTH MM	WEIGHT KG		MAKE	MODEL	
VRF-101	INDOOR UNIT	MAIN LEVEL CEILING	DUCTLESS, CASSETTE	36	40	472 (1000)	SEE DRAWING	---	PP HONEYCOMB	R410A	35-41	2.73	208/1/60	L, M1, M2, H	1,2,3,5,7,10,11	298	840	840	25	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PEFY-EP36NEMU-E
VRF-102	INDOOR UNIT	MAIN LEVEL CEILING	CONCEALED DUCTED	30	34	425 (901)	SEE DRAWING	150	PP HONEYCOMB	R410A	30-39	2.73	208/1/60	L, M, H	1,2,3,4,5,6,7,10	250	1100	732	30	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PEFY-P30NMAU-E3
VRF-103	INDOOR UNIT	MAIN LEVEL CEILING	CONCEALED DUCTED	18	20	283 (600)	SEE DRAWING	150	PP HONEYCOMB	R410A	28-35	1.56	208/1/60	L, M, H	1,2,3,4,5,6,7,10	250	900	732	26	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PEFY-P18NMAU-E3
VRF-104	INDOOR UNIT	MAIN LEVEL CEILING	CONCEALED DUCTED	24	27	366 (776)	SEE DRAWING	150	PP HONEYCOMB	R410A	30-39	2.73	208/1/60	L, M, H	1,2,3,4,5,6,7,10	250	1100	732	30	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PEFY-P24NMAU-E3
VRF-105	INDOOR UNIT	MAIN LEVEL CEILING	CONCEALED DUCTED	12	13.5	141 (299)	SEE DRAWING	150	PP HONEYCOMB	R410A	28-34	1.20	208/1/60	L, M, H	1,2,3,4,5,6,7,10	250	700	732	22	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PEFY-P12NMAU-E3
VRF-106	INDOOR UNIT	MAIN LEVEL CEILING	CONCEALED DUCTED	30	34	419 (888)	SEE DRAWING	150	PP HONEYCOMB	R410A	30-39	2.73	208/1/60	L, M, H	1,2,3,4,5,6,7,10	250	1100	732	30	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PEFY-P30NMAU-E3
VRF-107	INDOOR UNIT	MAIN LEVEL T-BAR	DUCTLESS, CASSETTE	12	13.5	141 (299)	SEE DRAWING	---	PP HONEYCOMB	R410A	26-34	0.29	208/1/60	L, M, H	1,2,3,5,7,10,11	208	570	570	17	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PLFY-P12NFMU-E
VRF-108	INDOOR UNIT	MAIN LEVEL CEILING	CONCEALED DUCTED	24	27	329 (697)	SEE DRAWING	150	PP HONEYCOMB	R410A	30-39	2.73	208/1/60	L, M, H	1,2,3,4,5,6,7,10	250	1100	732	30	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PEFY-P24NMAU-E3
VRF-109	INDOOR UNIT	MAIN LEVEL T-BAR	DUCTLESS, CASSETTE	12	13.5	141 (299)	SEE DRAWING	---	PP HONEYCOMB	R410A	26-34	0.29	208/1/60	L, M, H	1,2,3,5,7,10,11	208	570	570	17	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PLFY-P12NFMU-E
VRF-110	INDOOR UNIT	MAIN LEVEL T-BAR	DUCTLESS, CASSETTE	12	13.5	141 (299)	SEE DRAWING	---	PP HONEYCOMB	R410A	26-34	0.29	208/1/60	L, M, H	1,2,3,5,7,10,11	208	570	570	17	7 YEARS	DAIKIN, SAMSUNG	MITSUBISHI	PLFY-P12NFMU-E

