

MECHANICAL NOTES

- MECHANICAL CONTRACTOR SHALL READ AND BECOME FAMILIAR WITH THE REQUIREMENTS OF THE ARKANSAS SCHOOL FACILITIES MANUAL. ALL REQUIREMENTS OF THE MANUAL WHETHER SPECIFICALLY STATED ON THESE DOCUMENTS OR NOT SHALL APPLY TO THIS PROJECT. MECHANICAL CONTRACTOR SHALL SPECIFICALLY READ AND UNDERSTAND CHAPTER 7300 - MECHANICAL.
- THIS SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND REGULATIONS.
- PROVIDE ACCESS PANELS AT ALL CONCEALED DEVICES (DAMPERS, VALVES, ETC.) REQUIRING ACCESSIBILITY FOR OPERATION OR MAINTENANCE. COORDINATE ACCESS PANEL LOCATION WITH OTHER TRADES TO AVOID CONFLICTS. DO NOT INSTALL ANY MAINTENANCE ITEMS ABOVE HARD CEILING IF IT CAN BE AVOIDED. PROVIDE MINIMUM 12X12 ACCESS DOOR OR 18X18 IF PERSONNEL ACCESS IS REQUIRED.
- NO RIGID CONNECTIONS SHALL BE MADE BETWEEN SPRING MOUNTED EQUIPMENT AND THE STRUCTURE. ALL FANS SHALL BE CONNECTED TO DUCTS WITH FLEXIBLE SLEEVES AT LEAST 6" WIDE WITH SLACK. THE MECHANICAL SYSTEM SHALL OPERATE QUIETLY WITH ALL NOISE LEVELS BELOW ASHRAE RECOMMENDED GUIDELINES. PROVIDE CORRECTIVE ACTION TO REMOVE ALL OBJECTIONABLE NOISE AND VIBRATION.
- ALL DUCT RUNOUTS TO DIFFUSERS AND GRILLES SHALL CONSIST OF A 45° TAKEOFF FITTING AND VOLUME DAMPER. LOCATE THE DAMPERS IN AN ACCESSIBLE LOCATION AS FAR AS PRACTICAL FROM THE AIR DEVICE.
- ALL EQUIPMENT FURNISHED SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL DRAINS, VENTS, CONNECTIONS, VIBRATION ISOLATION, ETC. TO EQUIPMENT IN ACCORDANCE WITH SAID INSTRUCTIONS. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE, OPERATING SYSTEM. THIS INCLUDES ALL INCIDENTAL ITEMS, FITTINGS, HARDWARE AND CONNECTIONS NECESSARY FOR PROPER OPERATION EVEN IF THOSE ITEMS ARE NOT SPECIFICALLY INDICATED ON THE DRAWINGS.
- WHERE MOUNTING HEIGHTS ARE NOT SPECIFIED, INSTALL MECHANICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE MAXIMUM HEADROOM POSSIBLE.
- THESE DRAWINGS INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND ARE TO BE FOLLOWED INsofar AS POSSIBLE. THE CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS AND SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES TO AVOID CONFLICT OR DELAY.
- ALL DUCT SIZES SHOWN ON THESE DRAWINGS ARE THE METAL DIMENSIONS. REFER TO MECHANICAL DUCTWORK AND INSULATION SCHEDULE FOR INSULATION REQUIREMENTS. THE DIMENSION SHOWN IS THE INSIDE METAL DIMENSION FOR ALL DUAL WALL DUCTS.
- PIPE CONDENSATE DRAINS FROM ALL AIR HANDLING UNITS TO NEAREST FLOOR DRAIN, ROOF DRAIN, GUTTER, JANITOR'S SINK OR HUB DRAIN AND TURN DOWN TO AN AIR GAP. DO NOT DISCHARGE ANY CONDENSATE DIRECTLY ONTO ROOF. ALL OVERFLOW DRAINS SHALL BE ROUTED TO A CONSPICUOUS LOCATION.
- ALL RUNOUT DUCT SIZES ON THE DRAWING SHALL BE THE SAME SIZE AS THE DIFFUSER NECK SIZE. REFER TO THE MECHANICAL SCHEDULE FOR ALL NECK SIZES PRIOR TO CONSTRUCTION.
- REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN FOR THE FINAL LOCATION OF ALL CEILING MOUNTED DEVICES. MOUNTING HEIGHTS AND FINAL LOCATIONS OF ALL WALL MOUNTED DEVICES SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION.
- THIS BUILDING CONTAINS A FIRE ALARM SYSTEM. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE MANUFACTURER OF THE EXISTING FIRE ALARM SYSTEM TO PROVIDE NEW DUCT DETECTORS FOR THE PROJECT. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF NEW DUCT DETECTORS INCLUDING ALL CONDUIT AND WIRING. THE MECHANICAL CONTRACTOR SHALL INSTALL THE DUCT DETECTORS IN THE DUCTWORK AND SHALL PROVIDE CONTACTS FOR THE FIRE ALARM CONTROL CONNECTION FOR UNIT SHUTDOWN IN "ALARM" MODE. INSTALL DUCT DETECTORS IN THE RETURN DUCT OF ALL AIR HANDLING UNITS SUPPLYING 2000 CFM OF AIR OR GREATER.
- UNLESS OTHERWISE NOTED, SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH INDUSTRY-ACCEPTED PROCEDURES TO WITHIN 10% OF DESIGN AIRFLOW RATES.
- THE ROOF CURB FOR ALL ROOF MOUNTED EQUIPMENT (EXHAUST FANS, ROOFTOP UNITS, HODS, ETC.) SHALL BE AS MANUFACTURED BY LM CURBS. DO NOT USE THE UNIT MANUFACTURER'S ROOF CURB FOR ANY METAL BUILDING PROJECT.
- ALL DEVICES TO BE INSTALLED BY THIS TRADE SHALL BE COORDINATED WITH ALL TRADES (ARCHITECTURAL, MILLWORK, MECHANICAL, ELECTRICAL, FIRE PROTECTION, STRUCTURAL, ETC.) DURING CONSTRUCTION TO AVOID CONFLICTS AND TO PROVIDE A QUALITY PROJECT. IF YOU NOTICE ANY DISCREPANCY BETWEEN THIS WORK AND A SEPARATE TRADE, NOTIFY THE ENGINEER IMMEDIATELY FOR DIRECTION. ANY COORDINATION WORK THAT OCCURS WITHOUT APPROVAL FROM THE ENGINEER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL MOUNTING HEIGHTS SHALL BE CONFIRMED WITH ARCHITECTURAL ELEVATIONS IN EACH ROOM.
- PROVIDE A RADIUS ELBOW ON ALL RECTANGULAR FITTINGS WITH ASPECT RATIO RW-1. IF RADIUS ELBOW IS NOT PRACTICAL OR CREATES CONFLICT, THEN INSTALL TURNING VANES IN FITTING. USE ACOUSTIC STYLE PERFORATED VANES IN DUCTS WIDER THAN 20 INCHES.
 - THE DUCT SHALL NOT EXCEED 100 SQUARE INCHES.
 - THE DUCT SHALL BE CONSTRUCTED OF STEEL A MINIMUM OF 0.0217 INCH IN THICKNESS.
 - THE DUCT SHALL NOT HAVE OPENINGS THAT COMMUNICATE THE CORRIDOR WITH ADJACENT SPACES OR ROOMS.
 - THE DUCT SHALL BE INSTALLED ABOVE A CEILING.
 - THE DUCT SHALL NOT TERMINATE AT A WALL REGISTER IN THE FIRE-RESISTANCE-RATED WALL.
 - A MINIMUM 12-INCH-LONG BY 0.063-INCH-THICK STEEL SLEEVE SHALL BE CENTERED IN EACH DUCT OPENING. THE SLEEVE SECURED TO BOTH SIDES OF THE WALL AND ALL FOUR SIDES OF THE SLEEVE WITH MINIMUM 1-1/2"X1-1/2" BY 0.063-INCH STEEL RETAINING ANGLES. THE RETAINING ANGLES SHALL BE SECURED TO THE SLEEVE AND THE WALL WITH NO. 10 SCREWS. THE ANNULAR SPACE BETWEEN THE STEEL SLEEVE AND THE WALL OPENING SHALL BE FILLED WITH ROCKWOOL MINERAL WOOL BATTING ON ALL SIDES.

