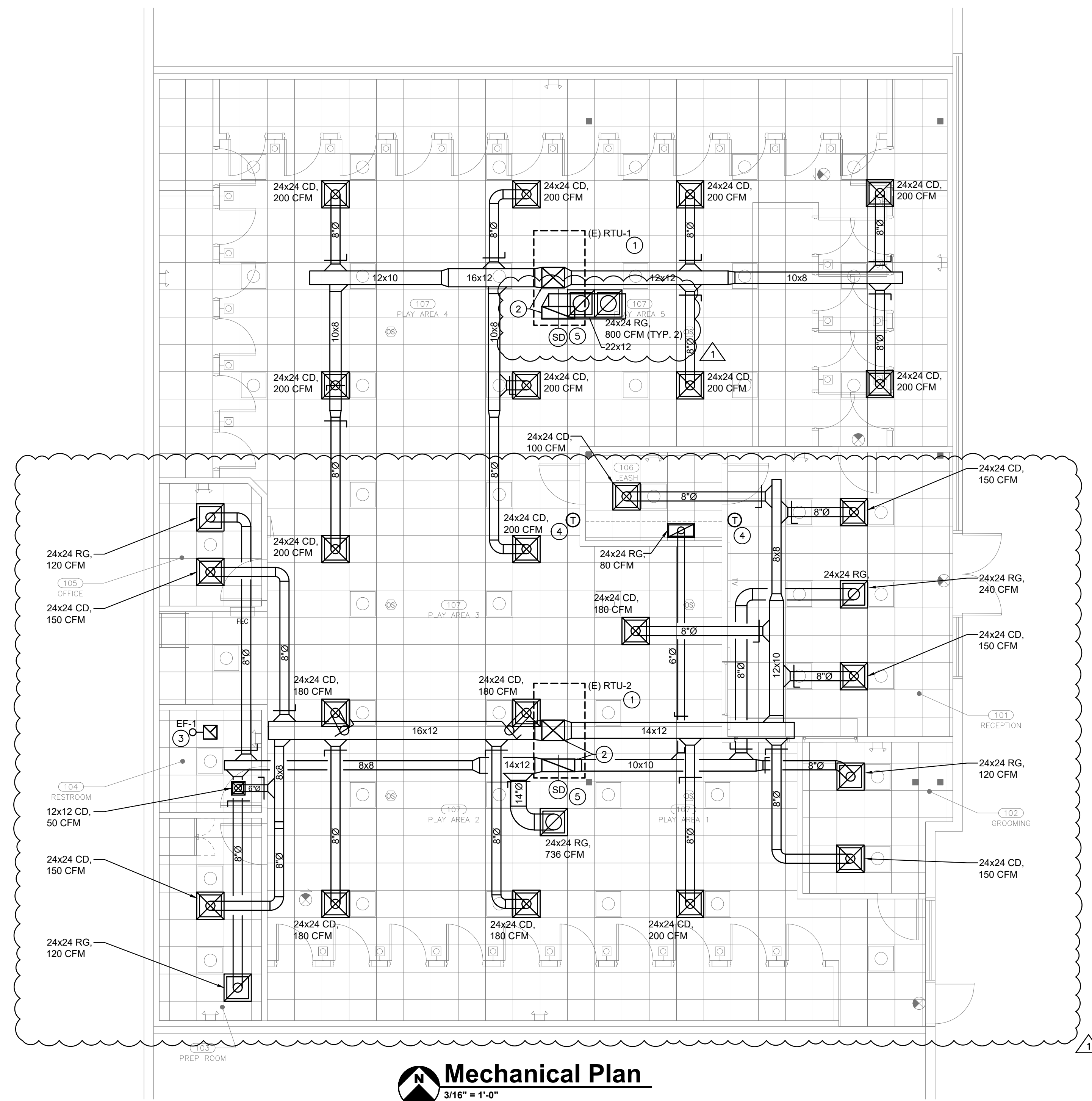


Mechanical Specifications

- ALL NEW LOW PRESSURE SUPPLY & RETURN DUCTWORK TO BE INSTALLED PER S.M.A.C.N.A. STANDARDS. DUCT DIMENSIONS INDICATED ARE CLEAR INSIDE DIMENSIONS, INCREASE DUCT SIZE ACCORDINGLY.
- ALL SHEETMETAL SHALL BE CONSTRUCTED IN CONFORMANCE TO THE LATEST S.M.A.C.N.A. DUCT CONSTRUCTION STANDARDS.
- THERMOSTAT LOCATIONS SHALL BE VERIFIED BY ARCHITECT.
- ALL EQUIPMENT, PIPING, DUCTWORK, ETC. SHALL BE SUSPENDED FROM STEEL OR CONCRETE PLANK IN AN APPROVED MANNER. DO NOT HANG FROM METAL DECK.
- ELECTRICAL CONTRACTOR TO PROVIDE 120V/1/60C, 20AMPS, WEATHER PROOF RECEPTACLE FOR ALL EQUIPMENT
- GENERAL CONTRACTOR TO PROVIDE SHIMS/DRY PACKS FOR THE LEVELING OF UNITS.
- ALL HVAC WORK SHALL BE IN CONFORMANCE TO INTERNATIONAL MECHANICAL CODE 2021 AND ANY STATE OR LOCAL CODES.
- PROVIDE SEISMIC SUPPORTS FOR HVAC EQUIPMENT WHERE REQUIRED.
- ALL STEEL SUPPORTS AS REQUIRED FOR H.V.A.C. EQUIPMENTS (PART OF BUILDING STRUCTURE) SHALL BE BY OTHERS.
- PROVIDE VOLUME DAMPER IN ALL BRANCH DUCTS.
- FIRE DAMPERS SHALL BE PROVIDED WHERE SHOWN & WHERE REQUIRED IN ACCORDANCE WITH LOCAL CODES, ORDINANCES AND INSURANCE CARRIERS.
- PROVIDE ACCESS DOORS IN DUCTWORK AT ALL FIRE DAMPER LOCATIONS.
- ALL FLEXIBLE DUCTWORK SHALL BE THERMAFLEX TYPE M-KE OR APPROVED EQUAL LIMITED TO MAX. LENGTH OF 5'-0". ALL FLEXIBLE DUCTWORK SHALL MEET IMC 2015 AND NFPA REQUIREMENTS FOR USE IN A RETURN AIR PLENUM. PROVIDE SPIN COLLARS WITH VOLUME DAMPERS AT ALL NEW FLEXIBLE CONNECTIONS.
- SHEET METAL CONTRACTOR TO VERIFY EXISTING CONDITION PRIOR TO FABRICATION.
- DUCTWORK SHALL BE SEALED AIRTIGHT WITH APPROVED MASTIC SEALER SUCH AS UNITED MCGILL UNI-WELD TYPE DUCT SEALER. DUCT SEALER SHALL BE UL RATED. DUCT SHALL BE SEALED EXTERNALLY.
- ALL CEILING SUPPLY AIR DIFFUSERS SHALL BE PER SCHEDULE UNLESS OTHERWISE NOTED ON PLANS. CEILING DIFFUSERS & GRILLES SHALL BE KRUGER, CARNES OR TITUS.
- SHEET METAL CONTRACTOR TO VERIFY EXISTING CONDITION PRIOR TO FABRICATION.
- INSULATION SHALL CONFORM TO THE RECOMMENDATIONS OF THE NFPA, AND SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS AS TESTED BY PROCEDURE ASTM-E84 NFPA 255 OR UL 723 NOT EXCEEDING: FLAME SPREAD 25, SMOKE DEVELOPED 50. ACCESSORIES SUCH AS ADHESIVE, MASTICS, CEMENTS FACINGS, TAPES AND FINISHES, SHALL HAVE THE SAME COMPONENT RATINGS AS LISTED ABOVE. PRODUCTS OR THEIR SHIPPING CARTONS SHALL BEAR A LABEL INDICATING THAT FLAME AND SMOKE RATING DO NOT EXCEED ABOVE REQUIREMENTS. ANY TREATMENT OF JACKETS OR FACINGS TO IMPART FLAME AND SMOKE SAFETY SHALL BE PERMANENT. THE USE OF WATER SOLUBLE TREATMENTS IS PROHIBITED.
