

**ADDENDA
00 91 13**

Mechanical Addendum #M-01

The information listed below is to form part of the Contract Documents. All associated costs are to be included in the Bid Price shown on the Bid Form. Acknowledgment of this Addendum, by number, is to be shown in the space provided on the Bid Form.

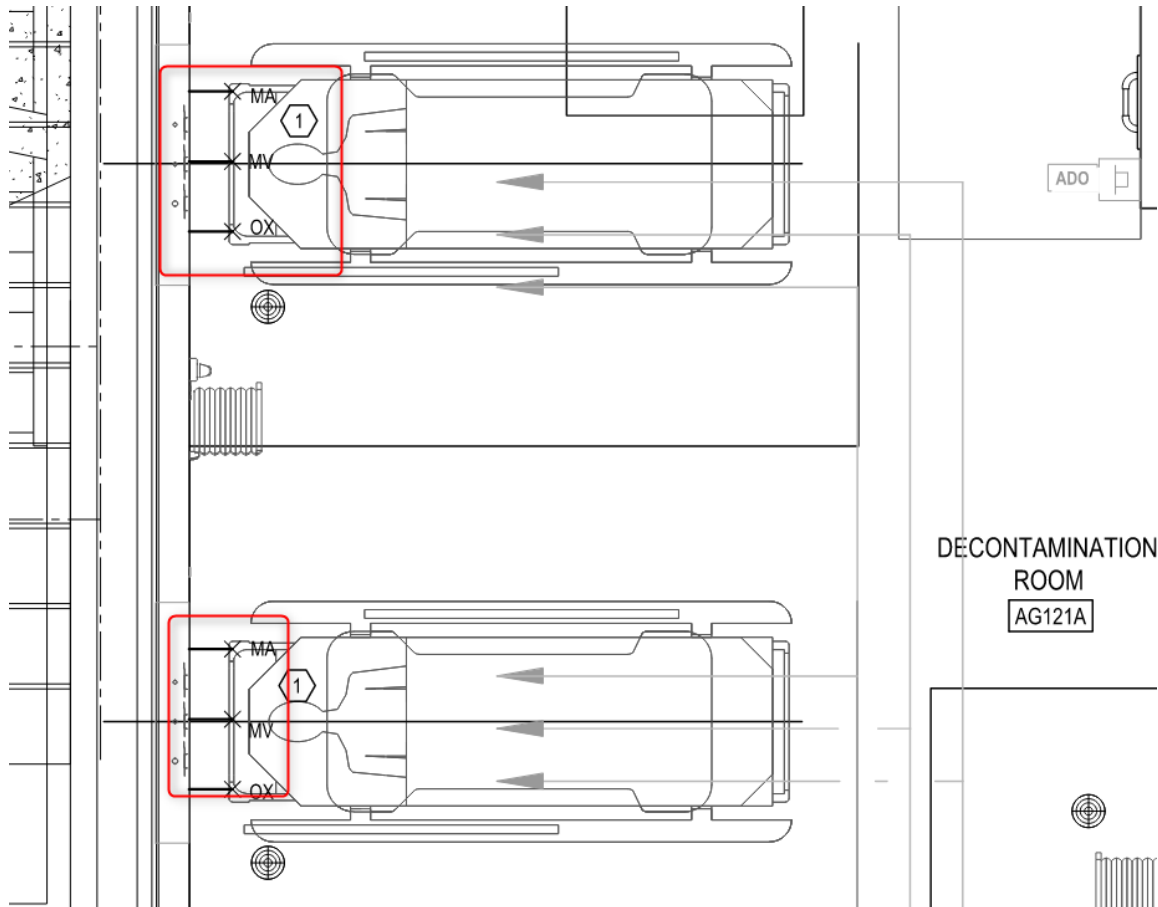
1 MECHANICAL QUESTIONS

Please see list of Mechanical questions from a Contractor.

Question submitted late:

2) Trade has checked the drawings(M1-04) and noted they appear to be med gas outlets and know they listed the outlets in Div 11 in the specs.

What they would like to know is if a headwall/console is required for these 3 gases.



I am reading the specs only. Do we need to RFI the client? Please advise?

PART 2 - PRODUCTS

2.1 Medical Gas Outlets

.1 Acceptable Products:

- .1 Amico 'Wall Outlet DISS O-DISWAL-L-OXY'.
- .2 Amico 'Wall Outlet DISS O-DISWAL-L-AIR'.
- .3 Amico 'Wall Outlet DISS O-DISWAL-L-VAC'.
- .4 Substitutions: In accordance with Section 01 25 00.

ANSWER: Wall mounted recessed gas outlets are required. Headwall/console is not required. Recessed medical gas outlets to be provided with water-tight access door. Refer to drawings and specifications.

Question #1:

- 3) Please confirm whether wall-mounted gas outlets or console with gas outlets are required.

ANSWER: Wall mounted recessed gas outlets are required. Headwall/console is not required. Recessed medical gas outlets to be provided with water-tight access door. Refer to drawings and specifications.

Question #3:

- 1) Is TAB restricted to the named firm (Air & Water Precision Balancing), or is any CAABC/NEBB member acceptable? 23 05 93.13 §1.5.

ANSWER: TAB is restricted to Air & Water Precision Balancing.

- 2) Is Section 22 66 86 (Effluent Decontamination System) in scope? If yes, issue the equipment schedule, design criteria and location.

ANSWER: Not in scope. Specification section 22 66 86 revised per this addendum, see below. Scope includes work to revise piping upstream of the existing buried tank and new controls. The tank itself is existing to remain.

- 4) Define the pre-construction air audit scope (M2-01 references "Section XXX") and bound the rebalancing scope in M2-02 Gen. Note 2.

ANSWER: Refer to Section 23 05 93.13 - Testing Adjusting and Balancing for HVAC. Drawing note updated as part of this addendum to reference this Section; see below.

5) Existing decon holding tank: The note on M1-00/M1-01/M1-03 requires "verification of satisfactory operational condition" but no section defines it. Confirm: (a) who performs the verification and what it consists of — visual only, level-device function test, pump-out and confined-space entry, CCTV, or hydrostatic/vacuum integrity test; (b) the acceptance criteria, given that "satisfactory" resolves to the Consultant's opinion under 20 01 01 §1.6.4; (c) when it occurs relative to award and to the diverter-valve tie-in; (d) who empties, cleans and disposes of the existing contents, and whether that is Owner-forces work; (e) if the tank is judged defective, confirm the Owner repairs or replaces it on the 25 05 06 §3.3 model, or that the work is funded from the \$70,000 unforeseen conditions allowance under 01 21 00 1.2.8; and (f) confirm the Contractor carries no warranty on the existing tank itself.

ANSWER:

In response to sub-questions (a), (b), and (c): Drawing notes on drawings M1-00, M1-01, and M1-01 have been revised as part of this addendum to remove the verification requirement under this contract.

In response to sub-question (d), the contractor is to empty, clean, and dispose of existing contents as necessary to facilitate the new level alarm installation; this has been added to the drawing notes on Drawing M1-03 as part of this addendum.

In response to sub-questions (e) and (f), there is no scope to repair or replace the tank as part of this contract, and therefore the contractor is to carry no warranty on the existing tank itself.

Question #21:

Please provide contact information for base building contractors: -Building Automation System (BAS) -Fire Alarm - Security/Video Surveillance -Communications -Nurse Call

ANSWER: As per specifications, BAS contractor is Johnson Controls Inc. Refer to Electrical Addendum for remaining items.

Question #25:

1) Please confirm whether the intent is for the connection to the contamination tank to be made from the exterior of the building.

ANSWER: Decontamination Room AG121A is slab-on-grade. The intent is for the connection to the tank to be made below grade beyond the footprint of AG121A as shown on the Drawings M1-00 (Demo) and M1-01 (New). A new note has been added to M1-00 and M1-01 to clarify where the slab-on-grade area begins.

2) Please provide the invert elevations for the existing and proposed sanitary drain lines shown on the drawings.

ANSWER: Elevations of Outdoor Grade, Bottom of Tank, Ground Floor, Basement, and Crawl Space have been added for reference on Drawing M0-20 as part of this addendum. Exact invert elevation of drainage piping must be determined on site by the contractor; this has been clarified on Drawing M0-20 as part of this addendum.

Question #26:

During the site visit, we were shown the basement area where the plaster sink is to be connected (refer to drawings M4-00 and M4-01). Some areas appeared to have suspended T-bar ceilings; however, we are unable to determine the extent and locations of these ceilings from the drawings provided. Please clarify the areas where T-bar ceilings exist and identify any ceiling removal, reinstatement, or access requirements necessary to complete the work.

ANSWER: Refer to Drawing M4-00 and M4-01 as updated as part of this addendum.

Question #31:

- 1) Please provide inert level for decontamination waste tank.

ANSWER: Refer to answer to Question #25, sub-question 2 above.

- 2) Please provide the height below crawl space for mechanical scope.

ANSWER: Refer to answer to Question #25, sub-question 2 above.

- 3) Drawing M-1-01 says Decontamination tank is to remain AS IS - Please clarify. Is a new / additional Decontamination tank required during this project?

ANSWER: Existing Decontamination Tank is to remain; there is no scope for a new tank.

Question #33:

- 2) Are we providing housekeeping pad for exhaust fan? If yes, what is pad size and re-bar details? Is ready mix concrete required or hand mix concrete?

ANSWER: Reuse existing housekeeping pad. Note added to Drawing M1-06 as part of this addendum for clarity.

- 14) Could you please provide overall plan of work area with grid lines for better co-ordination with partial drawings of mechanical work.

ANSWER: Gridlines and bubbles have been added where possible throughout the drawing package and the scale of M1-00 and M1-01 revised to 1:50 to be indicated location relative to the building. Refer to the re-issued drawings as part of this addendum.

15) Please clarify if we need to include for any excavation for plumbing/ sanitary work as it is unclear for the extent of the ground floor slab on grade & basement.

Yes. Refer to Drawings M0-20, M1-00, and M1-01 updated as part of this addendum.

2 SPECIFICATIONS

2.1 Reference Specification Section 20 00 01 - List of Sections – Mechanical (not reissued)

.1 Revised to add 20 08 11.

2.2 Reference Specification Section 20 08 11 Testing of Integrated Mechanical Fire Protection and Life Safety Systems (issued)

.1 Section added.

2.3 Reference Specification Section 22 66 86 (Effluent Decontamination System) (reissued)

.1 Section revised to remove requirements for new tank and clarify scope. Scope is limited to new controls only.

3 DRAWINGS

3.1 Reference Drawing – all floor plans

.1 Drawings revised to better view grid bubbles and remove unnecessary areas of floors for clarity only. Revisions for clarity only are not bubbled. Revisions which impact scope are noted below and are bubbled on the drawings.

3.2 Reference Drawing M0-00 MECHANICAL SYMBOL LEGEND, DRAWING LIST, AND GENERAL NOTES (reissued)

.1 Updated sheet list.

3.3 Reference Drawing M0-20 (reissued)

.1 Elevations of outdoor grade, bottom of tank, Ground Floor, and Basement shown for reference.

3.4 Reference Drawing M1-00 - DECONTAMINATION ROOM - BASEMENT PLUMBING - DEMO (reissued)

.1 Delete verification of existing underground decontamination waste system holding tank.

- .2 Add: "DEMOLISH EXISTING CONTROL DEVICES BEING REPLACED WITH NEW; REFER TO M1-03 FOR NEW CONTROLS.
- .3 Add: THE CONTRACTOR IS TO EMPTY, CLEAN, AND DISPOSE OF EXISTING DECONTAMINATION TANK CONTENTS AS NECESSARY TO FACILITATE DEMOLITION OF EXISTING CONTROL DEVICES WITHIN TANK."
- .4 Clarified where the slab-on-grade portion of the building begins and the extents of the crawl space.
- .5 Clarified where piping is exposed within the Storage Room ceiling vs. where piping is located within an existing T-bar ceiling.
- .6 Scale revised to 1:50 for clarity.

3.5 Reference Drawing M1-01 - DECONTAMINATION ROOM - BASEMENT PLUMBING - NEW WORK (reissued)

- .1 Delete verification of existing underground decontamination waste system holding tank.
- .2 Clarified where the slab-on-grade portion of the building begins and the extents of the crawl space.
- .3 Clarified where piping is exposed within the Storage Room ceiling vs. where piping is located within an existing T-bar ceiling.
- .4 Scale revised to 1:50 for clarity.

3.6 Reference Drawing M1-02 DECONTAMINATION ROOM - GROUND FLOOR PLUMBING - DEMO (reissued)

- .1 Delete verification of existing underground decontamination waste system holding tank.

3.7 Reference Drawing M1-03 DECONTAMINATION ROOM - GROUND FLOOR PLUMBING - NEW WORK (reissued)

- .1 Delete verification of existing underground decontamination waste system holding tank.
- .2 Add Drawing Note #5: "THE CONTRACTOR IS TO EMPTY, CLEAN, AND DISPOSE OF EXISTING DECONTAMINATION TANK CONTENTS AS NECESSARY TO FACILITATE INSTALLATION OF NEW CONTROL DEVICES WITHIN TANK."

3.8 Reference Drawing M1-06 DECONTAMINATION ROOM - BASEMENT VENTILATION (reissued)

- .1 Note "REUSE EXISTING HOUSEKEEPING PAD" shown on drawing to clarify scope.
- .2 Showed Room Name & Room No for clarity: "MECHANICAL ROOM CB03.5".

3.9 Reference Drawing M2-01 - SECURITY AREA - GROUND FLOOR VENTILATION - DEMO (reissued)

- .1 General Notes #1 revised to read:
 - .1 "PERFORM PRECONSTRUCTION AIR AUDIT. REFER TO MECHANICAL SPECIFICATION SECTION 23 05 93.13 TESTING ADJUSTING AND BALANCING FOR HVAC FOR INFORMATION."

3.10 Reference Drawing M3-00 MEDICATION ROOM - BASEMENT PLUMBING - DEMO & NEW WORK (reissued)

- .1 Showed Room Name & Room No for clarity: "MECHANICAL ROOM CB03.5".

3.11 Reference Drawing M4-00 - PLASTER SINK - BASEMENT PLUMBING - NEW WORK (reissued)

- .1 Clarified where piping is exposed within the Storage Room ceiling vs. where piping is located within an existing T-bar or drywall ceiling.

3.12 Reference Drawing M4-01 - PLASTER SINK - BASEMENT PLUMBING - NEW WORK (reissued)

- .1 Clarified where piping is exposed within the Storage Room ceiling vs. where piping is located within an existing T-bar or drywall ceiling.

