

X:\VGFD (Vails Gate Fire Dept)\VGFD2001 (Vails Gate FD New Firehouse)\2-Bld-CADD\Construction_Sheet\Bldg\001.00 - Mechanical Cover Sheet.dwg Last Modified: May 05, 2022 - 10:35am Plotted on: Jul 15, 2022 - 1:07pm By: jlagana

ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BCU	BUILDING CONTROL UNIT
BTU	BRITISH THERMAL UNIT
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
COMM.	COMMUNICATION
CV	CONTROL VALVE
(D)	DEMOLISH
DB	DRY BULB
DCV	DEMAND CONTROLLED VENTILATION
DEG. F	DEGREES FAHRENHEIT
DIA	DIAMETER
DX	DIRECT EXPANSION
'E'	ELECTRICAL CONTRACTOR
(E)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATING
ESP	EXTERNAL STATIC PRESSURE
FAI	FRESH AIR INTAKE
FD	FLOOR DRAIN
FLA	FULL LOAD AMPS
FT. H2O	FEET OF WATER
'G'	GENERAL CONSTRUCTION CONTRACTOR
GPM	GALLONS PER MINUTE
GPH	GALLONS PER HOUR
H	HEIGHT
'H'	HVAC CONTRACTOR
HP	HORSEPOWER
IN.	INCHES
IN. W.C. (W.G.)	INCHES WATER COLUMN (WATER GAUGE)
KW	KILOWATTS
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LCD	LIQUID CRYSTAL DISPLAY
LDB	LEAVING DRY BULB TEMPERATURE
LWB	LEAVING WET BULB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
M	METER
MAX	MAXIMUM
MBH	1,000 BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MANF	MANUFACTURER
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OAI	OUTDOOR AIR INTAKE
OD	OUTER DIAMETER
OED	OPEN ENDED DUCT
'P'	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PSIG	LBS / SQUARE INCH (GAUGE PRESSURE)
RD	ROOF DRAIN
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
SAT	SUPPLY AIR TEMPERATURE
SEER	SEASONAL ENERGY EFFICIENCY RATING
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TYP	TYPICAL
VFD	VARIABLE FREQUENCY DRIVE
W	WIDTH
WB	WET BULB
WMS	WIRE MESH SCREEN

SYMBOL	ABBREV	DESCRIPTION	
		DUCTWORK BRANCH CONNECTION	
	VD	VOLUME DAMPER	
	CD	ROUND FACE SUPPLY DIFFUSER	
	SEE AIR DEVICE SCHEDULE	SIDEWALL SUPPLY, RETURN OR EXHAUST GRILLE/REGISTER	
	SEE AIR DEVICE SCHEDULE	SQUARE FACE SUPPLY DIFFUSER	
	SEE AIR DEVICE SCHEDULE	BOTTOM RETURN OR EXHAUST GRILLE/REGISTER	
	FC	FLEXIBLE CONNECTION	
		TURNING VANES	
		RECTANGULAR TO ROUND TRANSITION	
	AL	ACOUSTICAL LINING	
	SEE AIR DEVICE SCHEDULE	END CAP	
		SUPPLY DIFFUSER WITH DIRECTIONAL FLOW (SOLID HATCH INDICATES BLANK OFF PANEL)	
		SUPPLY DUCT DROP (TURN DOWN)	
		RETURN/EXHAUST DUCT DROP (TURN DOWN)	
		SUPPLY DUCT RISE	
	DSD	RETURN/EXHAUST DUCT RISE	
	DSD	DUCT SMOKE DETECTOR	
	MD	MOTORIZED DAMPER WITH ACTUATOR	
	OR	AD	ACCESS DOOR
		FD/AD	FIRE DAMPER WITH ACCESS DOOR
		FSD/AD	FIRE SMOKE DAMPER WITH ACCESS DOOR
		FAN	

SYMBOL	ABBREV	DESCRIPTION
		CARBON MONOXIDE SENSOR
		THERMOSTAT
		DIGITAL TEMPERATURE SENSOR
		NITROGEN DIOXIDE
		CARBON DIOXIDE SENSOR