- ALL SUPPLY & RETURN DUCTS SHALL HAVE 1" LINING 15'-0" DOWN OF THE DUCTWORK.
- ALL SUPPLY & RETURN UNLINED DUCTS SHALL BE INSULATED W/ 1-1/2" THICK INSULATION.
- ALL OUTSIDE AIR INTAKE DUCTWORK SHALL NE INSULATED.
- ALL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON FITTINGS.
- ALL GAS PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH LOCAL UTILITY / LOCAL CODES / NATIONAL FUEL GAS CODE REQUIREMENTS.
- ALL PROOF PENETRATIONS SHOULD BE MADE AND SEALED BY LANDLORD'S ROOFER.
- ALL GAS PIPING HAS BEEN SIZED BASED ON LOW & HIGH PRESSURE GAS AVAILABLE AT THE LEAVING SIDE OF GAS METER.
- ALL AUTOMATIC TEMPERATURE CONTROL WIRING SHALL BE FURNISHED & INSTALLED BY ELECTRICAL CONTRACTOR PER MECHANICAL CONTRACTORS WIRING DIAGRAM.
- CONDENSATE DRAIN PIPING SHALL BE HARD DRAWN TYPE "L" COPPER TUBING WITH WROUGHT COPPER SOLDER FITTINGS.
- INSULATE ALL CONDENSATE DRAIN PIPING.

Mechanical Notes

- ALL DUCTWORK, EQUIPMENT, REGISTERS, ETC SHOWN HEREIN ARE SCHEMATIC, THE FINAL LOCATIONS SHALL BE FIELD VERIFIED AND COORDINATED TO AVOID INTERFERENCE WITH ALL NEW AND EXISTING STRUCTURES, PIPES, ETC.
- THE CONTRACTOR SHALL COORDINATE ALL OF HIS WORK WITH THE OTHER TRADES.
- MECHANICAL CONTRACTOR SHALL SEAL ALL VOIDS IN OPENINGS AFTER DUCTWORK AND LOUVERS HAVE BEEN INSTALLED.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO SUPPORT AND PROPERLY ANCHOR THE HVAC EQUIPMENT.
- THE MECHANICAL CONTRACTOR SHALL SUBMIT A TEST AND BALANCE REPORT FOR ALL HVAC SYSTEM CERTIFIED BY A NEW JERSEY PROFESSIONAL ENGINEER OR BY A TEST AND BALANCE PROFESSIONAL CERTIFIED BY THE ASSOCIATED AIR BALANCE COUNCIL OR BY THE NATIONAL ENVIRONMENTAL BALANCE BUREAU. ALL NEW OR EXISTING EQUIPMENT ON FLOOR TO BE BALANCED.
- THE MECHANICAL CONTRACTOR SHALL INCLUDE AS PART OF THE BALANCING, THE SERVICES OF A FACTORY AUTHORIZED SERVICE TECHNICIAN TO MAKE REQUIRED ADJUSTMENTS SO THAT THE INSTALLED EQUIPMENT CAN DELIVER THE AIR FLOW RATE AS INDICATED ON THE CONTRACT DOCUMENT AND THE SEQUENCE OF OPERATION.
- ALL REGISTERS SHALL BE CONNECTED TO MAIN DUCTWORK WITH SHEET METAL CONNECTORS.
- MECHANICAL CONTRACTOR SHALL PROVIDE FIRE PROOFING FOR ALL PENETRATIONS WHERE REQUIRED. SEE MECHANICAL DRAWINGS.
- MECHANICAL CONTRACTOR SHALL PROVIDE A LOCK BOX FOR ALL THERMOSTATS.