MECHANICAL LEGEND		
12X12	DUCT RISER, FIRST DIMENSION IS SIDE PORTED TO	MARK CFM AIR DEVICE TAG
	CEILING DIFFUSER	AIRFLOW ARROW
	RETURN GRILLE	THERMOSTAT, MOUNT AT 48" AFF
	EXHAUST GRILLE	CO2 SENSOR, MOUNT AT 48" AFF
	ROUND DUCT SECTION	DUCT, FIRST DIMENSION IS SIDE SHOWN
	FABRIC DUCT	

FABRIC DUCT GENERAL NOTES

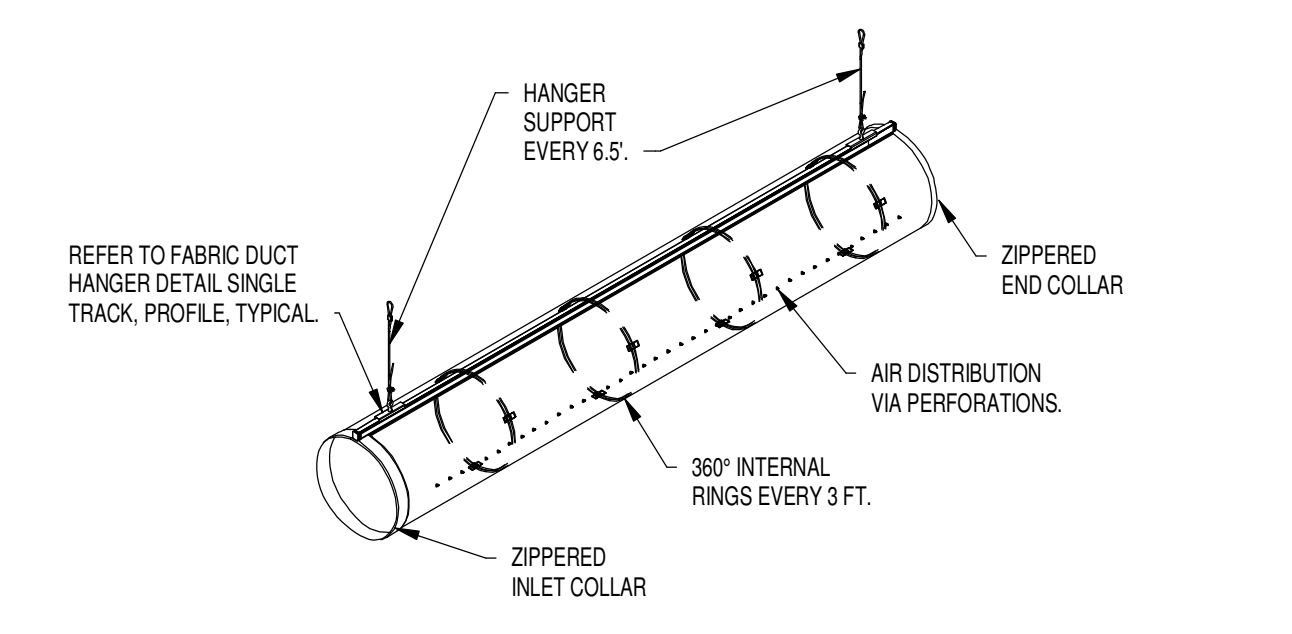
FABRIC DUCT SHOWN ON THESE DRAWINGS IS INTENDED TO SHOW GENERAL LAYOUT ONLY. EXACT FABRIC DUCT SIZES AND ROUTINGS SHALL BE DESIGNED BY FABRIC DUCT MANUFACTURER. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A MANUFACTURER DESIGNED SYSTEM AND FOR COORDINATING ANY CHANGES REQUIRED IN CONTRACT DRAWINGS TO MEET THE FABRIC DUCT MANUFACTURER'S DESIGN REQUIREMENTS. ANY CHANGES REQUIRED IN CONTRACT DRAWINGS TO ACCOMMODATE THE MANUFACTURER'S DESIGN SHALL BE SUBMITTED AS PART OF THE SHOP DRAWINGS.

