

MECHANICAL SYMBOLS

GENERAL

SYMBOL	DESCRIPTION
	EXISTING TO REMAIN
	EXISTING TO BE DEMOLISHED
	EXISTING TO BE REMOVED FOR RELOCATION
	EXISTING RELOCATED IN NEW WORK
	NEW WORK
	CONNECT TO EXISTING
	PIPE TURNING DOWN
	PIPE TURNING UP
	PRESSURE REDUCING VALVE
	THERMOSTAT
	HUMIDISTAT
	PUMP
	AUTOMATIC CONTROL VALVE - TWO WAY
	AUTOMATIC CONTROL VALVE - THREE WAY
	ISOLATION VALVE
	BALANCING VALVE
	CHECK VALVE
	STRAINER - OVER 50MM WITH VALVED FLUSHING DRAIN
	PIPE BRANCH OFF TOP
	PIPE BRANCH OFF BOTTOM
	RELIEF VALVE (PIPE TO DRAIN)
	PRESSURE GAUGE
	THERMOMETER

PLUMBING

SYMBOL	DESCRIPTION
	SANITARY DRAINAGE - ABOVE GROUND
	SANITARY DRAINAGE - UNDERGROUND
	PUMPED DISCHARGE
	DOMESTIC COLD WATER SUPPLY
	DOMESTIC HOT WATER SUPPLY
	DOMESTIC HOT WATER RECIRC.
	TEMPERED WATER
	VENT
	HEAT TRACING
	RUNNING TRAP
	P-TRAP
	BACKFLOW PREVENTER
	DENOTES FIXTURE TYPE PER SPECIFICATION
	CLEANOUT IN FLOOR
	CLEANOUT IN CEILING
	FUNNEL FLOOR DRAIN
	FLOOR DRAIN
	HUB DRAIN

FIRE PROTECTION

SYMBOL	DESCRIPTION
	SPRINKLER LINE
	FIRE MAIN
	STANDPIPE
	SUPERVISED VALVE
	SPRINKLER VALVE CABINET
	SEMI-RECESSED PENDENT SPRINKLER HEAD
	UPRIGHT SPRINKLER HEAD
	CONCEALED SPRINKLER HEAD
	SIDEWALL SPRINKLER HEAD
	FIRE STANDPIPE RISER
	FIRE HOSE CABINET
	FIRE EXTINGUISHER C/W WALL BRACKET
	FIRE EXTINGUISHER CABINET
	POST-INDICATOR VALVE

HEATING & COOLING

SYMBOL	DESCRIPTION
	HEATING WATER RETURN
	HEATING WATER SUPPLY
	HEATING GLYCOL RETURN
	HEATING GLYCOL SUPPLY
	CONDENSER WATER RETURN
	CONDENSER WATER SUPPLY
	CHILLED WATER RETURN
	CHILLED WATER SUPPLY
	CHILLED GLYCOL RETURN
	CHILLED GLYCOL SUPPLY
	CONDENSATE DRAIN
	REFRIGERANT GAS
	REFRIGERANT LIQUID
	UNION
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	FLOAT & THERMOSTATIC TRAP
	INVERTED BUCKET TRAP

VENTILATION

SYMBOL	DESCRIPTION
	SUPPLY GRILLE - DIMENSIONS AS SHOWN ON SCHEDULE
	EXHAUST/RETURN GRILLE - DIMENSIONS AS SHOWN ON SCHEDULE
	CEILING SUPPLY AIR DIFFUSER - DIMENSIONS AS SHOWN ON SCHEDULE
	LINEAR SLOT DIFFUSER - DIMENSIONS AS SHOWN ON SCHEDULE
	CEILING EXHAUST/RETURN GRILLE - DIMENSIONS AS SHOWN ON SCHEDULE
	SUPPLY AIR ROUND DIFFUSER
	OPEN ENDED DUCT WITH BALANCING DAMPER AND BELLMOUTH, DIRECTION AS SHOWN (DOUBLE LINE)
	OPEN ENDED DUCT WITH BALANCING DAMPER AND BELLMOUTH, DIRECTION AS SHOWN (SINGLE LINE)
	FLEXIBLE DUCT CONNECTION
	ACOUSTICALLY LINED DUCTWORK (DOUBLE LINE)
	DUCT SILENCER
	FLEXIBLE DUCT (DOUBLE LINE)
	FLEXIBLE DUCT (SINGLE LINE)
	FLEXIBLE DUCT CONNECTION WITH BALANCING DAMPER ON TAKE-OFF
	DUCT MOUNTED HEATING COIL (DOUBLE LINE)
	SUPPLY AIR TERMINAL BOX C/W REHEAT COIL AND ATTENUATOR.
	SUPPLY AIR TERMINAL BOX C/W ATTENUATOR.
	RETURN / EXHAUST AIR TERMINAL BOX ATTENUATOR.
	FIRE RATED DUCTWORK (DOUBLE LINE)
	DUCT TRANSITION FROM RECTANGULAR TO ROUND
	RECTANGULAR DUCT BREAK
	ROUND DUCT BREAK
	TRANSFER AIR DUCT
	SUPPLY AIR LIGHT TROFFER
	75mm (3/4") DOOR UNDERCUT
	FUSIBLE LINK FIRE DAMPER (DOUBLE LINE)
	SMOKE DAMPER (DOUBLE LINE)
	COMBINATION SMOKE/FIRE DAMPER (DOUBLE LINE)
	BACK DRAFT DAMPER (DOUBLE LINE)
	BALANCING DAMPER (DOUBLE LINE)
	MOTORIZED DAMPER (DOUBLE LINE)
	RECTANGULAR DUCTWORK - DIMENSION AS SHOWN
	ROUND DUCTWORK - DIMENSION AS SHOWN
	RECTANGULAR SUPPLY/OUTDOOR AIR DUCT UP
	RECTANGULAR EXHAUST/RETURN AIR DUCT UP
	CIRCULAR SUPPLY/OUTDOOR AIR DUCT UP
	CIRCULAR EXHAUST/RETURN AIR DUCT UP
	RECTANGULAR SUPPLY/OUTDOOR AIR DUCT DOWN
	RECTANGULAR EXHAUST/RETURN AIR DUCT DOWN
	CIRCULAR SUPPLY/OUTDOOR AIR DUCT DOWN
	CIRCULAR EXHAUST/RETURN AIR DUCT DOWN
	MITRED ELBOW WITH TURNING VANES
	DUCT RISE (DOUBLE LINE)

MEDICAL GAS SYSTEM

SYMBOL	DESCRIPTION
	MEDICAL AIR
	MEDICAL VACUUM
	OXYGEN
	NITROGEN
	NITROUS OXIDE
	CARBON DIOXIDE
	ANAESTHETIC GAS SCAVENGING SYSTEM
	MEDICAL AIR OUTLET
	VACUUM OUTLET
	OXYGEN OUTLET
	NITROGEN OUTLET
	NITROUS OXIDE OUTLET
	CARBON DIOXIDE OUTLET
	ANAESTHETIC GAS SCAVENGING
	ALARM POINT
	ZONE VALVE BOX
	ALARM SENSOR WITH D.I.S.S CONNECTION
	CONTROL PANEL
	MASTER ALARM PANEL
	LOCAL EMERGENCY ALARM PANEL
	COMPRESSED GAS CYLINDER
	OXYGEN SENSOR
	GAS DETECTION SYSTEM CONTROL PANEL
	VISUAL INDICATOR ALARM
	AUDIBLE INDICATOR ALARM

CONTROLS

SYMBOL	DESCRIPTION
	SUPPLY FAN
	RETURN EXHAUST FAN
	EXHAUST FAN
	HEATING COIL
	COOLING COIL
	PRE-HEAT COIL
	FILTERS
	SUPPLY AIR
	EXHAUST AIR
	OUTDOOR AIR
	RETURN AIR
	MOTORIZED DAMPER
	MOTOR STARTER PANEL
	MOTOR CONTROL CENTER
	NORMALLY OPEN
	NORMALLY CLOSED
	VARIABLE FREQUENCY DRIVE
	ACTUATOR CLOSED END SWITCH
	ACTUATOR OPEN END SWITCH
	FLOW SWITCH
	LEVEL SWITCH
	PRESSURE SWITCH

CONTROLS

SYMBOL	DESCRIPTION
	ACTUATOR NORMALLY CLOSED DE-ENERGIZED POSITION
	ACTUATOR NORMALLY OPEN DE-ENERGIZED POSITION
	ACTUATOR FAIL OPEN POSITION
	ACTUATOR FAIL CLOSED POSITION
	ACTUATOR FAIL LAST POSITION
	TWO-POSITION ACTUATOR
	MODULATING ACTUATOR
	PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SENSOR
	VELOCITY SENSOR
	HUMIDITY SENSOR
	TEMPERATURE SENSOR
	OCCUPANCY SENSOR
	CARBON MONOXIDE SENSOR
	NOX SENSOR
	OXYGEN SENSOR
	GAS DETECTION SYSTEM CONTROL PANEL
	VISUAL INDICATOR ALARM
	AUDIBLE INDICATOR ALARM
	BUILDING AUTOMATION SYSTEM
	ANALOG INPUT
	ANALOG OUTPUT
	DIGITAL INPUT
	DIGITAL OUTPUT
	BAS GRAPHICS POINT
	BAS ADJUSTABLE SET POINT
	BACNET BINARY VARIABLE
	HAND-OFF-AUTO
	CONTROL WIRING

GENERAL NOTES

1. WORK OUTSIDE OF AREAS OF WORK IDENTIFIED IN THE MECHANICAL KEYPLAN WILL BE OCCUPIED FOR THE ENTIRE DURATION OF THE PROJECT. CEILING INVESTIGATIONS ARE TO BE COMPLETED AFTER HOURS BY THE MECHANICAL CONTRACTOR IN ACCORDANCE WITH SICKKIDS FACILITY PROCEDURES. CONSTRUCTION WORK OUTSIDE OF AREAS OF WORK IS TO BE COORDINATED AND COMPLETED AFTER HOURS OR SUCH THAT SICKKIDS OPERATIONS CAN CONTINUE NORMALLY THROUGH SPACES WITHOUT SHUTTING DOWN ANY SPACES. REFER TO DIVISION 1 SPECIFICATIONS FOR AFTER HOUR WORK PERIODS AND SPECIFICATION APPENDIX FOR HAZMAT REPORT.

2ND FLOOR KEYPLAN

SCALE: 1:200

NEW 38 CHWS/CHWR FROM SHAFT (RM 2161) 50 AGS EXHAUST UP TO PLENUM LEVEL

AREA OF WORK

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer.

Keyplan

North Arrow

Detail Symbol

Detail No. Sheet No.

Seal

Project Manager MB

Drawn AS

Project Leader

Checked PC

Client

555 University Ave., Toronto, ON M5G 1X8

Project

SICKKIDS - SPEC CT ROOM

555 UNIVERSITY AVENUE, MAIN FLOOR, TORONTO, ON M5G1X8

Drawing Title

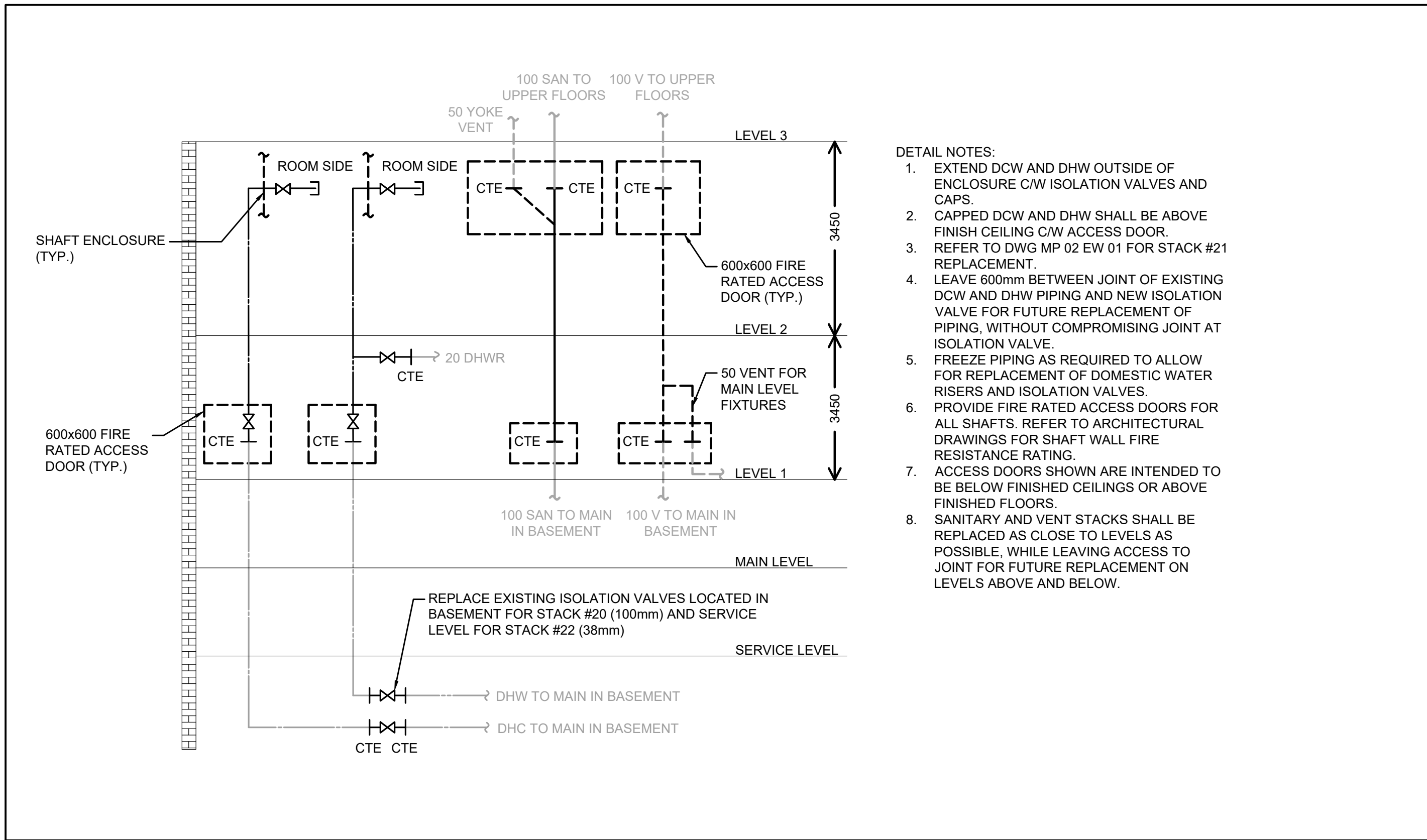
MECHANICAL DRAWING LIST,SYMBOL LIST AND KEYPLAN

Check Scale (may be photo reduced)

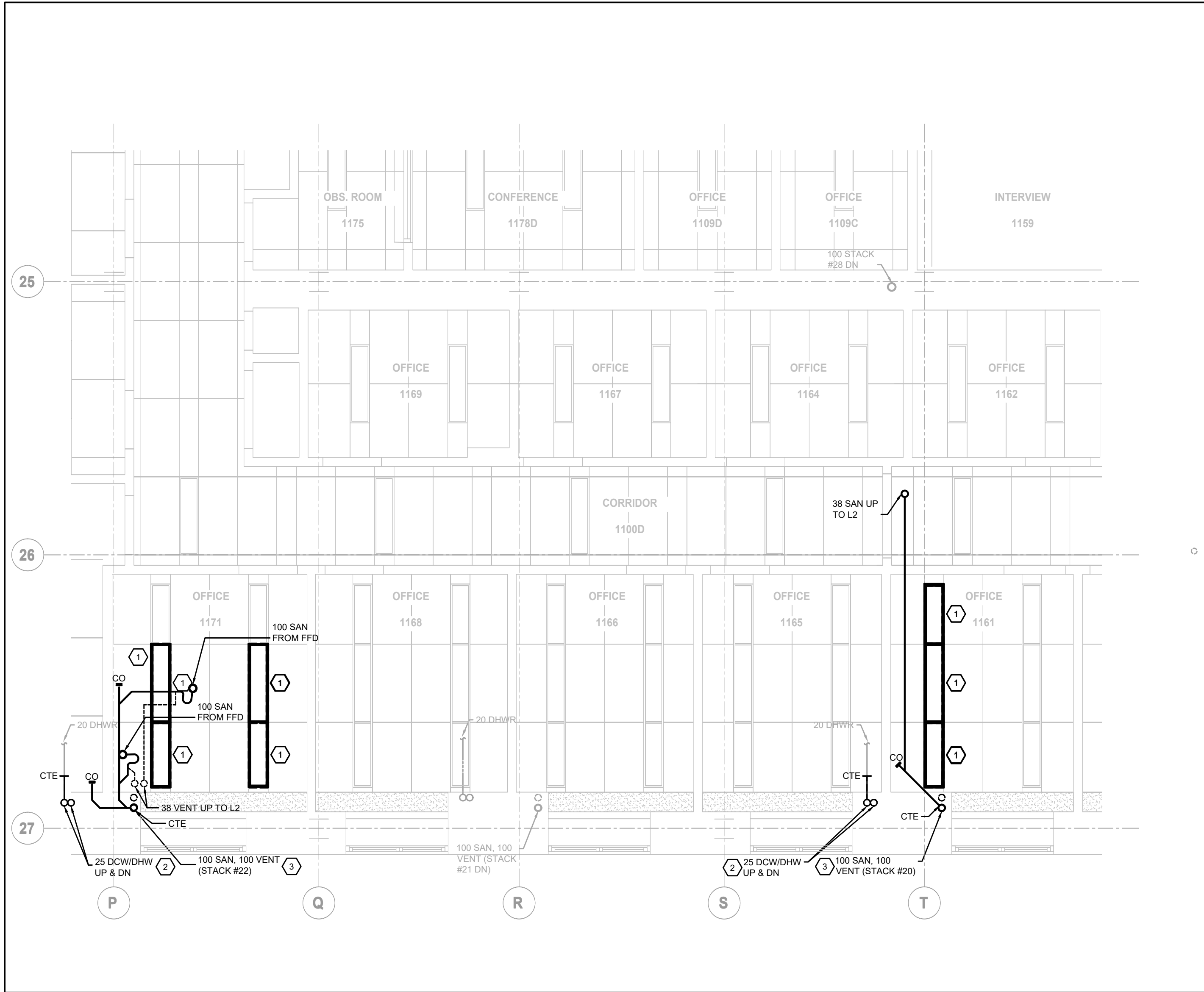
Project No. HC 21-129

Drawing No. MA 02 EW 01

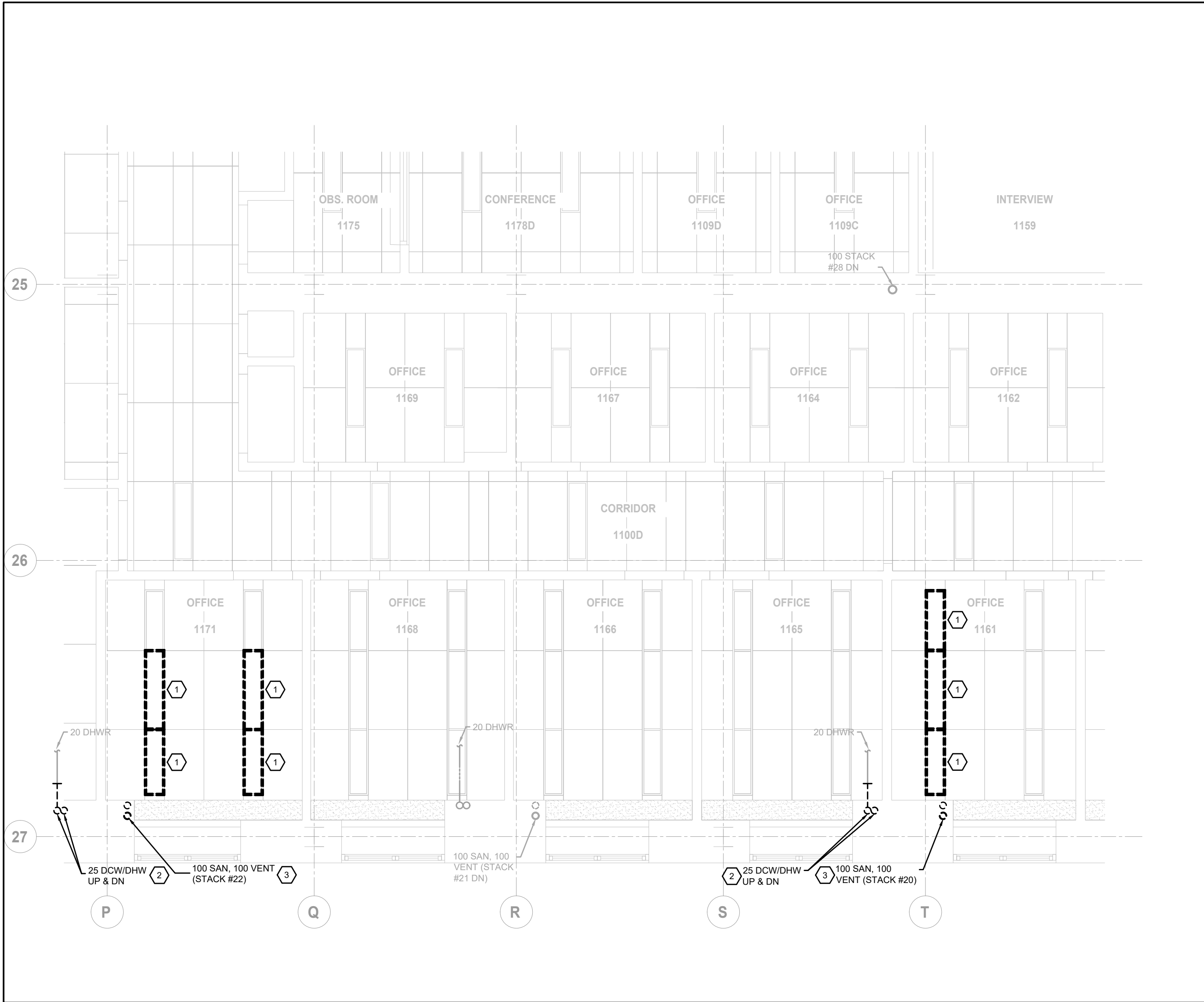
SK Atrium TB - 864 x 1232



3 DETAIL OF STACK #20 AND 22 REPLACEMENT
SCALE: N.T.S



2 LEVEL 1 PART PLAN - PLUMBING - NEW WORK
SCALE: 1:50



1 LEVEL 1 PART PLAN - PLUMBING - DEMOLITION
SCALE: 1:50

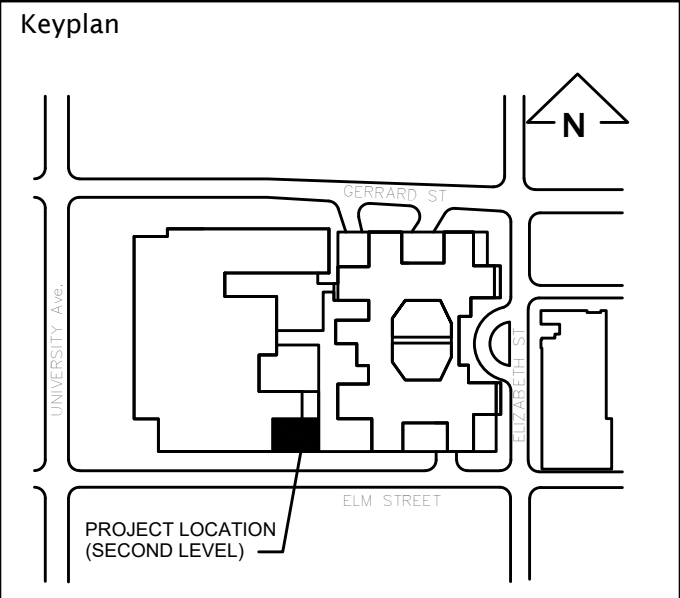
SHEET KEYNOTES	
1	INCLUDE FOR REMOVAL AND REINSTATEMENT OF LIGHT TROFFER DIFFUSERS TO FACILITATE PLUMBING SCOPE OF WORK, INCLUDING DISCONNECTING AND RECONNECTING 150mm FLEX DUCT CONNECTIONS AS REQUIRED - TYPICAL. PRIOR TO ANY DEMOLITION WORK, MEASURE AIRFLOW AT ALL DIFFUSERS INDICATED IN BOLD AND SUBMIT FOR CONSULTANT/OWNER REVIEW. UPON REINSTATEMENT, REBALANCE AIRFLOWS TO VALUES MEASURED PRIOR TO DEMOLITION.
2	REMOVE AND REPLACE EXISTING DCW AND DHW PLUMBING RISERS LOCATED IN EXISTING SHAFT. CUT BACK DHWR AS REQUIRED TO ALLOW FOR NEW WORK. PROVIDE NEW DCW, DHW AND DHWR PIPING. REFER TO FLOOR PLANS FOR SIZING. REFER TO DETAIL 3 FOR STACK #20 AND 22 RISER REPLACEMENT DETAIL. FREEZE ALL DCW, DHW, AND DHWR PIPING TO ALLOW FOR DEMOLITION AND NEW WORK. CONTRACTOR TO COORDINATE SHUT DOWN OF EXISTING RISERS WITH FACILITY.
3	REMOVE AND REPLACE EXISTING 100 SAN AND 100 VENT STACKS LOCATED IN EXISTING SHAFT. PROVIDE NEW 100 SAN AND 100 VENT PIPING, C/W ACCESS DOORS AT TOP AND BOTTOM FOR FUTURE ACCESS TO JOINTS. REFER TO DETAIL 3 FOR STACK #20 AND 22 RISER REPLACEMENT DETAIL. CONTRACTOR TO COORDINATE SHUT DOWN OF EXISTING RISERS WITH FACILITY.

GENERAL NOTES	
1	ASBESTOS CONTAINING FIREPROOFING IS PRESENT IN THE CEILING SPACE. TYPE 2 AND TYPE 3 ASBESTOS PROCEDURES ARE TO BE FOLLOWED WHEN WORKING IN THE CEILING SPACE AND IMPACTING PLUMBING. REFER TO HAZMAT REPORT IN DIVISION 2 SPECIFICATION SECTION, AS REQUIRED.
2	ALL EXISTING SERVICES SHOWN ARE APPROXIMATE AND BASED ON SITE SURVEY AND EXISTING RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL CONNECTIONS, PIPE SIZES AND LOCATIONS ON SITE AND REPORT ANY DISCREPANCY TO THE CONSULTANT.
3	CONTRACTOR RESPONSIBLE FOR CONFIRMING EXISTING AND NEW INVERTS ON SITE. PROVIDE ALL REQUIRED OFFSETS TO ROUTE AROUND EXISTING SERVICES.

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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North Arrow	Detail Symbol
Detail No. Sheet No.	