Mechanical Plan
3/16" = 1'-0"

EXHAUST FAN SCHEDULE										
TAG	TYPE	SERVING	CFM	ESP IN. WG	HP	VOLTAGE	FRPM	WEIGHT (LBS)	SONES	MFRG / MODEL
TEF	IN-LINE W/CLG GRILLE	BATHROOM	75	0.625	15 WATT	120/1	950	10	2.7	GREENHECK-SP-B110
ALL TEF FANS - PROVIDE BACKDRAFT DAMPER FACTORY MOUNTED DISCONNECT SWITCH STARTER NOTE: INTERLOCK W/LIGHT SWITCH										

SUPPLY/RETURN AIR DIFFUSER SCHEDULE (TITUS)			
UNIT NO.	CFM RANGE PER LFT	DIMENSIONS (IN.)	REMARKS
CD	SEE DWG	24x24	MODEL TMS-AA, PROVIDE OPPOSED BLADE DAMPER
RG / TG	SEE DWG	SEE DWG	MODEL 350FL, 3/4" SPACING

- NOTES:
1. COORDINATE BORDER TYPE WITH ARCH. DETAILS.
2. ALL SELECTIONS BASED UPON ABOVE SCHEDULE UNLESS OTHER WISE NOTED ON PLANS.

VENTILATION SCHEDULE 2018 INTERNATIONAL MECHANICAL CODE, CHAPTER 4															
ROOM NAME	SQUARE FOOTAGE NET	NUMBER OF FIXTURES	OCCUPANTS (ACTUAL *)	DEFAULT EXHAUST REQUIREMENT PER FIXTURE CFM	DEFAULT OCCUPANT DENSITY PEOPLE 1000/SQ.FT	PEOPLE O/A AIR FLOW RATE IN BREATHING ZONE CFM/PERSON	AREA O/A AIR FLOW RATE IN BREATHING ZONE CFM/SQ.FT	BREATHIN ZONE O/A FLOW Vbz CFM	ZONE O.A RATE Voz CFM	REQUIRED OUTSIDE AIR CFM	TOTAL PROVIDED OUTSIDE AIR CFM	TOTAL PROVIDED SUPPLY AIR CFM	TOTAL REQUIRED EXHAUST CFM	TOTAL PROVIDED EXHAUST CFM	SERVED FROM AIR HANDLER TAG
101 RECEPTION	349		10		30	5	0.06	71	71	71	75	300			EXISTING RTU-2
102 GROOMING	111		2		5	5	0.06	17	17	17	38	150			EXISTING RTU-2
103 PREP ROOM	111		2		5	5	0.06	17	17	17	38	150			EXISTING RTU-2
104 RESTROOM	56	1	1	50		0	0	0	0	0	13	50	50	75	TEF/EXISTING RTU-2
105 OFFICE	67		1		5	5	0.12	13	13	13	38	150			EXISTING RTU-2
106 LEASH	65		2		5	5	0.12	18	18	18	25	100			EXISTING RTU-2
107 PLAY AREA	3152		15		10	7.5	0.18	680	680	680	775	3100			EXISTING RTU-1,2

Legend

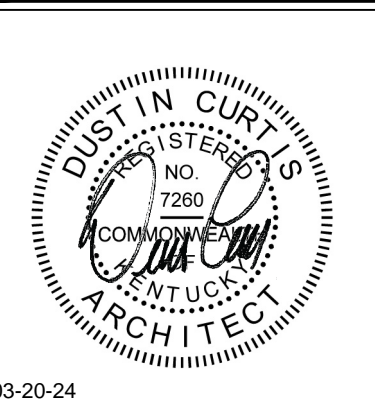
SYMBOL	DESCRIPTION
	NEW 24x24 SUPPLY DIFFUSER
	NEW 24x24 OR 12X24 RETURN GRILLE
	T-STAT
	SENSOR
	NEW RIGID DUCT
	TAKE-OFF WITH VOLUME DAMPER
	UNDER CUT DOOR
	VOLUME DAMPER
	FSD/AD FIRE SMOKE DAMPER W/ACCESS DOOR
	ACC AIR COOLED CONDENSER
	AC AIR CONDITIONING UNIT
	EF EXHAUST FAN
	EUH ELECTRIC UNIT HEATER
	HP HEAT PUMP
	RAD RADIATOR (HW)
	RTU ROOF TOP UNIT
	SF SUPPLY FAN
	UH UNIT HEATER
	CD CEILING DIFFUSER
	CR CEILING REGISTER
	DG DOOR GRILLE
	EG EXHAUST GRILLE
	RG RETURN GRILLE
	SD SUPPLY DIFFUSER
	SG SUPPLY GRILLE
	TG TRANSFER GRILLE
	WMS WIRE MESH SCREEN

Key Notes

- EXISTING 5 TON RTU BY LANDLORD TO REMAIN. CONTRACTOR SHALL BALANCE UNIT TO 2000 CFM AND 400 CFM O.A. VERIFY EXACT LOCATION IN FIELD. INSPECT REPAIR AND REFURBISH UNIT LIKE NEW FOR A COMPLETE AND OPERABLE HVAC SYSTEM.
- EXISTING SUPPLY AND RETURN AIR DROPS FROM RTU. VERIFY EXACT LOCATION IN FIELD.
- 4" TOILET EXHAUST DUCT ROUTE UP THROUGH ROOF AND TERMINATE WITH GOOSENECK AND INSECT SCREEN. MAINTAIN EXHAUST TERMINATION A MINIMUM OF 10'-0" AWAY FROM ANY FRESH AIR INTAKES.
- NEW THERMOSTAT MOUNTED AT 48" A.F.F. FOR RTU. CONFIRM FINAL LOCATION WITH ARCHITECT/OWNER.
- PROVIDE SMOKE DETECTOR IN RETURN AIR DUCT OF RTU. SD SHALL SHUTDOWN FAN OPERATION UPON ACTIVATION.

