

DOMESTIC WATER HEATER (DWH)				
Mark No.			DWH-1	DWH-2
Revision Date			Aug 8 2025	Aug 8 2025
Service			DOMESTIC HOT WATER	DOMESTIC HOT WATER
Drawing Location			G33-M2106	G33-M2106
Performance				
Fuel Type			NAT GAS	NAT GAS
Input	MBH	KW	130/38	130/38
Output	MBH	KW	125/36.6	125/36.6
Manufacturer			AO SMITH	AO SMITH
Model			BSS 130	BSS 130
Water Side				
Flow Rate	gpm	lps	32/2.01	32/2.01
Temperature Rise	°F	°C	165/74	165/74
Storage Capacity	gal	litres	34/128	34/128
Recovery Rate	gph	lph	165/0.17	165/0.17
Design Pressure	in.	mm	-	-
Electrical				
Power	kW	kW	-	-
Number of Elements			-	-
MCA	A	A	5	5
Volts/Phase/Hz			120/1/60	120/1/60
Unfused Disconnect			-	-
CONTROLS				
Control Sequence	CS	CS		
Controlled by			Water Temp Sensor	Water Temp Sensor
ELECTRICAL COORDINATION				
General Requirements				
Normal Power			YES	YES
Emergency Power			NO	NO
Disconnect provided by			MANUFACTURER	MANUFACTURER

Notes:

1. Starter is supplied with equipment.

PUMPS (P)			
Mark No.	P-1A, P-1B	P-2	P-3
Revision Date	Aug 8 2025	Aug 8 2025	Sep 19 2025
Service	Domestic Water	Domestic Water	Sanitary Drain
Drawing Location	G33-M2101	G33-M2106	G33-M3101, M3108
Performance			
Fluid	Domestic Potable Water	Domestic Recirculating Water	Sanitary Waste Water from Elevator Pit
Fluid Temperature	°C	City Water	60
Flow Rate	l/s	9	0.5
Head	m	57	9.5
NPSHA	m	-	-
Type	Multi Stage	Circulator	Sump Pump
Size	-	-	-
Design Pressure	kPa	490	104
Manufacturer	TACO	TACO	ARMSTRONG
Model	15VR-03	VR3452	LEGACY 5310-50
Vibration Control			
Base Type	CI	None	None
Isolator Type	OS	SHR	None
Static Deflection	mm	19.0	19.0
Motor			
HP	5.0	1	0.5
FLA	A	-	3.6
RPM	3,450	-	-
Volts/Phase/Hz	230/1/60	230/1/60	230/1/60
VFD Rated Motor	Yes	No	No
Unfused Disconnect	-	-	-
CONTROLS			
Control Sequence	CS		
ELECTRICAL COORDINATION			
General Requirements			
Normal Power	Yes	Yes	Yes
Emergency Power	No	No	Yes
Disconnect provided by	Pump Supplier	Pump Supplier	Pump Supplier

Notes:

1. Starter is supplied with equipment.

ROOFTOP OUTDOOR AIR UNIT (AC)		
Mark No.	AC-1	
Service	OUTDOOR AIR SUPPLY AND PRESSURIZATION	
Drawing Location	G33-M5107	
General Requirements		
Manufacturer	DAIKIN	
Model	REBEL PACKAGE UNIT DPSH12B	
Weight	kg	943
Fan		
Capacity	l/s	1700
External Static Pressure	Pa	350
Cooling		
Type	DX	
Sensible Capacity	kW	30
Total Capacity	kW	43.2
Evaporator EAT (db)	°C	26.67
Evaporator EAT (wb)	°C	19.4
Evaporator LAT (db)	°C	11.67
Evaporator LAT (wb)	°C	11.6
Condenser EAT (db)	°C	32.2
Heating		
Type	Gas Fired	
Capacity	kW	118
EAT	°C	-20.0
Filter		
Type	-	
MERV Rating	No.	13.0
Motor / Power		
Power	kW	-
MCA	A	30
FLA	A	25.8
Volts/Phase/Hz	575/3/60	
Unfused Disconnect	-	
CONTROLS		
Control Sequence	CS	
Operating Controls		
BMS Start/Stop	YES	
Fire Alarm Stop	NO	
ELECTRICAL COORDINATION		
General Requirements		
Normal Power	Yes	
Emergency Power	Yes	
Disconnect provided by	Manufacturer	
Starter (refer to Controls Schedule for Operating Controls)		
Standard Starter Detail	(Note 1)	
MCA	25.8	
FLA	-	
Volts/Phase/Hz	-	

Notes:

1. Starter is supplied with equipment.

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ISSUES		
No.	DESCRIPTION	DATE
A	ISSUED FOR PRELIMINARY COSTING	2025-06-27
B	ISSUED FOR PERMIT 100%	2025-07-31
C	ISSUED FOR TENDER	2025-09-02
D	ISSUED FOR PERMIT UPDATE	2025-09-22

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Toronto, ON M9W 0C9, Canada  
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PROJECT TITLE

50 RICHMOND ST. E.  
RENOVATIONS

PROJECT ADDRESS

50 RICHMOND STREET EAST  
TORONTO, ON

PROJECT NO:  
122260

DRAWN BY:  
C. SU

CHECKED BY:  
E. PANAHI

PROJECT MGR:  
F. BOLOURIAN

APPROVED BY:  
R. BARROSO

SHEET TITLE

MECHANICAL  
EQUIPMENT SCHEDULE  
3 OF 6

SHEET NUMBER

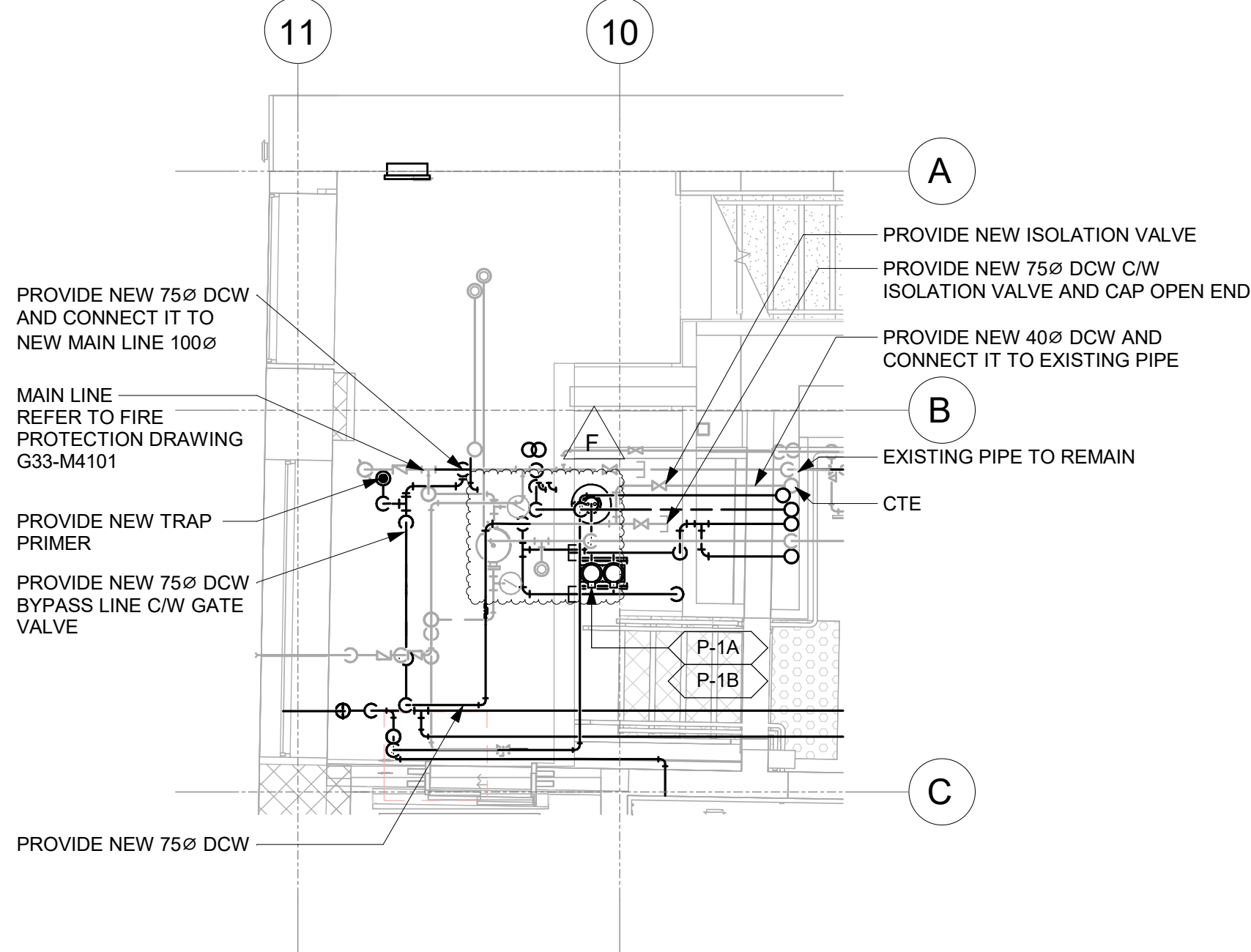
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ISSUE

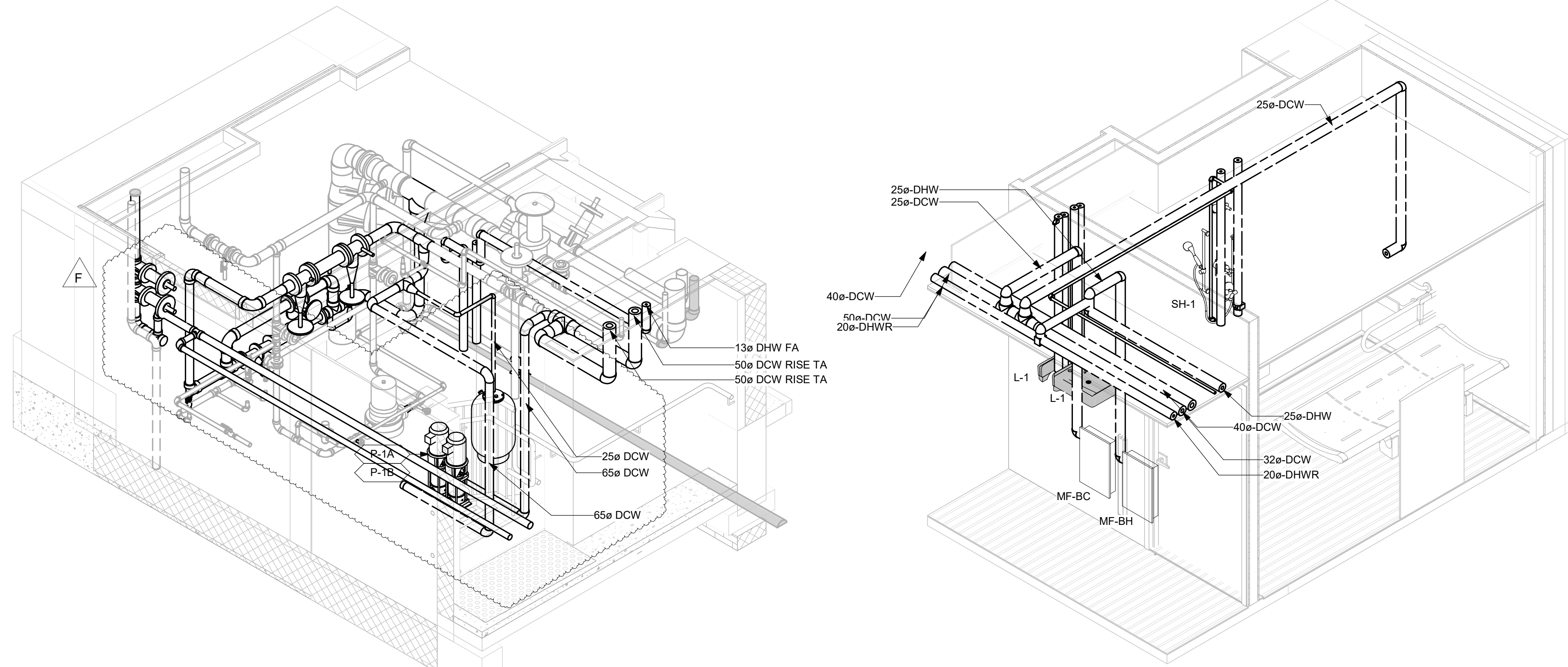
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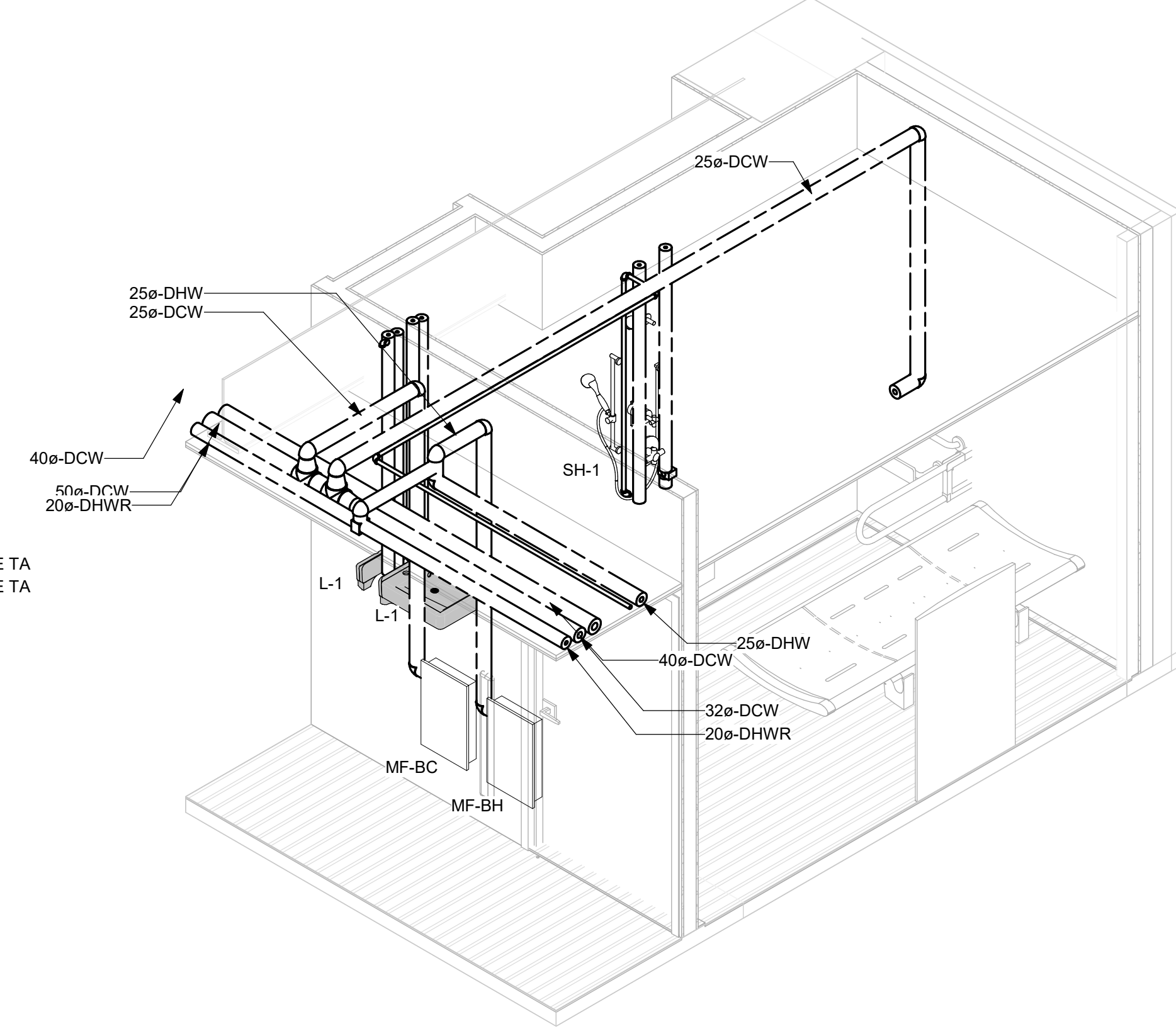
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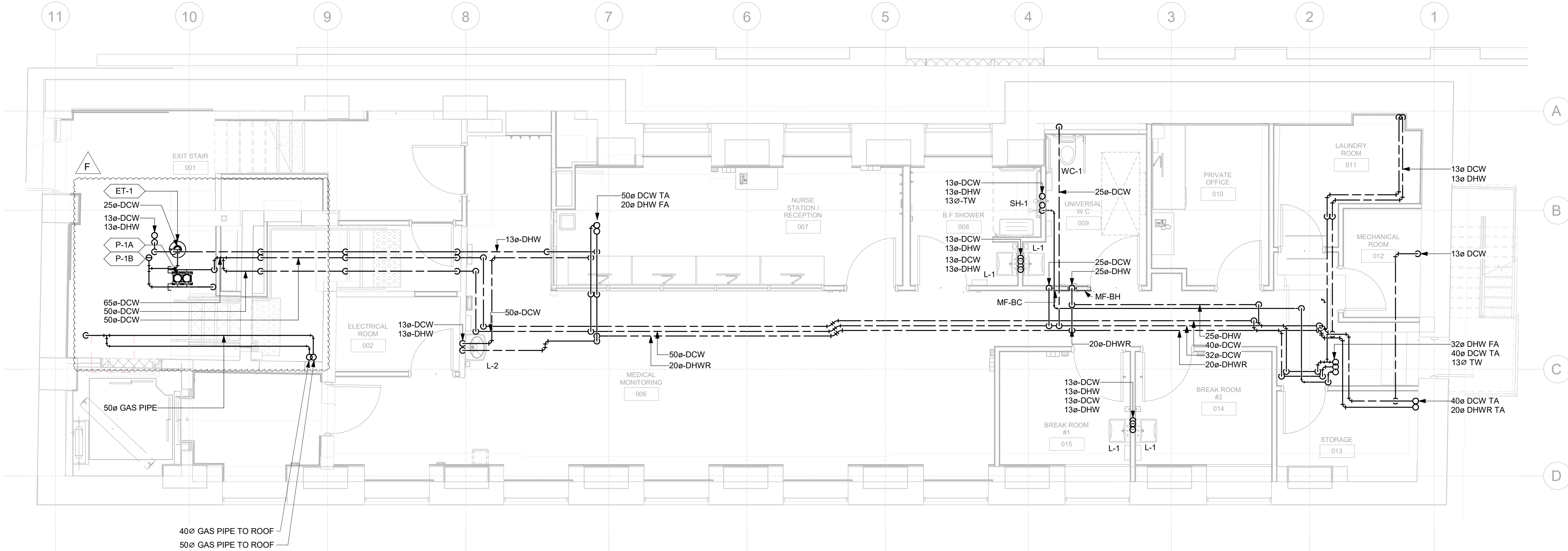
4 MECHANICAL ROOM BLOW UP PLAN  
M2101 Scale: 1 : 50