SYMBOL	ABBREV	DESCRIPTION
		NEW WORK
		PIPING DOWN/ PIPING UP

GENERAL NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR. REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. THE CONTRACTOR, BY PRESENTING THEIR BID FOR THE WORK, REPRESENTS THAT HE/SHE HAS INSPECTED THE SITE AND IS COMPLETELY FAMILIAR WITH THE SCOPE OF WORK AND ALL FIELD CONDITIONS RELATED TO, AND AFFECTING THE WORK AND ITS PERFORMANCE. EXCEPTIONS AFFECTING THE WORK AND ITS PERFORMANCE, OR CONFLICTS BETWEEN FIELD CONDITIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE SUBMISSION OF BIDS.
3. PERFORM ALL WORK IN ACCORDANCE WITH THE PLUMBING CODE, FIRE CODE, MECHANICAL CODE, ENERGY CONSERVATION CONSTRUCTION CODE, AND FUEL GAS CODE OF NEW YORK STATE AND THE REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION.
4. COMPLY WITH THE NATIONAL ELECTRIC CODE AND THE REQUIREMENTS OF DIVISION 26 FOR ALL ELECTRICAL INSTALLATIONS.
5. FIRE STOP ALL OPENINGS IN FIRE RATED CONSTRUCTION FOR PIPING, DUCTWORK, CONDUIT, ETC. PROVIDE FIRE DAMPERS AND ACCESS DOORS IN ALL OPENINGS IN FIRE RATED FLOORS, PARTITIONS, AND WALLS FOR DUCTWORK AS PER THE MECHANICAL CODE OF NEW YORK STATE. (SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED CONSTRUCTION.)
6. DO NOT SCALE DRAWINGS. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. COORDINATE CONTRACT DOCUMENTS, PROJECT REQUIREMENTS, WORK OF OTHERS, AND EQUIPMENT AND MATERIALS PURCHASED WITH FIELD DIMENSIONS. INSTALL ALL EQUIPMENT AS PER MANUFACTURER'S REQUIREMENTS TO PROVIDE PROPER CLEARANCE FOR INSTALLATION, OPERATION, AND MAINTENANCE. CONTRACTOR'S INTENDED MEANS AND METHODS OF INSTALLATION AND CONTRACTOR'S FABRICATED ITEMS SHALL ENSURE A PROPER "FIT" AND INSTALLATION. BRING ANY CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER DURING THE SUBMITTAL PHASE FOR RESOLUTION PRIOR TO PURCHASING ANY EQUIPMENT.
7. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS. WHERE HEADROOM AND SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH INSTALLATION. MAINTAIN A MINIMUM OF 6'-8" CLEARANCE FROM FINISHED FLOOR TO UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
8. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION. MAKE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF THE WORK. OBTAIN THE APPROVAL OF THE ARCHITECT/ENGINEER FOR MODIFICATIONS.