General Notes

- DUCTWORK LAYOUTS ARE DIAGRAMMATIC AND INTEND TO SHOW A GENERAL ARRANGEMENT, SIZE AND CAPACITY. ALL OFFSETS ARE NOT NECESSARILY SHOWN. CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS AND FITTINGS TO AVOID CONFLICT WITH OTHER MECHANICAL AND ELECTRICAL SERVICES, LIGHTING AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.
- WHILE ALL ATTEMPTS AT ACCURACY HAVE BEEN TAKEN, NO GUARANTEE OF AN EXACT REPRESENTATION OR COMPLETENESS IS IMPLIED. RESPONSIBILITY FOR FINAL VERIFICATION FALLS TO THE CONTRACTOR. ANY UNRESOLVED DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
- GIVE BUILDING MANAGEMENT A NOTICE 48 HOURS BEFORE ANY SYSTEMS SHUT DOWN
- ALL FIRE RATED PENETRATIONS SHALL BE PROVIDED WITH FIRE DAMPER WITH ACCESS DOOR.
- PROVIDE CORD OPERATED DAMPER WHERE DAMPER IS REQUIRED AT INACCESSIBLE CEILING.



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CRESTWOOD, KY

Revisions

1 03-18-24 CITY COMMENTS

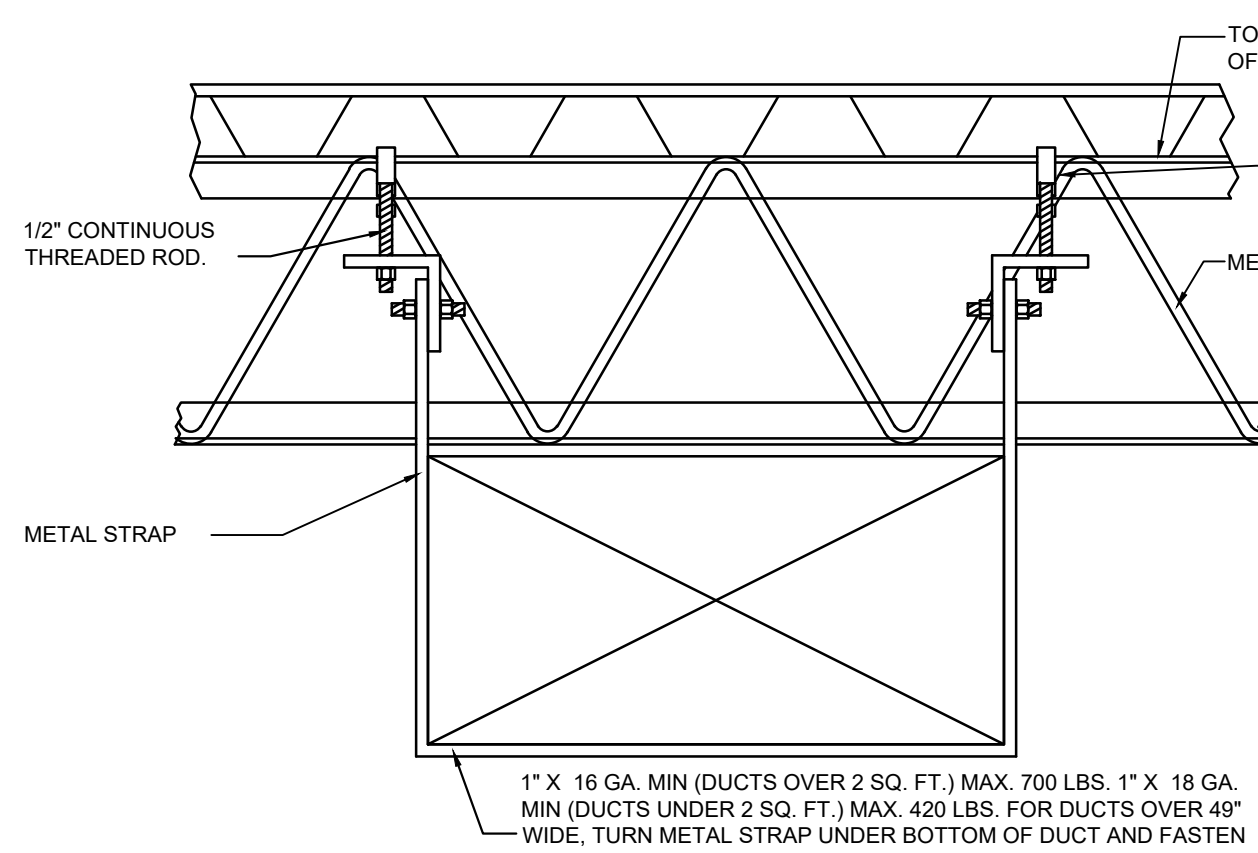
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5998 Peasant Colony Ct.
Suite 17-18
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01/19/24

