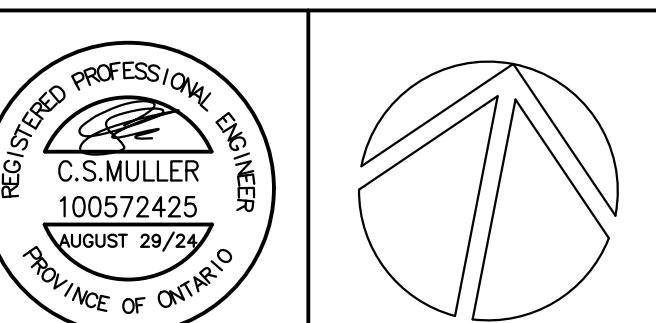


GENERAL NOTES	
1. DCW AND DHW CONNECTION TO ALL PLUMBING FIXTURES TO BE $\frac{1}{2}$ ".	
2. PROVIDE ISOLATION VALVE FOR EACH FIXTURE.	
3. PROVIDE FIRE RATED SEAL FOR ANY PENETRATION THROUGH A FIRE RATED ASSEMBLY, INCLUDING ALL FLOORS AND PERIMETER WALLS OF UNITS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE SEPARATIONS.	
4. PLUMBING FIXTURE LABELS. ALL NON-ACCESSIBLE SUITES ARE TYPICAL AND LABELED AS FOLLOWS:	
<ul style="list-style-type: none"> <li>KS-1 (KITCHEN SINK)</li> <li>L-1 (LAV)</li> <li>WC-1 (WATER CLOSET)</li> <li>SH-1 (BATH/SHOWER)</li> </ul>	
ALL ACCESSIBLE SUITES ARE TYPICAL AND LABELED AS FOLLOWS:	
<ul style="list-style-type: none"> <li>KS-2 (KITCHEN SINK)</li> <li>L-2 (LAV)</li> <li>WC-2 (WATER CLOSET)</li> <li>SH-2 (SHOWER)</li> </ul>	
DRAWING NOTES	
① COORDINATE EXACT LOCATION OF METER ASSEMBLY WITH SPRINKLER DRAWINGS AND SITE CONDITIONS.	
② INSULATE DHW PIPE FROM HWT TO FIXTURES.	

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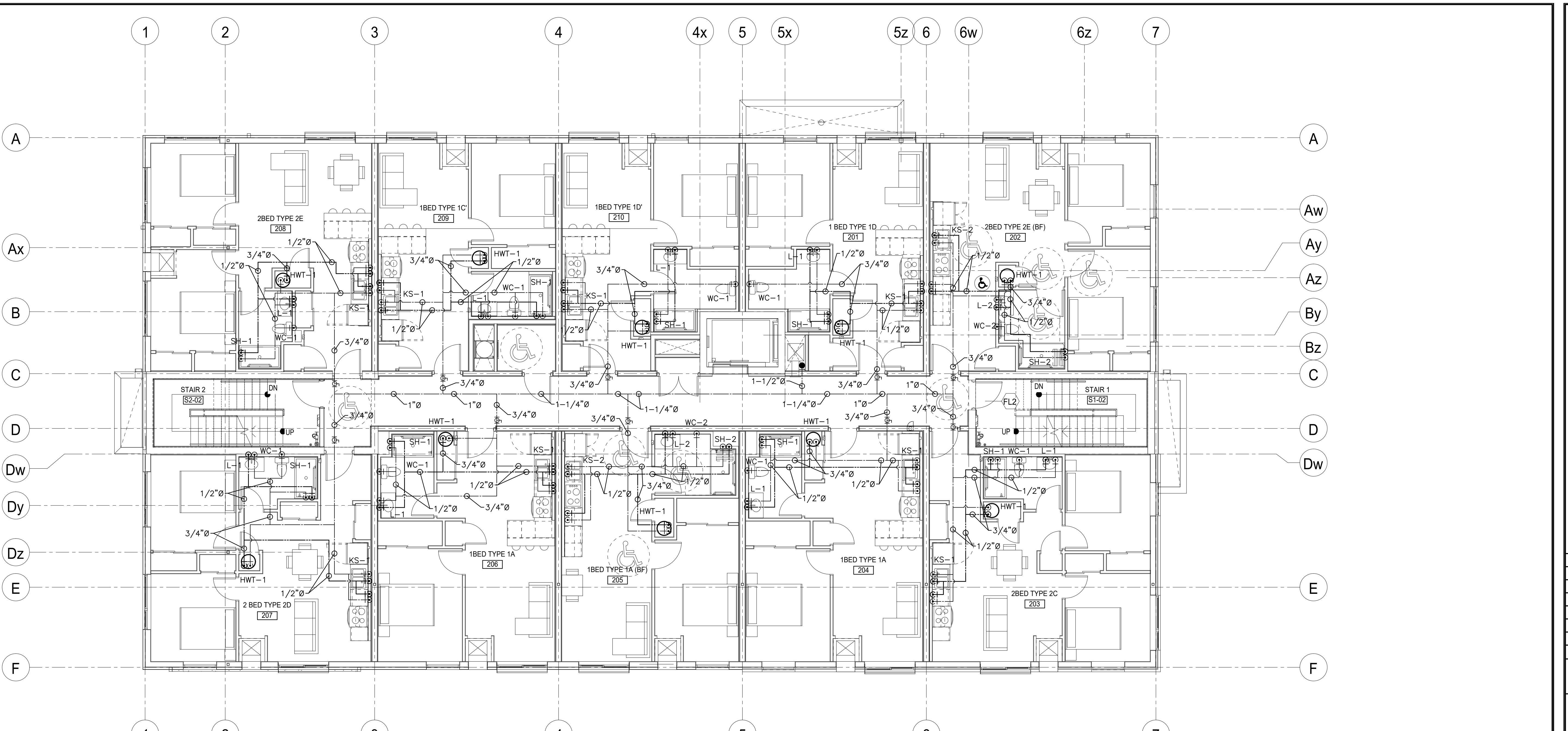
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**PROJECT**  
COURTICE SENIOR DEVELOPMENT

1697 HIGHWAY No 2  
CLARINGTON, ON

TITLE		
DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	
APPROVED	CSM	
PROJECT	CSM	
7393		



**DOMESTIC LAYOUT SECOND FLOOR**

M2

1:75

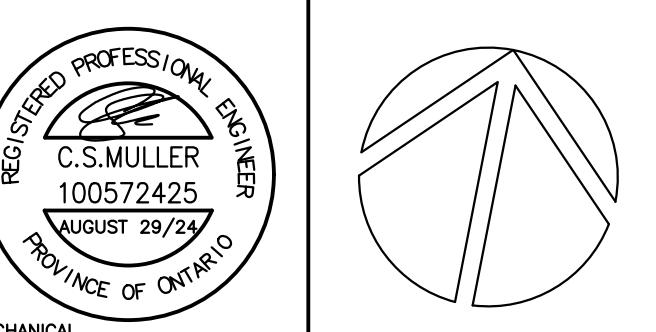
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- GENERAL NOTES**
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  - SH-2 (SHOWER)

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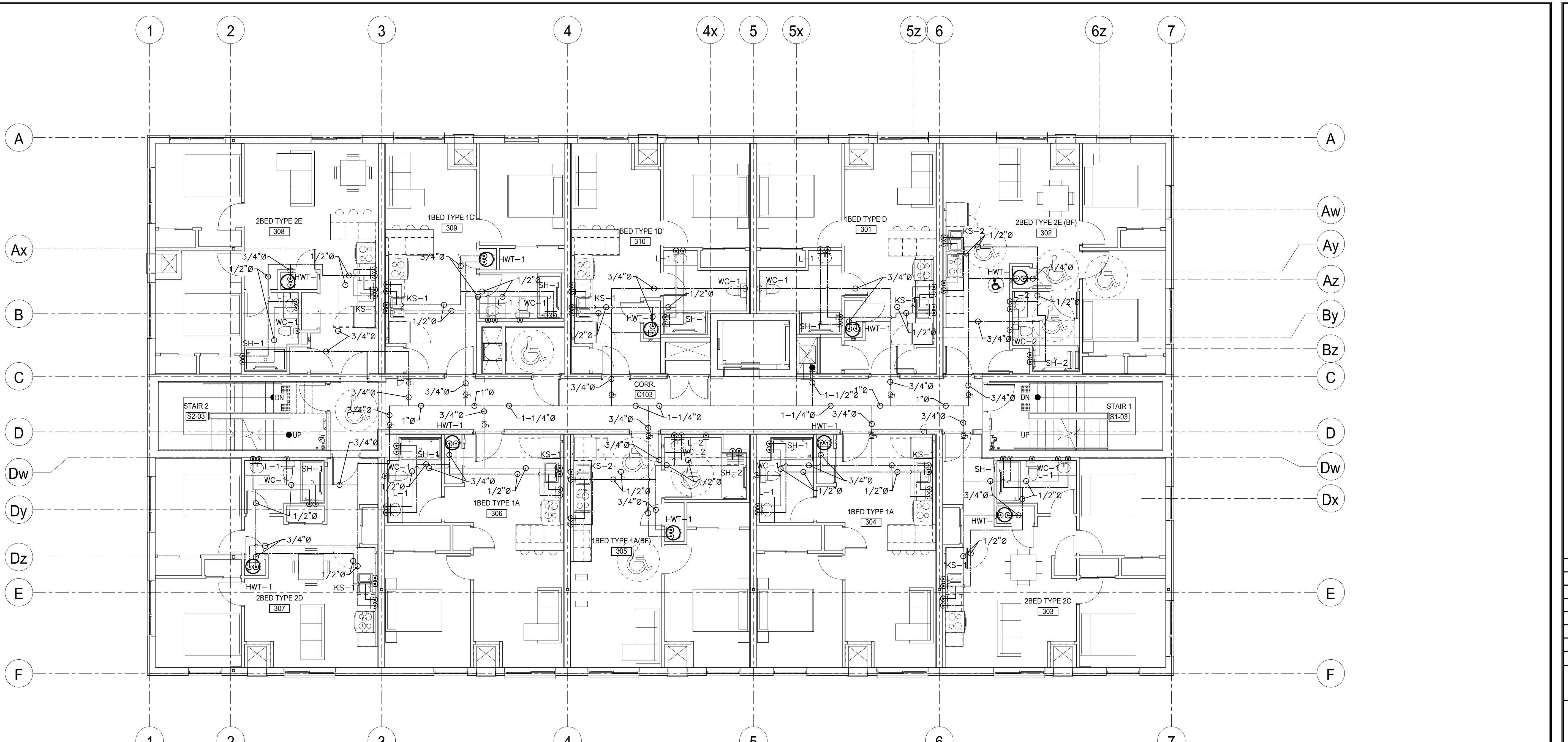
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DESIGN	CSM	SCALE AS NOTED
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CHECKED	CSM	
APPROVED	CSM	
PROJECT	CSM	

7393

**M2**

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**DOMESTIC LAYOUT THIRD FLOOR**

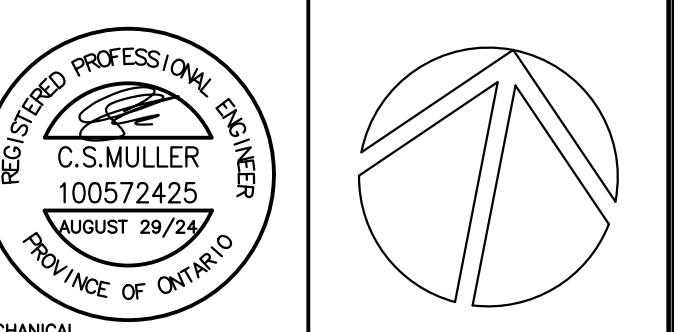
M3  
SCALE: 1000 0 1000 2000 3000 4000 5000 mm  
1:75

**GENERAL NOTES**

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  - SH-2 (SHOWER)

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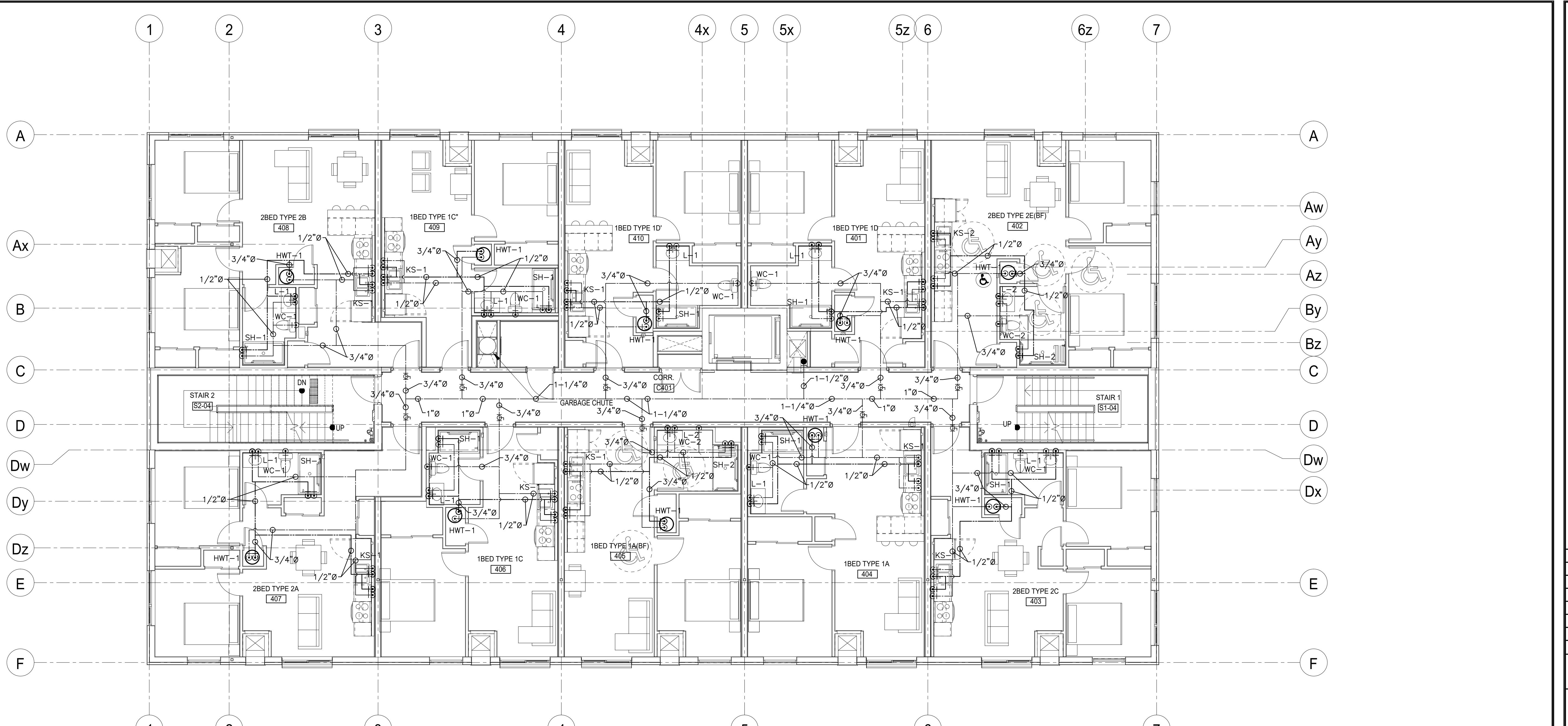
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APPROVED	CSM	
PROJECT	CSM	

M3  
7393

**M3**

CADD FILE NO. 7393M



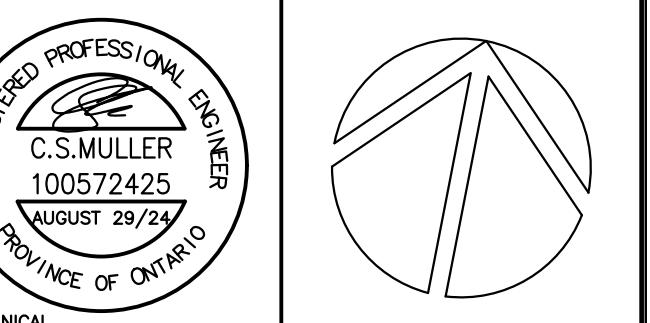
**GENERAL NOTES**

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ALL ACCESSIBLE SUITES ARE TYPICAL AND LABELED AS FOLLOWS:
 

- KS-2 (KITCHEN SINK)
- L-2 (LAV)
- WC-2 (WATER CLOSET)
- SH-2 (SHOWER)

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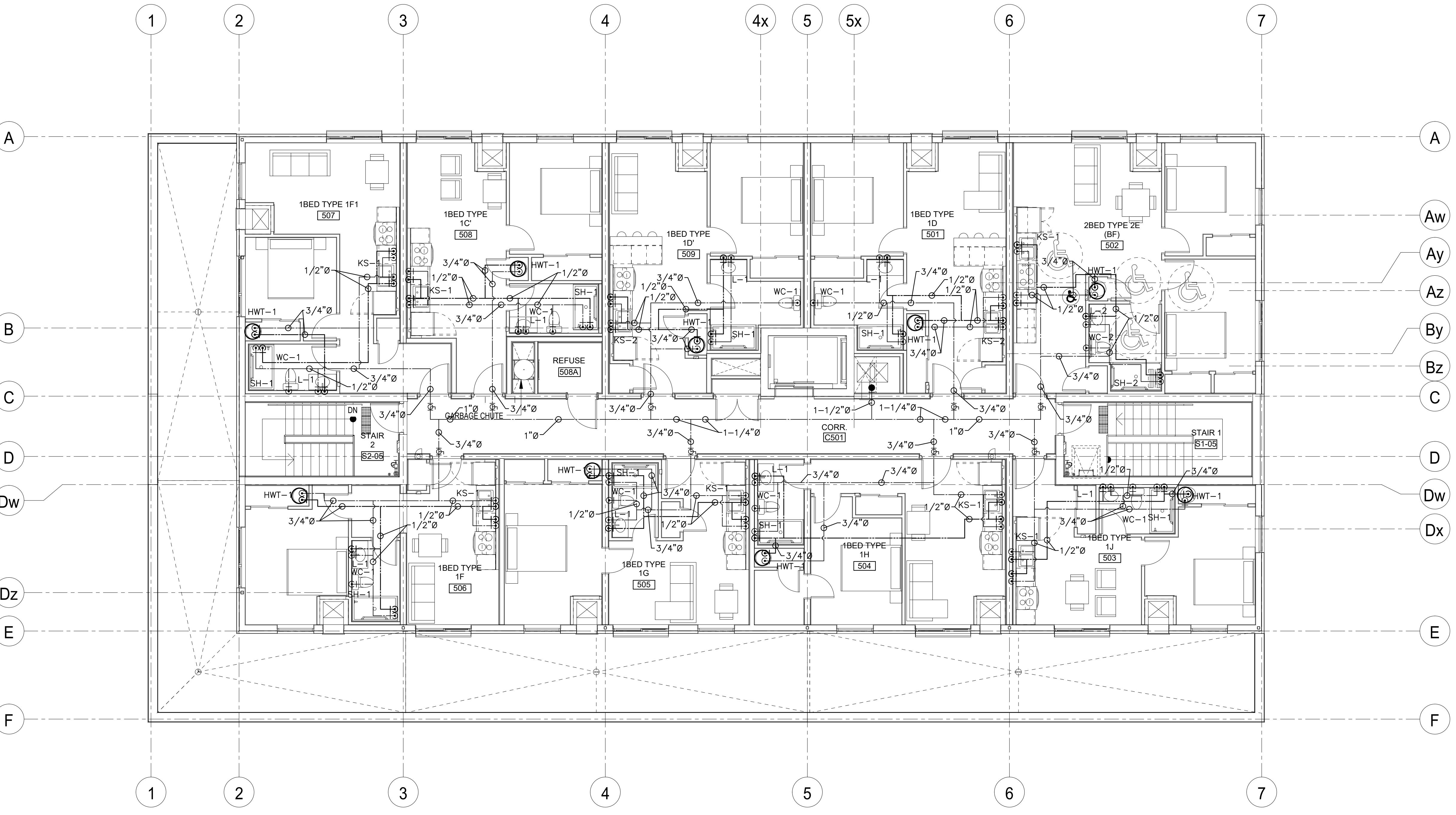
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TITLE  
**FOURTH FLOOR DOMESTIC WATER**

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	
APPROVED	CSM	
PROJECT	7393	M4



**DOMESTIC LAYOUT FIFTH FLOOR**

1 M5 SCALE: 1000 0 1000 2000 3000 4000 5000 mm

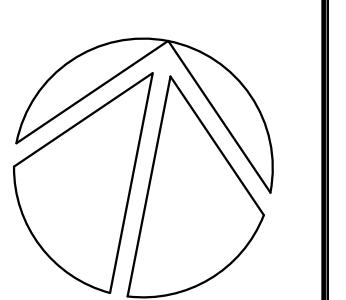
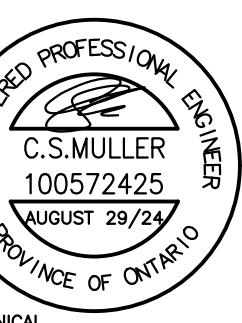
1:75

- GENERAL NOTES**
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  - L-2 (LAV)
  - WC-2 (WATER CLOSET)
  - SH-2 (SHOWER)