9. PROVIDE PRODUCTS OF ONE MANUFACTURER WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF MATERIAL OR EQUIPMENT IS REQUIRED.
10. INSTALL ALL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS. REFER TO DETAILS FOR ADDITIONAL PIPING AND EQUIPMENT INSTALLATION REQUIREMENTS.
11. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTION OF PIPE OR DUCT UP- AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER TO ENSURE MANUFACTURER CERTIFIED ACCURACY.
12. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL PIPING AND DUCT TRANSITIONS REQUIRED FOR FINAL CONNECTIONS TO EQUIPMENT.
13. COORDINATE LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS WITH ALL OTHER TRADES. COORDINATE ALL PIPING AND EQUIPMENT SUPPORTED FROM STRUCTURE WITH GENERAL CONSTRUCTION WORK.
14. COORDINATE INSTALLATION OF SUPPLY, RETURN AND EXHAUST GRILLES WITH INSTALLATION OF FINISHED CEILINGS.
15. COMPLETE ALL PRESSURE TESTS BEFORE ANY MECHANICAL EQUIPMENT, DUCTWORK, OR PIPING INSULATION IS APPLIED.
16. TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB), PERFORM ALL TESTING, ADJUSTING, AND BALANCING IN ACCORDANCE WITH THE SPECIFICATIONS.
17. MAKE ALL ATTACHMENTS TO JOISTS, TRUSSES, OR JOIST GIRDERS AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. THE USE OF C-CLAMPS IS NOT PERMITTED.
18. PROVIDE TRAPPED DRAIN PIPING FROM DRAIN PANS OF ALL COOLING COILS, FANS, AND OTHER ACTIVE DRAINS EXPOSED TO SYSTEM AIR STREAM. PROVIDE TRAP AT CONNECTION. WATER SEAL DEPTH 1 INCH GREATER THAN UNIT OPERATING PRESSURE. DIRECT DRAINS TO NEAREST FLOOR DRAIN, MOP SINK, OR OTHER LOCATION APPROVED BY THE ARCHITECT/ENGINEER.
19. PROVIDE ALL LOUVERS FOR INSTALLATION. SUBMIT LOUVER COLOR AND CONFIGURATION TO THE ARCHITECT/ENGINEER FOR APPROVAL.
20. FURNISH AND INSTALL ALL NECESSARY CONTROL WIRING, CONDUIT, AND ACCESSORIES AS REQUIRED TO PROVIDE FULLY FUNCTIONING SYSTEMS AND SEQUENCES OF OPERATION.
21. FURNISH ALL LINTELS FOR DUCT AND PIPE PENETRATIONS IN INTERIOR MASONRY WALLS.
22. FURNISH ALL SLEEVES FOR PIPE AND CONDUIT FLOOR, WALL, PARTITION, AND ROOF PENETRATIONS.
23. FURNISH ALL DUCT PENETRATIONS.
24. PERFORM ALL CUTTING AND ROUGH PATCHING AS REQUIRED IN THE EXECUTION OF THE WORK. PERFORM ALL FINISH PATCHING AND FLASHING.