KY-014

M-1

Mechanical Floor Plan

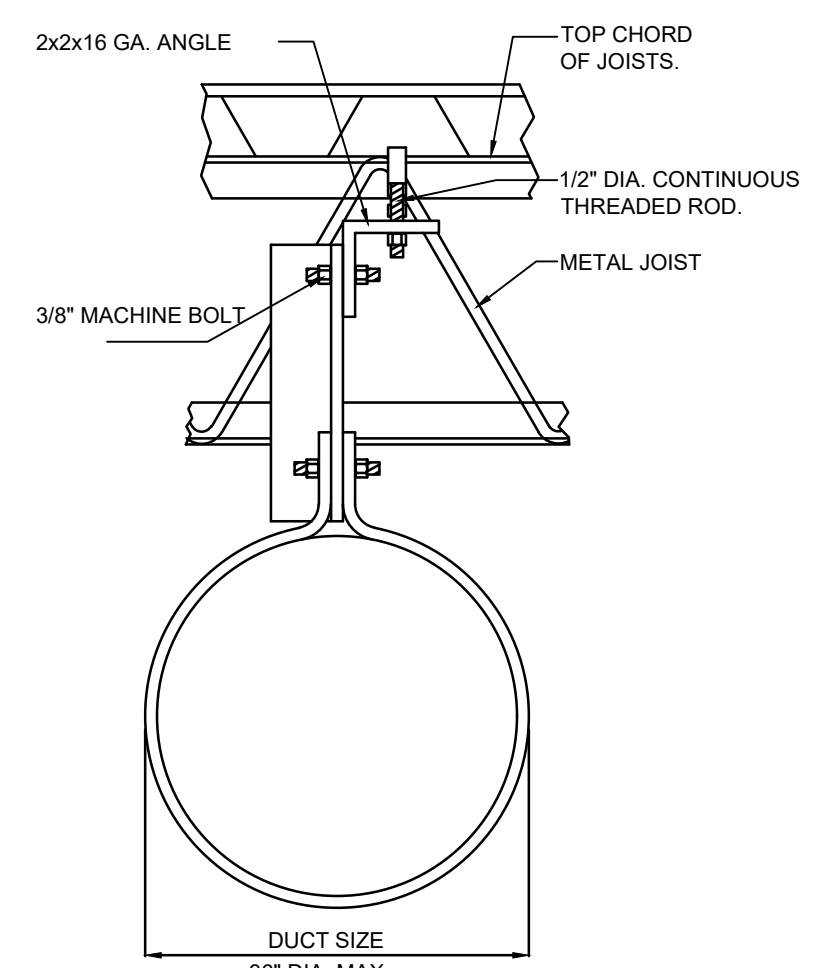


NOTE:
DISTANCE BETWEEN DUCT
HANGERS SHALL BE IN
ACCORDANCE WITH THE
RULES OF THE AGENCIES
HAVING JURISDICTION.

1" X 16 GA. MIN (DUCTS OVER 2 SQ. FT.) MAX. 700 LBS. 1" X 18 GA.
MIN (DUCTS UNDER 2 SQ. FT.) MAX. 420 LBS. FOR DUCTS OVER 49"
WIDE, TURN METAL STRAP UNDER BOTTOM OF DUCT AND FASTEN

M2 DUCT HANGING
SCALE: NOT TO SCALE

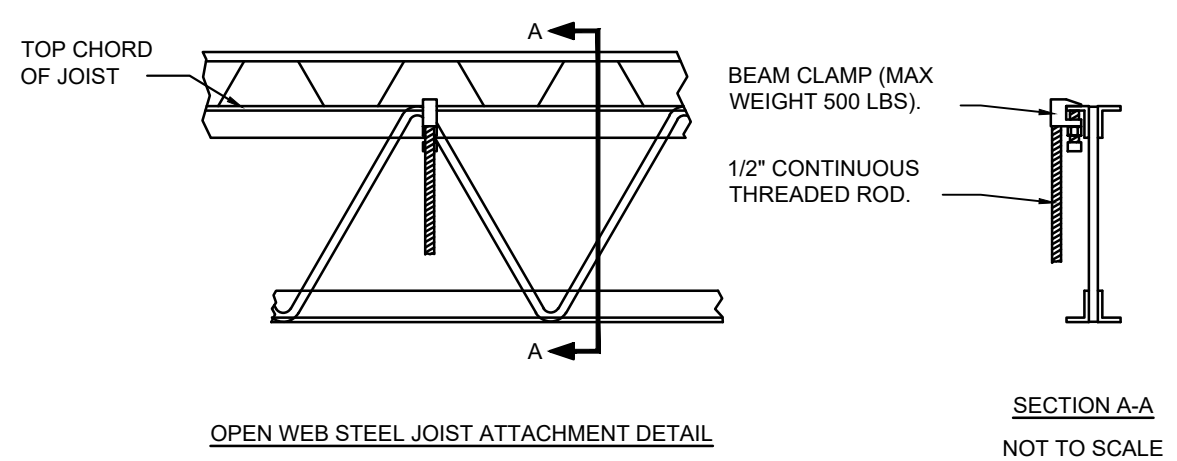
MAX. SIDE INCHES THROUGH	RECTANGULAR DUCTS MIN. GALV. SHT. GAUGE		ALUMINUM MIN. B & S GAUGE
	12	13 THROUGH 30	
12	26 (0.022 IN.)	24 (0.025 IN.)	24 (0.020 IN.)
13	24 (0.028 IN.)	22 (0.032 IN.)	20 (0.034 IN.)
31	22 (0.034 IN.)	20 (0.040 IN.)	18 (0.052 IN.)
55	20 (0.040 IN.)	18 (0.052 IN.)	16 (0.051 IN.)