2 3D VIEW - MECHANICAL ROOM PLUMBING PLAN  
M2101 Scale: 1:25



3 3D VIEW - UNIVERSAL W.C. 009  
M2101 Scale: 1:25



1 PLUMBING - BASEMENT  
M2101 Scale: 1 : 50

- PLUMBING NOTES:
1. CROSS REFERENCE THE PIPE SIZING AND PIPING CONNECTIONS WITH PLUMBING SCHEMATIC DIAGRAM IN DRAWING M2108.
  2. PIPE SIZES AND INSTALLATION SHALL BE AS PER OBC DIVISION B PART 7.6 AND INTERNATIONAL PLUMBING CODE, WHICHEVER IS MORE STRINGENT.
  3. ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH SHUT OFF VALVES FOR BOTH DCW AND DHW WATER SUPPLY PIPING.
  4. ALL PLUMBING VALVES SHALL BE MADE ACCESSIBLE THROUGH 300X300 ACCESS PANELS TO BE COORDINATED WITH ARCHITECTURAL WALLS AND CEILING WORKS.
  5. PLUMBING PIPING INSULATION SHALL BE AS PER PIPING INSULATION SPECIFICATIONS 23 07 19.
  6. CONTRACTOR TO VERIFY ALL SANITARY DRAINAGE PIPE AND VENT LAYOUTS ON SITE FOR OBSTRUCTIONS AND RESTRICTIONS. ENGINEER SHALL BE NOTIFIED FOR DISCREPANCIES BETWEEN DRAWING AND ACTUAL SITE CONDITION FOR RESOLUTION.
  7. CROSS REFERENCE THIS DRAWING WITH PLUMBING SCHEMATIC DIAGRAM IN DRAWING M2108.

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No.	DESCRIPTION	DATE
A	50% SUBMISSION	2024-10-31
B	75% SUBMISSION	2025-03-17
C	ISSUED FOR PRELIMINARY COSTING	2025-06-27
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PROJECT ADDRESS

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TORONTO, ON**

PROJECT NO:

122260

DRAWN BY:

C. SU

CHECKED BY:

E. PANAH

PROJECT MGR:

F. BOLOURIAN

APPROVED BY:

R. BARROSO

SHEET TITLE

**PLUMBING - BASEMENT  
FLOOR**

SHEET NUMBER

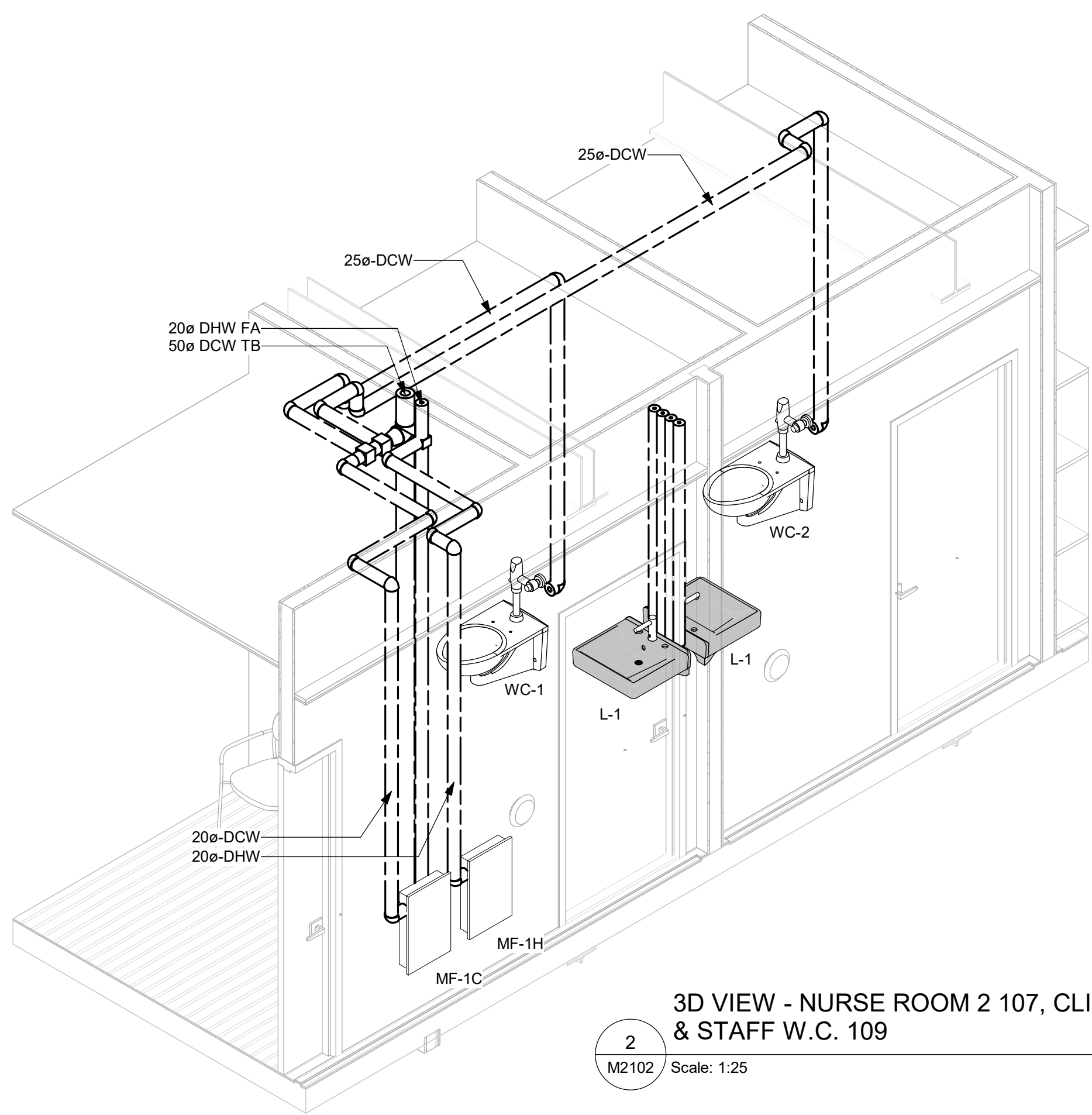
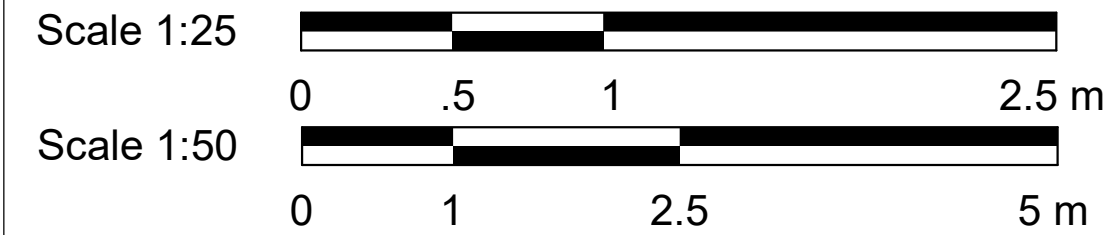
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ISSUE