LEGENDS/ABBREVIATIONS NOTES

1. ABBREVIATIONS AND SYMBOLS ON THIS SHEET DO NOT DEFINE THE SCOPE OF WORK.

H

2


M

architects
+
engineers

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CONSULTANTS:		

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DESIGNED BY: MJV	DRAWN BY: MJV	CHECKED BY: MJV	REVIEWED BY: JML
PROJECT NO.: VGFD2001	DATE: JULY 2022	SCALE: AS SHOWN	

CLIENT

VAILS GATE FIRE DISTRICT



New Storage Building (Phase I)
New Fire Station (Phase II)

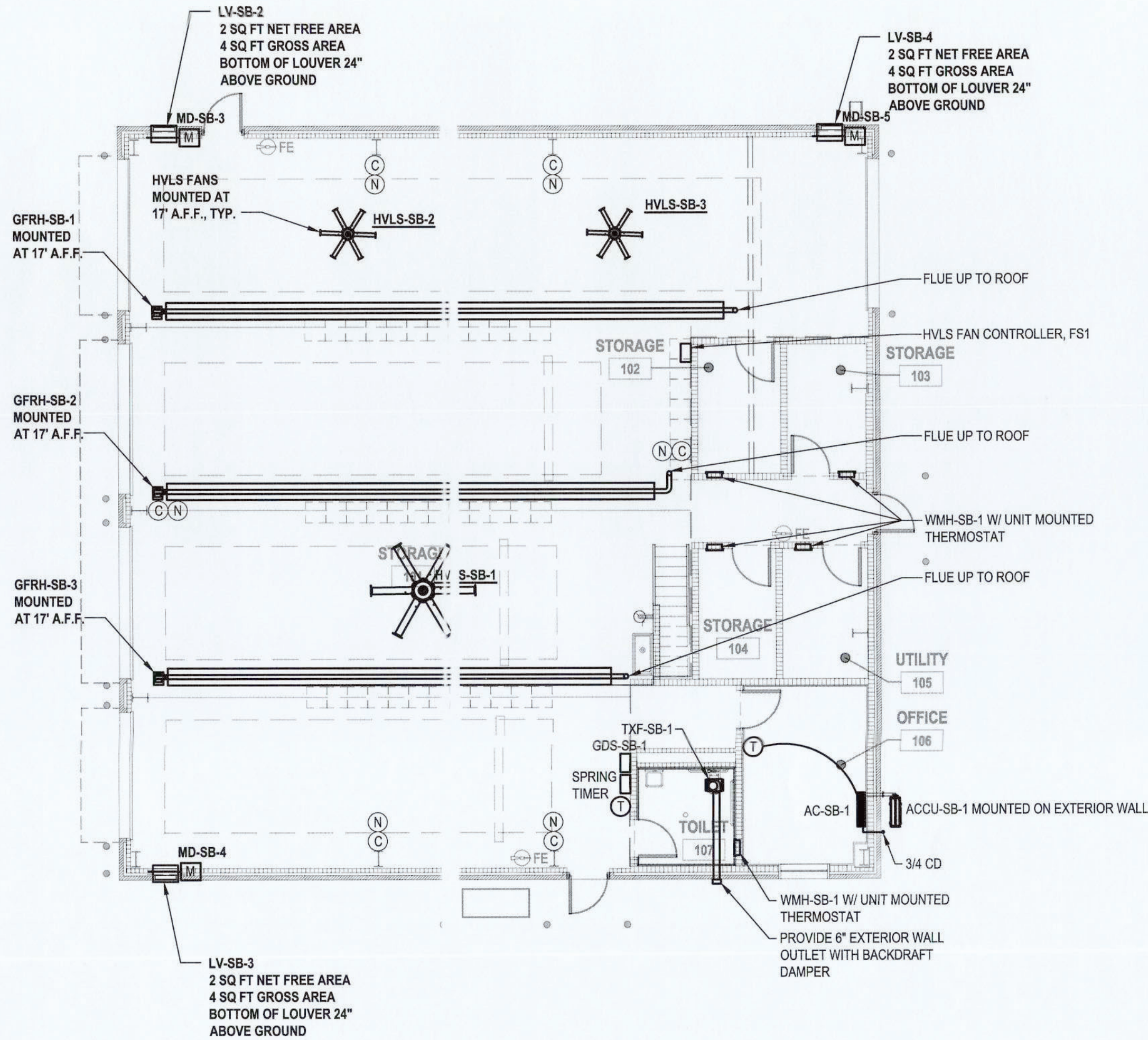
872 Blooming Grove Turnpike
New Windsor, NY 12553