OU-101	OU-102	OU-103	ROOF	HEAT RECOVERY	72 NOMINAL	80 NOMINAL	-5 TO 52	-30 TO 15.5	14	4	R410A	56.5/58.0	38-35	208/3/60	29%-100% C. 17%-100% H.	1,2,5,7,8,9,10	1818	1250	745	276	7 YEARS <th rowspan="2">MITSUBISHI <th rowspan="2">HYPER-HEATING R2 SERIES PURY-HP72TNU-A <th rowspan="2">DAIKIN, SAMSUNG</th> </th></th>	MITSUBISHI <th rowspan="2">HYPER-HEATING R2 SERIES PURY-HP72TNU-A <th rowspan="2">DAIKIN, SAMSUNG</th> </th>	HYPER-HEATING R2 SERIES PURY-HP72TNU-A <th rowspan="2">DAIKIN, SAMSUNG</th>	DAIKIN, SAMSUNG
OU-101	OUTDOOR UNIT	ROOF	HEAT RECOVERY	72 NOMINAL	80 NOMINAL	-5 TO 52	-30 TO 15.5	14	4	R410A	56.5/58.0	38-35	208/3/60	29%-100% C. 17%-100% H.	1,2,5,7,8,9,10	1818	1250	745	276	7 YEARS	MITSUBISHI	HYPER-HEATING R2 SERIES PURY-HP72TNU-A	DAIKIN, SAMSUNG	
OU-102	OUTDOOR UNIT	ROOF	HEAT RECOVERY	72 NOMINAL	80 NOMINAL	-5 TO 52	-30 TO 15.5	14	4	R410A	56.5/58.0	38-35	208/3/60	29%-100% C. 17%-100% H.	1,2,5,7,8,9,10	1818	1250	745	276	7 YEARS	MITSUBISHI	HYPER-HEATING R2 SERIES PURY-HP72TNU-A	DAIKIN, SAMSUNG	
OU-103	OUTDOOR UNIT	ROOF	HEAT PUMP	36 NOMINAL	42 NOMINAL	-5 TO 46	-25 TO 15	12	4	R410A	49/53	36	208/1/60	29%-100% C. 17%-100% H.	1,2,5,7,8,10	1338	1050	330	124	7 YEARS	MITSUBISHI	PUMY-HP36NKMU1	DAIKIN, SAMSUNG	

BC-101	BC-102	CEILING SPACE	HEAT RECOVERY	102	115	---	---	---	---	R410A	50-56	0.83/0.97	208/1/60	8	1,3,5,7,10	250	911	545	48	7 YEARS <th rowspan="2">MITSUBISHI <th rowspan="2">CMB-P108-NU-JA1</th> <th rowspan="2">DAIKIN, SAMSUNG</th> </th>	MITSUBISHI <th rowspan="2">CMB-P108-NU-JA1</th> <th rowspan="2">DAIKIN, SAMSUNG</th>	CMB-P108-NU-JA1	DAIKIN, SAMSUNG
BC-101	BRANCH CONTROLLER	CEILING SPACE	HEAT RECOVERY	102	115	---	---	---	---	R410A	50-56	0.83/0.97	208/1/60	8	1,3,5,7,10	250	911	545	48	7 YEARS	MITSUBISHI	CMB-P108-NU-JA1	DAIKIN, SAMSUNG
BC-102	BRANCH CONTROLLER	CEILING SPACE	HEAT RECOVERY	72	81	---	---	---	---	R410A	40-53	0.38/0.44	208/1/60	4	1,3,5,7,10	250	596	398	26	7 YEARS	MITSUBISHI	CMB-P104-NU-J1	DAIKIN, SAMSUNG

NOTES: 1. REFER TO SPECIFICATIONS FOR SUPPLEMENTAL REQUIREMENTS. 2. PROVIDE BACNET INTERFACE, THERMOSTAT, AND ALL CONTROL HARDWARE AND SENSORS FOR FULL INTEGRATION TO BMS. 3. PROVIDE CONDENSATE PUMP, POWERED BY EQUIPMENT SERVED. 4. PROVIDE FILTER BOX AND FILTERS ON RETURN AIR INTAKE. 5. PROVIDE STRUCTURAL SUPPORT, VIBRATION ISOLATION, AND SEISMIC RESTRAINTS. 6. PROVIDE ELECTRICAL STARTERS. 7. PROVIDE REFRIGERANT TUBES, POWER AND CONTROL WIRING TO OUTDOOR UNIT, INDOOR UNIT, AND BRANCH CONTROLLERS. 8. C/W LOW AMBIENT KIT FOR EXTENDED COOLING OPERATION RANGE. 9. C/W BRANCH CONTROLLER KIT. 10. C/W REFRIGERANT PIPING REDUCERS, BALL VALVES, JOINT PIECES. 11. C/W GRILLE, LONG-LIFE FILTER, O/A DUCT FLANGE.