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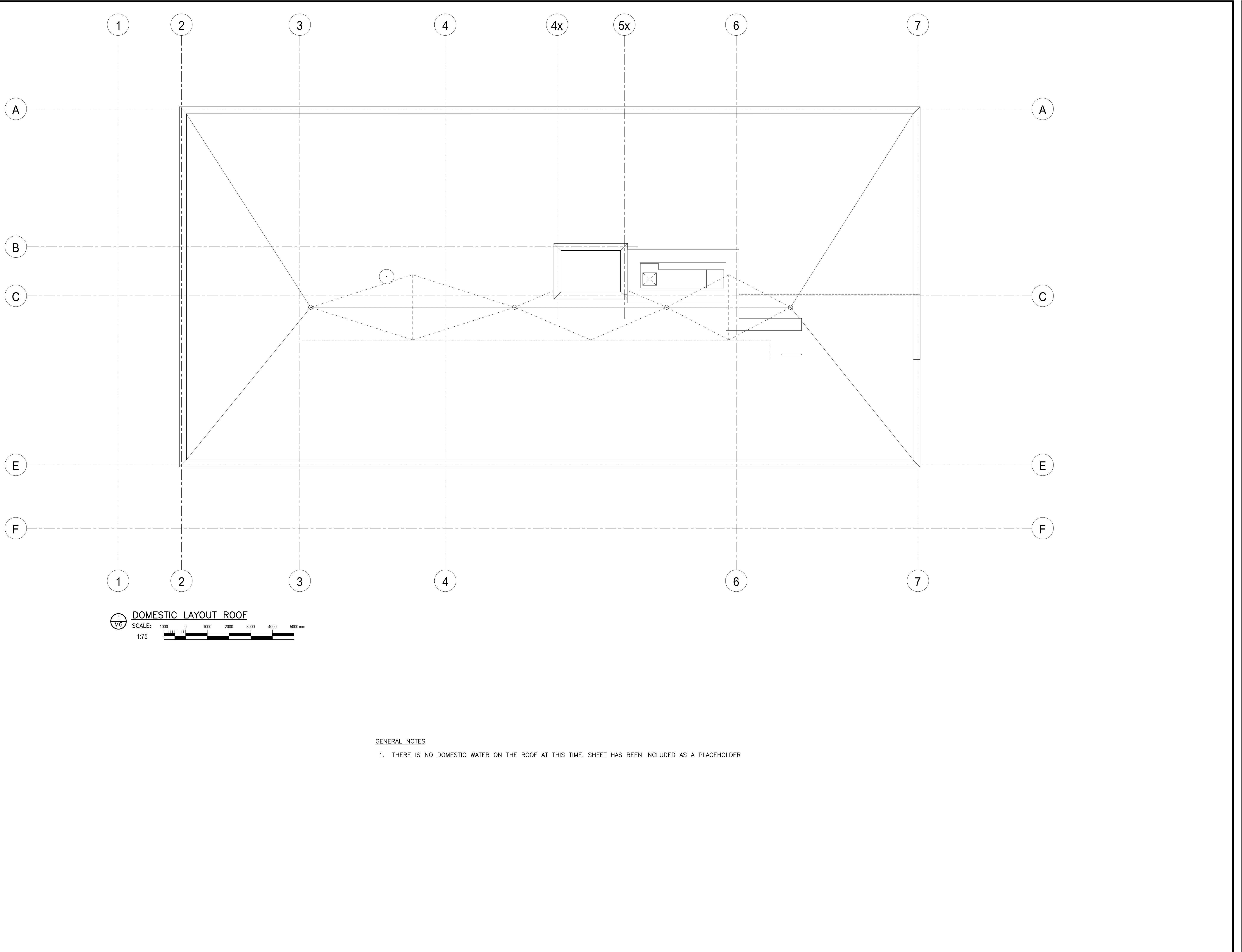
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**TITLE**  
**FIFTH FLOOR DOMESTIC WATER**

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CHECKED	CSM	
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PROJECT	CSM	

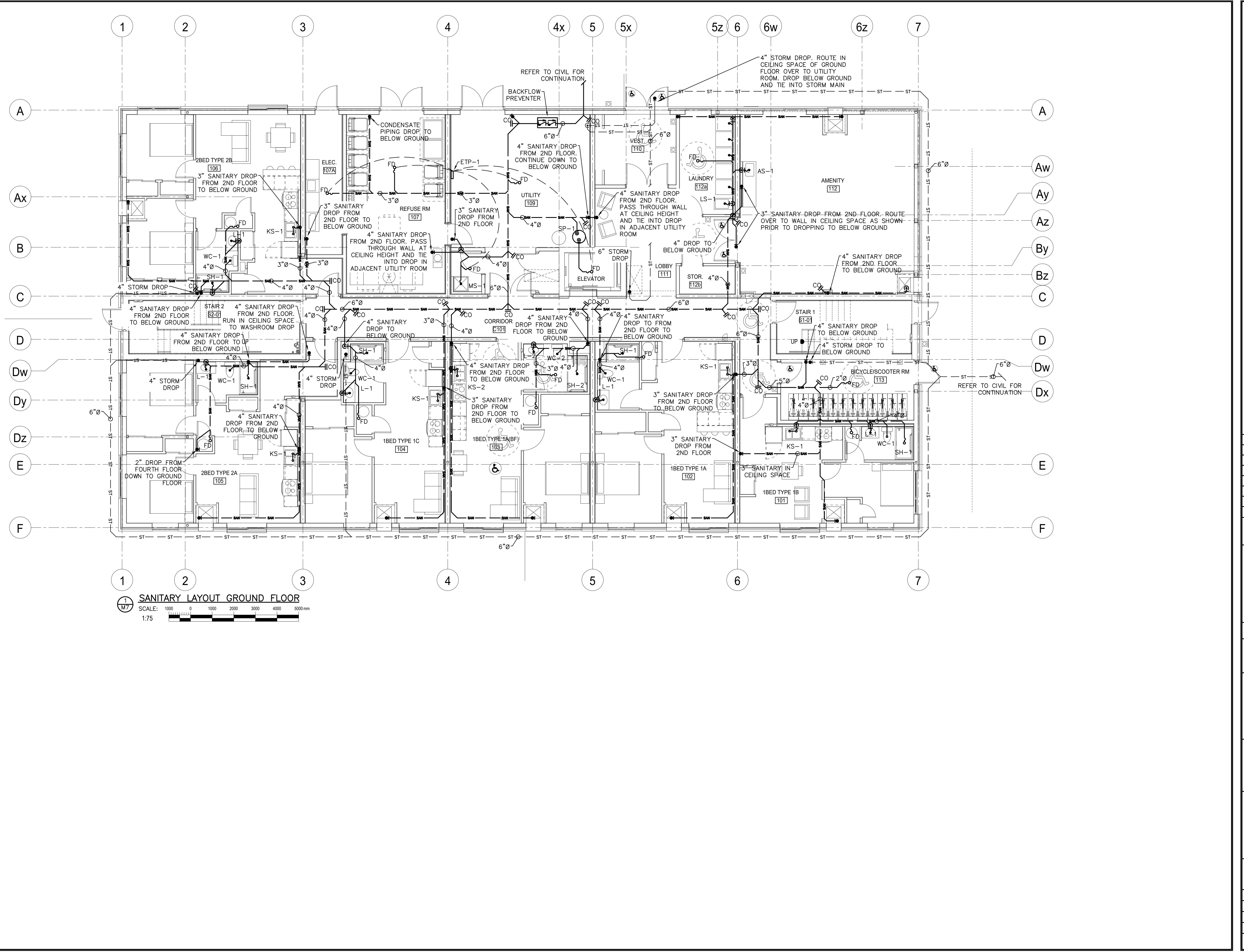
7393

**M5**



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TITLE <b>ROOF DOMESTIC WATER</b>		
DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG. NO.
CHECKED	CSM	
APPROVED	CSM	
PROJECT	M6	7393

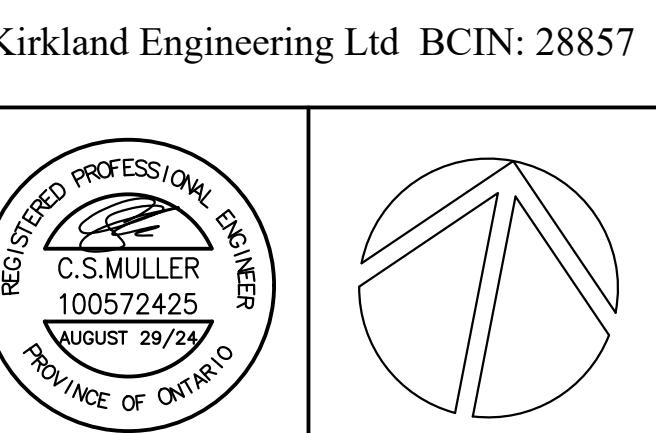
CADD FILE NO. 7393M6



**GENERAL NOTES**

1. FLOOR DRAINS IN SUITE WATER HEATER CLOSETS TO BE INSTALLED COMPLETE WITH MECHANICAL TRAP SEAL PRIMER, SIOUX CHIEF #695, OR EQUIVALENT. CONNECT TO COLD WATER LINE IN ADJACENT WASHROOM.

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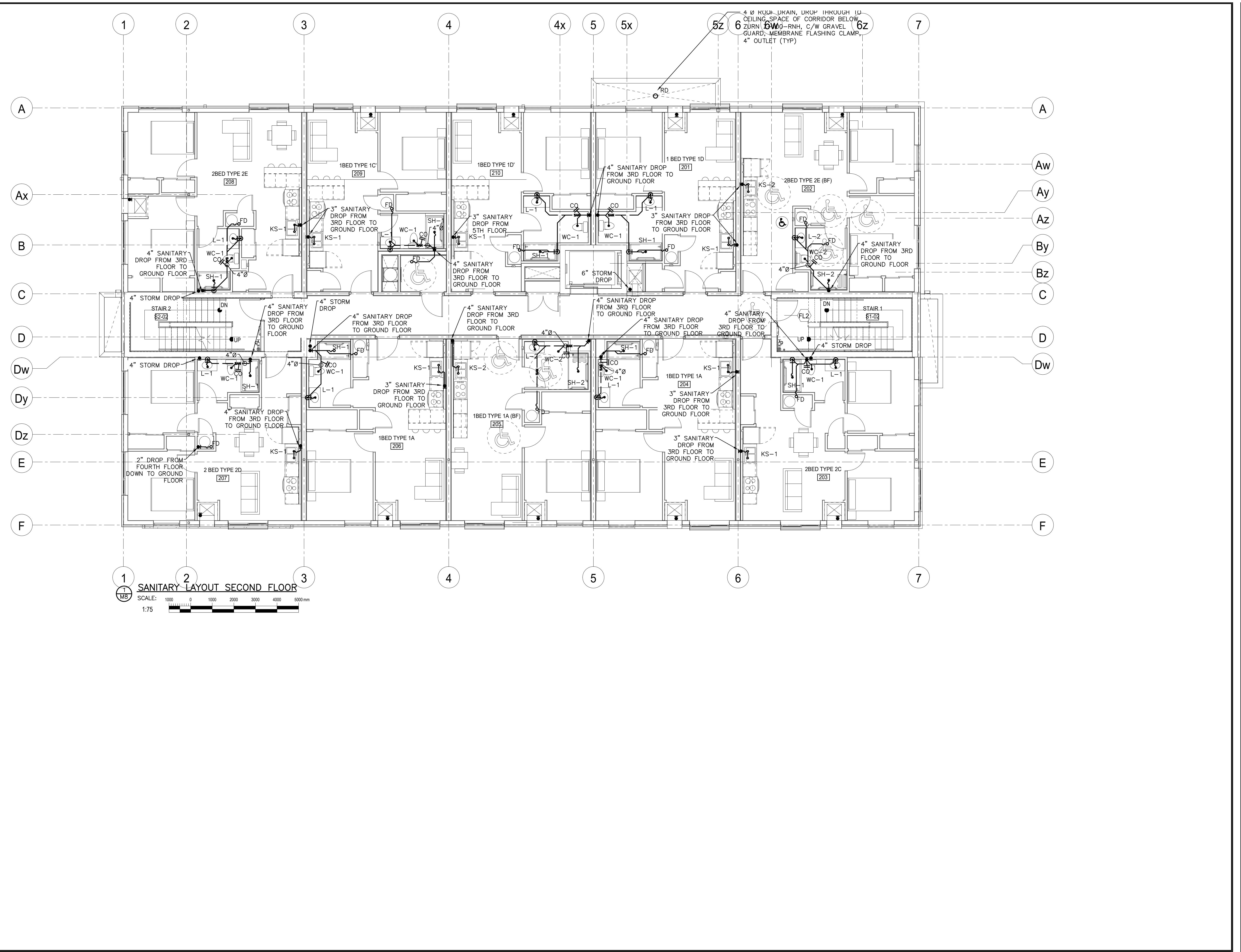
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**PROJECT**  
COURTICE SENIOR DEVELOPMENT

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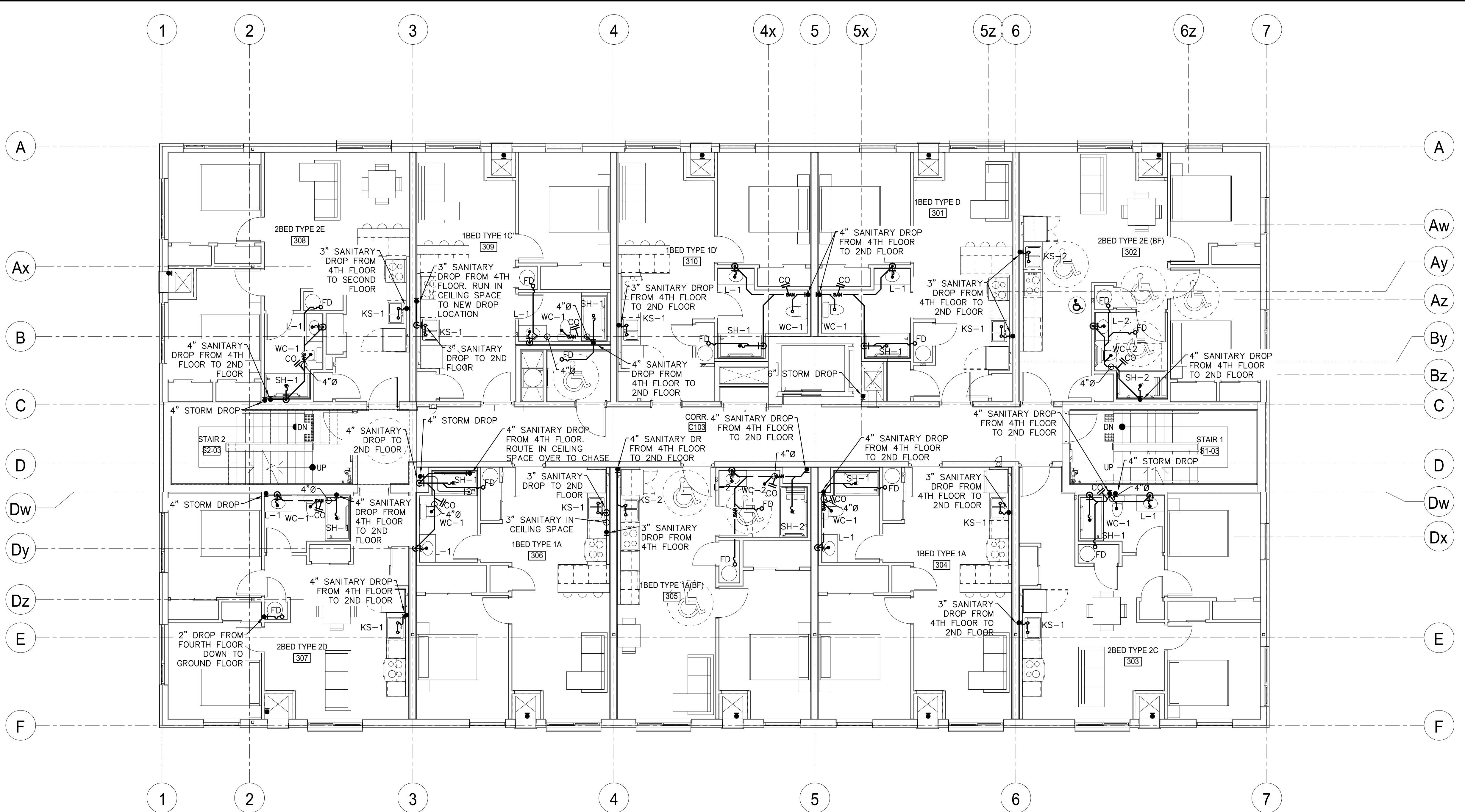
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GROUND FLOOR SANITARY

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APPROVED	CSM	
PROJECT	M7	7393



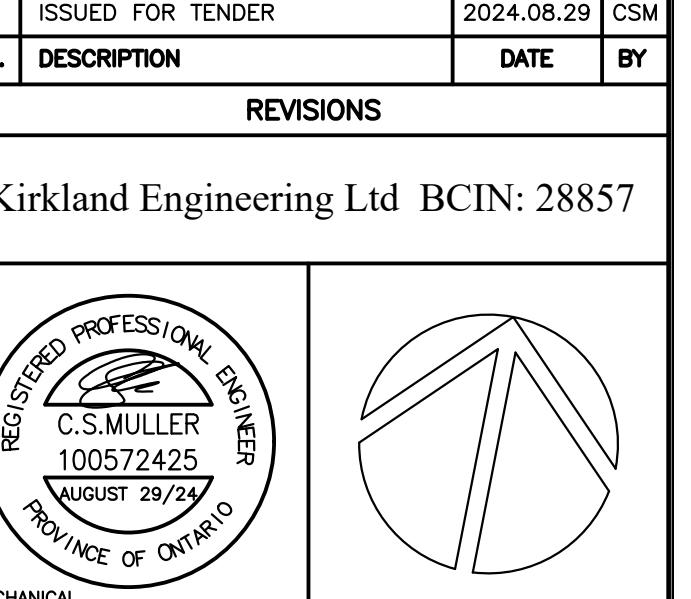
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<b>TITLE</b> <b>SECOND FLOOR SANITARY</b>		
DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	
APPROVED	CSM	
PROJECT	M8	7393

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1 SANITARY LAYOUT THIRD FLOOR  
M9  
SCALE: 1:75 0 1000 2000 3000 4000 5000 mm

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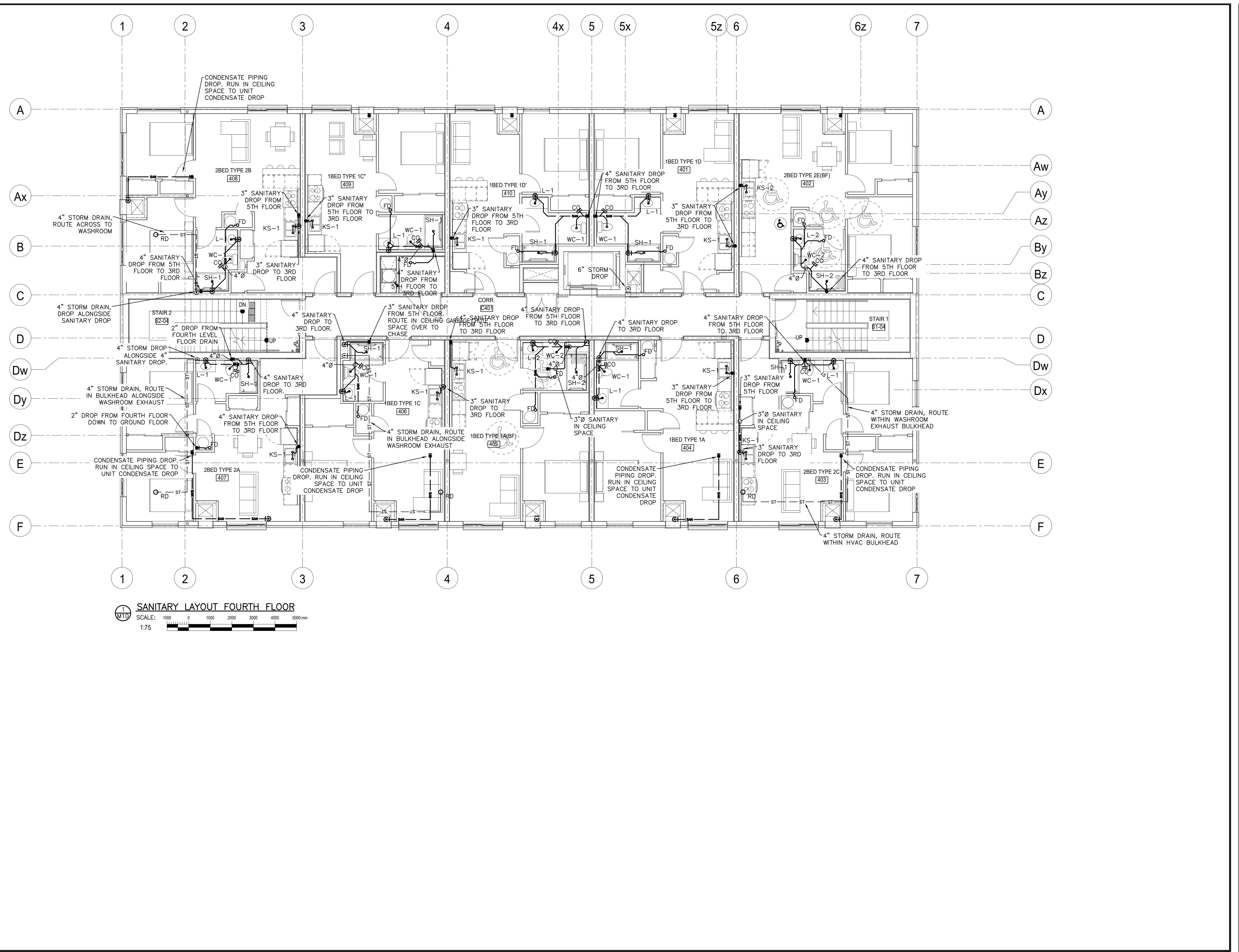
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TITLE  
THIRD FLOOR SANITARY