Seal	
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Project Manager MB	Drawn AS
Project Leader	Checked PC

Client
SickKids
555 University Ave., Toronto, ON M5G 1X8

Project
SICKKIDS - SPEC CT ROOM
555 UNIVERSITY AVENUE, MAIN FLOOR,
TORONTO, ON M5G1X8

Drawing Title
LEVEL 1 PART PLANS -
PLUMBING - DEMOLITION
AND NEW WORK

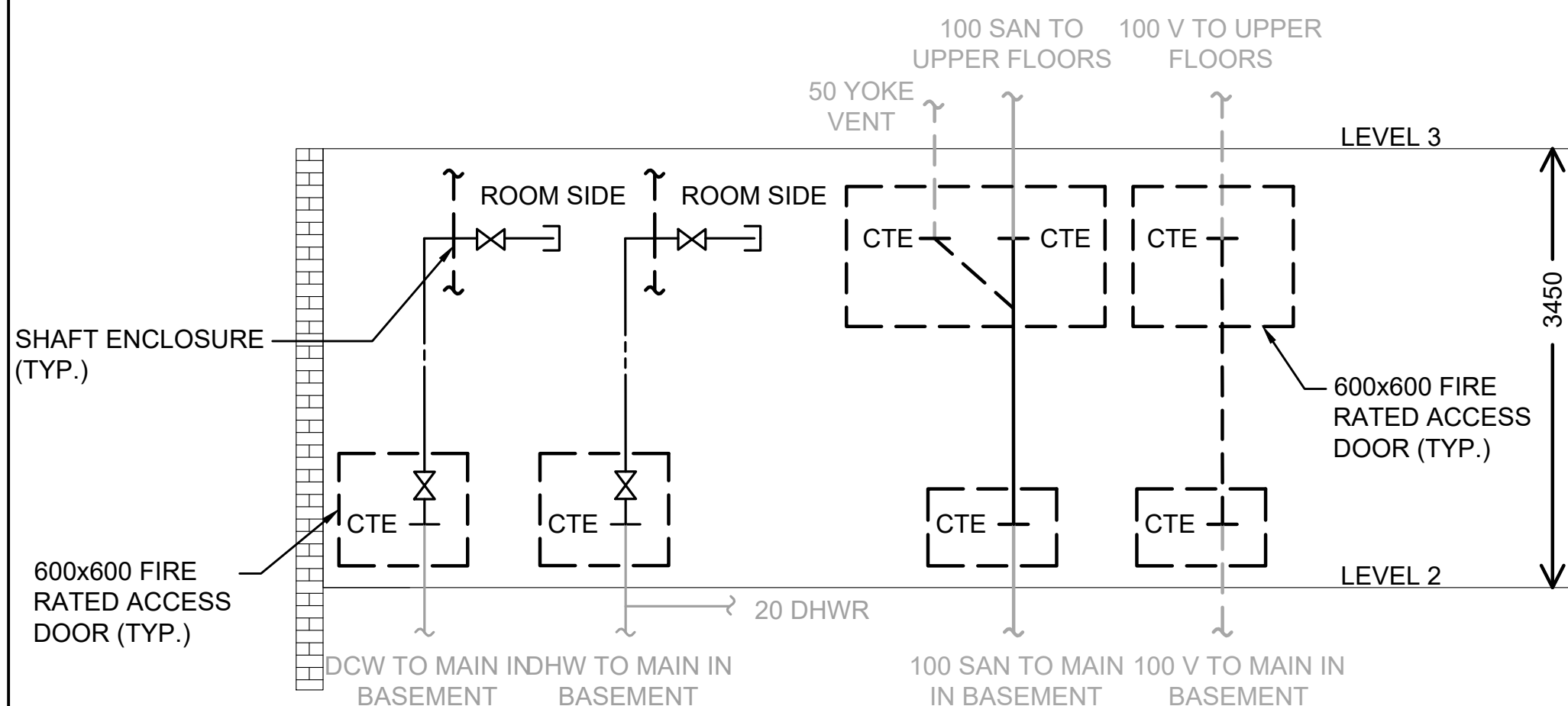
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0 1 inch 0 10mm

Project No.
HC 21-129

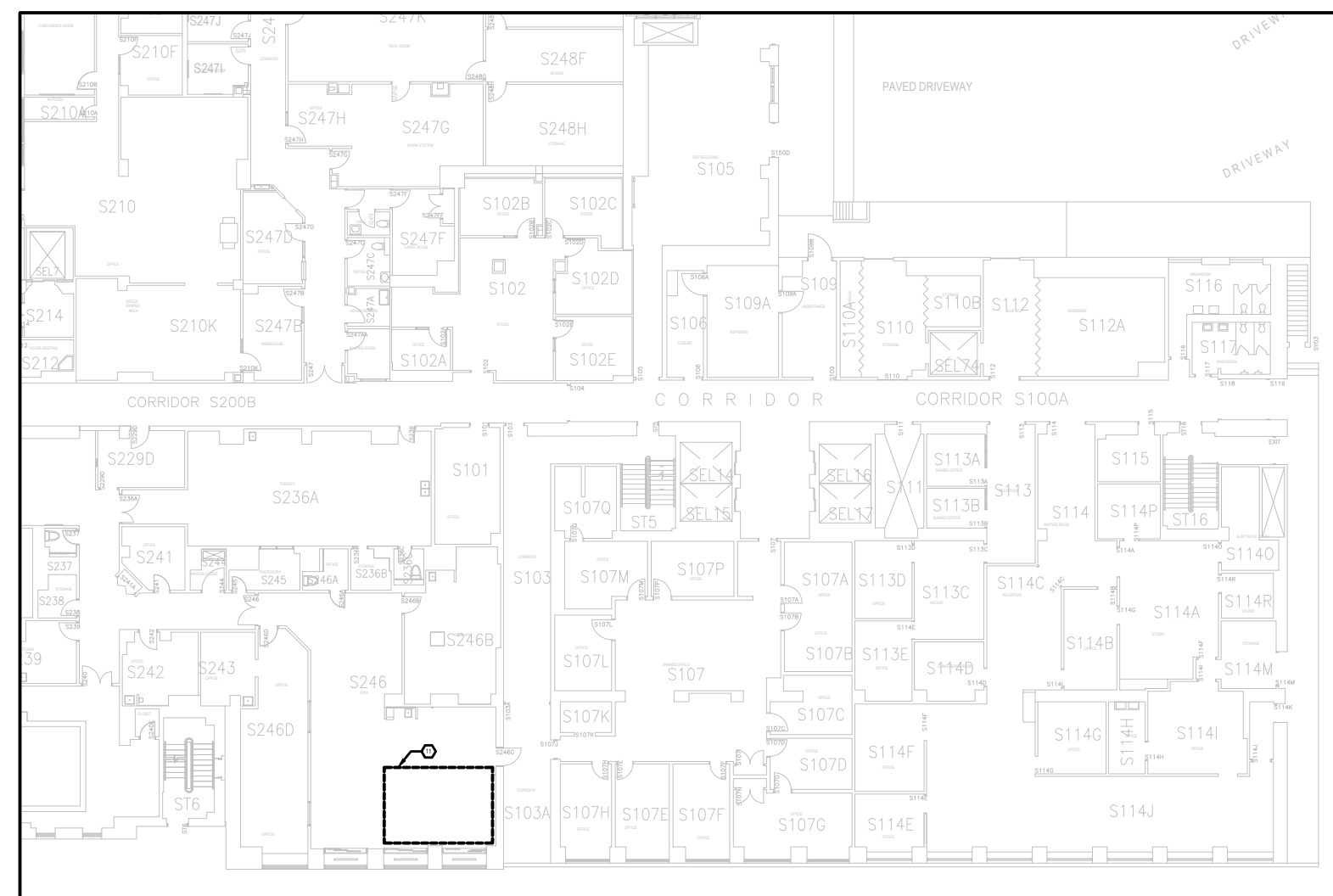
Drawing No.
MP 01 EW 01

DETAIL NOTES:

1. EXTEND DCW AND DHW OUTSIDE OF ENCLOSURE C/W ISOLATION VALVES AND CAPS.
2. CAPPED DCW AND DHW SHALL BE ABOVE FINISH CEILING C/W ACCESS DOOR.
3. REFER TO DWG MP 01 EW 01 FOR STACK #20 AND 22 REPLACEMENTS.
4. LEAVE 600mm BETWEEN JOINT OF EXISTING DCW AND DHW PIPING AND NEW ISOLATION VALVE FOR FUTURE REPLACEMENT OF PIPING, WITHOUT COMPROMISING JOINT AT ISOLATION VALVE.
5. FREEZE PIPING AS REQUIRED TO ALLOW FOR REPLACEMENT OF DOMESTIC WATER RISERS AND ISOLATION VALVES.
6. PROVIDE FIRE RATED ACCESS DOORS FOR ALL SHAFTS. REFER TO ARCHITECTURAL DRAWINGS FOR SHAFT WALL FIRE RESISTANCE RATING.
7. ACCESS DOORS SHOWN ARE INTENDED TO BE BELOW FINISHED CEILINGS OR ABOVE FINISHED FLOORS.
8. SANITARY AND VENT STACKS SHALL BE REPLACED AS CLOSE TO LEVELS AS POSSIBLE, WHILE LEAVING ACCESS TO JOINT FOR FUTURE REPLACEMENT ON LEVELS ABOVE AND BELOW.



4 DETAIL OF STACK #21 REPLACEMENT
SCALE: N.T.S.



3 SERVICE LEVEL PART PLANS - DEMOLITION & NEW WORK
SCALE: NTS

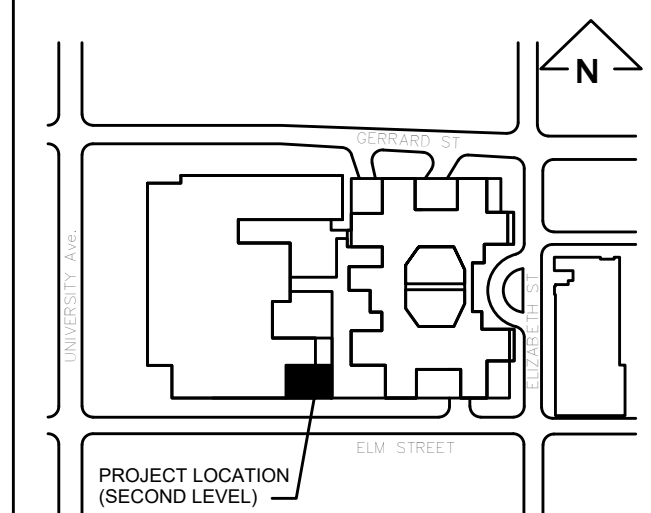
	SHEET KEYNOTES
1	REMOVE AND REPLACE EXISTING DOW AND DW PLUMBING RISERS AS WELL AS SANITARY AND VENT PIPING REFER TO DW 01 DETAIL 4 FOR
	EXTENTS OF STACK #21 REPLACEMENT, AND MP W1 E01 DETAIL 3 FOR STACK #20 AND 22 REPLACEMENTS. CONTRACTOR TO COORDINATE SHUT DOWN OF
	EXISTING RISERS WITH DW RISERS WITH DW RISERS WITH DW RISERS WITH DW
2	PROVIDE NEW HAND HYGIENE SINK 'S-1': COMPLETE WITH FAUCET, P-TRAP AND ACCESSORIES. EXTEND NEW 12mm DOW and 12mm DW FROM EXISTING
	DOMESTIC PIPING TO 'S-1' C/W ISOLATION VALVES. EXTEND NEW 32mm VENT FROM EXISTING VENT PIPING AND CONNECT TO 'S-1' AS INDICATED. EXTEND
	NEW 'S-1' FROM 'S-1' LEVEL BELOW AS INDICATED. REFER TO DWG W1 E01 FOR CONTINUATION.
	PROVIDE NEW EYEWASH 'EW-1': COMPLETE WITH P-TRAP, ACCESSORIES, AND
	WATER (THERMOSTATICALLY CONTROLLED) TAP. NEW LOCATION TO BE LOCATED AT LOCATION WITH CEILING. NEW 12mm DW AND NEW 12mm DOW and
	12mm DW FROM EXISTING DOMESTIC WATER RISERS TO 'EW' LOCATED IN CEILING SPACE. EXTEND TEMPERED WATER FROM 'TW' TO 'EW'. EXTEND NEW
	WATER FROM 'EW' FROM EXISTING DW TO NEW 32mm DW FROM 'EW' TO 'EW-1' WITHIN WALL, AND DOWN TO LEVEL BELOW, AS INDICATED. REFER TO
	DWG W1 MP W1 E01 FOR CONTINUATION
	PROVIDE 25mm reduced PRESSURE ZONE BACKFLOW PREVENTOR EQUAL TO
	WAT-1 (FORBID CWP 2000 DETECTION SENSOR SYSTEM) WITH BAS MONITORING, AIR GAP AND ELEV. MOUNT AT FLOOR LEVEL WITH UNISTRUT STAND.
4	EXTEND 50mm DRAIN AND TERMINATE INDIRECTLY INTO NEW FFD. PROVIDE
	CHECK VALVE ON DOWNSTREAM. PROVIDE EXPANSION TANK EQUAL TO
	500ML 'ST-12C-DW' CONNECTED DOWNSTREAM OF CHECK VALVE. REFER TO
	DWG MD W00 E01 FOR INSTALLATION DETAIL REQUIREMENTS.
	EXTEND NEW 25mm DOW FROM EXISTING DOW RISER TO NEW BFP AND DOW
	SWITCHOVER ASSEMBLY. REFER TO DWG MC W00 AT 01 FOR SWITCHOVER
	SEQUENCE. PROVIDE 12mm DW FROM EXISTING DW TO NEW 32mm DW FOR VALVE REPLACEMENT SCOPE FOR RISER 22 ON SERVICE LEVEL.
6	PROVIDE NEW FFD AND EXTEND 100 SAN TO LEVEL BELOW. EXTEND NEW 38
	VENT PIPING SERVING FFD FROM SAN FROM LEVEL BELOW TO LEVEL 2, AND
	CONNECT TO EXISTING STACK #22 AT L1 BELOW, AS INDICATED. REFER TO
	DWG W1 E01 FOR CONTINUATION
	EXTEND NEW 25mm DOW TO NEW 'CAC-2138-01' COOLING COIL. REFER TO DWG MD
	W00 E01 FOR VALVING ARRANGEMENT AND INTERCONNECTION TO CHILLED
7	WATER. EXTEND 23mm CONDENSATE DRAIN PIPING FROM COOLING COIL AND
	TERMINATE AND TERMINATE INDIRECTLY TO NEW FFD LOCATED WITHIN MECHANICAL ROOM.
	PROVIDE NEW HEAT TRACING FOR NEW DHW PIPING SERVING PLUMBING
	FIXTURES 'S-1' AND 'EW-1'. PRODUCT TO BE EQUAL TO INVENT 'HWAT-SF-1'.
	PROVIDE CABINETS AND TRAYS TO BE INSTALLED ON SERVICE LEVEL. FLOOR FOR
	DHW SHALL BE MAINTAINED AT 120F. CONTRACTORS TO COORDINATE WITH
	ELECTRICAL TRADE TO PROVIDE NORMAL POWER PROVISIONS FOR HEAT TRACING.
	PROVIDE NEW HEAT TRACING FOR NEW RISER INSTALLED ON SERVICE LEVEL. FROM
	LEVEL 2 TO MIXING VALVE OF FURTHEST FIXTURE (EW-1).
	PROVIDE NEW ELECTRONIC TRAP PRIMING STATION TO SERVE NEW
	MECHANICAL TRAPS. ELECTRONIC TRAP PRIMER IS TO BE SURFACE MOUNTED ON
	MECHANICAL ROOM. PROVIDE 12mm DW FROM EXISTING 12mm DW ISOLATION VALVE
	FROM 25 DOW DOWNSTREAM OF BFP.
	PROVIDE NEW HUMIDIFIER STEAM GENERATOR AND UNISTRUT AND INSTALL TO
	SUIT MANUFACTURER CLEARANCE REQUIREMENTS. EXTEND 12mm DOW PIPING
	C/W ISOLATION VALVE, STRAINER AND WATER HAMMER ARRESTOR FROM 25mm
	DOWNSTREAM DOW
	REPLACE EXISTING 32mm ISOLATION VALVES SERVING ASSOCIATED RISERS ON
	SERVICE LEVEL. EXTEND EXISTING DOW AND DW RISERS LOCATED IN GYM RM
	(RM 8240). CONTRACTOR TO INCLUDE FOR PIPE FREEZING. REFER TO DETAIL 4
	FOR CLIMATIC DEVICES.
	REPLACE SECTION OF EXISTING 50mm SANITARY PIPING TO ACCOMMODATE
	STACK EXISTING WORK. CUT BACK INSULATION AS REQUIRED AND PATCH TO
12	MATCH REPAIRMENT.

GENERAL NOTES	
1	ASBESTOS CONTAINING FIREPROOFING IS PRESENT IN THE CEILING SPACE. TYPE 2 ASBESTOS PROCEDURES ARE TO BE FOLLOWED WHEN WORKING IN THE CEILING SPACE AND IMPACTING PLUMBING. REFER TO HAZMAT REPORT IN DIVISION 2 SPECIFICATION SECTION, AS REQUIRED.
2	ALL EXISTING SERVICES SHOWN ARE APPROXIMATE AND BASED ON SITE SURVEY AND EXISTING RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL CONNECTIONS, PIPE SIZES AND LOCATIONS ON SITE AND REPORT ANY DISCREPANCY TO THE CONSULTANT.
3	CONTRACTOR RESPONSIBLE FOR CONFIRMING EXISTING AND NEW INVERTS ON SITE, PROVIDE ALL REQUIRED OFFSETS TO ROUTE AROUND EXISTING SERVICES.

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Keyplan



North Arrow

Detail Symbol

Detail No. _____
Sheet No. _____

Seal



Project Manager MB	Drawn AS
Project Leader	Checked PC

Client	
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555 University Ave., Toronto, ON M5G 1X8

Project	
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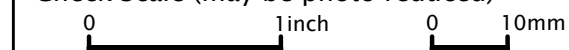
SICKKIDS - SPEC CT ROOM

555 UNIVERSITY AVENUE, MAIN FLOOR,
TORONTO, ON M5G1X8

Drawing Title

LEVEL 2 PART PLANS -
PLUMBING - DEMOLITION
AND NEW WORK

Check Scale (may be photo reduced)



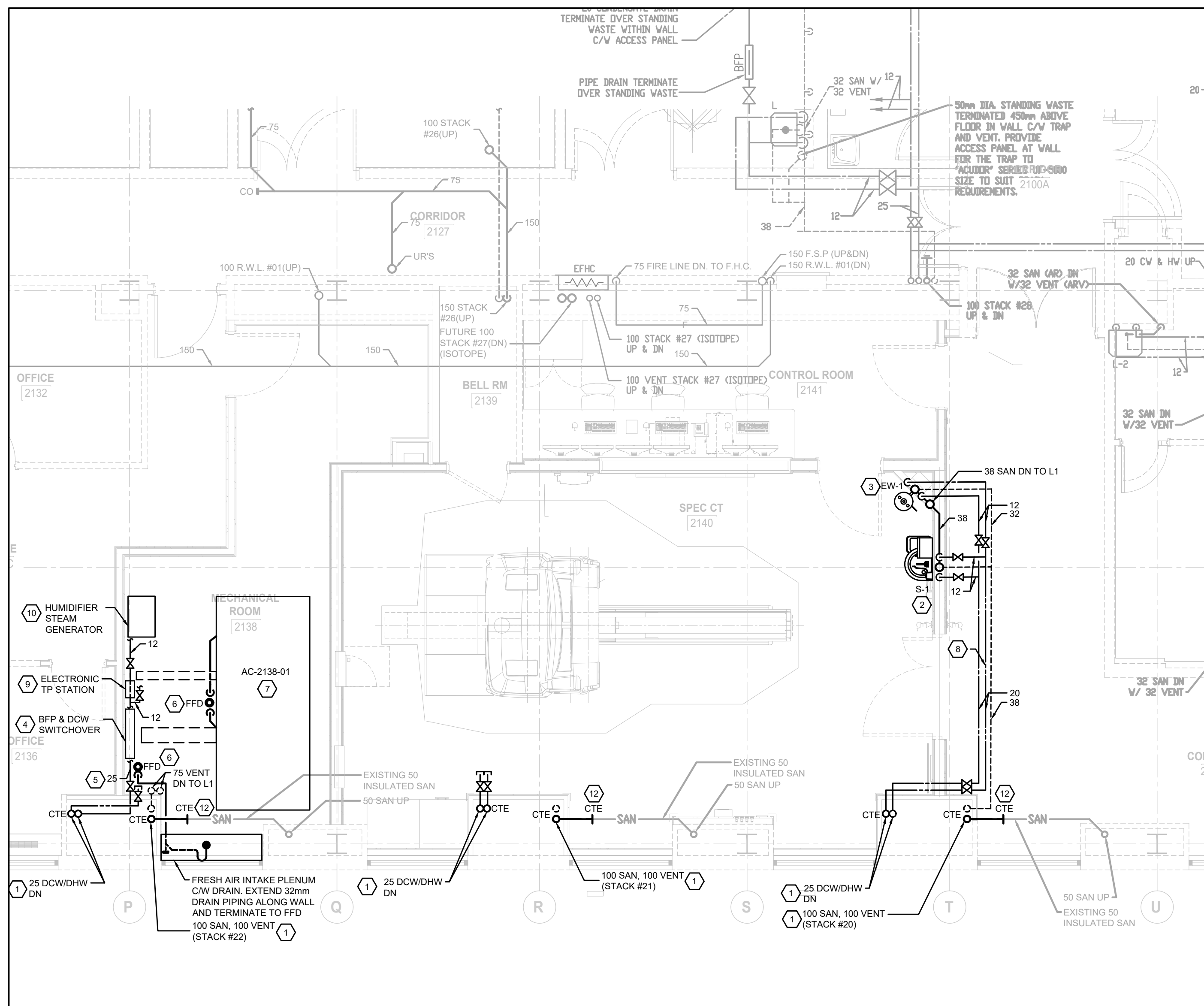
Project No.

HC 21-129

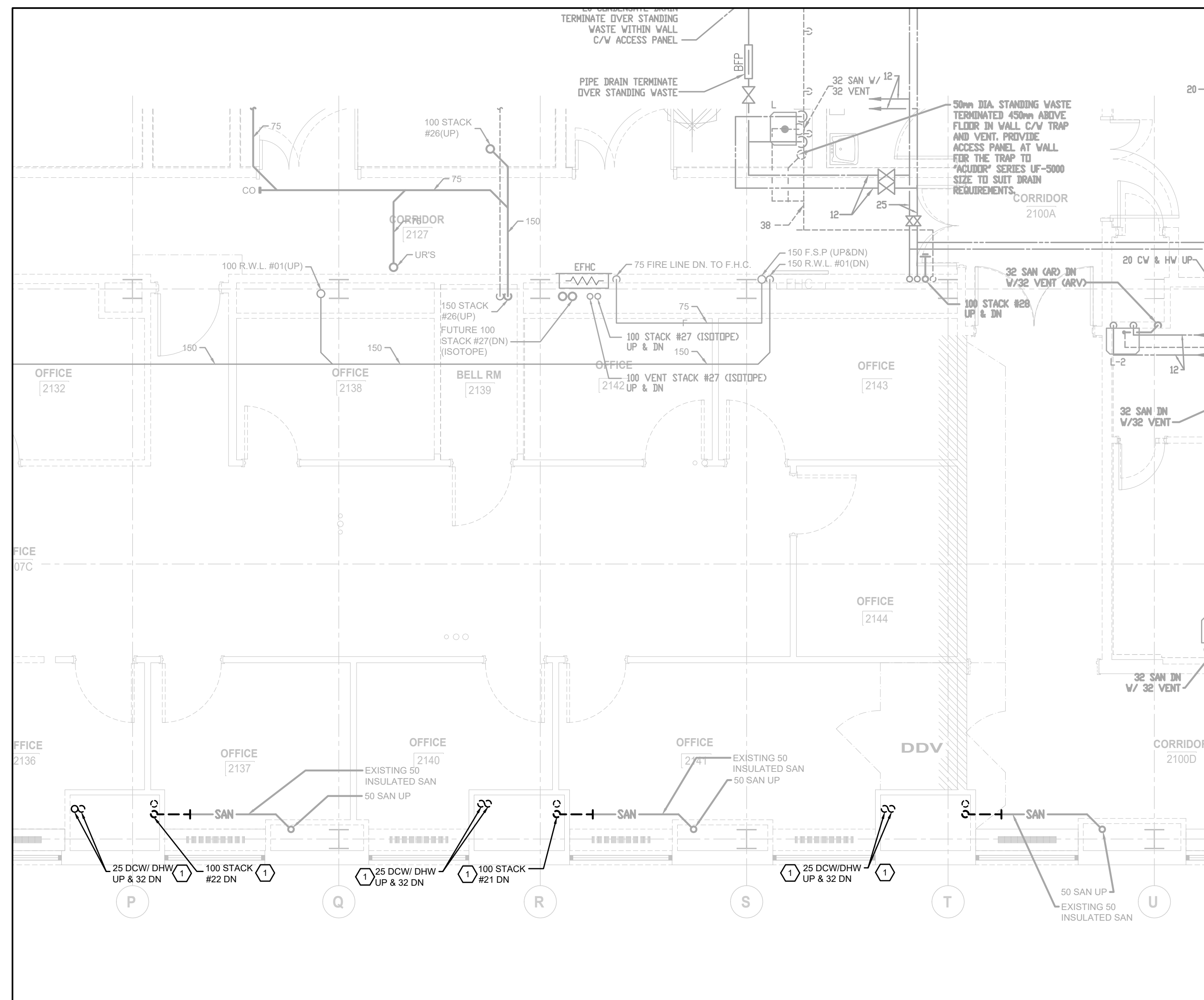
Drawing No.