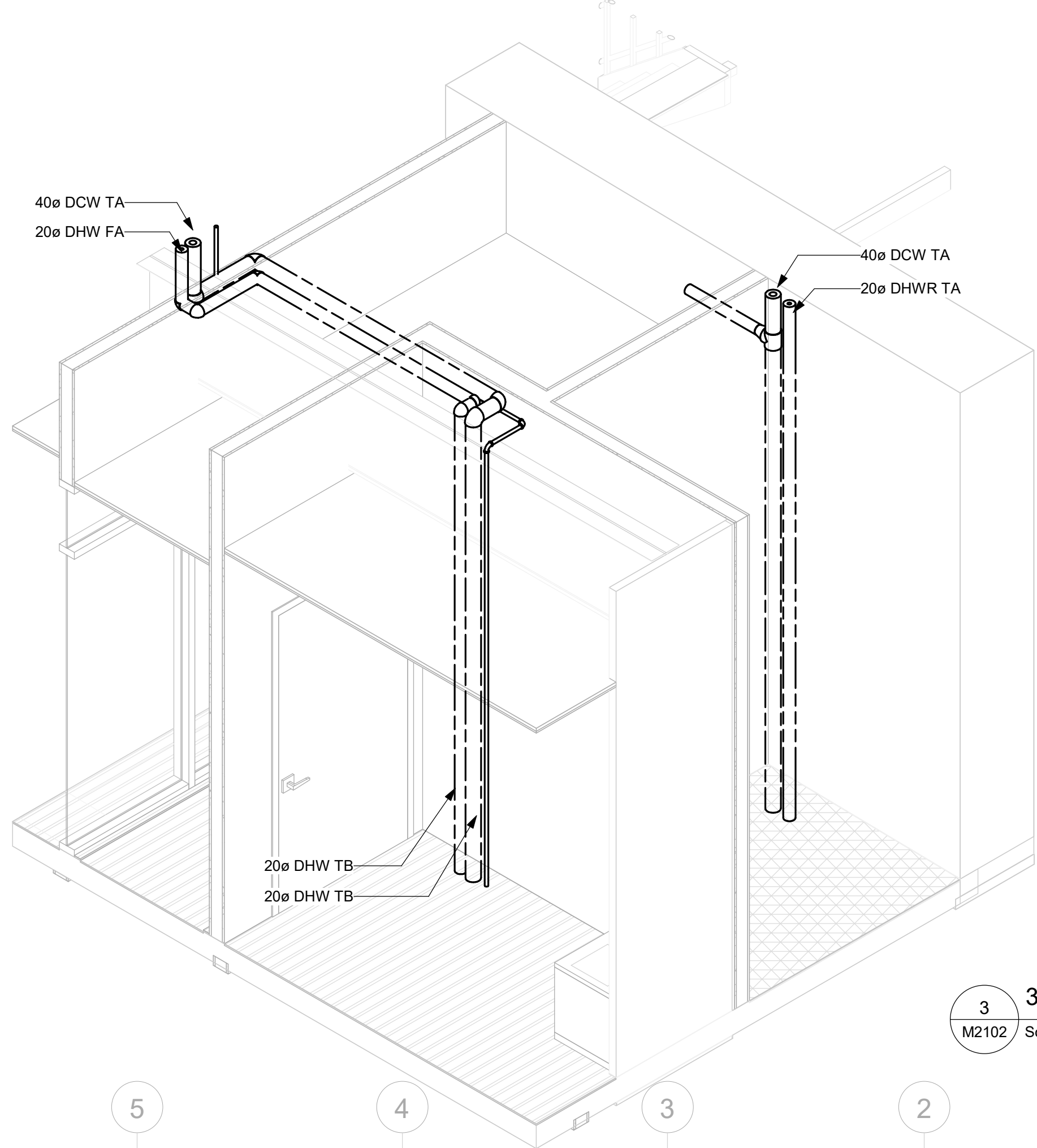
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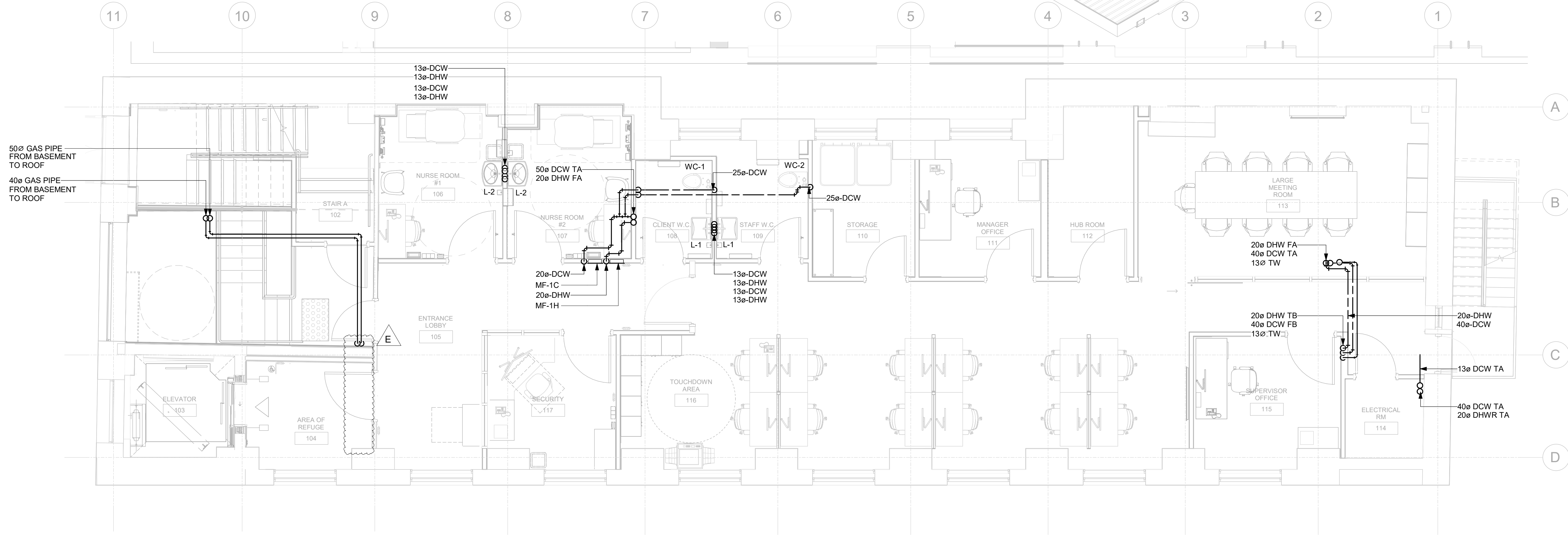
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2 3D VIEW - NURSE ROOM 2 107, CLIENT W.C. 108 & STAFF W.C. 109  
M2102 Scale: 1:25



3 3D VIEW - ELECTRICAL RM 114  
M2102 Scale: 1:25



1 PLUMBING - FIRST FLOOR  
M2102 Scale: 1:50

PLUMBING NOTES:

- CROSS REFERENCE THE PIPE SIZING AND PIPING CONNECTIONS WITH PLUMBING SCHEMATIC DIAGRAM IN DRAWING M2108.
- PIPE SIZES AND INSTALLATION SHALL BE AS PER OBC DIVISION B PART 7.6 AND INTERNATIONAL PLUMBING CODE, WHICHEVER IS MORE STRINGENT.
- ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH SHUT OFF VALVES FOR BOTH DCW AND DHW WATER SUPPLY PIPING.
- ALL PLUMBING VALVES SHALL BE MADE ACCESSIBLE THROUGH 300X300 ACCESS PANELS TO BE COORDINATED WITH ARCHITECTURAL WALLS AND CEILING WORKS.
- PLUMBING PIPING INSULATION SHALL BE AS PER PIPING INSULATION SPECIFICATIONS 23 07 19.
- CONTRACTOR TO VERIFY ALL PLUMBING AND GAS PIPING LAYOUTS ON SITE FOR OBSTRUCTIONS AND RESTICTIONS. ENGINEER SHALL BE NOTIFIED FOR DISCREPANCIES BETWEEN DRAWING AND ACTUAL SITE CONDITION FOR RESOLUTION.

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**E. PANAH**

PROJECT MGR:  
**F. BOLOURIAN**

APPROVED BY:  
**R. BARROSO**

SHEET TITLE  
**PLUMBING - FIRST  
FLOOR**

SHEET NUMBER

**M2102**

ISSUE

**E**

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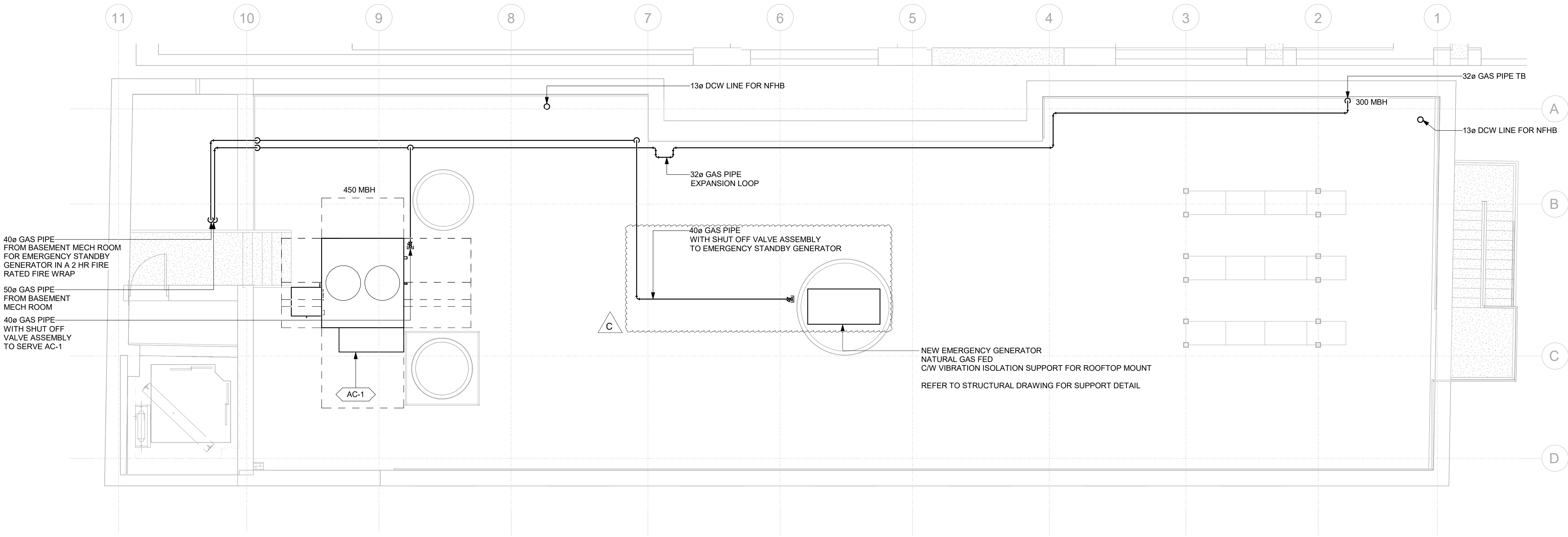
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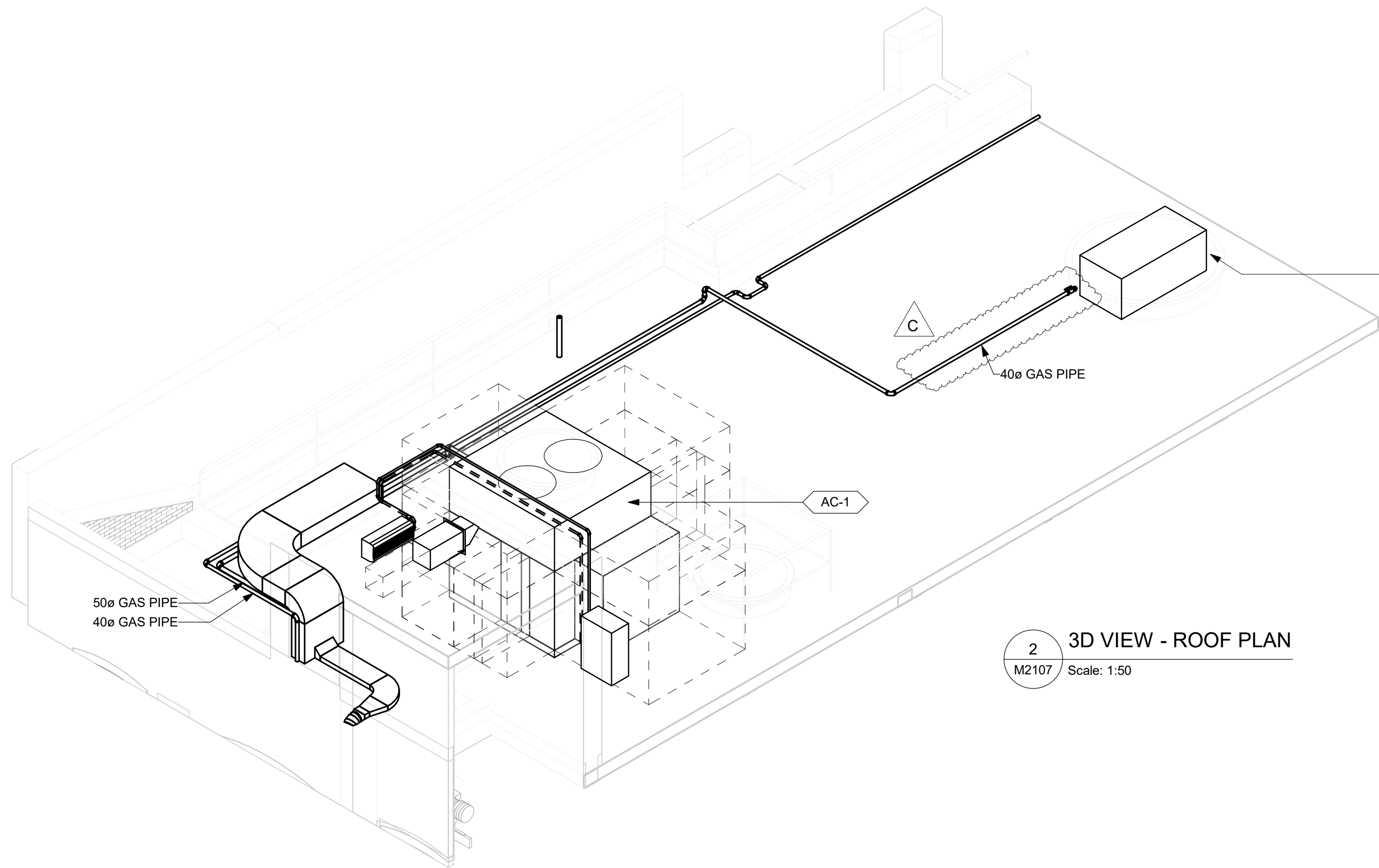
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1 PLUMBING - ROOF  
M2107 Scale: 1 : 50



PLUMBING NOTES:

- CROSS REFERENCE THE PIPE SIZING AND PIPING CONNECTIONS WITH PLUMBING SCHEMATIC DIAGRAM IN DRAWING M2108.
- PLUMBING PIPE SIZES AND INSTALLATION SHALL BE AS PER OBC DIVISION B PART 7.6 AND INTERNATIONAL PLUMBING CODE, WHICHEVER IS MORE STRINGENT.
- ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH SHUT OFF VALVES FOR BOTH DCW AND DHW WATER SUPPLY PIPING.
- PLUMBING PIPING INSULATION SHALL BE AS PER PIPING INSULATION SPECIFICATIONS 23 07 19.
- HOSE BIBBS SHALL BE NON-FREEZE TYPE.
- SEAL ALL ROOF AND WALL PIPE PENETRATIONS
- SEE DETAIL 3/M0106 FOR GAS PIPING INSTALLATION DETAIL ON ROOF.
- CONTRACTOR TO VERIFY ALL PLUMBING AND GAS PIPING LAYOUTS ON SITE FOR OBSTRUCTIONS AND RESTICTIONS. ENGINEER SHALL BE NOTIFIED FOR DISCREPANCIES BETWEEN DRAWING AND ACTUAL SITE CONDITION FOR RESOLUTION.