**ENERGY RECOVERY VENTILATOR SCHEDULE**

TAG	SERVICE	TYPE	LOCATION	WINTER DESIGN TEMPERATURES				SUMMER DESIGN TEMPERATURES				AIR FLOW L/S	EXT. S.P. Pa	ELECTRICAL				BACKUP HEATER	FILTER	WEIGHT KG	PHYSICAL DIMENSIONS			BASIS OF DESIGN		NOTES	ACCEPTABLE MATERIALS		
				OUTDOOR		INDOOR		OUTDOOR		INDOOR				MOTOR HP	MOTOR STARTER	MOTOR VOLT/PH/HZ	OVERALL VOLT/PH/HZ				LENGTH MM	WIDTH MM	TOTAL HEIGHT W/ ROOF CURB (ERV + CURB) MM	MAKE	MODEL				
				DB DEG.C	WB DEG.C	DB DEG.C	WB DEG.C	DB DEG.C	WB DEG.C	DB DEG.C	WB DEG.C																		
ERV-101	LEVEL-2	CROSS FLOW AIR-TO-AIR HEAT EXCHANGER C/W ECONOMIZER	ROOF TOP	-8.3°C	-8.3°C	21.1°C	12.2°C	26.7°C	19.4°C	23.9°C	17.2°C	190 TO 380	250	0.75	VFD	575/3/60	575/3/60	NONE	MERV-8	750	2100	1200	1500	TRANE-ALDES	INSPIRAIR SERIES	1,2,3,4,5,6,7,8,9,10,11,12,13,14	GREENHECK, RUSKIN		
												142 TO 284	250	0.75	VFD	575/3/60													

NOTES: 1. REFER TO SPECIFICATIONS FOR SUPPLEMENTAL REQUIREMENTS. 2. C/W INSULATED, SEISMICALLY RATED 300MM HIGH ROOF CURB, DO NOT USE ROOF CURB ADAPTORS. SEE ARCHITECTURAL DETAIL. 3. C/W 2x MERV-8 FILTERS FOR EACH CIRCUIT (PLUS 1x SPARE SET). 4. C/W ENTHALPY CORE, FIXED PLATE, AHRI-1060 CERTIFIED. 5. C/W ECONOMIZER (FACE AND BYPASS) MODULATING DAMPER, ACTUATORS, ENTHALPY SENSORS AND CONTROLS. 6. C/W INSULATED, MODULATING DAMPERS. 7. C/W DRY CONTACTS FOR FULL DDC INTEGRATION. 8. C/W SINGLE POINT POWER CONNECTION, VFD FOR EACH MOTOR, NON-FUSED DISCONNECT. 9. C/W ODP, INVERTER-READY MOTOR. 10. C/W FACTORY INSTALLED 5-20R GFCI RECEPTACLE C/W WHILE-IN-USE WEATHERPROOF BOX. 11. C/W WEATHER HOOD AND BIRDSCREENS. 12. SOUND POWER LEVEL MAXIMUM 25 SONES. 13. TESTED PER ANSI/UL 1995 AND CAN/CSA C22.2 NO.236. 14. ETL CERTIFIED.

**FAN SCHEDULE**

TAG	SERVICE	TYPE	AIR FLOW L/S (CFM)	EXT. STATIC PRESSURE Pa (in.wg)	ELECTRICAL (V/PH/HZ)	BLOWER MOTOR (HP)	NOTES	BASIS OF DESIGN		ACCEPTABLE MATERIALS
								MAKE	MODEL	
EF-101	V&C WASHROOM 237	DOWNBLAST	47 (100)	63 (0.25)	120/1/60	1/4	1,2,3,4,5,10	GREENHECK	G-60-VG	DELHI, COOK
SF-101	V&C VENTILATION	INLINE	42 (90)	63 (0.25)	208/1/60	FRAC.	1,3,6,7,8,9,10	THERMOLEC	FER-6-3-120	DELHI, COOK