MP 02 EW 01

SK Atrium TB - 864 x 1232



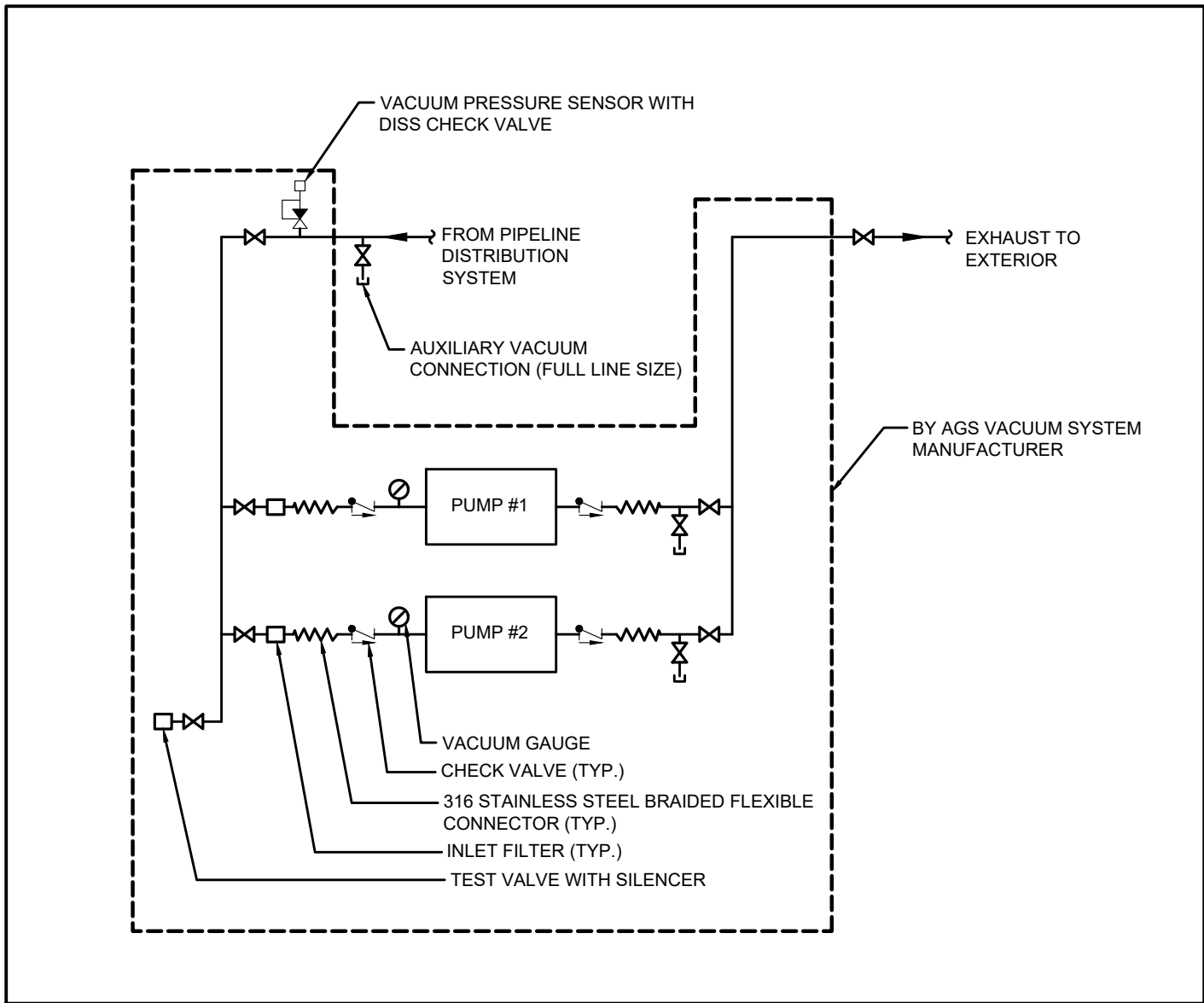
2 LEVEL 2 PART PLAN - PLUMBING - NEW WORK
SCALE: 1:50



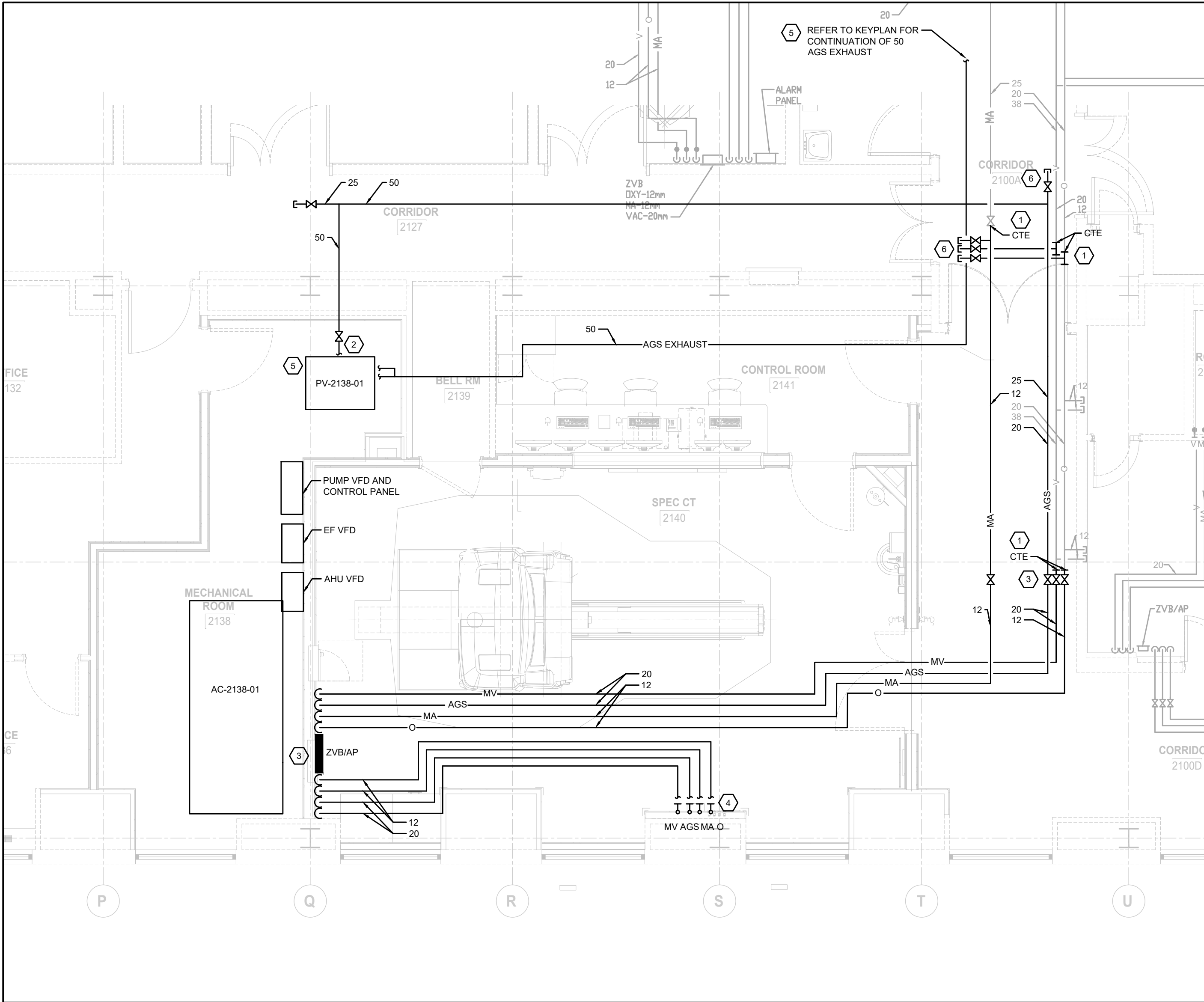
1 LEVEL 2 PART PLAN - PLUMBING - DEMOLITION
SCALE: 1:50

SHEET KEYNOTES	
1	DEMOLISH EXISTING MEDICAL GAS PIPING AND PREPARE FOR NEW CONNECTION. EXTEND NEW MEDICAL GAS PIPING, AS INDICATED.
2	EXTEND NEW AGS PIPING FROM NEW PUMP 'PV-2138-01' COMPLETE WITH SERVICE ISOLATION VALVES, AS INDICATED.
3	PROVIDE NEW COMBINATION ZONE VALVE BOX/ALARM PANEL AND EXTEND AND CONNECT EXISTING MEDICAL GAS PIPING TO ZVB/AP, AS INDICATED. PROVIDE SERVICE ISOLATION VALVES UPSTREAM OF ZVB/AP, AS INDICATED. EXTEND NEW PIPING TO NEW MEDICAL GAS OUTLETS, AS INDICATED. REFER TO MD 00 EW 01 FOR ZVB/AP DETAIL AND FLOW DIAGRAM.
4	PROVIDE NEW MEDICAL GAS OUTLETS (2 x MA, 3 x O, 2 x MV, 1 x AGS) FOR NEW SPEC CT ROOM. EXTEND MEDICAL GAS PIPING DOWN THROUGH WALL AND CONNECT TO MEDICAL GAS OUTLETS, COMPLETE WITH ISOLATION VALVES. ALL NEW MEDICAL GAS OUTLETS SHALL BE D.I.S.S. TYPE. REFER TO ARCHITECTURAL ELEVATIONS FOR ORIENTATION OF OUTLETS.
5	PROVIDE NEW AGS PUMP & SKID 'PV-2138-01' IN MECHANICAL ROOM (RM 2138) ON NEW 4" HSKP PAD. PUMP TO BE EQUAL TO MODEL OLC200-SXZVSD, 2HP DUPLEX OILLESS CLAW MEDICAL AGSS, COMPLIANT WITH CSA Z3796.1 AND COMPLETE WITH ALL ASSOCIATED PIPING AND ACCESSORIES. PROVIDE CLEARANCE AS PER MANUFACTURER REQUIREMENTS. PUMP VFD AND CONTROL PANEL TO BE LOCATED IN NEW MECHANICAL ROOM (RM 2138), AS INDICATED. REFER TO DWG MD 00 EW 02 FOR VFD DETAIL. EXTEND 50mm EXHAUST VENT PIPING FROM NEW 'PV-2138-01' TO SHAFT (RM 2161) AND UP TO PLENUM LEVEL. TERMINATE EXHAUST PIPING INSIDE PLENUM COMPLETE WITH INSECT SCREEN. REFER TO DWG MF CW EW 01 FOR AGS PIPING UP TO PLENUM. REFER TO DWG MG PL EW 01 FOR CONTINUATION OF PIPING ONTO PLENUM LEVEL. CONTRACTOR TO EXTEND ULC LISTED COMMUNICATIONS WIRING FROM NEW CONTROL PANEL IN ROOM (RM 2138) TO SHAFT (RM 2161). EXTEND WIRING FROM LEVEL 2, DOWN TO SUB-BASEMENT MECHANICAL ROOM (SB108). REFER TO ELECTRICAL DRAWINGS FOR WIRING ROUTING AND WIRING SPECIFICATIONS. PUMP IS TO BE MONITORED AT EXISTING ALARM PANELS LOCATED IN THE ANNEX CONTROL ROOM (BASEMENT LEVEL, RM B117) AS WELL AS LOCATING ROOM (SERVICE LEVEL, RM S413). COORDINATE WORK WITH ELECTRICAL SUBTRADE.
6	PROVIDE NEW CAPPED MEDICAL GAS PROVISIONS, FOR FUTURE CONNECTIONS, AS INDICATED.

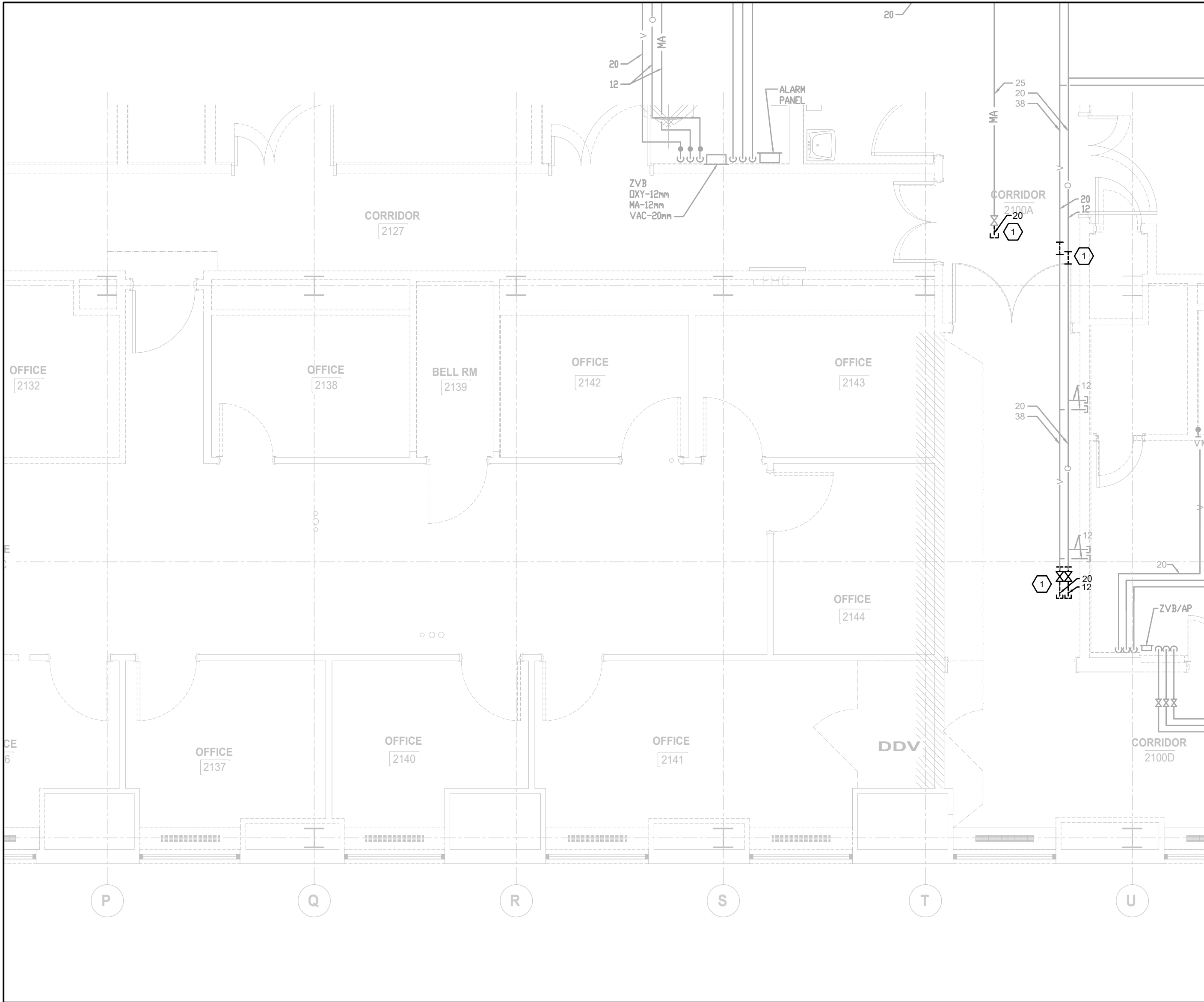
GENERAL NOTES	
1	ASBESTOS CONTAINING FIREPROOFING IS PRESENT IN THE CEILING SPACE. TYPE 2 ASBESTOS PROCEDURES ARE TO BE FOLLOWED WHEN WORKING IN THE CEILING SPACE AND IMPACTING MEDICAL GAS PIPING. REFER TO HAZMAT REPORT IN DIVISION 2 SPECIFICATION SECTION, AS REQUIRED.
2	ALL EXISTING SERVICES SHOWN ARE APPROXIMATE AND BASED ON SITE SURVEY AND EXISTING RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL CONNECTIONS, PIPE SIZES AND LOCATIONS ON SITE AND REPORT ANY DISCREPANCY TO THE CONSULTANT.
3	PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL COORDINATE WITH THE HOSPITAL THE DATE AND PERIOD OF TIME REQUIRED FOR DISCONNECTING AND MAKING NEW CONNECTION OF MEDICAL GAS PIPING, IN ORDER TO KEEP INTERRUPTIONS OF THE HOSPITAL DAILY OPERATIONS AS MINIMAL AS POSSIBLE.



3 TYPICAL SCHEMATIC DETAIL OF AGS VACUUM PUMP SYSTEM
SCALE: N.T.S



2 LEVEL 2 PART PLAN - MEDICAL GAS - NEW WORK
SCALE: 1:50

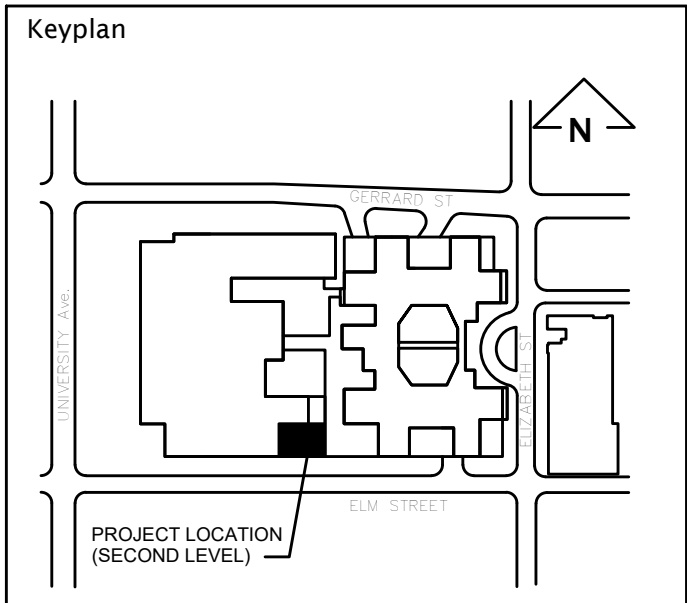


1 LEVEL 2 PART PLAN - MEDICAL GAS - DEMOLITION
SCALE: 1:50

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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North Arrow	Detail Symbol
Detail No. Sheet No.	

Seal

NORR
QUASAR
CONSULTING GROUP

Project Manager MB	Drawn AS
Project Leader	Checked PC
Client SickKids 555 University Ave., Toronto, ON M5G 1X8	
Project SICKKIDS - SPEC CT ROOM 555 UNIVERSITY AVENUE, MAIN FLOOR, TORONTO, ON M5G1X8	
Drawing Title LEVEL 2 PART PLANS - MEDICAL GAS - DEMOLITION AND NEW WORK	
Check Scale (may be photo reduced) 0 1 inch 0 10mm	
Project No.	HC 21-129
Drawing No.	MG 02 EW 01

SHEET KEYNOTES	
1	CONTRACTOR TO EXTEND NEW 50mm AGS EXHAUST FROM NEW PUMP 'TV-2138-01' LOCATED IN MECHANICAL ROOM (RM 2138) TO PLENUM LEVEL THROUGH EXISTING PIPE SHAFT. EXTEND 50mm AGS FROM PIPE SHAFT TO EXISTING EXHAUST PLENUM ON NORTH SIDE, AND TERMINATE INSIDE EXHAUST PLENUM WITH INSECT SCREEN. APPROXIMATE LENGTH OF PIPE FROM LEVEL 2 TO PLENUM IS 35m. CONTRACTOR SHALL DETERMINE FINAL ROUTE BETWEEN LEVEL 2 AND EXHAUST PLENUM AND PROVIDE ALL OFFSETS NECESSARY. REFER TO SPECIFICATIONS FOR EXISTING FULL PLAN OF PLENUM LEVEL MECHANICAL SERVICES.

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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Keyplan

North Arrow

Detail Symbol

Detail No.

Sheet No.

Seal

Project Manager
MB

Drawn
AS

Project Leader

Checked
PC

Client

555 University Ave., Toronto, ON M5G 1X8

Project

SICKKIDS - SPEC CT ROOM

555 UNIVERSITY AVENUE, MAIN FLOOR,
TORONTO, ON M5G1X8

Drawing Title

PLENUM LEVEL PART PLANS
- MEDICAL GAS - NEW WORK

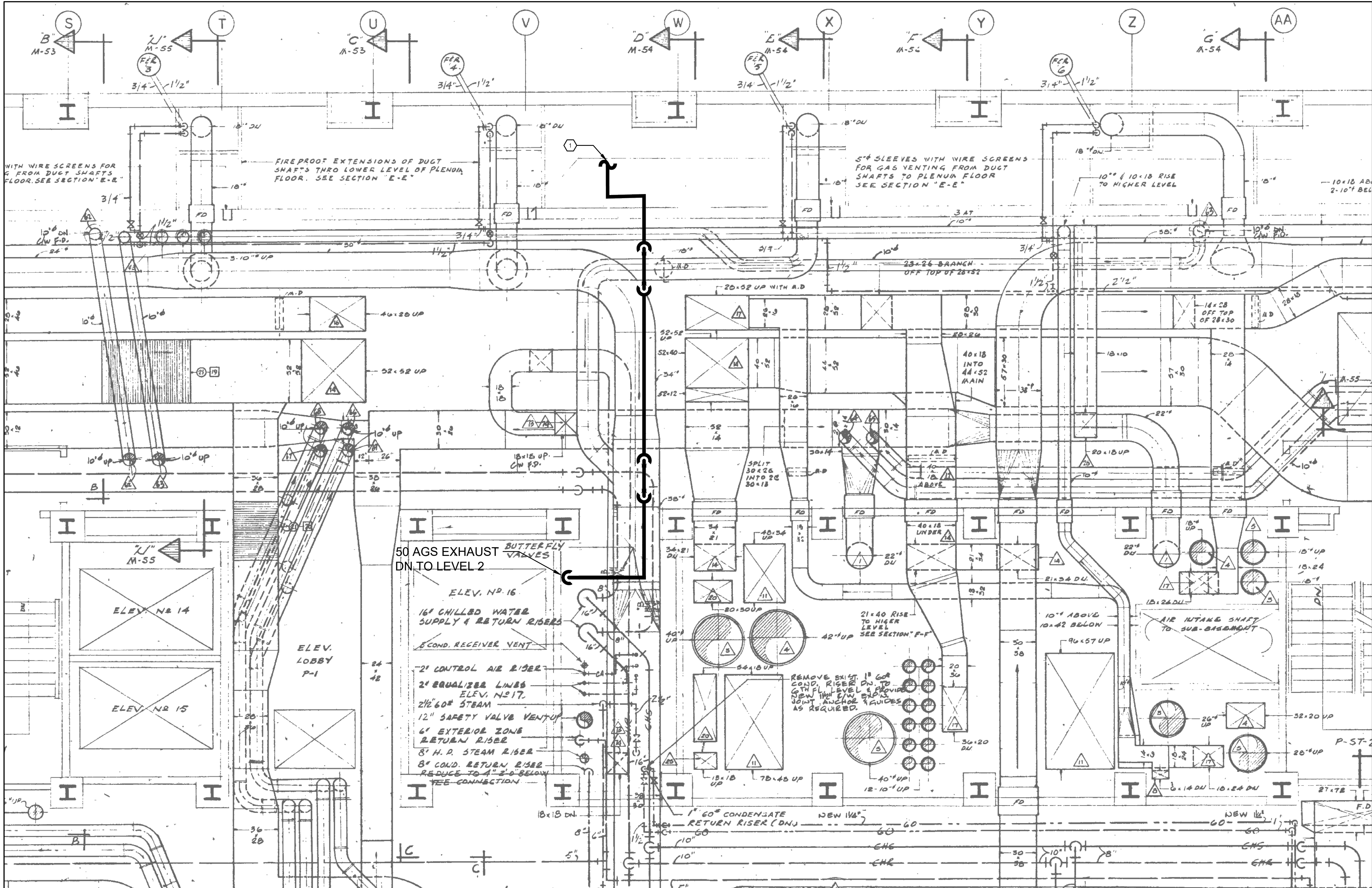
Check Scale (may be photo reduced)

Project No.

HC 21-129

Drawing No.

MG PL EW 01



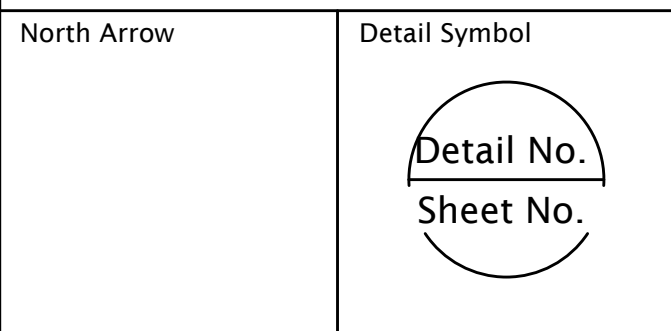
1 PLENUM LEVEL PART PLANS - MEDICAL GAS - NEW WORK
SCALE: N.T.S.



SHEET KEYNOTES	
1	REMOVE EXISTING DIFFUSER/GRILLE AND CUT BACK EXISTING DUCTWORK, AS INDICATED.
2	REMOVE EXISTING GAV COMPLETE WITH COIL, ASSOCIATED PNEUMATIC THERMOSTATS, CONTROL PIPING/WIRING, AND VALVING ARRANGEMENT. CUT BACK HEATING WATER BRANCH PIPING SERVING GAV, INCLUDING ALL VALVES AND ACCESSORIES. CUT BACK AND CAP DUCTWORK, AS INDICATED.
3	CUT BACK EXISTING HEATING WATER PIPING AS INDICATED TO ACCOMMODATE NEW WORK. CONTRACTOR TO INCLUDE FOR PIPE FREEZING OR HOT TAPPING, AS REQUIRED.
4	REMOVE EXISTING THERMOSTAT COMPLETE WITH PNEUMATIC CONTROL PIPING. CUT BACK CONTROL PIPING TO FURTHEST EXTENT POSSIBLE.
5	PRIOR TO CONSTRUCTION, BALANCER SHALL MEASURE AIRFLOWS AT ALL EXISTING DIFFUSERS AND GRILLES INDICATED, AND SUBMIT TO CONSULTANT FOR REVIEW AND RECORD.
6	REMOVE AND RE-INSTALL EXISTING DIFFUSERS, GRILLES AND ASSOCIATED DUCTWORK TO ACCOMMODATE NEW MECHANICAL SERVICES.
7	CUT BACK AND CAP EXISTING DUCTWORK (250mm) AND HEATING PIPING (20mm) SERVING PERIMETER AIR UNITS, AS INDICATED. CONTRACTOR TO INCLUDE FOR PIPE FREEZING ON PLENUM LEVEL, AND BASEMENT LEVEL FOR HEATING WATER PIPING DEMOLITION SCOPE. REFER TO DETAIL 2 FOR PERIMETER HEATING AND RISER SCHEMATIC, INDICATING LOCATIONS FOR FREEZING, REPLACE AND REMOVE. PROVIDE NEW 100mm BYPASS VALVE AT BASE OF RISER AND AT TOP OF RISER. REPLACE PROVIDE NEW 50mm ISOLATION VALVE AT BASE OF RISER AND TOP OF RISER. REMOVE AND REPLACE INSULATION AS REQUIRED TO ACCOMMODATE WORK. REMOVE THERMOSTATS CONNECTED TO PERIMETER UNITS AND CUT BACK ASSOCIATED CONTROL AIR TUBING TO FURTHEST POINT POSSIBLE.
8	REMOVE AND RE-INSTALL EXISTING GAV TO ACCOMMODATE NEW MECHANICAL SERVICES. BALANCER SHALL MEASURE AIRFLOWS AT GAV PRIOR TO REMOVAL AND SUBMIT TO CONSULTANT FOR REVIEW AND RECORD.
9	REMOVE AND RE-INSTALL EXISTING THERMOSTAT.