End

TESTING OF INTEGRATED MECHANICAL FIRE PROTECTION AND LIFE SAFETY SYSTEMS 20 08 11

1 GENERAL

1.1 Scope

- .1 Provide testing of integrated fire protection and life safety systems and related equipment provided under Division 20 to 25 with those provided under other Divisions of the Work, in accordance with Division 01.
- .2 This specification is limited to testing of the interconnections between fire protection and/or life safety systems. Refer to separate technical specification sections for the individual testing and commissioning requirements for those systems.

1.2 Definitions and Abbreviations

- .1 Refer to Division 01.

1.3 Applicable Codes and Standards

- .1 Installation codes and standards:
 - .1 CAN/ULC-S1001 Integrated Systems Testing of Fire Protection and Life Safety Systems

1.4 Qualified Tradesperson

- .1 Refer to Division 01.

2 PRODUCTS

- .1 Not used.

3 EXECUTION

3.1 General Requirements

- .1 Conduct complete and thorough testing and documentation of the systems interface and integration between various FPLS systems provided under Divisions 20 to 25 and those provided under other Divisions of the Work.
- .2 Include all labor and material as required to participate in and implement the integrated FPLS testing process for equipment and systems provided under Division 20 to 25.

3.2 Integrated Test Plan and Procedures - Development

- .1 Participate in the development of the integrated FPLS test plan and procedures in accordance with the requirements of Division 01.
- .2 Supply manufacturer's operating and testing instructions to the ITC prior to the development of the integration FPLS test plan.

3.3 Integration Test Plan – Implementation

- .1 Complete related FPLS system testing in accordance with the applicable technical specification sections of Divisions 20 to 25, prior to implementation of integrated FPLS testing. Where testing of such systems inherently test the FPLS system interconnection(s), such testing is not required to be duplicated for the integrated FPLS testing provided the results of the integration test are recorded in accordance with the requirements of the integrated FPLS test plan.

- .2 Prior to implementing any integrated FPLS test,
 - .1 provide written confirmation from each trade contractor under Divisions 20 to 25 of the Work, that their respective FPLS related equipment or systems, or parts thereof, have been installed in accordance with the design and are ready for integrated FPLS testing,
 - .2 provide test verification reports from the organization that verified the installation of any FPLS system as required by referenced codes or standards, such as NFPA or ULC.
 - .3 provide a copy of inspection reports from an authority having jurisdiction governing a FPLS system.
- .3 Coordinate with the ITC and provide all necessary resources to implement the integrated FPLS test plan.

3.4 Final Test Results Report

- .1 The final test report will be prepared by the ITC.

END OF SECTION

EFFLUENT DECONTAMINATION SYSTEM

22 66 86

1 GENERAL

1.1 Scope

- .1 Provide ~~packaged, skid-mounted~~ new controls for existing effluent decontamination ~~system tank~~ and accessories for handling of waste water from;
 - .1 contaminated laboratory waste drainage ("LDC"),

1.2 Related Sections

- .1 Without limiting the scope of work or applicability of other specification sections, the work under this section directly integrates with or refers to the following specification sections;
 - .1 20 05 12 Common Electrical Requirements for Mechanical Services
 - .2 20 05 49.23 Seismic Qualification for Mechanical Equipment

1.3 Definitions

- .1 The following definitions apply to this specification section:
 - .1 **BAS** – Building Automation System, a distributed direct digital control system for supervision and control of building services.
 - .2 **HMI** – Human Machine Interface including electronic displays and/or electronic command input devices.
 - .3 **PLC** – programmable logic controller

1.4 Applicable Codes and Standards

- .1 Installation codes and standards:
 - .1 CSA B51 Boiler, pressure vessel, and pressure piping code.
 - .2 ANSI/ISA 5.1 Instrumentation Symbols and Identification
- .2 Product standards:
 - .1 ASTM B88 Standard Specification for Seamless Copper Water Tube
 - .2 ASME B16.15 Cast Bronze Threaded Fittings, Classes 125 and 250
 - .3 ASME B16.18 Cast Copper Alloy Solder Joint Pressure Fittings
 - .4 ASME B16.22 Wrought Copper and Copper Alloy Solder Joint Pressure Fittings
 - .5 AWS A5.8 Brazing Filler Metal.
 - .6 CSA C22.2 No. 14 Industrial Control Equipment
 - .7 CSA C22.2 No. 94.1 Enclosures for Electrical Equipment, Non-Environmental Considerations
 - .8 MSS SP-110 Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends

1.5 Registration and Inspection

- .1 Before commencing work, make arrangements and pay for registration and inspection by the AHJ responsible for boiler and pressure vessel safety for the following pressure piping systems:
 - .1 thermal reduction pressure vessel equipment and associated pressure piping, fittings and accessories which penetrate the pressure boundary.

1.6 Design Criteria

- ~~.1 Piping design and installation code:~~
 - ~~.1 To CSA B51 and ASME B31.3 for Normal Fluid service.~~
- ~~.2 System design criteria:~~
 - ~~.1 Design Temperature: _____ °C (____ °F)~~
 - ~~.2 Design Pressure: _____ kPa (____ psi)~~
 - ~~.3 Operating Pressure: _____ kPa (____ psi)~~
- ~~.3 Inlet effluent conditions:~~
 - ~~.1 Flow rate: refer to equipment schedule at the end of this section.~~
 - ~~.2 Maximum temperature: _____ 5°C (41°F)~~
 - ~~.3 Contaminant type: _____~~
- ~~.4 Outlet effluent condition:~~
 - ~~.1 Maximum temperature: _____ 60°C (140°F).~~
- ~~.5 Ambient temperature: _____ 35°C maximum.~~

1.7 Seismic Qualification

- .1 Seismically qualify (certify) the following equipment specified herein:
 - ~~.1 packaged equipment with structural support frame, piping and related piping components (Level III),~~
 - ~~.2 storage tank(s), process tank(s), and inter-tank transfer pump(s) (Level III),~~
 - ~~.3 motor controllers (Level III),~~
 - .4.1 main system control panel and instrumentation (Level III).
- .2 The seismic qualification of the above-listed equipment is to conform to Specification section 20 05 49.23 for the following seismic qualification level and certification method:
 - .1 Functional seismic qualification (Level III) for atmospheric liquid fuel storage tanks: by static analysis with sloshing effect or by dynamic analysis,
 - .2 Functional seismic qualification (Level III) for electrical control equipment: by shake table testing,
 - .3 Functional seismic qualification (Level III) for non-vibration isolated equipment: by static analysis, dynamic analysis or shake table testing,
- .3 The following equipment specific seismic force parameters are to be used:

C _p	A _r	R _p	h _x /h _n
1.00	1.00	1.25	1.0

1.8 Submittals

- .1 Submit manufacturer catalogue cut-sheets for the materials specified herein.
- .2 Submit project specific shop drawings to include;
 - .1 general arrangement drawings, including overall equipment dimensions,
 - .2 piping and wiring interconnection details where packaged equipment utilizes multiple support frames for shipping purposes,
 - .3 piping flow diagrams including identification of all process piping,

- .4 process and instrumentation drawing (P&ID), prepared in conformance with ISA 5.1,
- .5 electrical panel interior wiring schematics (motor power and control power),
- .6 electrical field wiring interconnection and termination drawings,
- .3 ~~[[Submit certification test certificate for seismic qualification in accordance with Specification section 20 05 49.]~~

~~1.9~~ **Quality Control**

- ~~.1 Manufacturer Factory Acceptance Testing ("FAT");~~
 - ~~.1 FAT to be performed in the presence of contractor's representative(s) for each tested equipment or system.~~
 - ~~.2 FAT are in addition to manufacturer's standard production tests.~~
 - ~~.3 Deficiencies discovered during FAT will be corrected prior to shipping of product.~~
 - ~~.4 Before shipping of equipment from the factory to the place of the Work, perform factory testing in accordance with the manufacturer quality control program and as follows;~~
 - ~~(a) electrical circuit test including motor operation,~~
 - ~~(b) fail safe operation and safe shut-down of equipment with no power to PLC,~~
 - ~~(c) automatic restart of equipment after a power failure.~~
 - ~~.5 Include a signed and dated factory performance test with the shipped equipment and submit a copy of the test directly to the Owner at time of shipping.~~
- ~~.2 ~~[[Site Acceptance Testing~~~~
 - ~~.1 Manufacturer to provide services of manufacturer's authorized service personnel to in accordance with the requirements of Part 3 of this specification.]~~

2 PRODUCTS

2.1 ~~Packaged~~ Effluent Decontamination System

- .1 General;
 - .1 ~~Factory assembled and tested packaged~~ effluent decontamination system including;
 - (a) existing structural support frame,
 - (b) existing storage tank(s), ~~process tank(s), and inter-tank transfer pump(s),~~
 - ~~(c) [steam injection heater][water heater and circulating pump],~~
 - ~~(d) ~~[[UV reactors,~~~~
 - ~~(e)(c) Interconnection existing~~ piping, fittings and valves,
 - ~~(f)(d) existing~~ service piping connection with service isolation valves,
 - ~~(g) motor controller,~~
 - ~~(h)(e) new~~ main system control panel and instrumentation,
 - ~~(i)(f) new~~ accessories where indicated.

Standard of Acceptance

- Newterra
- BioSafe Engineering
- .2 Pressure vessels, pipe fittings and flanges, safety devices, and piping accessories that have a design pressure or maximum allowable working pressure greater than 103 kPa (15 psi) are to have Canadian Registration Numbers ("CRN") in accordance with CSA B51.

- (a) where equipment or piping in a packaged system are subject to requiring a CRN, either the assembled unit or the individual components shall have the CRNs.
- .3 Arrange equipment to allow maintenance access, including replacement of components or equipment, without requiring removal of any other equipment.
- .4 ~~[[Design equipment, piping and supporting frame to withstand the design seismic forces in accordance with Specification section 20 05 49. Design equipment support frame to allow attachment of seismic restraint hold-down bolts.]~~
- .5 Refer to the equipment performance schedule(s) at the end of this Specification section.

2.2 — Support Frame

.1 — Arrangement:

- ~~.1 A single common frame system, or multi-frame systems to suit shipping and handling requirements depending on size of the packaged system.~~
- ~~.2 Maximum outside dimensions for each frame system assembly: ● mm wide x ● mm long x ● mm high.~~

.2 — Structural frame:

- ~~.1 full continuously welded connections, square shape, carbon steel tubing to ASTM A500, with forklift pockets and mounting tabs to secure frames to the floor, and carbon steel checker plate deck,~~
- ~~.2 designed to support all equipment loads under operating and seismic conditions plus an additional live load of 3 kN (675 lbf),~~

.3 — Finish:

- ~~.1 bottom of skid: primer coated with epoxy finish coat,~~
- ~~.2 all other surfaces: prime coated with epoxy, urethane or powder coated finish coat;~~

.4 — Interconnecting piping and wiring:

- ~~.1 where packaged equipment uses multiple separate structural frames, design any interconnecting piping and wiring to allow simple field connections,~~
- ~~.2 include any required spool piping or wiring harnesses for field connection.~~

2.3 — Inlet Storage Tank

.1 — Tank:

- ~~.1 open vented atmospheric tank (non-pressurized tank),~~
- ~~.2 UV resistant high density polyethylene (HDPE), with;~~
 - ~~(a) bulkhead fittings for waste inlet, vent, drain and outlet connections,~~
 - ~~(b) pressure-rated threaded fittings for instrumentation, recirculation line, sample line and chemical injection line,~~
 - ~~(c) removable gasketed tank lid with NPS 3 vent connection,~~
 - ~~(d) sloped bottom for complete positive drainage.~~

.2 Accessories:

- ~~.1 High level alarm switch (for each tank),~~
- ~~.2 Low level alarm switch (for each tank),~~
- ~~.3 tank level transmitter (for each tank),~~
- ~~.4 valved manual drain.~~

2.42.2 Pipe/Tube, Fittings, Valves and Accessories

- .1 Tube:
 - .1 copper to ASTM B88, type K hard drawn.
- .2 Fittings:
 - .1 cast bronze fittings to ASME B16.18, or wrought copper and bronze fittings to ASME B16.22,
 - .2 threaded fittings including unions to ASME B16.15, Class 250.
- .3 Joints:
 - .1 silver brazing alloy to AWS A5.8 classification BCUP-5.
- .4 Valves:
 - .1 NPS 2 and under:
 - (a) to MSS SP-110, 600 CWP/150 SWP, three-piece bronze or DZR brass body, full port, stainless steel ball, PTFE seat and seals, threaded ends.
 - (b) minimum pressure rating: 2300 kPa (335 psig) at 121°C (250°F).
 - .2 NPS 2-1/2 to 4:
 - (a) to MSS SP-110, 1500 CWP/150 SWP, three-piece type, ASTM A351 CF8M stainless steel body, full port, stainless steel ball, PTFE gaskets and seat, threaded ends.
 - (b) minimum pressure rating: 2300 kPa (335 psig) at 121°C (250°F).

