

WAREHOUSE AND OFFICE HEADQUARTERS

45 BLOWERS CRES,
AJAX, ON,L1Z 0N4

CONTENT	ISSUED FOR	DATE	PROJECT NO.
MECHANICAL DRAWINGS	PERMIT	JUNE 30, 2025	FH2024029

DRAWING SCHEDULE	
DWG. NO	DRAWING TITLE
M-000	COVER SHEET AND DRAWING LIST
M-001	MECHANICAL SPECIFICATION
M-002	MECHANICAL SPECIFICATION AND LEGEND
M-003	MECHANICAL SCHEDULE
M-004	MECHANICAL DETAILS
M-100	GROUND FLOOR MECHANICAL HVAC PLAN
M-101	SECOND FLOOR MECHANICAL HVAC PLAN
M-200	GROUND FLOOR MECHANICAL PLD PLAN
M-201	SECOND FLOOR MECHANICAL PLD PLAN
M-300	GROUND FLOOR MECHANICAL SP PLAN
M-301	SECOND FLOOR MECHANICAL SP PLAN
M-400	MECHANICAL ROOF PLAN

NOISSUED FOR

DATE

1	50% REVIEW	2024-05-29
2	FINAL REVIEW	2024-07-08
3	PERMIT	2025-06-30

FARHEATER
ENGINEERING
INC.

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STAMP:



PROJECT NAME:

WAREHOUSE AND
OFFICE
HEADQUARTERS

PROJECT ADDRESS:

45 BLOWERS
CRES,AJAX, ON,L1Z 0N4

NORTH:

DRAWN BY:

H.L

DATE:

2024-05-14

CHECKED BY:

F.M

SCALE:

N.T.S.

DRAWING TITLE:

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DRAWING LIST

PROJECT
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STAM

PROFESSIONAL



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MECHANICAL SPECIFICATION

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FH2024029	M-001
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MECHANICAL SPECIFICATIONS

[illegible]

FH2024029 M-001

MECHANICAL SPECIFICATIONS

41. CARRY OUT NOT LESS THAN THE FOLLOWING TESTS:	2.4. PROVIDE ADDITIONAL SPRINKLER HEADS OF EACH TYPE AS REQUIRED BY CODE. INSTALLED IN METAL CABINET IN SPRINKLER ROOM, OR AS DIRECTED BY OWNER, COMPLY WITH ALL TOOLS REQUIRED TO CHANGE OUT SPRINKLER HEADS.	1. INSULATION	3. SHEET METAL INSULATION
42. BALL TEST ALL SANITARY DRAINS.	2.45. EACH SPRINKLER HEAD BRANCH LINE SHALL INCLUDE A 25MM (1") CAPPED CONNECTION FOR FUTURE SPRINKLER HEAD. DESIGN BRANCH LINES TO HANDLE THE GREATER OF 1) ADDITIONAL SPRINKLER HEAD PER BRANCH OR 10% ADDITIONAL SPRINKLER HEADS PER BRANCH.	1. PROVIDE ALL LABOUR AND MATERIAL REQUIRED TO INSULATE ALL MECHANICAL SYSTEMS AS SPECIFIED WITH THIS SECTION AND AS NOTED ON DRAWINGS.	3.1. FOR EXPOSED RECTANGULAR DUCTS PROVIDE PREFORMED BOARD TYPE INSULATION TO ASTM C612, STANDARD SPECIFICATION FOR MINERAL FIBER ROCK AND BOARD. PROVIDE INSULATION WITH A FACTORY APPLIED REINFORCED ALUMINUM FOL. AND KRAFT PAPER FACING EQUAL TO KNAUF FIBER GLASS INSULATION BOARD WITH FSK FACING. MANSON INSULATION INC. AK BOARD FSK. JOHNS MANVILLE INC TYPE B14 SPRINGGLAS OR OWENS CORNING 703, 704.
43. PERFORM WATER PRESSURE TESTS ON ALL DRAINAGE AND VENT SYSTEMS WHEN ROUGH-IN OF THE SYSTEM COMPLETED. SYSTEM SHALL BE FILLED WITH WATER FOR 2 HOURS WITHOUT NOTICEABLE LEAKS.	2.46. SPRINKLER HEAD BRANCH LINE SHALL INCLUDE A 25MM (1") CAPPED CONNECTION FOR FUTURE SPRINKLER HEAD. DESIGN BRANCH LINES TO HANDLE THE GREATER OF 1) ADDITIONAL SPRINKLER HEAD PER BRANCH OR 10% ADDITIONAL SPRINKLER HEADS PER BRANCH.	2. UNLESS OTHERWISE SPECIFIED, INSULATION THERMAL PERFORMANCE IS TO MEET OR EXCEED THE MORE STRINGENT REQUIREMENTS OF THE LATEST EDITIONS OF THE NATIONAL ENERGY CODE OF CANADA FOR BUILDINGS AND ASHRAE 90.1.	3.2. FOR EXPOSED ROUND OR OVAL DUCTS PROVIDE ROLL FORM INSULATION TO ASTM C1181 STANDARD SPECIFICATION FOR PERPENDICULARLY ORIENTED FIBER ROLL. AND SHEET THERMAL INSULATION FOR PIPES AND TANKS WITH A FACTORY APPLIED VAPOUR BARRIER FACING CONSISTING OF CUT STRIPS OF RIGID MINERAL BOARD INSULATION GLUED TO THE INSULATION FSK FACING. MANSON INSULATION INC. ALLEY WRAP FSK. JOHNS MANVILLE INC PIPE MF. GLASS-CELL FABRICATORS LTD. R-FLEX. OWENS CORNING PIPE AND TANK INSULATION, JOHNS MANVILLE INC PIPE AND TANK INSULATION.
44. PROVIDE ALL TESTING AND BALANCING OF EXISTING AND NEW HVAC SYSTEMS AND PROVIDE BALANCING REPORTS AND START UP REPORTS OF EQUIPMENT TO CONSULTANT.	2.47. INSTALL SPRINKLER SYSTEM AS HIGH AS POSSIBLE AND COORDINATE INSTALLATION WITH ALL OTHER TRADES.	3. ALL SYSTEM SUBJECT TO CONDENSATION (INCLUDING COLD AND DUAL TEMPERATURE) SHALL BE INSULATED WITH INSULATION WITH VAPOUR BARRIER. VAPOUR BARRIER SHALL BE INSTALLED OVER ALL SYSTEM COMPONENTS INCLUDING VALVES, VAPOUR BARRIER SHALL BE COMPLETE AND CONTINUOUS IN ITS ENTIRETY. ANY DAMAGE TO VAPOUR BARRIER SHALL REQUIRE FULL REMOVAL AND REPLACEMENT. DO NOT PATCH NEW VAPOUR BARRIERS INSTALLED AS PART OF THIS CONTRACT.	3.3. FOR CONCEALED RECTANGULAR OR OVAL DUCTS PROVIDE BLANKET TYPE ROLL FORM INSULATION TO ASTM STANDARD C651 STANDARD SPECIFICATION FOR MINERAL FIBRE BLANKET THERMAL INSULATION 24 KG/M ³ (1.12 LB/FT ³) DENSITY WITH A FACTORY APPLIED VAPOUR BARRIER FACING EQUAL TO KNAUF FIBER GLASS BLANKET INSULATION AND MULTILAYERED FSK FACING. MANSON INSULATION INC. ALLEY WRAP FSK. JOHNS MANVILLE INC DUCT WRAP TYPE 150 MICROCLITE OR ISOBAF FACED FLEXIBLE FSK INSULATION.
45. PROVIDE ADDITIONAL TESTING AS REQUIRED BY LOCAL AUTHORITIES IN THEIR PRESENCE.	2.48. COORDINATE REQUIREMENT OF SPRINKLER SYSTEM FIRE ALARM CONNECTION WITH ELECTRICAL DIVISION AND FIRE ALARM CONTRACTOR. MECHANICAL CONTRACTOR SHALL TAKE LEAD ROLE IN COORDINATED ALL SUCH WORK.	4. INSULATION SHALL ONLY BE APPLIED ONCE SYSTEMS HAVE BEEN TESTED AND REVIEWED BY ENGINEER AND AUTHORITY HAVING JURISDICTION.	3.4. FOR DUCTS AND PIPES INSTALLED OUTSIDE OF THE BUILDING PROVIDE SHEET OR ROLL FORM CFC FREE CLOSED CELL SELF-ADHERING ELASTOMERIC RUBBER INSULATION IN ACCORDANCE WITH REQUIREMENTS ASTM C634, STANDARD SPECIFICATION FOR PERFORMED FLEXIBLE ELASTOMERIC CELLULAR THERMAL INSULATION IN SHEET AND TUBULAR FORM WITH ALL REQUIRED INSULATION ACCESSORIES EQUAL TO ARMACCEL APIMARFLEX SA AND INSULATION AND MULTILAYERED FSK FACING. MANSON INSULATION INC. ALLEY WRAP FSK. JOHNS MANVILLE INC SEALANT.
46. PERFORM TESTS PRIOR TO CONCEALED SYSTEMS.	2.49. NO SPRINKLER WORK SHALL BE CONCEALED UNTIL SUCH TIME AS IT HAS BEEN APPROVED BY THE ENGINEER OF RECORD AND THE AUTHORITY HAVING JURISDICTION.	5. INSULATION INSULATION ON PIPES AND DUCTS WHICH ARE CLEAN AND DRY, AND WITH ENVIRONMENTAL CONDITIONS AS REQUIRED BY THE INSULATION MANUFACTURER.	3.5. PROVIDE THE FOLLOWING INSULATION THICKNESS:
47. REMOVE ALL COMPONENTS WHICH WILL NOT WITHSTAND TEST PRESSURE, AND REPLACE AFTER TESTS.	2.50. TEST ALL SPRINKLER SYSTEMS TO NFPA 13 REQUIREMENTS.	6. STORE ALL INSULATION MATERIAL ON SITE IN A DRY STORAGE AREA AND ENVIRONMENTAL CONDITIONS AS REQUIRED BY THE INSULATION MANUFACTURER.	3.5.1. OUTDOOR AIR INTAKE DUCTS, CASINGS, PLENUMS UP TO MIXING BOXES OR COLLS - 1/2" (6MM)
48. FAILURE OF TEST WILL REQUIRE SYSTEMS TO BE REINSTALLED UNTIL SUCH TIME AS THE TEST IS PASSED. REPEAT TESTS AS MANY TIMES AS REQUIRED UNTIL SYSTEM PASSES. DO NOT CAULK OR COVER LEAKS. REMOVE AND REPLACE SYSTEMS AS NECESSARY.	2.51. TEST ALL STANDPIPE AND FIRE HOSE SYSTEM TO NFPA 14 REQUIREMENTS.	7. ALL INSULATION OF MECHANICAL SYSTEMS SHALL BE INSTALLED BY A SINGLE INSULATION CONTRACTOR.	3.5.2. PRE-TREATED OUTDOOR AIR DUCTS, CASINGS, PLENUMS - 1/2" (6MM)
5. INSTALLATION	2.52. TEST ALL SYSTEM IN ACCORDANCE WITH OFC, LOCAL FIRE MARSHAL AND BUILDING OFFICIALS REQUIREMENTS.	8. ALL INSULATION SHALL HAVE FLAME AND SMOKE SPREAD RATINGS OF 2050 AND AS REQUIRED BY THE LOCAL BUILDING CODE AND REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND AS PER CANULC-S114 AND CANULC-S101.	3.5.3. SUPPLY AIR DUCTS - 2" (50MM)
5.1. CLEANING AND DISINFECT ALL DOMESTIC WATER SYSTEMS TO ACCEPTABLE LOCAL AUTHORITY STANDARDS. PROVIDE ALL TESTING OF DOMESTIC WATER SYSTEMS IN ACCORDANCE WITH AWWA STANDARD C651-86. PROVIDE TEST RECORDS TO OWNER, ARRANGE AND PAY FOR ALL WATER QUALITY TESTS BY INDEPENDENT TESTING LABORATORY.	2.53. INSTALL ALL TEST AND DRAIN CONNECTION IN ACCORDANCE WITH NFPA 14 REQUIREMENTS. PFC DRAIN TO NEAREST BUILDING SANITARY DRAINAGE SYSTEMS, DO NOT DRAIN TO OUTDOORS.	9. ACCEPTABLE INSULATION MANUFACTURERS ARE JOHNS MANVILLE, OWENS CORNING, MANSON INSULATION, AND KNAUF OR AS LISTED BELOW.	3.5.4. FINAL 10 FEET OF EXHAUST DUCTS WORK BEFORE BUILDING EXTERIOR - 1" (25MM)
5.2. FLUSH ALL DRAINAGE SYSTEMS AFTER SYSTEM HAS BEEN INSTALLED. REMOVE ALL DEBRIS AND PROVIDE CAMERA SCOPE OF LINES TO VERIFY CONDITIONS.	2.54. PROVIDE QUARDS FOR SPRINKLER HEAD IN AREAS SUBJECT TO DAMAGE INCLUDING, BUT NOT LIMITED TO: ELEVATOR MACHINE ROOMS, STORAGE ROOMS, ELEVATOR SHAFTS, GARBAGE ROOMS, MECHANICAL ROOMS, LOW HEAD ROOM LOCATION, AND AT OTHER LOCATION WHERE SPRINKLER HEAD COULD BE DAMAGED.	10. ALL PIPE/DUCT LABELS SHALL BE APPLIED TO OUTSIDE OF INSULATION USING STENCILS OR WITH PIPE WRAP LABELS INSTALLED IN SUCH A WAY AS TO BE VISIBLE FROM THE FLOOR.	3.5.5. EXPOSED DUCTWORK IN AREAS WHICH IT IS NOT SERVING - 1" (25MM)
5.3. PROVIDE FINAL CONNECTION TO ALL KITCHEN EQUIPMENT INCLUDING ALL ISOLATION VALVES, HOSES, AND FLEXIBLE PIPES. ADHERE TO MANUFACTURERS RECOMMENDED INSTALLATION REQUIREMENTS FOR SPECIFIC INSTALLATION REQUIREMENTS.	2.55. PROVIDE PROTECTION OF SPRINKLER HEADS FOR FULL DURATION OF CONSTRUCTION. REPLACE AT NO ADDITIONAL COST ANY SPRINKLER HEAD THAT IS DAMAGED, ALTERED, PAINTED, OR OTHERWISE AFFECTED.	11. ALL INSULATION BUTT JOINTS SHALL BE FIRMLY CONNECTED JOINED AND INSTALLED IN SUCH A WAY AS TO NOT SEPARATE OVER TIME.	3.6. DUCTWORK EXPOSED WITHIN THE SPACE IT SERVES DOES NOT REQUIRE EXTERNAL INSULATION.
5.4. PROVIDE ALL BACKFLOW PREVENTERS FOR KITCHEN EQUIPMENT IN ACCORDANCE WITH CSA STANDARDS.	2.56. PROVIDE NFPA SIGN-OFF LETTER AT THE COMPLETION OF PROJECT.	2. PIPE INSULATION	3.7. DUCTWORK LINED WITH ACOUSTIC INSULATION CAN SUBTRACT THE THICKNESS OF ACOUSTIC INSULATION FROM THE REQUIRED EXTERNAL INSULATION TO DETERMINE FINAL EXTERNAL INSULATION.
5.5. PROVIDE ALL TRAP SEAL PRIMERS TO SUIT NEW DRAINS IN ACCORDANCE WITH LOCAL PLUMBING CODE.	2.57. REMOVE AND REPAIR/REPLACE ANY SYSTEM COMPONENT WHICH DOES NOT PASS INSPECTION/TESTING.	1. FOR SYSTEMS UP TO 250 (102) G.P.M. PROVIDE BELFRIM INSULATION LTD KOOLPHEN K-BLOCK INSULATED PIPE SUPPORT INSERTS, A MINIMUM OF 8" (103MM) LONG, PRE-INSULATED, RIGID, SECTIONAL PHENOLIC FOAM INSULATION (MATCHING THICKNESS OF ADJACENT INSULATION WITH REINFORCED FOL. AND KRAFT PAPER VAPOUR BARRIER) AND A 180 DEGREE CAPPED GALVANIZED STEEL SADDLE.	3.8. INSULATION SHALL BE APPLIED DIRECTLY TO THE DUCT AND NOT AROUND HANGERS AND SUPPORTS. PROVIDE RIGID BOARD INSULATION BELOW HANGERS WITH ALUMINUM SADDLE. WEAR PLATE BETWEEN INSULATION AND SUPPORTS.
	2.58. REMOVE AND REINSTALL ANY SPRINKLER COMPONENT NOT SUITABLE FOR TEST PRESSURES.	2.2. FOR ABOVE GROUND PIPES PROVIDE PREFORMED MINERAL FIBRE RIGID, SECTIONAL, SLEEVE TYPE INSULATION TO ASTM STANDARD C 541, STANDARD SPECIFICATION FOR MINERAL FIBRE INSULATION, WITH A FACTORY APPLIED VAPOUR BARRIER JACKET EQUAL TO JOHN MANVILLE INC MICROCL OK AP-1 PLUS, KNAUF FIBER GLASS PIPE INSULATION WITH ASJ-SSJ, JACKET, MANSON INSULATION INC ALLEY K APT OR OWENS CORNING FLEXIBLE GLASS PIPE INSULATION.	3.9. INSTALL ALL INSULATION IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
	3. PROVIDE AS BUILT DRAWINGS IN CAD AND PDF FORMAT AT THE COMPLETION OF PROJECT.	3. FOR ALL VALVES AND ACCESSORIES IN PIPING SYSTEMS PROVIDE BLANKET MINERAL FIBRE TYPE ROLL INSULATION TO ASTM C651, STANDARD SPECIFICATION FOR MINERAL FIBRE BLANKET THERMAL INSULATION FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS, 24 KG/M ³ (1.12 LB/FT ³) DENSITY WITH A FACTORY APPLIED VAPOUR BARRIER FACING.	3.10. ALL INSULATION SHALL BE CONTINUOUS AND BE EXTENDED THROUGH WALL AND FLOOR OPENINGS. SUPPLY SOUND PROOF AND FIRE PROOF PENETRATIONS TO SUIT.
	4. THE FOLLOWING ITEMS TO BE SUPPLIED BY THE FIRE PROTECTION CONTRACTOR.	4. PROVIDE THE FOLLOWING INSULATION THICKNESS:	3.11. INSULATION APPLIED IN TWO LAYERS SHALL HAVE JOINTS STAGGERED.
1. GENERAL		1. DOMESTIC COLD WATER PIPING UP TO AND INCLUDING 4" (100MM) - 1" (25MM) WITH VAPOUR BARRIER	3.12. INSULATE OVER FLANGES WITH INSULATION TO MATCH PIPE INSULATION THICKNESS AND OUTSIDE DIAMETER OF FLANGE COUPLING. FILL THE VOID BETWEEN THE FLANGE COUPLING INSULATION AND THE PIPE INSULATION WITH THE SAME MATERIAL. ENSURE A CONTINUOUS VAPOUR SEAL ACROSS FULL INSTALLATION.
1.1. PROVIDE ALL LABOUR, MATERIAL, EQUIPMENT, ENGINEERING, AND SERVICES REQUIRED TO SUPPLY A CODE COMPLIANT FIRE PROTECTION SYSTEM IN ACCORDANCE WITH THESE DOCUMENTS.		2. DOMESTIC COLD WATER PIPING LARGER THAN 4" (100 MM) - 1-1/2" (38 MM) WITH VAPOUR BARRIER	3.13. PROVIDE ACOUSTIC DUCT LINING WHERE NOTED ON DRAWINGS AND AS A MINIMUM THE FIRST 10 FEET ON BOTH SUPPLY AND RETURN DUCTS DOWNSTREAM OF FAN/TERMINAL. UNITS PLUS AT LEAST TWO THICKNESS OF DIRECTION.
1.2. THESE DOCUMENTS ARE INTENDED TO SHOW A GENERAL SCOPE OF WORK RELATED TO FIRE PROTECTION. ALL SYSTEMS SHALL BE IN STRICT ACCORDANCE WITH:		2.1. FLEXIBLE COUPLING	3.14. ACOUSTIC DUCT LINING SHALL BE A MINIMUM OF 1" (25MM) THICK ACOUSTIC LINING MATERIAL, MEETING NFPA 404 REQUIREMENTS AND FLAME AND SMOKE SPREAD DEVELOPMENT FIRE HAZARD RATINGS OF CANULC-S102, FLEXIBLE FOR ROUND DUCT, BOARD TYPE FOR RECTANGULAR DUCTS, CONSISTING OF A BONDED FIBERGLASS MAT COATED ON THE INSIDE (ARISIDE) FACE WITH A BLACK FIRE-RESISTANCE RATING. MATERIAL SHALL HAVE NOISE REDUCTION COEFFICIENT OF 0.70 OR HIGHER.
1.2.1. NFPA 10		2.2. CLARK MODEL JWBH-FADDOO (PRESSURE LIMITING DRIVER) DIESEL ENGINE OPERATING AT 20.3 HP/1780 R.P.M.	3.15. INSTALL LINING IN ACCORDANCE WITH ANSISANIMCA HVAC DUCT CONSTRUCTION STANDARDS PLUS FOR ALL INSTALLATION REGARDLESS OF VELOCITY AT