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Project Manager MB	Drawn AS
Project Leader	Checked PC

Drawing Title

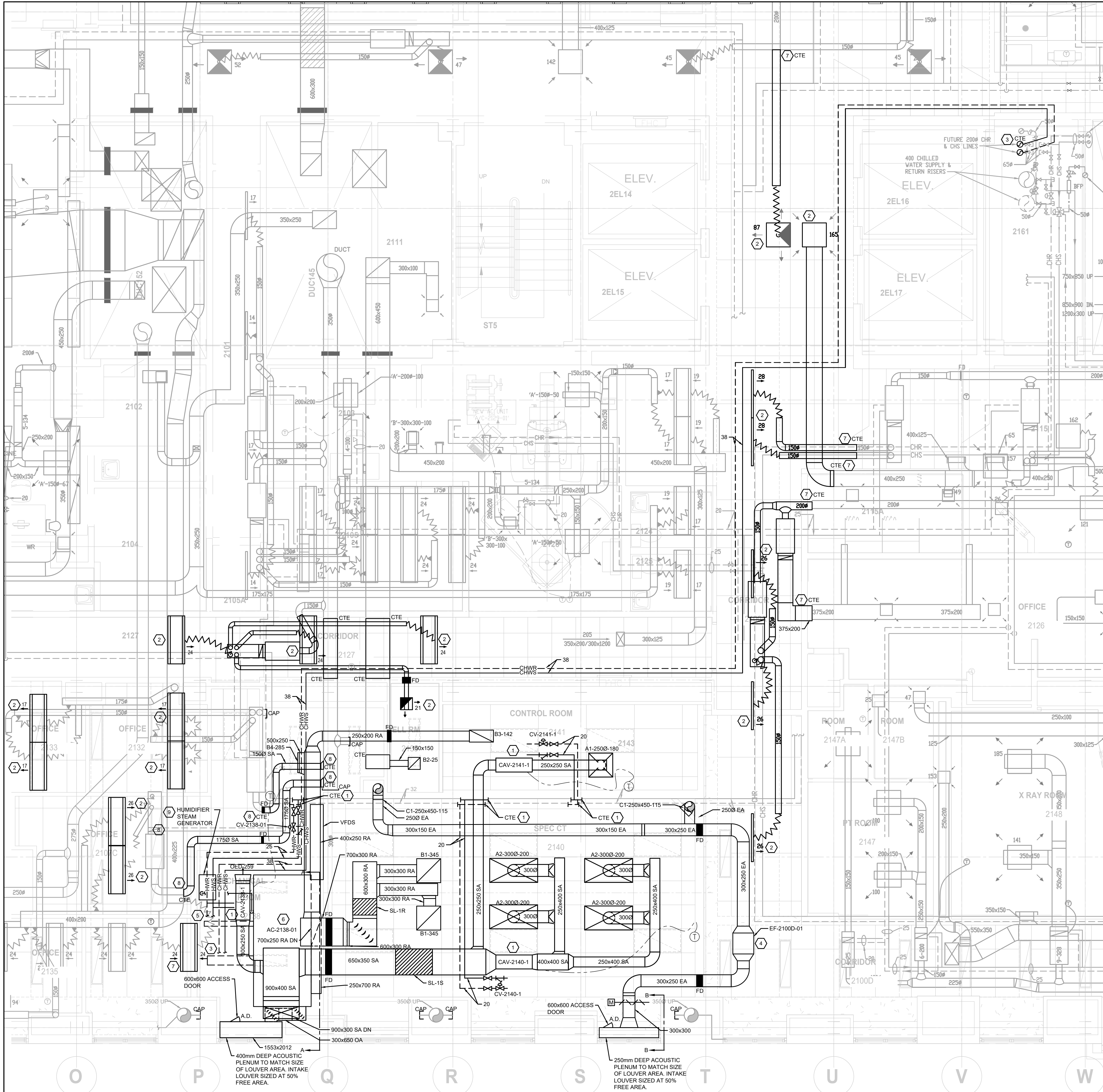
LEVEL 2 PART PLANS - HVAC
- DEMOLITION

Check Scale (may be photo reduced)

0 1inch 0 10mm

Project No. HC 21-129

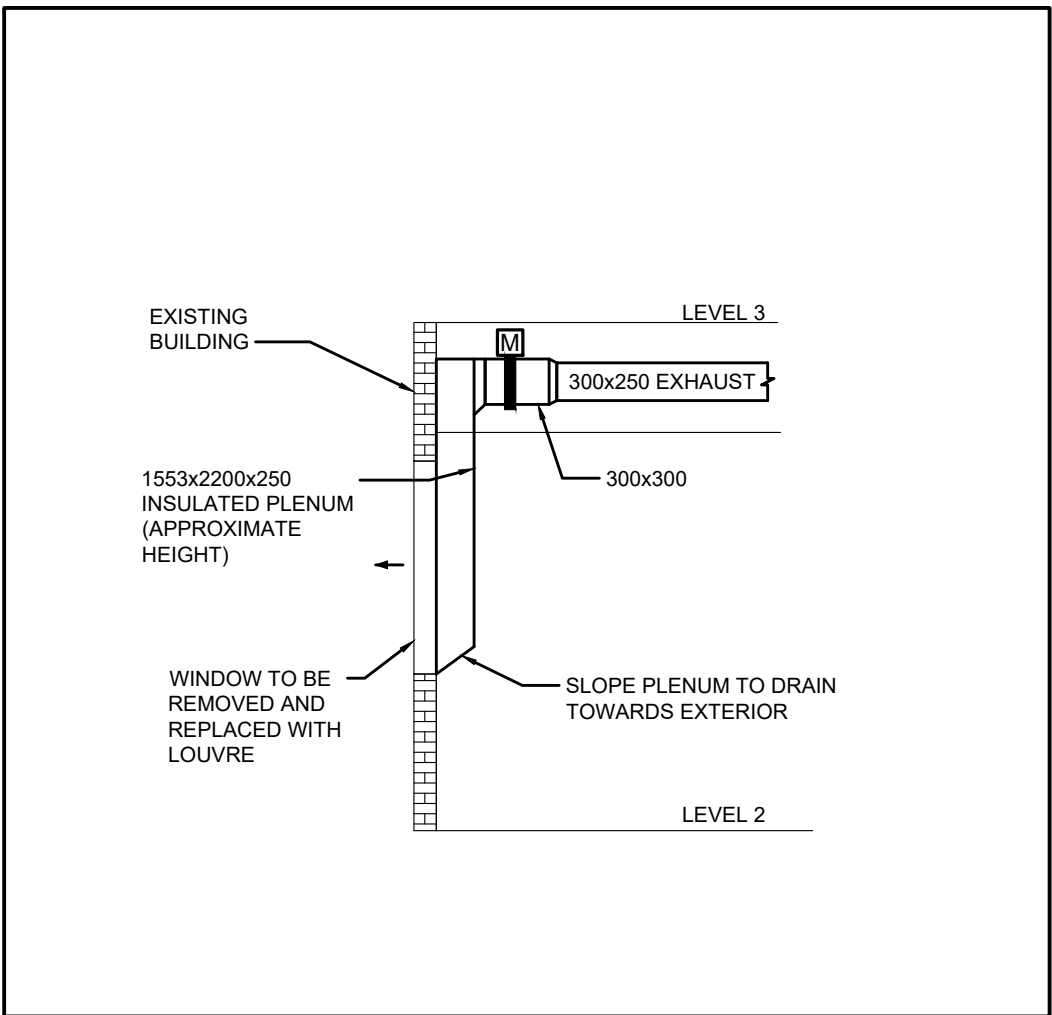
Drawing No. MV 02 EW 01



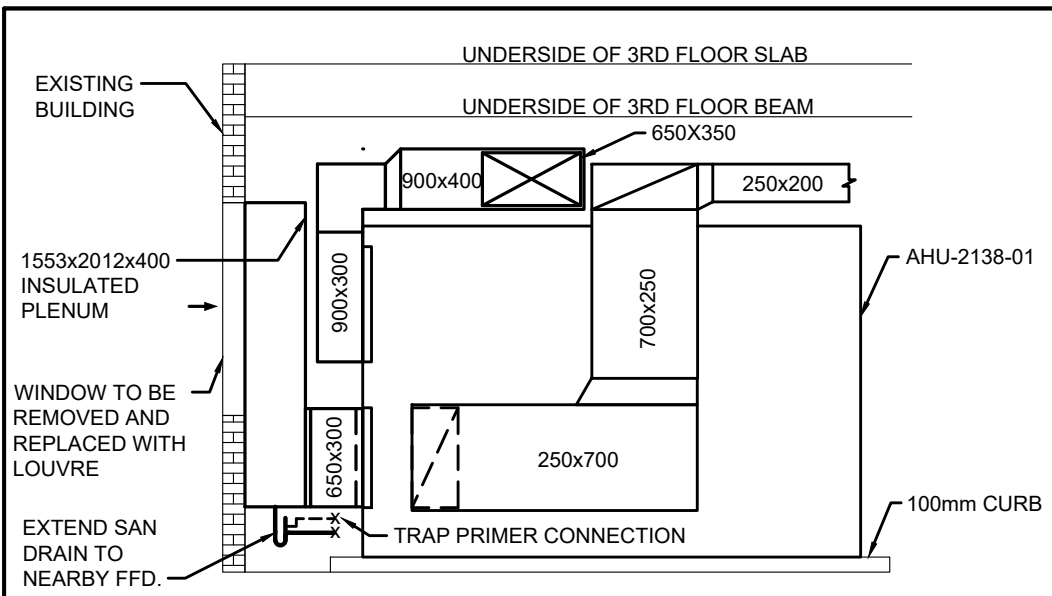
1 LEVEL 2 PART PLAN - HVAC - NEW WORK
SCALE: 1:50

GENERAL NOTES	
1	ASBESTOS CONTAINING FIREPROOFING IS PRESENT IN THE CEILING SPACE. TYPE 2 AND TYPE 3 ASBESTOS PROCEDURES ARE TO BE FOLLOWED WHEN WORKING IN THE CEILING SPACE AND IMPACTING HVAC PIPING AND DUCTWORK. REFER TO HAZMAT REPORT IN DIVISION 2 SPECIFICATION SECTION, AS REQUIRED.
2	ALL EXISTING SERVICES SHOWN ARE APPROXIMATE AND BASED ON SITE SURVEY AND EXISTING RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DUCT AND PIPE SIZES ON SITE AND REPORT ANY DISCREPANCY TO THE CONSULTANT.
3	PRIOR TO DEMOLITION, MEASURE AIRFLOW AT ALL EXISTING DIFFUSERS AND GRILLES AS INDICATED IN BOLD. SUBMIT TO CONSULTANT FOR REVIEW AND RECORD. UPON COMPLETION OF CONSTRUCTION, DIFFUSERS AND GRILLES ARE TO BE REBALANCED TO AIRFLOW VALUES INDICATED IN BOLD. SUBMIT FINDINGS TO CONSULTANT FOR REVIEW AND RECORD.
4	PROVIDE NEW DIFFUSERS AND GRILLES AS INDICATED IN BOLD AND BALANCE TO AIRFLOWS LISTED - TYPICAL. CONTRACTOR SHALL COORDINATE ALL NEW DIFFUSER AND GRILLE LOCATIONS WITH NEW CEILING AND DEVICES, AND PROVIDE DUCT OFFSETS AS REQUIRED.
5	MECHANICAL AND BALANCING CONTRACTORS SHALL PROVIDE ALL REQUIRED BALANCING DAMPERS ON NEW OR EXISTING DUCT BRANCHES TO ENSURE SYSTEM CAN BE BALANCED TO THE AIR VOLUMES INDICATED.
6	CONTRACTOR TO INCLUDE FOR RE AND RE OF ALL CEILING DEVICES AS REQUIRED TO COMPLETE SCOPE OF WORK IN CORRIDOR.

SHEET KEYNOTES	
1	PROVIDE NEW HIGH PRESSURE CAV COMPLETE WITH ATTENUATOR, AND DUCT MOUNTED REHEAT COIL COMPLETE WITH NEW THERMOSTAT (EQUAL TO JOHNSON CONTROLS MODEL NS8000), CONTROL WIRING, AND VALVING ARRANGEMENT AS INDICATED ON DRAWING MD 00 EW 01 - TYPICAL. EXTEND NEW HEATING WATER PIPING TO BOOSTER COIL LOCATION, AS INDICATED. CONTRACTOR TO INCLUDE FOR PIPE FREEZING OR HOT TAPPING FOR CONNECTION TO EXISTING HEATING WATER PIPING, AS REQUIRED. REFER TO MD 00 EW 01 FOR HEATING VALVING ARRANGEMENT. REFER TO MC 00 EW 01 FOR CAV CONTROL SEQUENCE. REFER TO MS 02 EW 01 FOR CAV SCHEDULING INFORMATION.
2	REBALANCE EXISTING DIFFUSERS TO AIRFLOW LISTED IN BOLD.
3	EXTEND NEW 38mm CHILLED WATER PIPING FROM EXISTING SHAFT 2161 TO NEW AC-2138-01 LOCATION, AS INDICATED. REFER TO KEYPLAN FOR CONTINUATION TO SHAFT. CONTRACTOR TO INCLUDE FOR HOT TAPPING FOR NEW CONNECTIONS TO EXISTING CHILLED WATER RISERS. REFER TO MC 00 EW 01 FOR AC-2138-01 CONTROL SEQUENCE AND DRAWING MF CW EW 01 FOR COOLING SCHEMATIC.
4	PROVIDE NEW EXHAUST FAN 'EF-2100D-01' AND EXTEND NEW EXHAUST DUCTWORK TO LOW LEVEL EXHAUST LOCATIONS, AS INDICATED. EXHAUST FAN TO BE COMPLETE WITH LOOSE VFD AND SINE WAVE FILTER, LOCATED IN NEW MECH ROOM FOR FACILITY ACCESS AND MAINTENANCE. REFER TO DWG MG 00 EW 01 FOR VFD LOCATIONS AND DWG MD 00 EW 02 FOR VFD DETAIL. REFER TO MC 00 EW 02 FOR AHU AND EXHAUST FAN CONTROL SEQUENCE.
5	EXTEND NEW 25mm HEATING WATER PIPING FROM EXISTING HEATING PIPING TO NEW AC-2138-01, AS INDICATED. CONTRACTOR TO INCLUDE FOR PIPE FREEZING OR HOT TAPPING FOR NEW CONNECTIONS TO EXISTING HEATING WATER PIPING, AS REQUIRED. REFER TO MC 00 EW 01 FOR AC-2138-01 CONTROL SEQUENCE.
6	PROVIDE NEW AIR HANDLING UNIT 'AC-2138-01', MOUNTED ON 4" HOUSEKEEPING PAD. REFER TO MS 02 EW 02 FOR 'AC-2138-01' SCHEDULING INFORMATION AND DRAWING MC 00 EW 02 FOR AHU AND EXHAUST FAN CONTROL SEQUENCE. PROVIDE NEW SILENCERS RATED FOR 25 NC DOWNSTREAM OF SUPPLY AND RETURN DUCTWORK, AS INDICATED. REFER TO DWG MG 00 EW 01 FOR VFD LOCATIONS AND DWG MD 00 EW 02 FOR VFD DETAIL.
7	REINSTATE EXISTING ONCE NEW WORK SCOPE IS COMPLETE AND REBALANCE TO AIRFLOW VALUES INDICATED IN BOLD.
8	EXTEND NEW SUPPLY DUCTWORK FROM EXISTING VAVS TO DIFFUSERS AND REBALANCE TO AIRFLOW VALUES INDICATED IN BOLD.
9	INSTALL NEW STEAM TUBING BETWEEN STEAM GENERATOR AND HUMIDIFIER DISTRIBUTION PANEL IN AHU. INSULATE TUBING WITH 50mm OF MINERAL FIBRE INSULATION AND COVER WITH PVC JACKETING.



3 SECTION VIEW B-B
SCALE: 1:50



2 SECTION VIEW A-A
SCALE: 1:50

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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Keyplan

North Arrow

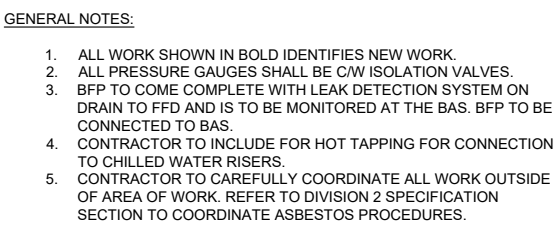
Detail Symbol

Detail No. Sheet No.

Seal

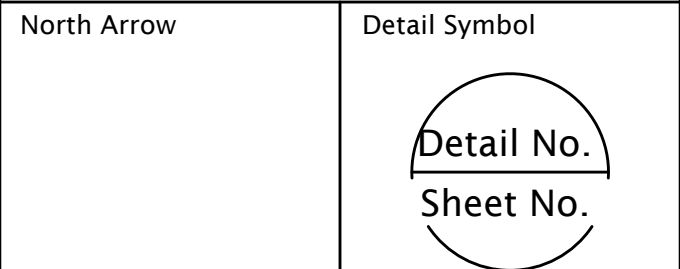
NORR
QUASAR
CONSULTING GROUP

Project Manager MB	Drawn AS
Project Leader	Checked PC
Client SickKids 555 University Ave., Toronto, ON M5G 1X8	
Project SICKKIDS - SPEC CT ROOM 555 UNIVERSITY AVENUE, MAIN FLOOR, TORONTO, ON M5G1X8	
Drawing Title LEVEL 2 PART PLANS - HVAC - NEW WORK	
Check Scale (may be photo reduced) 0 1 inch 0 10mm	
Project No.	HC 21-129
Drawing No.	MV 02 EW 02



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NORR
QUASAR
CONSULTING GROUP

Client

SickKids®

555 University Ave., Toronto, ON M5G 1X8

Drawing Title

CHILLED WATER AND AGS
FLOW DIAGRAM

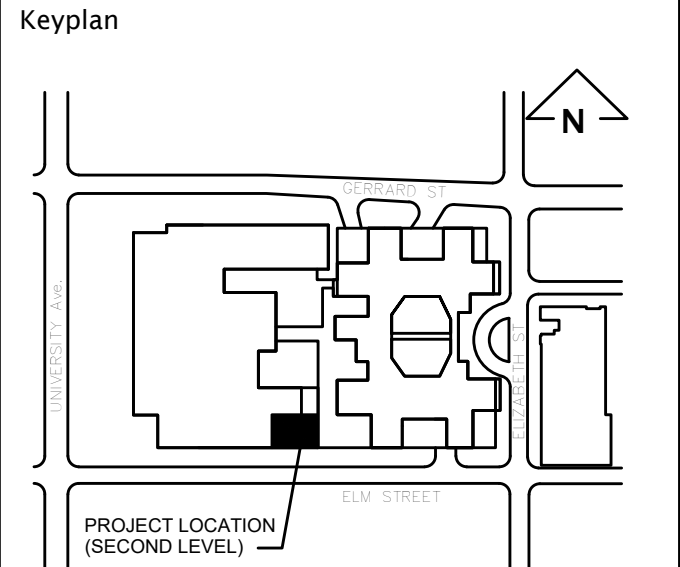
Project No.	HC 21-129
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Drawing No. MF CW EW 01

DATE	ISSUED FOR	REV
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2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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North Arrow	Detail Symbol
	Detail No. Sheet No.

Seal

Project Manager MB	Drawn AS
Project Leader	Checked PC

Client

555 University Ave., Toronto, ON M5G 1X8

Project

SICKKIDS - SPEC CT ROOM

555 UNIVERSITY AVENUE, MAIN FLOOR,
TORONTO, ON M5G1X8

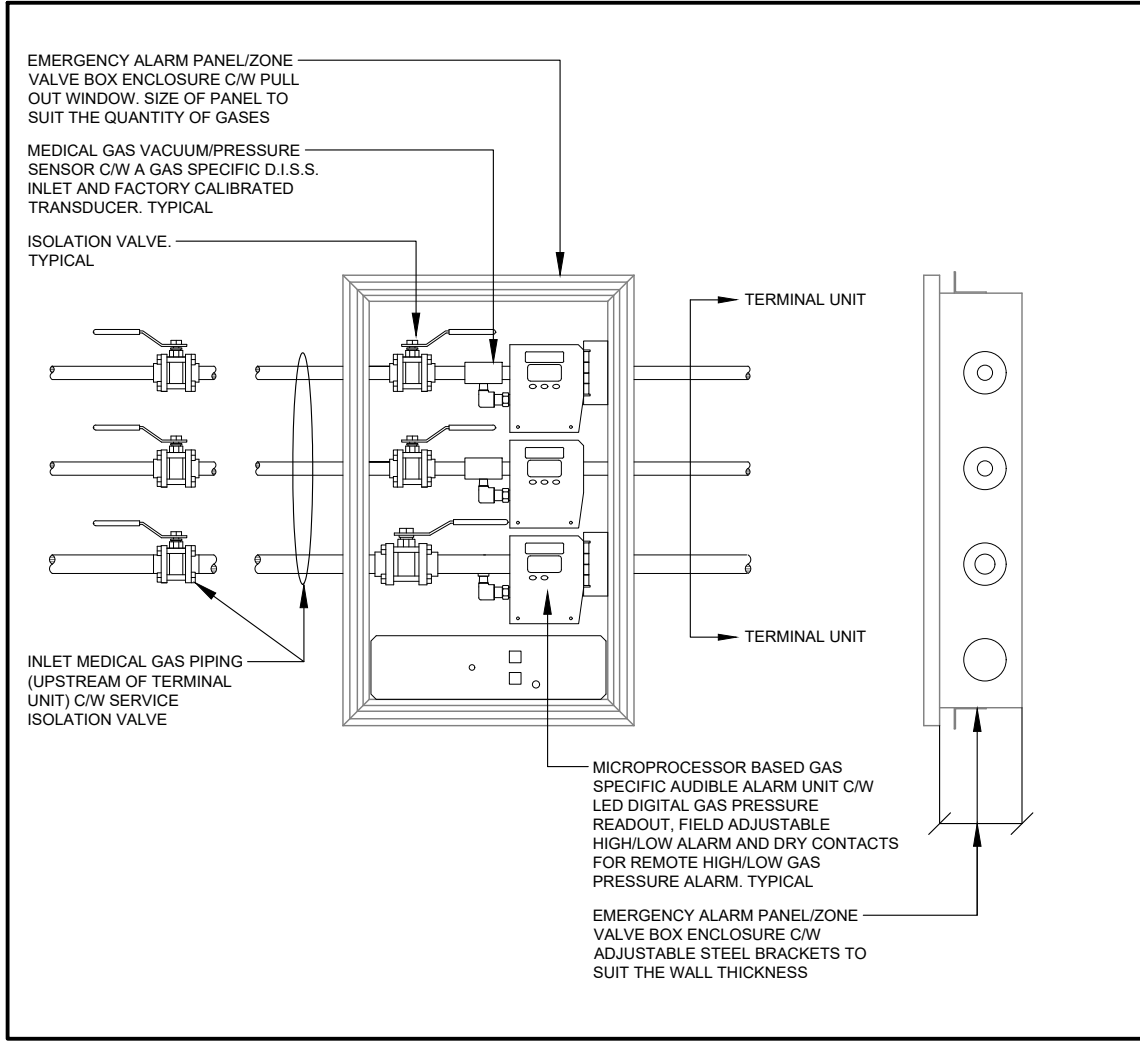
Drawing Title

MECHANICAL DETAILS I

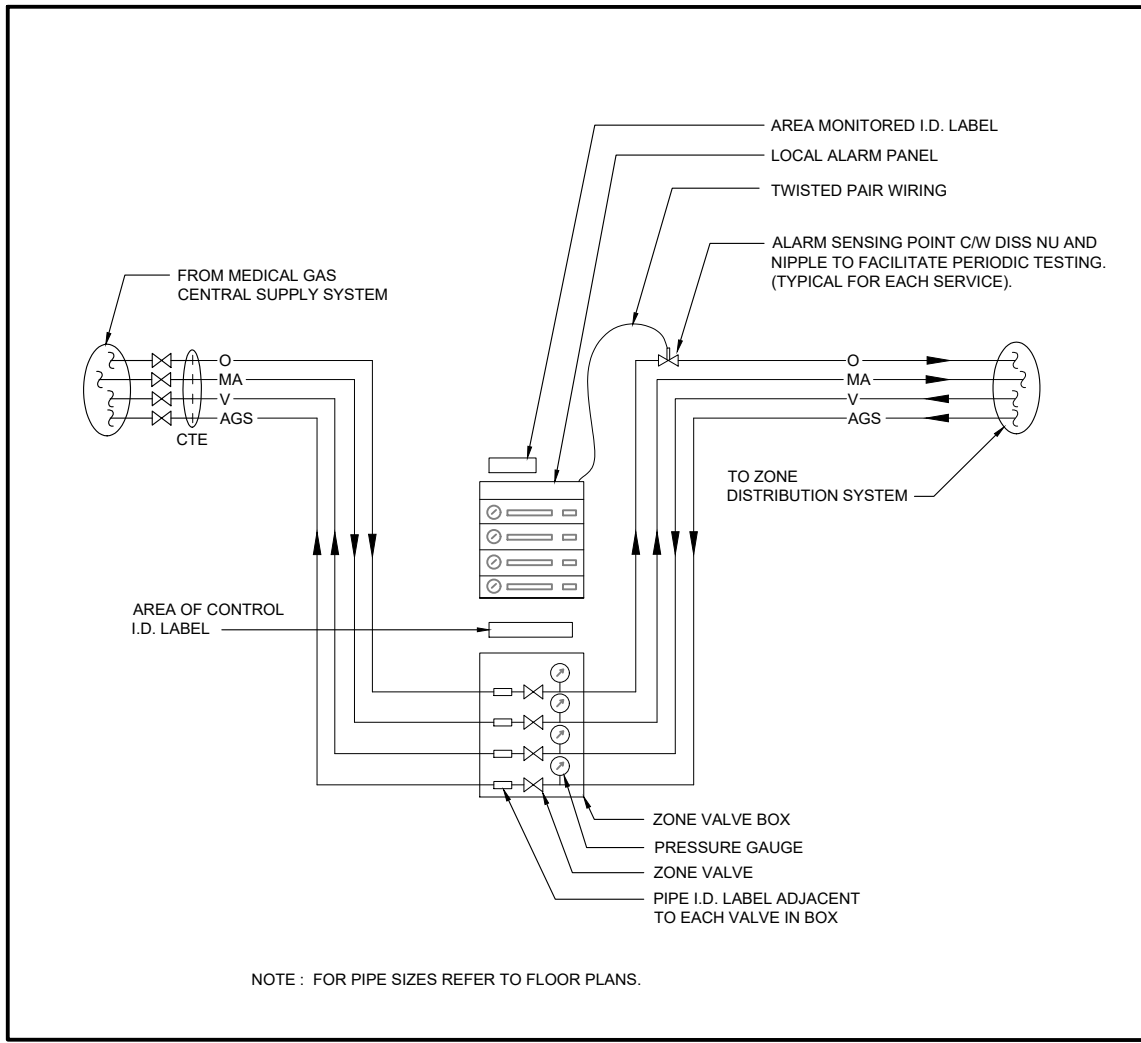
Check Scale (may be photo reduced)