~~.5 Accessories:~~

- ~~.1 valved sample ports provided with caps for storage tank, process tank and after UV reactors.~~

2.52.3 Main System Control Panel

- .1 General;
 - .1 PLC based control system ~~with integral motor controllers (starters)~~ in a common control panel, ~~factory mounted on the package skid~~ installed where indicated and factory wired to ~~motors,~~ instrumentation, ~~and control valves,~~
 - .2 Listed to CSA C22.2 No. 14,
 - .3 Designed for single point power supply for controls, pumps, and water heater;
 - (a) power supply: ~~[208]/[600]/60/3~~ 120/60/1 V/Hz/Ph
 - (b) minimum circuit ampacity: refer to equipment schedule at end of this section.
 - (c) maximum available fault current: [10] kA RMS
 - .4 Factory tested prior to shipping.
- .2 Enclosure:
 - .1 to CSA C22.2 No. 94.1 Type 2, 3, 3R or 4 with tool-lockable front panel door ~~and cooling fans,~~
 - .2 fused main panel disconnect switch,
 - .3 120 VAC/24 VDC power supplies for PLC and HMI, with fused secondary,
 - .4 output relays for remote monitoring, form C, rated 2 A @ 120 VAC,
 - .5 branch circuit protection with circuit breakers for powered devices and control system power,
 - .6 surge and lightning protection equipment,
 - .7 numbered terminals for connection of external power and control wiring,
 - ~~.8 enclosure door mounted devices:~~
 - ~~(a) HMI display,~~

- ~~(b) main system power On/Off control switch,~~
- ~~(c) motor HOA switches,~~
- ~~(d) emergency Stop button (push and maintained stop position),~~
- ~~(e) motor run indicating light — green (each motor),~~
- ~~(f) summary alarm indicating light — red.~~

~~.3 Motor starters:~~

- ~~.1 soft start or full voltage non-reversing motor starter with electronic motor overload protection,~~
- ~~.2 unfused disconnect switch with door interlock,~~
- ~~.3 branch circuit protection with circuit breakers,~~
- ~~.4 120 VAC control transformer with line and load circuit protection,~~
- ~~.5 “Hand-Off-Auto” selector control switch, and green indicating light for motor run indication.~~

.4.3 Programmable Logic Controller (PLC):

- .1 compact, modular, programmable logic controller with sufficient memory to perform all performance requirements and to maintain trend log history,
- .2 local, direct coupled or expanded I/O modules,
- .3 built-in removable terminal blocks with finger safe cover over connections,
- .4 input filtering and output surge suppression,
- .5 digital (discrete) and analog inputs and outputs of a number to suit functional requirements and remote control and monitoring functions,
- .6 control system capability: discrete control, Boolean logic control, and proportional/ integral/ derivative (PID) mode control.
- .7 factory programmed for operating control and graphic display, ~~including operating status and alarms of dryers using data transfer via Ethernet TCP/IP.~~
- .8 trending information available from Ethernet port or downloadable to a flash drive, and at BAS

.5.4 Building Automation System interface:

- .1 interface type: ~~[hardwired]~~ network communications by BACnet MODBUS RTU.
- .2 inputs (control):
 - (a) System enable/disable.
- .3 outputs (monitoring):
 - (a) storage tank level,
 - ~~(a)(b) storage tank high level alarm~~
 - ~~(b) process tank temperature,~~
 - ~~(c) process tank low temperature alarm (not at temperature at end of heating time),~~
 - ~~(d) process tank high temperature alarm,~~
 - ~~(e) process tank level alarms (Low, High)~~
 - ~~(f) chemical container low level alarm,~~
 - ~~(g) pump status (On/Off, and Alarm)~~
 - ~~(h) heater status (On/Off, and Alarm)~~
 - ~~(i) discharge control valve failed open (= valve open when discharge pumps are OFF)~~
 - ~~(j) cold water cooling valve failed open (= valve open after expected time duration),~~

~~6.5~~ Operator interface:

- .1 HMI display: nominal 175 mm (7 in) touchscreen, TFT colour display, with graphical and numeric display:
 - (a) P&ID display with active status and measured valued conditions,
 - (b) motor run time display,
 - (c) chemical container level indication.
 - (d) audible alarm with silence switch.

~~7.6~~ Instrumentation:

- .1 effluent storage tank:
 - (a) level transmitter,
 - (b) high ~~and low~~ level switches,

~~2~~ process tank:

- (a) liquid temperature transmitter,
- (b) high and low level switches,

~~3~~ pump run status,

~~4.2~~ valve position switches (open, closed),

~~5~~ electric heater operating status,

~~6.3~~ chemical container: discrete input only for owner supplied chemical container low level switch.

~~8~~ Sequence of Operation:

- ~~.1 Programmed control sequence to include the following automated functions:~~
 - ~~(a) chemical injection to storage tank;~~
 - ~~(b) transfer pump operation to fill process tank;~~
 - ~~(c) control of water heater to maintain the required time at temperature process;~~
 - ~~(d) addition of cooling water prior to discharge;~~
 - ~~(e) discharge pumps operation to drain the process tank;~~
 - ~~(f) activation of UV units.~~

2.62.4 Control and Power Wiring

- .1 Conform to the requirements of Specification section 20 05 12.

3 EXECUTION

3.1 Installation

- .1 Install controls ~~effluent decontamination skid~~ in accordance with the manufacturer installation instructions.
- .2 Complete installation startup checks in accordance with the manufacturer's written instructions.

3.2 Electrical Supply and Wiring

- .1 {Power supply will be provided under Electrical Division 26 at the required voltage and will be terminated in at the main control panel.} ~~{Provide power feeders from the designated power distribution panel to the main control panel.}~~

3.3 Building Automation System Integration

- .1 Coordinate with the contractor under Division 25 for [termination of hardwired interface connections] [configuration of ~~Modbus RTU to BACnet~~ BACnet MSTP communications]. It is in contract for this project to communicate with the building via BACnet MSTP. If manufacturer's controller is provided with MODBUS RTU only, contractor must configure to communicate with existing BACnet system.

3.4 Manufacturer Services

- .1 Provide the services of the system manufacturer factory-trained service representative or their authorized agent to provide on-site assistance for inspection, start-up, commissioning and testing of the equipment, and for training operators personnel in the use of the system.
- ~~.2 Provide a written commissioning procedure that includes pre-start verification checklists, and functional performance validation of the equipment that includes at a minimum;~~
 - ~~.1 chemical dosing rates,~~
 - ~~.2 time at temperature tests in the thermal process tank,~~
 - ~~.3 heater water temperatures,~~
 - ~~.4 process control logic checks.~~
- ~~.3.2~~ Provide an installation and start-up report on completion of commissioning of the equipment.

3.5 Training and Instruction

- .1 Comply with the training requirements of specification section 20 01 01.
- .2 Arrange for manufacturers' representatives to provide instructions of Owners staff in use and maintenance of the equipment. Include instructions for conducting sample testing, including frequency of tests during the first two months of in-service operation to verify performance of the system.

~~3.6 Equipment Performance Tables~~

- ~~.1 The following table(s) identify the performance requirement for the compressor-based medical air systems.~~

Table 1—Equipment Schedule			
Equipment Tag	ME-●		
Parameter		Rating	Units
Inlet Storage Tank	Capacity	●	Litres
	Diameter	●	mm

End of Section

EXHAUST FAN SCHEDULE																				
REF. LETTER	DESIGNATION	PERFORMANCE DATA			MOTOR & FAN					VIBRATION			DRIVE	FEI	POWER (BHP)	STARTER			REMARKS	
		CAPACITY (L/S)	EXTERNAL S.P (Pa)	TOTAL S.P (Pa)	TYPE	[V/PHIHz]	MOTOR HP (KW)	FAN SPEED (RPM)	ENCLOSURE	STATIC DEFLECTION (mm)	ISOLATOR TYPE	BASE TYPE				ACCESSORIES IN COVER	REMOTE ACCESSORIES	ON BAS		FEEDER SIZE
F-4	DECONTAMINATION ROOM EXHAUST FAN	377.6	934.1	934.1	SWSI ARRANGEMENT 10, CLASS II	575/3/60	0.746	3085	OPEN	19	S1	C	BELT	1.30	0.614	CASING DRAIN, ACCESS DOOR IN SCROLL CASING, STUFFING BOX TYPE SHAFT SEALS	HOA	YES	C/W BELT GUARD, DRAIN CONNECTION, HIGH TEMPERATURE CONSTRUCTION - 500°F, AND WEATHER COVER	

GRILLE & DIFFUSER SCHEDULE						
REF. LETTER	APPLICATION	MANUFACTURER DATA		OPOSED BLADE DAMPER	FINISH	REMARKS
		MANUFACTURER	MODEL DESCRIPTION SIZE INxIN (MMxMM)			
A1	CEILING SUPPLY DIFFUSER	EH PRICE	SPD 12"x12" (300x300)	-	HOSPITAL WHITE	INLET SIZE AS INDICATED ON DRAWINGS.
A2	CEILING SUPPLY DIFFUSER	EH PRICE	SPD 24"x24" (600x600)	-	HOSPITAL WHITE	INLET SIZE AS INDICATED ON DRAWINGS.
C1	RETURN/EXHAUST GRILLE	EH PRICE	80 EGG CRATE 12"x12" (300x300)	-	HOSPITAL WHITE	-
C2	RETURN/EXHAUST GRILLE	EH PRICE	80 EGG CRATE 24"x24" (600x600)	-	HOSPITAL WHITE	-

SUPPLY HOT WATER REHEAT TERMINAL BOX UNIT SCHEDULE														
MANUFACTURERS DATA					REHEAT COIL DATA								DISCHARGE DUCT SIZE	REMARKS
UNIT SIZE	INLET DIA (in.)	SELECTION MFG	MODEL No.	MAX AIR FLOW (CFM)	AIR			WATER						
					ENT. TEMP. (°F)	MIN LEAV. TEMP. (°F)	FRICTION (S.P. DROP) (in. WG)	ENT. TEMP. (°F)	MAX. FLOW (GPM)	MAX. P.D. (ft WG)	RUNOUT PIPE SIZE (NPS)	ROWS		
4	4	NAILOR	D30RW	145	55	78	1.0	180	0.68	0.38	0.5	1	10 x 10	
6	6	NAILOR	D30RW	350	55	78	1.0	180	1.09	0.95	0.5	1	10 x 10	
8	8	NAILOR	D30RW	715	55	78	1.0	180	1.97	4.16	0.5	1	12 x 12.5	
10	10	NAILOR	D30RW	1000	55	78	1.0	180	2.53	7.33	0.5	1	14 x 12.5	
REFER TO DRAWINGS FOR LOCATIONS AND QUANTITIES. ALL SIZES SCHEDULED MAY NOT APPEAR ON DRAWINGS														



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SUNNYBROOK HEALTH
SCIENCE CENTRE
EMERGENCY
DEPARTMENT
RENOVATIONS



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

MARK	DATE	DESCRIPTION
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1	2026-03-31	ISSUED FOR 100% CD
2	2026-04-15	RE-ISSUED FOR 100% CD
3	2026-08-20	ISSUED FOR PERMIT & TENDER
4	2026-09-23	ISSUED FOR ADDENDUM M-01

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Professional
Certification

Sheet Name
MECHANICAL
SCHEDULES

Scale
N.T.S.

