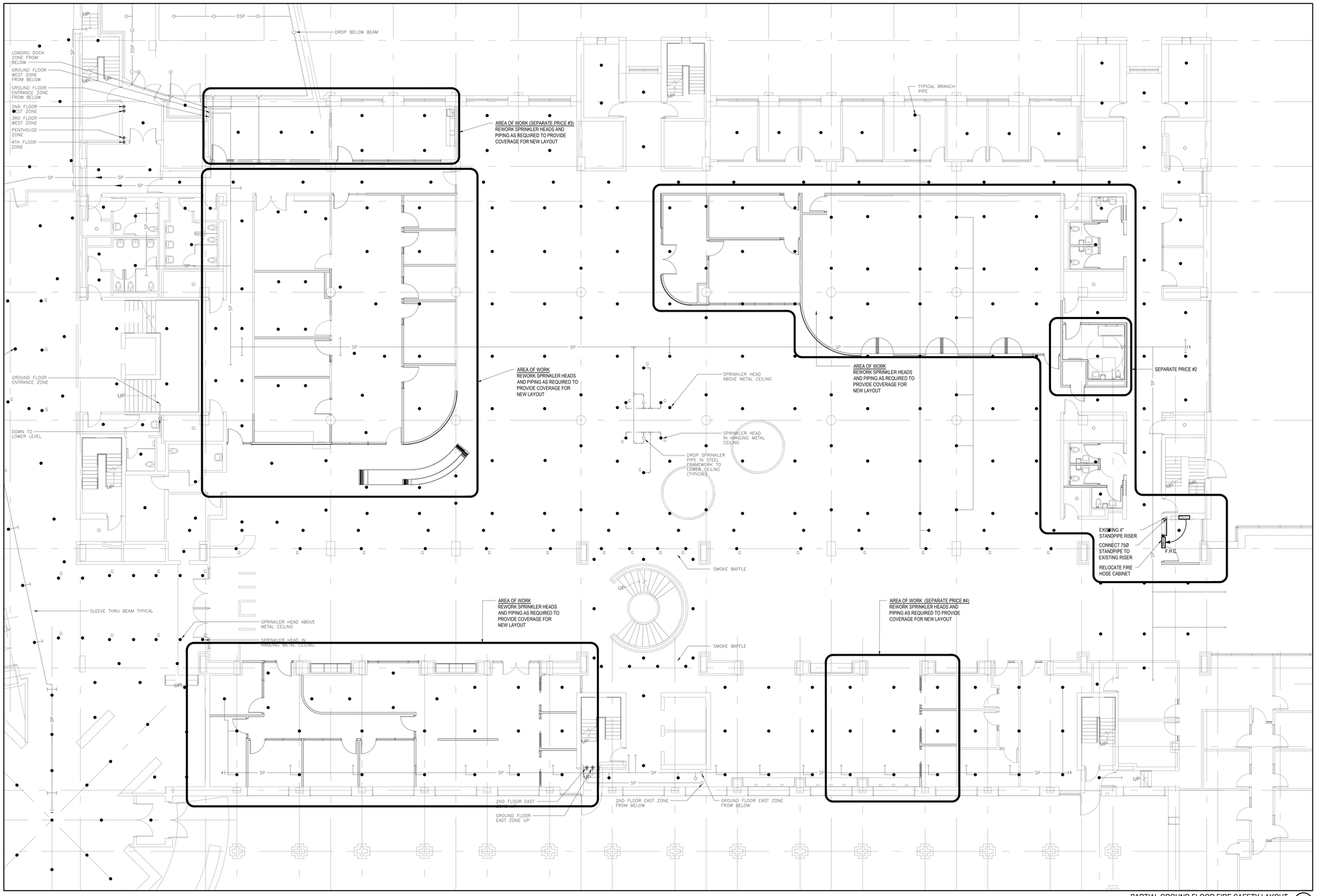

PARTIAL GROUND FLOOR FIRE SAFETY LAYOUT (1 / M200)
SCALE: 1:100

FIRE PROTECTION LEGEND

- F — EXISTING STANDPIPE PIPING
- SP — EXISTING SPRINKLER PIPING
- EXISTING SUPERVISED VALVE
- EXISTING SPRINKLER HEAD
- F.H.C. — FIRE HOSE CABINET

FIRE PROTECTION NOTES

1. SPRINKLER WORK TO BE MEET NFPA 13, 2013.
2. SPRINKLER COVERAGE TO BE LIGHT HAZARD, UNLESS OTHERWISE NOTED.
3. REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR EXACT CEILING LAYOUTS.
4. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING LAYOUT COORDINATION.
5. REFER TO MECHANICAL DRAWINGS FOR DIFFUSER/GRILLE LAYOUT COORDINATION.
6. SPRINKLER SYSTEM LAYOUT SHALL BE CLOSELY COORDINATED WITH DUCTWORK, PLUMBING, ELECTRICAL, STRUCTURAL, AND ARCHITECTURAL ELEMENTS. PIPING SHOWN ON DRAWINGS IS FOR GUIDANCE AND GENERAL ROUTING ONLY. SPRINKLER CONTRACTOR SHALL PROVIDE ALL NECESSARY PIPING FITTINGS REQUIRED FOR INSTALLATION.
7. SPRINKLER CONTRACTOR TO CHECK SPRINKLER COVERAGE AND PROVIDE HEADS TO MEET NFPA 13 SPACING, OBSTRUCTION RULES OR COVERAGE REQUIREMENTS.
8. WHERE SPRINKLER HEADS AND PIPING ARE NOT SHOWN, CONTRACTOR TO LAYOUT SPRINKLER HEADS AND PIPING IN ACCORDANCE WITH NFPA 13.
9. NO PENETRATIONS ARE PERMITTED THROUGH BLOCK LINTELS OR BOND BEAMS, UNLESS APPROVED BY STRUCTURAL ENGINEER.
10. SPRINKLER INSTALLATION TO BE CONCEALED IN ALL AREAS WITH FINISHED CEILINGS
11. SPRINKLER HEADS TO BE RECESSED TYPE IN AREAS OF FINISHED CEILINGS AND A COMBINATION OF UPRIGHT AND PENDANT IN AREAS OF EXPOSED CONSTRUCTION.
12. SPRINKLER HEAD LOCATIONS SHOWN ARE FOR REFERENCE ONLY. REFLECTED CEILING PLANS ARE SHOWN FOR REFERENCE ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CEILING LAYOUTS.
13. SPRINKLER MAINS AND BRANCH LINES ARE NOT TO BE ROUTED WHERE CABLE TRAY IS LOCATED.
14. MAINTAIN 900mm CLEARANCE FROM ALL MECHANICAL AND ELECTRICAL EQUIPMENT AND VALVES WITHIN CEILING SPACE
15. CONTRACTOR SHALL COORDINATE SPRINKLER HEAD LAYOUTS WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL SYSTEMS IN ORDER TO AVOID OBSTRUCTION OF SPRINKLER HEAD. SPRINKLER HEADS SHALL BE INSTALLED IN METAL CEILING SYSTEM IN AREAS SHOWN. OTHERWISE SPRINKLER HEADS SHALL BE LOCATED IN THE CENTER OF TILES IN T-BAR OR DRYWALL CEILINGS.
16. COVERAGE IN STORAGE ROOMS, MECHANICAL ROOMS, ELEVATOR SHAFTS SHALL BE ORDINARY HAZARD GROUP 2.
17. COVERAGE IN ELECTRICAL ROOMS AND IT ROOMS TO BE ORDINARY HAZARD GROUP 1

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A0 (33.1" x 46.8") | 841mm x 1189mm)

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100078030
2024-03-25
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DRAWN BY: CHECKED BY: APPROVED BY:

KEYPLAN:

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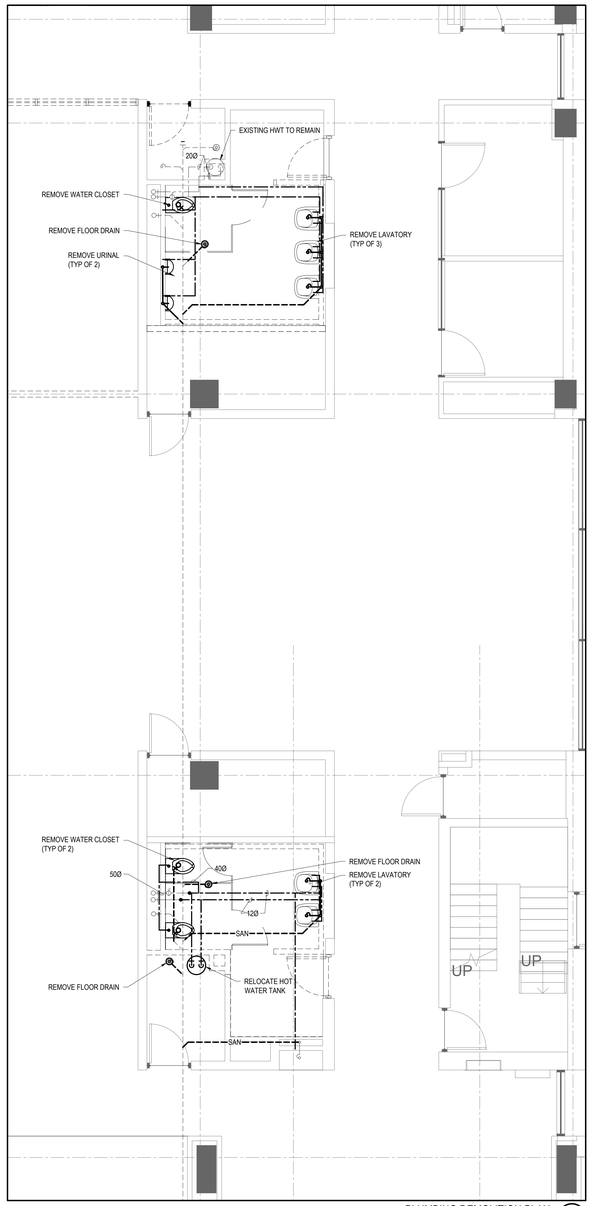
DRAWING TITLE

GROUND FLOOR FIRE SAFETY LAYOUT

DRAWING NO. **M200**

PRINT DATE:



PLUMBING DEMOLITION PLAN
SCALE: 1:50
1
M300

LEGEND

	REMOVE PIPING/EQUIPMENT
	EXISTING DOMESTIC COLD WATER PIPING (DCW)
	EXISTING DOMESTIC HOT WATER PIPING (DHW)
	EXISTING DOMESTIC HOT WATER RETURN PIPING (DHW)
SAN	EXISTING SANITARY PIPING EXISTING SANITARY
SAN	EXISTING PIPING UNDER SLAB/FLOOR
V	EXISTING VENT PIPING
	EXISTING HYDRONIC SUPPLY PIPING (HWS)
	EXISTING HYDRONIC RETURN PIPING (HWR)
	HYDRONIC SUPPLY PIPING (HWS)
	HYDRONIC RETURN PIPING (HWR)
	DOMESTIC COLD WATER PIPING (DCW)
	DOMESTIC HOT WATER PIPING (DHW)
	DOMESTIC HOT WATER RETURN PIPING (DWR)
SAN	SANITARY PIPING (SAN)
SAN	SANITARY PIPING UNDER SLAB/FLOOR (SAN)
V	VENT PIPING
	BALL VALVE
	CHECK VALVE
	PIPE UP
	PIPE DOWN
	PIPE CAP
	CONNECT TO EXISTING PIPE
FD	FLOOR DRAIN
	SANITARY TRAP
CO	CLEAN OUT. (PROVIDE ACCESS AT FLOOR LEVEL)
CO	CLEAN OUT - CAP
WHA	WATER HAMMER ARRESTOR

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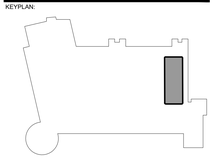

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DRAWING TITLE

GROUND FLOOR PLUMBING DEMOLITION PLAN

DRAWING NO. **M300**

PRINT DATE:

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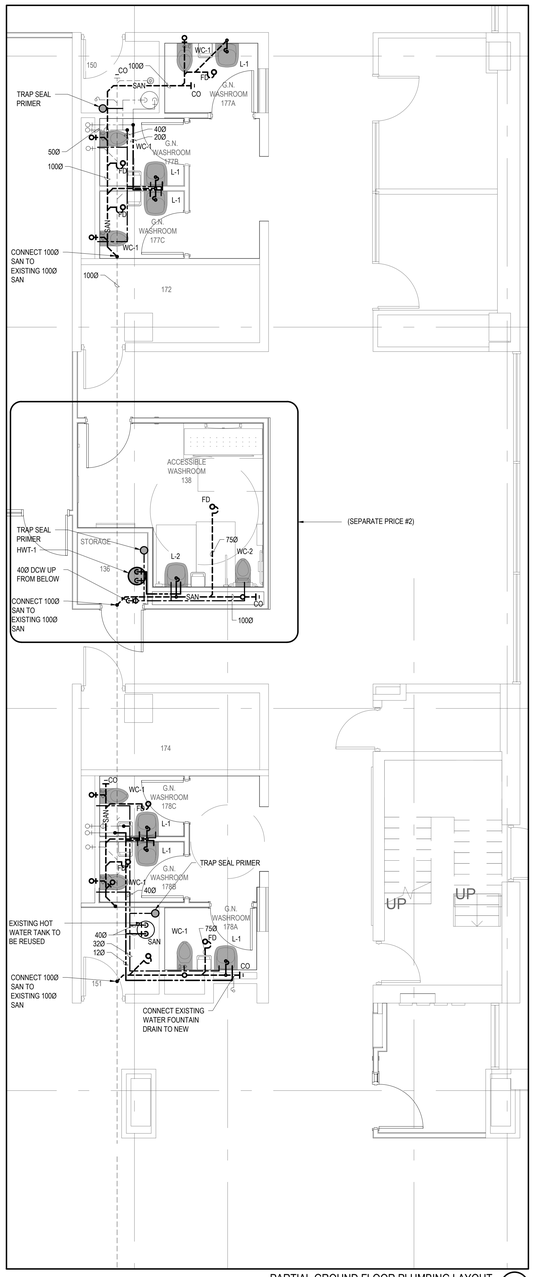
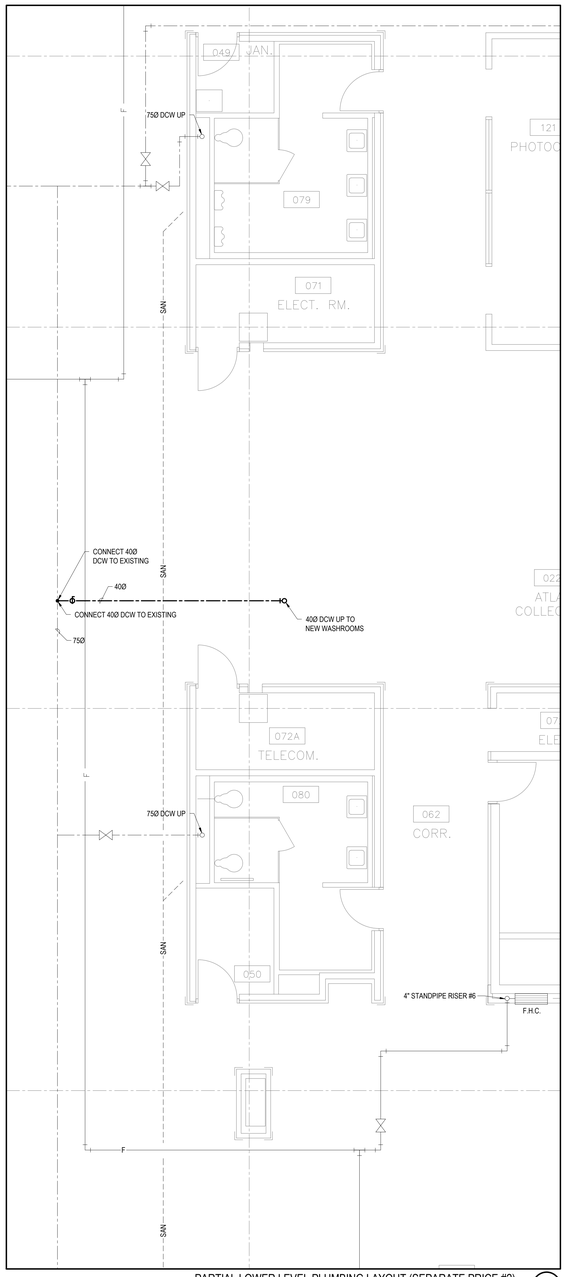
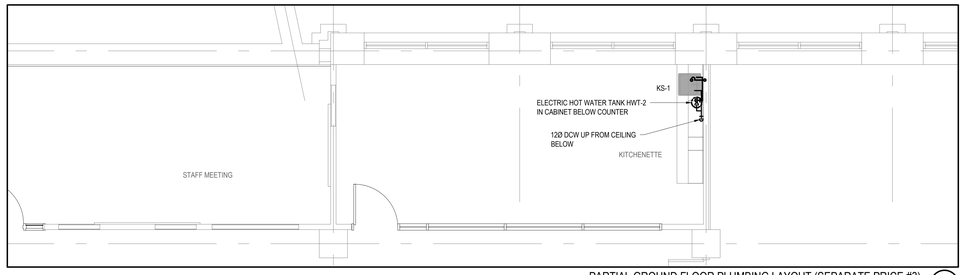