0 1inch 0 10mm

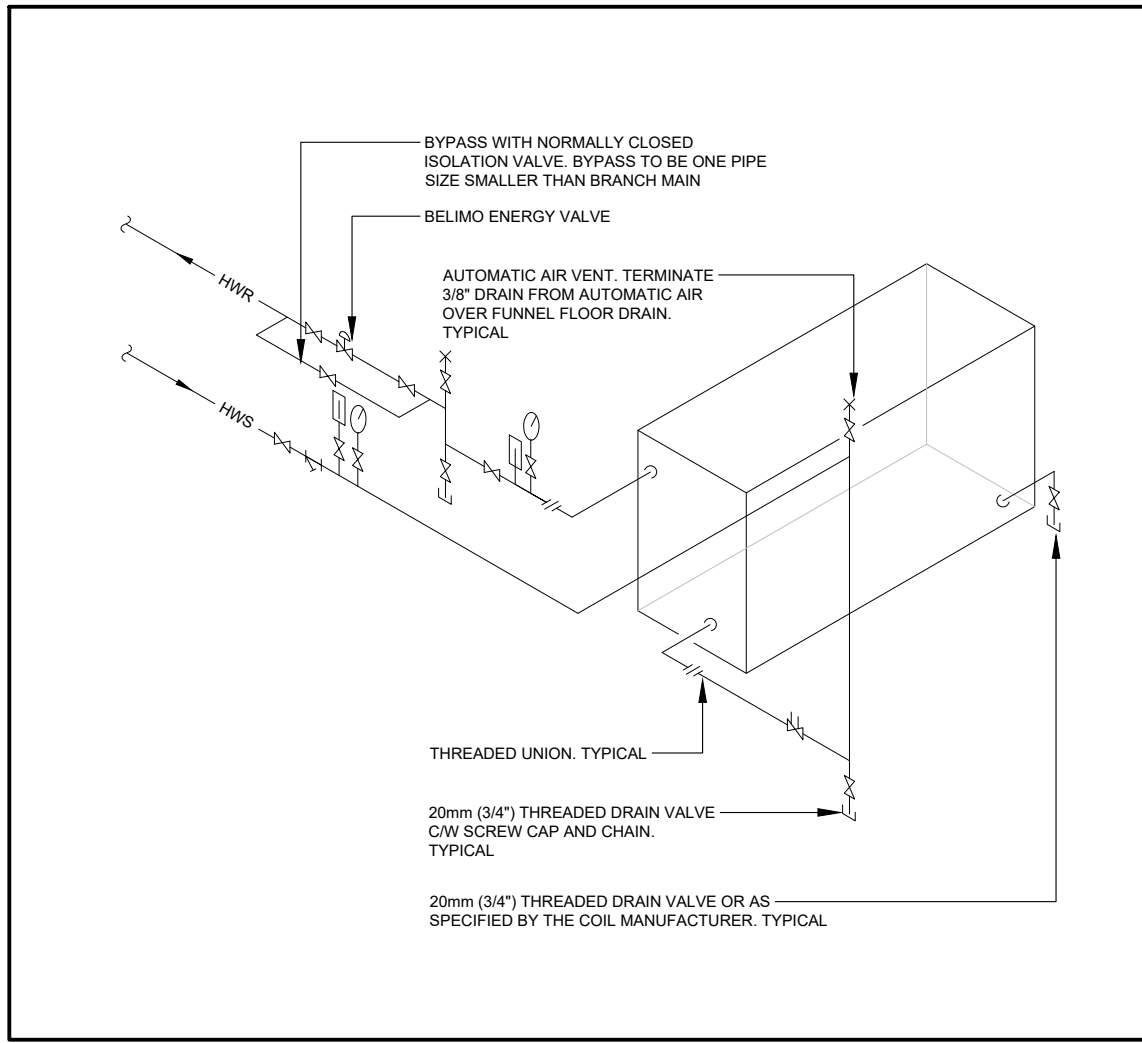
Project No.	HC 21-129
Drawing No.	MD 00 EW 01



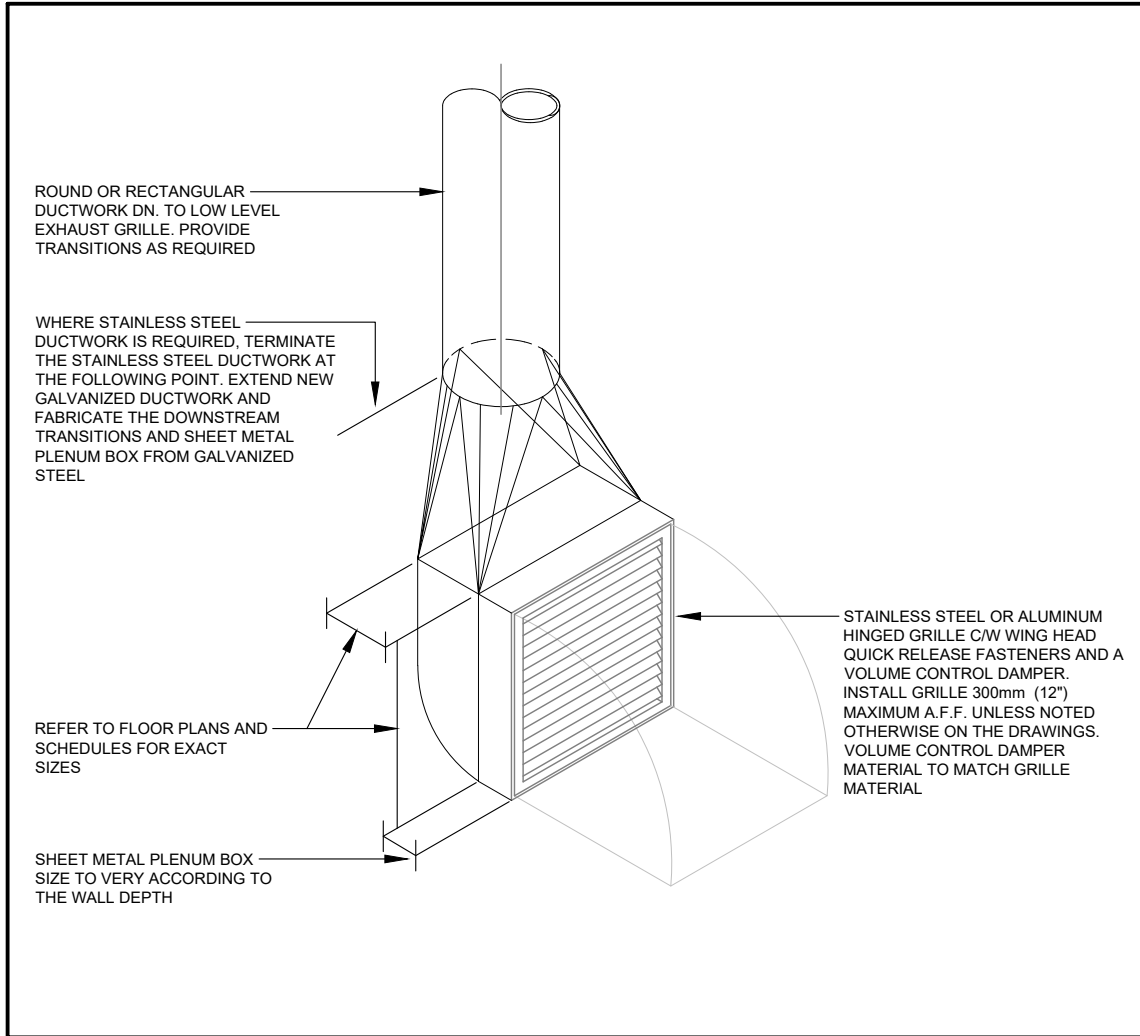
9 MEDICAL GAS ALARM PANEL/ZONE VALVE BOX DETAIL
SCALE: N.T.S



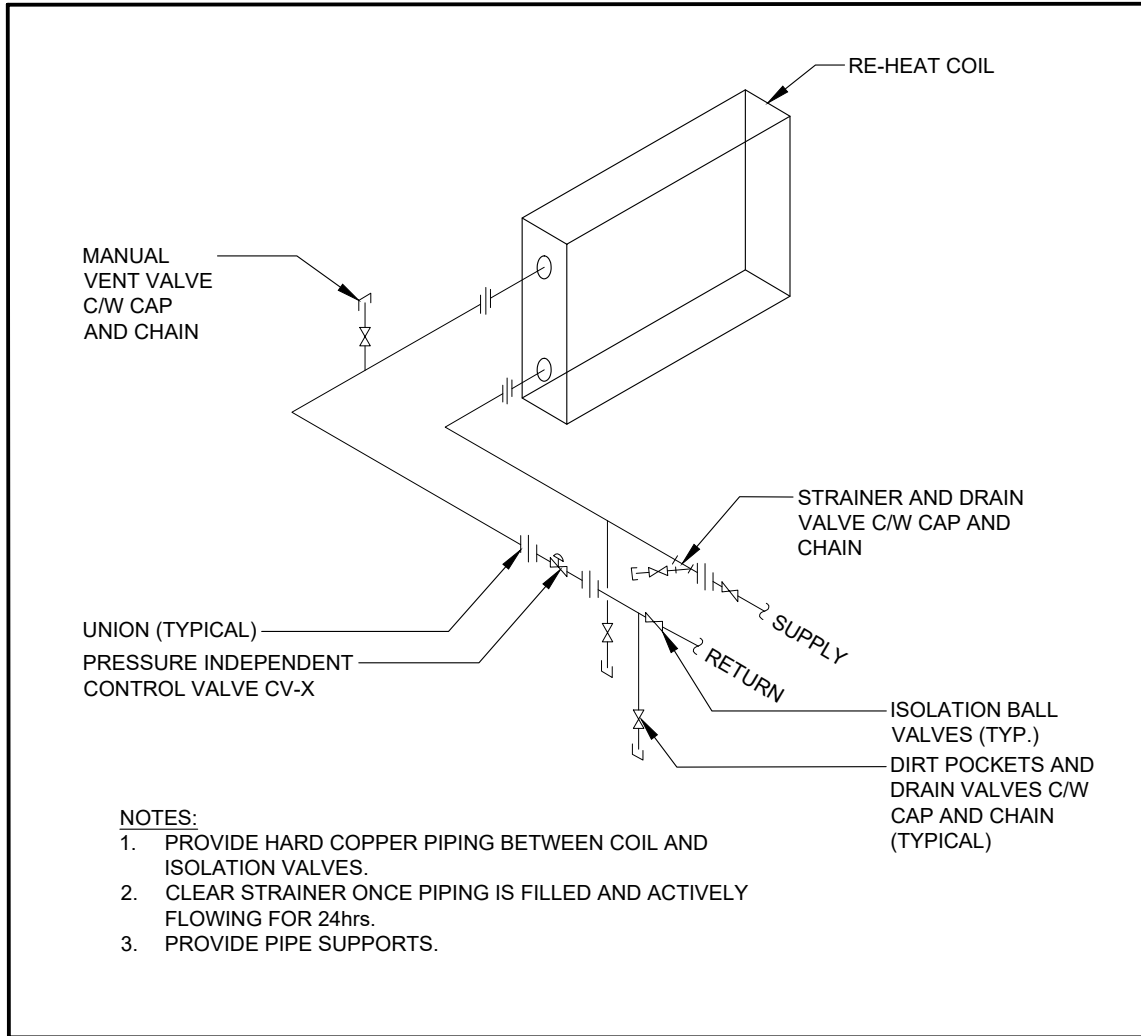
10 MED GAS ALARM PANEL/ZONE VALVE FLOW DIAGRAM
SCALE: N.T.S



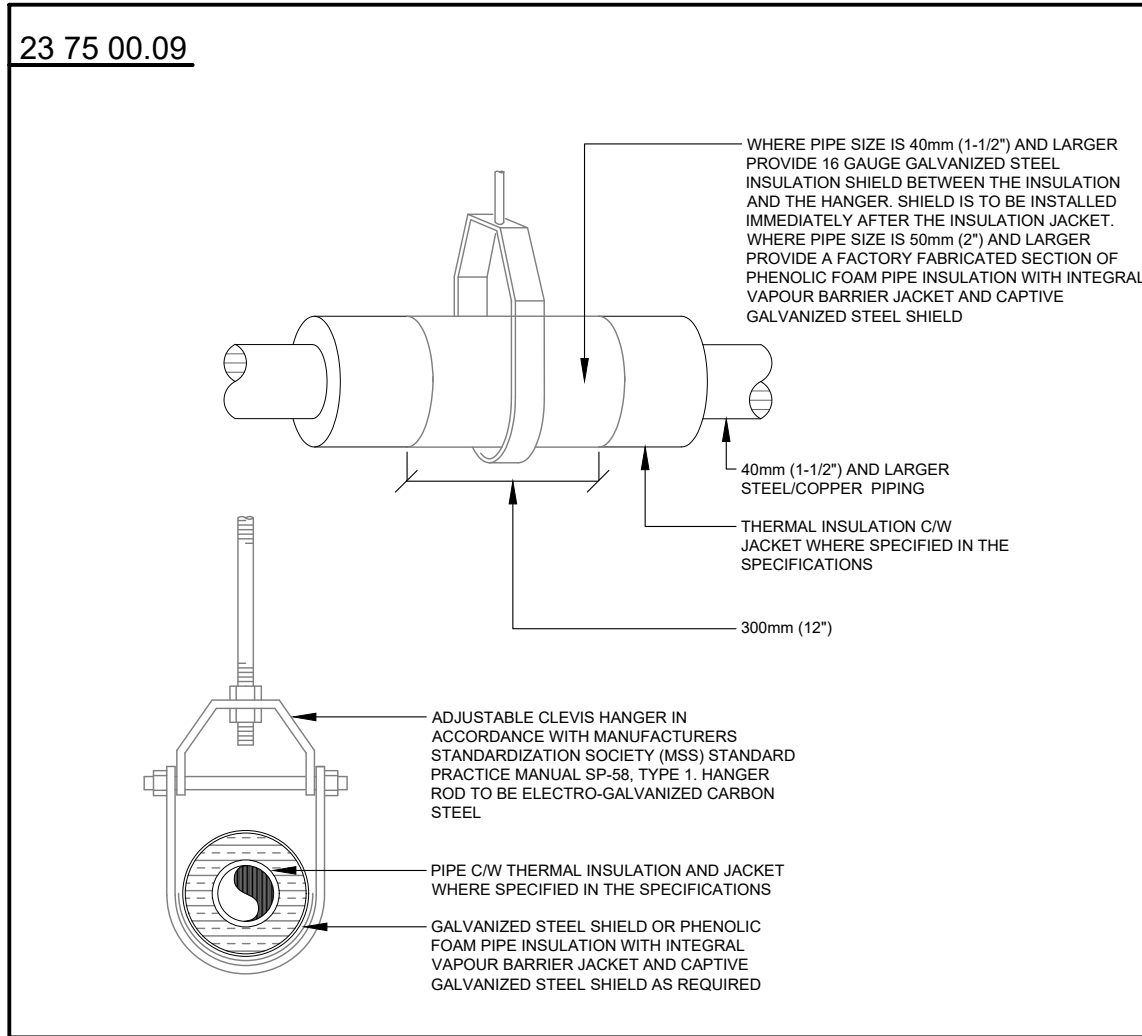
11 CUSTOM AHU HOT WATER HEATING COIL - SINGLE COIL
SCALE: N.T.S



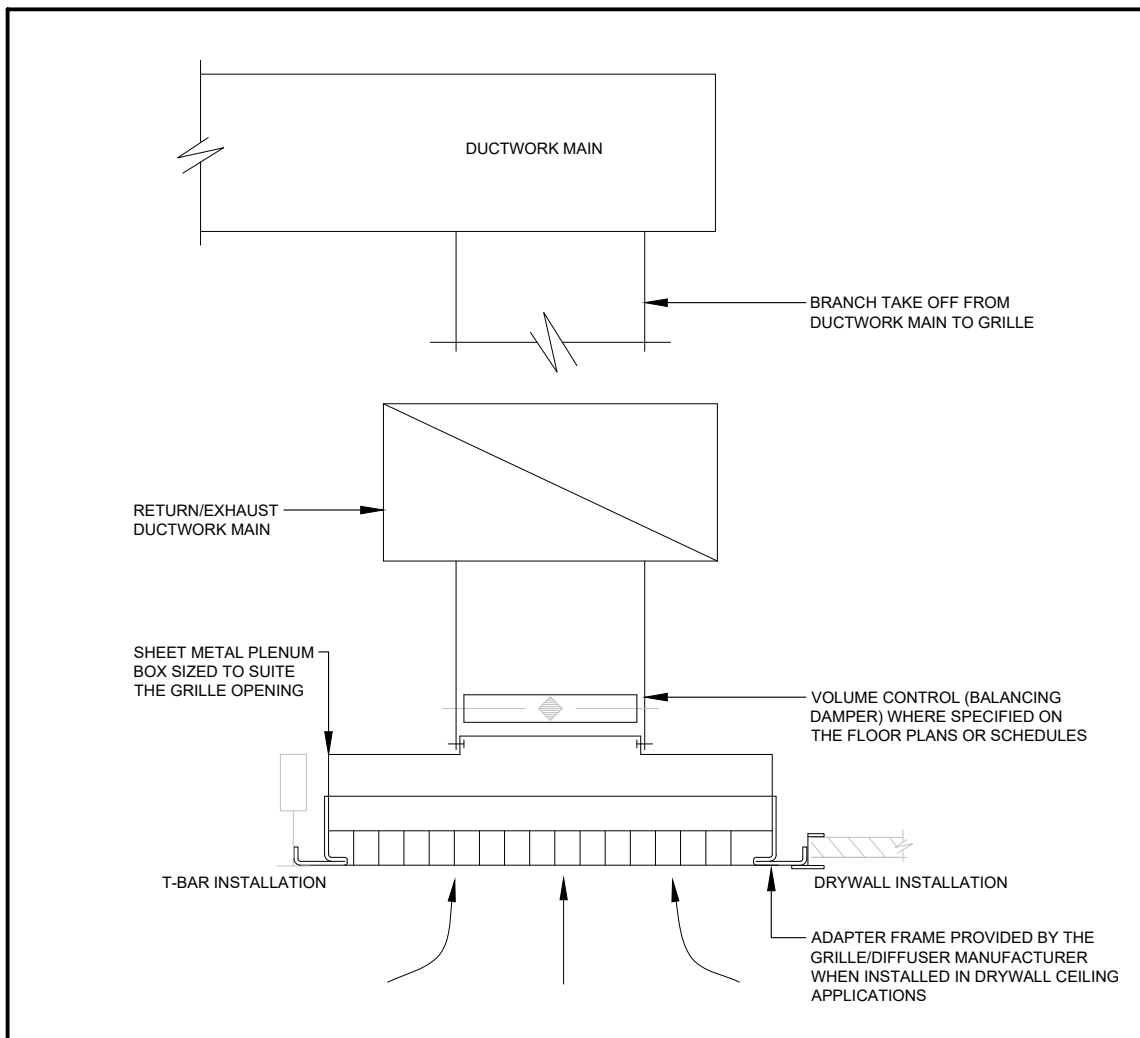
5 23 30 42.03 LOW LEVEL GRILLE
SCALE: N.T.S