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APPROVED	CSM	
PROJECT	M9	7393

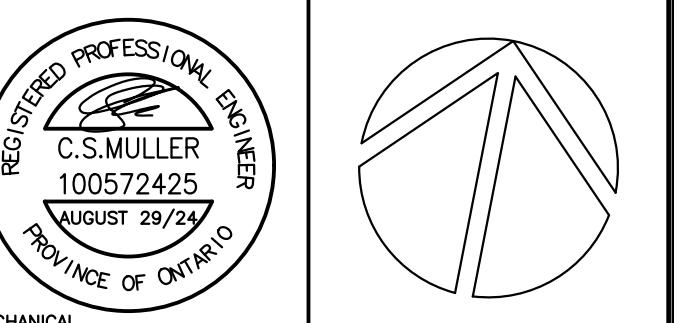
**M9**

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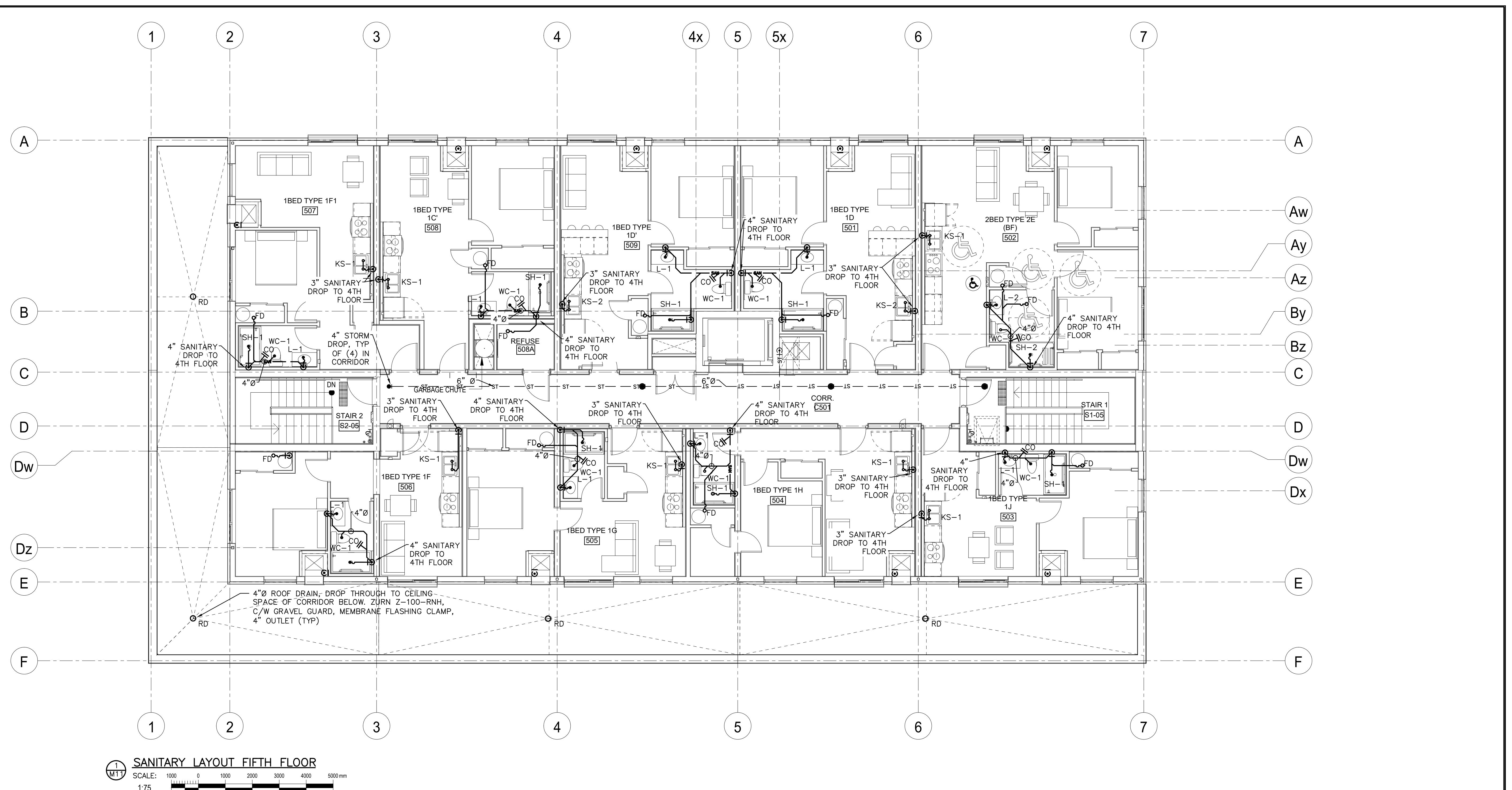
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TITLE  
**FOURTH FLOOR SANITARY**

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DRAWN	KCS	DWG NO.
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APPROVED	CSM	
PROJECT	M10	7393

**M10**

CADD FILE NO. 7393M10



① SANITARY LAYOUT FIFTH FLOOR

A scale bar at the bottom of the map indicates distances from 0 to 5000 meters. The scale is marked in increments of 1000 meters, with 0 at the left end and 5000 m at the right end. A vertical line labeled '1:75' is positioned to the left of the scale bar.

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REG'STERED PROFESSIONAL ENGINEER  
C.S.MULLER  
100572425  
AUGUST 29/24  
PROVINCE OF ONTARIO  
MECHANICAL

A circular registration seal for C.S. Muller, Professional Engineer, registered in the Province of Ontario. The seal contains the following text: "REG'STERED PROFESSIONAL ENGINEER", "C.S.MULLER", "100572425", "AUGUST 29/24", "PROVINCE OF ONTARIO", and "MECHANICAL". The seal is divided into four quadrants by a crosshair. The top-left quadrant contains a signature of "C.S. MULLER". The other three quadrants are blank.

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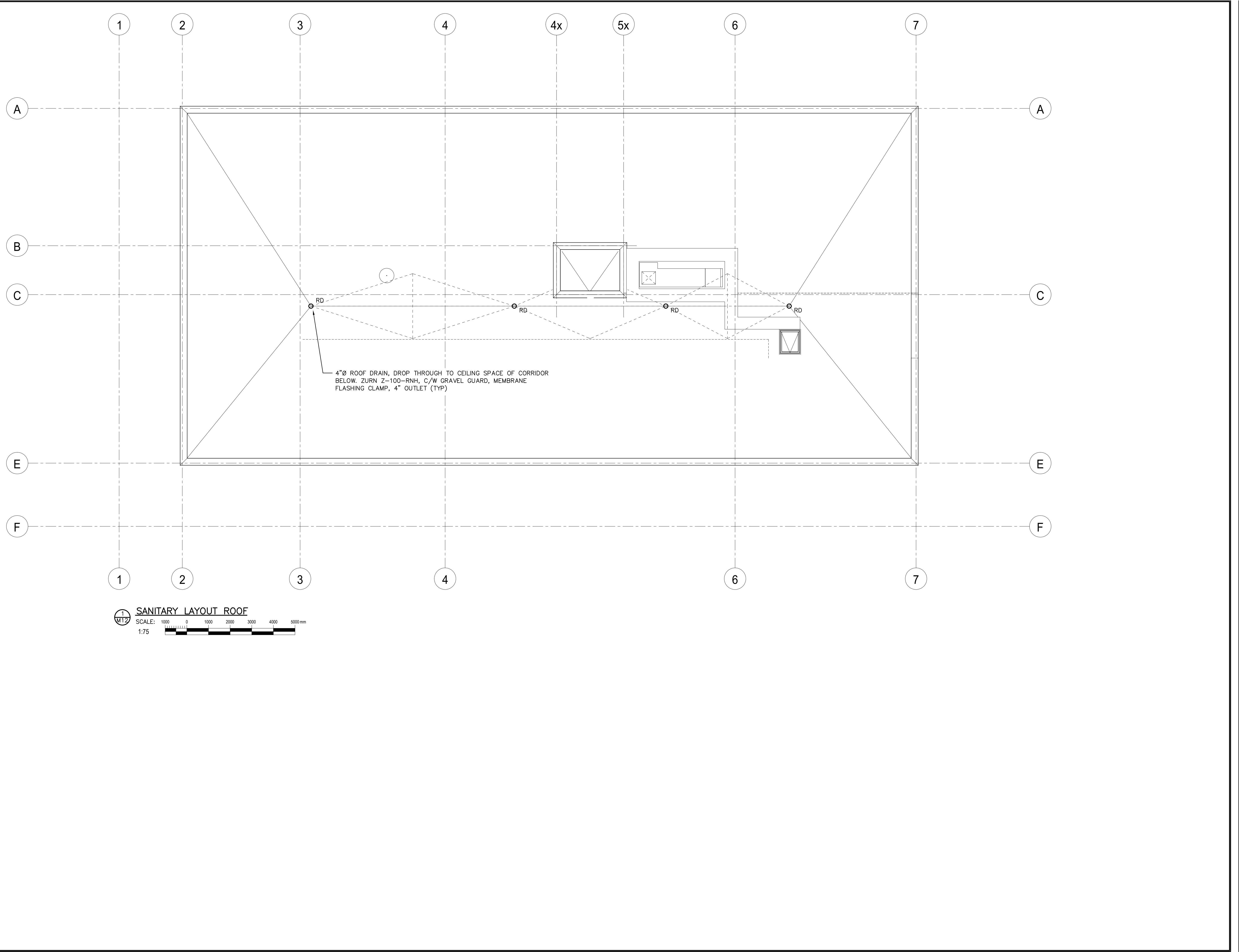
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PROJECT  
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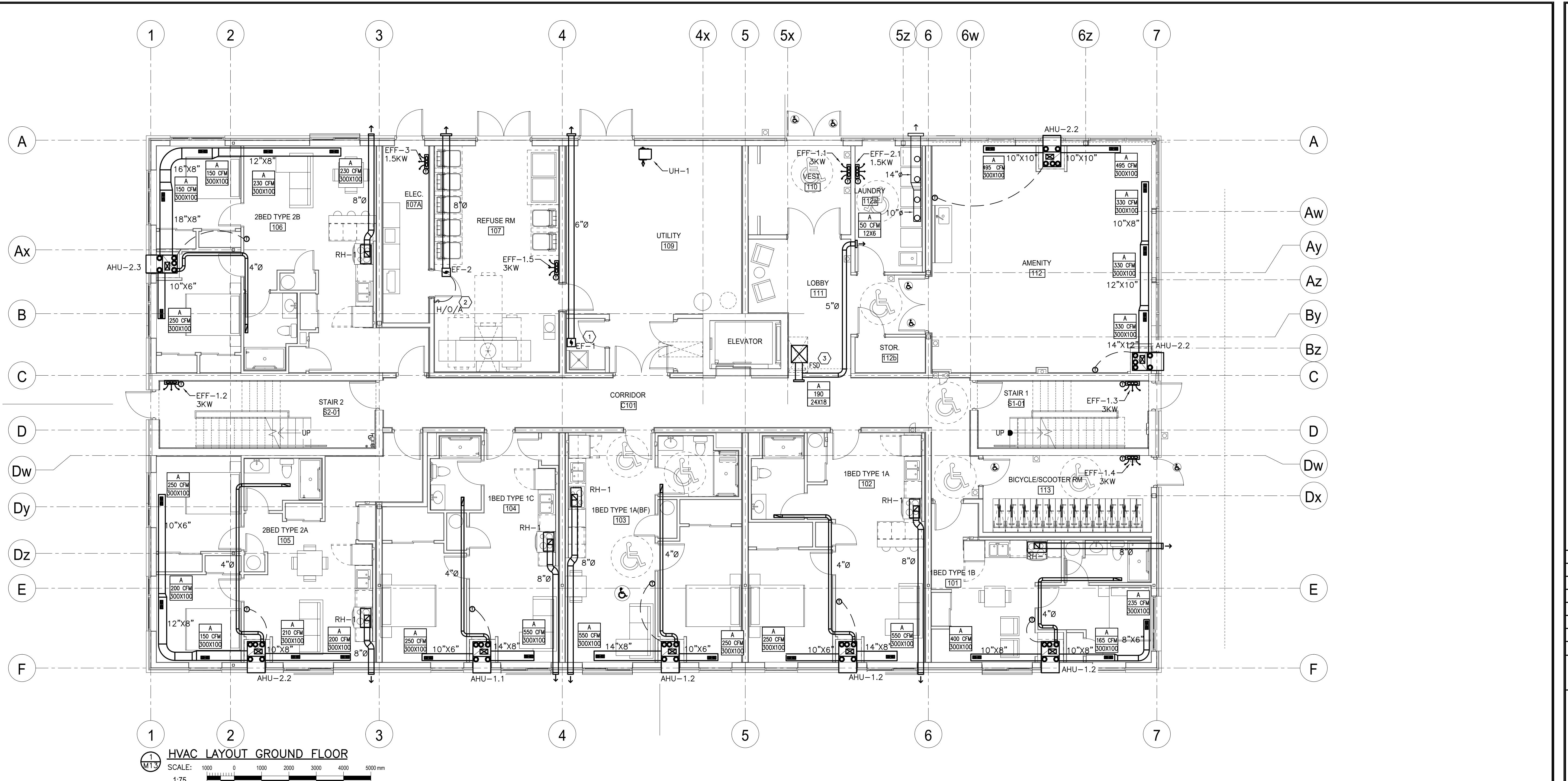
**E  
FIFTH FLOOR  
SANITARY**

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CKED	CSM	
ROVED	CSM	
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TITLE <b>ROOF AND SANITARY DETAILS</b>		
DESIGN	CSM	SCALE AS NOTED
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APPROVED	CSM	
PROJECT	7393	M12

CADD FILE NO. 7393M12



#### VENTILATION NOTES

1. 2 BEDROOM UNIT IS SHOWN, WHICH REQUIRES 46 CFM OF FRESH AIR. EACH HEAT PUMP UNIT PROVIDES 70 CFM FOR FRESH AIR, THEREFORE IS SUFFICIENT FOR BOTH THE TWO BEDROOM AND THE ONE BEDROOM UNITS.

Minimum Fresh Air Requirements						
Room Name	Occupant Load	Square Footage	Occupancy Category (Ashrae 62.1 Table 6.2.2.1)	People Outdoor Air Rate (cfm/person)	Area Outdoor Air Rate (cfm/ft^2)	Fresh air Required (CFM)
Ground Floor Corridor	0	515	General - Corridor	0	0.06	30.9
Ground Floor Lobby	2	242	General - Conference/meeting	5	0.06	24.52
Ground Floor Laundry	1	135	Hotels/Motels/Resorts/Dorms - Laundry Rooms, central	5	0.12	21.2
2 B/R unit, typ	2	546	Residential - Dwelling Unit	5	0.06	42.76
Total Fresh Air Required						76.62

MUA supplies 190 CFM of fresh air to floor common spaces, satisfying the required ventilation rate of 77 cfm. HP Units to supply 70 CFM, satisfying suite requirements.

- GENERAL NOTES

  1. INSULATE ALL FRESH AIR INTAKE DUCTS FROM EXTERIOR WALL TO UNIT, FOR ALL UNITS.
  2. ELECTRIC FAN FORCED HEATERS SUPPLIED AND INSTALLED BY MECHANICAL, POWER BY ELECTRICAL.
  3. AHU'S HAVE INTEGRAL SUPPLEMENTAL ELECTRIC HEAT. REFER TO SCHEDULE FOR DETAILS.
  4. SUITE WASHROOM EXHAUST IS INTEGRAL TO SUITE AIR HANDLING UNIT ERV SYSTEM.

## DRAWING NOTES

- 1 EXHAUST FAN CONTROL  
INTERLOCKED WITH LIGHTING  
CONTROLS. EXHAUST FAN SUPPLIED  
AND INSTALLED BY MECHANICAL,  
CONTROLS BY ELECTRICAL
  - 2 HAND/OFF/AUTO FOR GARBAGE  
ROOM, BY MECHANICAL. ON AUTO  
SHALL BE SET TO RUN  
CONTINUOUSLY
  - 3 FSD TO BE SUPPLIED AND  
INSTALLED BY MECHANICAL. POWER  
AND INTERCONNECTION WITH SMOKE  
DETECTOR BY ELECTRICAL

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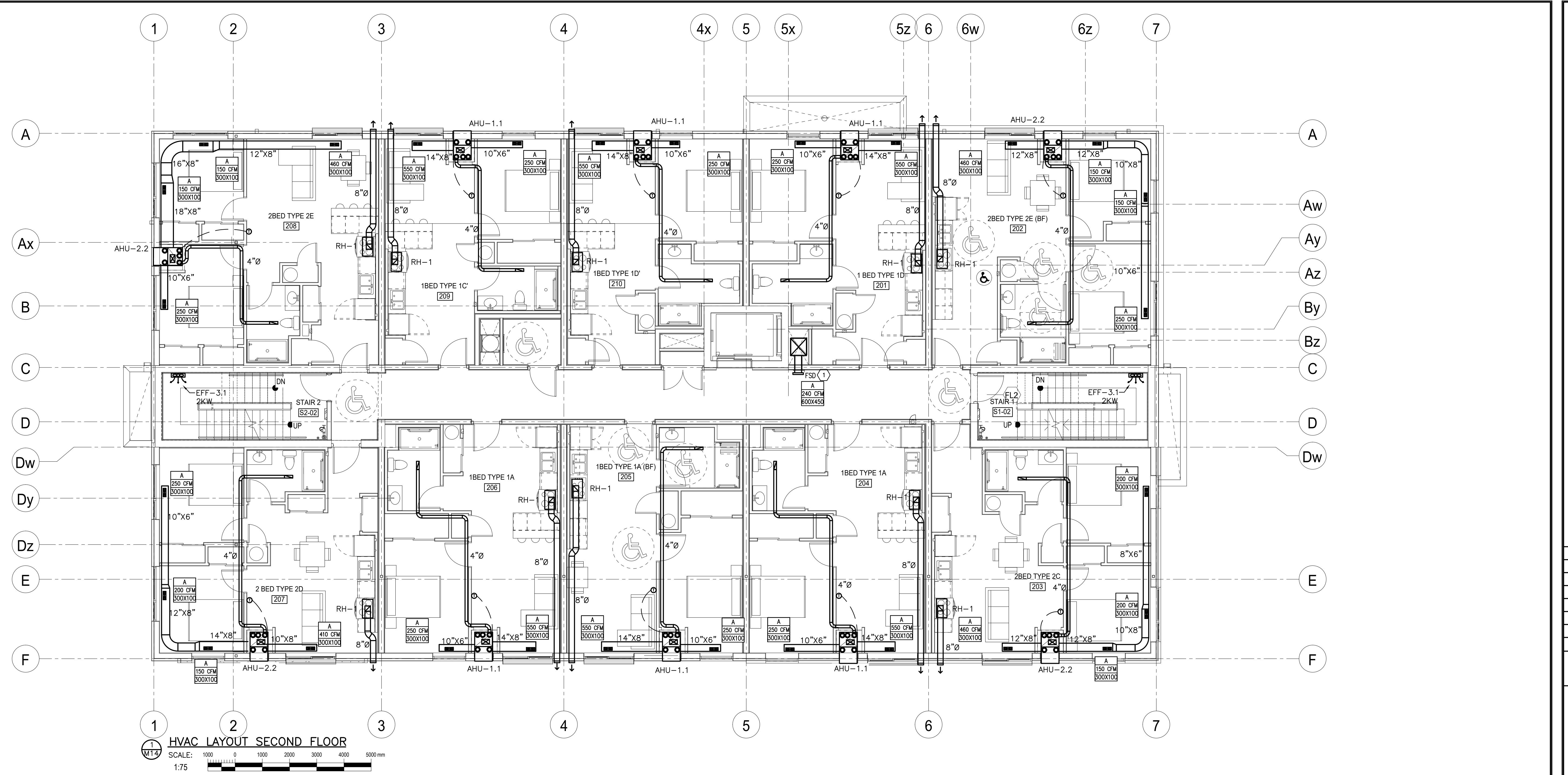
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**JCTC  
COURTICE SENIOR  
DEVELOPMENT**

1697 HIGHWAY No 2  
CLARINGTON ON

# **E GROUND FLOOR HVAC**

GN	CSM	SCALE AS NOTED
WN	KCS	DWG NO.
CKED	CSM	
ROVED	CSM	
EJECT	7393	M13



M14  
HVAC LAYOUT SECOND FLOOR

SCALE: 1000 0 1000 2000 3000 4000 5000 mm

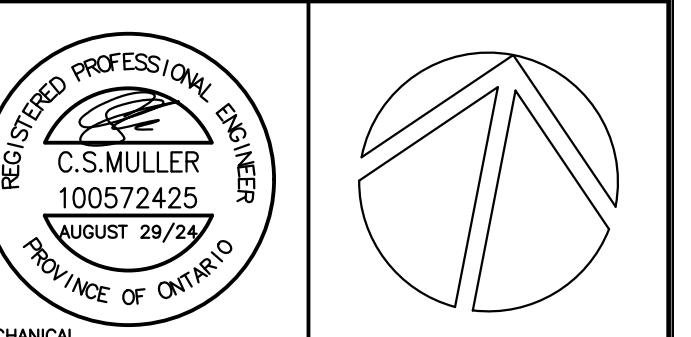
1:75

- GENERAL NOTES**
1. INSULATE ALL FRESH AIR INTAKE DUCTS FROM EXTERIOR WALL TO UNIT FOR ALL UNITS.
  2. ELECTRIC FAN FORCED HEATERS SUPPLIED AND INSTALLED BY MECHANICAL POWER BY ELECTRICAL.
  3. AHU'S HAVE INTEGRAL SUPPLEMENTAL ELECTRIC HEAT. REFER TO SCHEDULE FOR DETAILS.
  4. SUITE WASHROOM EXHAUST IS INTEGRAL TO SUITE AIR HANDLING UNIT ERV SYSTEM.