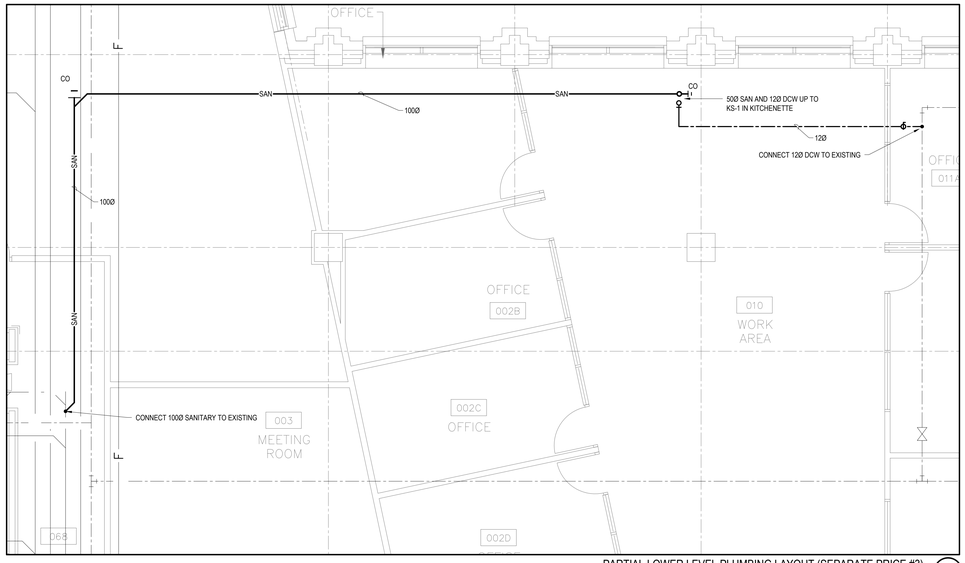
PARTIAL GROUND FLOOR PLUMBING LAYOUT
SCALE: 1:50
1 M310



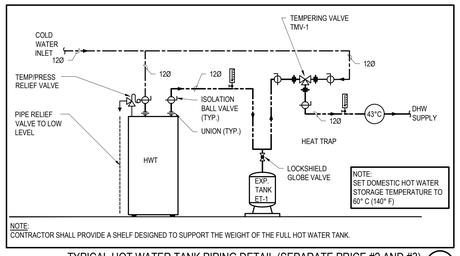
PARTIAL LOWER LEVEL PLUMBING LAYOUT (SEPARATE PRICE #2)
SCALE: 1:50
2 M310



PARTIAL GROUND FLOOR PLUMBING LAYOUT (SEPARATE PRICE #3)
SCALE: ####
3 M310

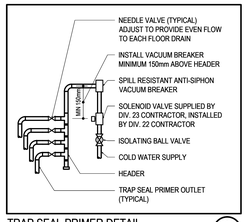


PARTIAL LOWER LEVEL PLUMBING LAYOUT (SEPARATE PRICE #3)
SCALE: 1:50
4 M310



NOTE:
CONTRACTOR SHALL PROVIDE A SHELF DESIGNED TO SUPPORT THE WEIGHT OF THE FULL HOT WATER TANK.

TYPICAL HOT WATER TANK PIPING DETAIL (SEPARATE PRICE #2 AND #3)
SCALE: NTS
5 M310



TRAP SEAL PRIMER DETAIL
SCALE: NTS
6 M310

HOT WATER TANK SCHEDULE

TAG	MAKE	MODEL	ELEMENT WATTS	VOLUME LITRES	POWER	NOTES
HWT-1	A O SMITH	EPU-6	1440	22	120V/1Ø/60HZ	-
HWT-2	A O SMITH	EPU-6	1440	22	120V/1Ø/60HZ	-

FIXTURE SERVICE

FIXTURE	TAG	DCW	DHW	SAN	VENT	NOTES
LAVATORY	L-1	12Ø	12Ø	32Ø	32Ø	
LAVATORY	L-2	12Ø	12Ø	32Ø	32Ø	
WATER CLOSET	WC-1	25Ø	--	100Ø	50Ø	
WATER CLOSET	WC-2	25Ø	--	100Ø	50Ø	
KITCHEN SINK	KS-1	12Ø	12Ø	40Ø	32Ø	
FLOOR DRAIN	FD-1	TSP	-	75Ø	40Ø	

*TSP-TRAP SEAL PRIMER

PROVIDE INDIVIDUAL FIXTURE SERVICES AS INDICATED IN TABLE ABOVE AND ISOLATION BALL VALVES ON ALL DCW AND DHW BRANCH LINES SERVING FIXTURES.

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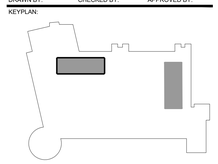

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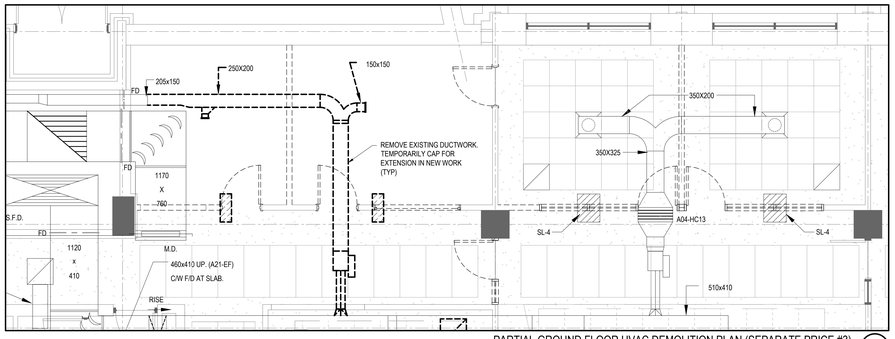
DRAWING TITLE