NOTES: 1. REFER TO SPECIFICATIONS FOR SUPPLEMENTAL REQUIREMENTS. 2. C/W BACK-DRAFT DAMPER. 3. C/W CONTROLS INTERFACE FOR INTEGRATION INTO BMS. 4. C/W ROOF-CURB ADAPTOR AND BIRD-SCREEN. 5. C/W DIRECT DRIVE MOTOR AND VARIABLE SPEED SWITCH FOR AIR BALANCING, SWITCH SHALL BE LOCATED NEAR THE FAN IN A WEATHERPROOF BOX. 6. C/W DIRECT DRIVE MOTOR. 7. C/W STRUCTURAL SUPPORT AND SEISMIC RESTRAINTS. 8. C/W INTEGRAL ELECTRIC COIL, 3KW CAPACITY. 9. C/W CONTROLS: AIR FLOW SENSOR, TEMPERATURE SENSOR, AUTOMATIC RESET THERMAL CUT-OUT, MANUAL RESET THERMAL CUT-OUT, BUILT-IN ELECTRONIC TEMPERATURE CONTROLLER AND SENSOR. 10. CSA COMPLIANT, AND ULC CERTIFIED.

**DIFFUSER, GRILLE & REGISTER SCHEDULE**

UNIT NO.	TYPE	DAMPER	THROAT DIMENSION	OVERALL DIMENSION	COLOUR	NOTES	BASIS OF DESIGN		ACCEPTABLE MATERIALS
							MANUFACTURER	MODEL	
S-1	SUPPLY AIR DIFFUSER	--	SEE DRAWINGS	600x600	WHITE	1,2	E.H. PRICE	SPD	NAILOR, TUTTLE
R-1	RETURN AIR GRILLE	--	SEE DRAWINGS	SEE DRAWINGS	WHITE	1,2	E.H. PRICE	80	NAILOR, TUTTLE
E-1	EXHAUST AIR GRILLE	--	SEE DRAWINGS	SEE DRAWINGS	WHITE	1,2	E.H. PRICE	80	NAILOR, TUTTLE
TG-1	TRANSFER AIR GRILLE	--	SEE DRAWINGS	SEE DRAWINGS	WHITE	1,2	E.H. PRICE	530/F/L/A	NAILOR, TUTTLE

NOTES: 1. REFER TO SPECIFICATIONS FOR SUPPLEMENTAL REQUIREMENTS. 2. PROVIDE DIFFUSERS AND GRILLES WITH BORDER STYLES THAT ARE COMPATIBLE WITH ADJACENT WALLS, CEILINGS OR DOOR SYSTEMS. CONFIRM SIZES ON SITE BEFORE ORDERING.

**LOUVRE SCHEDULE**

TAG No.	LOCATION	MAX. AIR FLOW	DIMENSIONS	DEPTH mm	MIN. FREE AREA % Percent	AIR P.D. Pa	NOTES	MAKE	MODEL	ACCEPTABLE MATERIALS
L-1	V&C	SEE DRAWINGS	SEE DRAWINGS	100	50%	38	1,2,3,4,5,6	E.H. PRICE	DE 439	NAILOR, TITUS

NOTES: 1. REFER TO SPECIFICATIONS FOR SUPPLEMENTAL REQUIREMENTS. 2. SELECT LOUVRE FASTENING TYPE TO SUIT BUILDING CONSTRUCTION. 3. CONFIRM THE EXACT SIZE ON SITE PRIOR TO ORDERING. MAXIMUM FACE VELOCITY 900FPM. 4. C/W BIRD AND INSECT SCREEN. 5. DRAINABLE. 6. ALL WELD ALUMINUM CONSTRUCTION.

0	ISSUED FOR TENDER	2020.10.25
Revision/Revisión	Description/Description	Date/Date

Client/client

**CORRECTIONAL SERVICE CANADA**

Project title/Titre du projet  
**MISSION MEDIUM INSTITUTION MISSION, BC**

**BUILDINGS A-M, A-W, A-P (ADMINISTRATION) HVAC REVITALIZATION**

Consultant Signature Box Only

Designed by/Concept par  
**LB / KB**

Drawn by/Dessine par  
**LB**

PWGSC Project Manager/Administrateur de Projets TPSGC  
**Paul Rithaler**

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, services d'architecture et de génie, TPSGC  
**Preetpal Paul**

Drawing title/Titre du dessin

**MECHANICAL EQUIPMENT SCHEDULES**

Project No./No. du projet <b>R.082622.001</b>	Sheet/Feuille <b>M500</b>	Revision no./Lo Révision no. <b>0</b>
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