- DRAWING NOTES**
- ① FSD TO BE SUPPLIED AND INSTALLED BY MECHANICAL POWER AND INTERCONNECTION WITH SMOKE DETECTOR BY ELECTRICAL

0	ISSUED FOR TENDER	2024.08.29 CSM
NO.	DESCRIPTION	DATE BY
REVISIONS		

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PROJECT  
COURTICE SENIOR DEVELOPMENT

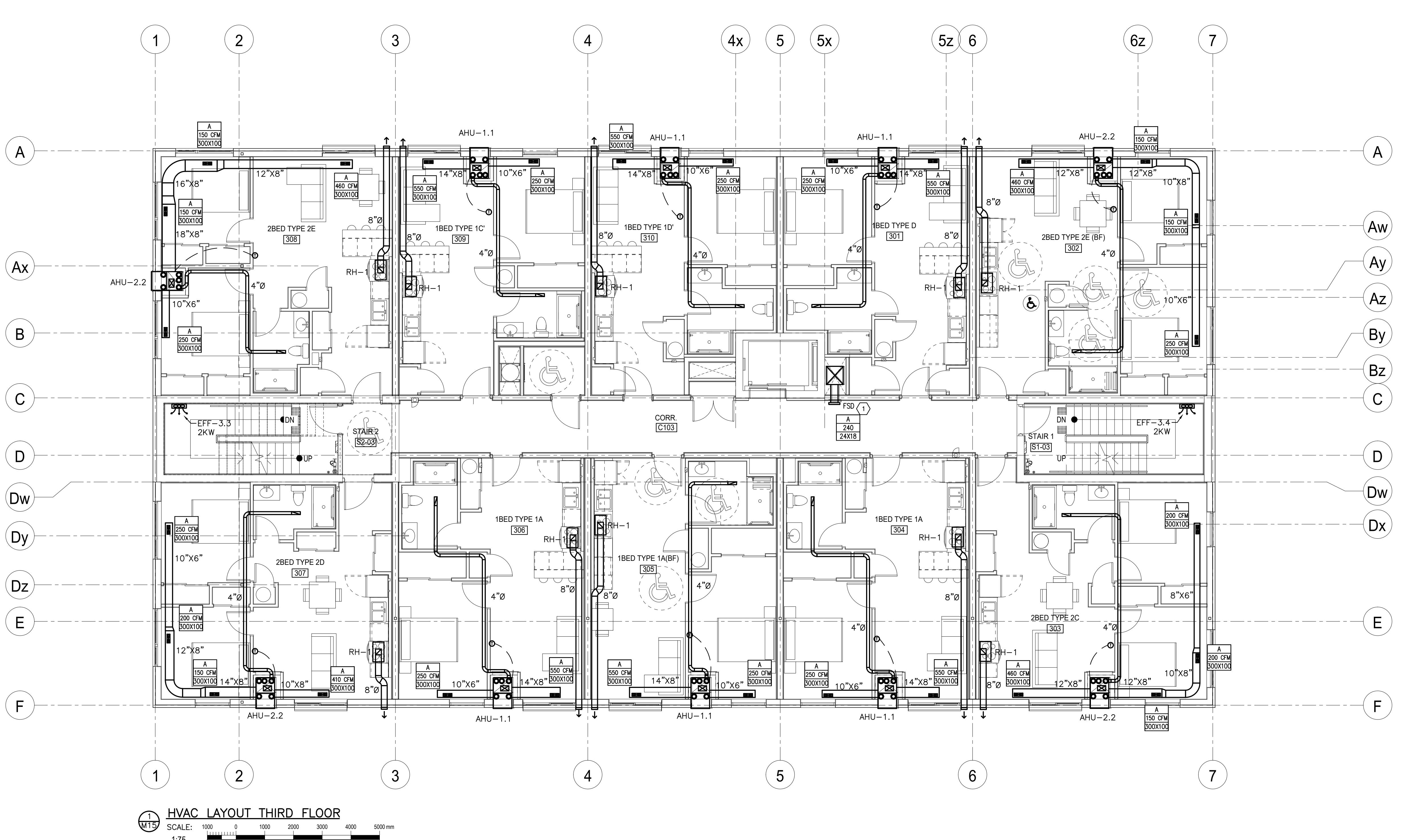
1697 HIGHWAY No 2  
CLARINGTON, ON

TITLE  
SECOND FLOOR  
HVAC

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	
APPROVED	CSM	
PROJECT	CSM	
		7393

**M14**

CADD FILE NO. 7393M14



## GENERAL NOT

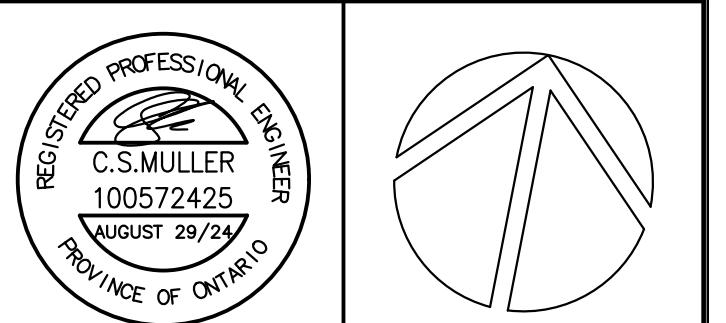
- INSULATE ALL FRESH AIR INTAKE DUCTS FROM EXTERIOR WALL TO UNIT, FOR ALL UNITS.  
ELECTRIC FAN FORCED HEATERS SUPPLIED AND INSTALLED BY MECHANICAL, POWER BY ELECTRICAL AHU'S HAVE INTEGRAL SUPPLEMENTAL ELECTRIC HEAT. REFER TO SCHEDULE FOR DETAILS.

SUITE WASHROOM EXHAUST IS INTEGRAL TO SUITE AIR HANDLING UNIT ERV SYSTEM.

## DRAWING NOTES

- 1** FSD TO BE SUPPLIED AND  
INSTALLED BY MECHANICAL POWER  
AND INTERCONNECTION WITH SMOKE  
DETECTOR BY ELECTRICAL

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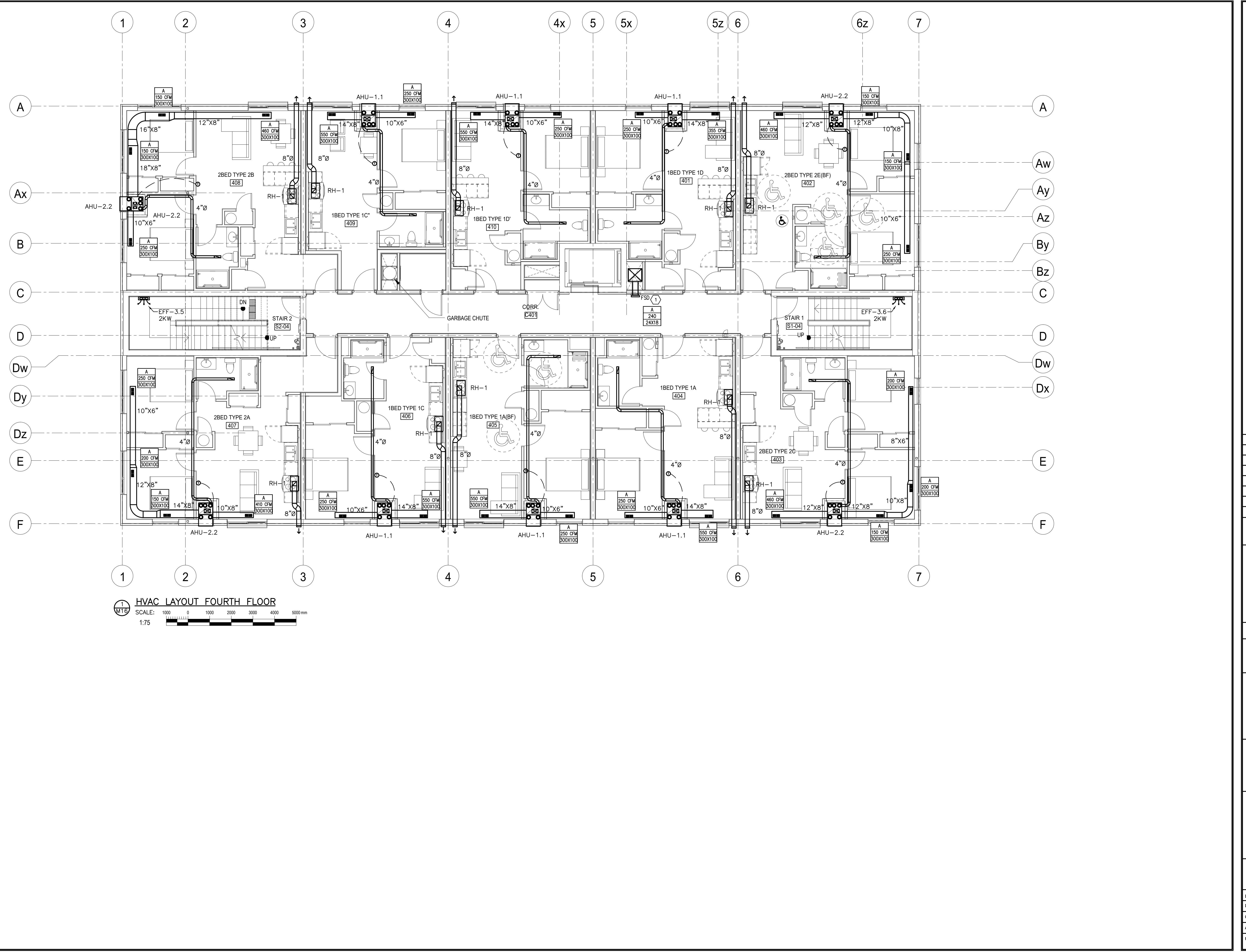
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# PROJECT **COURTICE SENIOR DEVELOPMENT**

**1697 HIGHWAY No 2  
CLARINGTON, ON**

**TITLE**  
**THIRD FLOOR**  
**HVAC**

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	
APPROVED	CSM	
PROJECT	7393	M15



- GENERAL NOTES**
1. INSULATE ALL FRESH AIR INTAKE DUCTS FROM EXTERIOR WALL TO UNIT FOR ALL UNITS.
  2. ELECTRIC FAN FORCED HEATERS SUPPLIED AND INSTALLED BY MECHANICAL POWER BY ELECTRICAL.
  3. AHU'S HAVE INTEGRAL SUPPLEMENTAL ELECTRIC HEAT. REFER TO SCHEDULE FOR DETAILS.
  4. SUITE WASHROOM EXHAUST IS INTEGRAL TO SUITE AIR HANDLING UNIT ERV SYSTEM.
  5. ALL IN-SUITE UNITS UPDATED TO VERTICAL HEAT PUMP AHU'S. DUCTING HAS BEEN MODIFIED TO SUIT.

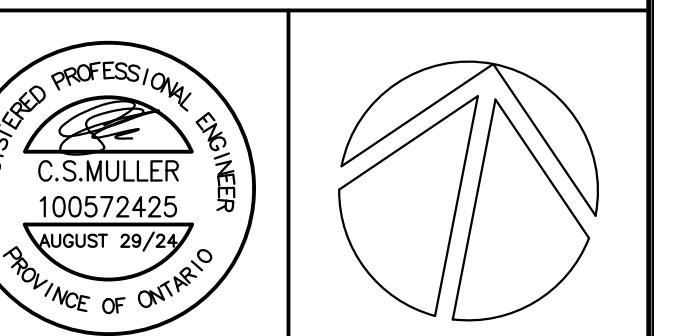
**DRAWING NOTES**

① FSD TO BE SUPPLIED AND INSTALLED BY MECHANICAL POWER AND INTERCONNECTION WITH SMOKE DETECTOR BY ELECTRICAL

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	2024.08.29	CSM

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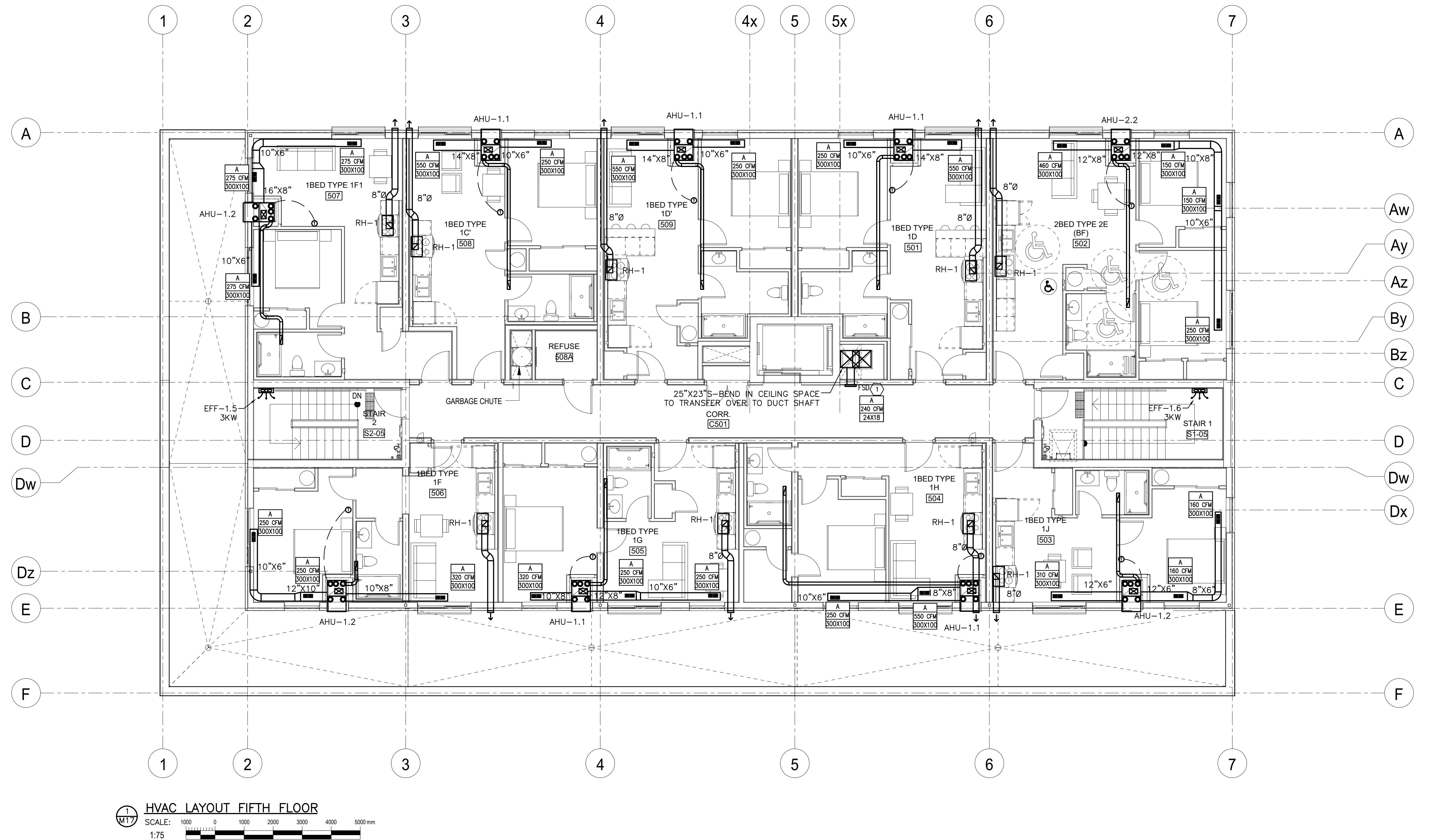
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PROJECT  
**COURTICE SENIOR DEVELOPMENT**

1697 HIGHWAY No 2  
CLARINGTON, ON

TITLE		
FOURTH FLOOR HVAC		
DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	
APPROVED	CSM	
PROJECT	CSM	
M16		
7393		



M17 HVAC LAYOUT FIFTH FLOOR  
SCALE: 1:75

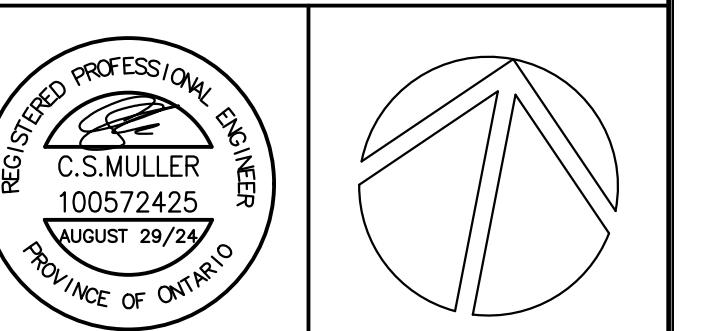
- GENERAL NOTES**
1. INSULATE ALL FRESH AIR INTAKE DUCTS FROM EXTERIOR WALL TO UNIT FOR ALL UNITS.
  2. ELECTRIC FAN FORCED HEATERS SUPPLIED AND INSTALLED BY MECHANICAL POWER BY ELECTRICAL.
  3. AHU'S HAVE INTEGRAL SUPPLEMENTAL ELECTRIC HEAT. REFER TO SCHEDULE FOR DETAILS.
  4. SUITE WASHROOM EXHAUST IS INTEGRAL TO SUITE AIR HANDLING UNIT ERV SYSTEM.
  5. ALL IN-SUITE UNITS UPDATED TO VERTICAL HEAT PUMP AHU'S. DUCTING HAS BEEN MODIFIED TO SUIT.