Sheet Number

M0-10

SUNNYBROOK HEALTH
SCIENCE CENTRE
EMERGENCY
DEPARTMENT
RENOVATIONS

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

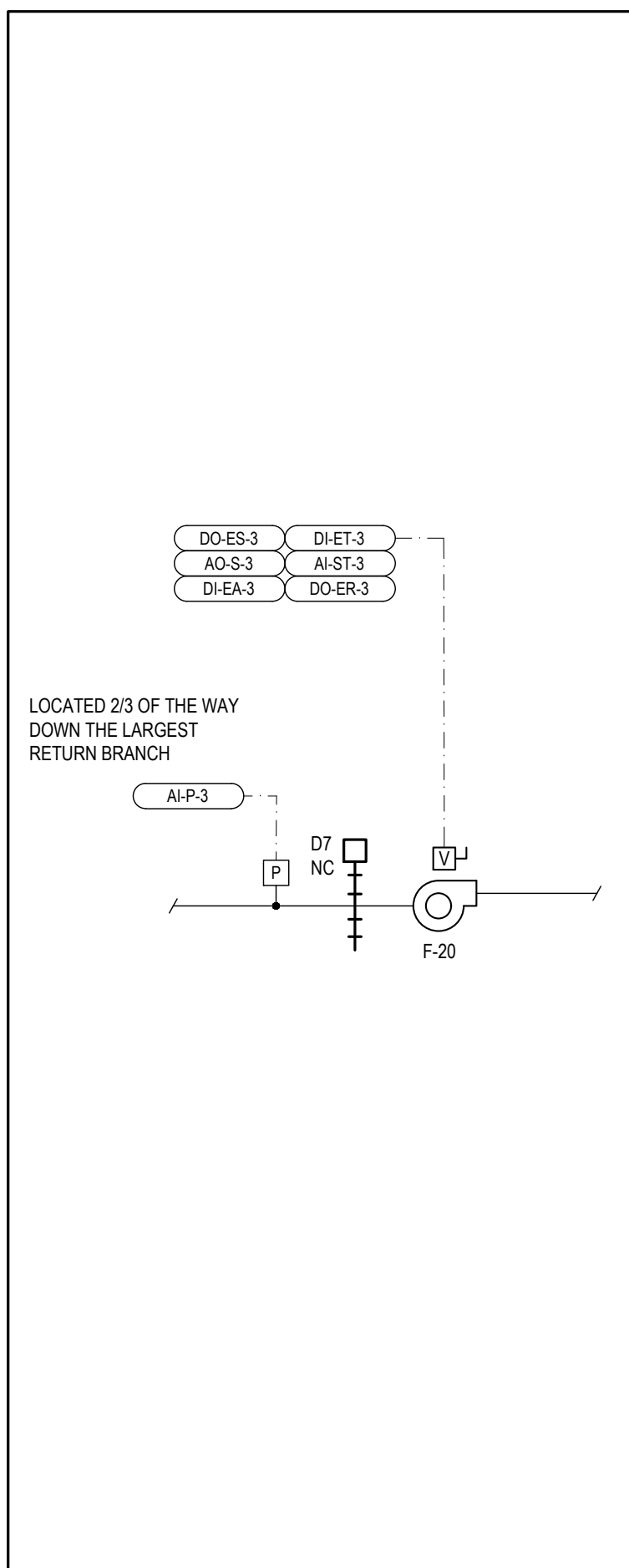
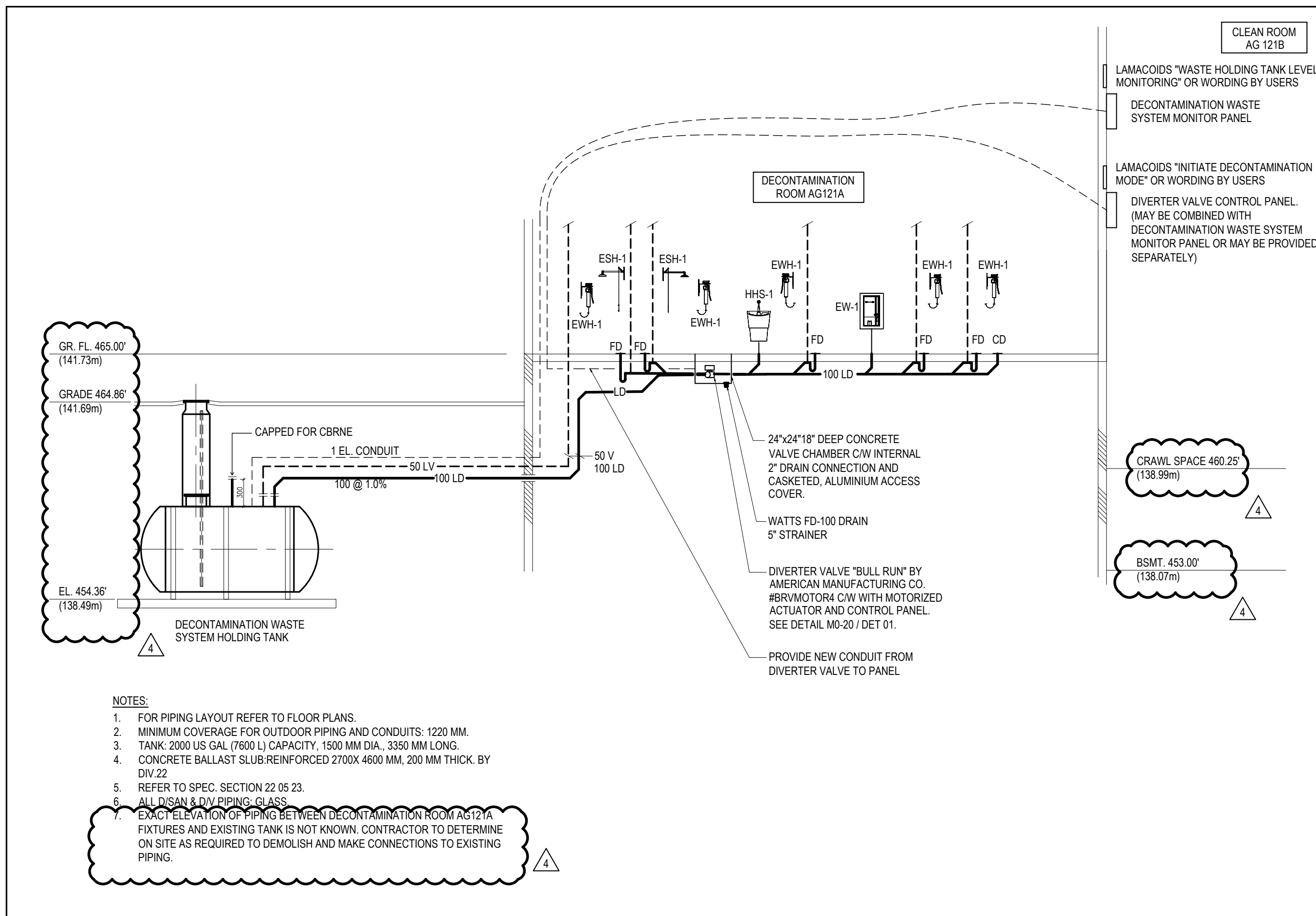
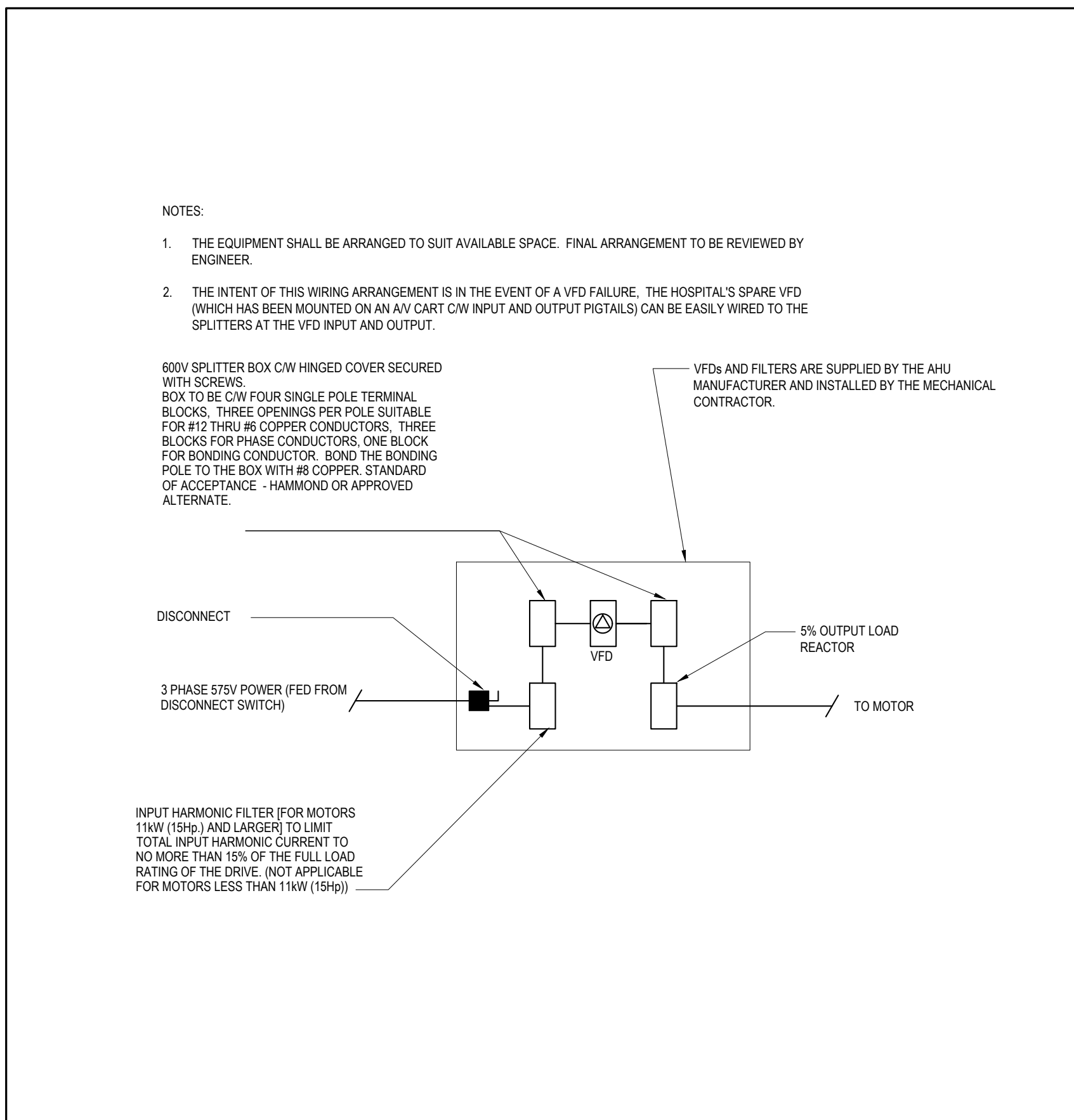
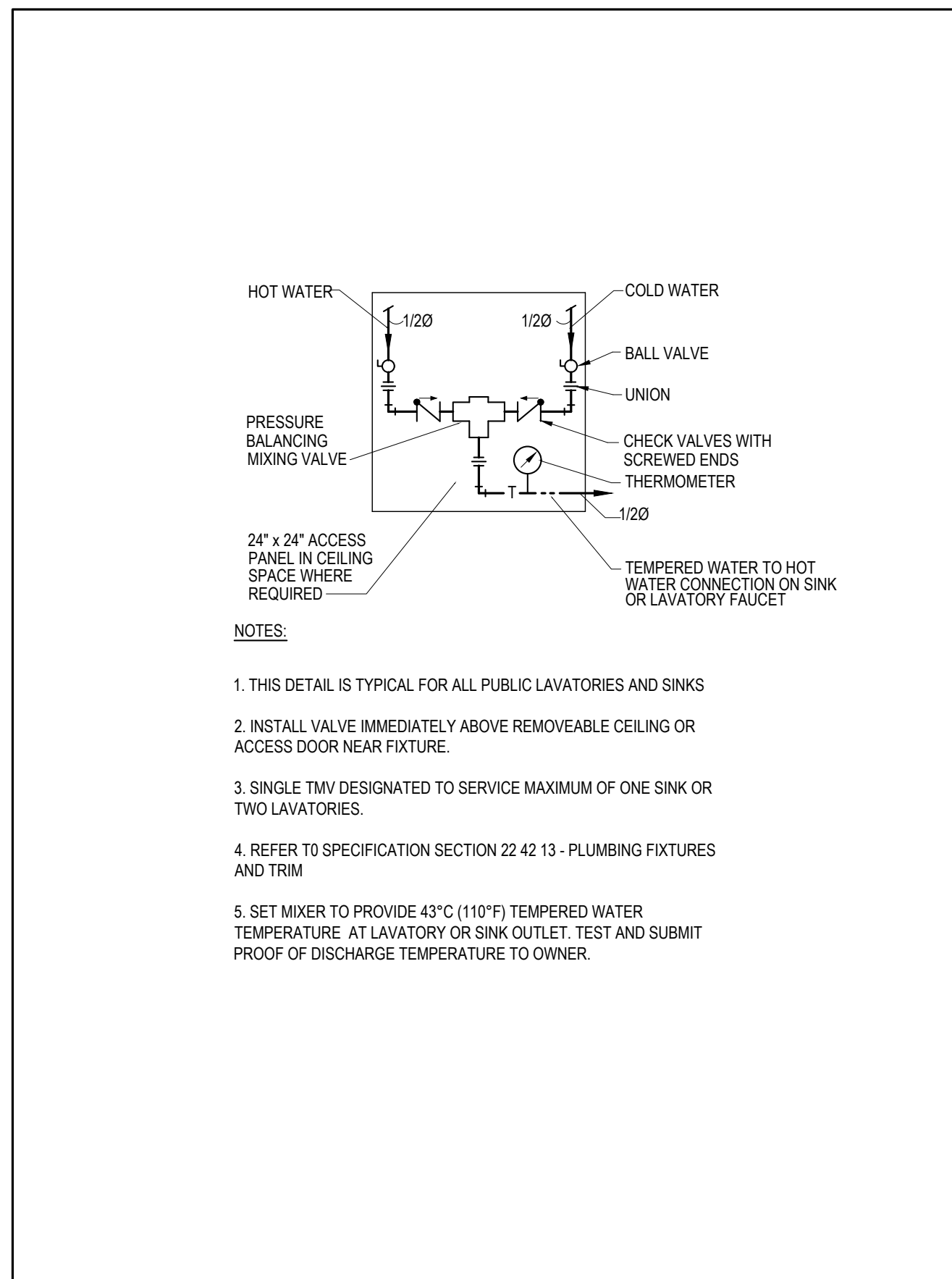
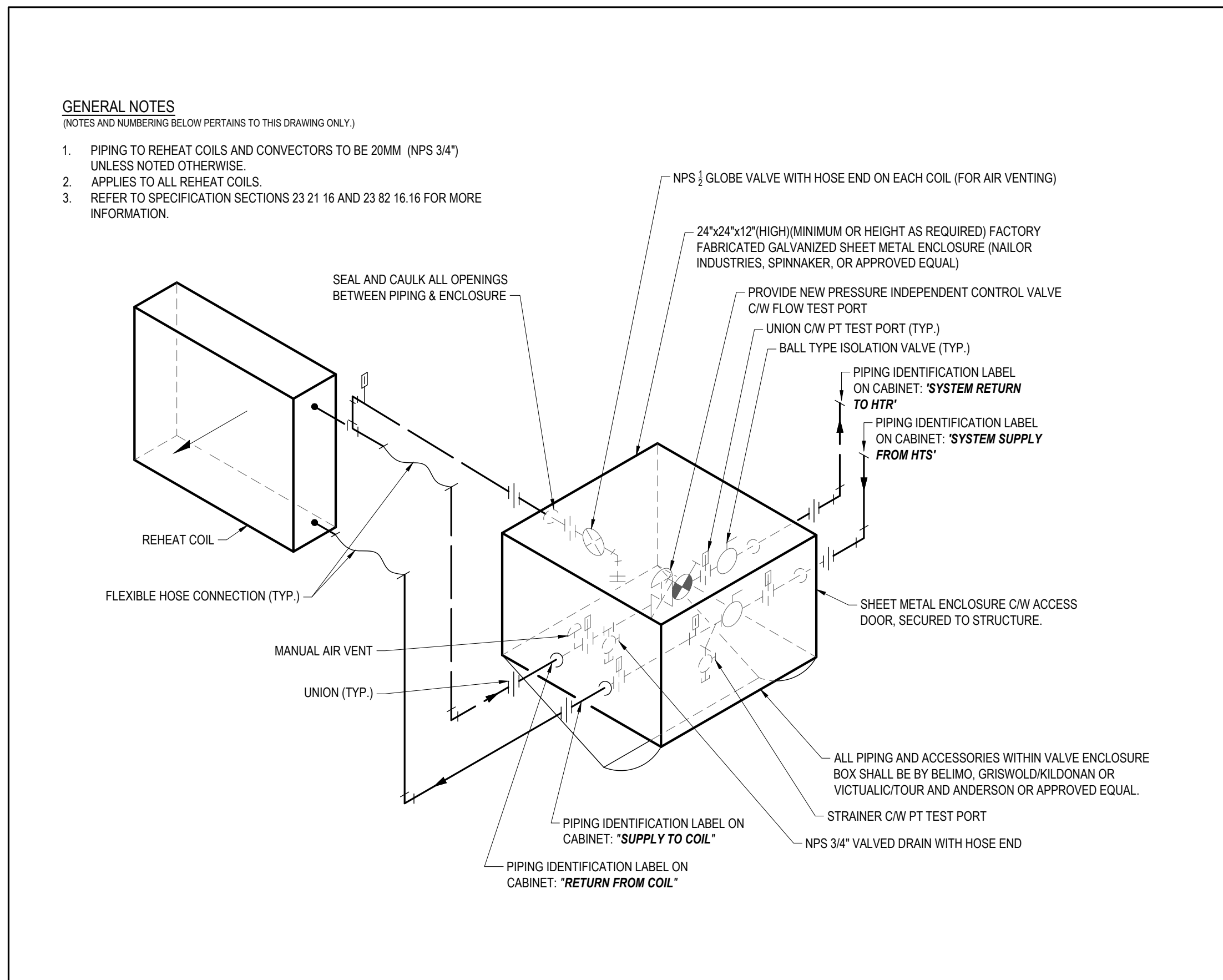
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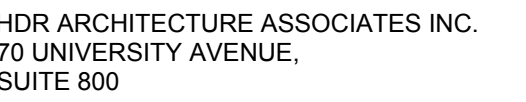
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3	2026-08-20	ISSUED FOR PERMIT & TENDER
4	2026-09-23	ISSUED FOR ADDENDUM M-01

Project Number	10428557	(2250227)
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Professional
CertificationSheet Name
**MECHANICAL
DETAILS &
SCHEMATICS I**Scale
AS NOTED

Sheet Number

M0-20**3 DECON. RM EXH. FAN CONTROL**
M0-20 N.T.S.**2 DECONTAMINATION WASTE SYSTEM**
M0-20 N.T.S.**6 ELECTRICAL INSTALLATION CONFIGURATION FOR VFDs**
M0-20 N.T.S.**5 TEMPERATURE MIXING VALVE (TMV)**
M0-20 N.T.S.**4 REHEAT COIL VALVE TRAIN WITH PIPING CONNECTIONS**
M0-20 N.T.S.