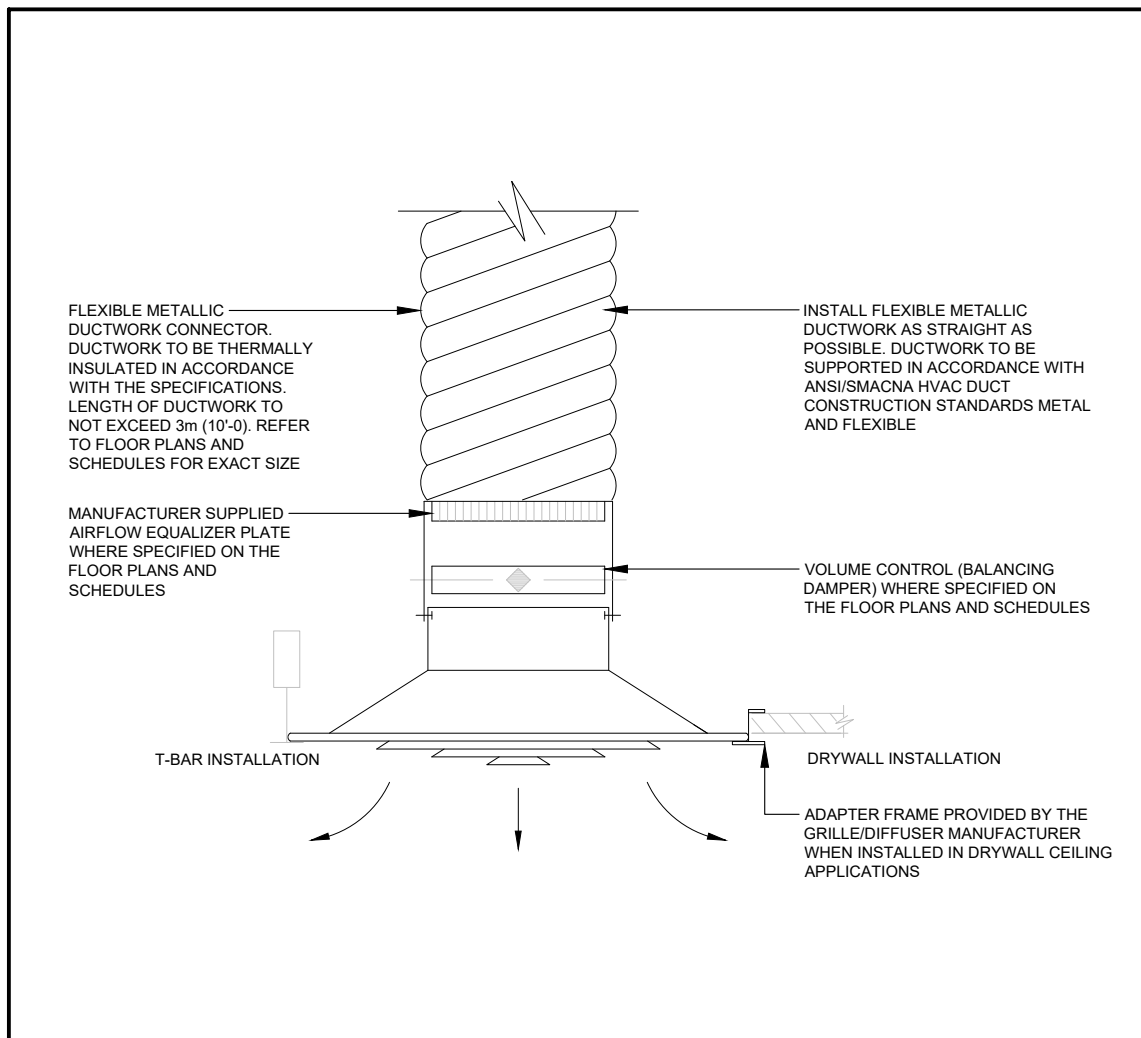
6 BOOSTER COIL VALVING DETAIL
SCALE: N.T.S



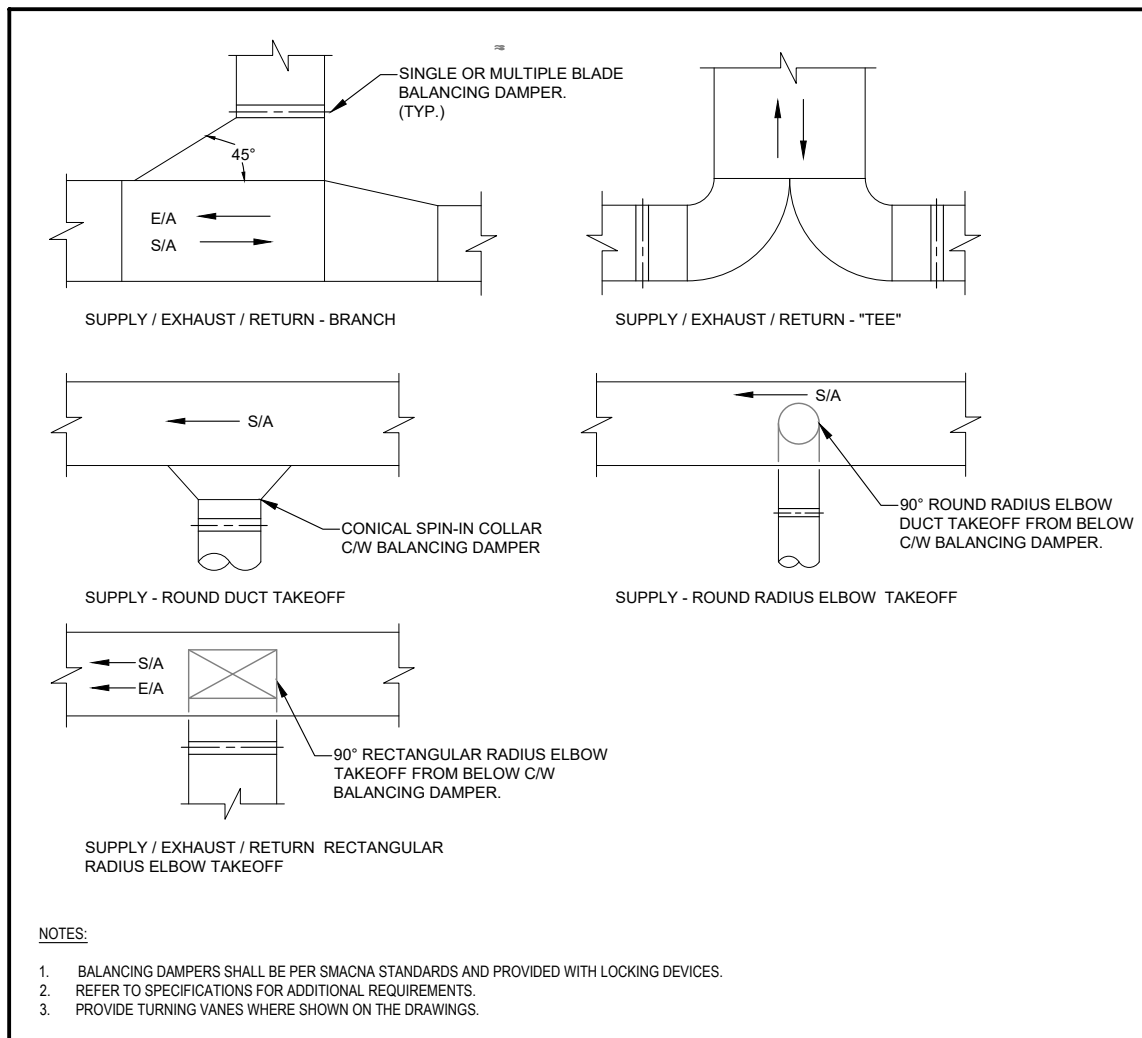
7 PIPING HANGERS AND SUPPORTS
SCALE: N.T.S



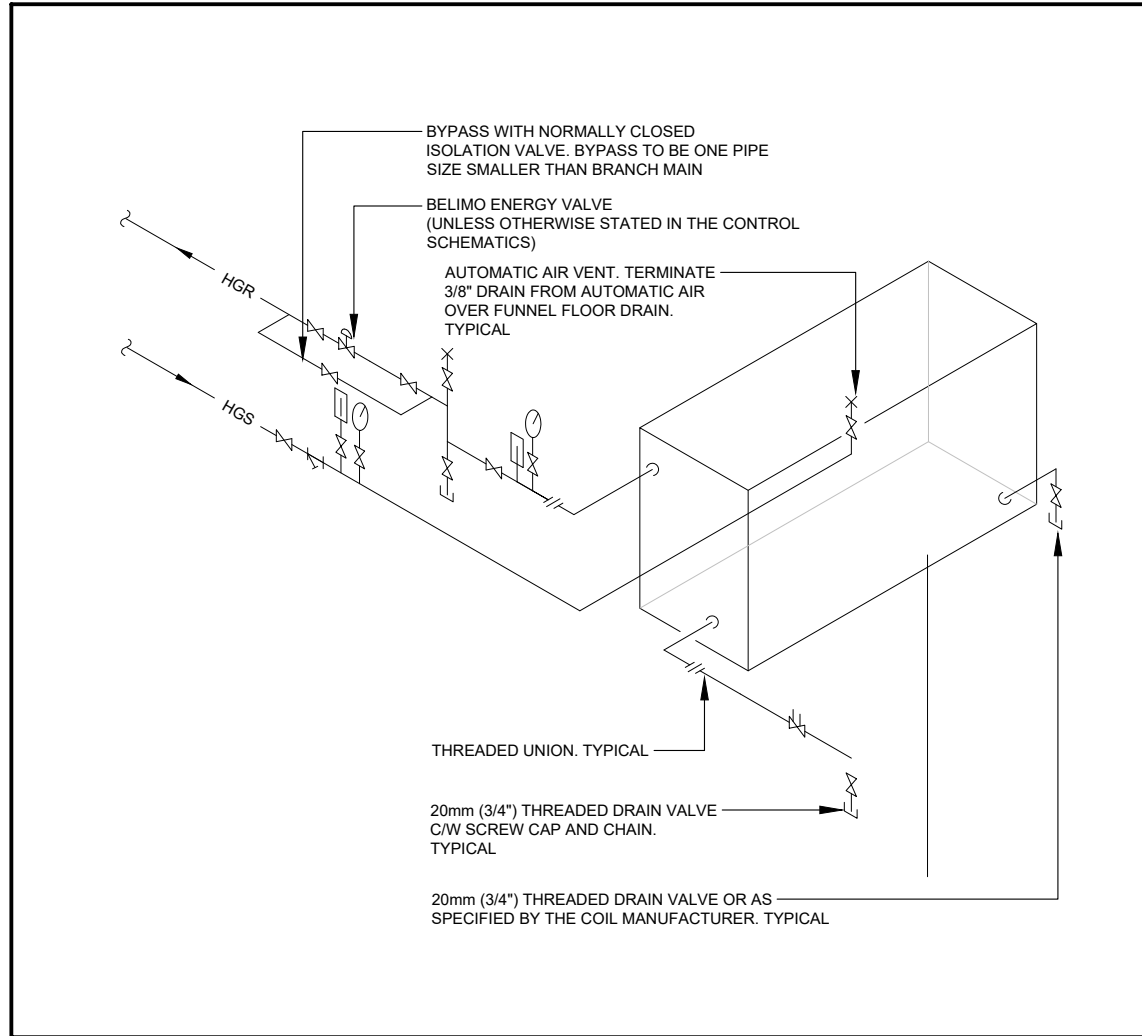
1 CEILING MOUNTED GRILLE DETAIL
SCALE: N.T.S



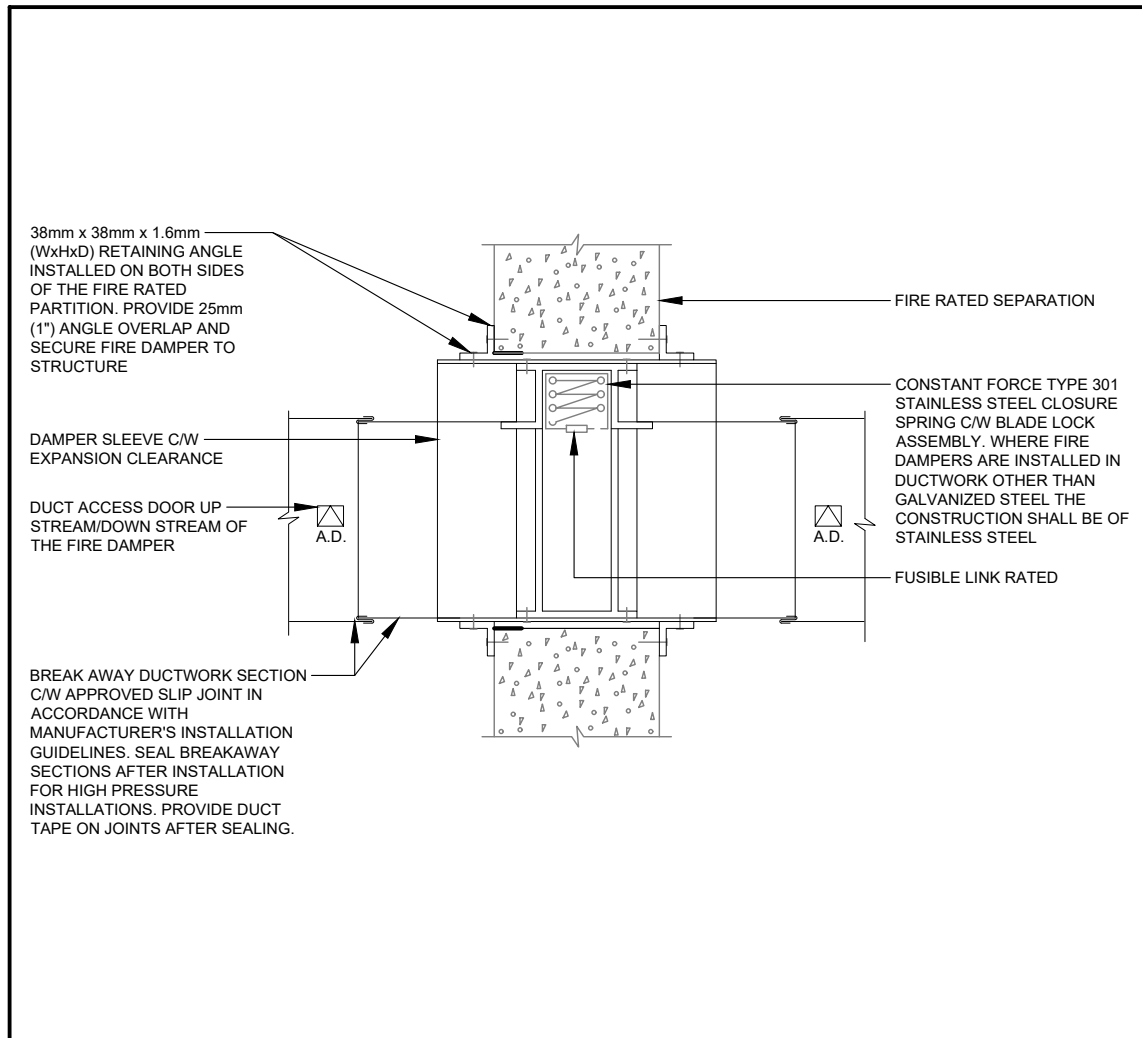
2 CEILING MOUNTED SUPPLY DIFFUSER DETAIL
SCALE: N.T.S



3 DETAIL OF DUCTWORK FITTINGS AND TAKEOFFS
SCALE: N.T.S



8 CUSTOM AHU GLYCOL COOLING COIL - SINGLE COIL
SCALE: N.T.S

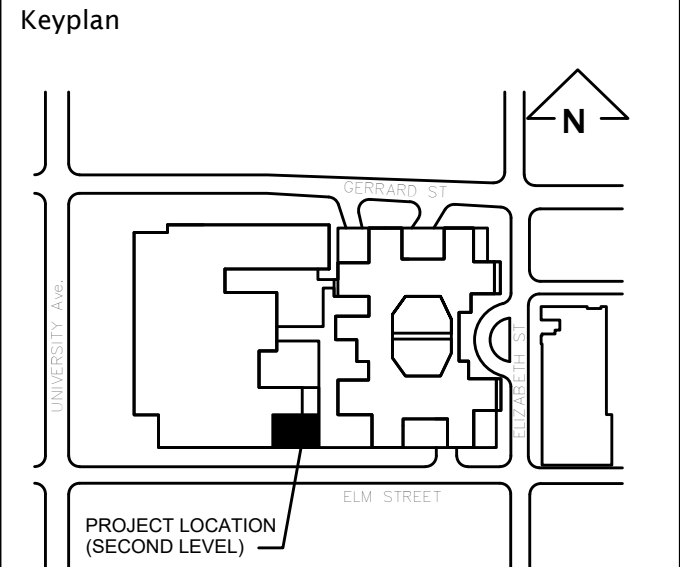


4 FUSIBLE LINK DAMPER DETAIL
SCALE: N.T.S

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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North Arrow	Detail Symbol
	Detail No. Sheet No.

Seal	
------	--



Project Manager MB	Drawn AS
Project Leader	Checked PC

Client

SickKids

555 University Ave., Toronto, ON M5G 1X8

Project

SICKKIDS - SPEC CT ROOM

555 UNIVERSITY AVENUE, MAIN FLOOR,
TORONTO, ON M5G1X8

Drawing Title

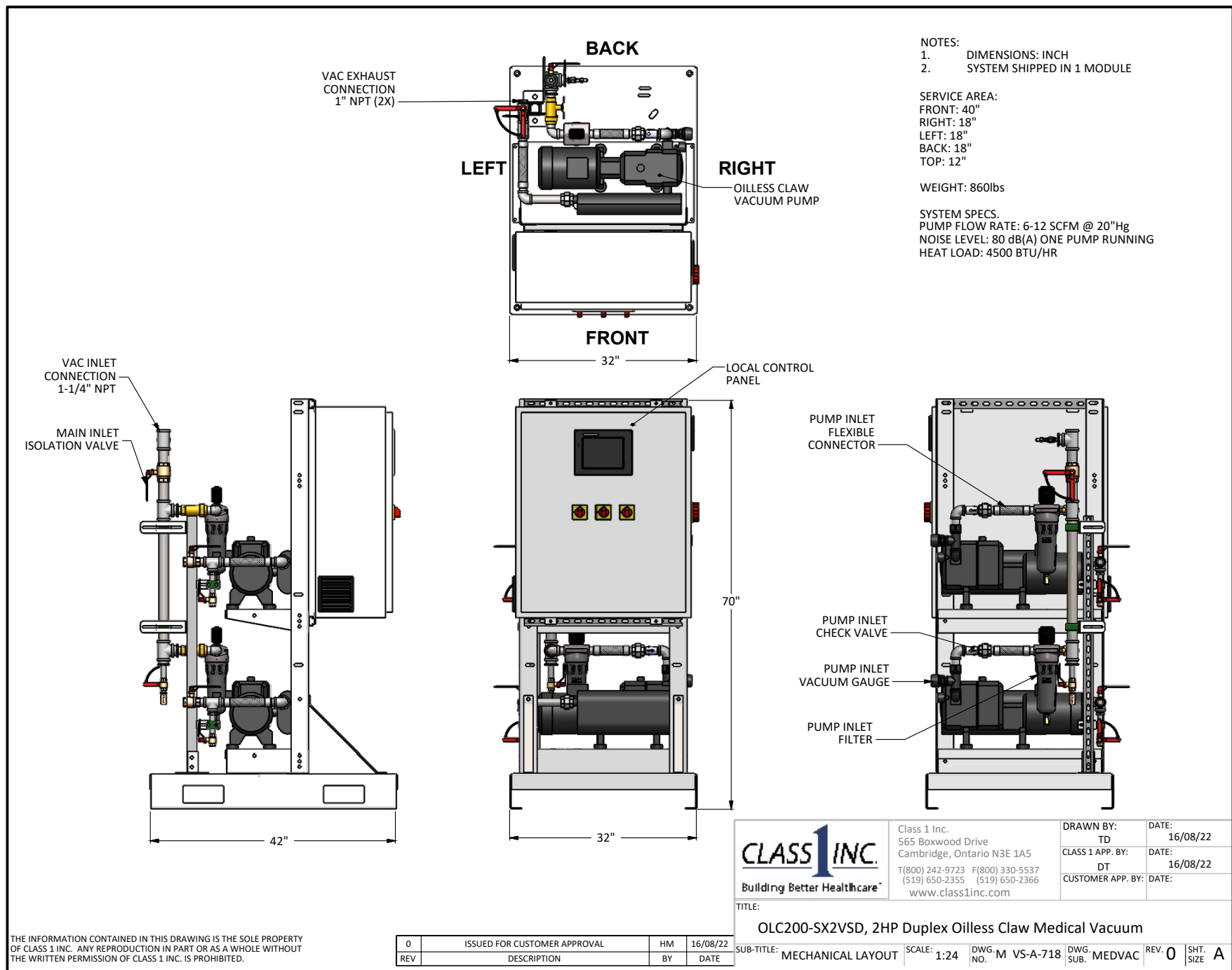
MECHANICAL DETAILS II

Check Scale (may be photo reduced)

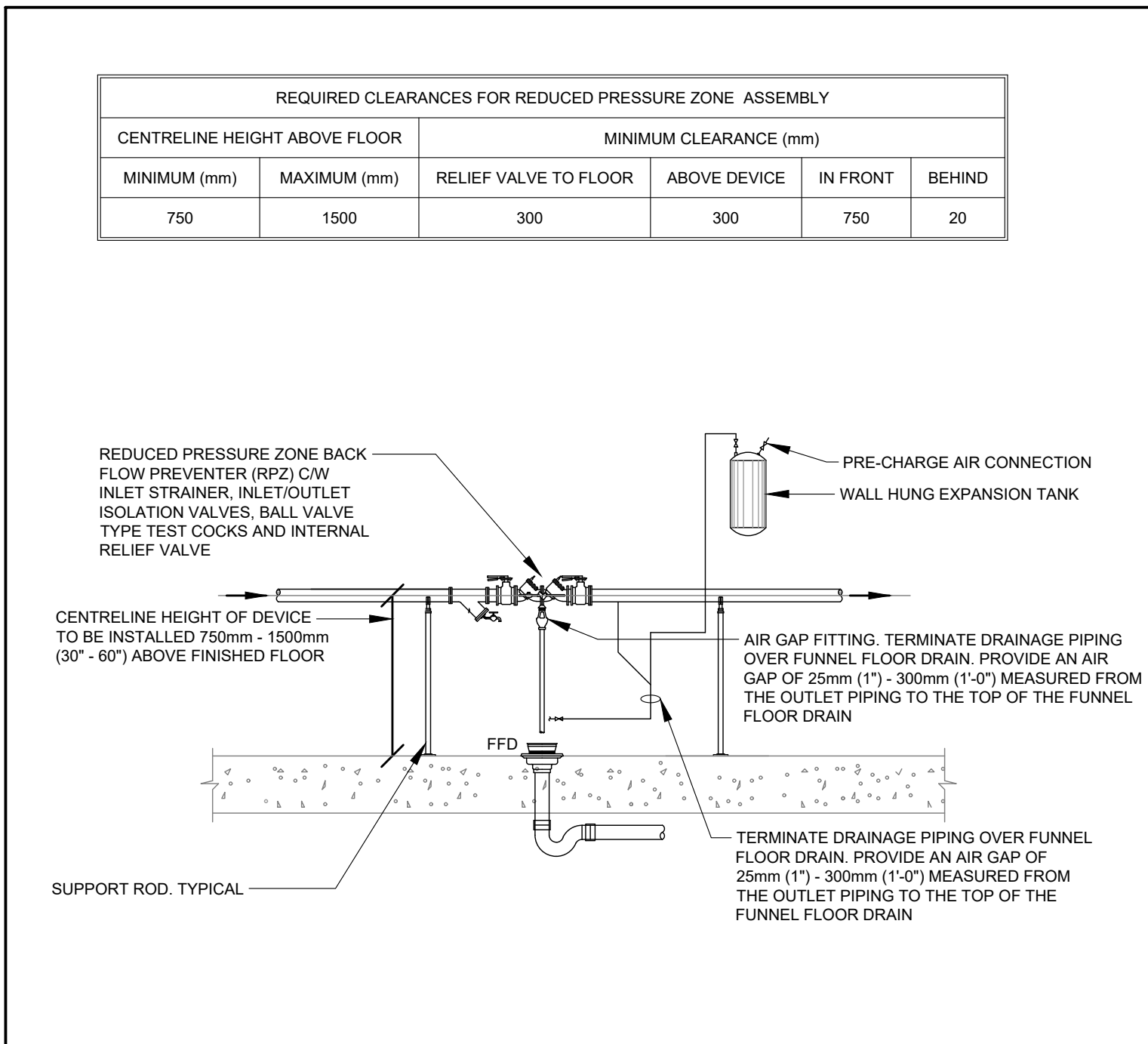
0 1 inch 0 10mm

Project No. HC 21-129

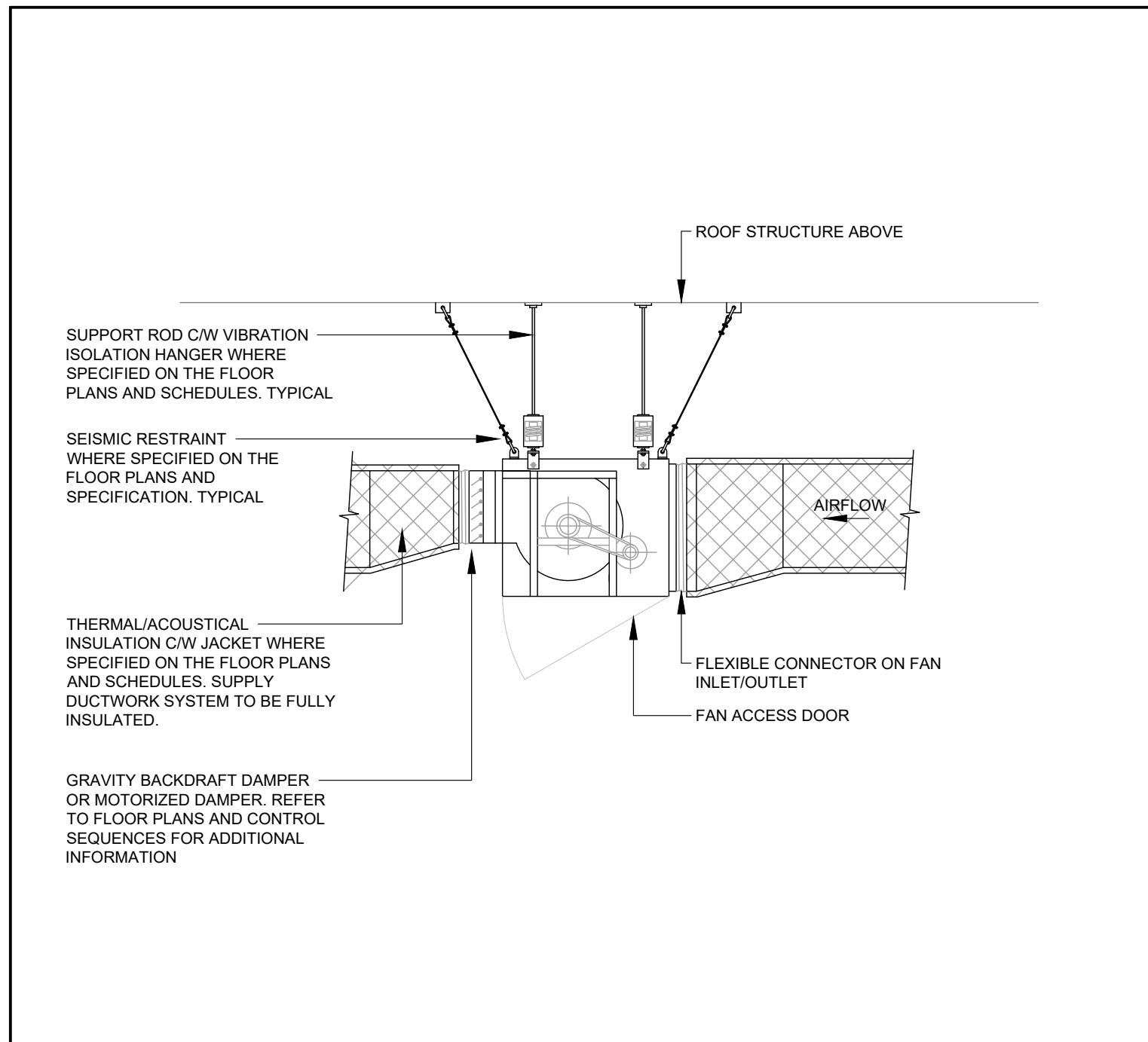
Drawing No. MD 00 EW 02



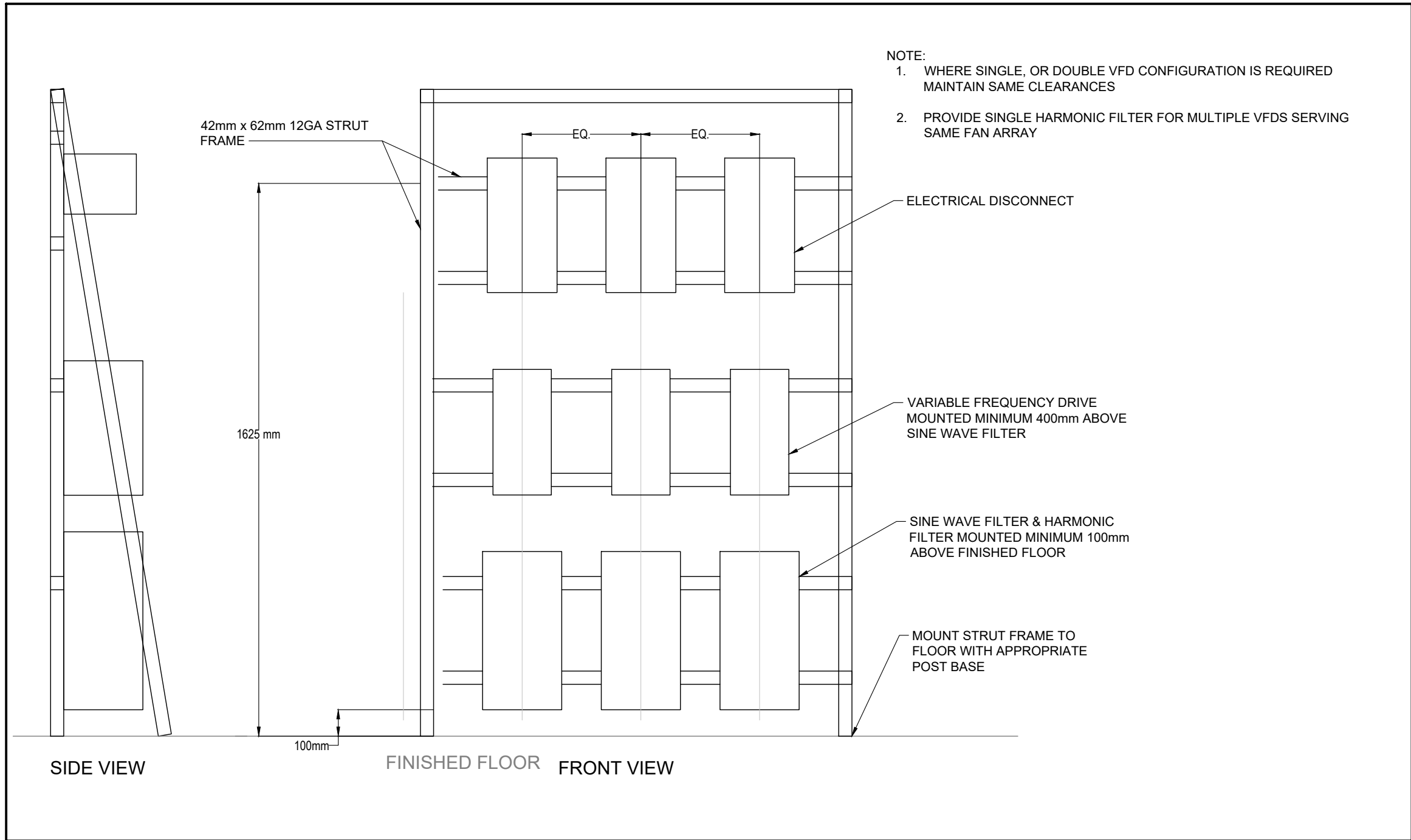
5 23 21 00.01 VERTICAL INLINE PUMP
SCALE: N.T.S



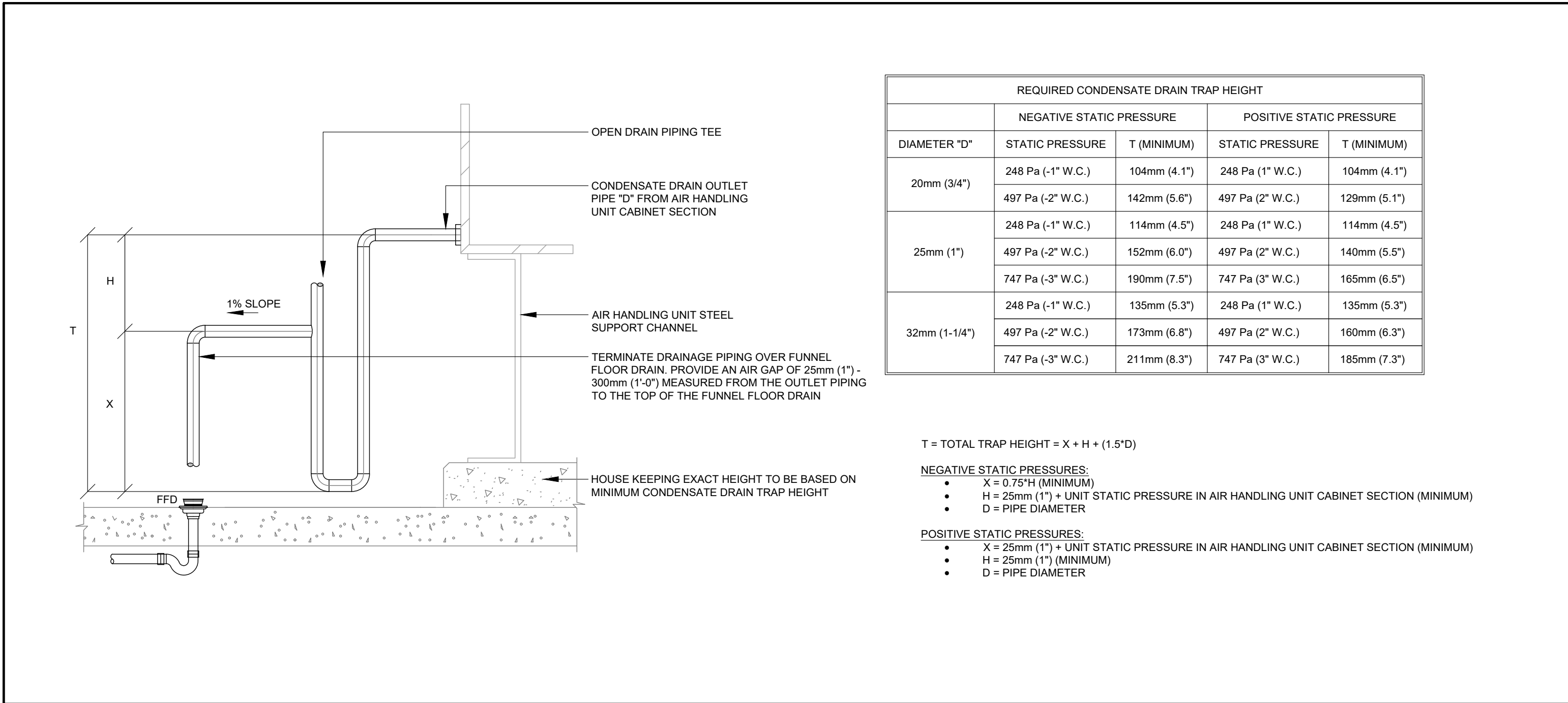
4 REDUCED PRESSURE ZONE ASSEMBLY & EXPANSION TANK
SCALE: N.T.S



3 23 34 00.10 CENTRIFUGAL INLINE FAN
SCALE: N.T.S



2 VARIABLE FREQUENCY DRIVE MOUNTING
SCALE: N.T.S



1 CONDENSATE DRAIN TRAP HEIGHT - INDOOR AIR HANDLING UNIT
SCALE: N.T.S

REQUIRED CONDENSATE DRAIN TRAP HEIGHT				
DIAMETER "D"	NEGATIVE STATIC PRESSURE		POSITIVE STATIC PRESSURE	
	STATIC PRESSURE	T (MINIMUM)	STATIC PRESSURE	T (MINIMUM)
20mm (3/4")	248 Pa (-1" W.C.)	104mm (4.1")	248 Pa (1" W.C.)	104mm (4.1")
	497 Pa (-2" W.C.)	142mm (5.6")	497 Pa (2" W.C.)	129mm (5.1")
25mm (1")	248 Pa (-1" W.C.)	114mm (4.5")	248 Pa (1" W.C.)	114mm (4.5")
	497 Pa (-2" W.C.)	152mm (6.0")	497 Pa (2" W.C.)	140mm (5.5")
32mm (1-1/4")	248 Pa (-1" W.C.)	135mm (5.3")	248 Pa (1" W.C.)	135mm (5.3")
	497 Pa (-2" W.C.)	173mm (6.8")	497 Pa (2" W.C.)	160mm (6.3")
	747 Pa (-3" W.C.)	211mm (8.3")	747 Pa (3" W.C.)	185mm (7.3")