**DRAWING NOTES**

- ① FSD TO BE SUPPLIED AND INSTALLED BY MECHANICAL POWER AND INTERCONNECTION WITH SMOKE DETECTOR BY ELECTRICAL

0	ISSUED FOR TENDER	2024.08.29	CSM
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PROJECT  
COURTICE SENIOR DEVELOPMENT

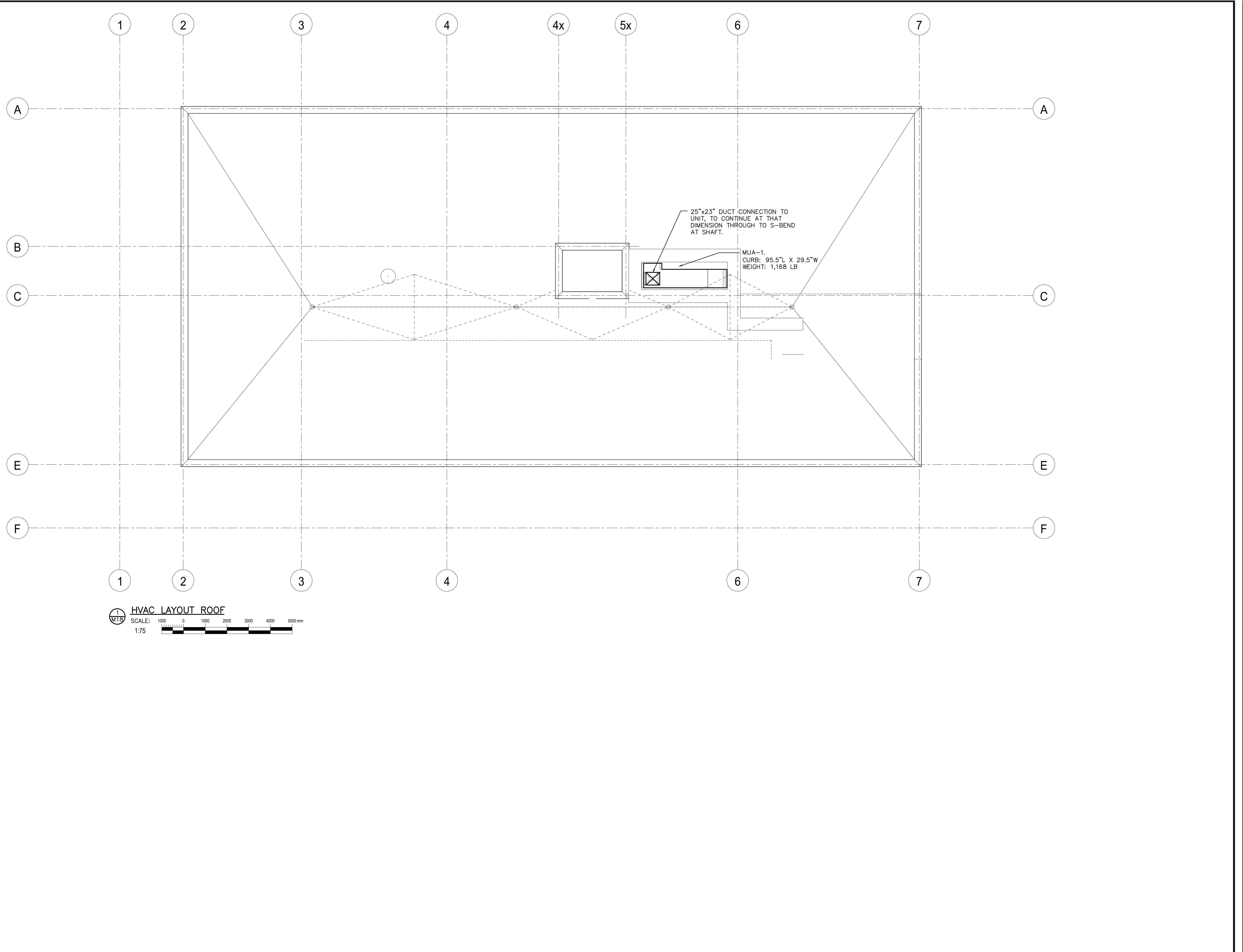
1697 HIGHWAY No 2  
CLARINGTON, ON

TITLE  
5TH FLOOR HVAC LAYOUT

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	
APPROVED	CSM	
PROJECT	CSM	

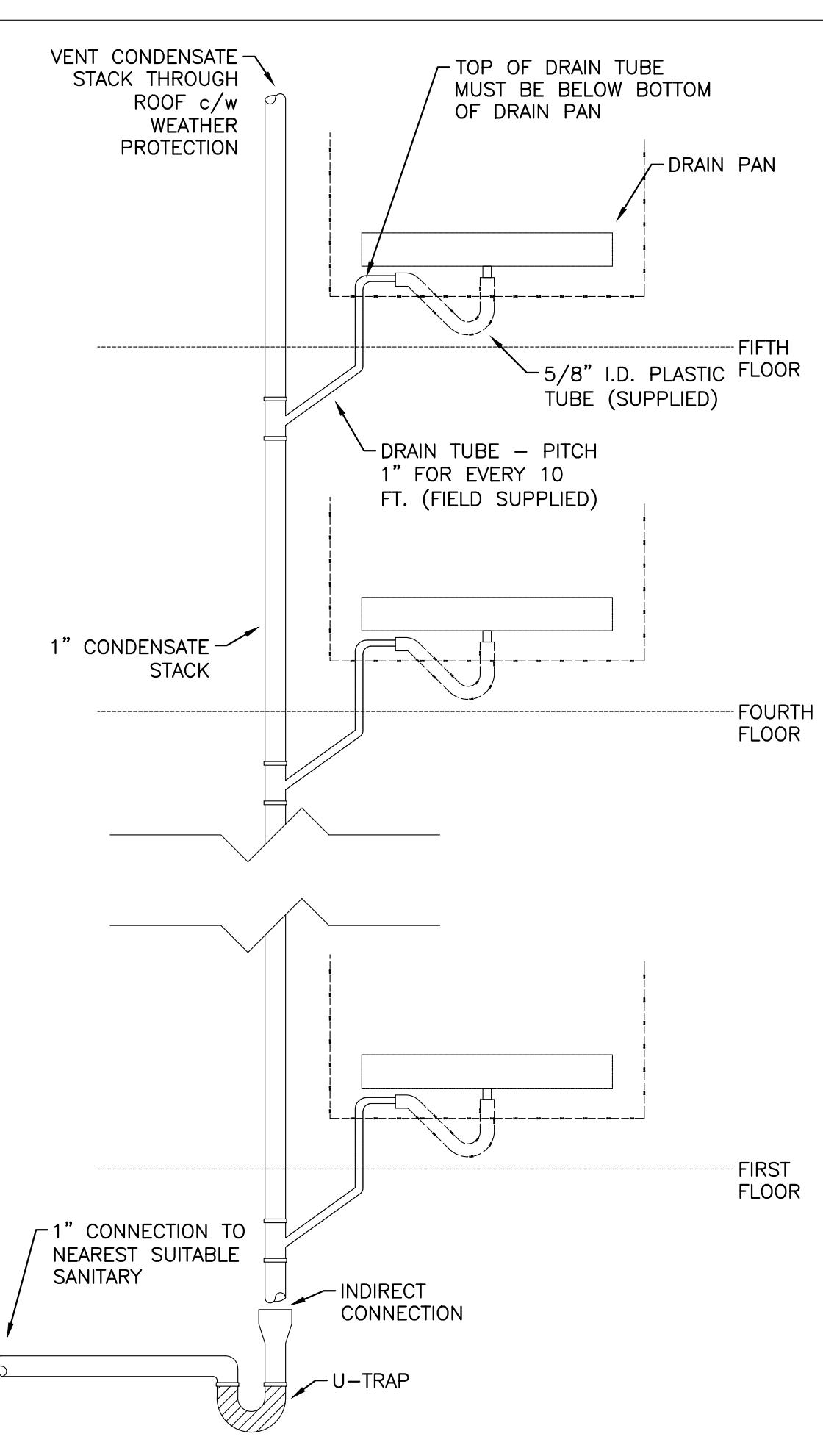
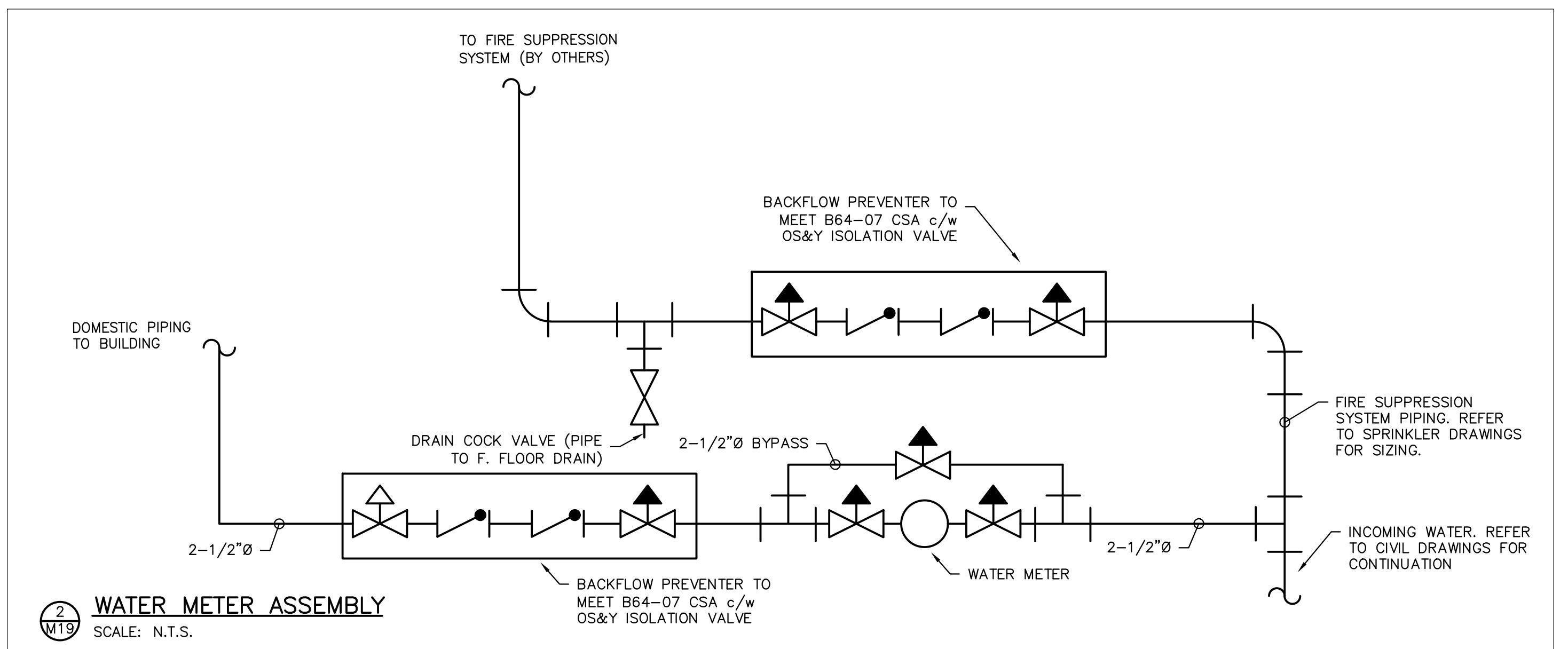
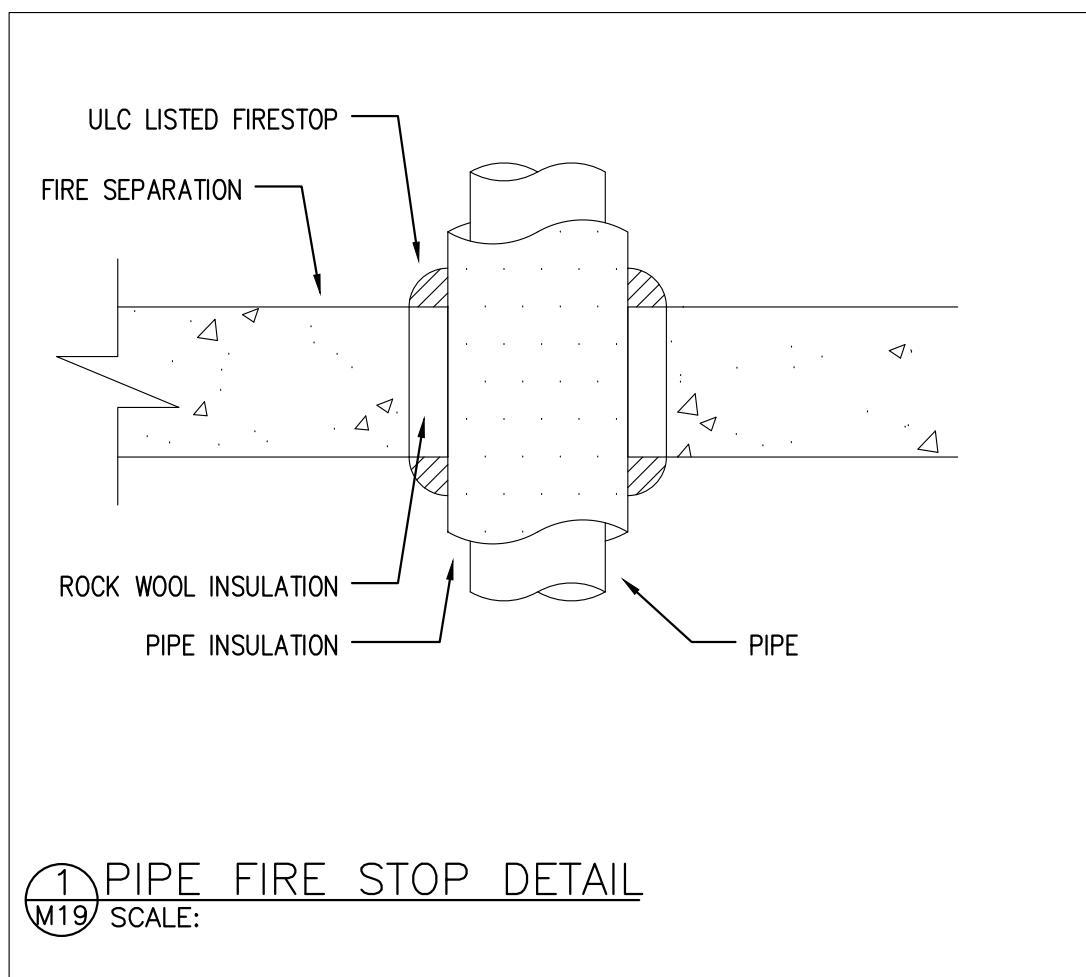
M17  
7393

CADD FILE NO. 7393M17

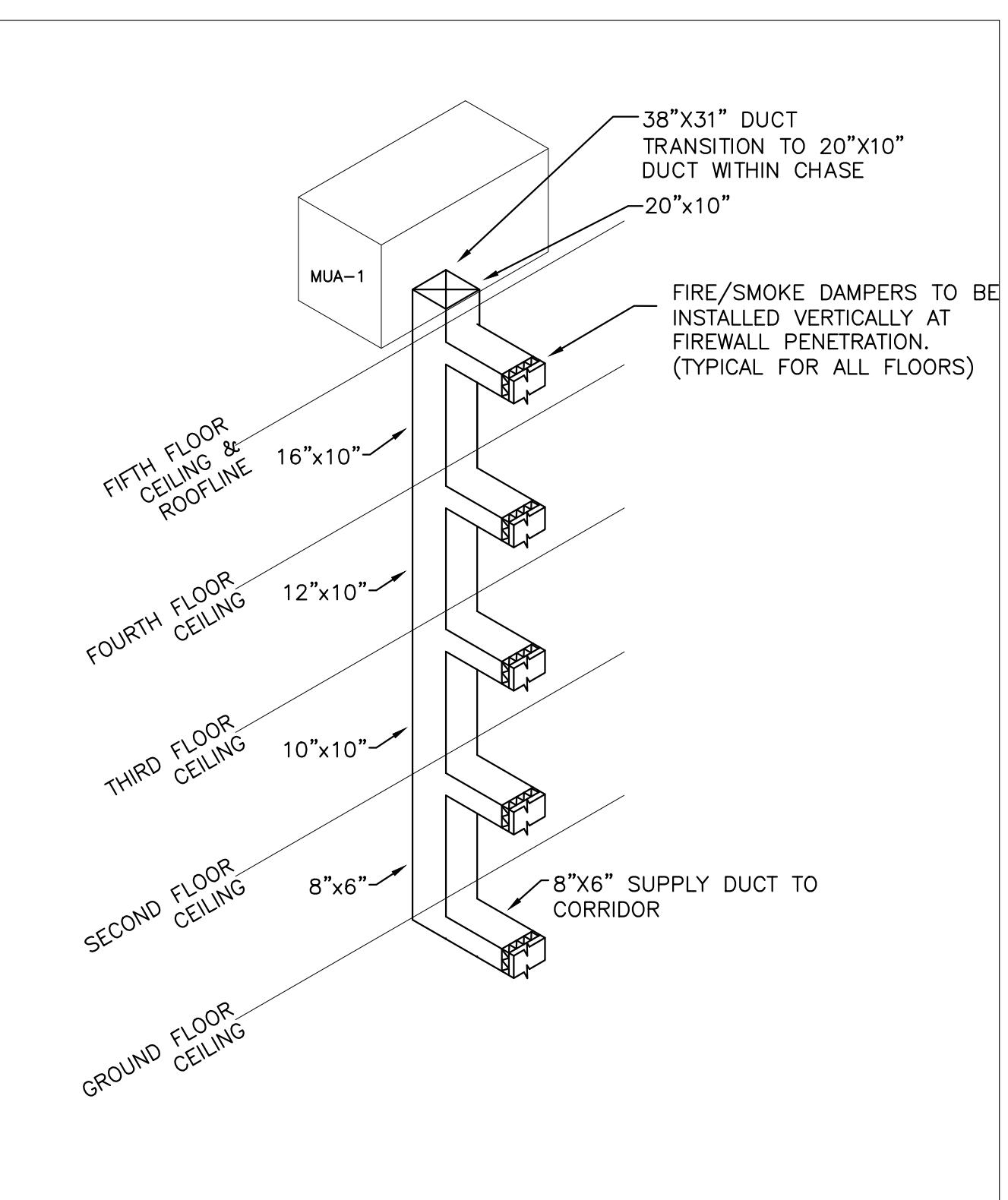
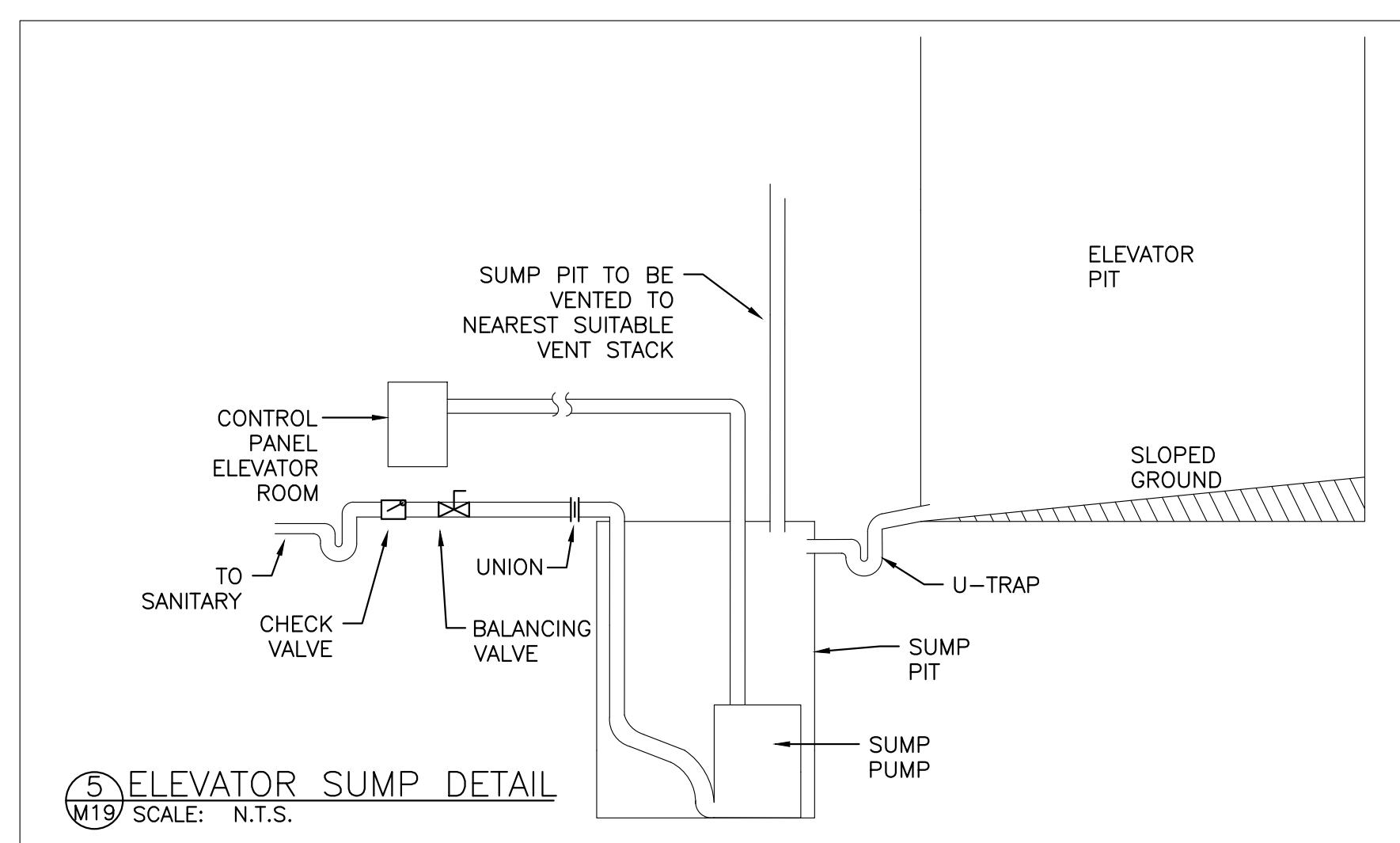


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PROJECT			
COURTICE SENIOR DEVELOPMENT			
1697 HIGHWAY No 2 CLARINGTON, ON			
TITLE			
ROOF HVAC LAYOUT			
DESIGN	CSM	SCALE AS NOTED	DWG NO.
DRAWN	KCS		
CHECKED	CSM		
APPROVED	CSM		
PROJECT	M18		
7393			