2 3D VIEW - ROOF PLAN  
M2107 Scale: 1:50

NEW EMERGENCY GENERATOR  
NATURAL GAS FED  
C/W VIBRATION ISOLATION SUPPORT FOR ROOFTOP MOUNT  
REFER TO STRUCTURAL DRAWING FOR SUPPORT DETAIL

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TORONTO, ON**

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**C. SU**

CHECKED BY:  
**E. PANAH**

PROJECT MGR:  
**F. BOLOURIAN**

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**R. BARROSO**

SHEET TITLE  
**PLUMBING - ROOF**

SHEET NUMBER

**M2107**

ISSUE

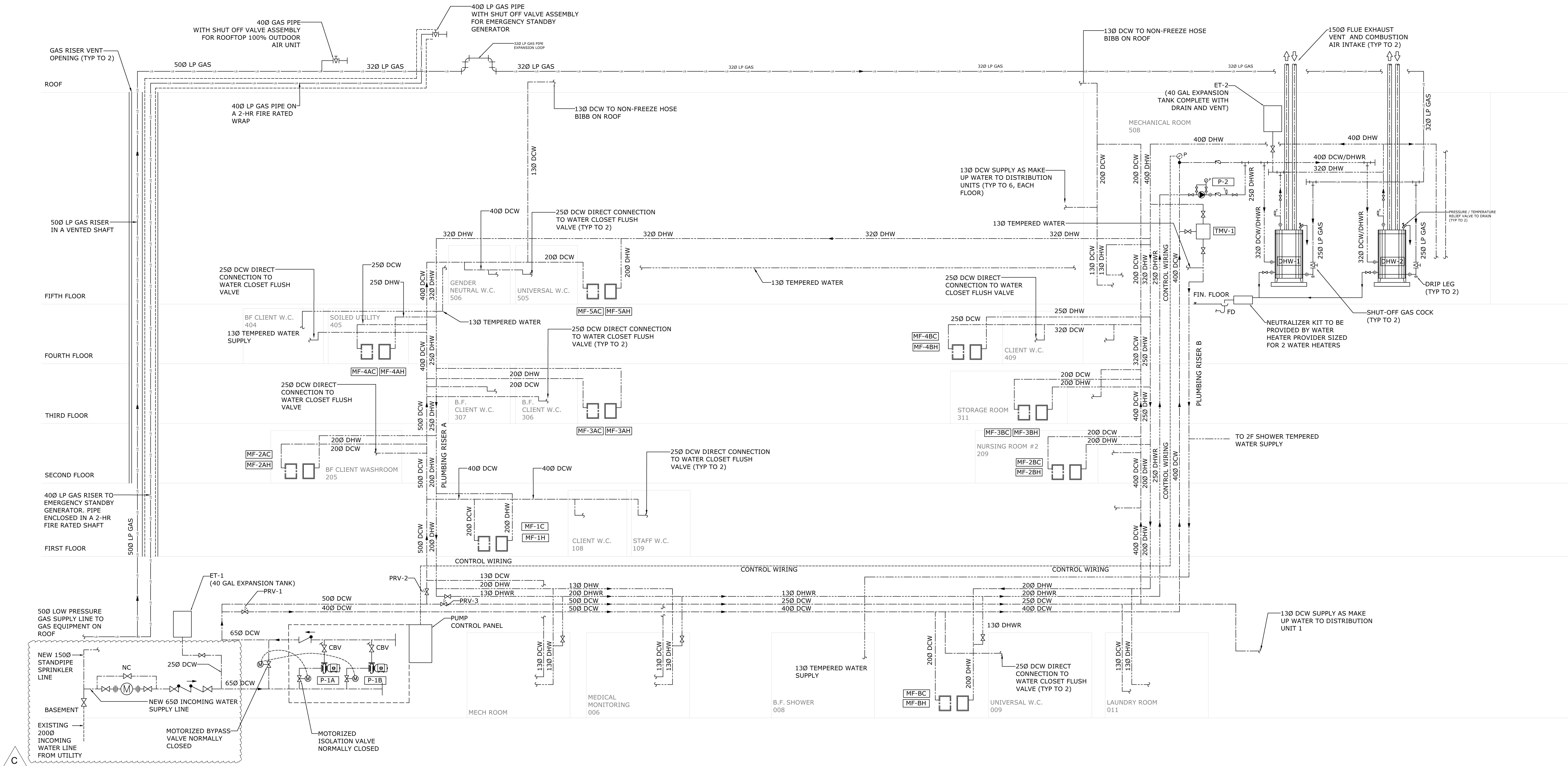
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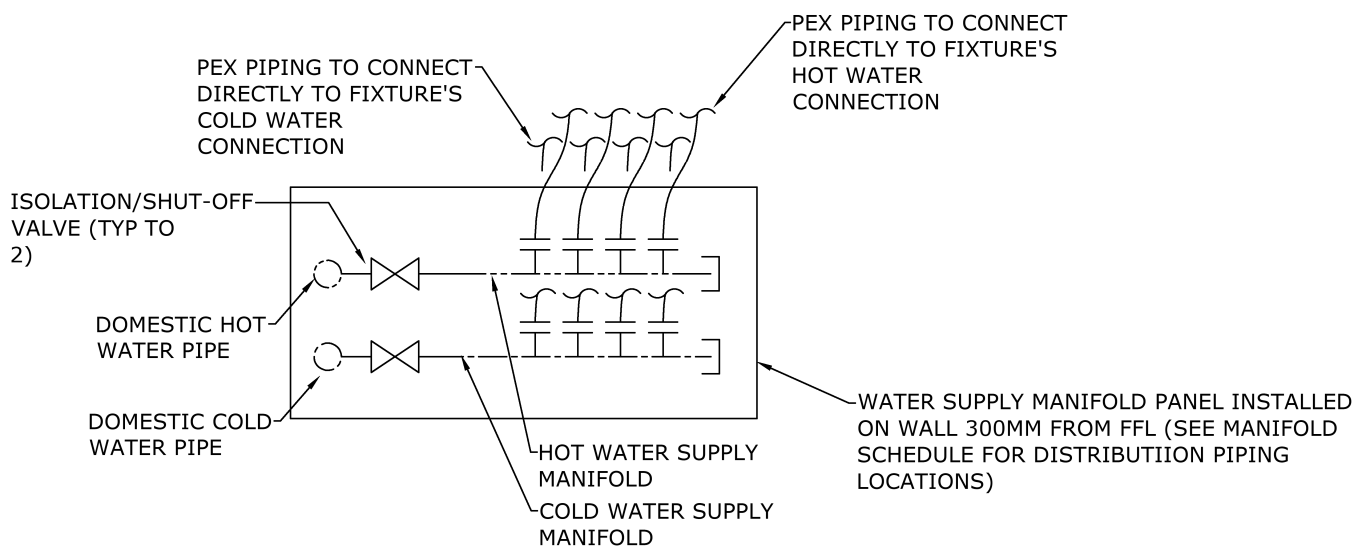




1 DOMESTIC WATER AND GAS PIPING SYSTEM DIAGRAM  
M2108 Scale: NTS

WATER CLOSET	250 DCW
KITCHEN SINK	130 DCW & DHW
WASHER	130 DCW & DHW
LAUNDRY SINK	130 DCW & DHW
SHOWER	130 DCW & DHW
SINK/LAVATORY	130 DCW & DHW
HOSE BIBB	130 DCW
WATER FIXTURE PIPE SIZES	

- NOTE:
1. PIPING SHALL BE SEPARATE FOR EACH WATER SUPPLY SERVICE (KITCHEN, LAUNDRY, BATHROOM)
  2. SEE PLAN DRAWINGS FOR NUMBER OF REQUIRED MANIFOLD PIPING CONNECTIONS.
  3. ALL PEX PIPING SHALL BE ROUTED FROM MANIFOLD TO PLUMBING FIXTURES USING PEX PIPING MANUFACTURER'S RECOMMENDED FITTINGS AND SUPPORTS
  4. ALL PEX PIPING SHALL BE INSULATED AS PER MANUFACTURER'S INSULATION RECOMMENDATION OR AS PER THIS PROJECT'S PIPING INSULATION SPECIFICATIONS WHICHEVER IS MORE STRINGENT.
  5. INSTALLING CONTRACTOR TO VERIFY WATER DISTRIBUTION PIPING LAYOUT AND ROUTING ON SITE. NOTIFY ENGINEER FOR DISCREPANCIES AND ISSUES WITH SITE CONDITION FOR RESOLUTION.



2 DOMESTIC WATER DISTRIBUTION MANIFOLD DIAGRAM  
M2108 Scale: NTS

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RENOVATIONS**

PROJECT ADDRESS

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TORONTO, ON**

PROJECT NO:  
122260

DRAWN BY:  
**C. SU**

CHECKED BY:  
**E. PANAH**

PROJECT MGR:  
**F. BOLOURIAN**

APPROVED BY:  
**R. BARROSO**

SHEET TITLE  
**PLUMBING - OVERALL  
SCHEMATIC**

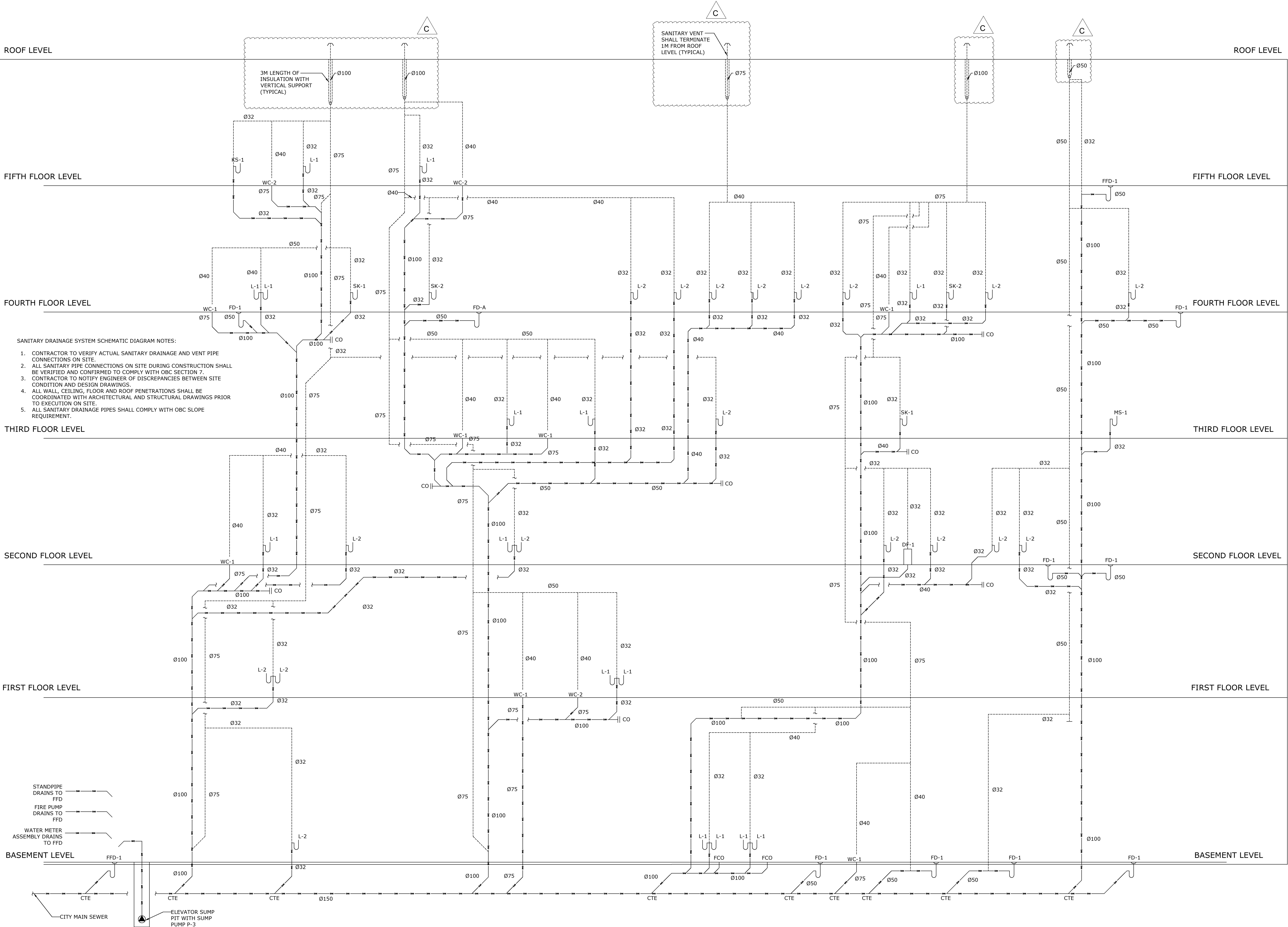
SHEET NUMBER

**M2108**

ISSUE

**C**





1 SANITARY DRAINAGE PIPING SYSTEM DIAGRAM  
M3108 Scale: NTS

GENERAL NOTES:  
1. CONTRACTOR TO VERIFY ALL SANITARY DRAINAGE PIPE AND VENT LAYOUTS ON SITE FOR OBSTRUCTIONS AND RESTICTIONS. ENGINEER SHALL BE NOTIFIED FOR DISCREPANCIES BETWEEN DRAWING AND ACTUAL SITE CONDITION FOR RESOLUTION  
2. ALL SANITARY DRAINAGE PIPE AND VENT LAYOUTS INCLUDING FITTING CONNECTIONS, CLEAN OUTS, PIPE SLOPING AND PIPE SUPPORTS SHALL BE AS PER OBC DIVISION B PART 7.4 AND 7.5.  
3. ALL SANITARY FIXTURES SHALL BE PROVIDED WITH P-TRAP AND VENT OR AS SHOWN ON THE DRAWINGS AS PER OBC.  
4. ALL WALL, FLOOR AND CEILING PENETRATIONS SHALL BE COORDINATED ON SITE WITH STRUCTURAL AND ARCHITECTURAL WORKS PRIOR TO INSTALLATION.