[illegible]

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DRAWING TITLE:			
MECHANICAL SPECIFICATION AND LEGEND			
PROJECT NUMBER:		DRAWING NUMBER:	
FH2024029		M-002	

RTU SCHEDULE																						
ITEM	QTY	MAKE	MODEL NUMBER	SERVICE	UNIT SIZE(TON)	SUPPLY FAN		EXTERNAL DIMENSIONS(FT)			HEATING (MBH)	COOLING (MBH)	HEATING EAT(F)	HEATING LAT(F)	OPERATING WEIGHT MAX(LB)	EER	IEER/SEER	POWER(V/Hz/PH)	MCA	MOP	REMARKS	
						AIR FLOW (CFM)	E.S.P(IN H2O)	HEIGHT	WIDTH	LENGHT												
RTU-1	1	TRANE	DHC102HWRHA	SECOND FL.	8.5	3400	1.00	3.91	4.44	7.39	200	94.36	70	114.4	1307	11.8	15.5	575/60/3	23.0	25.0		
RTU-2	1	TRANE	DHC102HWRHA	GROUND FL.	10	3700	1.00	4.24	5.27	8.31	250	109.15	70	120.9	1683	11.8	15.5	575/60/3	23.0	30.0		
NOTES: - PROVIDE FACTORY SUPPLIED 24" ROOF CURB AND ALL REQUIRED MISCELLANEOUS SUPPORTS.RTU TO BE INSTALLED LEVEL TO FLOOR LEVEL BELOW. - PROVIDE FACTORY INSTALLED 20A GFCI,ALL WIRING TO BE FIELD INSTALLED FROM INDEPENDENT 120V POWER SOURCE.OUTLET TO REMAIN OPERATIONAL WHEN POWER TO RTU IS SHUT OFF. - PROVIDE 2" MERV 13 FILTERS, WEATHERPROOF DISCONNECT, BAROMETRIC RELIEF DAMPER,DUAL ENTHALPY ECONOMIZER,AND DIGITAL PROGRAMMABLE 7-DAY THERMOSTAT.																						

EXHAUST FAN SCHEDULE															
ITEM	QTY	LOCATION	MANUFACTURER	MODEL	TYPE	CAPACITY (CFM)	EXTERNAL STATIC PRESSURE(IN.H2O)	MOTOR SIZE (HP)	RPM	POWER SUPPLY			WEIGHT (LB)		REMARKS
										VOLTS	PHASE	Hz			
EF-1	1	ROOF/MECH.ROOM	GREENHECK	GB-180-7	DOWNBLAST	3000	0.25	1.0	3461	115	1	60	97		C/W 18" ROOF CURB , TYPE 1 & 3 STARTER , MOTORIZED DAMPER
EF-2	1	ROOF	COOK	70C15DL	DOWNBLAST	50	0.25	0.05	1401	115	1	60	20		-
EF-3	1	ROOF	COOK	90C15DH	DOWNBLAST	300	0.25	0.13	1305	115	1	60	23		-
EF-4	1	ROOF/ELEC.ROOM	GREENHECK	GB-141-5	DOWNBLAST	1000	0.25	0.5	1800	115	1	60	74		C/W 18" ROOF CURB , TYPE 1 & 3 STARTER , MOTORIZED DAMPER

ELECTRIC HEATER SCHEDULE												
HEATER	MANUFACTURER	MODEL	STYLE	CAPACITY		AIRFLOW		ELECTIRCAL WEIGHT		MOUNTING	REMARKS	
				(MBH)	(KW)	(CFM)	(L/S)	POWER (V/PHz)	LBS			KG
BBH-1	OUELLET	OFM1002	BASEBOARD HEATER	3.4	1.0	-	-	120/1/60	11	4.8	WALL	REMOTE THERMOSTAT
BBH-2	OUELLET	OFM2008	BASEBOARD HEATER	6.8	2.0	-	-	208/1/60	15	6.8	WALL	REMOTE THERMOSTAT
BBH-3	OUELLET	OFM0502	BASEBOARD HEATER	1.7	0.5	-	-	120/1/60	7.3	3.3	WALL	REMOTE THERMOSTAT
NOTE: 1. REFER TO ARCHITECTURAL DRAWINGS FOR UNIT FINISH, MOUNTING AND COLOR REQUIREMENTS IF SHOWN. 2. PROVIDE ALL SUPPORTS TO HANG/SUSPEND/MOUNT UNIT AS REQUIRED. 3. ACCEPTABLE ALTERNATIVE MANUFACTURERS: STELPRO, CHOMALOX 4. ALL REMOTE THERMOSTATS SHALL BE LOW VOLTAGE AND UNITS SHALL BE COMPLETE WITH FACTORY SUPPLIED TRANSFORMER.												