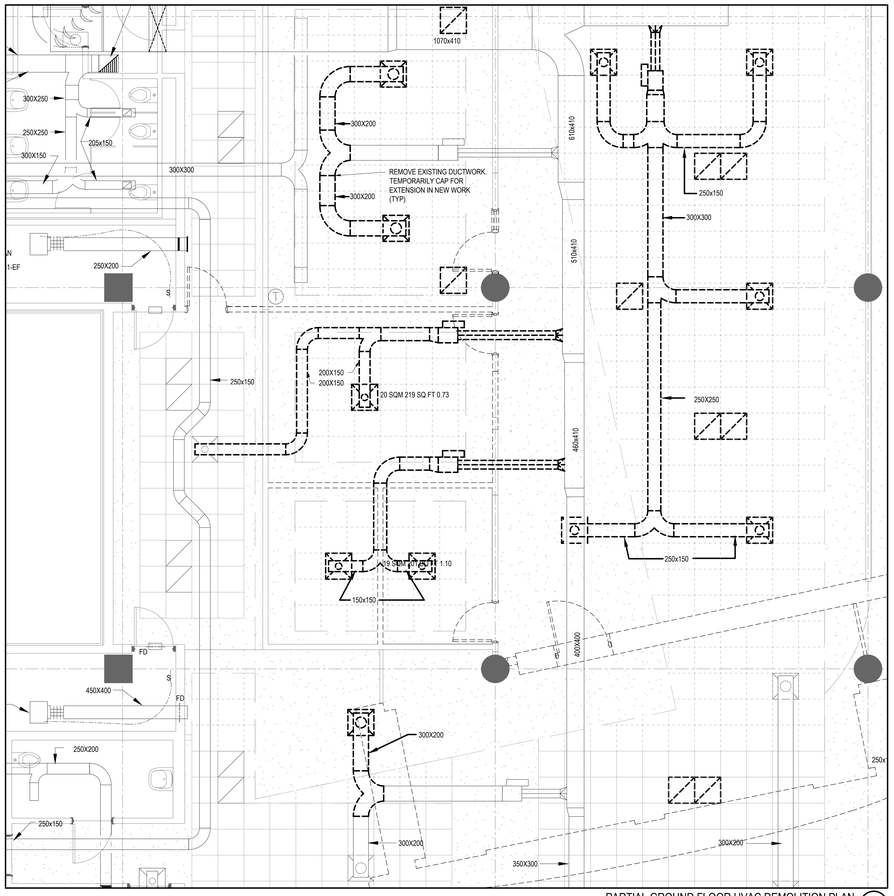
GROUND FLOOR PLUMBING LAYOUT SCHEDULES AND DETAILS

DRAWING NO. **M310**

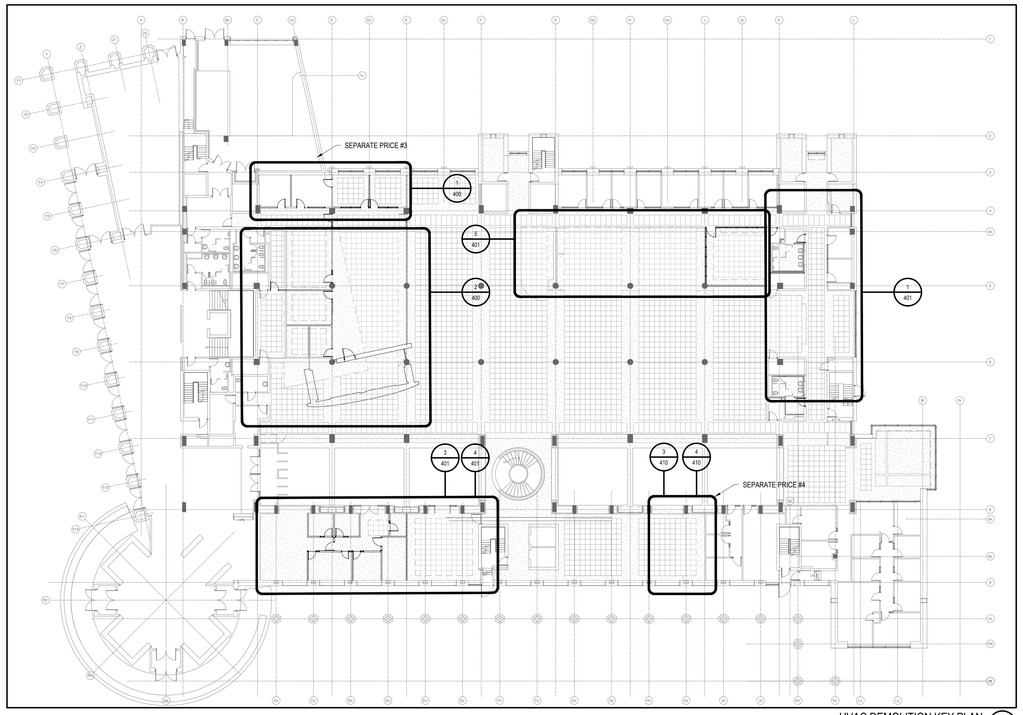
PRINT DATE:



PARTIAL GROUND FLOOR HVAC DEMOLITION PLAN (SEPARATE PRICE #3) 1/400
SCALE:1:50



PARTIAL GROUND FLOOR HVAC DEMOLITION PLAN 2/400
SCALE:1:50

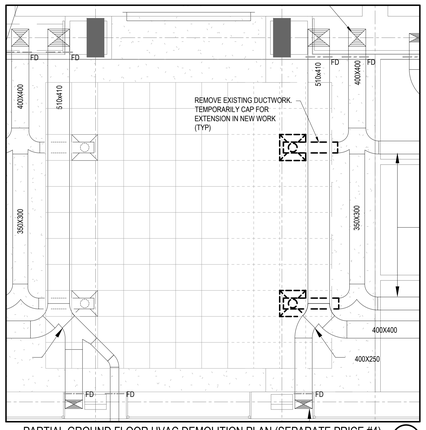


HVAC DEMOLITION KEY PLAN 5/400
SCALE:1:50

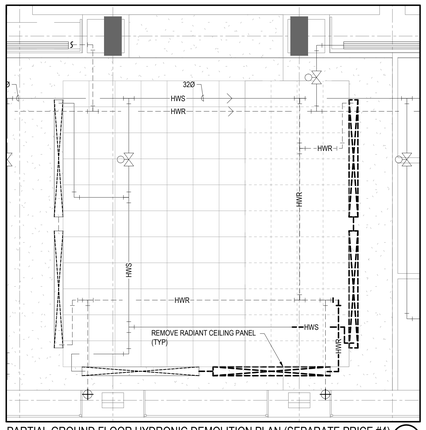
LEGEND

- REMOVE EXISTING DUCTWORK/EQUIPMENT
- EXISTING RIGID DUCTWORK
- DUCTWORK RIGID RETURN DUCTWORK
- RIGID SUPPLY DUCTWORK
- HIDDEN DUCTWORK
- RECTANGULAR / ROUND SUPPLY DUCT UP
- RECTANGULAR / ROUND RETURN DUCT UP
- RECTANGULAR / ROUND SUPPLY DUCT DOWN
- RECTANGULAR / ROUND RETURN DUCT DOWN
- SUPPLY DIFFUSERS
- RETURN GRILLE
- BALANCING DAMPER
- FD EXISTING FIRE DAMPER TO REMAIN
- FD FIRE DAMPER
- MOTORIZED DAMPER
- FSD FIRE STOP FLAP
- A / B / C GRILLE OR DIFFUSER TAG
  -A- SIZE (mm)
  -B- GRILLE OR DIFFUSER TYPE
  -C- AIR FLOW (L/S)
  * WHERE ROUND DUCT SIZE SERVING DIFFUSER IS NOT INDICATED, DUCT SIZE SHALL BE SIZE OF DIFFUSER NECK OPENING
  **DIFFUSER TYPES DENOTED "E" ARE EXISTING
- T EXISTING THERMOSTAT
- T THERMOSTAT
- T TEMPERATURE SENSOR
- DISCONNECT / CONNECT TO EXISTING
- LOW-VOLTAGE CONTROL WIRING

TAKE PRE-CONSTRUCTION AIR FLOW AND PRESSURE READINGS AND SUBMIT TO ENGINEER. READINGS SHALL INCLUDE:
1. AIR FLOW ON ALL SUPPLY DIFFUSERS WITHIN THE AREA OF CONSTRUCTION
2. AIR FLOW ON ALL SUPPLY DIFFUSERS FED BY VAV BOXES AFFECTED BY CONSTRUCTION.
3. AIR FLOW AND PRESSURE AT MAIN BRANCHES ON SUPPLY, RETURN AND EXHAUST SERVING PROJECT AREA AND FLOOR.



PARTIAL GROUND FLOOR HVAC DEMOLITION PLAN (SEPARATE PRICE #4) 3/400
SCALE:####



PARTIAL GROUND FLOOR HYDRONIC DEMOLITION PLAN (SEPARATE PRICE #4) 4/400
SCALE:1:50

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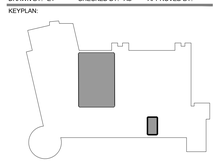
KEYPLAN:



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DRAWING TITLE

GROUND FLOOR HVAC DEMOLITION

DRAWING NO. **400**

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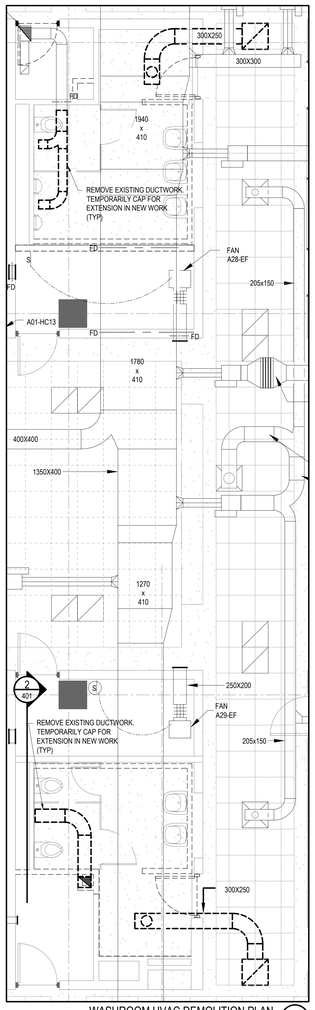
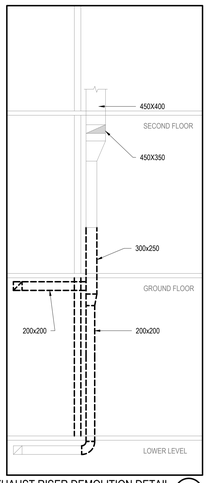