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PROJECT MGR:  
**F. BOLOURIAN**

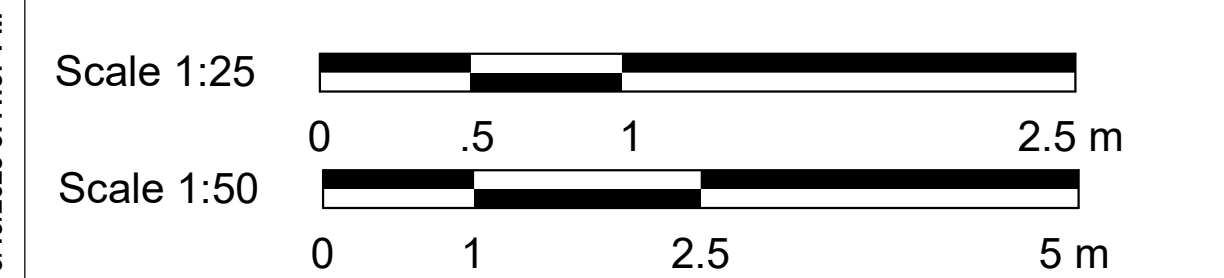
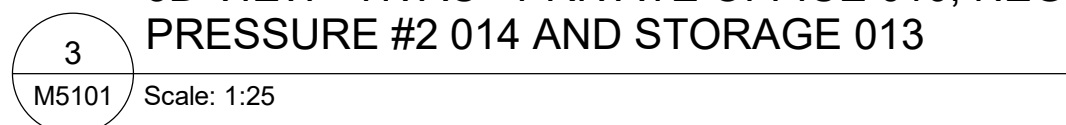
APPROVED BY:  
**R. BARROSO**

SHEET TITLE  
**DRAINAGE PIPING  
SYSTEM DIAGRAM**

SHEET NUMBER  
**M3108**

ISSUE  
**C**



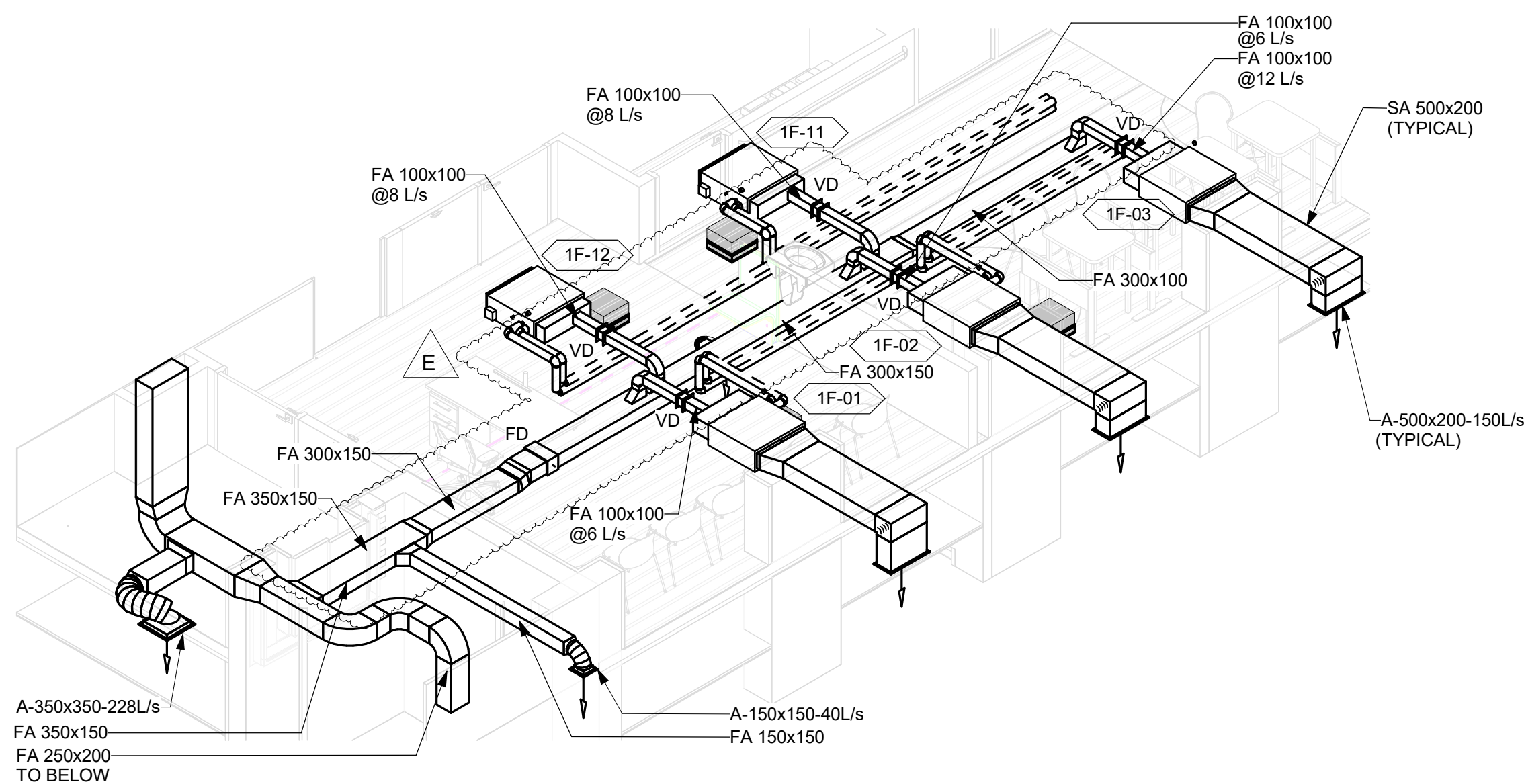


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M5101	E

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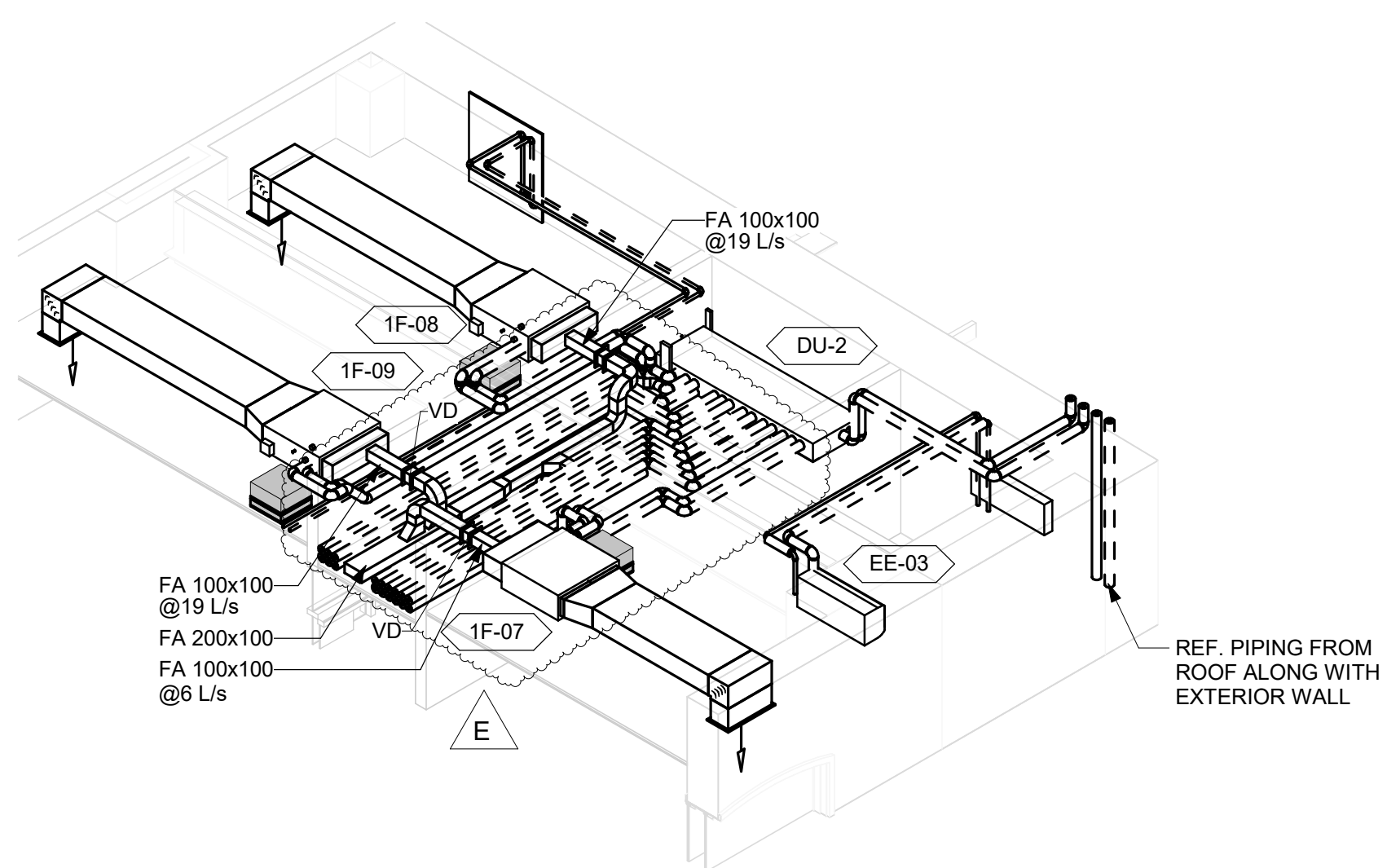


ISSUES		
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A	75% SUBMISSION	2025-03-17
B	ISSUED FOR PRELIMINARY COSTING	2025-06-27
C	ISSUED FOR PERMIT 100%	2025-07-31
D	ISSUED FOR TENDER	2025-09-02
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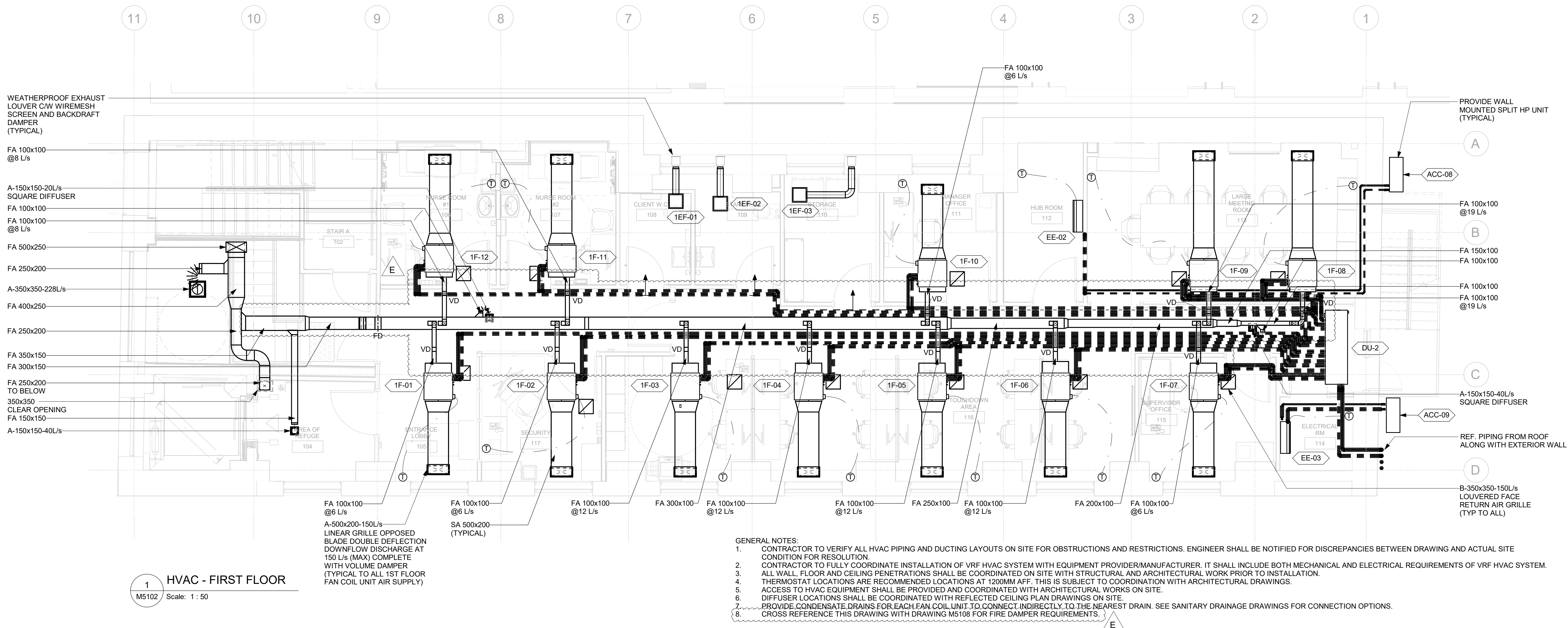
3D VIEW - HVAC - ACCESS LOBBY 101, AREA OF REFUGE 104 AND ENTRANCE LOBBY 105

2  
M5102 Scale: 1:50



3D VIEW - HVAC - LARGE MEETING ROOM 113, ELECTRICAL RM 114 AND SUPERVISOR OFFICE 115

3  
M5102 Scale: 1:50



1 HVAC - FIRST FLOOR

M5102 Scale: 1:50

- GENERAL NOTES:
- CONTRACTOR TO VERIFY ALL HVAC PIPING AND DUCTING LAYOUTS ON SITE FOR OBSTRUCTIONS AND RESTRICTIONS. ENGINEER SHALL BE NOTIFIED FOR DISCREPANCIES BETWEEN DRAWING AND ACTUAL SITE CONDITION FOR RESOLUTION.
  - CONTRACTOR TO FULLY COORDINATE INSTALLATION OF VRF HVAC SYSTEM WITH EQUIPMENT PROVIDER/MANUFACTURER. IT SHALL INCLUDE BOTH MECHANICAL AND ELECTRICAL REQUIREMENTS OF VRF HVAC SYSTEM.
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Scale 1:50  
0 1 2.5 5 m

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PROJECT TITLE  
**50 RICHMOND ST. E.  
RENOVATIONS**

PROJECT ADDRESS

50 RICHMOND STREET EAST  
TORONTO, ON

PROJECT NO:  
122260

DRAWN BY:  
C. SU

CHECKED BY:  
E. PANAH

PROJECT MGR:  
F. BOLOURIAN

APPROVED BY:  
R. BARROSO

SHEET TITLE  
**HVAC - FIRST FLOOR**

SHEET NUMBER

**M5102**

ISSUE

**E**



ISSUES		
No.	DESCRIPTION	DATE
A	75% SUBMISSION	2025-03-17
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C	ISSUED FOR PERMIT 100%	2025-07-31
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E	ISSUED FOR PERMIT UPDATE	2025-09-22