DIRECT GAS-FIRED MUA SCHEDULE																
HEATER	LOCATION	MANUFACTURER	MODEL	CAPACITY(C FM)	EXTERNAL STATIC PRESSURE (IN.H2O)	OUTPUT		ELECTIRCAL		MOTOR		FLA	DIMENSIONS (L"XW"XH")	WEIGHT		REMARKS
						(MBH)	(KW)	POWER (V/PHz)	(HP)	(KW)	LBS			KG		
MUA-1	ROOF	CAMBRIDGE AIR SOLUTIONS	SA250	1200	0.22	250	230	115/1/60	3/4	0.55	12.3	90X21X21	285	129.2		
-ALL MOUNTING HARDWARE BY OTHERS- HEATER WIDTH=21", - RECOMMENDED ROOF OPENING: 81/2" L X 16" W,- 10'-15' AFF RECOMMENDED DISCHARGE HEIGHT.																

GAS FIRED UNIT HEATER SCHEDULE																	
HEATER	LOCATION	MANUFACTURER	MODEL	INPUT		OUTPUT		THERMAL EFFICIENCY (%)	SUPPLY FAN				ELECTIRCAL		WEIGHT		REMARKS
				(MBH)	(KW)	(MBH)	(KW)		CAPACITY (CFM)	MOTOR (L/S)	(HP)	(KW)	POWER (V/P/Hz)	LBS	KG		
UH-1	WAREHOUSE	MODINE	HDS100SS0111FBAN	100	29.3	82	24.3	82	1490	703	1/6	0.11	115/1/60	125	56		
NOTE: UNIT HEATER TO BE COMPLETED WITH: 1. DISCONNECT SWITCH 2. 6" COMBUSTION AIR 3. VIBRATION ISOLATION HANGERS 4. 60 DEGREE DISCHARGE NOZZLE 5. THERMOSTAT 6. COMBUSTION AIR INDUCER																	

AIR TERMINAL SCHEDULE								
ITEM #	MANUFACTURER	TYPE	MODEL NO.	SIZE	MOUNTING	FINISH	FRAME/BORDER	REMARKS
A	EH PRICE	SQUARE PLAQUE DIFFUSER	SPD	24"X24"	T-BAR	WHITE POWDER COAT	TYPE-31-BAR	
B	EH PRICE	EGG CRATE RETURN	80	AS INDICATED	T-BAR	WHITE POWDER COAT	N/A	
C	EH PRICE	ROUND CONE DIFFUSER	RCD	3'Ø	SUSPENDED	WHITE POWDER COAT	N/A	
D	EH PRICE	LINEAR SLOT DIFFUSER	SDS	2 SLOT,60"	T-BAR	WHITE POWDER COAT	-	
- VERIFY QUANTITY AND ADDITIONAL SIZE INFORMATION ON DRAWINGS. - ALL FINISHES AND MOUNTINGS SHALL BE COORDINATE WITH ARCHITECTURAL DRAWINGS.								

COMMERCIAL GAS WATER HEATER SCHEDULE											
ITEM #	LOCATION	MANUFACTURER	MODEL NO.	RECOVERY@90° F RISE GPH	MBH	VOLUME (US GAL)	DIAMETER (IN)	POWER (V/PHz)	HEIGHT (IN)	DRY WEIGHT (LBS)	REMARKS
HWT-1	MECHANICAL ROOM	AO SMITH	BTX-80	95	76.0	80	27	120/1/60	71.5	225	
INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE SHUT-OFF VALVE.											

PUMPS SCHEDULE																			
TAG	SERVICE	LOCATION	MANUFACTURER	STYLE	MODEL	FLUID	FLOW		HEAD		MOTOR		VARIABLE FLOW	VFD	PRESSURE RATING		CONTROLS	REMARKS	
							(USGPM)	(L/S)	(FT)	(KPA)	RPM	POWER (HP)	(KW)		(Y/N)	(Y/N)			(PSI)
RP-1	DOMESTIC HOT WATER RECIRC.	MECHANICAL ROOM	BELL & GOSSETT	INLINE	ECOCIRC 20-18	WATER	1.5	0.09	10	29.89	3680	0.1	0.04	Y	Y	145	1000	TIMER	STAINLESS STEEL ALLOY
NOTE: 1. PROVIDE VIBRATION ISOLATION ON ALL PUMPS/SYSTEM TO MITIGATE VIBRATION/ NOISE TRANSMISSION. 2. ADJUST PUMP HEAD DESIGN TO SUIT INSTALLED CONDITIONS. 3. ALL VFD PUMPS SHALL BE PROVIDED LOOSE AND INSTALLED ON SITE IN PROXIMITY TO PUMP.																			

EXPANSION TANK SCHEDULE																						
TAG	SERVICE	LOCATION	MANUFACTURER	STYLE	MODEL	ACCEPTABLE VOLUME		TOTAL VOLUME		MIN PRESSURE AT TANK		MAX PRESSURE AT TANK		TANK PRESSURE RATING		SIZE				WEIGHT (DRY)		REMARKS
						(US GAL)	(L)	(US GAL)	(L)	(PSI)	(KPA)	(PSI)	(KPA)	(PSI)	(KPA)	DIAMETER (IN)	HEIGHT (MM)	(LBS)	(KG)			
ET-1	OFFICE WASHROOMS	MECHANICAL ROOM	ARMTOL	THERMXTROL	ST-12	3.2	12.1	4.4	16.7	35	241	70	483	150	1034	11	279	15	381	9	4.1	
NOTE:																						
1. FINAL SYSTEM SET POINT SHALL DETERMINE AND CALIBRATED AT THE TIME OF SYSTEM START UP AND COMMISSIONING.																						
2. TANK VOLUMES LISTED ABOVE ARE A MINIMUM. ALTERNATE TANKS PROVIDE SHALL MEET OR EXCEED THESE VALUES.																						
3. FLOOR MOUNTED TANKS SHALL BE ON 4" HOUSE KEEPING PAD.																						
4. PROVIDE ALL REQUIRED STEEL SUPPORTS FOR SUSPENDED TANKS AND SUPPORT FROM BUILDING STRUCTURE.																						
5. INSTALL TANK TO ALLOW FOR EASE OF REPLACEMENT OF BLADDER IF APPLICABLE.																						

PLUMBING FIXTURE CONNECTION SCHEDULE								
ITEM #	QTY	FIXTURE	INDIRECT WASTE	DIRECT WASTE	VENT	COLD WATER	HOT WATER	REMARKS
WC-1	6	WATER CLOSET	-	3"	2"	1/2"	-	
LAV-1	6	LAVATORY	-	1 1/2"	1 1/2"	1/2"	1/2"	
SH-1	1	SHOWER	-	1 1/2"	1 1/2"	1/2"	1/2"	
HS-1	1	HAND SINK	-	1 1/2"	1 1/2"	1/2"	1/2"	
DW-1	1	DISHWASHER	1 1/2"	-	1 1/2"	-	1/2"	
EW-1	1	EMERGENCY EYE WASH STATION	-	1 1/2"	1 1/2"	1/2"	1/2"	
NOTE: THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND INSTALLING BACKFLOW PREVENTORS FOR POTABLE WATER SUPPLY TO ALL WHERE REQUIRED BY LOCAL MUNICIPALITY , MUNICIPAL INSPECTOR AND/OR EQUIPMENT SUPPLIER. PROVIDE CHROM ANGLE STOP VALVE @ EACH CONNECTION TO EQUIPMENT. VERIFY PLUMBING FIXTURES AND EQUIPMENTS WITH OWNER AND SUPPLIER.								

NEW PLUMBING FIXTURE SCHEDULE		
ITEM #	FIXTURE	DESCRIPTION
WC-1	WATER CLOSET	FLOOR MOUNT TOILET BOWL, ELONGATED PRESSURE ASSIST BOWL
LAV-1	LAVATORY	GLACIER BAY RECTANGULAR VESSEL SINK WITH SINGLE HOLE DRILLING IN WHITE
HS-1	HAND SINK	STAINLESS STEEL SINK,COMPLETE WITH PULL DOWN FAUCET, ANGLE SUPPLY AND P-TRAP
SH-1	SHOWER	CHROME ROUNDED THERMOSTATIC SHOWER FAUCET WITH HAND SHOWER
DW-1	DISHWASHER	BOSCH 100 SERIES SHE3AR75UC DISHWASHER
EW-1	EMERGENCY EYEWASH STATION	WALL MOUNTED STAINLESS STEEL BOWL WITH STAY OPEN BALL VALVE AND DUAL SPRAY HEADS TO BE ACTIVATED BY A PUSH HANDLE
VERIFY PLUMBING FIXTURES AND EQUIPMENTS WITH OWNER AND SUPPLIER.		