CONTRACT
CONTRACT G GENERAL CONSTRUCTION

STATUS
FINAL BID DOCUMENT

SHEET TITLE
MECHANICAL COVER SHEET AND NOTES

DRAWING No.
M1 001.00



COMBUSTION AIR INDEX BASED ON 2020 NEW YORK STATE MECHANICAL CODE							
ROOM NAME	SERVED BY	OCCUPANCY CLASSIFICATION	FLOOR AREA (FT^2)	SPACE VOLUME (FT^3)	CODE VOLUME PER 1,000 MBH INPUT (FT^3)	GAS INPUT (MBH)	VOLUME REQUIRED (FT^3)
APPARATUS BAY	GFRH-SB-1,2,3	GARAGE	2650	79500	50	300	15000
			SUFFICIENT VOLUME				

NATURAL VENTILATION CALCULATION - OFFICE

IN ACCORDANCE WITH SECTION 402.2 OF THE 2020 NYS MECHANICAL CODE:
THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE 4 PERCENT OF THE FLOOR AREA BEING VENTILATED.

FLOOR AREA * 0.04 = REQUIRED OPENABLE WINDOW AREA

135 SF * 0.04 = 5.94 SF AREA REQUIRED

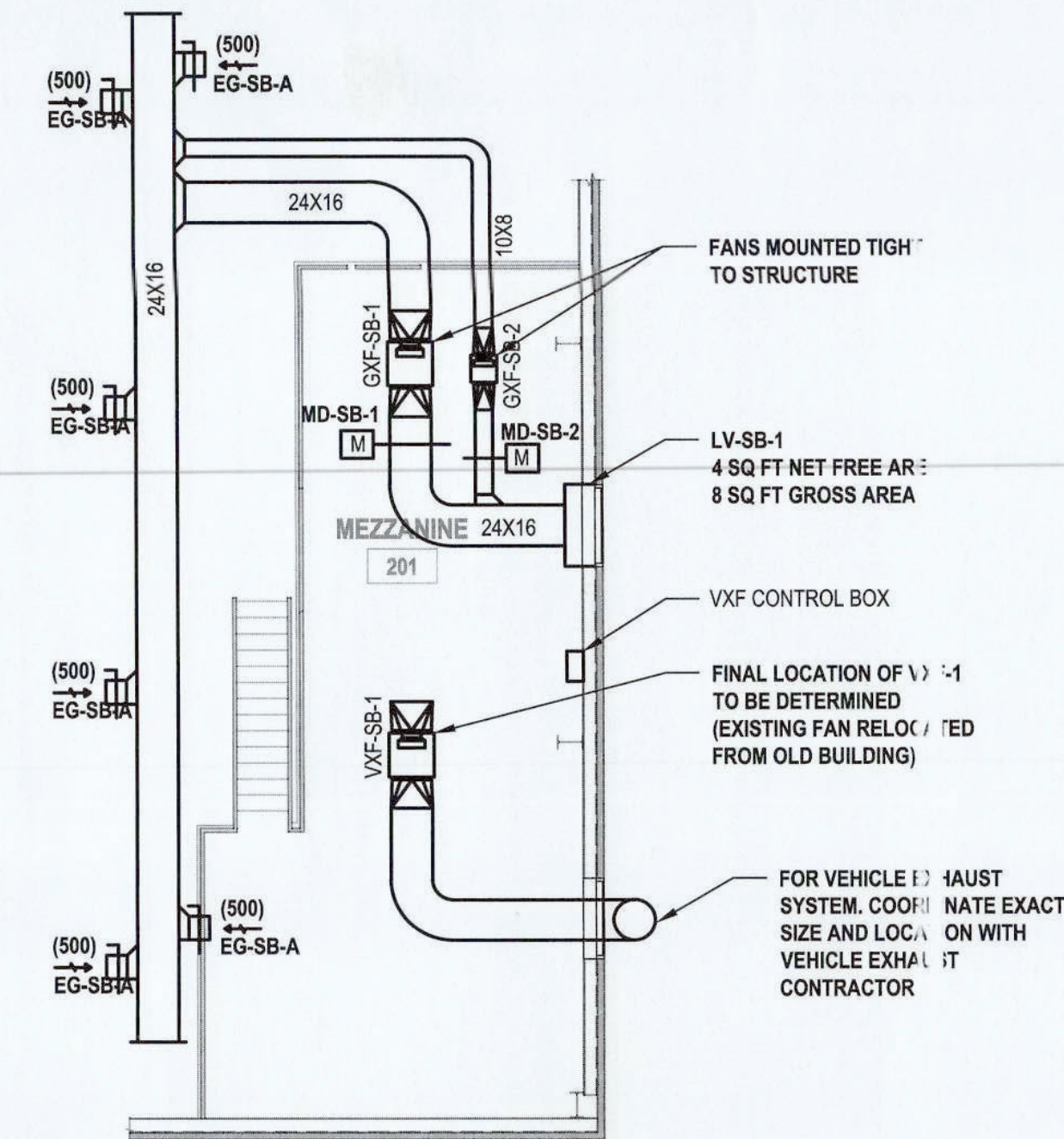
TOTAL OPENABLE WINDOW AREA IN SPACE: 6 SF - COMPLIES

GENERAL NOTES:

- REFER TO SEISMIC RESTRAINT SCHEDULE FOR DUCTWORK AND EQUIPMENT REQUIRING SEISMIC SUPPORTS

1 Storage Building Mechanical Plan

SCALE: 1/8" = 1'-0"