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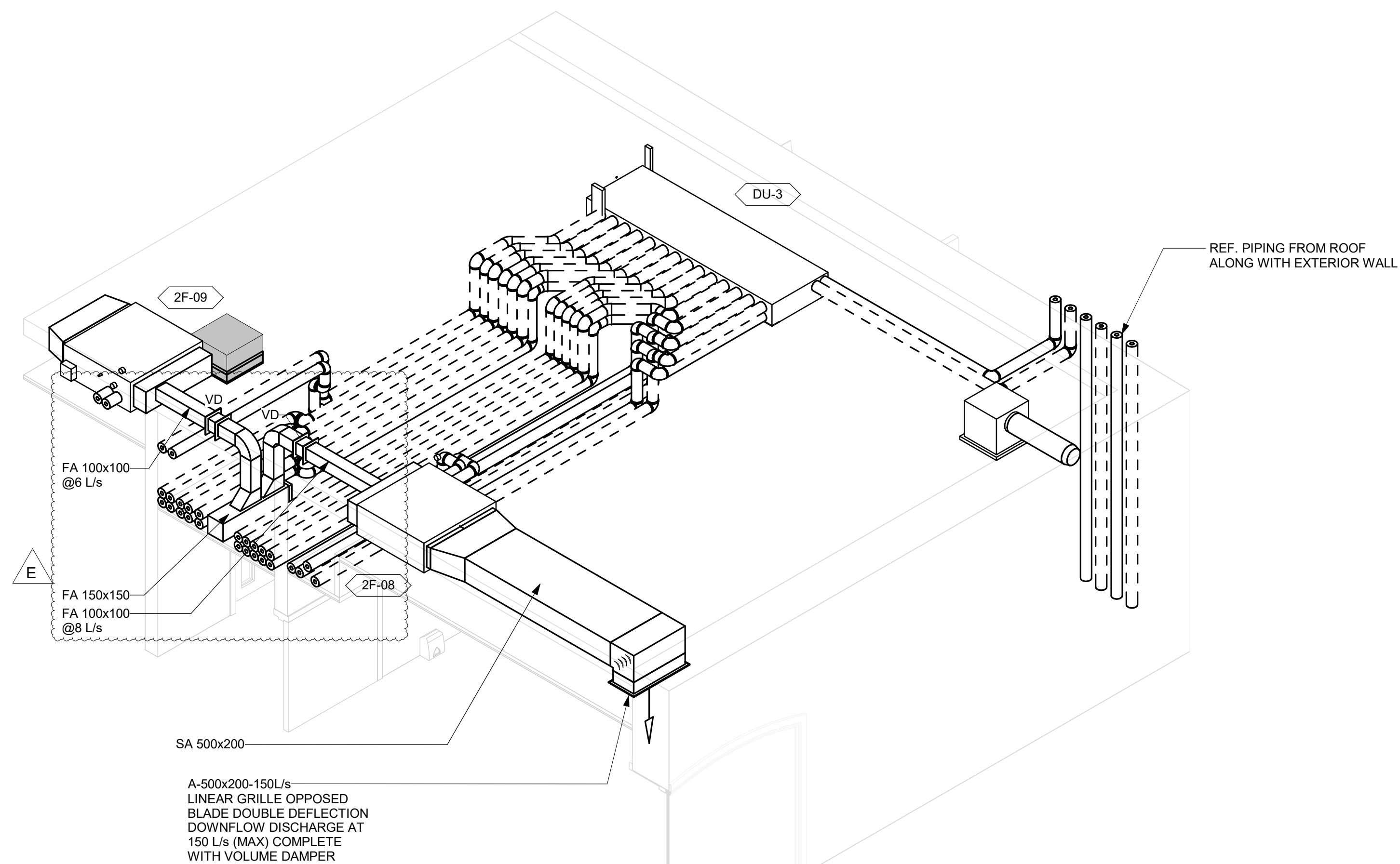
SHEET TITLE  
**HVAC - SECOND FLOOR**

SHEET NUMBER

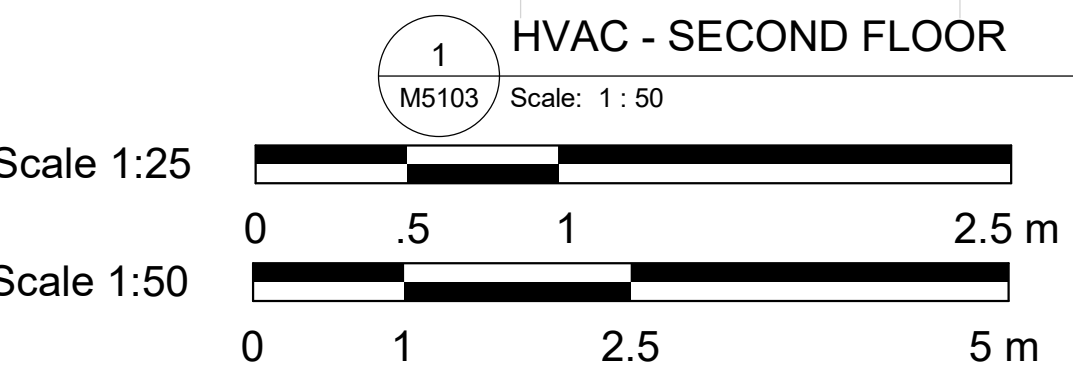
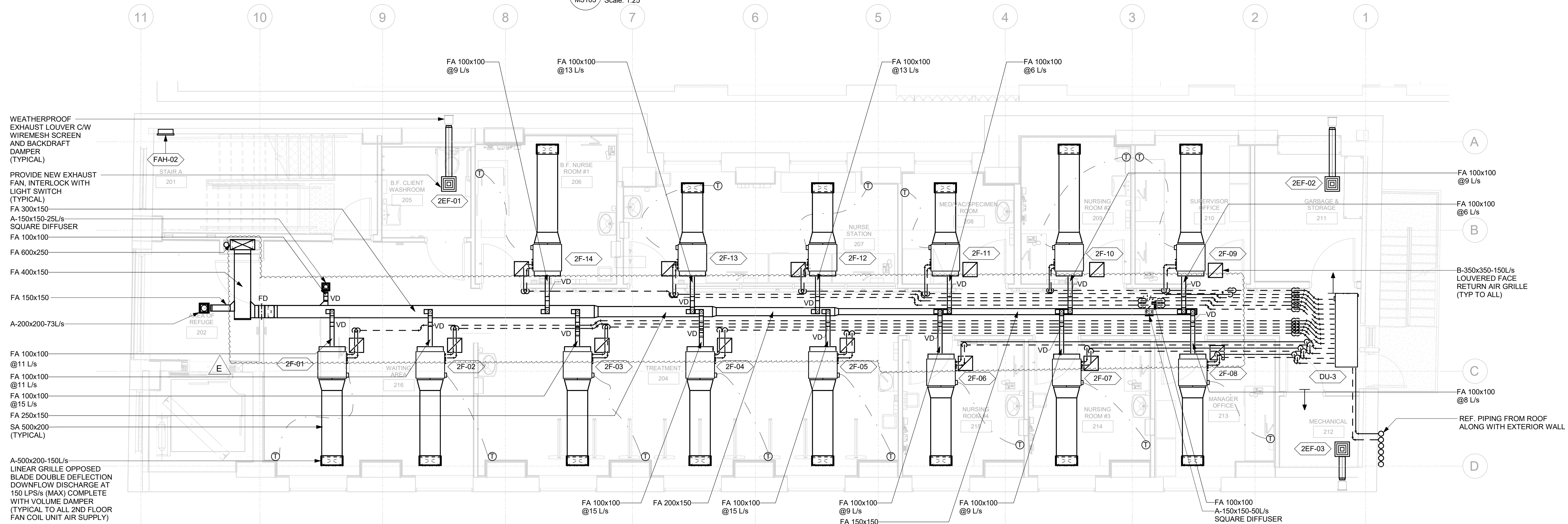
**M5103**

ISSUE

**E**



**2 3D VIEW - HVAC - MANAGER OFFICE 213 AND MECHANICAL 212**  
M5103 Scale: 1:25

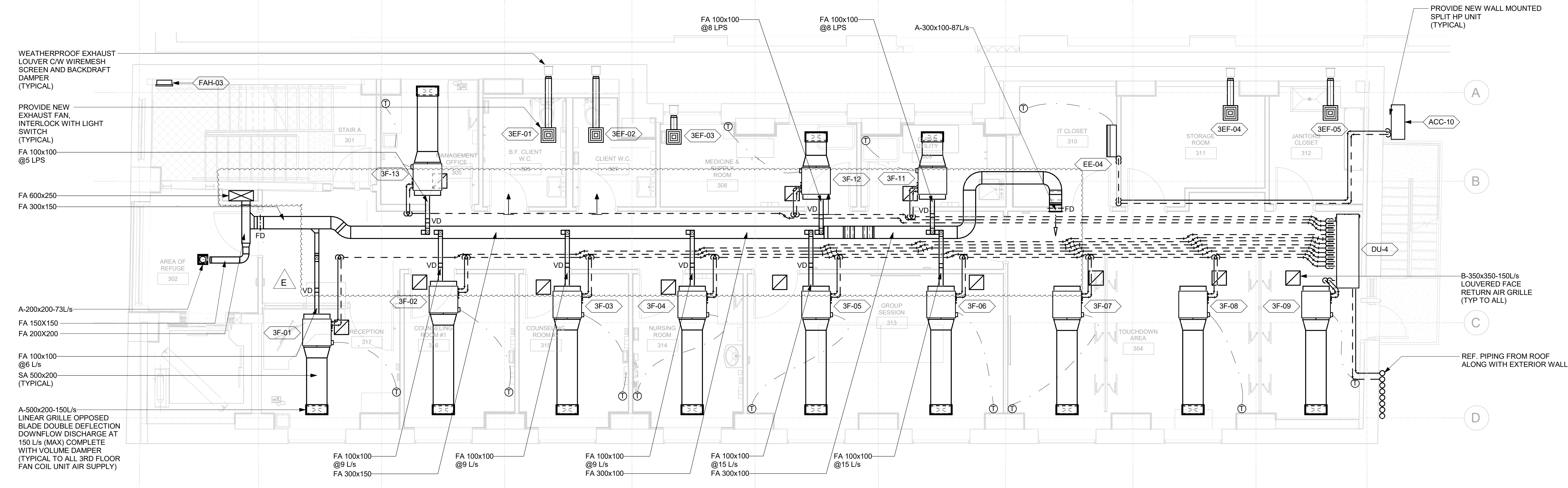
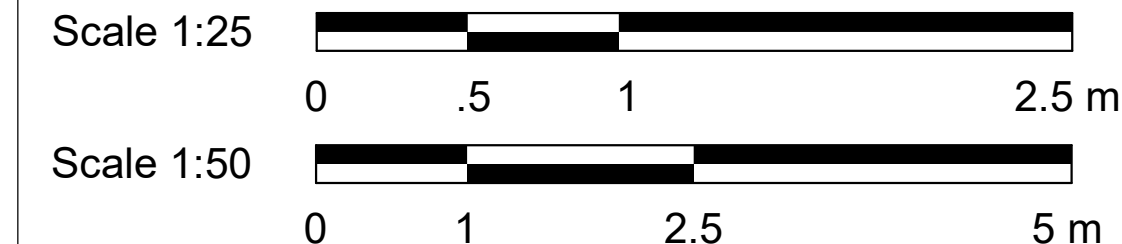


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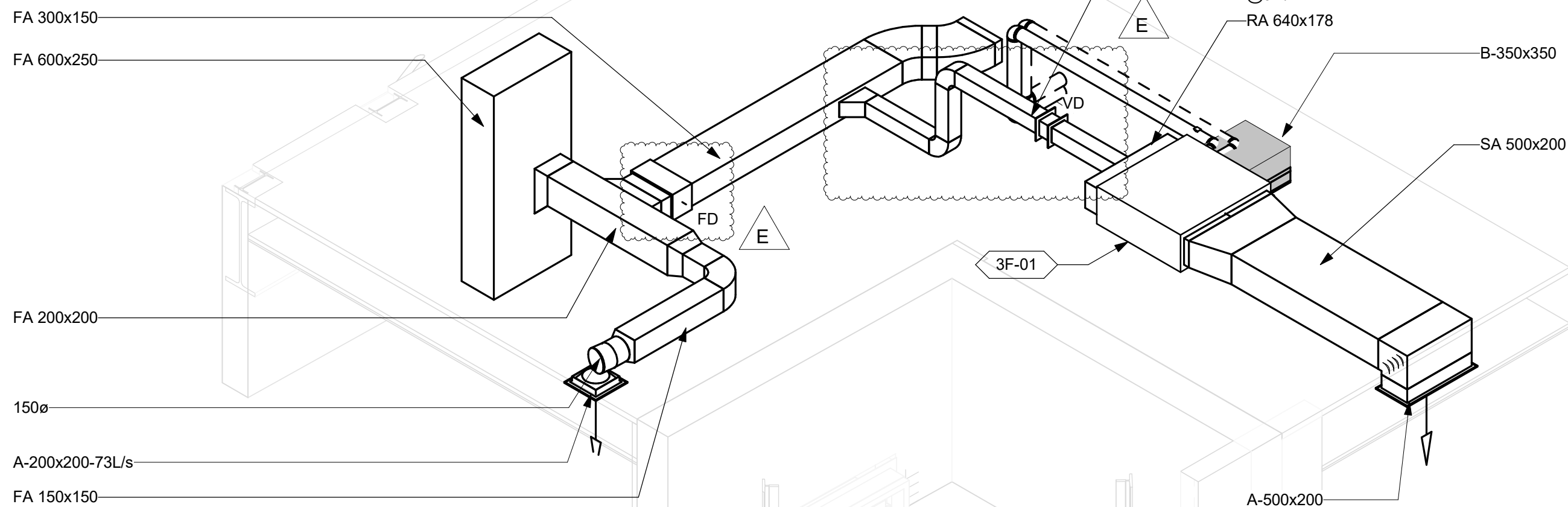