Project Name: 45 BLOWERS CRESC, AJAX

Prepared by: Farheater Engineering

06/08/2024

06:14PM

Air System Sizing Summary for HEATING/VENTILATION_WAREHOUSE

Air System NameHEATING/VENTILATION_WAREHOUSE

Equipment ClassPKG ROOF

Air System TypeSZCAV

Number of zones1

Floor Area15187.0 ft²

LocationAjax, Ontario

Sizing Calculation Information

Calculation MonthsJan to Dec

Sizing DataCalculated

Zone CFM SizingSum of space airflow rates

Space CFM SizingIndividual peak space loads

Central Heating Coil Sizing Data

Max coil load203.5 MBH

Coil CFM at Des Htg4438 CFM

Max coil CFM4438 CFM

Water flow @ 20.0 °F dropN/A

Load occurs atDes Htg

BTU/(hr·ft²)13.4

Ent. DB / LG DB49.6 / 93.0 °F

Supply Fan Sizing Data

Actual max CFM at Des Htg4438 CFM

Standard CFM4347 CFM

Actual max CFM/R²0.29 CFM/R²

Fan motor BHP0.00 BHP

Fan motor kW0.00 kW

Fan static0.00 in wg

Outdoor Ventilation Air Data

Design airflow CFM1161 CFM

CFM/R²0.08 CFM/R²

CFM/person46.45 CFM/person

Zone Sizing Summary for HEATING/VENTILATION_WAREHOUSE

Project Name: 45 BLOWERS CRESC, AJAX

Prepared by: Farheater Engineering

06/08/2024

06:14PM

Air System Information

Air System NameHEATING/VENTILATION_WAREHOUSE

Equipment ClassPKG ROOF

Air System TypeSZCAV