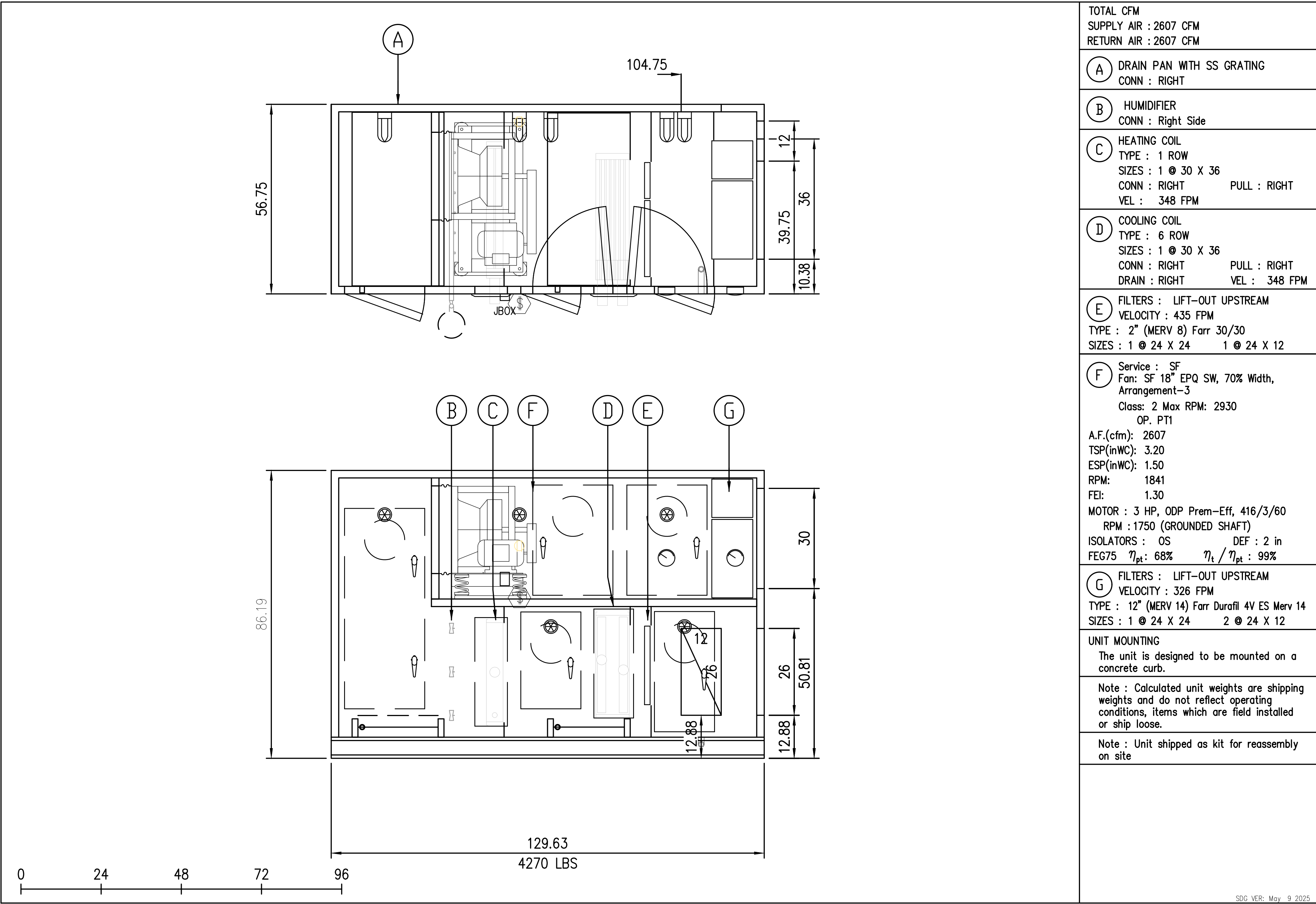
$$T = \text{TOTAL TRAP HEIGHT} = X + H + (1.5'D)$$

NEGATIVE STATIC PRESSURES:

- X = 0.75"H (MINIMUM)
- H = 25mm (1") + UNIT STATIC PRESSURE IN AIR HANDLING UNIT CABINET SECTION (MINIMUM)
- D = PIPE DIAMETER

POSITIVE STATIC PRESSURES:

- X = 25mm (1") + UNIT STATIC PRESSURE IN AIR HANDLING UNIT CABINET SECTION (MINIMUM)
- H = 25mm (1") (MINIMUM)
- D = PIPE DIAMETER

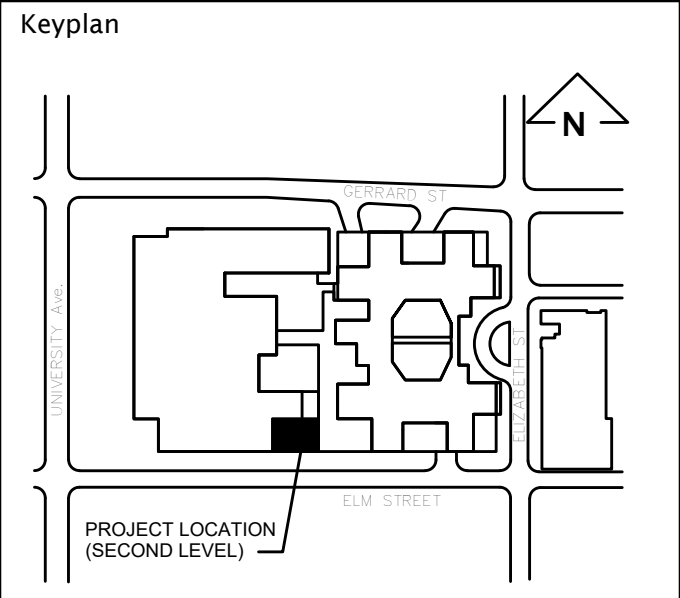


1 AHU SECTIONS AND DETAILS (AHU-1)
SCALE: N.T.S

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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North Arrow	Detail Symbol
	Detail No. Sheet No.

Seal	
------	--



Project Manager MB	Drawn AS
Project Leader	Checked PC

Client
SickKids
555 University Ave., Toronto, ON M5G 1X8

Project
SICKKIDS - SPEC CT ROOM
555 UNIVERSITY AVENUE, MAIN FLOOR,
TORONTO, ON M5G1X8

Drawing Title
MECHANICAL DETAILS III

Check Scale (may be photo reduced)
0 1 inch 0 10mm

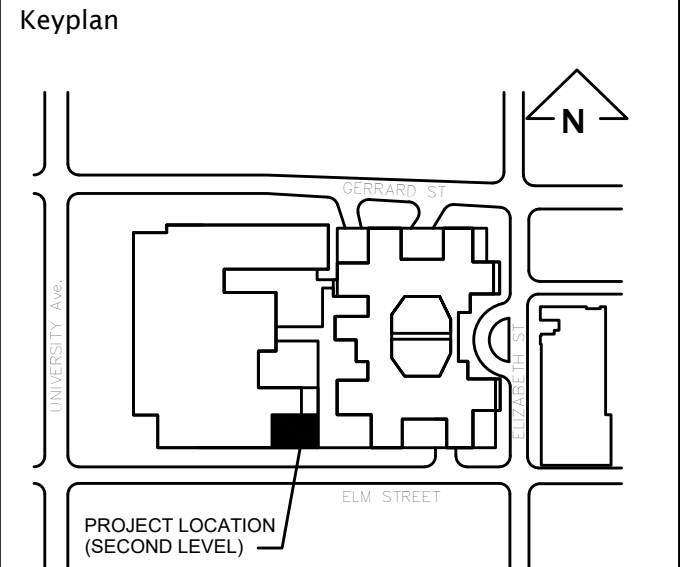
Project No.
HC 21-129

Drawing No.
MD 00 EW 03

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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North Arrow	Detail Symbol
	Detail No. Sheet No.

Seal	
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Project Manager MB	Drawn AS
Project Leader	Checked PC

Client

555 University Ave., Toronto, ON M5G 1X8

Project
SICKKIDS - SPEC CT ROOM

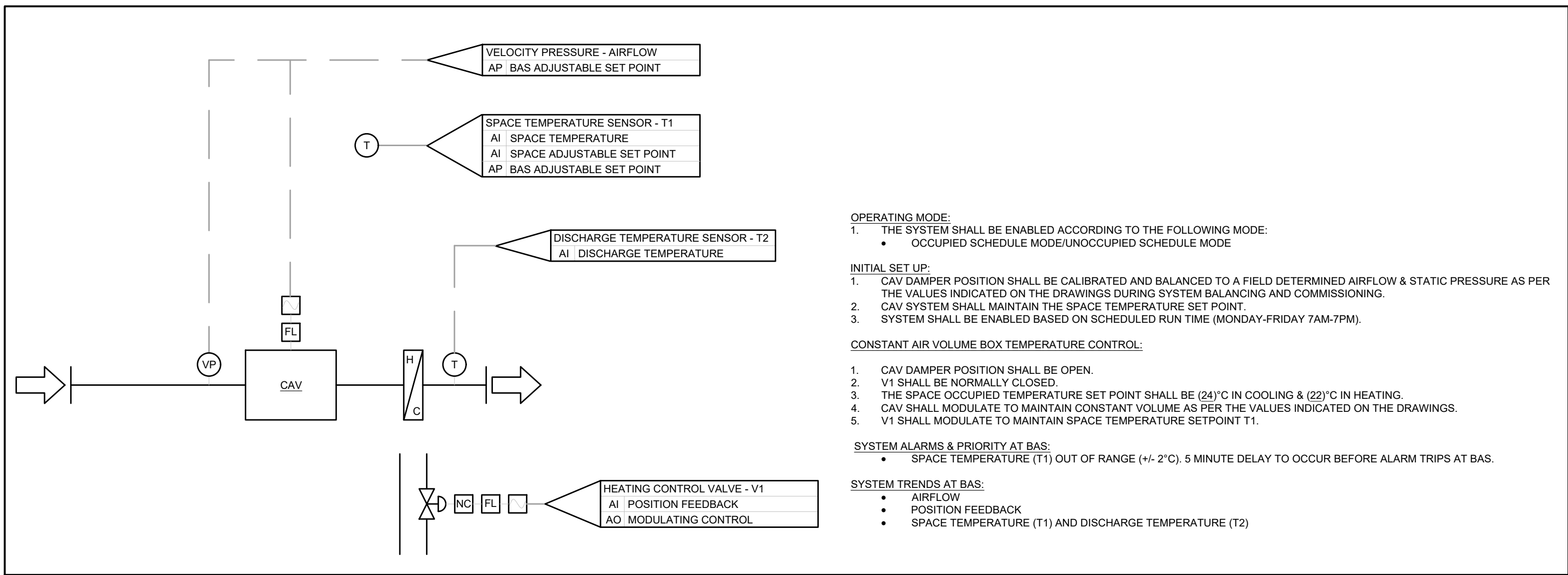
555 UNIVERSITY AVENUE, MAIN FLOOR,
TORONTO, ON M5G1X8

Drawing Title

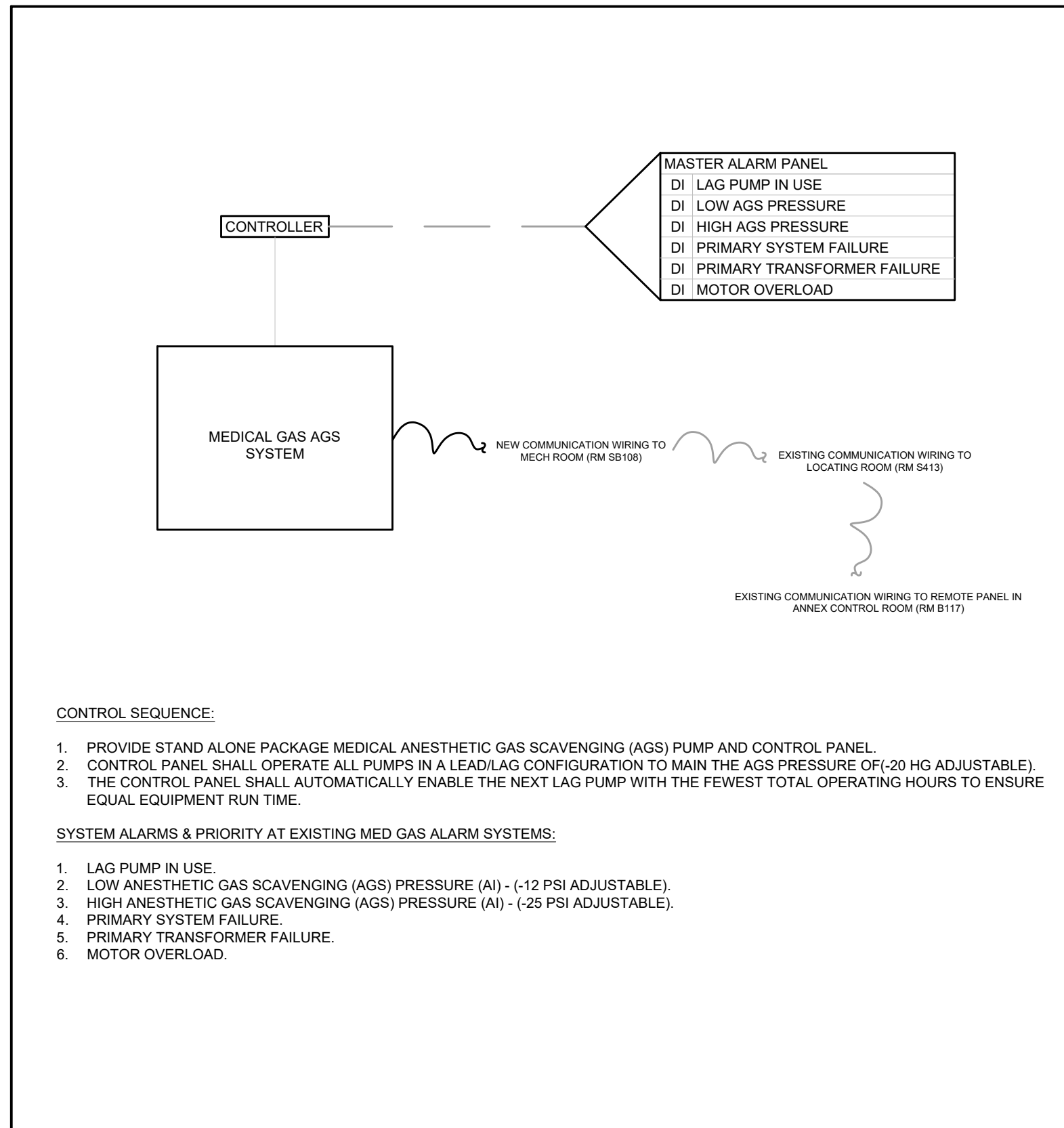
MECHANICAL CONTROL
SEQUENCE I

Check Scale (may be photo reduced)

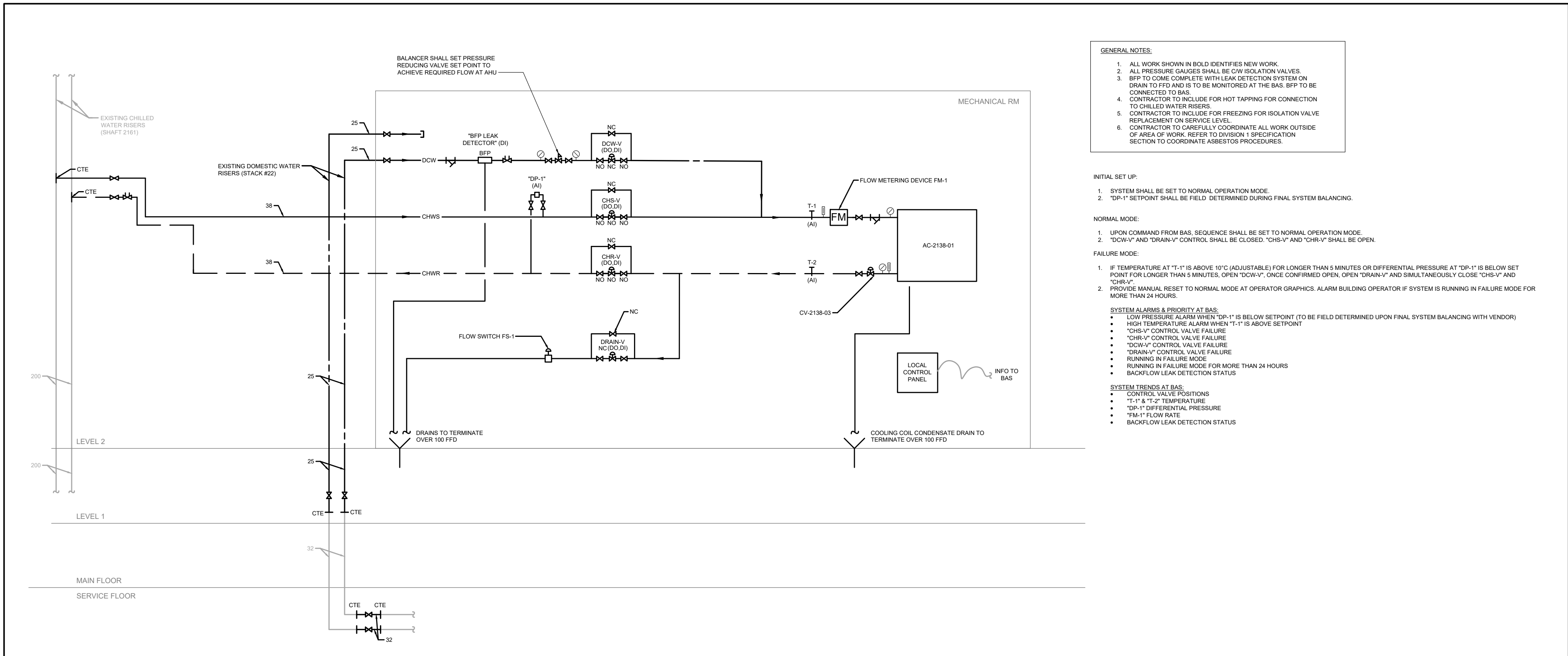
Project No.	HC 21-129
Drawing No.	MC 00 EW 01