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

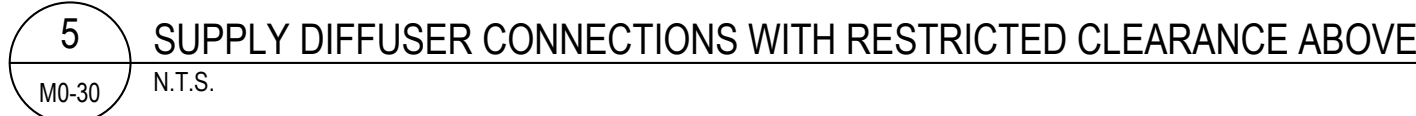
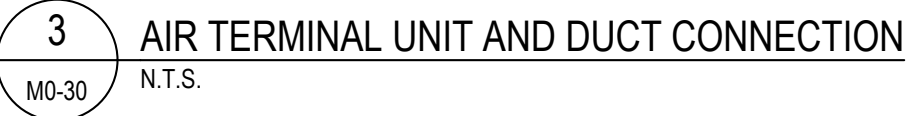
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Sheet Name
**MECHANICAL
DETAILS &
SCHEMATICS II**

Sheet Number

M0-30



SUNNYBROOK HEALTH
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EMERGENCY
DEPARTMENT
RENOVATIONS

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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Project Number	10428557	(2250227)
Original Issue	12/19/18 -	

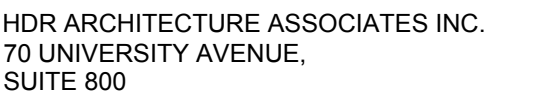
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Sheet Name
MEDICAL GAS
DETAILS

Scale
AS NOTED
Sheet Number

M0-40





Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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Project Number	10428557	(2250227)
Original Issue	12/19/18 -	

Professional Certification

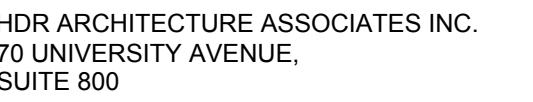
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DECONTAMINATION
ROOM - BASEMENT
PLUMBING - DEMO

Scale
1 : 50

Sheet Number

4

M1-00



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

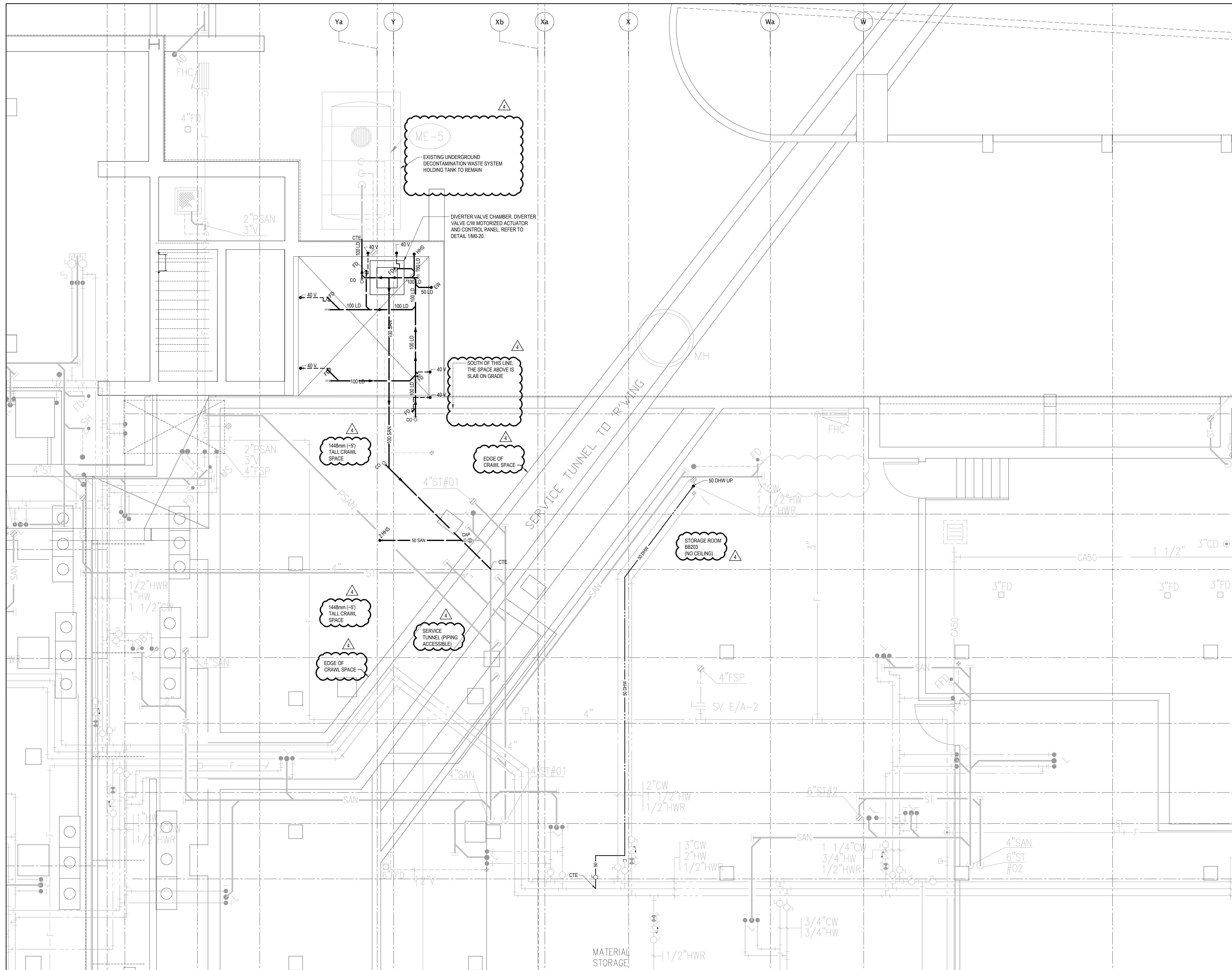
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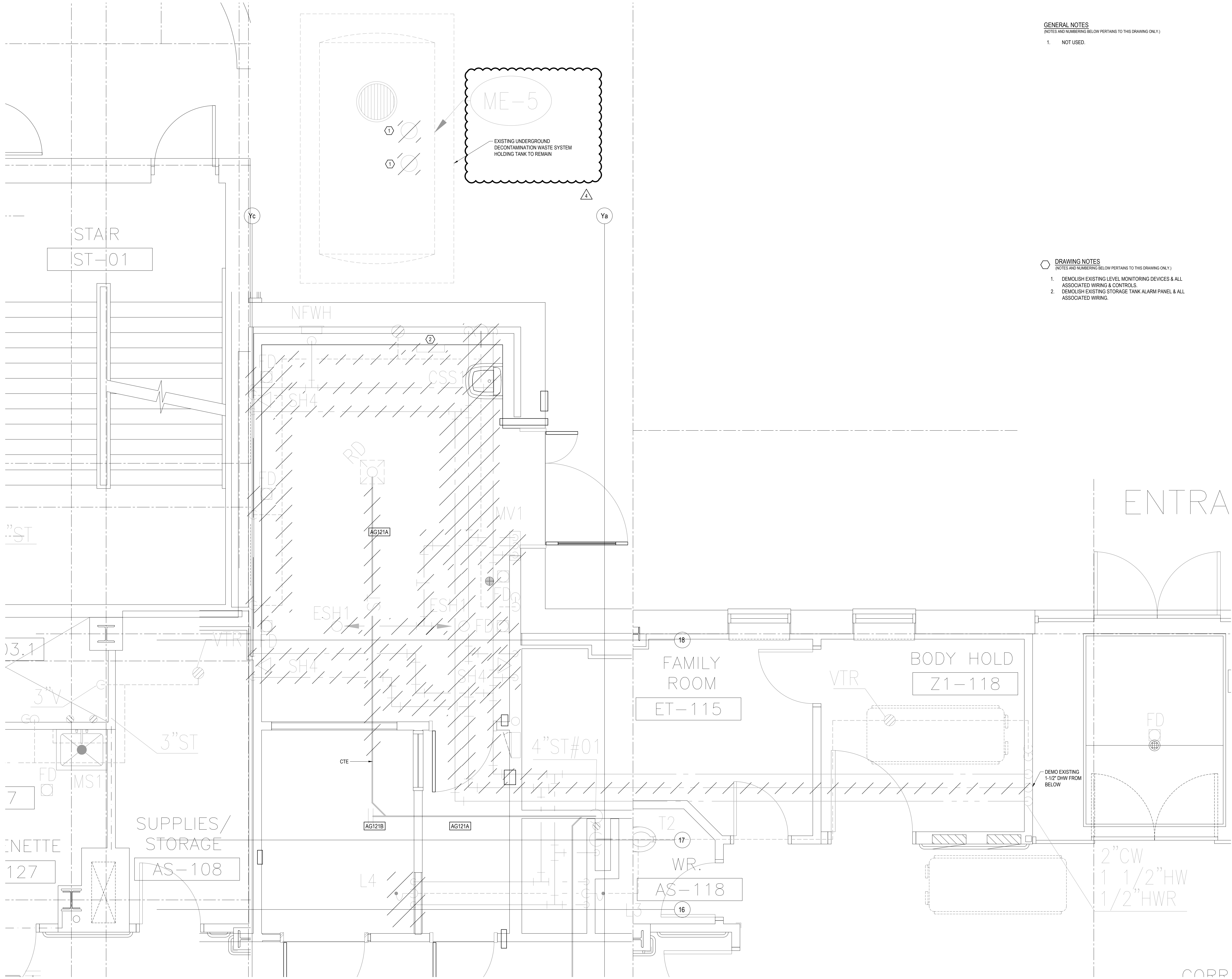
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Sheet Number

M1-01

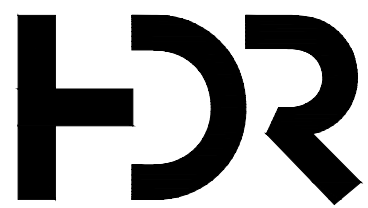


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GENERAL NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)
1. NOT USED.

DRAWING NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)
1. DEMOLISH EXISTING LEVEL MONITORING DEVICES & ALL ASSOCIATED WIRING & CONTROLS.
2. DEMOLISH EXISTING STORAGE TANK ALARM PANEL & ALL ASSOCIATED WIRING.



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SUNNYBROOK HEALTH
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EMERGENCY
DEPARTMENT
RENOVATIONS

Project Manager HDR
Project Designer HDR
Project Architect HDR
Mechanical Engineer HHA
Electrical Engineer HHA
Interior Designer HDR
Equipment Planner HDR
Wayfinding ---
Drawn By Author

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3	2026-08-20	ISSUED FOR PERMIT & TENDER
4	2026-09-23	ISSUED FOR ADDENDUM M-01

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Original Issue 12/19/18 -

Professional
Certification

Sheet Name
DECONTAMINATION
ROOM - GROUND
FLOOR PLUMBING -
DEMO

Scale
1 : 25
Sheet Number

M1-02

SUNNYBROOK HEALTH
SCIENCE CENTRE
EMERGENCY
DEPARTMENT
RENOVATIONS

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

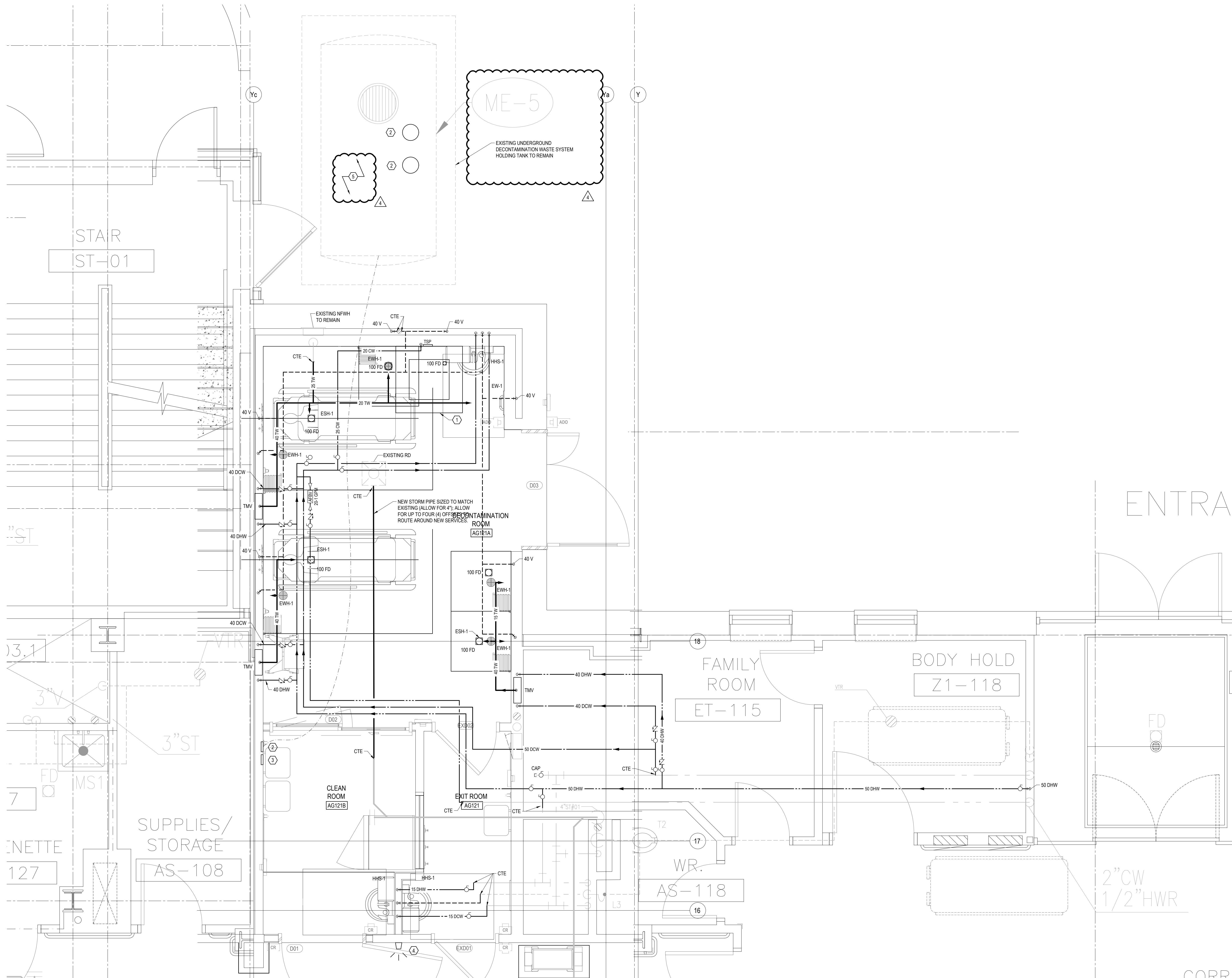
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4	2026-09-23	ISSUED FOR ADDENDUM M-01

Project Number	10428557	(2250227)
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Professional
CertificationSheet Name
**DECONTAMINATION
ROOM - GROUND
FLOOR PLUMBING -
NEW WORK**Scale
1 : 25

Sheet Number

M1-03

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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Project Number	10428557	(2250227)
Original Issue	12/19/18 -	

Professional Certification

Sheet Name

Sheet Name
DECONTAMINATION
ROOM - GROUND
FLOOR MED GAS -
DEMO & NEW WORK

Scale
1 : 25

Sheet Number

M1-04

GENERAL NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. ALL ITEMS WITHIN THE DECONTAMINATION ROOM SHALL BE WATERPROOF AND MADE FROM CORROSION-RESISTANT MATERIALS, EXCLUDING ITEMS ENTIRELY ENCLOSED WITH THE WALL OR CEILING CAVITIES OR AS NOTED IN DRAWING NOTE 1.