Number of zones1

Floor Area15187.0 ft²

LocationAjax, Ontario

Sizing Calculation Information

Calculation MonthsJan to Dec

Sizing DataCalculated

Zone CFM SizingSum of space airflow rates

Space CFM SizingIndividual peak space loads

Zone Terminal Sizing Data

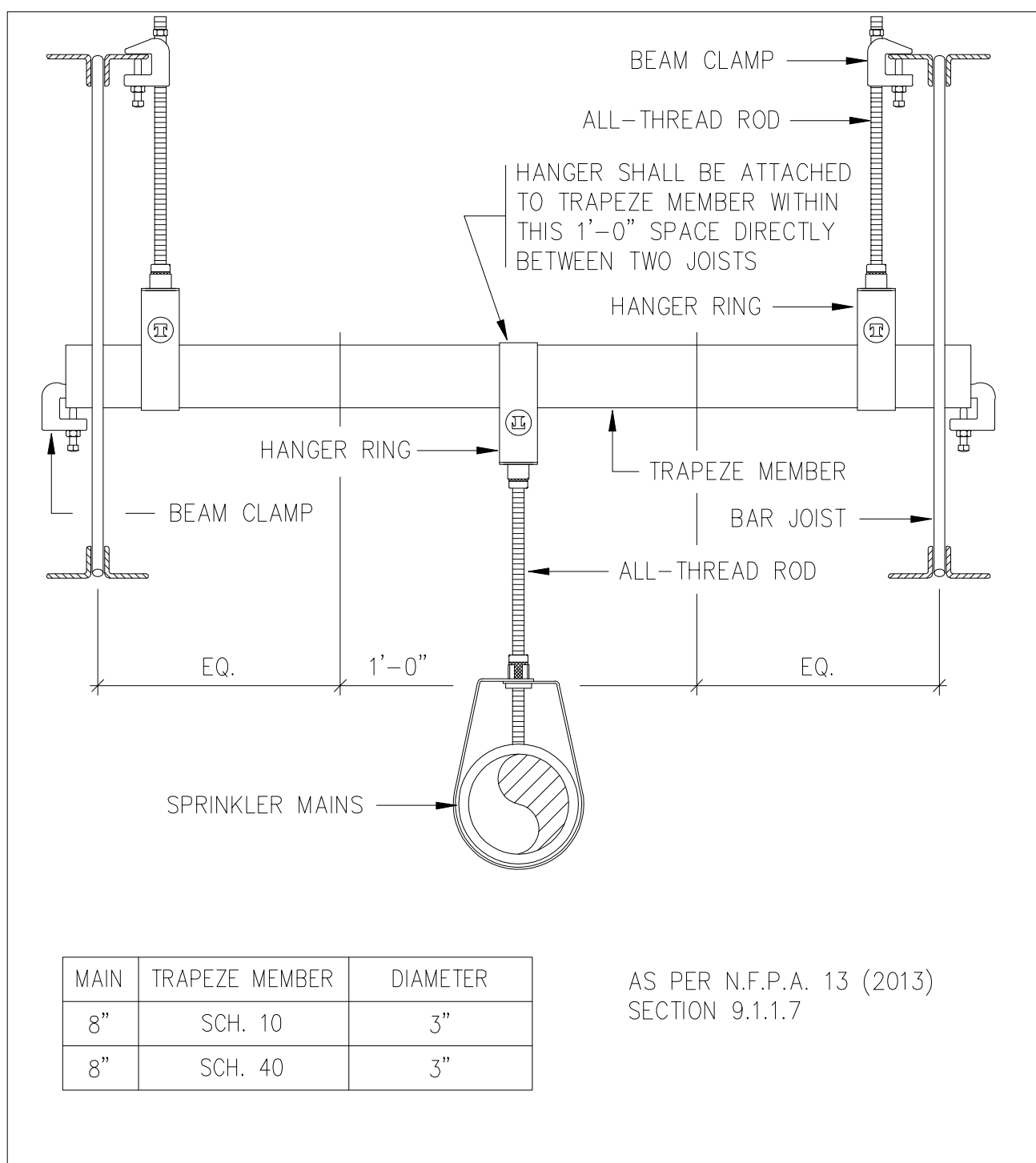
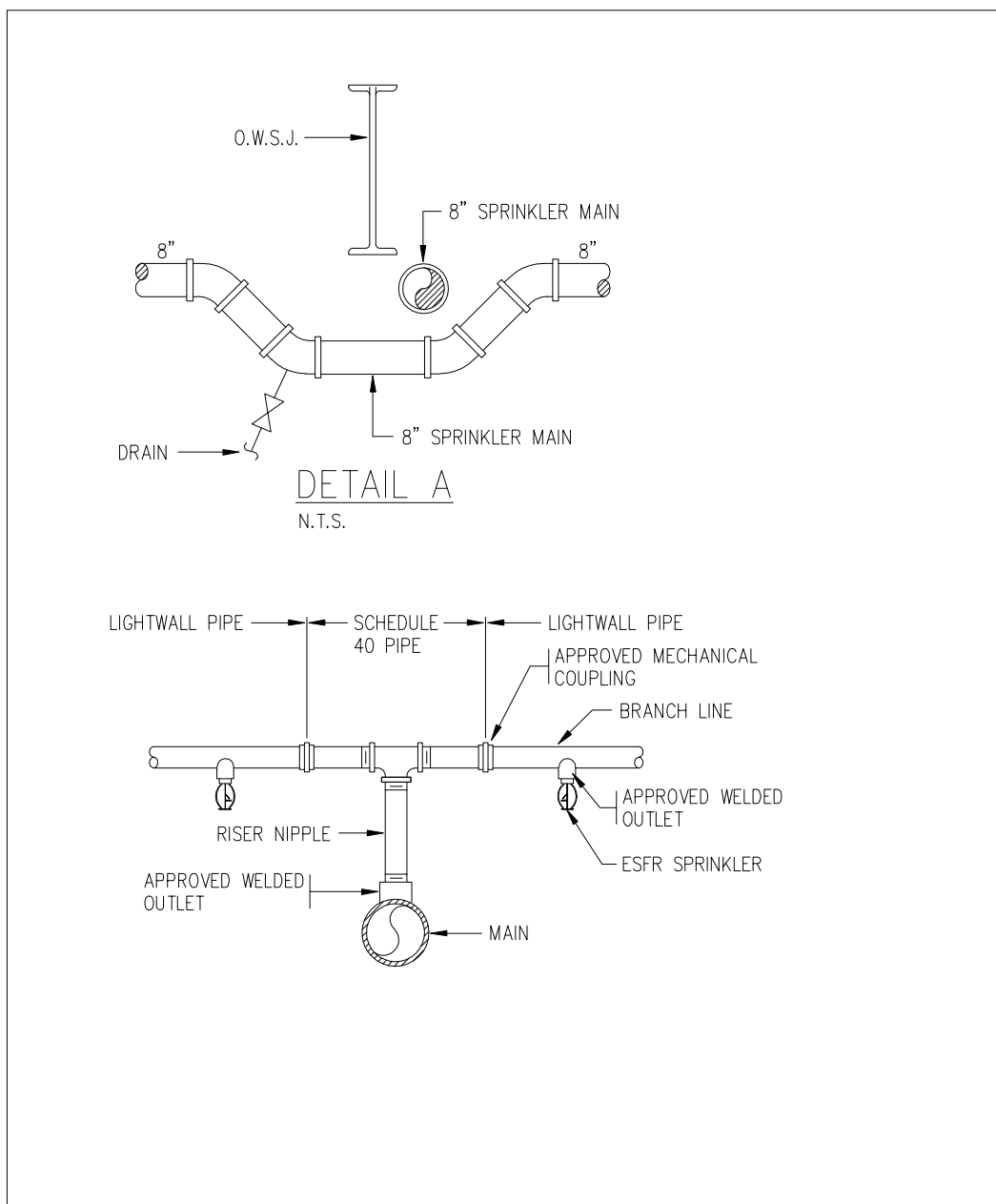
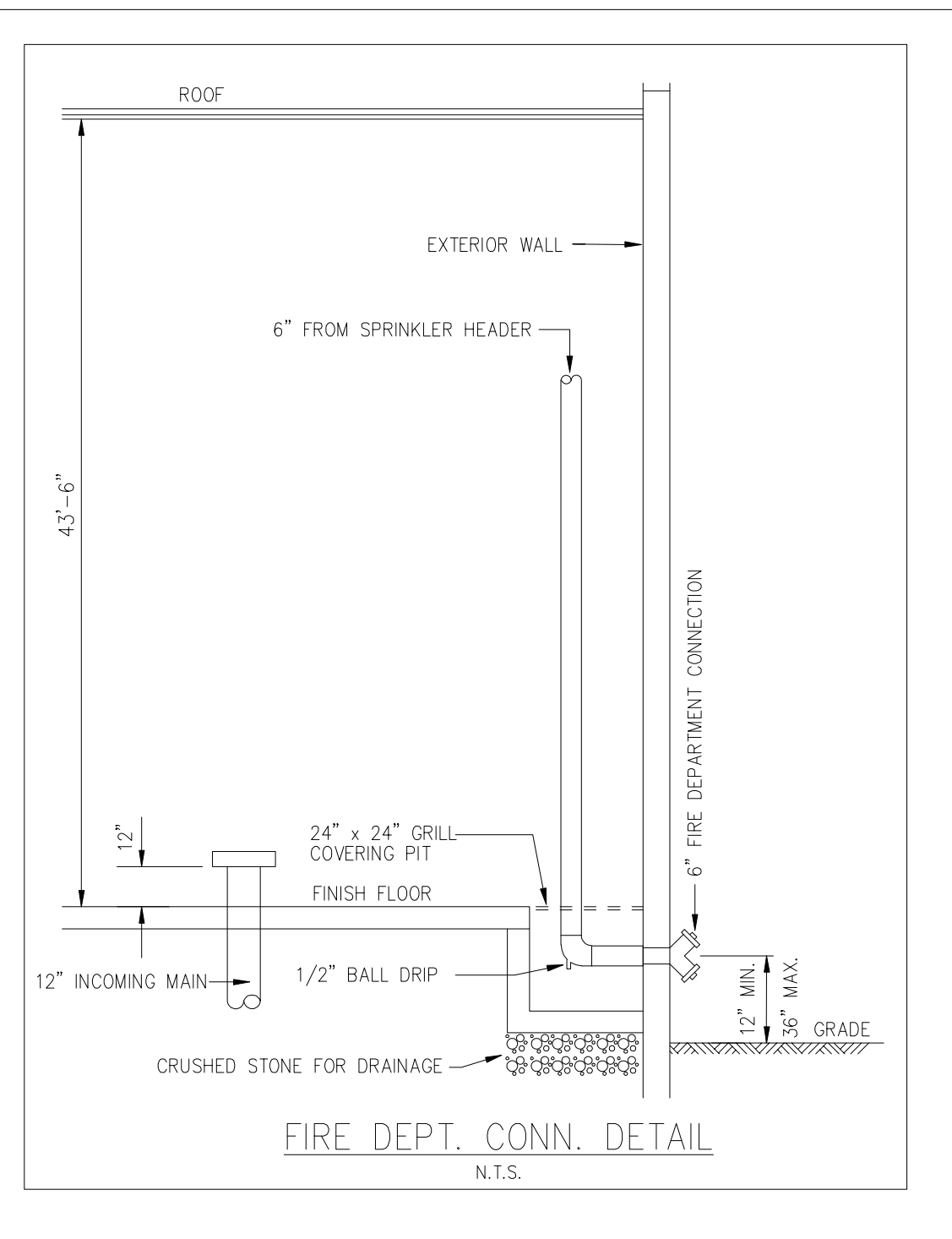
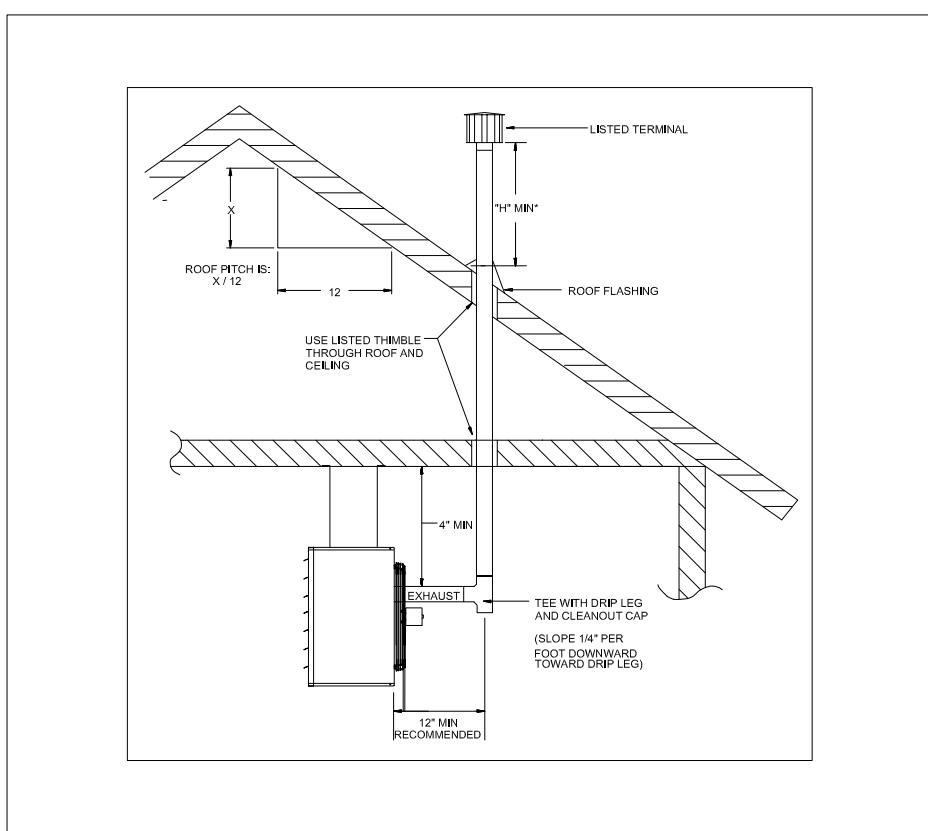
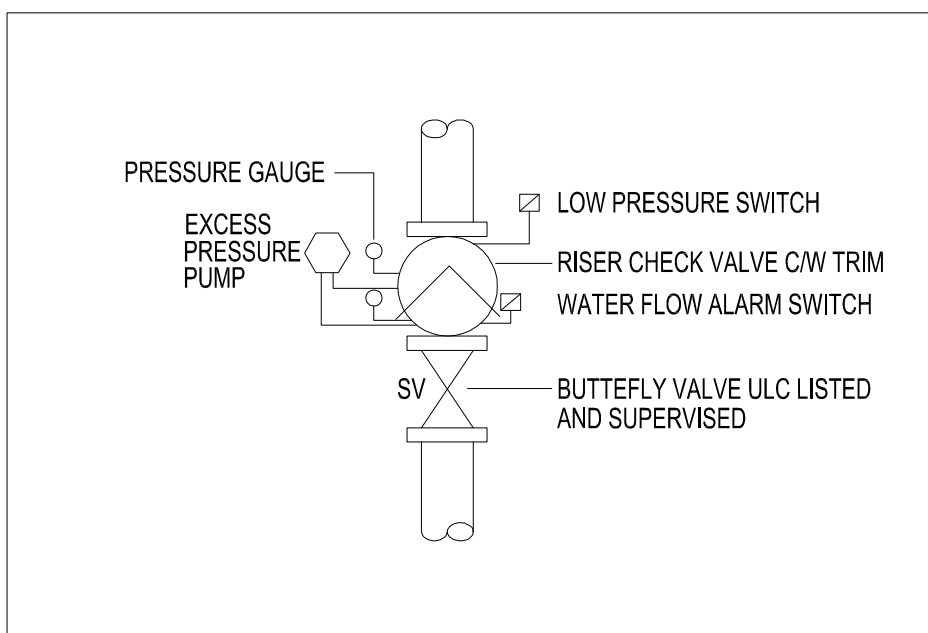
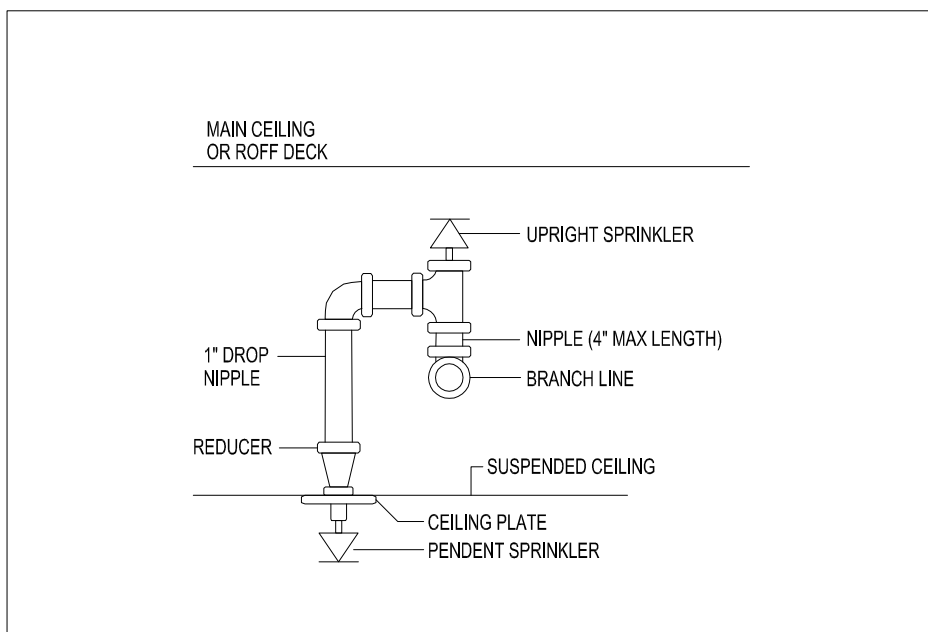
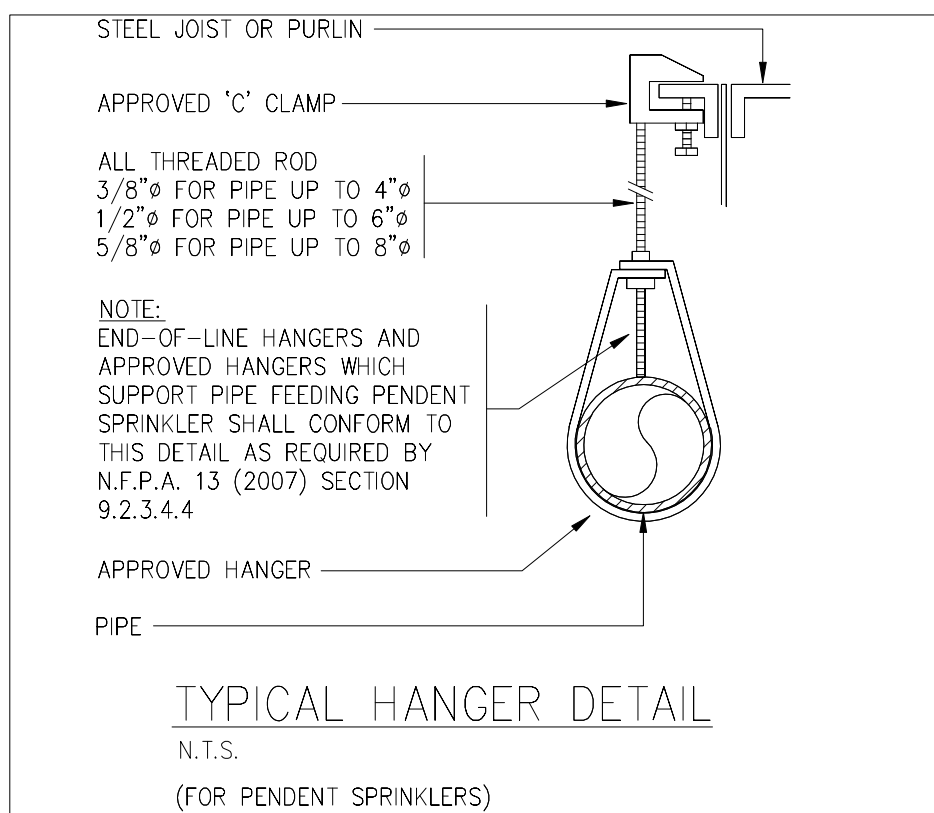
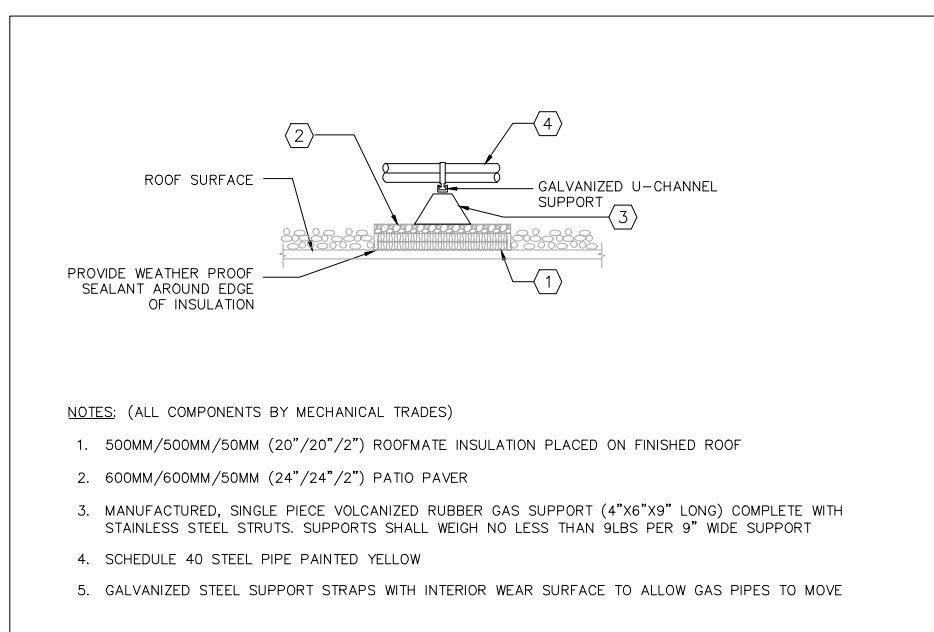
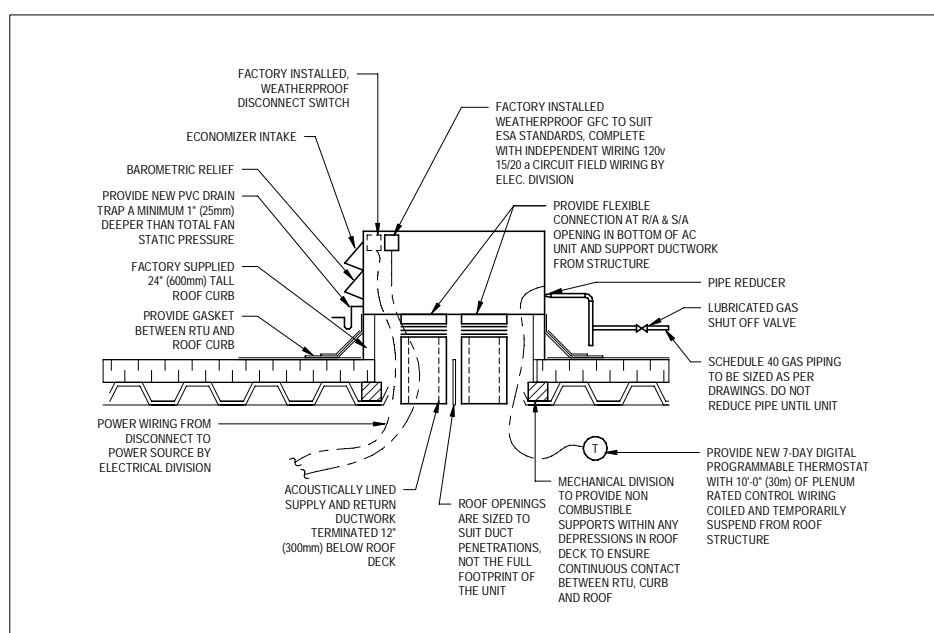
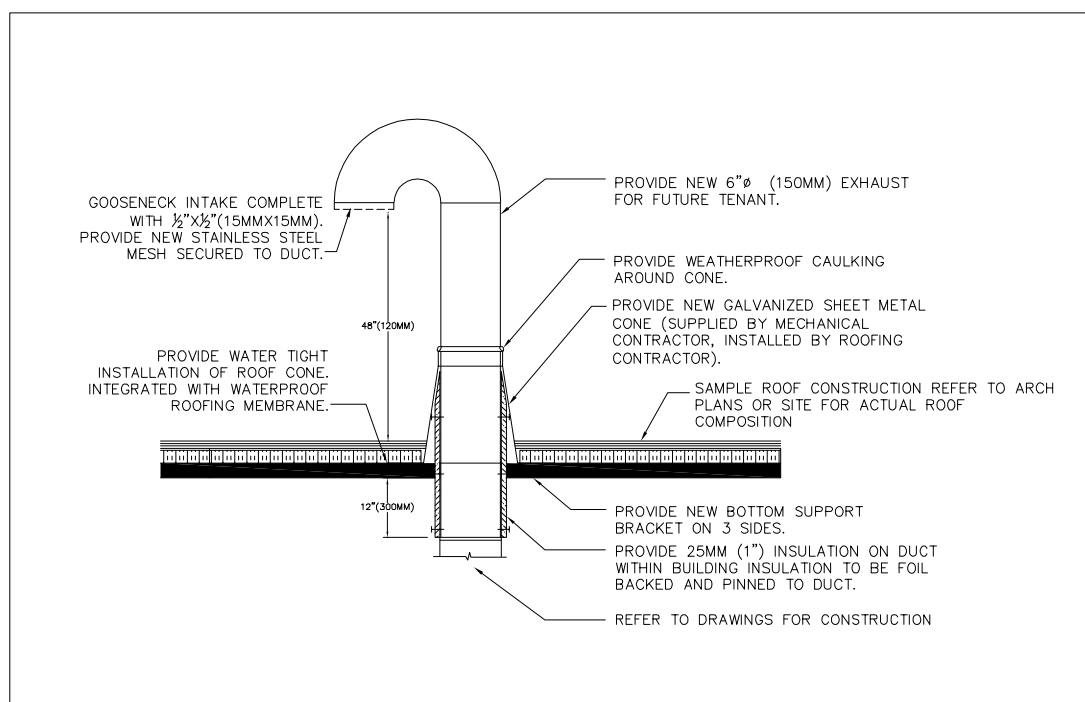
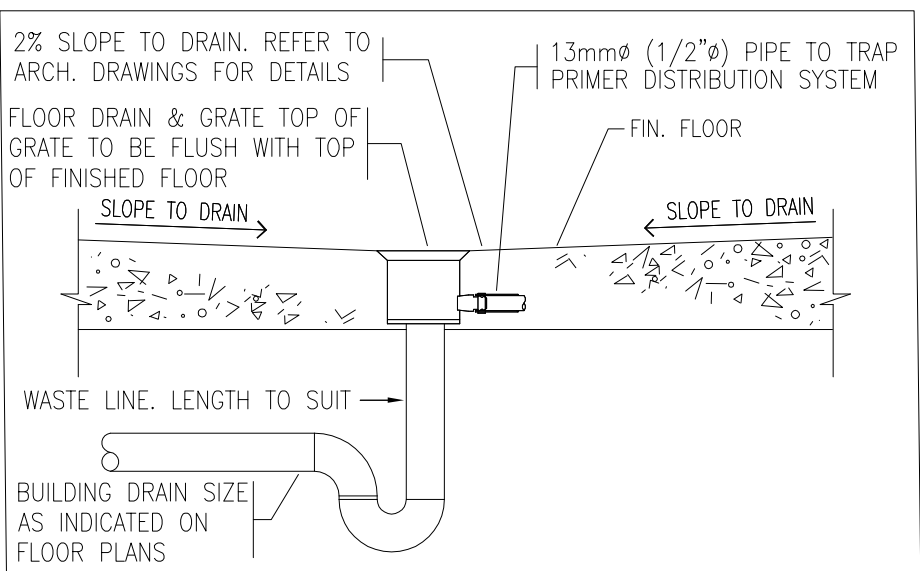
Zone Name	Design Supply Airflow (CFM)	Minimum Supply Airflow (CFM)	Zone CFM/R²	Reheat Coil Load (MBH)	Reheat Coil Water gpm @ 25.0 °F	Zone Htg Unit Coil Load (MBH)	Zone Htg Unit Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
Zone 1	4438	4438	0.29	0.0	-	0.0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load (hr)	Zone Heating Load (MBH)	Zone Floor Area (ft²)
Zone 1	190.9	Jul 1500	117.4	15187.0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/R²
Zone 1 WAREHOUSE	1	190.9	Jul 1500	4438	117.4	15187.0	0.29