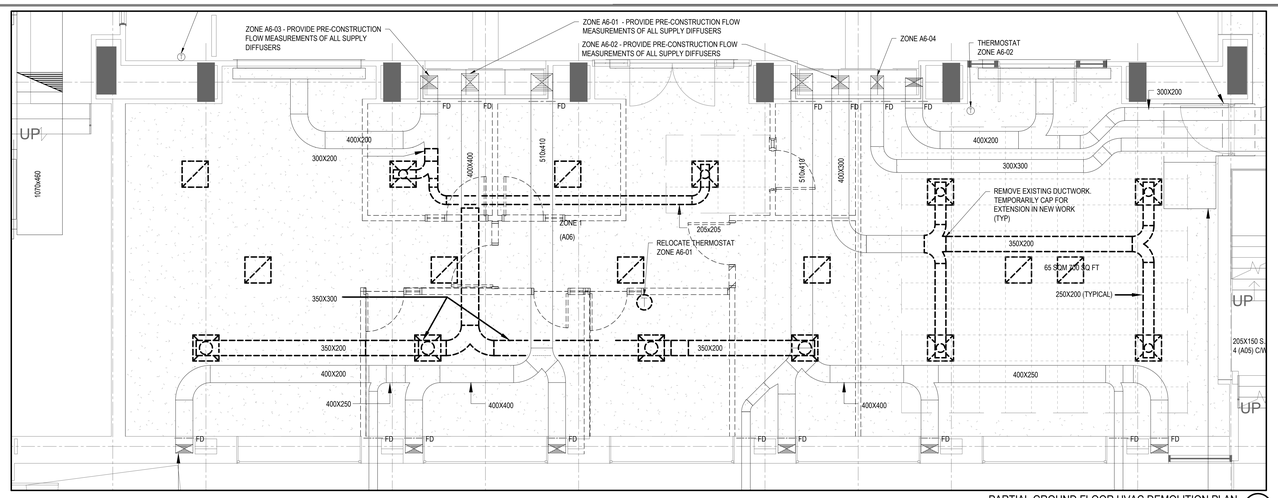
WASHROOM HVAC DEMOLITION PLAN (1/401)
SCALE:1:50



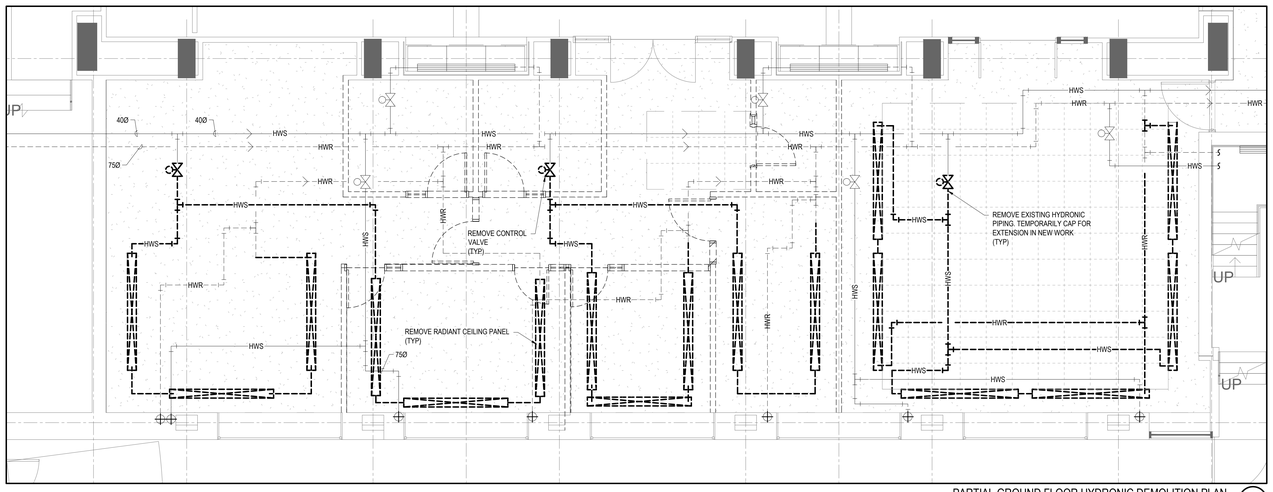
EXHAUST RISER DEMOLITION DETAIL (2/401)
SCALE:1:50

TAKE PRE-CONSTRUCTION AIR FLOW AND PRESSURE READINGS AND SUBMIT TO ENGINEER. READINGS SHALL INCLUDE:

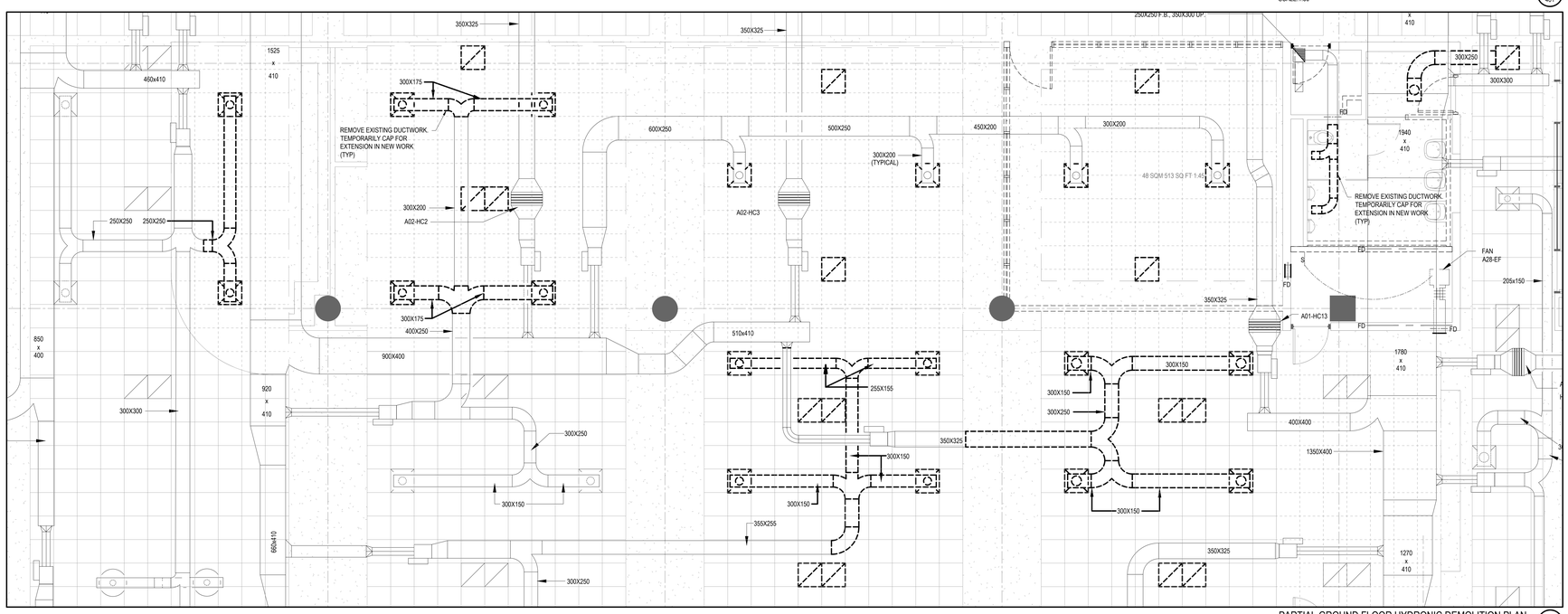
1. AIR FLOW ON ALL SUPPLY DIFFUSERS WITHIN THE AREA OF CONSTRUCTION
2. AIR FLOW ON ALL SUPPLY DIFFUSERS FED BY VAV BOXES AFFECTED BY CONSTRUCTION.
3. AIR FLOW AND PRESSURE AT MAIN BRANCHES ON SUPPLY, RETURN AND EXHAUST SERVING PROJECT AREA AND FLOOR.