 DRAWING NOTES

(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. EXISTING MEDICAL GAS OUTLETS TO BE REMOVED AND ASSOCIATED PIPING CUT BACK TO CEILING.

EACH NEW MEDICAL GAS OUTLET SHALL BE PROVIDED WITH A WATER-TIGHT ACCESS DOOR TO REMAIN ON WHEN MEDICAL GASES ARE NOT REQUIRED.

EVERY TIME THE DECONTAMINATION ROOM SHOWERS ARE USED WHILE A WATER-TIGHT COVER IS OPEN, THAT DISS OUTLET MUST BE REPLACED WITH NEW. THIS IS APPLICABLE WHEN A PATENT IS DECONTAMINATED AND THEN TREATED WITH MEDICAL GASES BEFORE LEAVING THE ROOM.

CONTRACTOR SHALL INSTALL LAMACOID LABEL ABOVE OUTLETS:
"REPLACE DISS OUTLET AFTER EACH USE IF ACCESS DOOR WAS
OPENED WHILE ROOM IS WET."

SUNNYBROOK HEALTH
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EMERGENCY
DEPARTMENT
RENOVATIONS

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

MARK	DATE	DESCRIPTION
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3	2026-08-20	ISSUED FOR PERMIT & TENDER
4	2026-09-23	ISSUED FOR ADDENDUM M-01

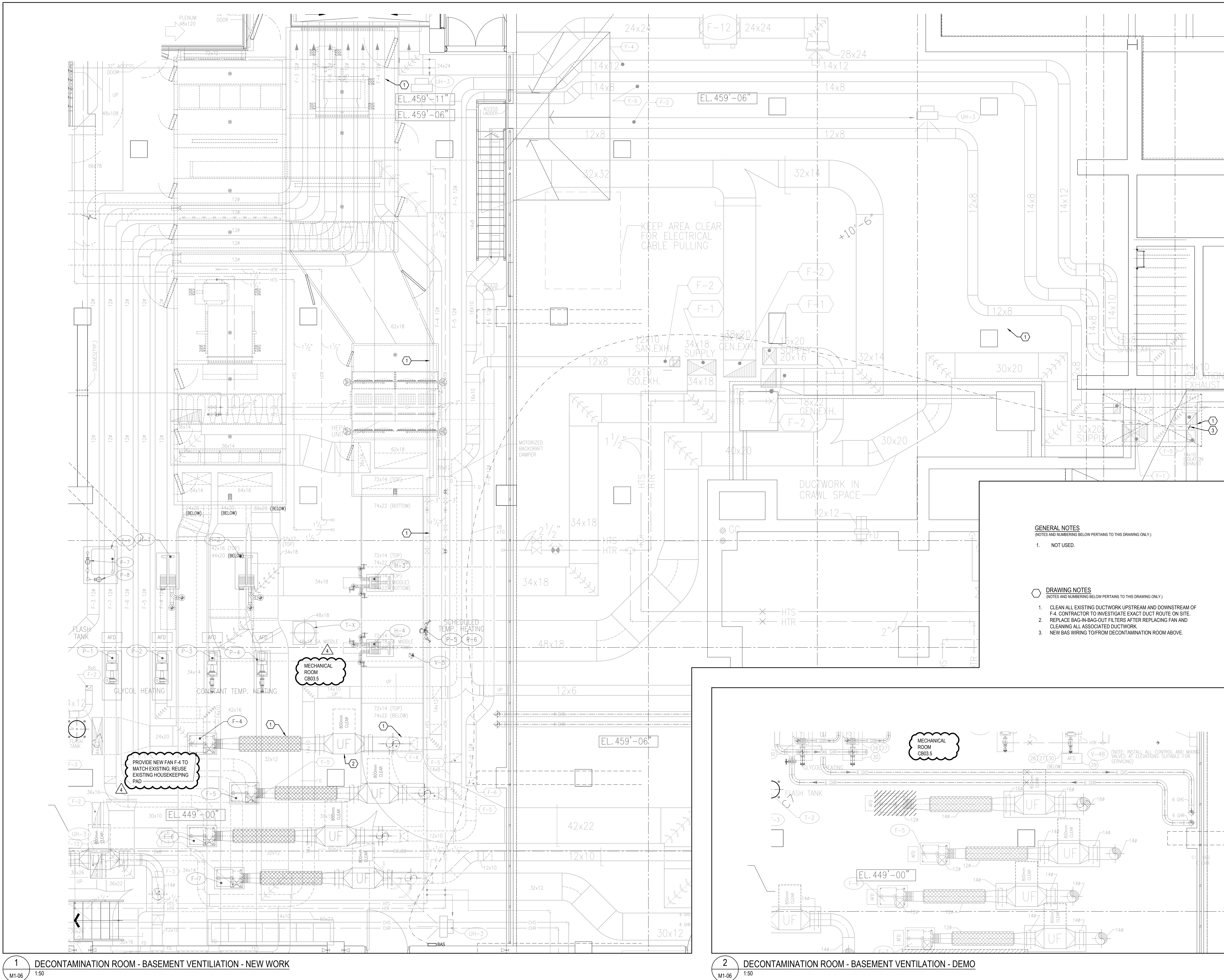
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Original Issue	12/19/18	-

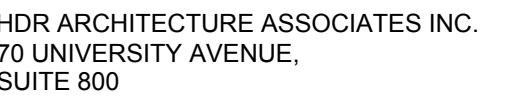
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**DECONTAMINATION
ROOM - BASEMENT
VENTILATION**

Scale

1 : 50

Sheet Number

M1-06



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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Professional Certification

Sheet Name
DECONTAMINATION
ROOM - GROUND
FLOOR VENTILATION
- DEMO

Scale
1 : 25

Sheet Number

M1-07

GENERAL NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. NOT USED.

 DRAWING NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. NOT USED.

SUNNYBROOK HEALTH
SCIENCE CENTRE
EMERGENCY
DEPARTMENT
RENOVATIONS

GENERAL NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. ALL ITEMS WITHIN THE DECONTAMINATION ROOM SHALL BE WATERPROOF AND MADE FROM CORROSION-RESISTANT MATERIALS, EXCLUDING ITEMS ENTIRELY ENCLOSED WITH THE WALL OR CEILING CAVITIES.

 **DRAWING NOTES**
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. SIZE DUCTWORK TO MATCH EXISTING.
2. SLOPE EXHAUST DUCTWORK WITHIN DECONTAMINATION ROOM BACK TO GRILLE.
3. CLEAN ALL EXISTING DUCTWORK UPSTREAM AND DOWNSTREAM OF F-4.

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHa
Electrical Engineer	HHa
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

MARK	DATE	DESCRIPTION
1	2026-03-31	ISSUED FOR 100% CD
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4	2026-09-23	ISSUED FOR ADDENDUM M-01

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Original Issue	12/19/18 -	

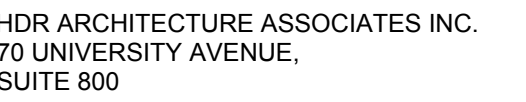
Professional Certification

Sheet Name
DECONTAMINATION
ROOM - GROUND
FLOOR VENTILATION
- NEW WORK

Scale
1 : 25

Sheet Number

M1-08



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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Project Number	10428557	(2250227)
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Professional Certification

Sheet Name

Scale
1 : 25

Sheet Number

M1-09

GENERAL NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. ALL ITEMS WITHIN THE DECONTAMINATION ROOM SHALL BE WATERPROOF AND MADE FROM CORROSION-RESISTANT MATERIALS, EXCLUDING ITEMS ENTIRELY ENCLOSED WITH THE WALL OR CEILING CAVITIES.

 **DRAWING NOTES**
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. NOT USED.

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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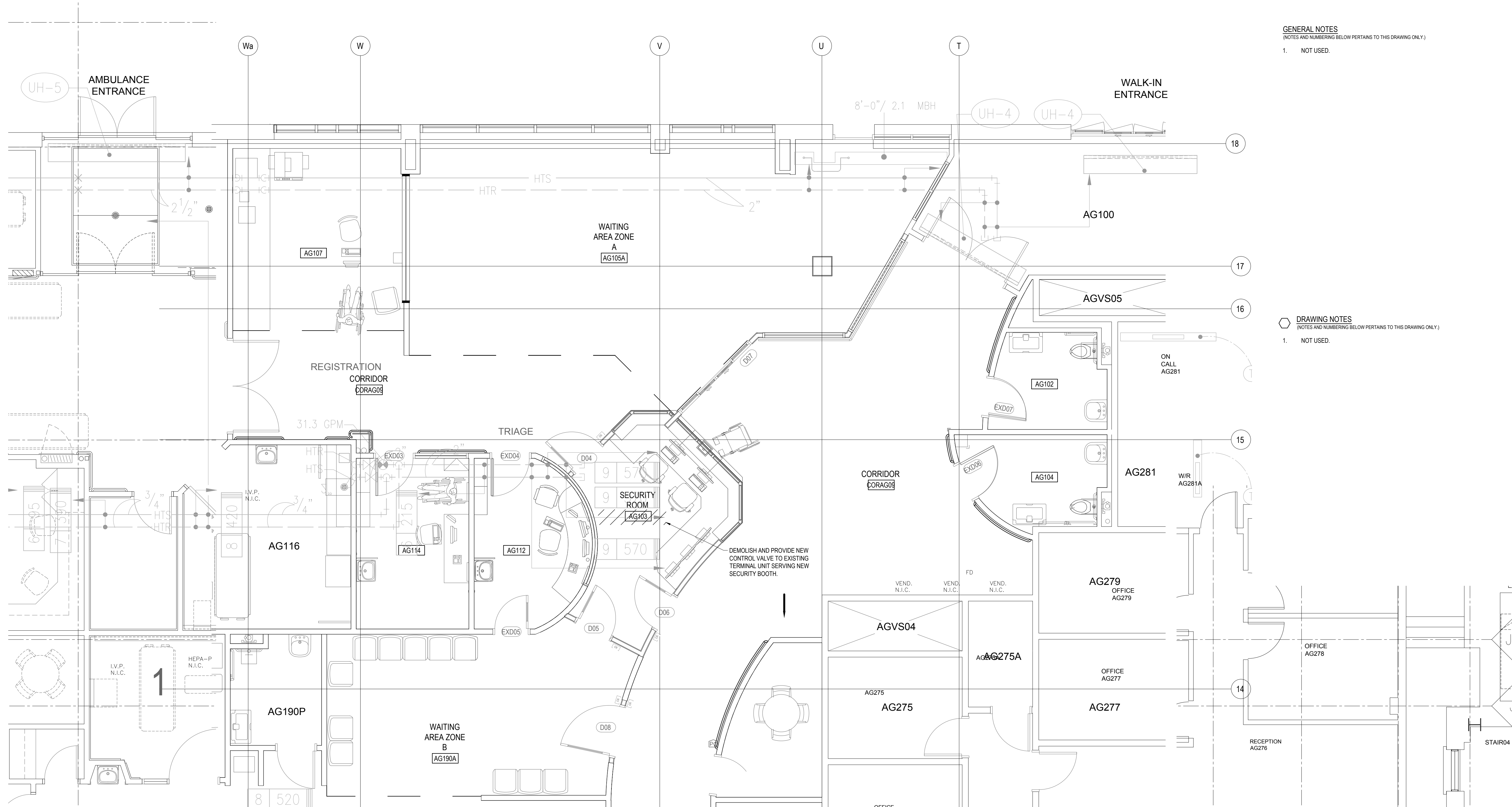
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Professional Certification

Scale
1 : 50

Sheet Number

M2-00



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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Project Number	10428557	(2250227)
Original Issue	12/19/18 -	

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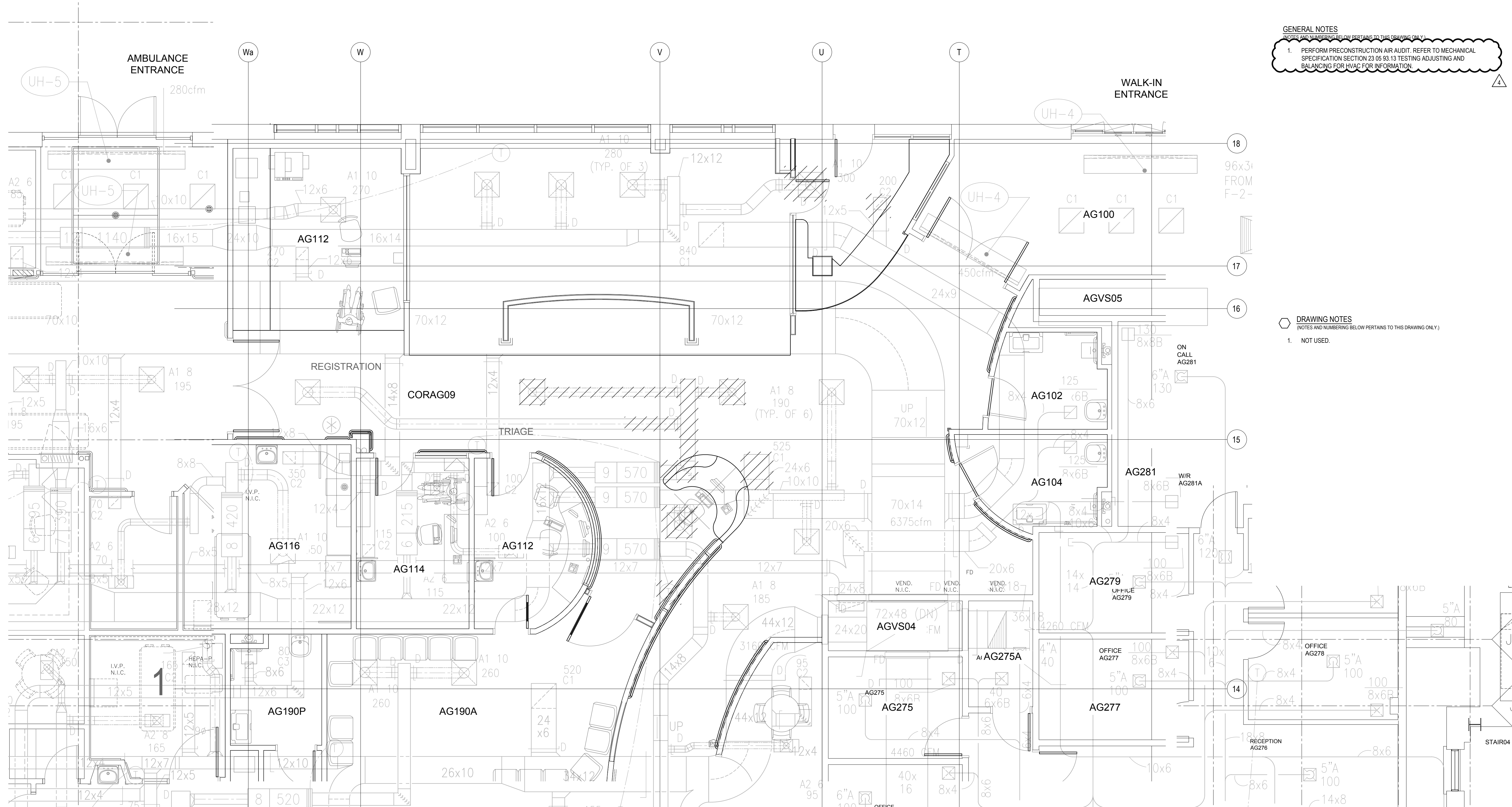
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Sheet Name
SECURITY AREA -
GROUND FLOOR
VENTILATION - DEMO