Project Name: 45 BLOWERS CRESC, AJAX
Prepared by: Fairweather Engineering

Air System Sizing Summary for RTU-2_OFFICE SECOND

06/08/2024
06:14PM

Air System Information

Air System Name
Equipment Class
Air System Type

RTU-2_OFFICE SECOND
PKG ROOF
SZCAV

Number of zones
Floor Area
Location

1
3515.0 ft²
Ajax, Ontario

Sizing Calculation Information

Calculation Months
Sizing Data

Jan to Dec
Calculated

Zone CFM Sizing
Space CFM Sizing

Sum of space airflow rates
Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load
Total coil load
Sensible coil load
Coil CFM at Jul 1300
Max block CFM
Sum of peak zone CFM
Coil Sensible heat ratio
CFM/Ton
RT/Ton
BTU/hr/°F
Water flow @ 10.0 °F rise

6.6 Tons
79.6 MBH
67.2 MBH
3707 CFM
3707 CFM
3707 CFM
0.844
558.9
530.0
22.6
N/A

Load occurs at
OA DB / WB
Entering DB / WB
Leaving DB / WB
Coil ADP
Bypass Factor
Resulting RH
Design supply temp.
Zone T-stat chg
Max zone temperature deviation

Jul 1300
84.8 / 70.4 °F
76.7 / 65.5 °F
58.6 / 58.5 °F
57.7 °F
0.100
56 %
58.0 °F
1 or 1 °K
0.0 °F

Max coil load	62.7	MBH	Load occurs at	Des Htg
Coil CFM at Des Htg	3707	CFM	BTU/(hr·ft ²)	17.8
Max coil CFM	3707	CFM	Ent. DB / Lvg DB	64.3 / 80.3 °F
Water flow @ 20.0 °F drop	N/A			

Supply Fan Sizing Data

Actual max CFM	3707	CFM	Fan motor BHP	0.00	BHP
Standard CFM	3631	CFM	Fan motor kW	0.00	kW
Actual max CFM/m ²	1.05	CFM/m ²	Fan static	0.00	in wg

Outdoor Ventilation Air Data

Design airflow CFM	493	CFM	CFM/person	9.86	CFM/person
CFM/m ²	0.14	CFM/m ²			

Outdoor Ventilation Air Data

Design airflow CFM	493 CFM	CFM/person	9.86 CFM/person
CFM/ft ²	0.14 CFM/ft ²		

Zone Sizing Summary for RTU-2_OFFICE SECOND	
Project Name: 45 BLOWERS CRESC, AJAX	06/08/2024
Prepared by: Farheer Engineering	06:14PM

Air System Information	
Air System Name	RTU-2_OFFICE SECOND
Equipment Class	PKG ROOF
Air System Type	SZCAV
Number of zones	1
Floor Area	3515.00
Location	Ajax, Ontario

Zone Name	Design Supply Airflow (CFM)	Minimum Supply Airflow (CFM)	Zone CFM/m ²	Reheat Coil Load (MBH)	Reheat Coil Water gpm @ 20.0 °F	Zone Htg Unit Coil Load (MBH)	Zone Htg Unit Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
Zone 1	3707	3707	1.05	0.0	-	0.0	-	0

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
Zone 1	66.5	Jul 1000	45.6	3515.0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
Zone 1							
SECOND FLR OFFICE	1	35.4	Jul 1400	1965	27.8	1617.0	1.22
SECOND FLR SHOW ROOM	1	31.3	Jul 1000	1742	17.8	1898.0	0.92

Project Name: 45 BLOWERS CRESC, AJAX
 Prepared by: Farheer Engineering

1. Summary

Ventilation Sizing Method	ASHRAE Std 62.1-2013
Design Condition	Heating operation
Occupant Diversity (D)	1.000
Uncorrected Outdoor Air Intake (Vou)	461 CFM
System Ventilation Efficiency (Ev)	0.935
Outdoor Air Intake (Vot)	493 CFM

2. Space Ventilation Analysis										
Zone Name / Space Name	Supply Air (CFM)	Space Floor Area (ft²)	Area Outdoor Air Rate (CFM/ft²)	Time Averaged Occupancy (Occupants)	People Outdoor Air Rate (CFM/person)	Distribution Effectiveness	Air Outdoor CFM	Space Outdoor CFM	Breathing Zone Outdoor Air (CFM)	Space Ventilation Efficiency
	(Vps)	(A2)	(Ra)	(P2)	(Rp)	(Ez)	(Voz)	(Voz)	(Voz)	(Evz)
Zone 1	Mult.									
SECOND FLR. OFFICE	1	1662	1617.0	0.06	20.0	5.0	0.8	246	197	0.999
SECOND FLR. SHOW ROOM	1	1742	1698.0	0.06	30.0	5.0	0.8	330	264	0.935
Totals (incl. Space Multipliers)		3707							461	0.935

NOISSUED FOR		DATE
1	50% REVIEW	2024-05-29
2	FINAL REVIEW	2024-07-08
3	PERMIT	2025-06-30

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PROJECT NAME:
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PROJECT ADDRESS:

45 BLOWERS
CRES, AJAX, ON, L1Z 0N4

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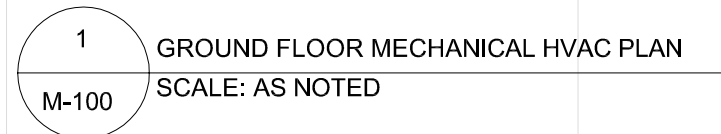
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DRAWING TITLE:

MECHANICAL DETAILS

PROJECT NUMBER:	DRAWING NUMBER:
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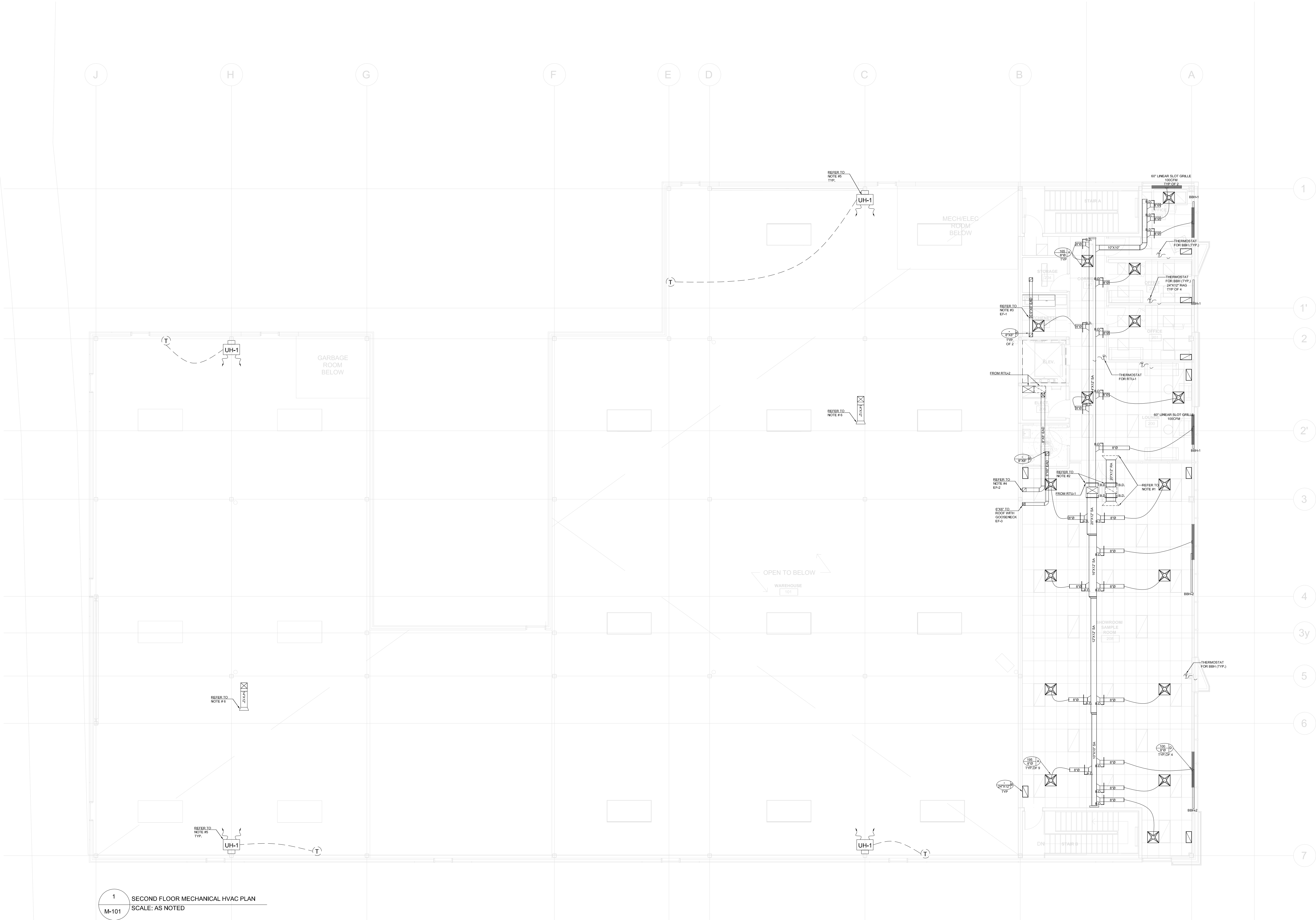
FH2024029	M-004
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1. PROVIDE OPEN END RETURN DUCT WITH MESH SCREEN AND BALANCING DAMPER.	5. MOTORIZED OUTDOOR AIR DAMPER OPEN 30% FOR COMBUSTION AIR WHEN FIRE PUMP IS ACTIVATED. REVERSE ACTING THERMOSTAT WILL ACTIVATE EXHAUST FAN AND OPEN OUTDOOR AIR MOTORIZED DAMPER 100%.	8. 14"x14" EXHAUST DUCT UP TO THROUGH ROOF TO EXHAUST FAN "EF-4".
2. PROVIDE 24"x14" SUPPLY & RETURN DUCTS FROM RTU-2 ON ROOF, RUN DUCT ADJACENT TO THE WALL. PENETRATE WITH FIRE DAMPERS.	6. TAMCO SERIES 3400 C/W 3000 SERIES DAMPERS 48"x38" COMBUSTION INTAKE LOUVRE C/W MOTORIZED DAMPER (2 S19) AT 12"-0" A.F.F. INTERLOCK WITH DIESEL PUMP.	
3. PROVIDE 6"x8" EAD TO EF-3 ON ROOF C/W GOOSE NECK.	7. 48"x38" FRESH AIR DUCT CONNECT TO LOUVER AND DOWN TO 12" A.F.F. C/W 1 THERMAL INSULATION. BOTTOM OF DUCT TO BE OPEN ENDED WITH WIRE MESH.	
4. PROVIDE 20"x30" EAD UP THROUGH ROOF TO EF-1 TO SERVE THE MECHANICAL/ELECTRICAL ROOM		

PROJECT NUMBER:	DRAWING NUMBER:
FH2024029	M-100

**DRAWING
NUMBER:**



1 SECOND FLOOR MECHANICAL HVAC PLAN
M-101 SCALE: AS NOTED

KEYED NOTES (REFER TO PLAN ABOVE) :

1. PROVIDE OPEN END RETURN DUCT WITH MESH SCREEN AND BALANCING DAMPER.
2. PROVIDE 24"x14" SUPPLY & RETURN DUCTS FROM RTU-1 ON ROOF, PROVIDE 1" THICK ACOUSTIC LINING INSULATION FROM RTU TO FIRST DIFFUSER.
3. PROVIDE 6"x6" EAD TO EF-1 ON ROOF C/W GOOSE NECK.
4. PROVIDE 6"x6" EAD TO EF-2 ON ROOF C/W GOOSE NECK.
5. PROVIDE GAS UNIT HEATER, WALL MOUNTED ON BRACKET AT 12' FROM FLOOR - VENT TO ROOF.(TYPICAL).
6. PROVIDE OPEN END MAKE UP AIR DUCT WITH MESH SCREEN.