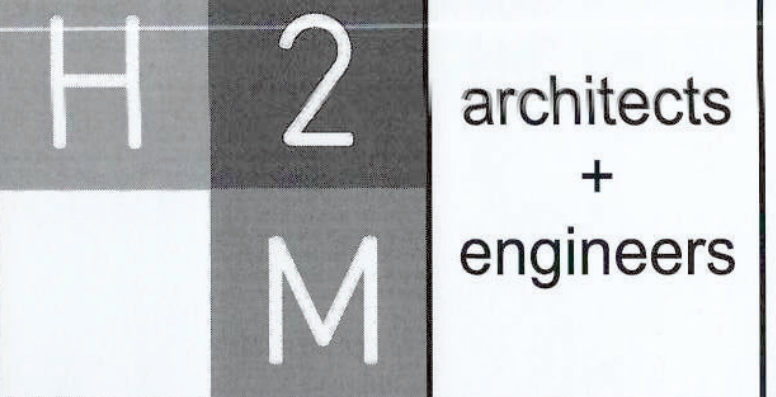
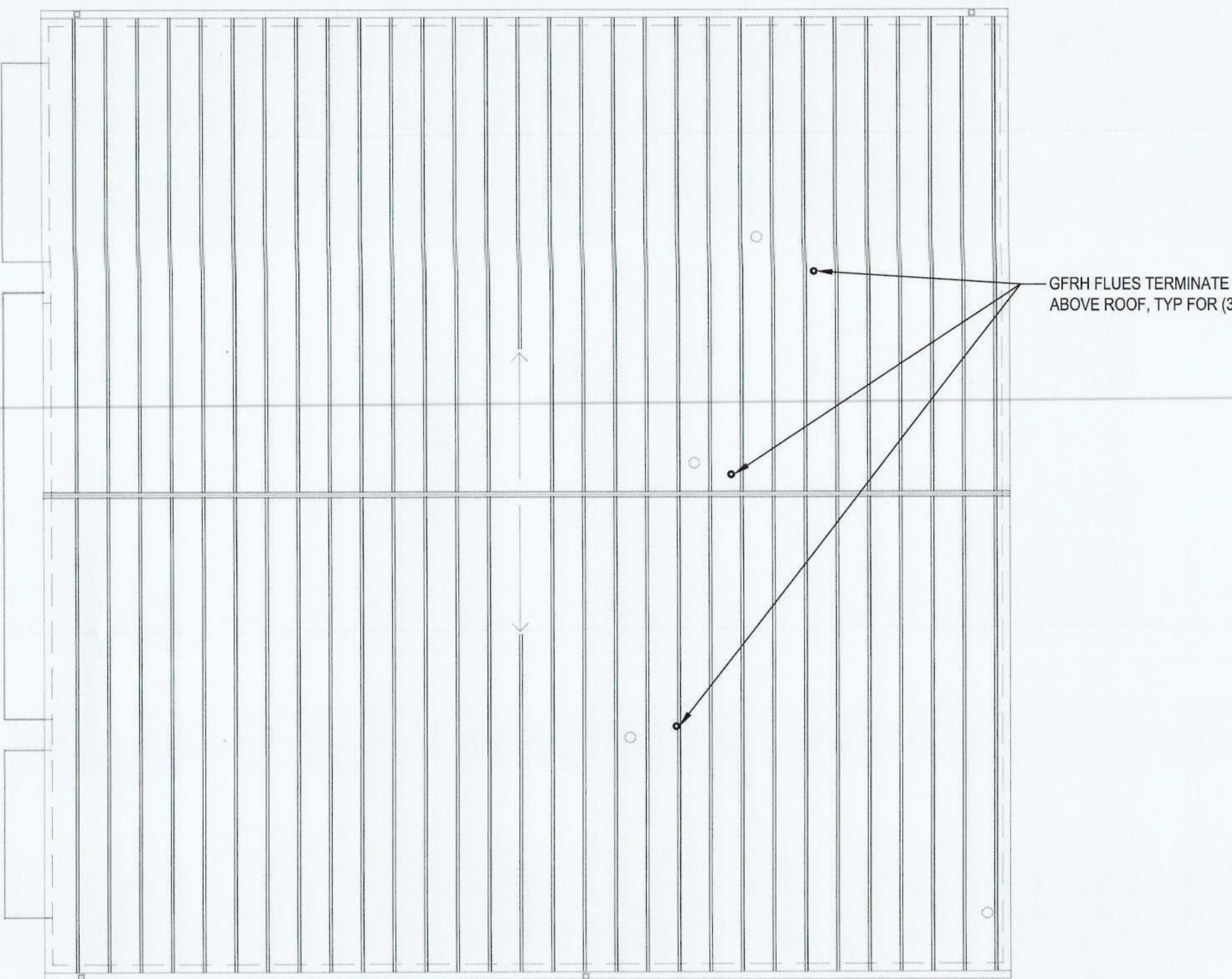


2 Mezzanine Mechanical Plan

SCALE: 1/8" = 1'-0"

3 Proposed Roof Plan

SCALE: 1/8" = 1'-0"