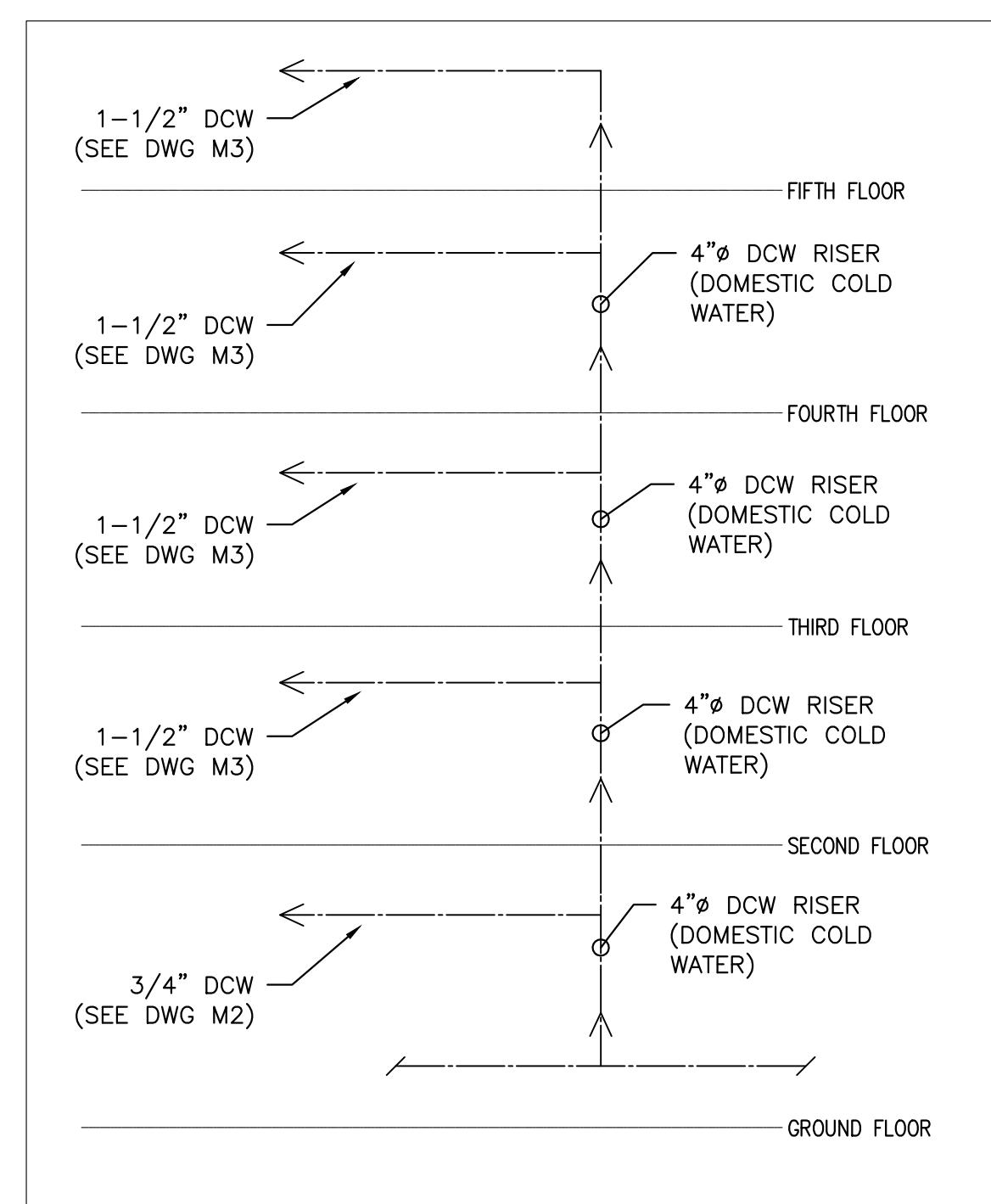
CADD FILE NO. 7393M18



**4 SUIT UNIT EVAPORATOR CONDENSATE DRAIN DETAIL**  
M19 SCALE: N.T.S.

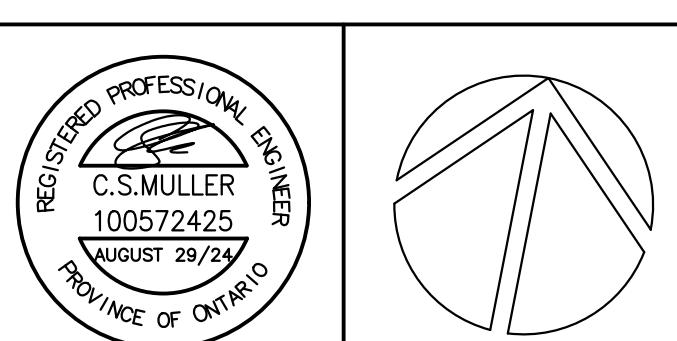


**6 CORRIDOR MUA-1 DUCT DETAIL**  
M19 SCALE: N.T.S.



**3 COLD WATER RISER**  
M19 SCALE:

0	ISSUED FOR TENDER	2024.08.29 CSM
NO.	DESCRIPTION	DATE BY
		REVISIONS
Kirkland Engineering Ltd BCIN: 28857		



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PROJECT  
**COURTICE SENIOR DEVELOPMENT**

1697 HIGHWAY No 2  
CLARINGTON, ON

TITLE  
**MECHANICAL DETAILS**

DESIGN	CM	SCALE AS NOTED
DRAWN	ABS	DWG NO.
CHECKED	CM	
APPROVED	CM	
PROJECT		
<b>M19</b>		
7393		

**M19**

CADD FILE NO. 7393M19

RANGE HOOD SCHEDULE								
IDENT.	QTY	MANUFACTURER	TYPE	POWER	MODEL	CFM/STATIC PRESSURE	REMARKS	
RH-1	46	AIR KING	CEILING MTD.	120V/1/60 73W 1.0A	ADA COMPLIANT ES SERIES	251 CFM @ 0.15" WG	COMPLETE WITH WALL CONTROL, TO BE MOUNTED ON CABINERY, COORDINATE COLOUR SELECTION WITH ARCHITECT. COORDINATE WIDTH WITH ARCHITECT.	

SUMP PUMP						
IDENT.	MANUFACTURER	MODEL	ELECTRICAL	DISCHARGE SIZE	CAPACITY	REMARKS
SP-1	LIBERTY	P382LE51	1/2 HP 115V/1/60	2"Ø DISCHARGE	41 GALLON	24" X 24" PUMP. ALM-2 HIGH LEVEL ALARM COMPLETE WITH FLOATS. SIMPLEX SYSTEM.

ELECTRONIC TRAP PRIMER						
IDENT.	MANUFACTURER	MODEL	INLET & OUTLET	REMARKS		
ETP-1	ZURN	Z1020-10	1/2"Ø	ELECTRONIC TRAP PRIMER, 24VAC, 13mm INLET, PROGRAMMED ELECTRONIC TIMER, MANUAL OVERRIDE, 10 OUTLET c/w 120:24VAC TRANSFORMER		

EXHAUST FAN SCHEDULE									
IDENT.	MANUFACTURER	TYPE	ELECTRICAL	DUCT SIZE	MODEL	CFM/STATIC PRESSURE	MOTOR (HP)	OPER. FAN (RPM)	NOTES
EF-1	GREENHECK	CEILING MTD.	120V/1/60 1.70A 128 MAX INPUT WATTS	6"Ø	SP-B150	155 CFM @ 0.125" WG	—	1050	c/w BACKDRAFT DAMPER, DISCONNECT, MOUNTING BRACKETS, CONTROLLED BY OCCUPANCY SENSOR.
EF-2	GREENHECK	CEILING MTD.	120V/1/60 1.34A 135 MAX INPUT WATTS	8"Ø	SP-A390	395 CFM @ 0.1" WG	—	1350	c/w BACKDRAFT DAMPER, DISCONNECT, MOUNTING BRACKETS, CONTROLLED BY OCCUPANCY SENSOR.

UNIT HEATER SCHEDULE								
IDENT.	MANUFACTURER	TYPE	POWER	HEATING	MODEL	REMARKS		
UH-1.1	REZNOR	GAS-FIRED COMMERCIAL UNIT HEATER	120/1/60	IN: 30,000 BTU/H OUT: 24,600 BTU/H	UDX30	POWER VENTED, LOW STATIC AXIAL FAN COMMERCIAL/INDUSTRIAL UNIT HEATER B2-83% THERMAL EFFICIENCY. PROPANE GAS CONVERSION KIT COMPLETE WITH SINGLE-STAGE PROPANE GAS VALVE.		

MUA SCHEDULE									
IDENT.	LOCATION	MANUFACTURER	TYPE	POWER	MODEL	CAPACITY (MBH)	SUPPLY	CONTROL	REMARKS
MUA-1	ROOF	GREENHECK	INDIRECT GAS MAKE UP AIR UNIT	208/60/3 MCA: 5A MOP: 15A	IGX-P109-H12-MF-C	HEATING: 100,000 IN 80,000 OUT	1,200 CFM	CONSTANT VOLUME 100% OA	GAS FIRED MAKE UP AIR UNIT, HEATING ONLY. COMPLETE WITH HOUSEKEEPING PAD, PER MANUFACTURER RECOMMENDATIONS. BOTTOM DISCHARGE NO RETURN

SUITE AHU SCHEDULE												
IDENT.	MANUFACTURER	TYPE	VOLTAGE	MIN. CIRCUIT AMPACITY (MCA)	MAX. OVERCURRENT PROTECTION (MOP)	MODEL	QTY	HEAT PUMP CAPACITY @17F DB HEATING AND @95F DB COOLING	ELECTRIC HEAT	SUPPLY	CONTROL	REMARKS
AHU-1.1 SERIES	FIRST CO.	VERTICAL HEAT PUMP AHU	208/1/60	CIRCUIT 1 (HEAT PUMP): 19A CIRCUIT 2 (ELEC HEAT): 26A	CIRCUIT 1 (HEAT PUMP): 25A CIRCUIT 2 (ELEC HEAT): 30A	EPE24205B	24	HEATING: 14.0 MBH COOLING: 23.5 MBH	5.0 KW	800 CFM	THERMOSTAT	VERTICAL HEAT PUMP, COMPLETE WITH INTEGRAL ERV. C/W HONEYWELL #THX321WS2001W THERMOSTAT, W AUX HEAT LOCKOUT AND VENTILATION CONTROL. COORDINATE SELECTION OF WALL SLEEVE AND TOP PORTS WITH ROOM LAYOUT. C/W EXTERIOR LOUVER (COORDINATE COLOUR SELECTION WITH ARCHITECT). C/W LOUVERED RETURN AIR ACCESS PANEL, PART #931-20 C/W HONEYWELL #H6062 HUMIDISTAT
AHU-1.2 SERIES	FIRST CO.	VERTICAL HEAT PUMP AHU	208/1/60	CIRCUIT 1 (HEAT PUMP): 19A CIRCUIT 2 (ELEC HEAT): 36A	CIRCUIT 1 (HEAT PUMP): 25A CIRCUIT 2 (ELEC HEAT): 40A	EPE24207B	6	HEATING: 14.0 MBH COOLING: 23.5 MBH	7.0 KW	800 CFM	THERMOSTAT	VERTICAL HEAT PUMP, COMPLETE WITH INTEGRAL ERV. C/W HONEYWELL #THX321WS2001W THERMOSTAT, W AUX HEAT LOCKOUT AND VENTILATION CONTROL. COORDINATE SELECTION OF WALL SLEEVE AND TOP PORTS WITH ROOM LAYOUT. C/W EXTERIOR LOUVER (COORDINATE COLOUR SELECTION WITH ARCHITECT). C/W LOUVERED RETURN AIR ACCESS PANEL, PART #931-20 C/W HONEYWELL #H6062 HUMIDISTAT
AHU-2.2 SERIES	FIRST CO.	VERTICAL HEAT PUMP AHU	208/1/60	CIRCUIT 1 (HEAT PUMP): 22A CIRCUIT 2 (ELEC HEAT): 36A	CIRCUIT 1 (HEAT PUMP): 30A CIRCUIT 2 (ELEC HEAT): 40A	EPE30207B	16	HEATING: 15.8 MBH COOLING: 25.5 MBH	7.0 KW	900 CFM	THERMOSTAT	VERTICAL HEAT PUMP, COMPLETE WITH INTEGRAL ERV. C/W HONEYWELL #THX321WS2001W THERMOSTAT, W AUX HEAT LOCKOUT AND VENTILATION CONTROL. COORDINATE SELECTION OF WALL SLEEVE AND TOP PORTS WITH ROOM LAYOUT. C/W EXTERIOR LOUVER (COORDINATE COLOUR SELECTION WITH ARCHITECT). C/W LOUVERED RETURN AIR ACCESS PANEL, PART #931-20 C/W HONEYWELL #H6062 HUMIDISTAT
AHU-2.3 SERIES	FIRST CO.	VERTICAL HEAT PUMP AHU	208/1/60	CIRCUIT 1 (HEAT PUMP): 23A CIRCUIT 2 (ELEC HEAT): 52A	CIRCUIT 1 (HEAT PUMP): 35A CIRCUIT 2 (ELEC HEAT): 60A	EPE30210B	1	HEATING: 15.8 MBH COOLING: 25.5 MBH	10.0 KW	900 CFM	THERMOSTAT	VERTICAL HEAT PUMP, COMPLETE WITH INTEGRAL ERV. C/W HONEYWELL #THX321WS2001W THERMOSTAT, W AUX HEAT LOCKOUT AND VENTILATION CONTROL. COORDINATE SELECTION OF WALL SLEEVE AND TOP PORTS WITH ROOM LAYOUT. C/W EXTERIOR LOUVER (COORDINATE COLOUR SELECTION WITH ARCHITECT). C/W LOUVERED RETURN AIR ACCESS PANEL, PART #931-20 C/W HONEYWELL #H6062 HUMIDISTAT

HOT WATER HEATER								
IDENT.	QTY	MANUFACTURER	MODEL	CAPACITY	ELECTRICAL	FIRST HOUR RATING	REMARKS	
HWH-1	46	BRADFORD WHITE	RE130L6	28 USG	208V 4500W	42 GPH	COMMERCIAL-GRADE RESIDENTIAL WATER HEATER. HEIGHT OF TANK: 29-9/16". DIAMETER: 20"Ø.	
HWH-2	1	AOSMITH	ECT80	80 USG	208V 5500W	85 GPH	COMMERCIAL-GRADE RESIDENTIAL WATER HEATER. HEIGHT OF TANK: 60-1/2". DIAMETER: 24"Ø.	

ELECTRIC HEATERS								
IDENT.	MANUFACTURER	POWER	TYPE	MODEL	HEATING CAPACITY (kW)	FINISH	CONTROL	REMARKS
EFF-1.1 TO EFF-1.6	OUELLET	208/1/60	ELECTRIC FAN FORCED HEATER	OAC04000-T	3.0 kW	BY OWNER	UNIT MOUNTED THERMOSTAT	WALL MOUNTED ELECTRIC FAN FORCED HEATER ORDERED C/W WITH INTEGRAL THERMOSTAT.
EFF-2.1	OUELLET	208/1/60	ELECTRIC FAN FORCED HEATER	OAC02000-T	1.5 kW	BY OWNER	UNIT MOUNTED THERMOSTAT	WALL MOUNTED ELECTRIC FAN FORCED HEATER ORDERED C/W WITH INTEGRAL THERMOSTAT.
EFF-3.1 TO EFF-3.6	OUELLET	208/1/60	ELECTRIC FAN FORCED HEATER	OAC03000-T	2.0 kW	BY OWNER	UNIT MOUNTED THERMOSTAT	WALL MOUNTED ELECTRIC FAN FORCED HEATER ORDERED C/W WITH INTEGRAL THERMOSTAT.

PLUMBING/GENERAL SCHEDULE				
IDENT.	ITEM	MANUFACTURER	MODEL	DESCRIPTION
CO	CLEAN OUT	MIFAB	C1100	ADJUSTABLE FLOOR CLEANOUT WITH CAST IRON BODY c/w 2" PIPE,
FD	FLOOR DRAIN	MIFAB	F1100	CAST IRON FLOOR DRAIN WITH POLISHED NICKEL BRONZE STRAINER
HB-1	HOSE BIBB	ZURN	Z1345-CP3	EXPOSED NON-FREEZE, ANTI-SIPHON, COLD WALL FAUCET, CHROME FINISH, 3/4" (19mm) FEMALE/MALE INLET CONNECTIONS, 3/4" MALE HOSE CONNECTION. CONTRACTOR TO SPECIFY LENGTH TO SUIT WALL THICKNESS, TO BE PROVIDED WITH ZURN #720A, 19mm (3/4") PRESSURE VACUUM BREAKER ASSEMBLY(S), SUCH THAT BACKFLOW IS PREVENTED FROM ENTERING COLD WATER PIPING. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

0 ISSUED FOR TENDER	2024.08.29	CSM
NO. DESCRIPTION	DATE	BY
REVISIONS		
Kirkland Engineering Ltd BCIN: 28857		
<img alt="Registered Professional Engineer Seal		

WC-1: TOILET – FLOOR MOUNTED WITH FLOOR OUTLET  
AMERICAN STANDARD 215AA104.020 TOILET – CADET® PRO™, TANK TYPE TOILET, FLOOR MOUNTED WITH FLOOR OUTLET, HIGH EFFICIENCY HET 4.8 LPF (1.28 GPF), WHITE FINISH VITREOUS CHINA, EVERCLEAN® ANTIMICROBIAL SURFACE, ELONGATED BOWL, RIGHT HEIGHT® RIM AT 419 MM (16-1/2"), MINIMUM 305 MM (12") ROUGH-IN FROM WALL TO THE CENTER OF WASTE OUTLET, SIPHON JET FLUSH ACTION, MANUAL, POLISHED CHROME LEFT-HAND TRIP LEVER (7381231-200.0020A), GRAVITY-ASSISTED FLUSH, CADET® FLUSHING SYSTEM, 76 MM (3") FLUSH VALVE, METAL SHANK FILL VALVE, TOILET SEAT NOT INCLUDED, COMPLIANCES: ASME A112.19.2 COMPLIANT, CSA B45.1 COMPLIANT, EPA WATERSENSE® COMPLIANT, AMERICAN STANDARD 5901100.020 SEAT – COMMERCIAL, FOR ELONGATED BOWL, OPEN FRONT, HEAVY-DUTY, FOR COMMERCIAL APPLICATIONS, POLYPROPYLENE, TOILET SEAT, LESS SEAT COVER, EXTERNAL CHECK HINGE WITH 304 SERIES STAINLESS STEEL HINGE POSTS, STOPS SEAT 11" BEYOND VERTICAL, SPECIFIED IN WHITE FINISH, AND LARGE MOLDED-IN BUMPERS, DIMENSIONS: 25 MM (1") HIGH, 471 MM (18-9/16") LONG, 365 MM (14-3/8") WIDE

MCGUIRE LFBV172 SUPPLY – LEAD FREE, WITH CHROME-PLATED FINISH, CONVERTIBLE QUARTER-TURN SUPPLY , TOILET, TWO 13 MM (1/2") COPPER SWEAT X 10 MM (3/8") OUTER Ø BRASS BALL VALVE CONNECTION, 2 DEEP BELL FLANGE, CONVERTIBLE LOOSE KEY HANDLE, EXTENSION IS 127 MM (5") LENGTH, 304 MM (12") COPPER FLEXIBLE RISERS.

WC-2: TOILET – BF FLOOR MOUNTED WITH FLOOR OUTLET  
AMERICAN STANDARD 215AA104.020 TOILET – CADET® PRO™, TANK TYPE TOILET, FLOOR MOUNTED WITH FLOOR OUTLET, HIGH EFFICIENCY HET 4.8 LPF (1.28 GPF), WHITE FINISH VITREOUS CHINA, EVERCLEAN® ANTIMICROBIAL SURFACE, ELONGATED BOWL, RIGHT HEIGHT® RIM AT 419 MM (16-1/2"), MINIMUM 305 MM (12") ROUGH-IN FROM WALL TO THE CENTER OF WASTE OUTLET, SIPHON JET FLUSH ACTION, MANUAL, POLISHED CHROME LEFT-HAND TRIP LEVER (7381231-200.0020A), GRAVITY-ASSISTED FLUSH, CADET® FLUSHING SYSTEM, 76 MM (3") FLUSH VALVE, TOILET SEAT NOT INCLUDED, COMPLIANCES: ASME A112.19.2 COMPLIANT, CSA B45.1 COMPLIANT, EPA WATERSENSE® COMPLIANT, AMERICAN STANDARD 5901100.020 SEAT – COMMERCIAL, FOR ELONGATED BOWL, OPEN FRONT, HEAVY-DUTY, FOR COMMERCIAL APPLICATIONS, POLYPROPYLENE, TOILET SEAT, LESS SEAT COVER, EXTERNAL CHECK HINGE WITH 304 SERIES STAINLESS STEEL HINGE POSTS, STOPS SEAT 11" BEYOND VERTICAL, SPECIFIED IN WHITE FINISH, AND LARGE MOLDED-IN BUMPERS, DIMENSIONS: 25 MM (1") HIGH, 471 MM (18-9/16") LONG, 365 MM (14-3/8") WIDE

MCGUIRE LFBV172 SUPPLY – LEAD FREE, WITH CHROME-PLATED FINISH, CONVERTIBLE QUARTER-TURN SUPPLY , TOILET, TWO 13 MM (1/2") COPPER SWEAT X 10 MM (3/8") OUTER Ø BRASS BALL VALVE CONNECTION, 2 DEEP BELL FLANGE, CONVERTIBLE LOOSE KEY HANDLE, EXTENSION IS 127 MM (5") LENGTH, 304 MM (12") COPPER FLEXIBLE RISERS.