Scale
1 : 50

Sheet Number

M2-01

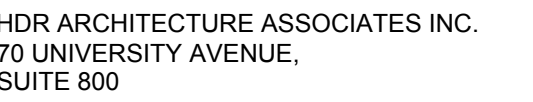


GENERAL NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY)

1. PERFORM PRECONSTRUCTION AIR AUDIT. REFER TO MECHANICAL SPECIFICATION SECTION 23 06 93.13 TESTING ADJUSTING AND BALANCING FOR HVAC FOR INFORMATION.

 **DRAWING NOTES**
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

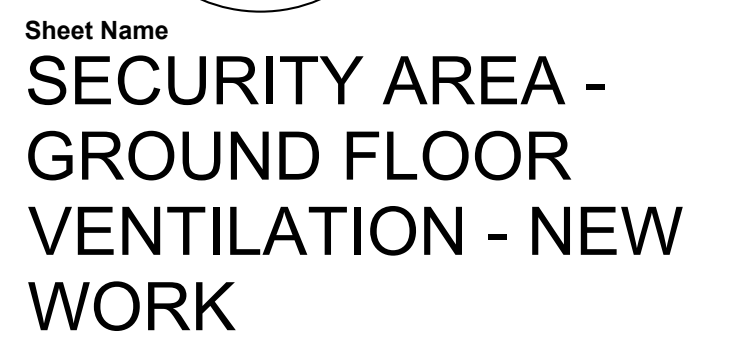
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Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

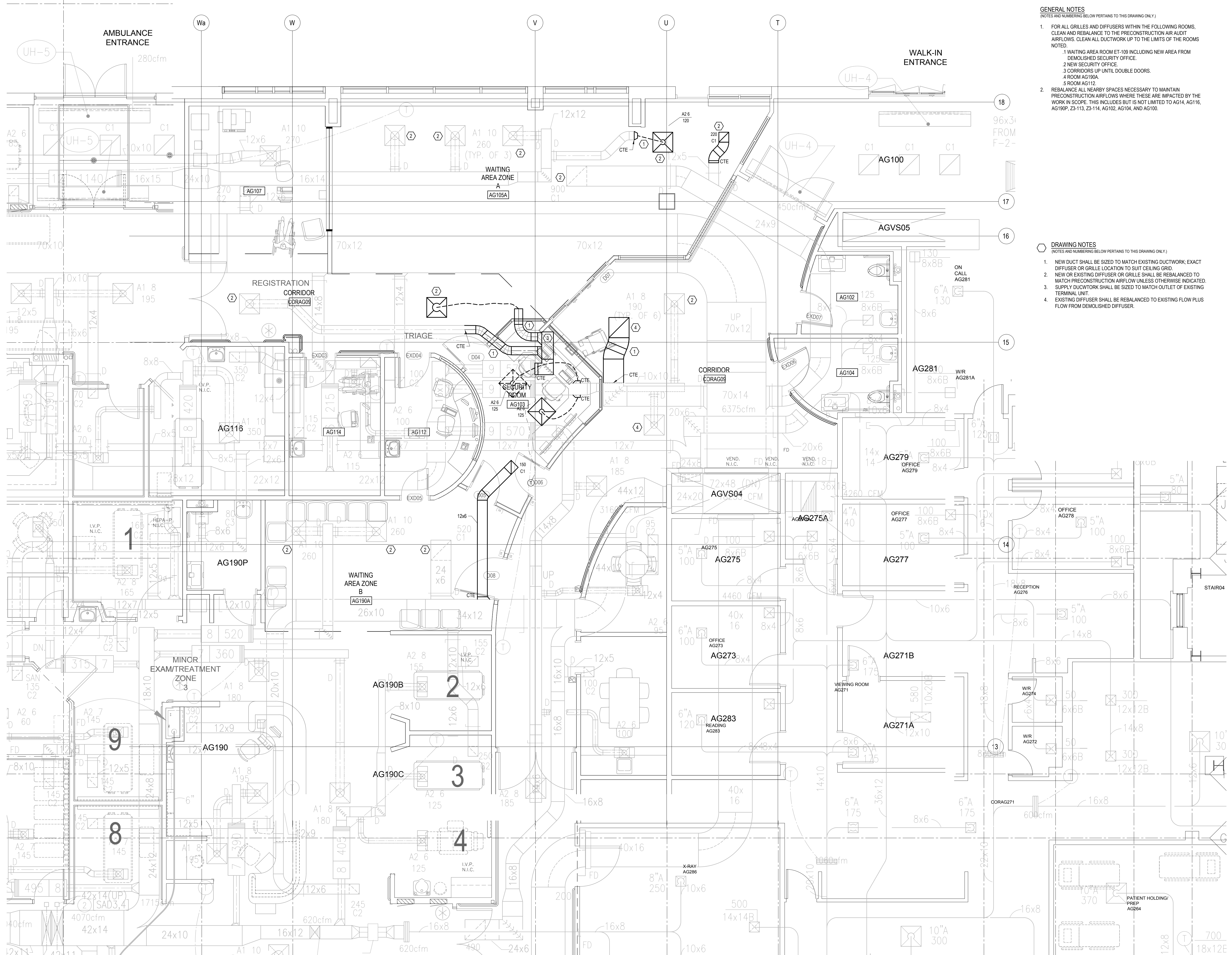
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3	2026-08-20	ISSUED FOR PERMIT & TENDER
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Project Number	10428557	(2250227)
Original Issue	12/19/18 -	



Scale
1 : 50
Sheet Number

M2-02

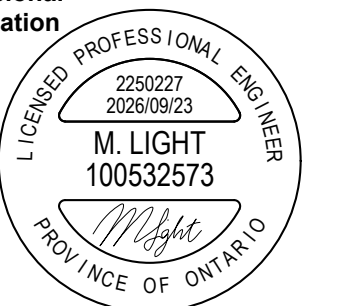


Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

[illegible]

Project Number	10428557	(2250227)
Original Issue	12/19/18 -	

Professional Certification



Sheet Name

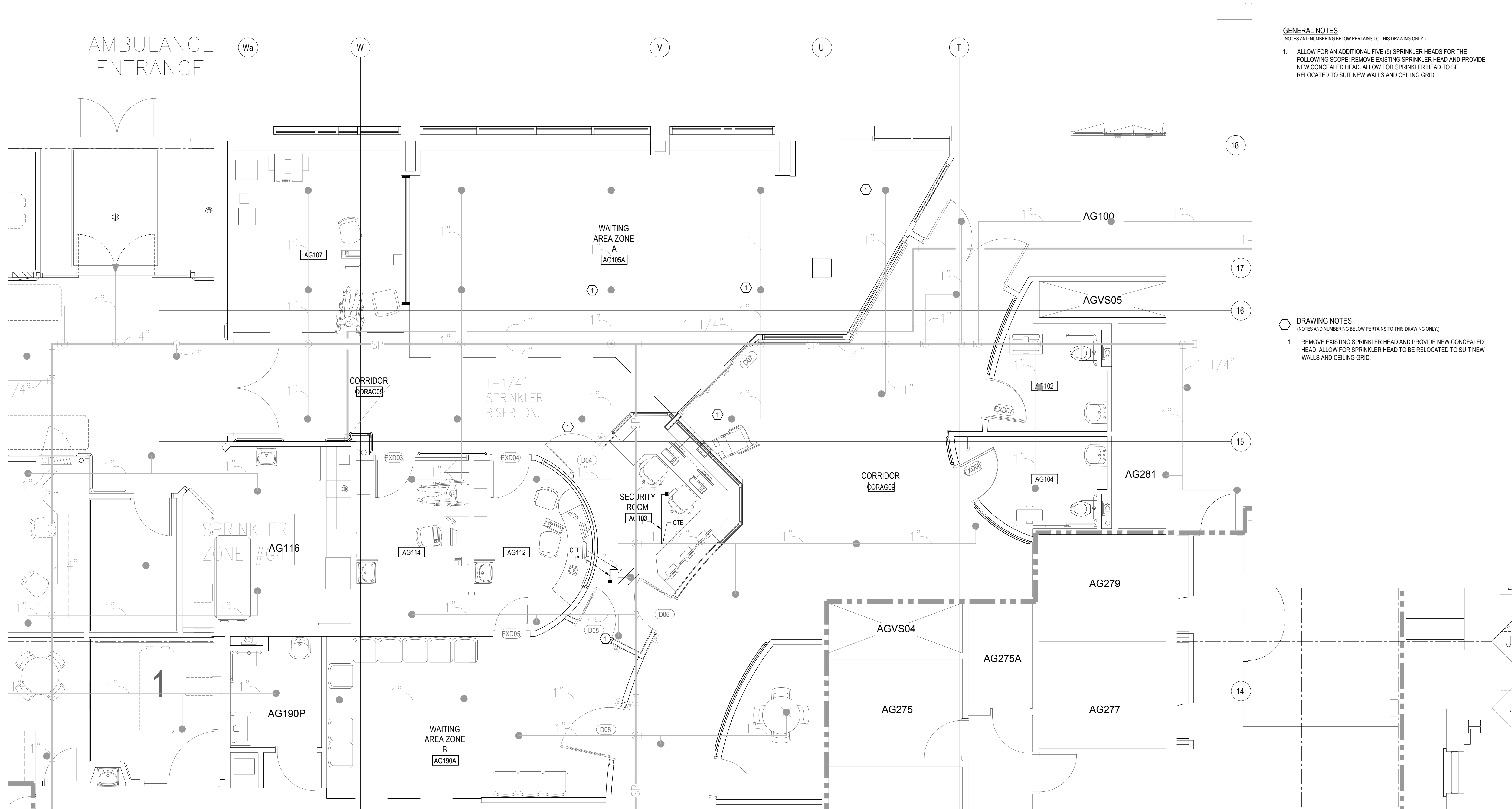
Sheet Name

SECURITY AREA -
GROUND FLOOR FIRE
PROTECTION - DEMO &
NEW WORK

Scale
1 : 50

Sheet Number

M2-03



GENERAL NOTES

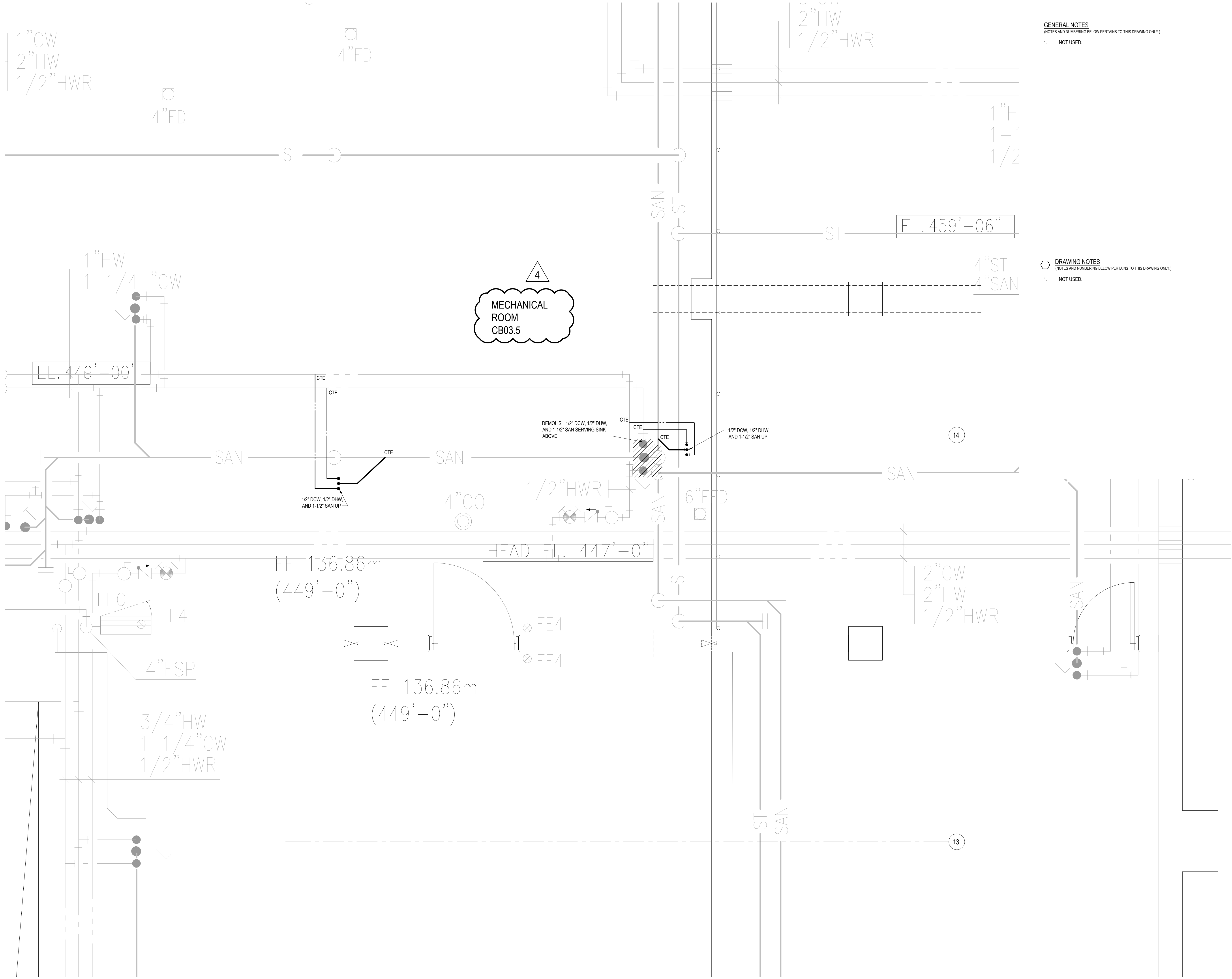
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. ALLOW FOR AN ADDITIONAL FIVE (5) SPRINKLER HEADS FOR THE FOLLOWING SCOPE: REMOVE EXISTING SPRINKLER HEAD AND PROVIDE NEW CONCEALED HEAD. ALLOW FOR SPRINKLER HEAD TO BE RELOCATED TO SUIT NEW WALLS AND CEILING GRID.