PARTIAL GROUND FLOOR HVAC DEMOLITION PLAN (3/401)
SCALE:1:50



PARTIAL GROUND FLOOR HYDRONIC DEMOLITION PLAN (4/401)
SCALE:1:50



PARTIAL GROUND FLOOR HYDRONIC DEMOLITION PLAN (5/401)
SCALE:1:50

A0 (33.1" x 46.8" | 841mm x 1189mm)

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100079030
2024-03-25
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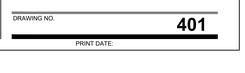
KEYPLAN:



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GROUND FLOOR HVAC DEMOLITION

DRAWING NO. **401**

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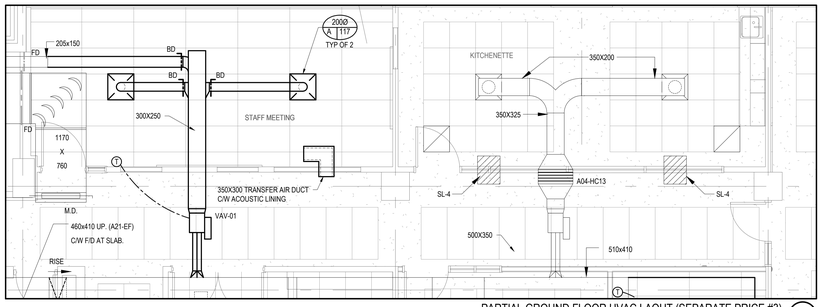

PARTIAL GROUND FLOOR HVAC LAOUT (SEPARATE PRICE #3)
SCALE: 1:50
1 M410

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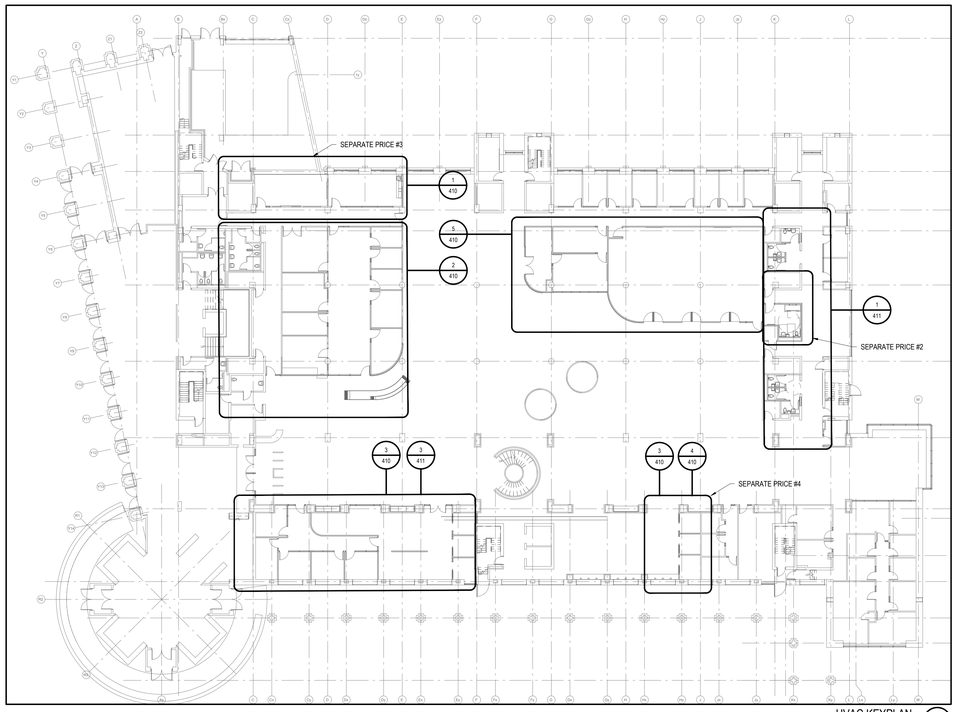
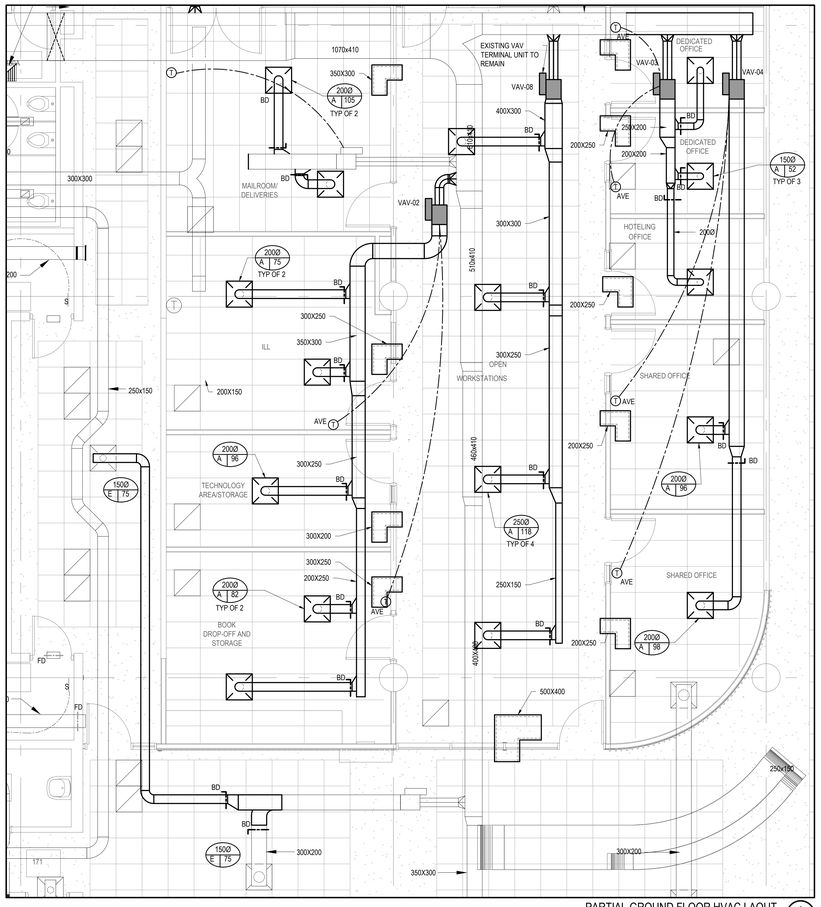
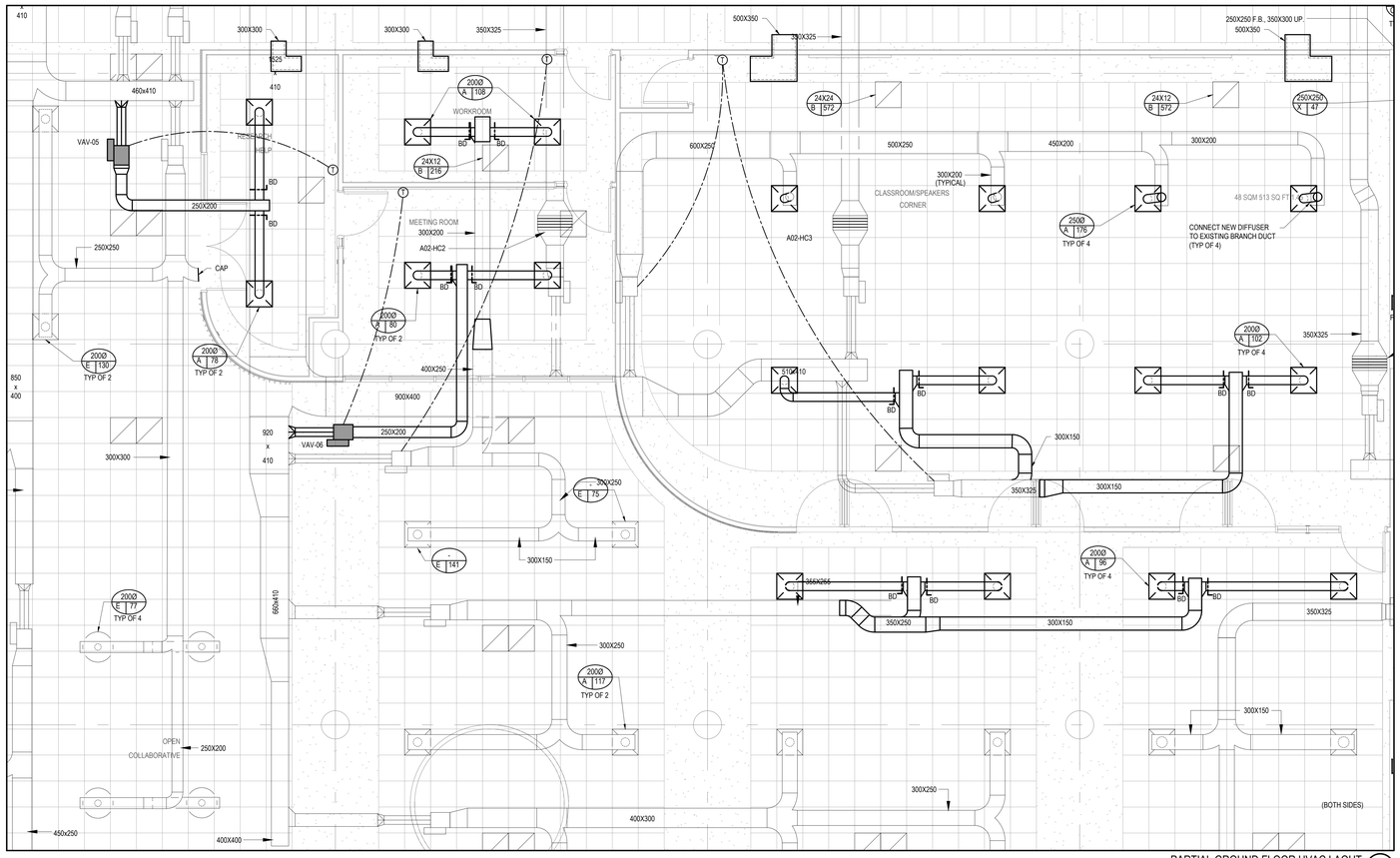