L-1: LAVATORY  
AMERICAN STANDARD 0475047.020 BASIN – DROP-IN LAVATORY, VITREOUS CHINA, WHITE FINISH, SINGLE HOLE CENTERSET, FRONT OVERFLOW, WITH FAUCET LEDGE, OVERALL DIMENSIONS: 518 MM (20-3/8") LONG, 441 MM (17-3/8") WIDE, 178 MM (7") HIGH, BOWL DIMENSIONS: 406 MM (16") LONG, 254 MM (10") WIDE, 143 MM (5-5/8") DEEP  
AMERICAN STANDARD 7075100.002 FAUCET – COLONY®, COUNTER MOUNTED, MANUAL, SINGLE HANDLE, LAVATORY FAUCET, POLISHED CHROME FINISH, SINGLE HOLE CENTERSET, LEAD FREE ANSI/NSE 61 AND ANSI/NF 372 COMPLIANT, METAL BODY, 610 MM (24") COLOUR-CODED BRAIDED FLEXIBLE SUPPLY HOSES WITH 10 MM (3/8") COMPRESSION CONNECTIONS, CERAMIC DISC CARTRIDGE, 4.5 LPM (1.2 GPM) MAXIMUM FLOWRATE, PRESSURE COMPENSATING AERATOR, MID-ARC SPOUT, 111 MM (4-3/8") SPOUT REACH, 157 MM (6-3/16") HIGH, LEVER HANDLE, METAL POP-UP DRAIN.  
LAWLER 570-86820 MIXING VALVE – POINT OF USE AND MASTER CONTROLLED FIXTURES, THERMOSTATIC MASTER WATER MIXING CONTROL VALVE, LEAD FREE BRASS BODY CONSTRUCTION, NICKEL PLATED FINISH, 1.9 – 30 LPM (0.5 – 8 GPM) RANGE FOR FLOWRATE, 11 LPM (3 GPM) TEMPERED FLOWRATE @ 5 PSI PRESSURE DROP, 4-7/8" (124 MM) HEIGHT, ASSE 1070 APPROVED CERTIFIED TO CSA B125.3 FOR ASSE 1070 APPLICATIONS, 3/8" MNPT (9.5 MM) INLET, 95-115 °F OUTLET WATER TEMPERATURE RANGE, 3/8" MNPT (9.5 MM) OUTLET, 7 GPM FLOWRATE @ 45 PSI

MCGUIRE 155A FIXTURE DRAIN – STRAIGHT DRAIN, CAST BRASS, CHROME-PLATED FINISH, OPEN GRID PO PLUG, 7/32" (5.5 MM) Ø HOLES SIZE, 17 GAUGE 32 MM (1-1/4") Ø TAILPIECE DIAMETER, 17 GAUGE 152 MM (6") LONG, BRASS LOCKNUT, HEAVY RUBBER BASIN WASHER FIBER FRiction WASHER, ASME A112.18.2 CSA B125.2, CSA COMPLIANT  
MCGUIRE LFH165LN3 SUPPLY – LEAD FREE, SHALL BE CONSTRUCTED FROM CAST BRASS VALVE, WITH CHROME-PLATED FINISH, LAVATORY SUPPLY, 10 MM (3/8") I.P.S. INLET, 10 MM (3/8") Ø OUTLET, CONVERTIBLE LOOSE KEY HANDLE, N3 – 76 MM (3") LONG RIGID HORIZONTAL NIPPLES.  
MCGUIRE 8872C P-TRAP – HEAVY CAST BRASS, ADJUSTABLE P-TRAP, 292 MM (11-1/2") DISTANCE, WITH CLEANOUT PLUG, STEEL SHALLOW FLANGE, NEOPRENE GASKET, SLIPNUTS, 17 GAUGE SEAMLESS TUBULAR WALL BEND, ASME A112.18.2 CSA B125.2, CSA COMPLIANT

L2 – BF LAVATORY  
AMERICAN STANDARD 0955001EC.020 0059020EC.020 BASIN – MURRO, WALL-HUNG LAVATORY, VITREOUS CHINA, EVERCLEAN® ANTIMICROBIAL SURFACE, WHITE FINISH, SINGLE HOLE CENTERSET, REAR OVERFLOW, FAUCET LEDGE WITH RECESSED SELF-DRAINING DECK, FOR CONCEALED ARM OR WALL SUPPORT, VITREOUS CHINA SHROUD/KNEE CONTACT GUARD WITH EVERCLEAN (0059020EC), OVERALL DIMENSIONS: 545 MM (21-7/16") LONG, 540 MM (21-1/4") WIDE, 152 MM (6") HIGH, BOWL DIMENSIONS: 343 MM (13-1/2") LONG, 394MM (15-1/2") WIDE, 127 MM (5") DEEP  
AMERICAN STANDARD 7075100.002 FAUCET – COLONY®, COUNTER MOUNTED, MANUAL, SINGLE HANDLE, LAVATORY FAUCET, POLISHED CHROME FINISH, SINGLE HOLE CENTERSET, LEAD FREE ANSI/NF 61 AND ANSI/NF 372 COMPLIANT, METAL BODY, 610 MM (24") COLOUR-CODED BRAIDED FLEXIBLE SUPPLY HOSES WITH 10 MM (3/8") COMPRESSION CONNECTIONS, CERAMIC DISC CARTRIDGE, 4.5 LPM (1.2 GPM) MAXIMUM FLOWRATE, PRESSURE COMPENSATING AERATOR, MID-ARC SPOUT, 111 MM (4-3/8") SPOUT REACH, 173 MM (6-3/16") HIGH, LEVER HANDLE, METAL POP-UP DRAIN.

LAWLER 570-86820 MIXING VALVE – POINT OF USE AND MASTER CONTROLLED FIXTURES, THERMOSTATIC MASTER WATER MIXING CONTROL VALVE, LEAD FREE BRASS BODY CONSTRUCTION, NICKEL PLATED FINISH, 1.9 – 30 LPM (0.5 – 8 GPM) RANGE FOR FLOWRATE, 11 LPM (3 GPM) TEMPERED FLOWRATE @ 5 PSI PRESSURE DROP, 4-7/8" (124 MM) HEIGHT, ASSE 1070 APPROVED CERTIFIED TO CSA B125.3 FOR ASSE 1070 APPLICATIONS, 3/8" MNPT (9.5 MM) INLET, 95-115 °F OUTLET WATER TEMPERATURE RANGE, 3/8" MNPT (9.5 MM) OUTLET, INTERNAL CHECKS, 7 GPM FLOWRATE @ 45 PSI

MCGUIRE 155A FIXTURE DRAIN – STRAIGHT DRAIN, CAST BRASS, CHROME-PLATED FINISH, OPEN GRID PO PLUG, 7/32" (5.5 MM) Ø HOLES SIZE, 17 GAUGE 32 MM (1-1/4") Ø TAILPIECE DIAMETER, 17 GAUGE 152 MM (6") LONG, BRASS LOCKNUT, HEAVY RUBBER BASIN WASHER FIBER FRiction WASHER, ASME A112.18.2 CSA B125.2, CSA COMPLIANT  
MCGUIRE LFH165LN3 SUPPLY – LEAD FREE, SHALL BE CONSTRUCTED FROM CAST BRASS VALVE, WITH CHROME-PLATED FINISH, LAVATORY SUPPLY, 10 MM (3/8") I.P.S. INLET, 10 MM (3/8") Ø OUTLET, CONVERTIBLE LOOSE KEY HANDLE, N3 – 76 MM (3") LONG RIGID HORIZONTAL NIPPLES.

MCGUIRE 8872C P-TRAP – HEAVY CAST BRASS, ADJUSTABLE P-TRAP, 292 MM (11-1/2") DISTANCE, WITH CLEANOUT PLUG, STEEL SHALLOW FLANGE, NEOPRENE GASKET, SLIPNUTS, 17 GAUGE SEAMLESS TUBULAR WALL BEND, ASME A112.18.2 CSA B125.2, CSA COMPLIANT  
WATTS WCA-411-CA-481 CARRIER – WCA-411/WCA-411-WC, LAVATORY CARRIER, SINGLE FLOOR-MOUNTED LAVATORY CARRIER WITH CONCEALED ARMS, FOR CONCEALED ARM CARRIER, ADJUSTABLE ARMS, EPOXY COATED CAST IRON, INTEGRAL WELDED FEET, UPPER TIE ROD, HEAVY GAUGE STEEL OFFSET UPRIGHTS, BASIN LOCKING DEVICE, PLATED HARDWARE, LEVELLING SCREWS, WALL MOUNTED STEEL SUPPORT PLATE WITH PLATED HARDWARE.

K1-COUNTER MOUNTED, DROP-IN, COMMERCIAL SINKS  
FRANKE COMMERCIAL ALBD6406P-1-1 SINK – DOUBLE COMPARTMENT SINK, SINGLE HOLE CENTERSET, COMMERCIAL SINKS, WITH OVERALL DIMENSION 794 MM (31-1/4") LONG, 521 MM (20-1/2") WIDE, 152 MM (6") HIGH, CONSTRUCTED FROM 18 GAUGE TYPE 304 STAINLESS STEEL, LEFT BOWL IS 356 MM (14") LONG AND RIGHT BOWL IS 356 MM (14") LONG, LEFT BOWL IS 406 MM (16") WIDE AND RIGHT BOWL IS 406 MM (16") WIDE, LEFT BOWL IS 203 MM (8") DEEP AND RIGHT BOWL IS 432 MM (8") DEEP, POLISHED TO #4 SATIN FINISH, FACTORY INSTALLED EZ TORQUE™ FASTENERS, FACTORY APPLIED RIM SEAL, CENTER BACK WASTE LOCATION, CODES AND COMPLIANCES: ASME A112.19.3 COMPLIANT, CSA B45.4 COMPLIANT, CHICAGO FAUCETS 434-ABCP FAUCET – COUNTER MOUNTED, MANUAL, SINGLE HANDLE, SINK FAUCET, POLISHED CHROME FINISH, SINGLE HOLE CENTERSET, LEAD FREE ANSI/NSF 61 COMPLIANT, 5.7 LPM (1.5 GPM) MAXIMUM FLOWRATE, SPRAY OUTLET, GOOSENECK SPOUT, PULL DOWN, 210 MM (8-1/4") SPOUT REACH, 432 MM (17") HIGH, LEVER HANDLE, 13 MM (1/2") NPSM SUPPLY INLET FOR 10 MM (3/8") OR 13 MM (1/2") FLEXIBLE RISER, INCLUDES HOT LIMIT SAFETY STOP, LAWLER 570-86820 MIXING VALVE – POINT OF USE AND MASTER CONTROLLED FIXTURES, THERMOSTATIC MASTER WATER MIXING CONTROL VALVE, LEAD FREE BRASS BODY CONSTRUCTION, 11 LPM (3 GPM) TEMPERED FLOWRATE @ 5 PSI PRESSURE DROP, THE TEMPERATURE IS ADJUSTED WITH THE HELP OF SPINDLE, 4-7/8" (124 MM) HEIGHT, ASSE 1070 APPROVED CERTIFIED TO CSA B125.3 FOR ASSE 1070 APPLICATIONS, 3/8" MNPT (9.5 MM) INLET, 95-115 °F OUTLET WATER TEMPERATURE RANGE, 3/8" MNPT (9.5 MM) OUTLET, 7 GPM FLOWRATE @ 45 PSI

MCGUIRE LFCK165LK SUPPLY – ICV DEFENDER, LEAD FREE, WITH CHROME-PLATED FINISH, INTEGRAL CHECK SUPPLY KIT, FAUCET, PIPE TO COMPRESSION CONNECTION, 3/8" I.P.S X 3/8" O.D CONNECTION, SHALLOW WALL FLANGE, LOOSE KEY HANDLE, FULL TURN BRASS STEM, 305 MM (12") CHROME-PLATED RISERS, PURPLE EPDM PEROXIDE CURED WASHERS, CODES AND COMPLIANCES: NSF/ANSI 61 & 372, UPC

MCGUIRE 8912CB P-TRAP – HEAVY CAST BRASS, ADJUSTABLE P-TRAP, 292 MM (11-1/2") LENGTH, WITH CLEANOUT PLUG, STEEL BOX FLANGE, NEOPRENE GASKET, SEAMLESS TUBULAR BRASS BEND, SLIPNUTS

K2 – BF COUNTER MOUNTED, DROP-IN, COMMERCIAL SINKS  
FRANKE COMMERCIAL ALBD6406P-1-1 SINK – DOUBLE COMPARTMENT SINK, SINGLE HOLE CENTERSET, COMMERCIAL SINKS, WITH OVERALL DIMENSION 794 MM (31-1/4") LONG, 521 MM (20-1/2") WIDE, 152 MM (6") HIGH, CONSTRUCTED FROM 18 GAUGE TYPE 304 STAINLESS STEEL, LEFT BOWL IS 356 MM (14") LONG AND RIGHT BOWL IS 356 MM (14") LONG, LEFT BOWL IS 406 MM (16") WIDE AND RIGHT BOWL IS 406 MM (16") WIDE, LEFT BOWL IS 127 MM (5") DEEP AND RIGHT BOWL IS 127 MM (5") DEEP, CODES AND COMPLIANCES: ASME A112.19.3 COMPLIANT, CSA B45.4 COMPLIANT, CHICAGO FAUCETS 434-ABCP FAUCET – COUNTER MOUNTED, MANUAL, SINGLE HANDLE, SINK FAUCET, POLISHED CHROME FINISH, SINGLE HOLE CENTERSET, LEAD FREE ANSI/NSF 61 COMPLIANT, ECASTA BRASS CONSTRUCTION, WITH SUPPLY, CERAMIC CARTRIDGE WITH VOLUME CONTROL, 5.7 LPM (1.5 GPM) MAXIMUM FLOWRATE, SPRAY OUTLET, GOOSENECK SPOUT, PULL DOWN, 210 MM (8-1/4") SPOUT REACH, 432 MM (17") HIGH, LEVER HANDLE, 13 MM (1/2") NPSM SUPPLY INLET FOR 10 MM (3/8") OR 13 MM (1/2") FLEXIBLE RISER, INCLUDES HOT LIMIT SAFETY STOP.

LAWLER 570-86820 MIXING VALVE – POINT OF USE AND MASTER CONTROLLED FIXTURES, THERMOSTATIC MASTER WATER MIXING CONTROL VALVE, LEAD FREE BRASS BODY CONSTRUCTION, NICKEL PLATED FINISH, 1.9 – 30 LPM (0.5 – 8 GPM) RANGE FOR FLOWRATE, 11 LPM (3 GPM) TEMPERED FLOWRATE @ 5 PSI PRESSURE DROP, THE TEMPERATURE IS ADJUSTED WITH THE HELP OF SPINDLE, 4-7/8" (124 MM) HEIGHT, ASSE 1070 APPROVED CERTIFIED TO CSA B125.3 FOR ASSE 1070 APPLICATIONS, 3/8" MNPT (9.5 MM) INLET, 95-115 °F OUTLET WATER TEMPERATURE RANGE, 3/8" MNPT (9.5 MM) OUTLET, 7 GPM FLOWRATE @ 45 PSI

MCGUIRE LFCK165LK SUPPLY – ICV DEFENDER, LEAD FREE, WITH CHROME-PLATED FINISH, INTEGRAL CHECK SUPPLY KIT, FAUCET, PIPE TO COMPRESSION CONNECTION, 3/8" I.P.S X 3/8" O.D CONNECTION, SHALLOW WALL FLANGE, LOOSE KEY HANDLE, FULL TURN BRASS STEM, 305 MM (12") CHROME-PLATED RISERS, PURPLE EPDM PEROXIDE CURES WASHERS, CODES AND COMPLIANCES: NSF/ANSI 61 & 372, UPC

MCGUIRE PW8089 P-TRAP – MOLDED CLOSED CELL VINYL (ANTI-MICROBIAL) WRAPPED CAST BRASS, GLOSSY WHITE, WITH CLEANOUT, ASME A112.18.2, CSA B125.2

SH-1: BATH/SHOWER TRIM  
COLONY® PRO WATER-SAVING PRESSURE BALANCE BATH/SHOWER TRIM  
AMERICAN STANDARD TU07550B.002 COMPLETE SHOWER TRIM – WATER-SAVING PRESSURE BALANCE BATH/SHOWER TRIM WITH DOUBLE CERAMIC PRESSURE BALANCE CARTRIDGE, POLISHED CHROME FINISH, BATH/SHOWER TRIMKIT WITH WATER-SAVING SHOWERHEAD WITH A MAXIMUM 1.75 GPM (6.6 LPM) FLOWRATE AND METAL SLIP-ON DIVERTER SPOUT, LESS VALVE BODY, 1.75 GPM (6.6 LPM) MAXIMUM FLOWRATE, METAL LEVER HANDLE, PRESSURE BALANCE, INCLUDES INTEGRATED CHECK VALVE, DIVERTING TUB SPOUT, FOR USE WITH FLASH™ ROUGH VALVE BODIES, DOUBLE CERAMIC PRESSURE BALANCE CARTRIDGE, HOT/LIMIT SAFETY STOP, ASSE 1016, ASME A112.18.1016, CSA B125.1, ASME A112.18.1, CSA B125.1

AMERICAN STANDARD RU101SS SHOWER VALVE – FLASH™, WITH SCREWDRIVER STOPS, CAST BRASS CONSTRUCTION, SHOWER VALVE, PRESSURE BALANCE ROUGH VALVE BODY ONLY, LESS TRIM, ONE-HALF" INLETS AND OUTLETS, UNIVERSAL INLETS/OUTLETS, WITH PRE-INSTALLED TEST CAP WITH STAINLESS STEEL RETAINING RING, FLATS, FEATURES BACK-TO-BACK CAPABILITY, FLAT BACK TO ALLOW VALVE TO BE MOUNDED FLUSH AGAINST CROSS BRACE FOR EASY AND SOLID INSTALLATION, ASSE 1016, ASME A112.18.1016, CSA B125.16, ASME A112.18.1, CSA B125.1

SH-2: BF SHOWER: TERRAZZO WHEELCHAIR SHOWER RECEPTOR SEQUOIA™ SERIES FIAT WTR500100RECTANGLE-SSDS Shower Floor and Stalls – PRECAST TERRAZZO, QUICK DRAIN CONNECTOR: USE WITH CAST IRON SOIL PIPE, P.V.C. SCHEDULE 40 D.W.V. AND STEEL SCHEDULE 40 (#0DC4), RECTANGULAR, TRANSFER TYPE SHOWER FLOOR, WHITE MARBLE CHIPS IN WHITE PORTLAND CEMENT, 42" X 70" (1067 X 1778 MM) SIZE, 13 MM (1/2") THRESHOLD HEIGHT, SINGLE THRESHOLD, MADE OF STAINLESS STEEL CAST INTEGRALLY AND PROVIDES FOR A CAULKED LEAD CONNECTION NOT LESS THAN 25 MM (1") DEEP TO A 51 MM (2") PIPE WITH STAINLESS STEEL STRAINER PLATE (#STR7Z), INTEGRAL STAINLESS STEEL ENTRY CAP, INTEGRAL GALVANIZED BONDERIZED STEEL TILING FLANGE, INSTALL A FLOOR DRAIN AT OR NEAR THE ENTRANCE BOBRICK B-517 SHOWER AND TUB ACCESSORIES – SHOWER SEAT, RIGHT-HAND SEAT, 51 MM (2") THICK OVERALL, WITH 38 MM (1-1/2") THICK, CLOSED-CELL POLYURETHANE FOAM PADDING MOUNTED ON 13 MM (1/2") THICK PLYWOOD, COVERED IN WHITE NAUGAHYDE (WATER-RESISTANT, REINFORCED VINYL FABRIC), 835 MM (32-7/8") WIDE, 565 MM (22-1/4") HIGH, 22-11/16" (575 MM) PROJECTION FROM WALL IN OPEN POSITION, 18-8, TYPE-304 STAINLESS STEEL WITH SATIN FINISH, 16-GAUGE (1.6 MM), 32 MM (1-1/4") SQUARE MEMBERS AND 18-GAUGE (1.2 MM), 25 MM (1") DIAMETER TUBING, 18-8, TYPE-304, 16-GAUGE (1.6 MM) STAINLESS STEEL WITH SATIN FINISH.