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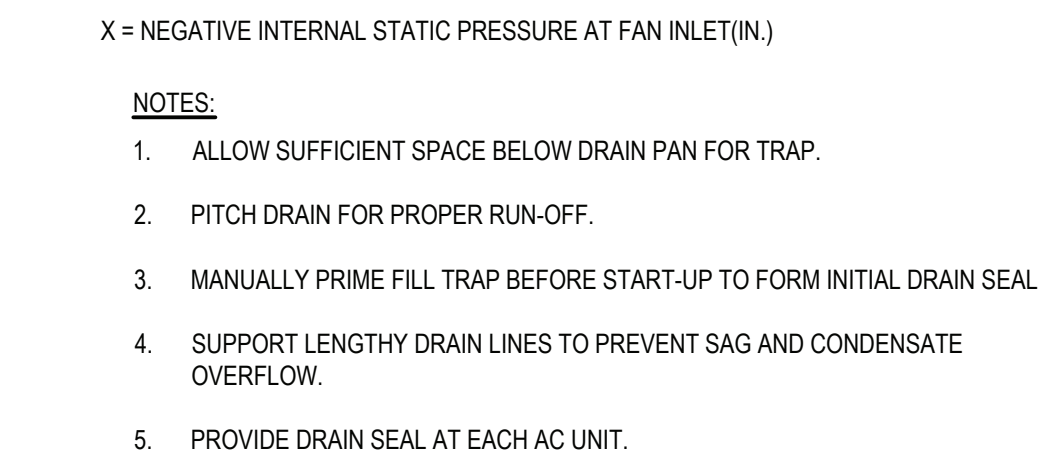
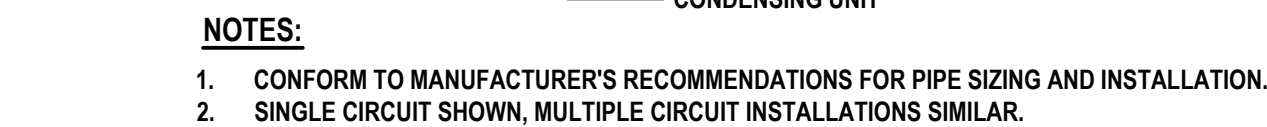
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SHEET TITLE
FIRST FLOOR, MEZZANINE,
& ROOF MECHANICAL
PLANS

DRAWING No.
M1 100.02



- 1 Duct Support Attachment to I-Beam**
SCALE: NTS (DETAIL #)



- 9 Volume Dampers - Single Blade Type**



M1 510.00

C:\Users\mrm\OneDrive\Documents\611.02 - Mechanical Schedule.dwg, Last Modified: Dec 22, 2022, 5:22pm, Plotted on: Dec 22, 2022, 3:41pm, By: mrm

" VIBRATION ISOLATION / SEISMIC & WIND RESTRAINTS SCHEDULE (VIBRO-ACOUSTICS) 2020 New York State Building Code, SDC = C, RISK CAT = IV"									
UNIT TAG	EQUIPMENT TYPE	LOCATION (ELEVATION)	MOUNTING METHOD	BASE TYPE	ISOLATOR TYPE	NOM. DEFL., IN.	RESTRAINT REQ'D	SEISMIC COMPONENT IMPORTANCE FACTOR, Ip	NOTES (1,2,3)
DUCTWORK (≥ 6" CLEAR AREA)	DUCTWORK	VARIOUS	SUSPENDED	---			SEIS	1.5	
HVAC PIPING (>2" NOMINAL DIAMETER)	PIPING	VARIOUS	SUSPENDED	---			SEIS	1.5	
GXF-SB-1, 2	EXHAUST FAN	APPURATUS BAY	SUSPENDED	---	SHR	2.00	SEIS	1.5	6,7
VXF-SB-1	VEHICLE EXHAUST	MEZ	SUSPENDED	---	SHR	2.00	SEIS	1.5	6,7
ACCU-SB-1	CONDENSING UNIT	EXTERIOR MOUNTED TO BUILDING	WALL	---	NP	0.18	SEIS	1.5	3
GFRH-SB-1,2,3	RADIANT HEATERS	STORAGE	SUSPENDED	---	---	---	SEIS	1.5	6
HVLS	HVL FANS	VARIOUS	SUSPENDED	---	---	---	SEIS	1.5	6

- NOTES:**

 1. BASIS OF DESIGN: VIBRO-ACOUSTICS.
 2. SEISMICALLY RATED FOR PROJECT CONDITIONS.
 3. STAND SUPPORT MUST BE ABLE TO MEET CALCULATED SEISMIC LOADS
 4. PROVIDE FLEXIBLE PIPING CONNECTORS
 5. PROVIDE TYPE SHR OR SFS ISOLATORS ON ADJACENT PIPING/DUCTWORK
 6. PROVIDE SEISMIC RESTRAINT CABLES. PROVIDE ROD STIFFENERS AS REQUIRED.
 7. PROVIDE SEISMIC UPLIFT STOP WASHER.
 8. SUPPORT INLINE PUMP AT FLANGE CONNECTION.
- BASE TYPE:**

CIB - CONCRETE INERTIA BASE
VCR - ADJUSTABLE SPRING CURB
RC: ROOF CURB
- ISOLATOR TYPE:**

NP - RUBBER PAD
SIPS - SEISMIC INLINE PUMP STANDS
SFS - SEISMIC FLOOR MOUNT
SHR - SPRING + RUBBER HANGER


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