 DRAWING NOTES

(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. REMOVE EXISTING SPRINKLER HEAD AND PROVIDE NEW CONCEALED HEAD. ALLOW FOR SPRINKLER HEAD TO BE RELOCATED TO SUIT NEW WALLS AND CEILING GRID.

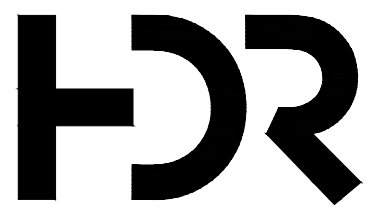


GENERAL NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. NOT USED.

DRAWING NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. NOT USED.



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70 UNIVERSITY AVENUE,
SUITE 800



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SUNNYBROOK HEALTH
SCIENCE CENTRE
EMERGENCY
DEPARTMENT
RENOVATIONS



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

MARK	DATE	DESCRIPTION
------	------	-------------

1	2026-03-31	ISSUED FOR 100% CD
2	2026-04-15	RE-ISSUED FOR 100% CD
3	2026-08-20	ISSUED FOR PERMIT & TENDER
4	2026-09-23	ISSUED FOR ADDENDUM M-01

Project Number	10428557	(2250227)
Original Issue	12/19/18	-

Professional
Certification

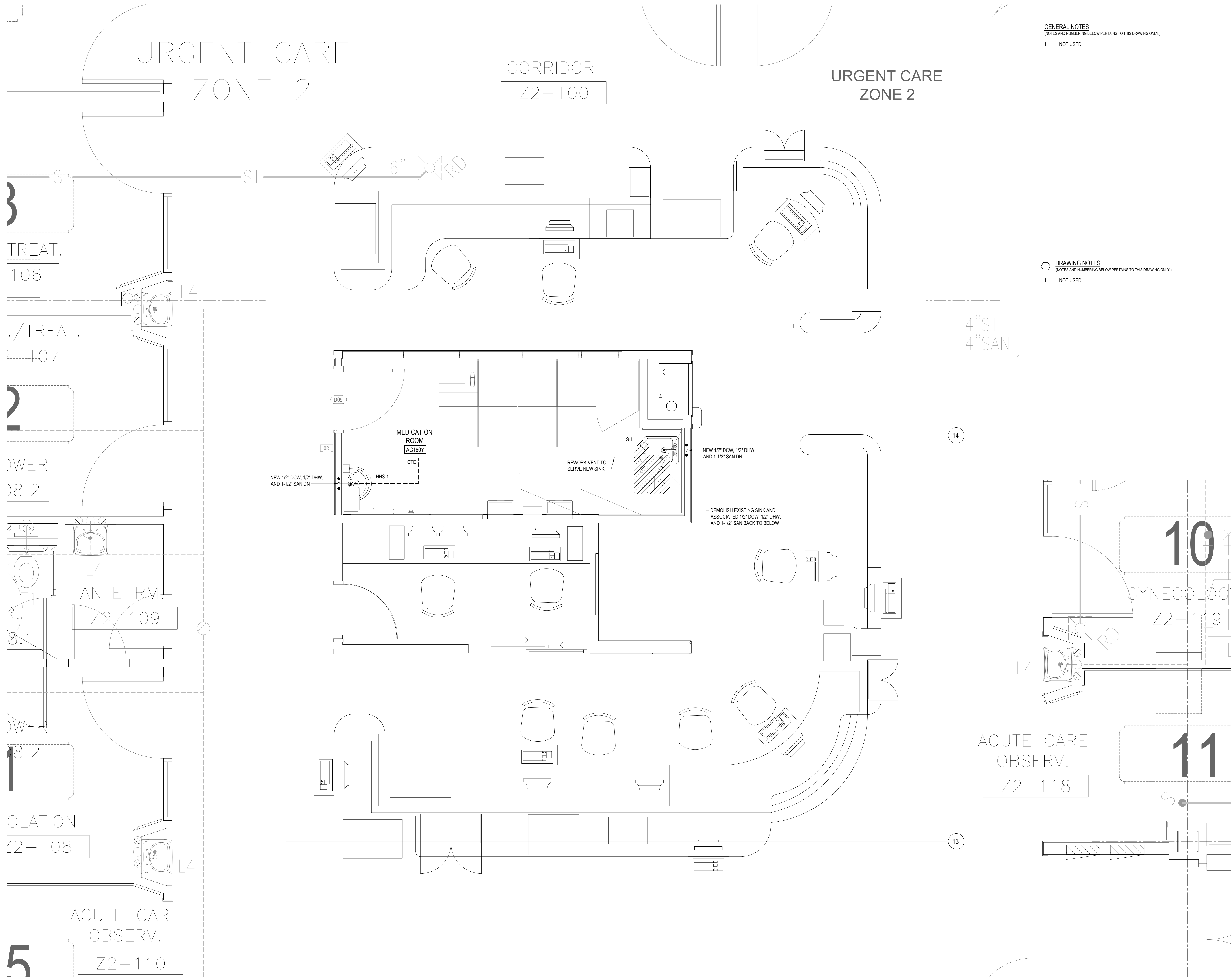
Sheet Name
**MEDICATION ROOM -
BASEMENT
PLUMBING - DEMO &
NEW WORK**

Scale
1 : 25
Sheet Number

M3-00

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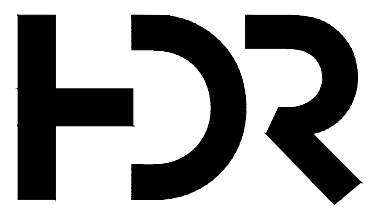


GENERAL NOTES
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1. NOT USED.

DRAWING NOTES
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1. NOT USED.



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SUITE 800



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SUNNYBROOK HEALTH
SCIENCE CENTRE
EMERGENCY
DEPARTMENT
RENOVATIONS



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

MARK DATE DESCRIPTION

1	2026-03-31	ISSUED FOR 100% CD
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3	2026-08-20	ISSUED FOR PERMIT & TENDER
4	2026-09-23	ISSUED FOR ADDENDUM M-01

Project Number	10428557	(2250227)
Original Issue	12/19/18	-

Professional
Certification

Sheet Name
**MEDICATION ROOM -
GROUND FLOOR
PLUMBING - DEMO &
NEW WORK**

Scale
1 : 25
Sheet Number

M3-01

SUNNYBROOK HEALTH
SCIENCE CENTRE
EMERGENCY
DEPARTMENT
RENOVATIONS

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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3	2026-08-20	ISSUED FOR PERMIT & TENDER
4	2026-09-23	ISSUED FOR ADDENDUM M-01

Project Number	10428557	(2250227)
Original Issue	12/19/18 -	

Professional Certification

Sheet Name
MEDICATION ROOM -
GROUND FLOOR
HEATING - DEMO &
NEW WORK

Scale
1 : 25

Sheet Number

M3-02

GENERAL NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. NOT USED.

 DRAWING NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

- 1 NOT USED

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

MARK	DATE	DESCRIPTION
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3	2026-08-20	ISSUED FOR PERMIT & TENDER
4	2026-09-23	ISSUED FOR ADDENDUM M-01

Project Number	10428557	(2250227)
Original Issue	12/19/18 -	

Professional Certification

Sheet Name
MEDICATION ROOM -
GROUND FLOOR
VENTILATION - DEMO

Scale
1 : 25
Sheet Number

M3-03

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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3	2026-08-20	ISSUED FOR PERMIT & TENDER
4	2026-09-23	ISSUED FOR ADDENDUM M-01

Project Number	10428557	(2250227
Original Issue	12/19/18 -	

Professional
Certification

Scale
1 : 25
Sheet Number

M3-04

GENERAL NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY)

1. NOT USED.

 DRAWING NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY)

- 1 SIZE DUCTWORK TO MATCH EXISTING

Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

[illegible]

Project Number	10428557	(2250227)
Original Issue	12/19/18 -	

Professional Certification

Sheet Name
MEDICATION ROOM -
GROUND FLOOR
FIRE PROTECTION -
DEMO & NEW WORK

Scale
1 : 25

Sheet Number

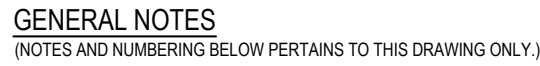
M3-05

SUNNYBROOK HEALTH
SCIENCE CENTRE
EMERGENCY
DEPARTMENT
RENOVATIONS

[illegible]Professional Certification

Street Name
PLASTER SINK -
BASEMENT
PLUMBING - DEMO

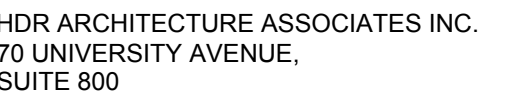
M4-00



1. NOT USED.

 DRAWING NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. NOT USED.



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
Equipment Planner	HDR
Wayfinding	---
Drawn By	Author

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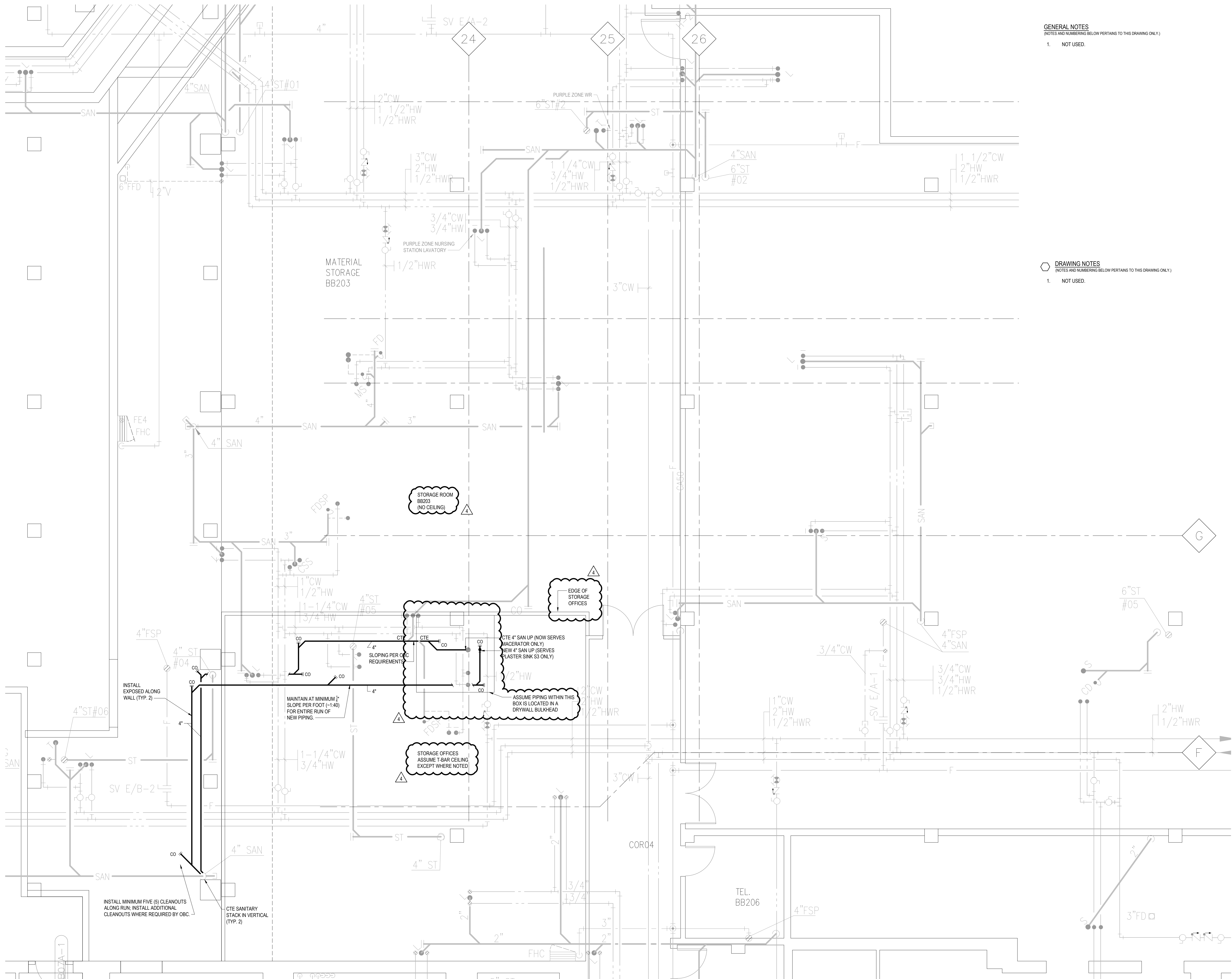
Project Number	10428557	(2250227)
Original Issue	12/19/18 -	

Professional Certification

Sheet Name
PLASTER SINK -
BASEMENT
PLUMBING - NEW
WORK

Scale
1 : 50
Sheet Number

M4-01

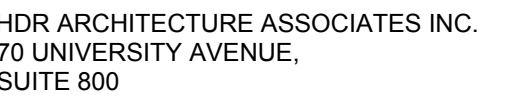


GENERAL NOTES
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1. NOT USED.

DRAWING NOTES
(NOTES AND NUMBERING BELOW PERTAINS TO THIS DRAWING ONLY.)

1. NOT USED.



Project Manager	HDR
Project Designer	HDR
Project Architect	HDR
Mechanical Engineer	HHA
Electrical Engineer	HHA
Interior Designer	HDR
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Wayfinding	---
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Professional Certification

Sheet Name

PLASTER SINK - GROUND FLOOR PLUMBING - DEMO & NEW WORK

Scale
1 : 50

Sheet Number

M4-02