NO	ISSUED FOR	DATE
1	50% REVIEW	2024-05-29
2	FINAL REVIEW	2024-07-08
3	PERMIT	2025-06-30

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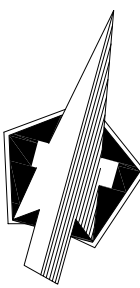


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45 BLOWERS
CRES,AJAX, ON,L1Z 0N4

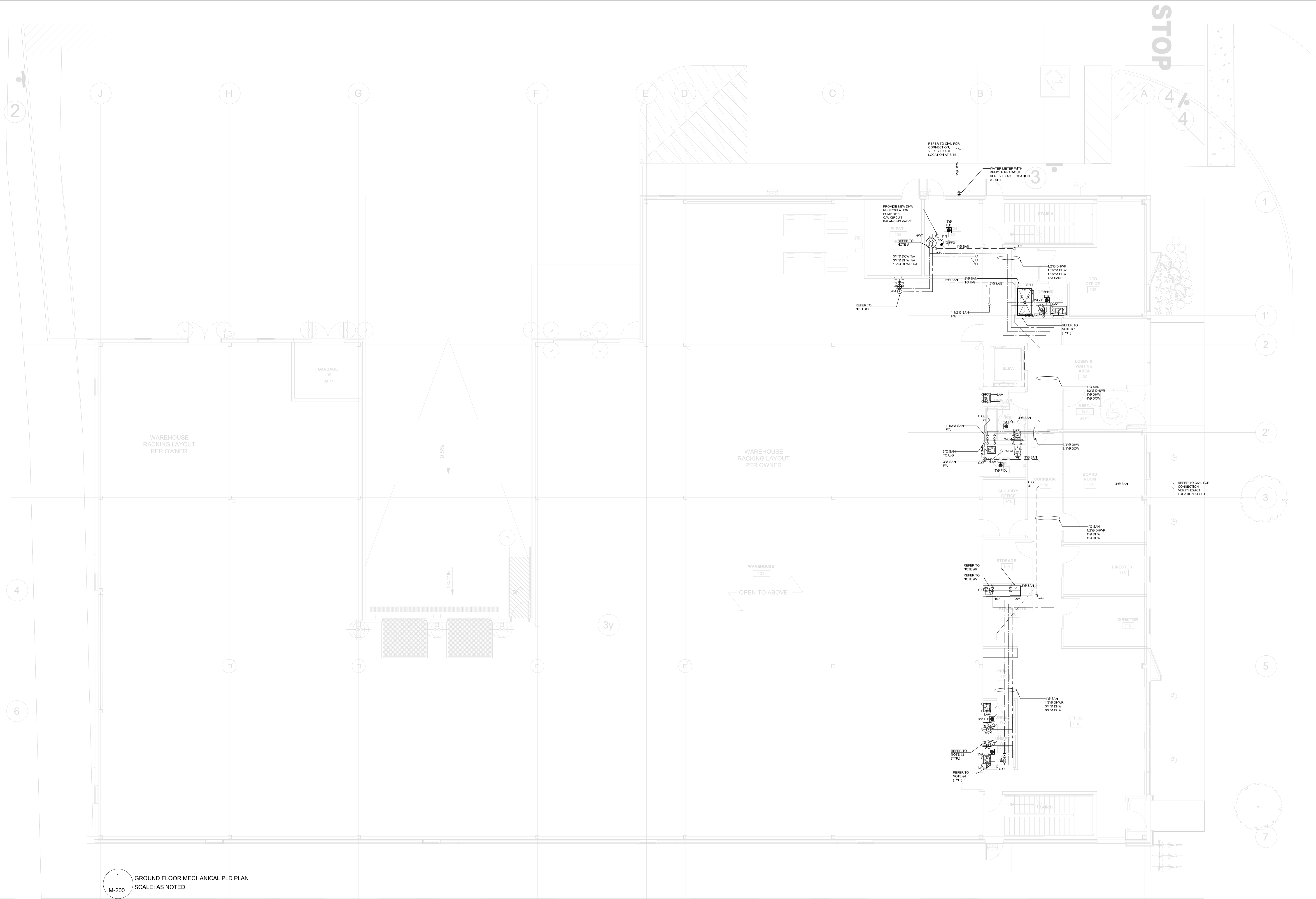
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DRAWING TITLE:			

SECOND FLOOR
MECHANICAL HVAC
PLAN

PROJECT NUMBER:	DRAWING NUMBER:
FH2024029	M-101



1 GROUND FLOOR MECHANICAL PLD PLAN
M-200 SCALE: AS NOTED

KEYED NOTES (REFER TO PLAN ABOVE) :

1. PROVIDE NEW DOMESTIC WATER HEATER TO SERVE GROUND FLOOR & SECOND FLOOR
2. PROVIDE PROVIDE NEW DHW RECIRCULATION PUMP RP-1 C/W CIRCUIT BALANCING VALVE.
3. PROVIDE NEW 1/2" DCW TO SERVE NEW WC-1. 2" VENT LINE UP FROM WATER CLOSET AND 3" SANITARY DRAIN DOWN FROM WATER CLOSET. (VERIFY EXACT LOCATION AT SITE.) (TYPICAL)
4. PROVIDE NEW 1/2" DCW/DHW TO SERVE NEW LAV-1. 1 1/2" VENT LINE UP FROM LAVATORY. 1 1/2" SANITARY DRAIN DOWN FROM LAVATORY. (VERIFY EXACT LOCATION AT SITE.) (TYPICAL)
5. PROVIDE NEW 1/2" DCW/DHW TO SERVE NEW HS-1. 1 1/2" VENT LINE UP FROM HAND SINK. 1 1/2" SANITARY DRAIN DOWN FROM HAND SINK. (VERIFY EXACT LOCATION AT SITE.) (TYPICAL)
6. PROVIDE NEW 1/2" DHW TO SERVE NEW DS-1. 1 1/2" VENT LINE UP FROM DISHWASHER. 1 1/2" SANITARY DRAIN DOWN FROM DISHWASHER. (VERIFY EXACT LOCATION AT SITE.) (TYPICAL)
7. PROVIDE NEW 1/2" DCW/ DHW TO SERVE NEW SH-1. 1 1/2" VENT LINE UP FROM SHOWER. 1 1/2" SANITARY DRAIN DOWN FROM SHOWER. (VERIFY EXACT LOCATION AT SITE.) (TYPICAL)
8. PROVIDE NEW 1/2" DCW/ DHW TO SERVE NEW EW-1. 1 1/2" VENT LINE UP FROM EMERGENCY EYE WASH STATION. 1 1/2" SANITARY DRAIN DOWN FROM EMERGENCY EYE WASH STATION. (VERIFY EXACT LOCATION AT SITE.)

NOISSUED FOR	DATE
1 50% REVIEW	2024-05-29
2 FINAL REVIEW	2024-07-08
3 PERMIT	2025-06-30

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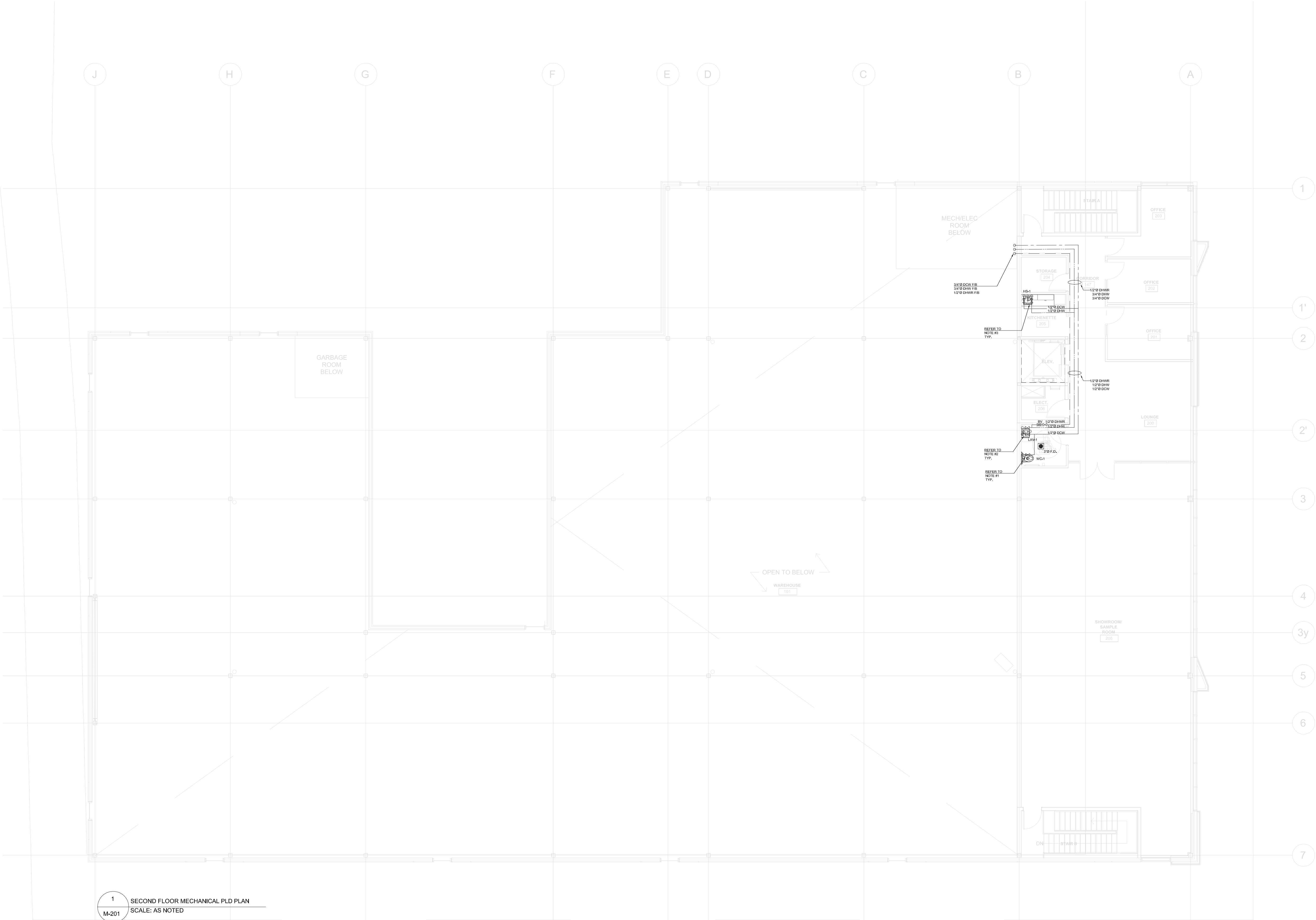
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CHECKED BY: F.M	SCALE: 1/8"=1'-0"
DRAWING TITLE:	