AMERICAN STANDARD TU662SC21.002 COMPLETE SHOWER TRIM – POLISHED CHROME FINISH, HAND SHOWER, SHOWERHEAD AND VALVE TRIM, 5.7 LPM (1.5 GPM) SHOWERHEAD FLOWRATE, FLOWISE SHOWERHEAD, 3-FUNCTION HAND SHOWER WITH NON-POSITIVE SHUT OFF (1660.766), 5.7 LPM (1.5 GPM) HANDSHOWER FLOWRATE, 59" (1500 MM) SHOWER HOSE (8888.035), METAL LEVER HANDLE, PRESSURE BALANCE VALVE, ADJUSTABLE HIGH TEMPERATURE LIMIT STOP, VALVE TRIM WITH METAL HANDLE AND ESCUTCHEON, 914 MM (36") SLIDE GRAB BAR (1662.236), 2-WAY DIVERTER (R422), COMBINATION OF CERAMIC DISC MIXING VALVE AND A CERAMIC BALANCING SPOOL IN A ONE-PIECE CARTRIDGE, WATERSENSE® CERTIFIED, ADA, ASSE 1016, ASME A112.18.1016, CSA B125.16, ASME A112.18.1, CSA B125.1

AMERICAN STANDARD T105430.002 DIVERTER VALVE TRIM – STUDIO® S, IN-WALL DIVERTER VALVES, SOLID BRASS CONSTRUCTION, POLISHED CHROME FINISH, STAMPED BRASS ESCUTCHEON, LESS VALVE, VALVE TRIM ONLY, 1/2" NPT CONNECTIONS ON MIXED WATER INLET AND TWO (R422/R422S) OR THREE (R433/R433S) OUTLETS, LEVER HANDLE, MEETS THE AMERICAN DISABILITIES ACT GUIDELINES AND ANSI A117.1 REQUIREMENTS FOR THE PHYSICALLY CHALLENGED, ASME A112.18.1, PERMITS CHECKING OF VALVE INSTALLATION PRIOR TO INSTALLING TRIM PARTS, CANNOT BE USED AS A SHUT-OFF VALVE

AMERICAN STANDARD 1660.5002 W 95866 HAND SHOWER – GROHE 95866 VOLUME CONTROL WITH NON-POSITIVE SHUTOFF, FIXED PERSONAL SHOWER, POLISHED CHROME FINISH, HAND HELD PERSONAL SHOWERS, 9.5 LPM (2.5 GPM), FIXED CONVENTIONAL SPRAY, (2-5/8"), (5-3/4"), AMERICAN STANDARD 1662.236.002 SLIDE BAR – CONCEALED SCREW MOUNTING SYSTEM, COMMERCIAL COMMERCIAL SHOWER SYSTEMS, SLIDE/GRAB BAR, POLISHED CHROME FINISH, 38 MM (1-1/2") DIAMETER STAINLESS STEEL BAR, 914 MM (36") STAINLESS BAR, CHROME-PLATED ADJUSTABLE SLIDE MECHANISM, MEETS ANSI STANDARD 250 LB PULL TEST, MEETS AMERICAN DISABILITIES ACT (ADA), INCLUDES MOUNTING SCREWS AND ANCHORS

AMERICAN STANDARD 8888.037.075 WALL SUPPLY – WALL SUPPLY, PVD STAINLESS STEEL FINISH, INCLUDES CHECK VALVE, 1/2" NPT MALE THREAD, 1/2" NPSM MALE HOSE THREAD

AMERICAN STANDARD 8888.036.002 HAND SHOWER HOLDER – FIXTURE WALL BRACKET, POLISHED CHROME FINISH

AMERICAN STANDARD 1660.400.002 VACUUM BREAKER – VACUUM BREAKER, POLISHED CHROME FINISH FOR INLINE WITH 13 MM (1/2") SIZE, ATTACHES BETWEEN SUPPLY OUTLET AND PERSONAL SHOWER HOSE

BLÜCHER BWC-130-60-VP-C TRENCH DRAIN – VANDAL-RESISTANT GRATE, BWC-100, AISI TYPE 304 STAINLESS

## GENERAL MECHANICAL SPECIFICATIONS

- THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL, STRUCTURAL AND ELECTRICAL DETAILS. INFORMATION INVOLVING ACCURATE DIMENSIONING OF THE SITE CONDITIONS SHALL BE TAKEN FROM SITE BY CONTRACTOR. CONTRACTOR TO MAKE ANY NECESSARY MODIFICATIONS OR ADDITIONS, WITHOUT CHARGE, TO ACCOMMODATE THE SITE CONDITIONS.
- EQUIPMENT TO BE AS SPECIFIED OR APPROVED EQUIVALENT. DESIGN BASED ON EQUIPMENT AS SPECIFIED IN EQUIPMENT SCHEDULE AND IS NOT INTENDED TO SHOW EQUIPMENT IN EXACT LOCATIONS. CONTRACTOR IS RESPONSIBLE TO VERIFY EQUIPMENT DIMENSIONS TO ENSURE THAT EQUIPMENT WILL FIT SITE CONDITIONS. ANY COST ASSOCIATED WITH USING EQUIPMENT OTHER THAN WHAT IS SPECIFIED IS THE FULL RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA WILL BE ALLOWED FOR THESE COSTS.
- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, THE SPECIFICATION, AND ALL OTHER TENDER DOCUMENTS.
- ALL PIPING AND DUCT WORK TO BE LABELED INCLUDING DIRECTION OF FLOW EVERY 8' AND EACH CHANGE IN DIRECTION.
- CONTRACTOR IS RESPONSIBLE TO ENSURE ALL EQUIPMENT AND MATERIALS CAN FIT INTO MECHANICAL ROOM OR ITS PLACE, THROUGH FINISHED OPENINGS, OR THAT MATERIAL IS PLACED IN MECHANICAL ROOM AT APPROPRIATE PHASE OF CONSTRUCTION.
- PRIOR TO SUBMITTING TENDERS, THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE ALL EXISTING CONDITIONS. ALLOW FOR ALL COSTS ASSOCIATED WITH COMPLETING THE WORK OF MECHANICAL DIVISION IN ACCORDANCE WITH EXISTING SITE AND BUILDING CONDITIONS. CONTRACTOR TO VERIFY LOCATION OF EXISTING UTILITY CONNECTIONS WHERE CONNECTIONS ARE REQUIRED. CONTRACTOR TO VERIFY LOCATION, DEPTH, ELEVATION, AND SIZE OF INVERT. NO ALLOWANCE FOR EXTRA PAYMENTS TO THE CONTRACTOR WILL BE MADE BY THE OWNER FOR FAILING TO VISIT AND EXAMINE SITE CONDITIONS.
- SUB-CONTRACTOR SHALL MAINTAIN SUCH INSURANCE AS WILL FULLY PROTECT BOTH THE OWNER AND THE SUB-CONTRACTOR FROM ANY AND ALL CLAIMS UNDER THE WORKMEN'S COMPENSATION ACT, ALSO ALL INSURANCE.
- Maintain a separate set of white prints on the site and note all changes and deviations from the original design. Two sets of these drawings showing all as-built conditions shall be forwarded to the owner at the completion of this contract and before applying for final payment.
- ADDITIONAL MONEY OVER THE CONTRACT PRICE SHALL NOT BE PAID UNLESS AN APPROVED CHANGE ORDER IS ISSUED BY THE OWNER. CLAIMS FOR EXTRAS SHALL BE SUBMITTED WITH A COMPLETE BREAKDOWN OF MATERIAL, LABOUR, HOURLY RATES, ETC.
- BE RESPONSIBLE TO KEEP THE AREA CLEAN AT ALL TIMES AND TO PERIODICALLY REMOVE ALL DEBRIS. CONSTRUCTION AREA TO BE ISOLATED BY MEANS OF TARPS AND/OR TEMPORARY PARTITIONS.
- ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS DIVISION SHALL BE CARRIED OUT BY THIS DIVISION. CUTTING AND DRILLING SHALL BE PERFORMED IN A MANNER SO AS TO CAUSE LITTLE DAMAGE. BE RESPONSIBLE AND PAY FOR ANY DAMAGE TO THE BUILDING INCURRED BY WORK OF THIS DIVISION.
- BE RESPONSIBLE TO COORDINATE THE INSTALLATION OF EQUIPMENT, DUCTING, PIPING, ETC. WITH OTHER TRADES AND THE OWNER'S REPRESENTATIVE PRIOR TO THE ACTUAL INSTALLATION.
- BE RESPONSIBLE FOR MECHANICAL WORK UNTIL THE COMPLETION AND FINAL ACCEPTANCE, FOR REPLACING ANY ITEM THAT MAY BE DEFECTIVE, DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY TO THE COMPLETION OF THE PROJECT.
- SHOP DRAWINGS AND PRODUCT DATA. 'SHOP DRAWINGS' MEANS DRAWINGS, DIAGRAMS, ILLUSTRATIONS, SCHEDULES, PERFORMANCE, CHARTS, BROCHURES, AND OTHER DATA WHICH ARE TO BE PROVIDED BY THE CONTRACTOR TO ILLUSTRATE DETAILS OF A PORTION OF THE WORK. INDICATE MATERIALS METHODS OF CONSTRUCTION AND ATTACHMENT OR ANCHORAGE NECESSARY FOR COMPLETION OF WORK. ADJUSTMENTS MADE ON SHOP DRAWINGS BY OWNER OR ENGINEER ARE NOT INTENDED TO CHANGE CONTRACT PRICE. MAKE CHANGES IN SHOP DRAWINGS AS OWNER OR ENGINEER MAY REQUIRE. SUBMIT 6 HARD COPIES, OR 1 HIGH QUALITY ELECTRONIC COPY OF PRODUCT DATA SHEETS OR BROCHURES FOR ALL MECHANICAL EQUIPMENT. PROVIDE 2 MAINTENANCE MANUALS COMPLETE WITH WARRANTY, CERTIFICATE OF INSPECTIONS, AND COPY OF ALL PRODUCT LITERATURE AND MAINTENANCE INFORMATION.
- PRIOR TO FINAL INSPECTION DEMONSTRATE OPERATION OF EACH SYSTEM TO OWNER AND ENGINEER. INSTRUCT PERSONNEL IN OPERATION, ADJUSTMENT AND MAINTENANCE OF EQUIPMENT AND SYSTEMS, USING PROVIDED OPERATION AND MAINTENANCE DATA AS BASIS FOR INSTRUCTION.
- AFTER THE WORK IS COMPLETED, GIVE A WRITTEN GUARANTEE FOR ONE YEAR COVERING WORKMANSHIP AND MATERIALS. REPAIR OR REPLACE, WITHOUT EXPENSE TO THE OWNER, ANY DEFECTS DUE TO WORKMANSHIP OR MATERIALS WHICH IN THE OWNER'S OPINION, ARE NOT DUE TO MISUSE OR NEGLECT.
- THE MECHANICAL CONTRACTOR SHALL ENSURE THAT EVERY FIXTURE, PLUMBING APPLIANCE, INTERCEPTOR, CLEANOUT, VALVE, DEVICE OR PIECE OF EQUIPMENT SHALL BE LOCATED IN A MANNER THAT IT IS READILY ACCESSIBLE FOR USE, CLEANING, MAINTENANCE OR REPAIR. MECHANICAL CONTRACTOR SHALL PROVIDE ACCESS DOORS LARGE ENOUGH TO PERMIT EASY ACCESS TO CONCEALED FIXTURES, PLUMBING APPLIANCES, FIRE DAMPERS, INTERCEPTORS, CLEANOUTS, VALVES, DEVICES OR PIECES OF EQUIPMENT.
- CONTRACTOR SHALL CARRY THE SERVICES OF AN APPROVED FIRE STOPPING INSTALLER AND SHALL PROVIDE ALL FIRE STOPPING FOR ALL MECHANICAL AND ELECTRICAL PENETRATIONS. PROVIDE SHOP DRAWINGS FOR FIRE STOPPING MATERIALS USED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF THEIR PROPERTY. THE OWNER BEARS NO RESPONSIBILITY FOR PROTECTION FROM THEFT, FIRE, OR ENVIRONMENTAL CONDITIONS.
- ALL PIPING AND DUCTING SHOWN FOR SCHEMATIC AND SCOPE OF WORK PURPOSES IN GENERAL LOCATION OF USE. COORDINATE EXACT ROUTING ON SITE AND WITH BEST PRACTICES.

## GENERAL PLUMBING SPECIFICATIONS

- ALL HOT AND COLD WATER PIPING AFTER THE MAIN BUILDING CWS ISOLATION VALVE SHALL BE HARD COPPER TYPE L PIPING WHICH SHALL CONFORM TO ASTM B42 AND ASTM B88.
- ALL DOMESTIC WATER PIPING TO BE INSULATED c/w VAPOUR BARRIER. PIPE INSULATION TO CONFORM O.B.C. TABLE 12.3.4.5.
- ALL DRAINAGE, WASTE, AND VENT PIPE TO BE PVC DWV WITH FLAME SPREAD RATING < 25. PIPES TO BE XFR WHERE PENETRATING FIRE RATED WALLS.
- WATER HAMMER ARRESTORS TO BE STAINLESS STEEL BELLows TYPE; WATTS SS-A OR APPROVED EQUIVALENT.
- ROUTE ABOVE GROUND PIPING IN CEILING SPACE OF WALL INTERIORS FOR CONCEALMENT WHERE EVER POSSIBLE UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS. COORDINATE PIPE INSTALLATION IN WALLS WITH MASON AND OR DRYWALLER OR APPROPRIATE TRADE INVOLVED.
- INSTALL ISOLATION VALVES IN EACH BRANCH LINE FROM COLD AND HOT WATER MAINS, AT BASE OF EACH RISER, AND BEFORE EACH FIXTURE OR EQUIPMENT CONNECTED TO COLD/HOT WATER SYSTEM. PROVIDE A FIRE RATED ACCESS DOOR AT EACH CONCEALED VALVE.
- INSTALL FLANGES OR UNIONS TO PERMIT REMOVAL OF EQUIPMENT WITHOUT DISTURBING PIPING SYSTEMS.
- PROVIDE COMPLETE DRAINAGE AND VENT SYSTEMS TO SERVE FIXTURES AND ITEMS SPECIFIED AND AS SHOWN ON PLANS.
- WHERE EXPOSED PIPES PASSES THROUGH FINISHED FLOORS, WALLS, OR CEILINGS, PROVIDE CHROME PLATED ESCUTCHEON WITH SET SCREW.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY MATERIALS & LABOUR TO MAINTAIN ALL FIRE SEPARATIONS AFFECTED BY THE WORK PERFORMED.
- GRADE HORIZONTAL SANITARY DRAINAGE AND VENT PIPING AT MINIMUM 1:50.
- ALL FAUCET AND TOILET SUPPLY LINES SHALL BE STAINLESS BRAIDED HOSE.
- ALL FLOOR DRAINS TO BE TRAPPED, PRIMED, AND VENTED WITH STRAINER INSTALLED FLUSH WITH FINISHED FLOOR. SUPPLY AND INSTALL PRIMER AND TUBING FROM CLOSEST COLD WATER BRANCH, C/W SPECIALTY BLEED VALVE (P.P.V. OR EQUAL), UNLESS OTHERWISE SPECIFIED IN DRAWINGS.
- EXPOSED P-TRAPS SHALL BE CHROME PLATED BRASS.
- SIZE OF DRAINAGE PIPE SERVING FIXTURES:

DISHWASHER	1-1/2" (38mm)	LAVATORY	1-1/2" (38mm)
SINK	1-1/2" (38mm)	SHOWER	1-1/2" (38mm)
SERVICE SINK	1-1/2" (38mm)	URINAL	2" (51mm)
WC	3" (76mm)	FLOOR DRAIN	2" (51mm)

- SIZE OF EITHER CWS & HWS ISOLATION VALVES SERVING FIXTURES:

DISHWASHER	1/2" (13mm)	LAVATORY	1/2" (13mm)
SINK	1/2" (13mm)	SHOWER	1/2" (13mm)
SERVICE SINK	1/2" (13mm)	URINAL	3/4" (19mm)
WC	1/2" (13mm)	WF	1/2" (13mm)

- ALL PIPING FITTINGS WITH TERMINAL EQUIPMENT SHALL BE LEAD FREE.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INSULATION OF THE STORM PIPES INSIDE THE BUILDING.
- ALL PIPING IS TO BE STRAIGHT, PARALLEL AND PERPENDICULAR TO THE BUILDING STRUCTURE. SLOPE ALL PIPING TO DRAIN POINTS.
- WHEN PIPE LAYING NOT IN PROGRESS, CLOSE OFF OPEN ENDS OF PIPE WITH WATER TIGHT PLUG OR CAP.
- INSTALL CLEANOUTS AS REQUIRED BY PLUMBING CODES. SIZE OF CLEANOUTS TO MATCH SIZE OF ASSOCIATED SANITARY PIPE. ENSURE CLEAN OUTS ARE MADE ACCESSIBLE.
- CONNECT FIXTURES COMPLETE WITH SUPPLIES AND DRAINS, TRAPPED, SUPPORTED, SANITARY LEVEL AND SQUARE WITH HOT WATER FAUCETS ON THE LEFT.
- 10' OF ACOUSTIC SOUND INSULATION SHALL BE PROVIDED TO THE DUCTS AT THE BEGINNING NEAR THE HVAC UNIT.
- SMOKE DETECTORS AT SUPPLY DUCTS SHALL BE PROVIDED TO AUTOMATICALLY SHUT DOWN UNITS UPON DETECTION OF SMOKE.
- NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BY THE ENGINEER.

## GENERAL HVAC SPECIFICATIONS

- PROVIDE DUCTWORK IN ACCORDANCE WITH A.S.H.R.A.E. AND INTERNATIONAL MECHANICAL CODES CHAPTER 5 SECTION 506, LATEST EDITION. ALL DUCTS SHALL BE FABRICATED FROM PRIME QUALITY GALVANIZED STEEL AS PER A.S.H.R.A.E. STANDARDS. DUCTS SHALL BE INSTALLED AS HIGH AS POSSIBLE. PROPER ANGLE IRON SUPPORTS, HANGERS, ETC., SHALL BE PROVIDED FOR ALL DUCTS. SEAL ALL JOINTS OF DUCTS WITH HIGH PRESSURE SEALER. APPLY SEALANT TO OUTSIDE OF JOINTS AS PER MANUFACTURERS RECOMMENDATIONS. CONSTRUCT DUCTS IN ACCORDANCE WITH THE FOLLOWING:

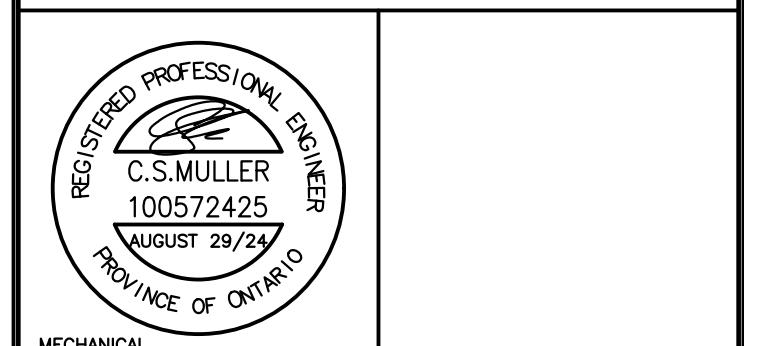
MAX DUCT DIMENSION	U.S. GAUGE
UP TO 12"	26
13" TO 30"	24
31" TO 54"	22

- CONSTRUCT ROUND DUCTS IN ACCORDANCE WITH THE FOLLOWING:

4" TO 8" DIAMETER	26 GAUGE
9" TO 24" DIAMETER	24 GAUGE

- EQUIVALENT DUCT SIZES MAY BE SUBSTITUTED IN LIEU OF THOSE SHOWN, IN ORDER TO AVOID INTERFERENCE WITH STRUCTURE AND OTHER MECHANICAL SERVICES. CONTRACTOR TO PROVIDE DRAWINGS OF ANY PROPOSED CHANGES TO ENGINEER FOR APPROVAL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN DESIGN AIR FLOW WITH DUCT INSTALLATION. ALL SUPPLY & RETURN BRANCHES SHALL BE AT 45° TAKE-OFFS.
- THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF EQUIPMENT PRIOR TO FABRICATION AND INSTALLATION OF DUCTWORK. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED ELBOWS, DUCT ACCESSORIES, ETC. TO COMPLETE THE INTENT OF THE MECHANICAL DRAWINGS.
- HVAC EQUIPMENT MUST NOT BE USED DURING CONSTRUCTION. DUCT OPENINGS SHALL BE COVERED TO KEEP OUT DUST AND DEBRIS. COMMISSIONING MUST NOT BE PERFORMED UNTIL ALL INTERIOR FINISHES ARE COMPLETE.
- INSULATE ALL DUCTS IN ACCORDANCE WITH ASHRAE 90.1, LATEST EDITION.
- MECHANICAL EQUIPMENT TO BE ISOLATED FROM DUCT WORK USING 6" FLEXIBLE DUCT CONNECTORS ON BOTH THE SUPPLY AND RETURN DUCTS.
- ALL MITERED ELBOWS TO BE COMPLETE WITH DOUBLE THICKNESS AIR VANES. ALL RADIUSED ELBOWS TO BE COMPLETE WITH SPLITTER VANES PER SMACNA DUCT CONSTRUCTION STANDARDS.
- PROVIDE VOLUME DAMPERS AT ALL DUCT BRANCHES AND TAKE-OFFS.
- PROVIDE AN INDEPENDENT FIRM CERTIFIED BY NEBB TO CONDUCT TESTING, ADJUSTING AND BALANCING OF ALL MECHANICAL SYSTEMS AND COMPONENTS, INCLUDING ALL DUCTS AND HYDRONIC PIPING. SUBMIT WRITTEN REPORT IN TRIPPLICATE TO MECHANICAL ENGINEER UPON COMPLETION.
- MAXIMUM LENGTH OF FLEX DUCT PERMITTED IS 10' PER DIFFUSER. NO FLEX DUCT IS PERMITTED ON EXPOSED DUCT WORK.
- PROVIDE FIRE DAMPERS IN DUCTS AT FLOOR, WALL, CEILING, AND ROOF PENETRATIONS WHERE FIRE SEPARATIONS ARE CROSSED, AND WHERE REQUIRED BY LOCAL AUTHORITIES AND CODES. FIRE DAMPERS SHALL MAINTAIN 100% FREE AREA OF DUCTWORK (TYPE 'B' FIRE DAMPERS). RATE FIRE DAMPERS TO MATCH THE FIRE RATING OF SEPARATION CROSSED. PROVIDE ONLY ULC LABELED DAMPERS AND INSTALL AS SPECIFIED IN NFPA/CUA 90A.
- SUPPLY AND RETURN DUCTS SHALL BE CONNECTED TO THE HVAC UNIT THROUGH A FLEXIBLE NON METALLIC DUCT.
- 10' OF ACOUSTIC SOUND INSULATION SHALL BE PROVIDED TO THE DUCTS AT THE BEGINNING NEAR THE HVAC UNIT.
- SMOKE DETECTORS AT SUPPLY DUCTS SHALL BE PROVIDED TO AUTOMATICALLY SHUT DOWN UNITS UPON DETECTION OF SMOKE.

0	ISSUED FOR TENDER	2024.08.29	CSM
NO.	DESCRIPTION	DATE	BY
REVISIONS			
Kirkland Engineering Ltd BCIN: 28857			



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**KIRKLAND ENGINEERING LTD.**

PROJECT  
COURTICE SENIOR DEVELOPMENT

1697 HIGHWAY No 2  
CLARINGTON, ON

TITLE  
MECHANICAL SPECIFICATION

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	
APPROVED	CSM	
PROJECT	M22	7393