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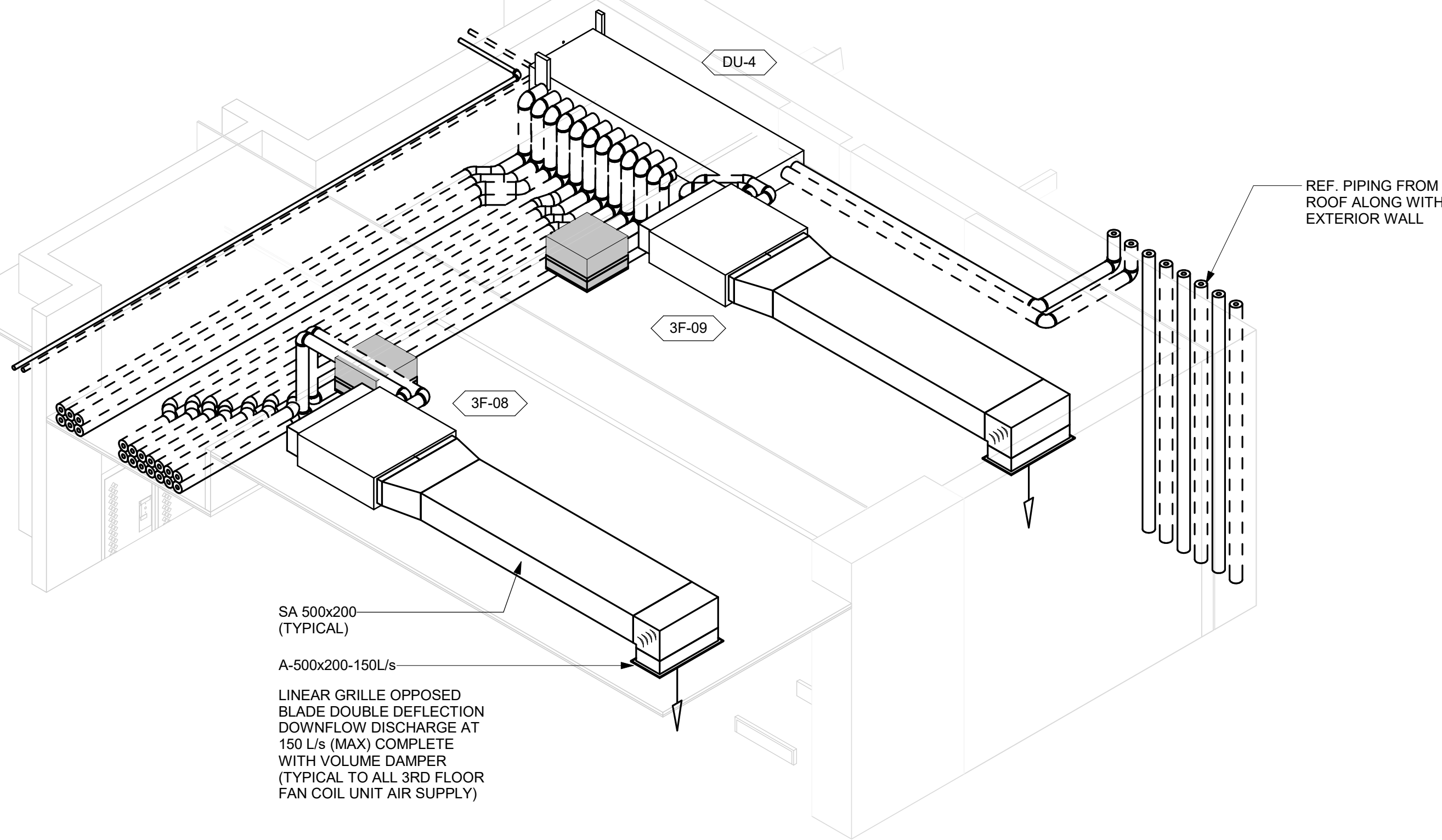


1 HVAC - THIRD FLOOR  
M5104 Scale: 1:50

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2 3D VIEW - HVAC - AREA OF REFUGE 302  
M5104 Scale: 1:25



3 3D VIEW - HVAC - TOUCHDOWN AREA 304  
M5104 Scale: 1:25

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PROJECT TITLE  
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PROJECT ADDRESS

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PROJECT NO:  
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DRAWN BY:  
C. SU

CHECKED BY:  
E. PANAH

PROJECT MGR:  
F. BOLOURIAN

APPROVED BY:  
R. BARROSO

SHEET TITLE  
HVAC - THIRD FLOOR

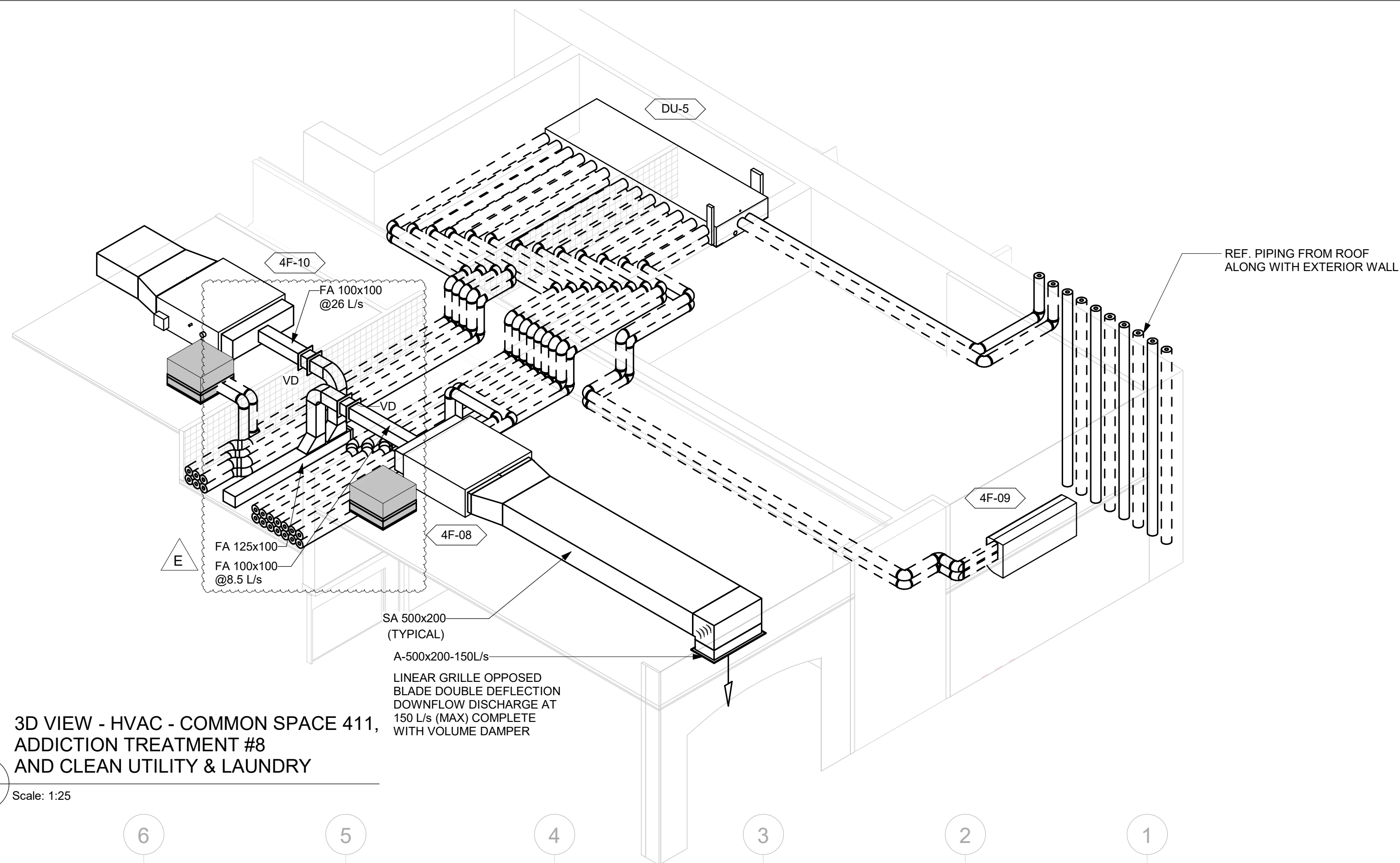
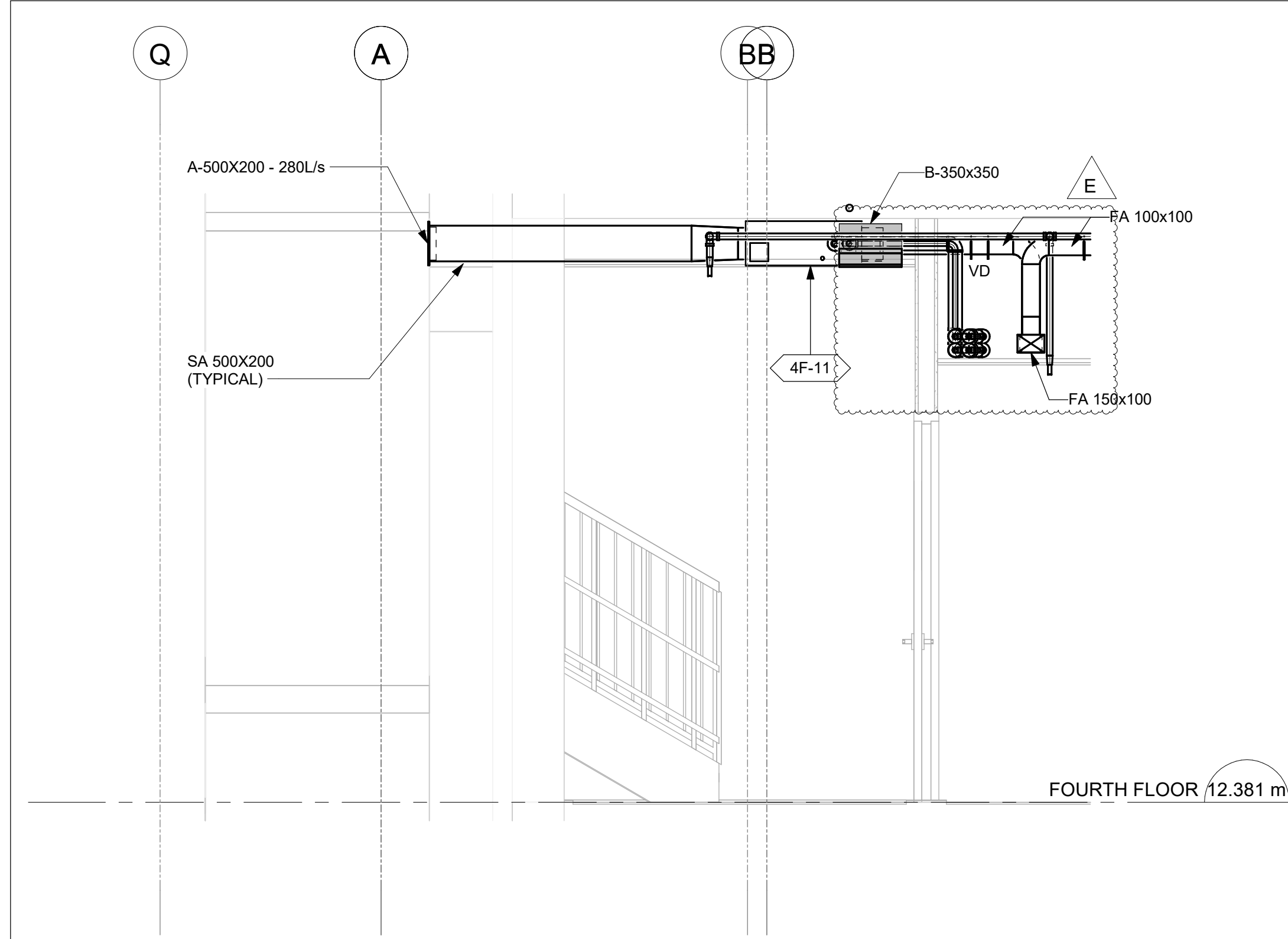
SHEET NUMBER

M5104

ISSUE

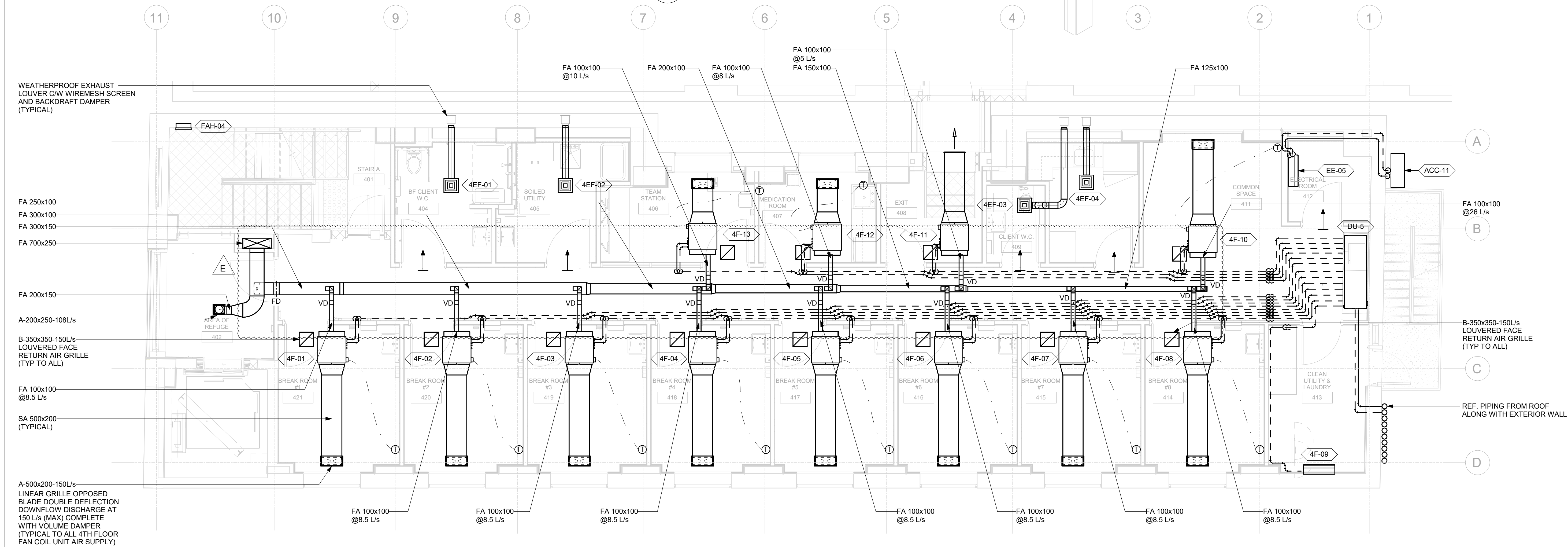
E





3 3D VIEW - HVAC - EXIT 408  
M5105 Scale: 1 : 25

2 3D VIEW - HVAC - COMMON SPACE 411, ADDITION TREATMENT #8 AND CLEAN UTILITY & LAUNDRY  
M5105 Scale: 1:25



1 HVAC - FOURTH FLOOR  
M5105 Scale: 1 : 50  
Scale 1:25  
Scale 1:50

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CHECKED BY:  
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PROJECT MGR:  
F. BOLOURIAN