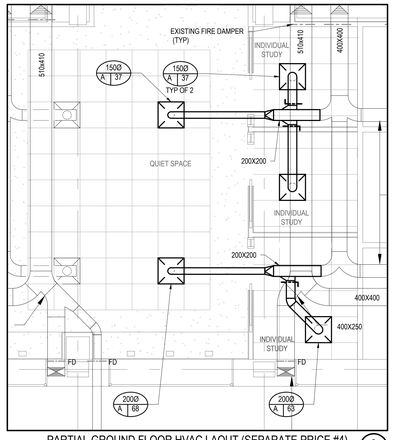
HVAC KEYPLAN
SCALE: 1:250
3 M410



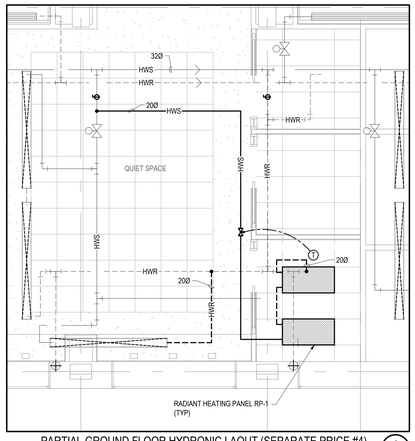
PARTIAL GROUND FLOOR HVAC LAOUT
SCALE: 1:50
2 M410



PARTIAL GROUND FLOOR HVAC LAOUT
SCALE: 1:50
5 M410



PARTIAL GROUND FLOOR HVAC LAOUT (SEPARATE PRICE #4)
SCALE: ####
3 M410



PARTIAL GROUND FLOOR HYDRONIC LAOUT (SEPARATE PRICE #4)
SCALE: ####
4 M410

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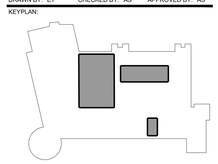

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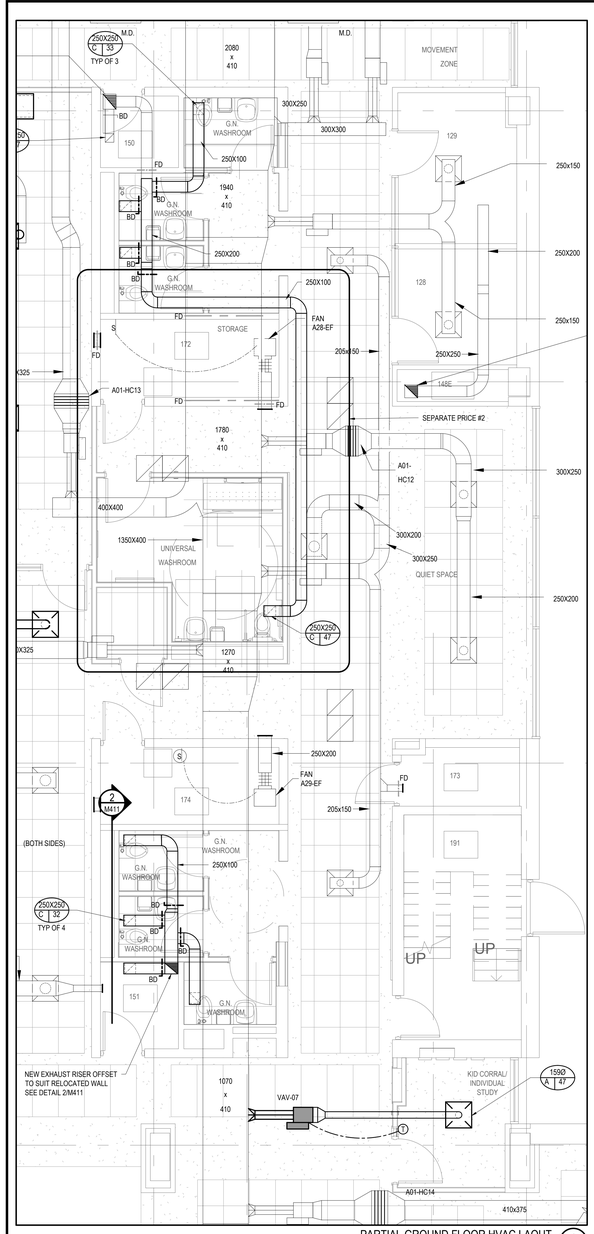
GROUND FLOOR HVAC LAYOUT

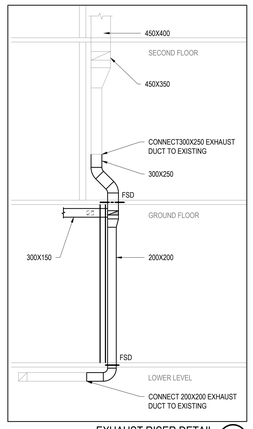
DRAWING NO. **M410**

PRINT DATE:

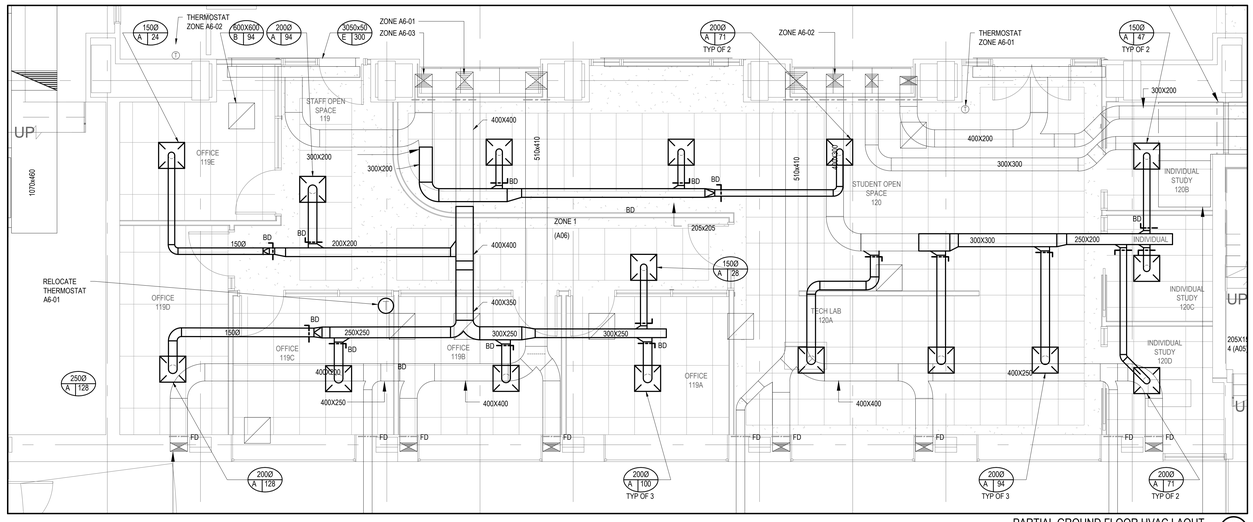
A0 (33.1" x 46.8" | 841mm x 1189mm)