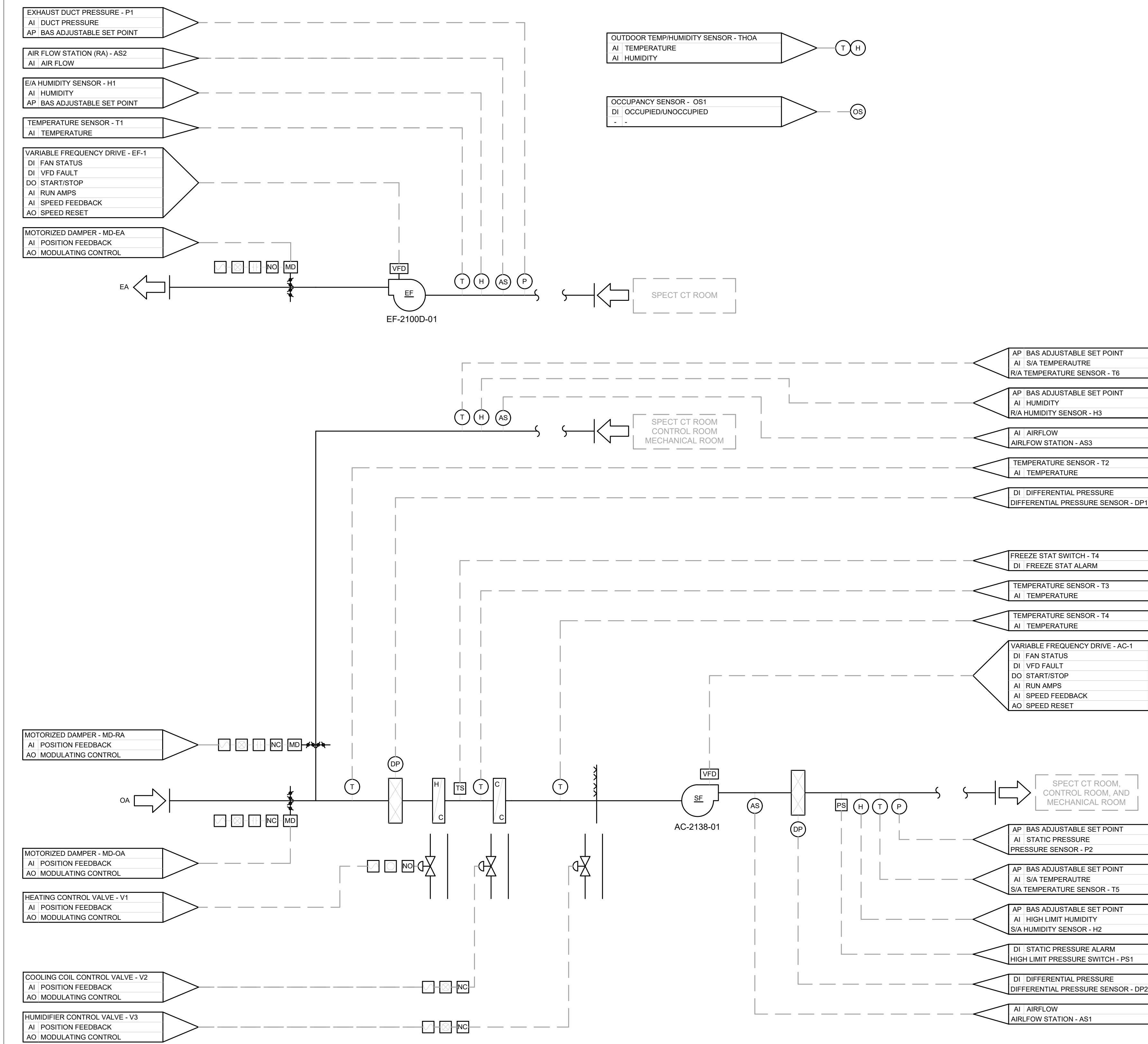
3 VENTILATION - CONSTANT AIR VOLUME BOX WITH RE-HEAT
SCALE: N.T.S



1 MEDICAL GAS AGS PUMP SYSTEM
SCALE: N.T.S



1 AHU CHILLED WATER AND CITY WATER PIPING SCHEMATIC & CONTROL SEQUENCE
SCALE: N.T.S



- APPLICATION:
- AC-2138-01 RECIRCULATING AIR HANDLING UNIT (SERVING SPECT CT ROOM (RM 2140), CONTROL ROOM (RM 2141), AND MECHANICAL ROOM (RM 2138)).
- OPERATING MODE:
- THE SYSTEM SHALL BE ENABLED ACCORDING TO THE FOLLOWING MODE:
 - SCHEDULED RUN TIME
 - OCCUPANCY SENSOR
- INITIAL SET UP:
- THE SYSTEM SHALL BE A NORMALLY 12% OUTDOOR AIR SYSTEM.
 - SUPPLY AND EXHAUST FANS SHALL BE BALANCED TO A FIELD DETERMINED STATIC PRESSURE SET POINT TO ACHIEVE THE DESIGN AIR FLOWS AS PER THE VALUES INDICATED ON THE DRAWING SCHEDULE DURING SYSTEM BALANCING AND COMMISSIONING. BALANCER SHALL PROVIDE SET POINTS TO BAS CONTRACTOR.
 - BALANCER SHALL CALIBRATE AIR FLOW SENSORS.
 - AIR HANDLING UNIT SHALL BE INTERLOCKED WITH ASSOCIATED EXHAUST FAN EF-2100D-01.
 - INTERLOCK SHALL BE SET UP SUCH THAT THE EXHAUST IS THE LEAD FAN AND THE AHU IS THE LAG FAN.
 - VFD SPEED SHALL NOT OPERATE BELOW 30% SPEED.
 - SYSTEM SHALL BE ENABLED BASED ON AN ADJUSTABLE SCHEDULED RUN TIME (7 DAY). INITIAL SCHEDULE MONDAY TO SUNDAY 6:00AM TO 7:00 PM SYSTEM RUNS AT FULL DESIGN FLOW. OTHERWISE FANS RUN AT 50% OF DESIGN FLOW (ADJUSTABLE) BASED ON FLOW AT 'AS1' AND 'AS2'. OUTDOOR AIR 'OA' SET POINT SHALL ALSO BE ADJUSTABLE IN UNOCCUPIED MODE (UNOCCUPIED SET POINT: 50% OF NORMAL SET POINT).
 - IF OCCUPANCY SENSOR 'OS1' DETECTS OCCUPANCY DURING UNOCCUPIED MODE, SYSTEM CHANGES TO OCCUPIED MODE. PROVIDE 15 MINUTE DELAY TO UNOCCUPIED MODE WHEN OCCUPANCY IS NOT DETECTED.
 - FANS SHALL BE ENABLED/DISABLED LOCALLY AT THE VFD OR REMOTELY THROUGH THE BAS.
 - 'T3' MODULATES 'V1' TO MAINTAIN 20°C WHEN FAN IS DISABLED.
- FAN CONTROL:
- ON COMMAND TO START 'MD-EA' AND 'MD-RA' FULLY OPEN, ONCE CONFIRMED OPEN EXHAUST FAN SHALL START AND RAMP UP TO 30%, WHEN EXHAUST FAN IS CONFIRMED STARTED SUPPLY FAN SHALL START AND RAMP UP TO 30%.
 - ONCE ALL FANS ARE AT 30%, FANS MODULATE TO MAINTAIN RESPECTIVE AIR FLOW SET POINTS.
 - SUPPLY FAN SHALL MODULATE TO MAINTAIN SET POINT AT 'AS1'. EXHAUST FAN SHALL MODULATE TO MAINTAIN SET POINT AT 'AS2'. SET POINTS FOR 'AS1' AND 'AS2' SHALL BE AS PER SCHEDULED VALUES.
 - IF ANY AIR FLOW SENSOR FAILS, SUPPLY FAN SHALL MODULATE TO MAINTAIN SET POINT AT 'P2' AND AND EXHAUST FAN SHALL MODULATE TO MAINTAIN SET POINT AT 'P1'. 'P1' AND 'P2' SHALL BE DETERMINED BY BALANCER.
- DISCHARGE AIR TEMPERATURE CONTROL:
- SET POINT AT 'T3' SHALL BE 13°C (ADJUSTABLE).
 - 'T6' SHALL MODULATE 'V1' OR 'V2' TO MAINTAIN SET POINT. 'V1' AND 'V2' SHALL NEVER RUN SIMULTANEOUSLY.
- OUTDOOR AIR DAMPER CONTROL:
- OUTDOOR AIR 'OA' SET POINT SHALL BE 139 L/S.
 - 'OA' SHALL BE DETERMINED BY DIFFERENCE BETWEEN 'AS1' AND 'AS3'
 - 'MD-OA' MODULATES TO MAINTAIN SET POINT FOR 'OA'.
- HUMIDITY CONTROL:
- 'V3' IS ENABLED WHEN AHU IS ENABLED AND DEW POINT AT 'THOA' IS VALUE CALCULATED IN SENTENCE 2 +1°C OR LESS.
 - 'H3' SHALL MODULATE 'V3' TO MAINTAIN SET POINT OF 30% (ADJUSTABLE). CALCULATE DEW POINT BASED ON SET POINT AT 'H3' AND 23°C.
 - 'H2' TAKES OVER CONTROL OF 'V3' IF DEW POINT AT H2 IS AT VALUE CALCULATED IN SENTENCE 2 + 0.5°C.
 - 'V3' IS ENABLED REGARDLESS IF 'V1' OR 'V2' IS OPEN.
- FIRE ALARM MODE:
- NOT REQUIRED.
- FAN FAILURE:
- UPON SUPPLY FAN OR EXHAUST FAN FAILURE, THE FOLLOW SHALL OCCUR:
 - IF EXHAUST FAN FAILS, 'MD-OA' CLOSES, ALARM AT BAS AND SUPPLY FAN CONTINUES TO RUN.
 - IF SUPPLY FAN FAILS, EXHAUST FAN MODULATES TO MAINTAIN 118 L/S AT 'AS2'. RECORD PRESSURE AT 'P1' DURING THIS FLOW AND USE AS A BACK UP TO CONTROL FAN IS 'AS2' FAILS.
- SAFETY SHUT DOWN:
- HIGH LIMIT DUCT STATIC PRESSURE SENSOR PS1 AT THE SUPPLY AIR MAIN SHALL BE HARDWIRED INTERLOCKED WITH THE SUPPLY FAN AND DISABLE THE FAN WHEN PS1 EXCEEDS 3 INWC.
 - FREEZE STAT T4 SHALL BE HARD WIRED INTERLOCKED WITH THE SUPPLY FAN AND THE RETURN FAN. FANS SHALL BE DISABLED WHEN T4 DROPS BELOW 4°C. FANS MUST BE MANUALLY RESET PRIOR TO RESTARTING. CLOSE ALL DAMPERS.
- FILTER ALARMS:
- PRE FILTER ALARM WHEN VALUE AT 'DP1' REACHES:
 - 1.1. $DP1 = (FLOW 'AS1') / (SCHEDULED DESIGN FLOW) / SPFF$
 - FINAL FILTER ALARM WHEN VALUE AT 'DP2' REACHES:
 - 2.1. $DP2 = (FLOW 'AS1') / (SCHEDULED DESIGN FLOW) / SPFF$
 - SET POINTS SPFF AND SPFF SHALL BE 1 AND 0.62 RESPECTIVELY (ADJUSTABLE)
- SYSTEM ALARMS & PRIORITY AT BAS:
- FAN FAILURE: COMMANDED ON/STATUS OFF
 - FAN IN HAND: COMMANDED OFF/STATUS ON
 - VFD FAILURE: FAULT CONTACT
 - DAMPER FAILURE: COMMANDED ON/CLOSED FEEDBACK
 - DAMPER IN HAND: COMMANDED OFF/OPEN FEEDBACK
 - HIGH SUPPLY AIR TEMPERATURE: T5 IS GREATER THAN SET POINT PLUS 1.5°C FOR MORE THAN 15 MINUTES.
 - LOW SUPPLY AIR TEMPERATURE: T5 IS LOWER THAN SET POINT MINUS 1.5°C FOR MORE THAN 15 MINUTES
 - FREEZE STAT: T4 IS EQUAL TO OR LOWER THAN 4°C
 - HIGH RETURN AIR HUMIDITY: H3 IS GREATER THAN 60% R.H. FOR MORE THAN 15 MINUTES.
 - LOW RETURN AIR HUMIDITY: H3 IS LOWER THAN 30% R.H. FOR MORE THAN 15 MINUTES
 - HIGH DUCT STATIC PRESSURE TRIPPED
- SYSTEM TRENDS AT BAS:
- FAN STATUS
 - RUN AMPS
 - VFD SPEED
 - STATIC PRESSURE
 - DIFFERENTIAL PRESSURE
 - POSITION FEEDBACK
 - TEMPERATURE SET POINT
- GENERAL CONTROLS NOTES:
- PROVIDE ALL MOTORIZED DAMPERS INDICATED ON THIS CONTROL SEQUENCE. FOR 'MD-OA' SIZE OF DAMPER SHALL BE 200x200 TAMCO 9000. BLANK OF REMAINDER OF OA OPENING IN AHU TO SUIT.

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Keyplan

North Arrow

Detail Symbol

Detail No.

Sheet No.

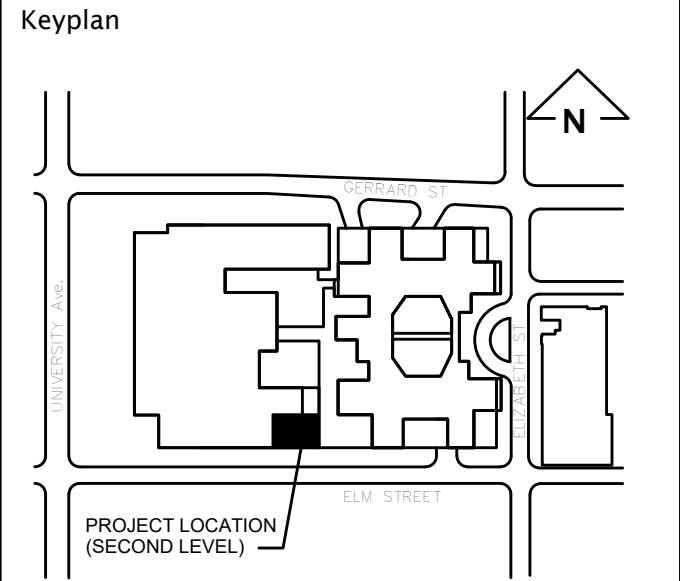
Seal

Project Manager MB	Drawn AS
Project Leader	Checked PC
Client 555 University Ave., Toronto, ON M5G 1X8	
Project SICKKIDS - SPEC CT ROOM 555 UNIVERSITY AVENUE, MAIN FLOOR, TORONTO, ON M5G1X8	
Drawing Title MECHANICAL CONTROL SEQUENCE II	
Check Scale (may be photo reduced) 	
Project No. HC 21-129	
Drawing No. MC 00 EW 02	

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
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2025-06-13	COSTING	C
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	Detail No. Sheet No.

Seal	
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Project Manager MB	Drawn AS
Project Leader	Checked PC

Client

555 University Ave., Toronto, ON M5G 1X8

Project

SICKKIDS - SPEC CT ROOM

555 UNIVERSITY AVENUE, MAIN FLOOR,
TORONTO, ON M5G1X8

Drawing Title

MECHANICAL SCHEDULES I

Check Scale (may be photo reduced)

Project No. HC 21-129

Drawing No. MS 02 EW 01

● INDICATES REQUIRED															
CONTROL VALVE SCHEDULE															
TAG	LOCATION	PERFORMANCE DATA				CONSTRUCTION DATA			CONTROL FAILURE		ACTUATOR			REMARKS	
		FLUID	FLUID USGPM	STEAM lb/h	MODULATING	2-POSITION	BODY TYPE	2-WAY	3-WAY	N.O.	N.C.	PNEUMATIC	ELECT.		MANUAL OVERRIDE
CV-2140-01	SPECT CT (RM 2140)	HEATING WATER	3.69	-	●	-	CAST BRASS, NPS 3/4"	●	-	-	●	-	●	-	BRAY SIMPLE SET PICV, FAIL-SAFE, INTERNAL THREAD, AC/DC 24V, ACTUATOR CONTROLLED BY BAS
CV-2141-01	CONTROL RM (RM 2141)	HEATING WATER	0.83	-	●	-	CAST BRASS, NPS 3/4"	●	-	-	●	-	●	-	BRAY SIMPLE SET PICV, FAIL-SAFE, INTERNAL THREAD, AC/DC 24V, ACTUATOR CONTROLLED BY BAS
CV-2138-01	MECH RM (RM 2138)	HEATING WATER	1.19	-	●	-	CAST BRASS, NPS 3/4"	●	-	-	●	-	●	-	BRAY SIMPLE SET PICV, FAIL-SAFE, INTERNAL THREAD, AC/DC 24V, ACTUATOR CONTROLLED BY BAS
CV-2138-02	MECH RM (RM 2138)	HEATING WATER	4.91	-	●	-	CAST BRASS, NPS 1"	●	-	-	●	-	●	-	BRAY SIMPLE SET PICV, FAIL-SAFE, INTERNAL THREAD, AC/DC 24V, ACTUATOR CONTROLLED BY BAS
CV-2138-03	MECH RM (RM 2138)	CHILLED WATER	11.73	-	●	-	CAST BRASS, NPS 1-1/2"	●	-	-	●	-	●	-	BRAY SIMPLE SET PICV, FAIL-SAFE, INTERNAL THREAD, AC/DC 24V, ACTUATOR CONTROLLED BY BAS

CAV BOX SCHEDULE																
VALVE NO.	SERVING AREA/ROOM	LOCATION	MODEL	UNIT SIZE	MIN. AIRFLOW CFM	MAX. AIRFLOW CFM	MAX. APD inWG	REHEAT COIL							REMARKS	
								CAPACITY MBH	EAT °F	LAT °F	EWI °F	LWT °F	FLOW GPM	WPD inWG		FLUID TYPE
CAV-2140-1	SPECT CT (RM 2140)	RM 2140	EH PRICE - SDV	14	1698	1698	0.25	36.85	55	73	140	120	1.29	0.31	WATER	1, 2, 3, 4, 5
CAV-2141-1	CONTROL RM (RM 2141)	RM 2141	EH PRICE - SDV	6	381	381	0.34	8.2	55	73	140	120	0.31	0.02	WATER	1, 2, 3, 4, 5
CAV-2138-1	MECH RM (RM 2138)	RM 2138	EH PRICE - SDV	8	550	550	0.30	11.90	55	73	140	120	0.46	0.07	WATER	1, 2, 3, 4, 5
NOTE: 1. MAX NC 25 NOISE LEVEL CRITERIA. 2. ALL CAV EQUIPPED WITH 3 FOOT LONG INTEGRAL ATTENUATORS AND FIBER FREE FOAM. 3. CAV BOX SHALL BE BALANCED TO AIR FLOW RATE INDICATED ON THE DRAWINGS. 4. CAV BOX SHALL BE BY BASE BUILDING CONTROLS CONTRACTOR (JC), CONTROLLER HANDLING ARRANGEMENT SHALL BE CONFIRMED ON SITE BY THE MECHANICAL CONTRACTOR PRIOR TO INSTALLATION. 5. CAV BOX DAMPER SHALL REMAIN IN LAST POSITION ON LOSS OF POWER.																

SILENCER SCHEDULE																			
TAG	MANUFACTURER	MODEL	LOCATION	CONFIGURATION	HEIGHT (mm)	WIDTH (mm)	LENGTH (mm)	AIRFLOW (L/s)	MAX P.D (Pa)	VELOCITY (m/s)	SILENCER DYNAMIC INSERTION LOSS (dB)							REMARKS	
											63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz		8000Hz
SL-1S	VIBRO-ACOUSTIC	RFL-MHV-AY332 65	RM 2140	RFL	350	650	3000	980	48	+ 4	8	20	24	24	23	18	14	10	2, 3, 4, 5
SL-1R	VIBRO-ACOUSTIC	REFL-MHV-AY33 265	RM 2140	REFL	300	600	1500	690	50	- 4	6	6	9	14	23	26	22	16	2, 3, 4, 5
<div>NOTES:</div> <div>1. TYPE- R - RECTANGULAR, D - DISSIPATIVE, RE - RECTANGULAR ELBOW, FL - FILM LINED.</div> <div>2. VIBAR FILM LINER MEDIA PROTECTION.</div> <div>3. NON-BASIS OF DESIGN SILENCER MANUFACTURER SHALL PROVIDE, FOR APPROVAL, PROFESSIONAL ENGINEER STAMPED ACOUSTICAL CALCULATIONS FOR ALL SYSTEMS WITH SILENCERS TO DEMONSTRATE THAT THE RESULTANT DUCTBORNE FAN SOUND LEVELS, INCLUDING AIRBORNE AND BREAKOUT NOISE, MEET THE REQUIRED CRITERIA.</div> <div>4. NON-BASIS OF DESIGN SILENCER MANUFACTURER SHALL PROVIDE, FOR APPROVAL, PROFESSIONAL ENGINEER STAMPED PRESSURE DROP CALCULATIONS FOR ALL SYSTEMS WITH SILENCERS TO DEMONSTRATE THAT THE RESULTANT INSTALLED PRESSURE DROP WITH SYSTEM EFFECTS DOES NOT EXCEED SCHEDULED VALUES.</div> <div>5. FOR NON-BASIS OF DESIGN PRODUCT SUPPLIED, CONTRACTOR IS FINANCIALLY RESPONSIBLE TO ENSURE NOISE CONTROL SOLUTION IS DELIVERED TO ACHIEVE SPECIFIED NC LEVEL IN SPACES.</div>																			

GRILLE & DIFFUSER SCHEDULE								
UNIT TAG	BASIS OF DESIGN		TYPE	VOLUME CONTROL	DIMENSION (mm x mm)	MATERIAL	FINISH	REMARKS
	MANUFACTURER	MODEL						
A1	EH PRICE	SPD	SQUARE PLAQUE DIFFUSER	NO	600 x 600	STAINLESS STEEL	B12	1,2,3,4,7
A2	EH PRICE	LFD	LAMINAR FLOW DIFFUSER	NO	600 x 1200	STAINLESS STEEL	B12	1,2,3,4,7
B1	EH PRICE	535	LOUVERED RETURN GRILLE	NO	600 x 600	STAINLESS STEEL	B12	1,2,3,7
B2	EH PRICE	535	LOUVERED RETURN GRILLE	NO	300 x 300	STAINLESS STEEL	B12	1,2,3,7
B3	EH PRICE	535	LOUVERED RETURN GRILLE	NO	600 x 300	STAINLESS STEEL	B12	1,2,3,7
B4	EH PRICE	535	LOUVERED RETURN GRILLE	NO	500 x 250	STAINLESS STEEL	B12	1,2,3,7
C1	EH PRICE	730H	LOW LEVEL LOUVERED GRILLE	NO	AS INDICATED	STAINLESS STEEL	B12	1,2,3,7
NOTES: 1. REFER TO FLOOR PLAN FOR INLET SIZE. 2. CONFIRM DIMENSION OF CEILING GRID PRIOR TO ORDERING. 3. GRILLE AND DIFFUSER SHALL SUIT CEILING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS. 4. AIRFLOW PATTERN SHALL BE HORIZONTAL. 5. 0.5" THICK ALUMINUM FOIL-BACKED FIBREGLASS EXTERNAL INSULATION. 6. BLADES ARE TO BE PARALLEL WITH SHORT DIMENSION. 7. DIFFUSERS AND GRILLES TO BE COMPLETE WITH BALANCING DAMPER.								

EXHAUST FAN SCHEDULE																												
UNIT TAG	MANUFACTURER	MODEL	LOCATION	SERVICE	QTY	AIRFLOW (L/s)	E.S.P. (IN.W.C.)	FAN (RPM)	FAN (BHP)	ACOUSTIC PERFORMANCE								ELECTRICAL						REMARKS				
										SOUND POWER LEVEL (dB) (INLET/OUTLET)								SOUND POWER (LWA) (INLET/OUTLET)	SOUND PRESSURE (DBA) (INLET/OUTLET)	FLA (A)	MOTOR (HP)				MOTOR (RPM)	V/PH/Hz	VFD RATED	EMERGENCY POWER
										63Hz	128Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	MA											
EF-2100D-01	PENNBARRY	SOX135 .0541SC	SECOND FLOOR (CORRIDOR 2100D)	CT ROOM EXHAUST	1	283	1	1511	0.24	74 ¹ / ₆₈	70 ¹ / ₆₉	65 ¹ / ₇₂	65 ¹ / ₆₇	65 ¹ / ₆₅	66 ¹ / ₆₃	61 ¹ / ₆₁	59 ¹ / ₅₈	71 ¹ / ₇₁	59.5 ¹ / _{59.5}	3.5	0.75	1800	208/3/60	YES	YES	1,2,3		
NOTES: 1. FAN MOTOR TO BE COMPLETE WITH LOOSE VFD AND SINE WAVE FILTER. 2. FAN MOTOR TO BE NEMA PREMIUM EFFICIENCY TOTALLY ENCLOSED FAN COOLED TYPE (TEFC). 3. EXHAUST FAN IS TO BE COMPLETE WITH FOUR (4) SPRING ISOLATORS SIZED FOR 50mm DEFLECTION, SUITABLE FOR INSTALLATION ON BASE MOUNTED UNISTRUT. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION AND COORDINATE PROVISIONS WITH MECHANICAL CONTRACTOR.																												

AIR HANDLING UNIT																															
UNIT TAG	BASIS OF DESIGN		AIRFLOW		FANS		FILTERS					COILS			ENTHALPY WHEEL	HUMIDIFIER	SOUND POWER LEVEL (dB)								INPUT POWER				NOTES		
	MANUFACTURER	MODEL NO.	OUTDOOR (%)	RETURN (%)	SUPPLY	EXHAUST	PRE-FILTER (FILTER #1)	FILTER #2	FILTER #3	FILTER #4	EXHAUST FILTER	PRE-HEATING COIL	HEATING COIL	COOLING COIL			-	63	125	250	500	1000	2000	4000	8000	SERVICE	MCA (AMPS)	MOP (AMPS)		POWER (V/Ph/Hz)	EMERGENCY POWER
AC-2138-01	HAAKON	-	12	78	AC-2138-SF1	N/A	2" (MERV-8) FARR 30/30 x1 @ 24"x24"	12" (MERV-14) FARR Duraflti 4V ES Merv 14 x2 @ 24"x24"	N/A	N/A	N/A	N/A	AC-2138-HC	AC-2138-CC	N/A	AC-2138-H	RETURN AIR	68	63	73	71	69	65	59	53	AC-2138-01			416/1/60	YES	1,2,3,4,5,6
																	SUPPLY AIR	79	76	83	80	78	74	68	62						
																	EXHAUST AIR														
																	DUCTED OA	68	63	73	71	69	65	59	53						
<div>NOTES:</div> <div>1. AIR HANDLING UNIT TO BE C/W HEATING COIL.</div> <div>2. AIR HANDLING UNIT TO BE C/W CHILLED WATER COOLING COIL.</div> <div>3. AIR HANDLING UNIT TO BE C/W MANUFACTURER SUPPLIED OUTDOOR AND RECIRCULATION AIR DAMPERS. OUTDOOR AIR DAMPERS TO BE OPPOSED BLADE T.A. MORRISON 9000. RECIRCULATION AIR DAMPER TO BE PARALLEL BLADE T.A. MORRISON 1000.</div> <div>4. AIR HANDLING UNIT TO BE C/W 304 STAINLESS STEEL COOLING COIL & HUMIDIFIER CABINET SECTIONS.</div> <div>5. AIR HANDLING UNIT TO BE C/W OUTDOOR AIR INTAKE PLENUM, AS INDICATED ON PLAN.</div> <div>6. AIR HANDLING UNIT TO BE DOUBLE WALL CONSTRUCTION WITH NO PERFORATIONS.</div>																															

REFER TO SPECIFICATION SECTION 23 75 00 AND ALL ASSOCIATED AIR HANDLING UNIT DRAWINGS AND SPECIFICATIONS FOR COORDINATION AND REQUIREMENTS OF MECHANICAL AND CONTROLS CONTRACTOR.

FANS																									
UNIT TAG	BASIS OF DESIGN		QTY.	FAN				SOUND POWER LEVEL (dB)								SILENCER	FLA (AMPS)	BREAK (KW)	MOTOR (KW)	MOTOR (RPM)	POWER (V/Ph/Hz)	VFD (YES/NO)	EMERGENCY POWER	NOTES	
	MANUFACTURER	MODEL NO.		AIRFLOW (L/s)	FAN (RPM)	E.S.P. (Pa)	T.S.P. (Pa)	INLET/OUTLET	63	125	250	500	1000	2000	4000										8000
SF-AC-2138	HAAKON	18TCEPQ	1	1,231	1,841	498	921	INLET	74	78	86	81	72	69	66	63	REFER TO FLOOR PLAN	3.9		2.2	1750	416/3/60	YES	YES	1,2,3,4
								OUTLET	80	80	86	83	80	76	70	64									
NOTES: 1. FAN TO BE PLENUM TYPE AND DIRECT DRIVEN. 2. FAN IS TO BE COMPLETE WITH PRE-WIRED DISCONNECT WITH NEMA 3R OUTDOOR RATED ENCLOSURE. 3. FAN ENCLOSURE TO BE TOTALLY ENCLOSED FAN COOLED. 4. FAN TO BE C/W VIBRATION ISOLATION SPRINGS INTERNALLY MOUNTED WITHIN THE AIR HANDLING UNIT CABINET.																									

AIR HANDLING UNIT HYDRONIC COILS																						
UNIT TAG	BASIS OF DESIGN		CAPACITY								AIRFLOW						FLUID					NOTES
	MANUFACTURER	MODEL NO.	TOTAL (KW)	SENSIBLE (KW)	FINS/INCH	ROWS	FIN HEIGHT (MM)	FIN LENGTH (MM)	FACE AREA (SQ.M)	FACE VELOCITY (MPS)	AIRFLOW (L/S)	A.P.D. (PA)	E.A.T. DB (°C)	E.A.T. WB (°C)	L.A.T. DB (°C)	L.A.T. WB (°C)	TYPE	FLUID FLOW (L/S)	PRESSURE DROP (KPA)	E.F.T. (°C)	L.F.T. (°C)	
AC-2138-HC	HAAKON	SW0130.00636.02	14.2	-	6	1	762	914		1.77	1,231	7	12.8	-	22.2	-	WATER	0.31	0.8	60.0	48.9	1
AC-2138-CC-1	HAAKON	SW0630.01036.06	27.6	20.6	10	6	762	914		1.77	1,231	144	24.9	18.1	11.3	11.2	WATER	0.74	1.5	6.7	15.6	1
AC-2138-CC-1	HAAKON	SW0630.01036.06	21.1	17.8	10	6	762	914		1.77	1,231	144	24.9	18.1	13.1	13.0	WATER	0.74	0.2	10	16.8	1,2
NOTES: 1. COOLING COIL CASING AND DRAIN PAN TO BE STAINLESS STEEL. 2. SECONDARY OPERATING POINT.																						

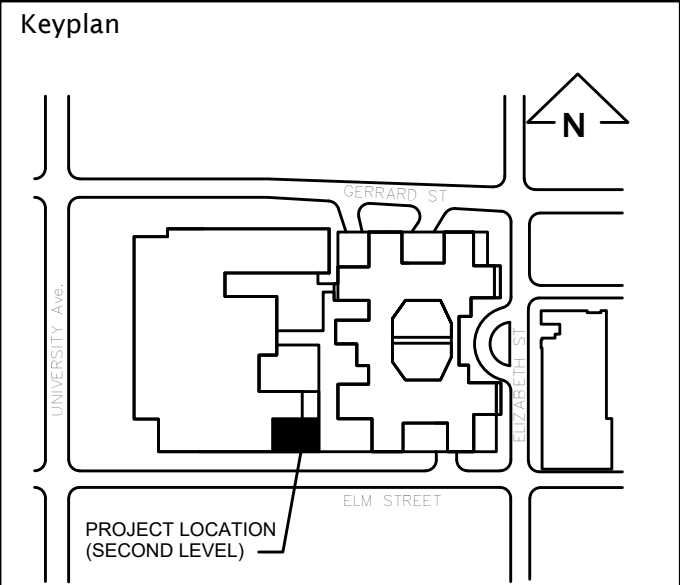
AIR HANDLING UNIT HUMIDIFIER												
UNIT TAG	SERVICE	BASIS OF DESIGN		STEAM			AIR		SPACE TEMPERATURE SETPOINT (°C)	RELATIVE HUMIDITY SETPOINT (%RH)	ABSORPTION DISTANCE (MM)	NOTES
		MANUFACTURER	MODEL NO.	STEAM PRESSURE (PSI)	CONDENSATE LOAD (LB/HR)	TUBE QTY.	TOTAL AIRFLOW (L/s)	% OUTDOOR AIR				
AC-2138-H	AC-2138	DRISTEEM			18	2	1,231	12	-1.1	30	304.8	1,2,3
NOTES: 1. HUMIDIFIER PERFORMANCE BASED ON -10F OUTDOOR AIR TEMPERATURE. 2. HUMIDIFIER TO BE STAINLESS STEEL TUBE, HEADER AND ENCLOSURE. 3. HUMIDIFIER TO BE C/W INSULATED TUBE JACKET. 4. HUMIDIFIER TO BE C/W MECHANICAL TEMPERING DEVICE. 5. REFER TO PRODUCT INSTALLATION MANUAL FOR EQUIPMENT CLEARANCES, AND GENERAL MANUFACTURER RECOMMENDATIONS.												

AGS PUMP SYSTEM SCHEDULE														
UNIT TAG	SYSTEM	LOCATION	BASIS OF DESIGN		SYSTEM		PUMP				VFD	EMERGENCY POWER	NOTES	
			MANUFACTURER	MODEL	TOTAL INPUT POWER		CAPACITY PER PUMP AT 20" Hg (SCFM)	MAX PRESSURE (Inches Hg)	MOTOR					
					AMPS	POWER (V/Ph/Hz)			HP	SPEED (RPM)				POWER (V/Ph/Hz)
PV-2138-01	2HP DUPLEX OILLESS CLAW MEDICAL AGS	MECHANICAL ROOM (2138)	CLASS 1 INC.	OLC200-SX 2VSD	13	208/3/60	6-12	20	2	-	208/3/60	YES	YES	1,2, 3
NOTES: 1. MEDICAL ANESTHETIC GAS SCAVENGING SYSTEM SHALL BE C/W TWO PUMPS, SIZED FOR N+1 REDUNDANCY. 2. MEDICAL ANESTHETIC GAS SCAVENGING SYSTEM SHALL BE C/W INTEGRAL MEDICAL AGS MONITORING SYSTEM. 3. MEDICAL ANESTHETIC GAS SCAVENGING SYSTEM TO BE MOUNTED ON MANUFACTURE SUPPLIED SUPPORT FRAME IN STACKED CONFIGURATION.														

DATE	ISSUED FOR	REV
2024-12-19	50% CD	A
2025-02-21	90% CD	B
2025-06-13	COSTING	C
2025-08-28	95% CD	D
2025-10-01	TENDER - PERMIT	0

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This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer.



North Arrow

Detail Symbol

Detail No. Sheet No.

Seal	
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Project Manager MB	Drawn AS
Project Leader	Checked PC
Client SickKids 555 University Ave., Toronto, ON M5G 1X8	
Project SICKKIDS - SPEC CT ROOM 555 UNIVERSITY AVENUE, MAIN FLOOR, TORONTO, ON M5G1X8	
Drawing Title MECHANICAL SCHEDULES II	
Check Scale (may be photo reduced) 0 1inch 0 10mm	
Project No. HC 21-129	
Drawing No. MS 02 EW 02	