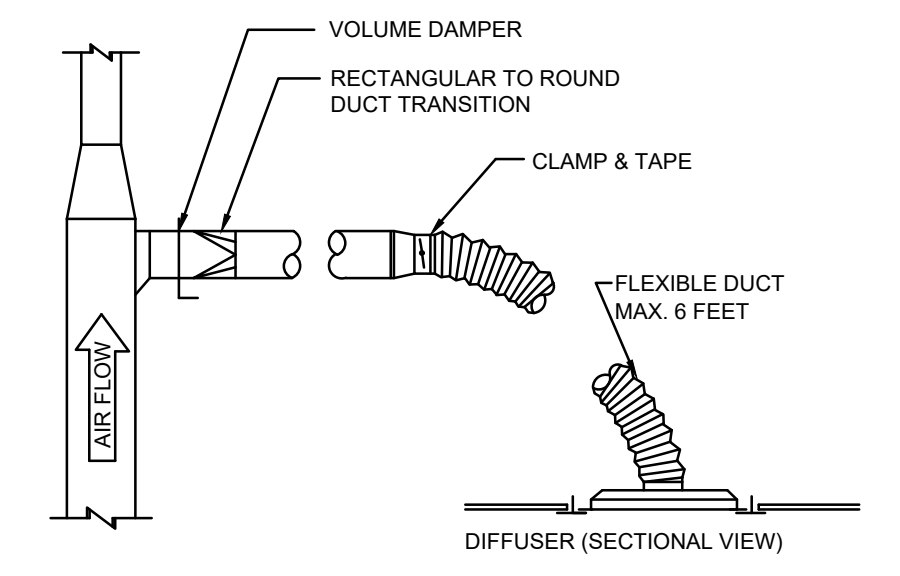
M3 EXHAUST FAN DETAIL
SCALE: NOT TO SCALE

DIAMETER INCHES	SPIRAL SEAM DUCT STEEL MIN. GALV. SHT. GAUGE		LONGITUDINAL SEAM DUCT STEEL MIN. GALV. SHT. GAUGE		FITTINGS STEEL MIN. GALV. SHT. GAUGE
	12	13 THROUGH 18	24	26	
12	26 (0.019 IN.)	24 (0.026 IN.)	26 (0.022 IN.)	24 (0.028 IN.)	26 (0.022 IN.)
13	24 (0.022 IN.)	22 (0.034 IN.)	24 (0.028 IN.)	22 (0.034 IN.)	24 (0.028 IN.)
19	22 (0.034 IN.)	20 (0.040 IN.)	22 (0.034 IN.)	20 (0.040 IN.)	22 (0.034 IN.)
29	20 (0.040 IN.)	18 (0.052 IN.)	20 (0.040 IN.)	18 (0.052 IN.)	20 (0.040 IN.)

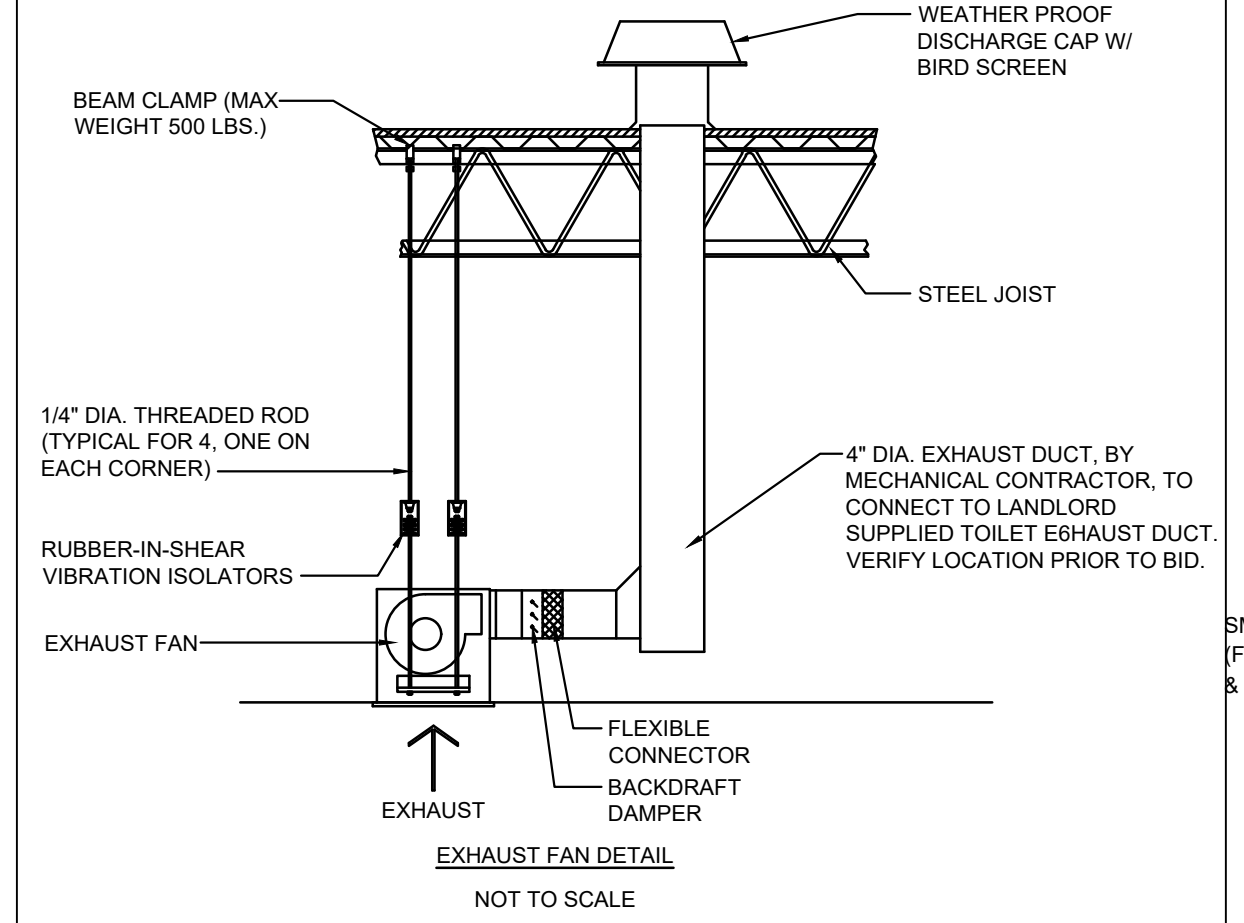
M6 ATTACHMENT DETAIL
SCALE: NOT TO SCALE