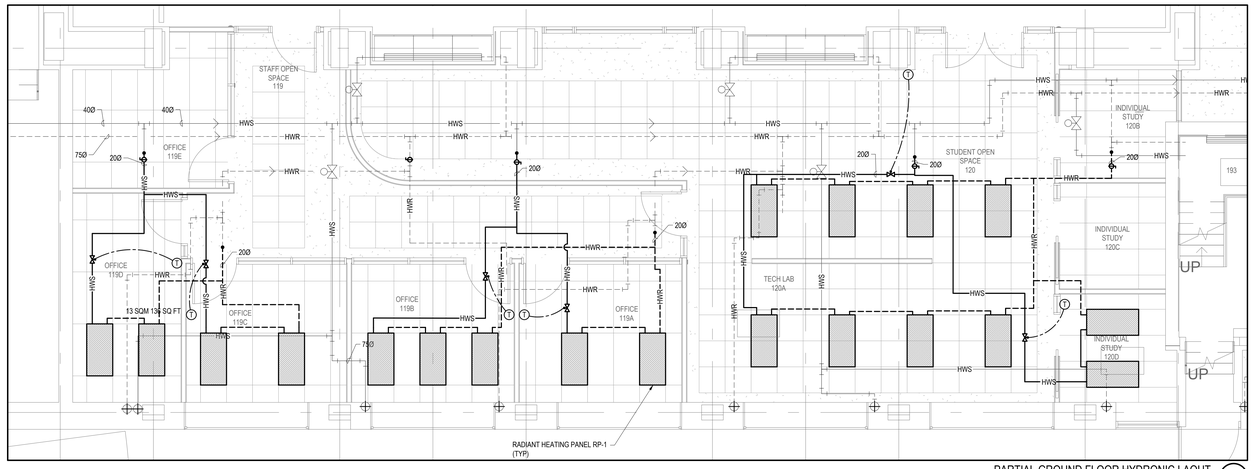
PARTIAL GROUND FLOOR HVAC LAOUT
SCALE: 1:50
1 / M411



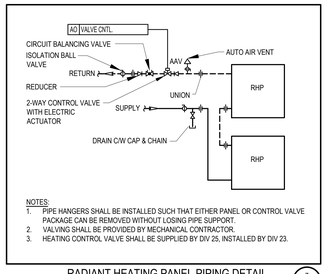
EXHAUST RISER DETAIL
SCALE:1:50
2 / M411



PARTIAL GROUND FLOOR HVAC LAOUT
SCALE:1:50
3 / M411



PARTIAL GROUND FLOOR HYDRONIC LAOUT
SCALE:1:50
4 / M411



NOTES:
1. PIPE HANGERS SHALL BE INSTALLED SUCH THAT EITHER PANEL OR CONTROL VALVE PACKAGE CAN BE REMOVED WITHOUT LOSING PIPE SUPPORT .
2. VALVING SHALL BE PROVIDED BY MECHANICAL CONTRACTOR.
3. HEATING CONTROL VALVE SHALL BE SUPPLIED BY DIV 25, INSTALLED BY DIV 23.

RADIANT HEATING PANEL PIPING DETAIL
SCALE: NTS
7 / M411

RADIANT HEATING PANEL SCHEDULE

TAG	CAPACITY (W)	WATER IN/OUT (°C)	WATER FLOW (L/s)	W.P.D. (kPa)	SIZE (mmXmm)	MAKE	MODEL
RP-1	650	82 / 71	0.019	0.15	1200X600	SIGMA	SLC

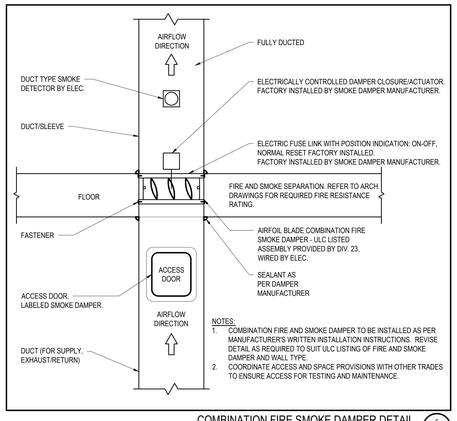
GRILLE & DIFFUSER SCHEDULE

DESIGNATION	A	B	C
FUNCTION	SUPPLY	RETURN	EXHAUST
MANUFACTURER	E.H. PRICE	E.H. PRICE	E.H. PRICE
MODEL	SCD	80	535
FASTENING/FRAME	T-BAR	T-BAR	DRYWALL
FINISH	WHITE	WHITE	WHITE
REMARKS	600x600 FACE. THROAT DIA AS NOTED ON DRAWING	SIZE AS NOTED ON DRAWING	SIZE AS NOTED ON DRAWING
ALTERNATES	TITUS, NAILOR HART, KRUEGER		

VAV SCHEDULE

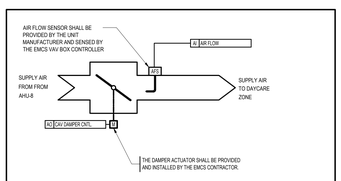
TAG	MODEL	MINIMUM AIRFLOW	DESIGN AIRFLOW	MAXIMUM AIRFLOW	INLET SIZE	OUTLET SIZE
		(L/s)	(L/s)	(L/s)	(mm)	(mm)
VAV-01	SDV-8	59	293	519	200Ø	300X250
VAV-02	SDV-8	59	290	519	150Ø	300X200
VAV-03	SDV-6	31	156	260	150Ø	300X200
VAV-04	SDV-6	31	196	260	150Ø	300X200
VAV-05	SDV-6	31	156	260	150Ø	300X200
VAV-06	SDV-6	31	160	260	175Ø	300X200
VAV-07	SDV-4	21	47	189	100Ø	300X200
VAV-08	SDV-09	76	472	660	225Ø	320X350

NOTES:
1. MODELS BASED ON PRICE SDV SERIES
2. ACOUSTICALLY LINE FIRST 3 METERS OF DUCTWORK



NOTES:
1. COMBINATION FIRE AND SMOKE DAMPER TO BE INSTALLED AS PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. REVISE DETAIL AS REQUIRED TO SUIT ULC LISTING OF FIRE AND SMOKE DAMPER AND WALL TYPE.
2. COORDINATE ACCESS AND SPACE PROVISIONS WITH OTHER TRADES TO ENSURE ACCESS FOR TESTING AND MAINTENANCE.

COMBINATION FIRE SMOKE DAMPER DETAIL
SCALE: NTS
5 / M411



VAV BOX SEQUENCE OF OPERSATIONS

GENERAL

1. THE VAV TERMINAL UNITS SHALL BE INDIVIDUALLY CONTROLLED BY A DDC CAV CONTROLLER PER CAV TERMINAL UNIT.
2. TO ASSURE PROPER OPERATION AND CONTROL, THE EMCS CONTRACTOR SHALL RECALIBRATE THE TRANSDUCERS SUPPLIED WITH THE CAV TERMINAL SIX MONTHS AFTER ACCEPTANCE OF THE EMCS SYSTEM TO CORRECT ANY DEVIATIONS AS A RESULT OF TRANSDUCER DRIFT.
3. THE EMCS SHALL PERFORM THE FOLLOWING VAV TERMINAL UNIT CONTROL STRATEGIES AND THE SPECIFIED MONITORING AND DIAGNOSTICS.
4. OPERATING MODE - THE EMCS SHALL PLACE THE BOX IN EITHER THE OCCUPIED OR UNOCCUPIED MODE BASED ON AN OPERATOR ADJUSTABLE TIME SCHEDULE. SEPARATE AIR FLOW SETPOINTS SHALL BE ENTERABLE FOR EACH MODE THROUGH THE EMCS.
5. OVERRIDE BUTTON - THE CAV BOX SHALL BE CAPABLE OF BEING PLACED IN THE "OCCUPIED" MODE FOR AN OPERATOR ADJUSTABLE TIME PERIOD BY PRESSING AN OVERRIDE BUTTON MOUNTED ON THE ZONE CONTROLLER. THE CAV UNIT SHALL BE PLACED IN THE OCCUPIED MODE UPON ACTIVATION OF AN OVERRIDE BUTTON FOR THE SAME TIME PERIOD.
6. SEQUENCE OF OPERATION

6.1. UNOCCUPIED CYCLE - DURING THE UNOCCUPIED MODE, THE VAV DAMPER SHALL MODULATE FULLY CLOSED.

6.2. OCCUPIED CYCLE - THE TERMINAL UNIT SHALL MODULATE TO PROVIDE OPERATOR ADJUSTED FLOW RATE.

6.3. OVERRIDE CYCLE - DURING THE OVERRIDE MODE, THE TERMINAL UNIT SHALL MODULATE TO PROVIDE OPERATOR ADJUSTED FLOW RATE FOR AN OPERATOR ADJUSTED PERIOD OF TIME.

VAV BOX DETAIL
SCALE: NTS
6 / M411

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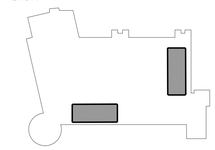

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GROUND FLOOR HVAC LAYOUT

DRAWING NO. **M411**

PRINT DATE:

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