GROUND FLOOR
MECHANICAL PLD PLAN

PROJECT NUMBER:	DRAWING NUMBER:
FH2024029	M-200



1 SECOND FLOOR MECHANICAL PLD PLAN
M-201 SCALE: AS NOTED

- KEYED NOTES (REFER TO PLAN ABOVE) :**
1. PROVIDE NEW 1/2" DCW TO SERVE NEW WC-1. 2" VENT LINE UP FROM WATER CLOSET AND 3" SANITARY DRAIN DOWN FROM WATER CLOSET. (VERIFY EXACT LOCATION AT SITE.) (TYPICAL)
 2. PROVIDE NEW 1/2" DCW/DHW TO SERVE NEW LAV-1. 1 1/2" VENT LINE UP FROM LAVATORY. 1 1/2" SANITARY DRAIN DOWN FROM LAVATORY. (VERIFY EXACT LOCATION AT SITE.) (TYPICAL)
 3. PROVIDE NEW 1/2" DCW/DHW TO SERVE NEW HS-1. 1 1/2" VENT LINE UP FROM HAND SINK. 1 1/2" SANITARY DRAIN DOWN FROM HAND SINK. (VERIFY EXACT LOCATION AT SITE.) (TYPICAL)

NOISSUED FOR	DATE
1 50% REVIEW	2024-05-29
2 FINAL REVIEW	2024-07-08
3 PERMIT	2025-06-30

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PROJECT NAME:
**WAREHOUSE AND
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PROJECT ADDRESS:
**45 BLOWERS
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NORTH:



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CHECKED BY: F.M	SCALE: 1/8"=1'-0"
DRAWING TITLE:	

**SECOND FLOOR
MECHANICAL PLD PLAN**

PROJECT NUMBER:	DRAWING NUMBER:
FH2024029	M-201

NOISSUED FOR	DATE
1 50% REVIEW	2024-05-29
2 FINAL REVIEW	2024-07-08
3 PERMIT	2025-06-30

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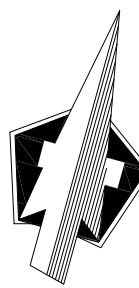


PROJECT NAME:
WAREHOUSE AND
OFFICE
HEADQUARTERS

PROJECT ADDRESS:

45 BLOWERS
CRES, AJAX, ON, L1Z 0N4

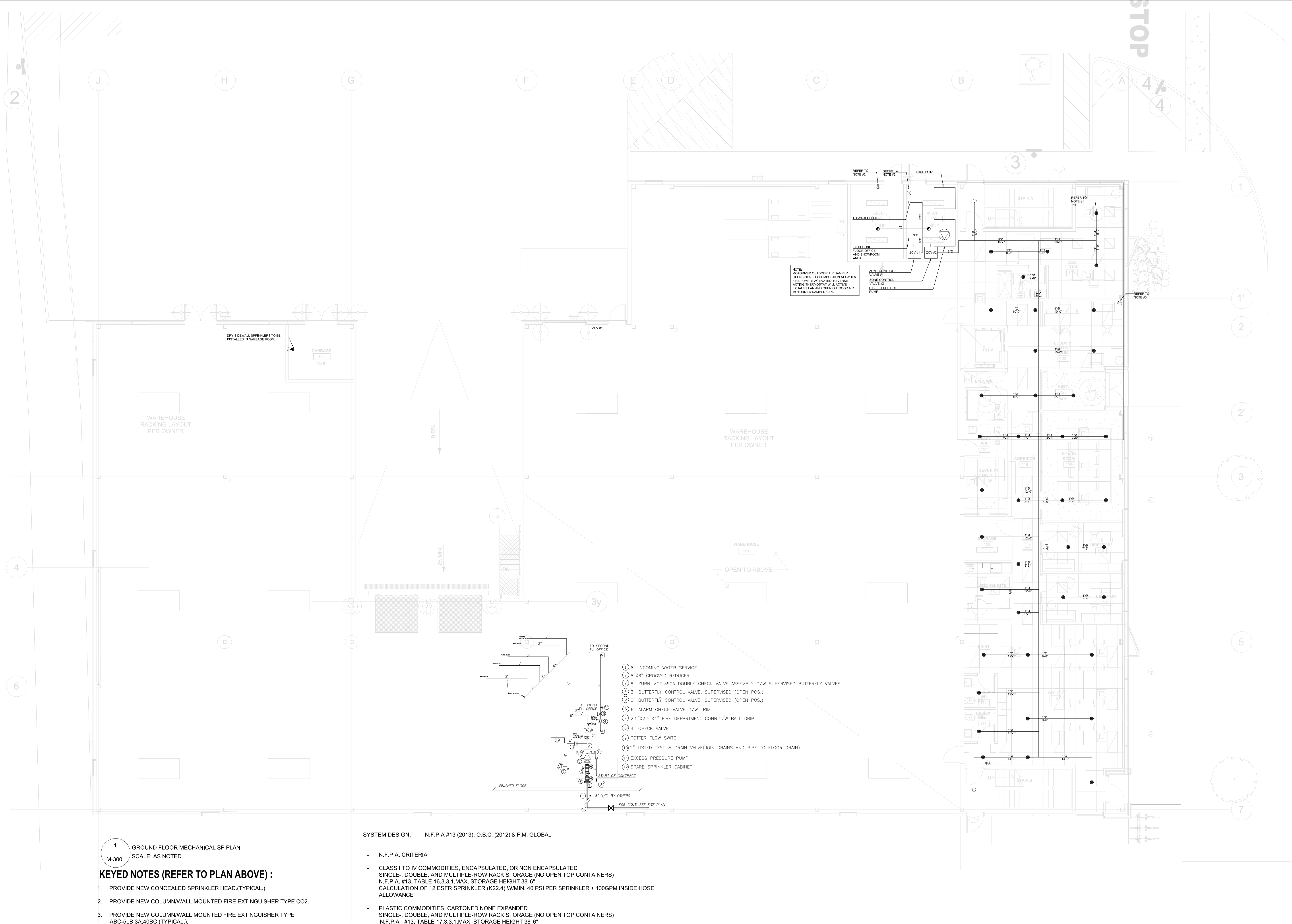
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DRAWING TITLE:	

GROUND FLOOR
MECHANICAL SP PLAN

PROJECT NUMBER:	DRAWING NUMBER:
FH2024029	M-300



FARHEATER ENGINEERING INC.

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PROJECT NAME:
WAREHOUSE AND
OFFICE
HEADQUARTERS

45 BLOWERS
CRES,AJAX, ON,L1Z 0N4

H.L

2024-05-14

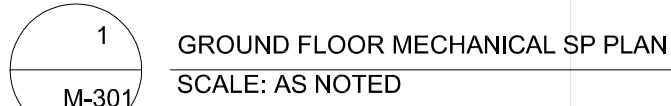
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Y:	SCALE:
F.M	1/8"=1'-0"

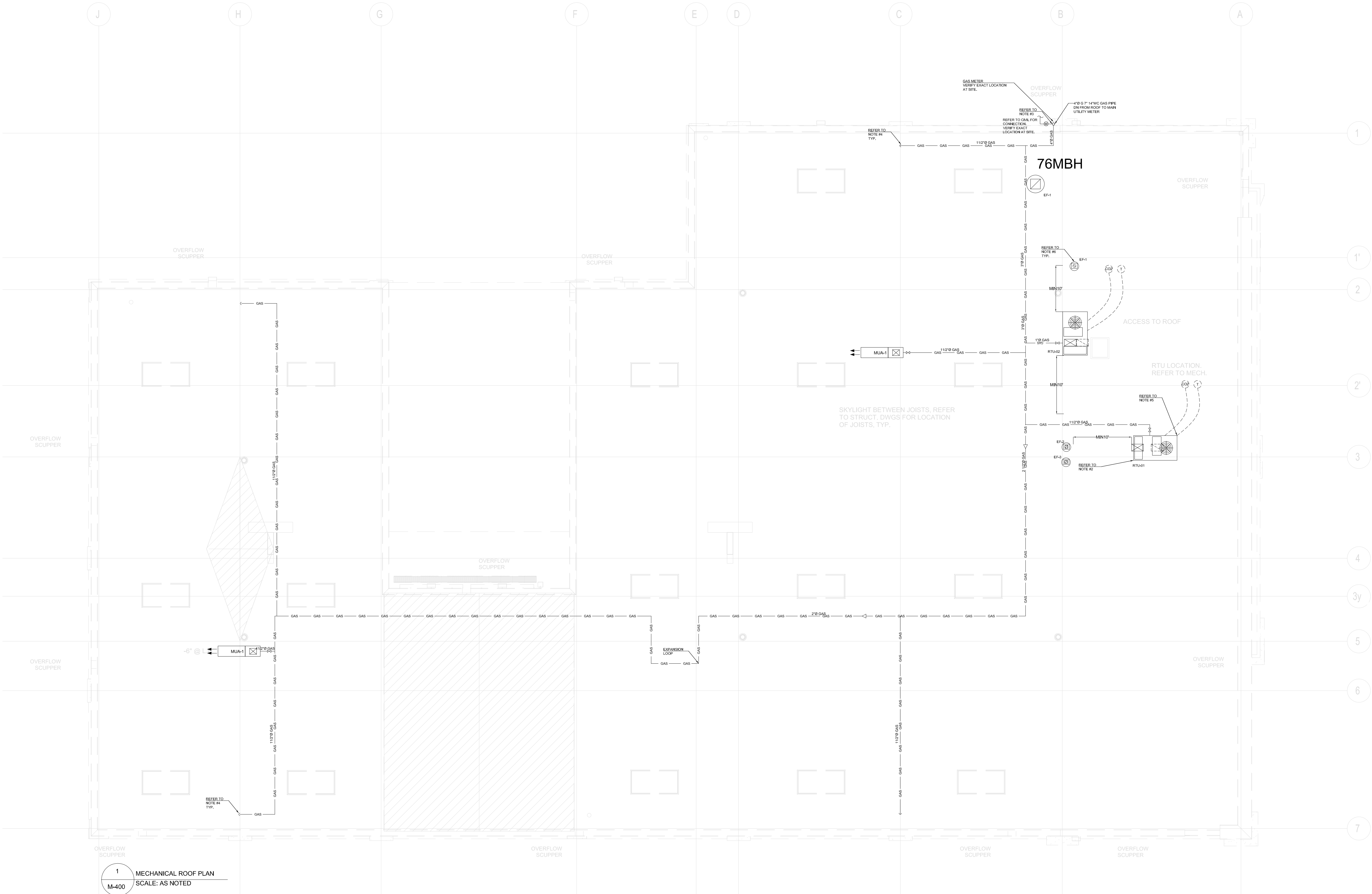
SECOND FLOOR MECHANICAL SP PLAN

**DRAWING
NUMBER:**

M-301



1. PROVIDE NEW 3"Ø SPRINKLER LINE TO SERVE THE OFFICE AND SHOWROOM AREA.
2. PROVIDE NEW CONCEALED SPRINKLER HEAD.(TYPICAL.)
3. PROVIDE NEW COLUMN/WALL MOUNTED FIRE EXTINGUISHER TYPE ABC-5LB 3A:40BC (TYPICAL.)



1 MECHANICAL ROOF PLAN
M-400 SCALE: AS NOTED

- KEYED NOTES (REFER TO PLAN ABOVE) :**
- SUPPLY & RETURN DUCT DOWN SAHLL BE INSULATED WITH 3" THICK FIBER GLASS AND ALUMINUM CLADDING.
 - PROVIDE ROOF CURB AND ROOF FLASHING.(TYPICAL).
 - PROVIDE 4"Ø GAS PIPE @ 7" W.C. FROM GAS METER AND RUN ON ROOF.
 - PROVIDE 1 1/2"Ø GAS PIPE DOWN TO SERVE GAS FIRED UNIT HEATER.(TYPICAL).
 - PROVIDE AND INSTALL NEW CO2 SENSOR LOCATED NEXT TO RTU PROGRAMMABLE THERMOSTATS. TO BE TIED INTO RTU VARIABLE FRESH AIR INLET DAMPER TO PROVIDE DEMAND CONTROL VENTILATION.
 - NEW 6"Ø SAN EXHAUST DUCT 36" ABOVE ROOF C/W GOOSENECK. (TYPICAL).

NOISSUED FOR	DATE
1 50% REVIEW	2024-05-29
2 FINAL REVIEW	2024-07-08
3 PERMIT	2025-06-30

FARHEATER ENGINEERING INC.

15 ALLSTATE PARKWAY, SUITE 633
MARKHAM, ONTARIO, L3R 5B4
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TELL: 437-999-2424



STAMP:

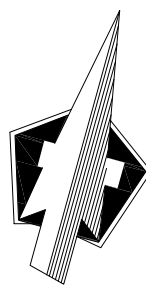


PROJECT NAME:
WAREHOUSE AND
OFFICE
HEADQUARTERS

PROJECT ADDRESS:

45 BLOWERS
CRES,AJAX, ON,L1Z 0N4

NORTH:



DRAWN BY: H.L	DATE: 2024-05-14
CHECKED BY: F.M	SCALE: 1/8"=1'-0"

DRAWING TITLE:

MECHANICAL ROOF
PLAN

PROJECT NUMBER:	DRAWING NUMBER:
FH2024029	M-400