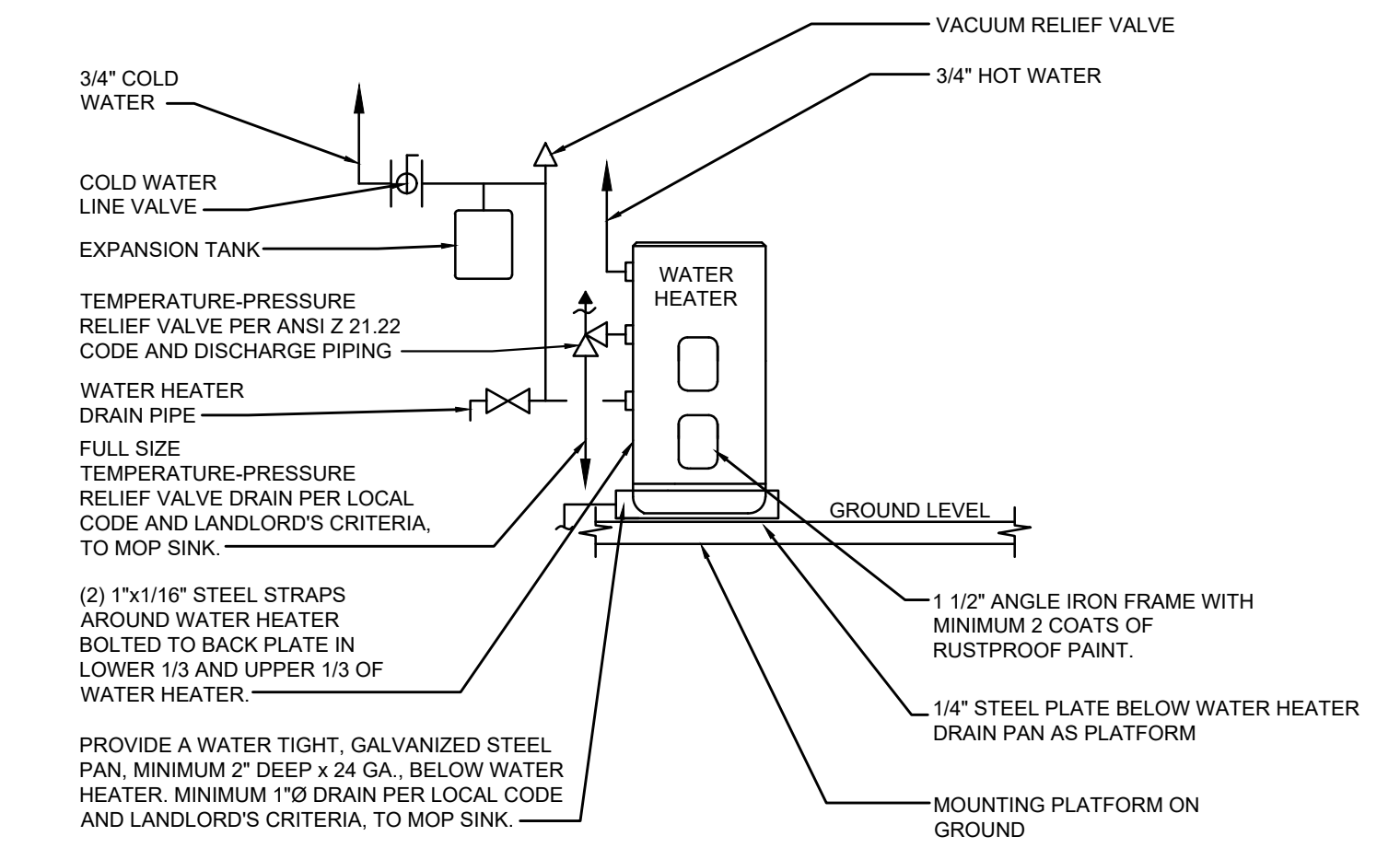
M1 CEILING DIFF. CONNECTION
SCALE: NOT TO SCALE



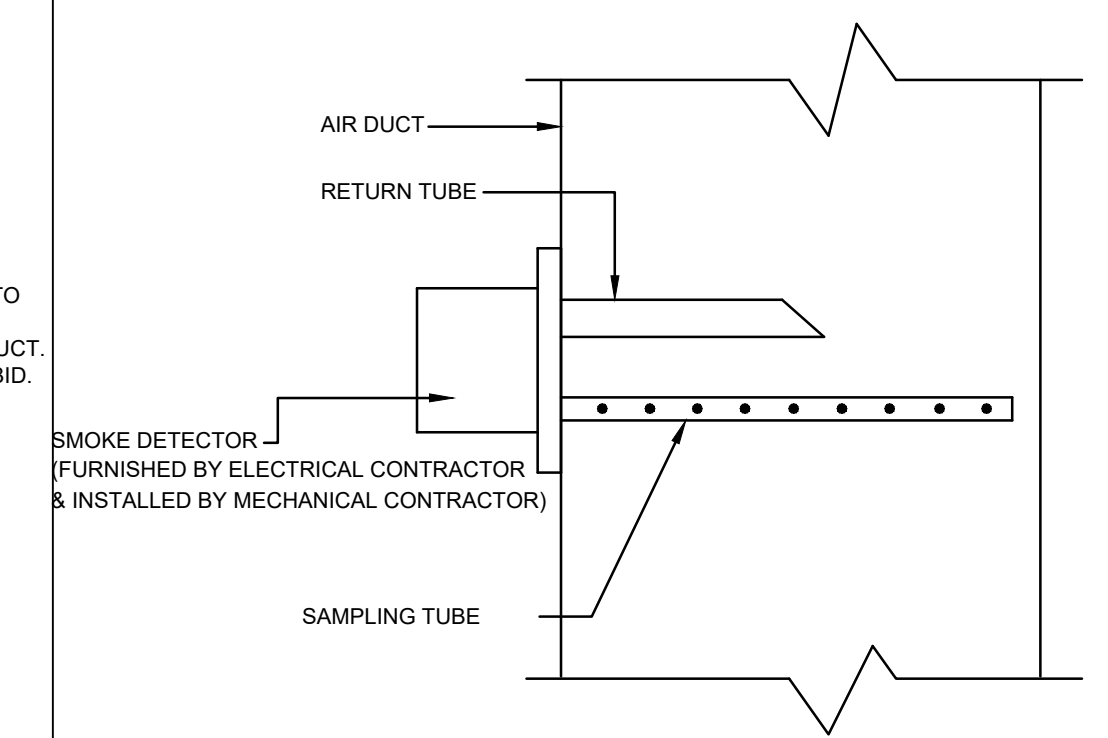
M3 EXHAUST FAN DETAIL
SCALE: NOT TO SCALE