APPROVED BY:  
R. BARROSO

SHEET TITLE  
**HVAC - FOURTH FLOOR**

SHEET NUMBER

M5105

ISSUE

E



ISSUES		
No.	DESCRIPTION	DATE
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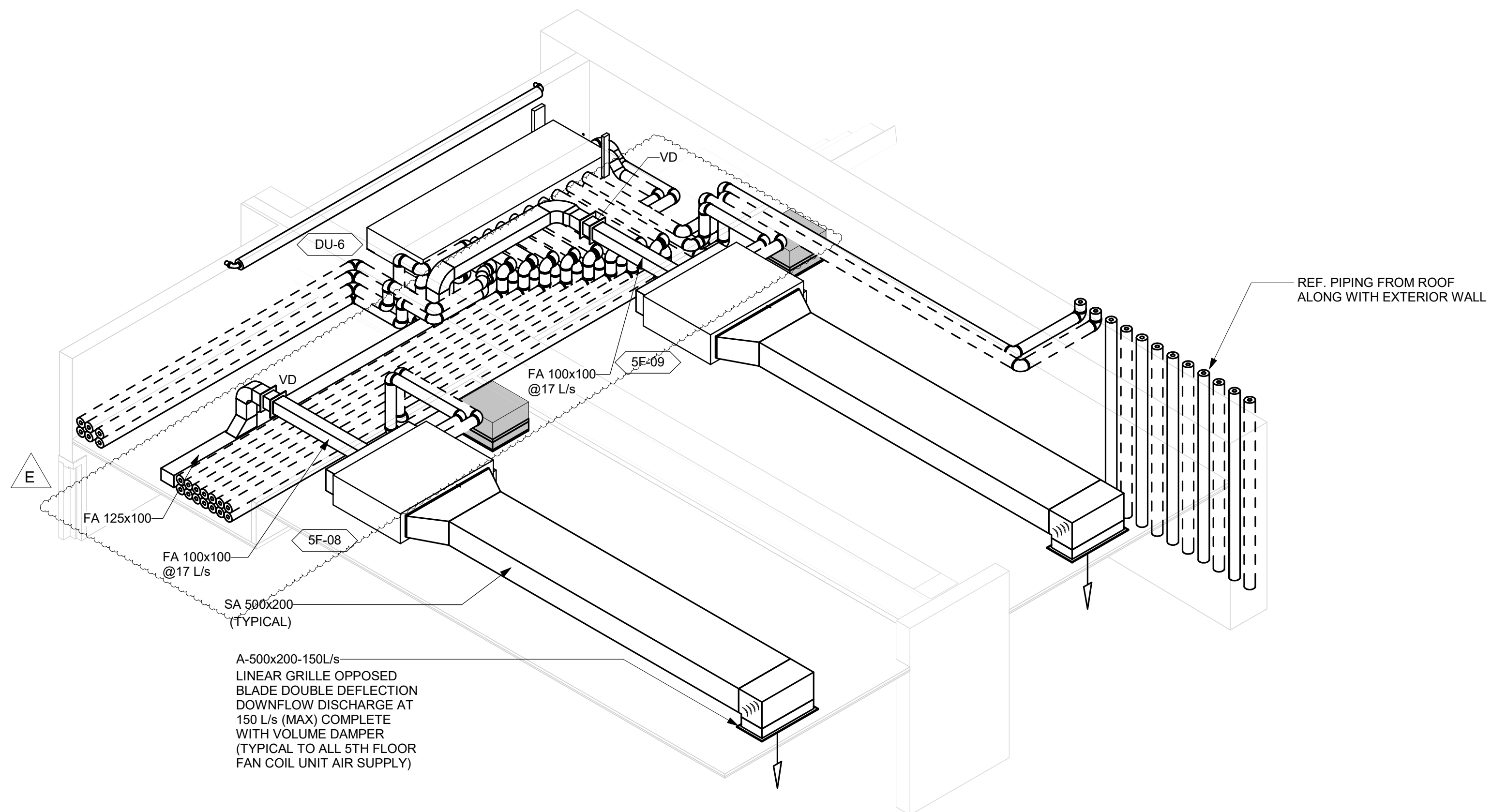
SHEET TITLE  
**HVAC - FIFTH FLOOR**

SHEET NUMBER

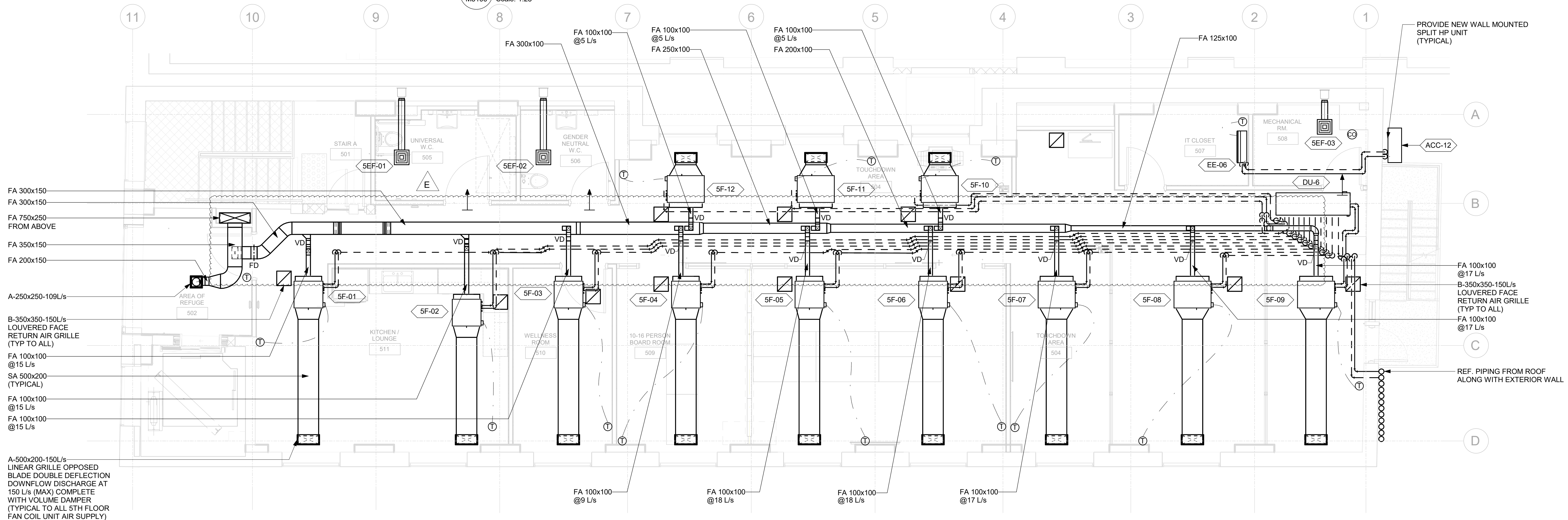
**M5106**

ISSUE

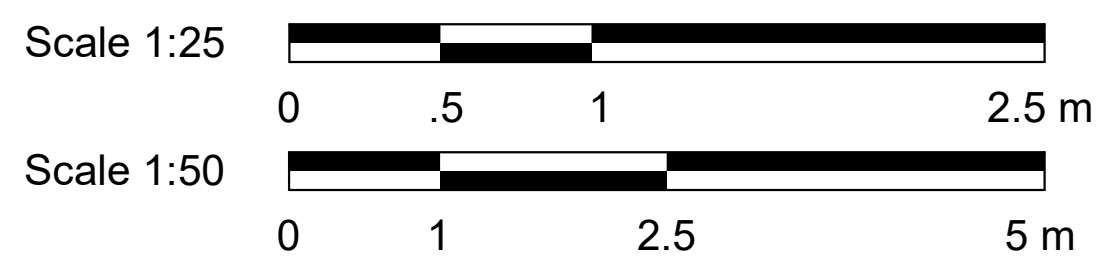
**E**



**2 3D VIEW - HVAC - TOUCHDOWN AREA 504**  
M5106 Scale: 1:25



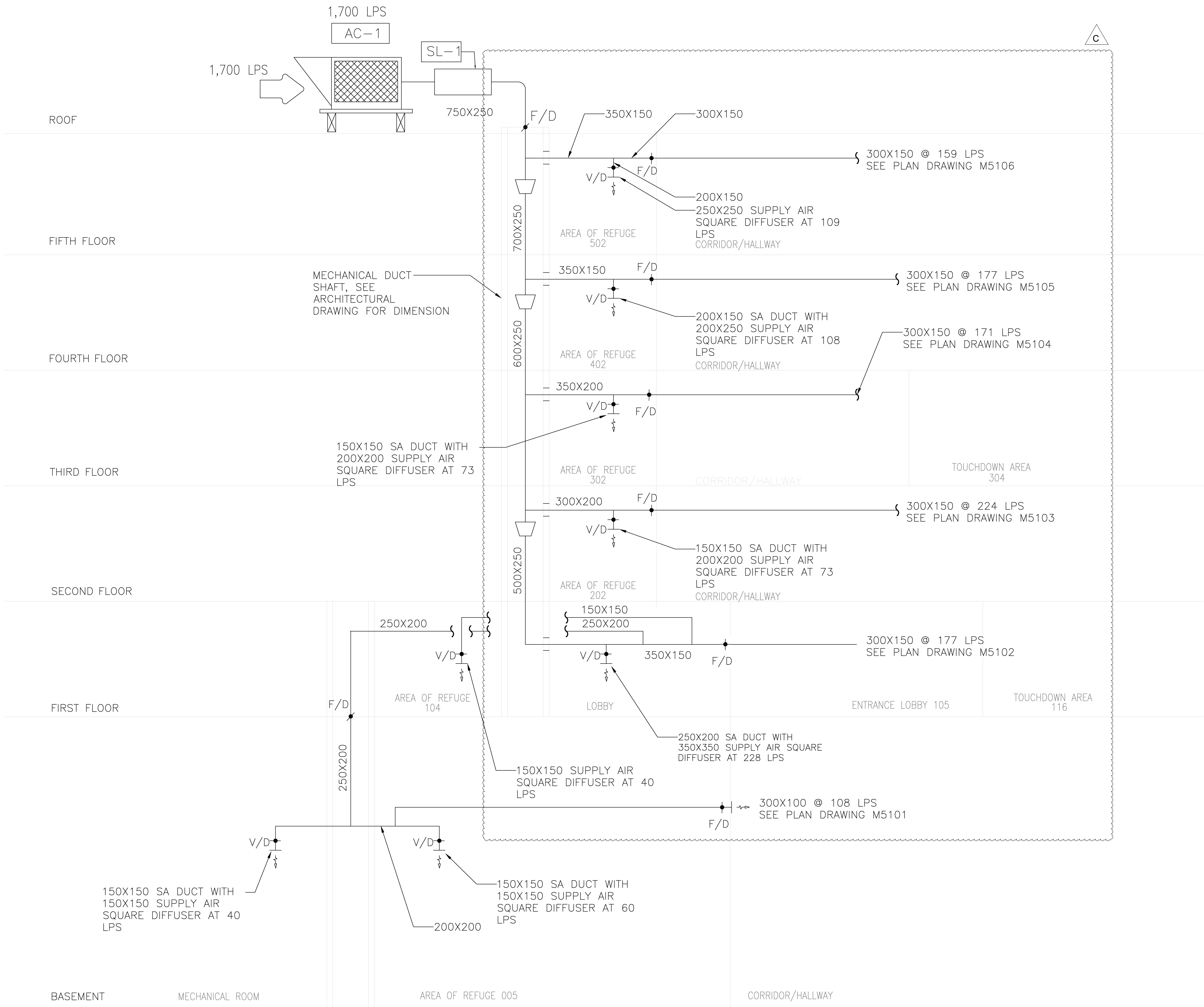
**1 HVAC - FIFTH FLOOR**  
M5106 Scale: 1:50



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1 HVAC OUTDOOR AIR PRESSURIZATION SYSTEM DIAGRAM  
M5108 Scale: NTS

- GENERAL NOTES:
1. SYSTEM TESTING, BALANCING AND ADJUSTING TO MAKE THE SYSTEM WORK AS DESIGNED SHALL BE CONDUCTED BY THE TESTING AND BALANCING CONTRACTOR IN FULL COORDINATION WITH MANUFACTURER/EQUIPMENT PROVIDER.
  2. PROVIDE VOLUME DAMPERS WHERE REQUIRED FOR AIR BALANCING.
  3. PROVIDE FIRE DAMPERS ON THE AIR DISTRIBUTION SYSTEM WHERE NECESSARY. MAKE SURE THE DAMPER IS ACCESSIBLE. NOTIFY ENGINEER FOR ISSUES ON
  4. SITE RELATED TO INSTALLATION OF REQUIRED DAMPERS.
- CROSS REFERENCE THIS DRAWING WITH PLAN DRAWINGS AS MENTIONED.

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PROJECT MGR:

F. BOLOURIAN

APPROVED BY:

R. BARROSO

SHEET TITLE

**HVAC OUTDOOR AIR  
PRESSURIZATION  
SYSTEM DIAGRAM**

SHEET NUMBER

**M5108**

ISSUE

**C**