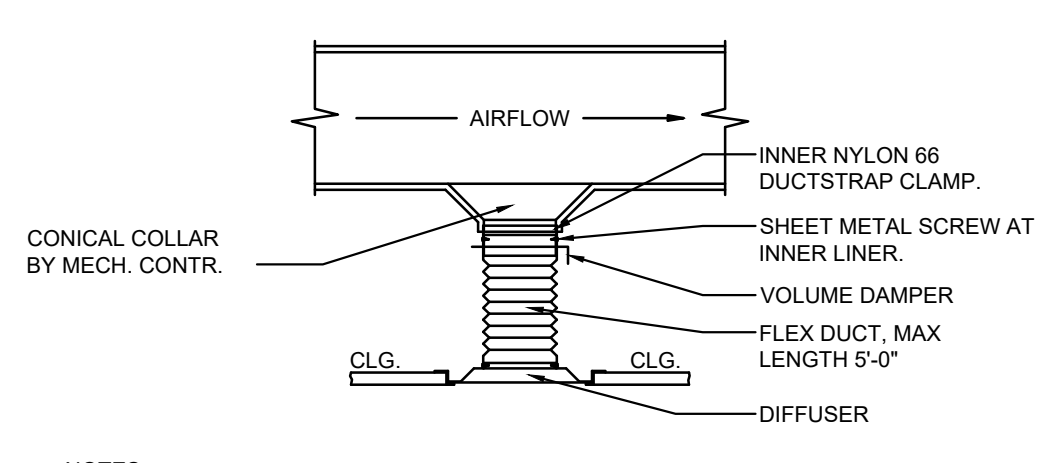
P1 WATER HEATER DETAIL
SCALE: NOT TO SCALE



M4 DUCT SMOKE DETECTOR
SCALE: NOT TO SCALE

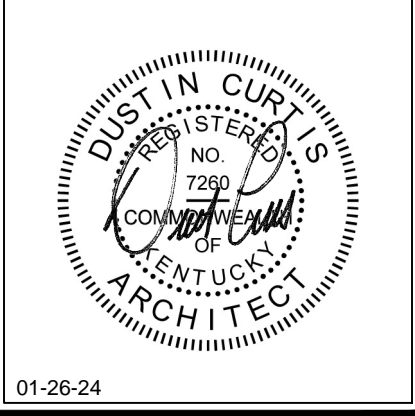
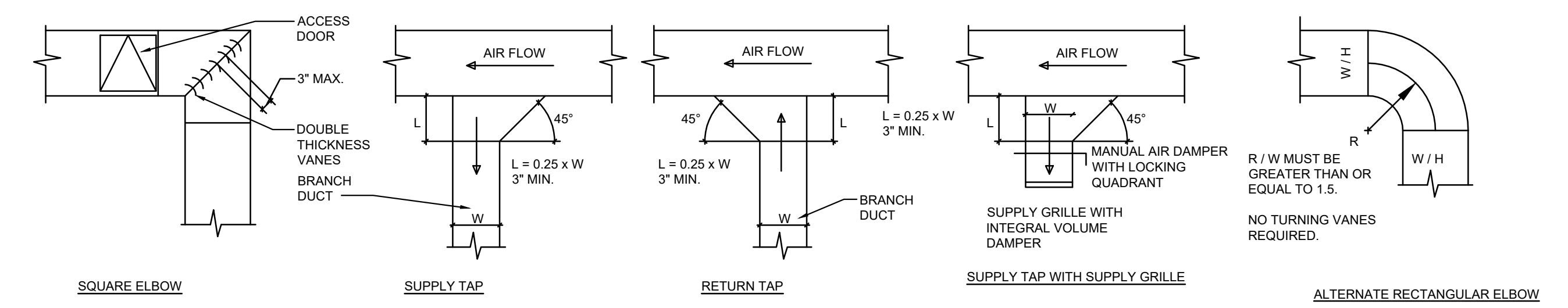


M5 BOTTOM DISCHARGE DUCT
SCALE: NOT TO SCALE



NOTES:
FLEXIBLE DUCT IS TO BE USED FOR VERTICAL DROPS ONLY. RUNOUTS AND ELBOWS
ARE TO BE SHEETMETAL DUCT. THE MECHANICAL CONTRACTOR MUST PROVIDE
ADAPTERS FOR DIFFUSERS WITH SQUARE AND RECTANGULAR NECKS AS
REQUIRED. INNER LINER TO BE SECURED TO COLLAR BY NYLON STRAP AND THREE
SHEET METAL SCREWS TO PREVENT LINER FROM SLIPPING OFF COLLAR. MAXIMUM
FLEX DUCT IS 5 FEET. CUT SMALL SLIT IN LINER AT DAMPER ADJUSTMENT W/STRIP
OR WIRE MARKER TO SHOW LOCATION. 1-200

M7 DUCTWORK DETAILS
SCALE: NOT TO SCALE



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M-2
Mechanical / Plumbing Details