THE AIRFLOWS FOR FABRIC DUCT SECTIONS IDENTIFIED ON THESE PLANS ARE THE REQUIRED AIRFLOWS TO SATISFY THE CALCULATED LOADS IN THE RESPECTIVE SPACES. CONTRACTOR SHALL PROVIDE ENGINEERED SHOP DRAWINGS FROM AN APPROVED FABRIC DUCT MANUFACTURER THAT PROVIDES AIRFLOW DISTRIBUTION. APPROVED FABRIC DUCT MANUFACTURERS ARE KE FIBERTECH, FABRIC AIR, PRINCO AND DUCT SOX WITH UL LISTED FABRIC. WHERE MANUFACTURER'S FABRIC DUCT PLANS SHOW HOLE PATTERNS THESE SHALL BE COORDINATED WITH LIGHTING PLAN SO THAT AIRFLOW DOES NOT BLOW ON LIGHTING FIXTURES CAUSING THEM TO SWAY OR REDUCE LAMP LIFE. MANUFACTURER'S DESIGN SHALL BE BASED ON CALCULATIONS OF ISOTHERMAL THROW PATTERNS FROM DUCTS USING DESIGN AIRFLOWS IN THE HEATING AND COOLING CONDITIONS. ALL AIRFLOWS TO OCCUPIED SPACES SHALL BE BASED ON A TERMINAL VELOCITY OF 50 FPM AT AN ELEVATION OF 5' FOOT ABOVE FINISHED FLOOR. PROVIDE 10'-0" MAXIMUM DUCT SECTIONS.

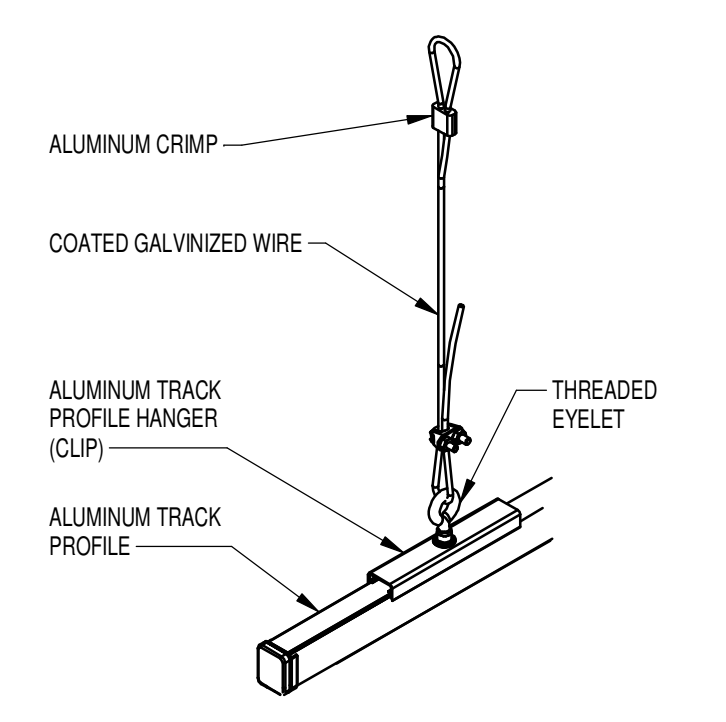
SHOP DRAWINGS SHALL INDICATE THE FOLLOWING INFORMATION:

- MANUFACTURER'S NAME
- MANUFACTURER'S CONTACT INFORMATION
- FABRIC TYPES
- FABRIC HOLE SIZES AND SPACINGS AND RADIAL ORIENTATION FROM NADR
- DUCT SIZES
- DUCT COLORS
- DUCT ROUTINGS
- SUSPENSION SYSTEM INFORMATION
- SECTIONS AT EVERY LOCATION WHERE DIFFERENT DUCT SIZES OR AIR HOLE PATTERNS ARE REQUIRED INDICATING SIZE AND POSITION AND CENTER-TO-CENTER DISTANCE BETWEEN HOLES
- ALL MINOR ITEMS INCLUDING CONNECTION FITTINGS, DAMPERS, SUSPENSION SYSTEMS, TERMINATIONS, SLEEVES, ETC.

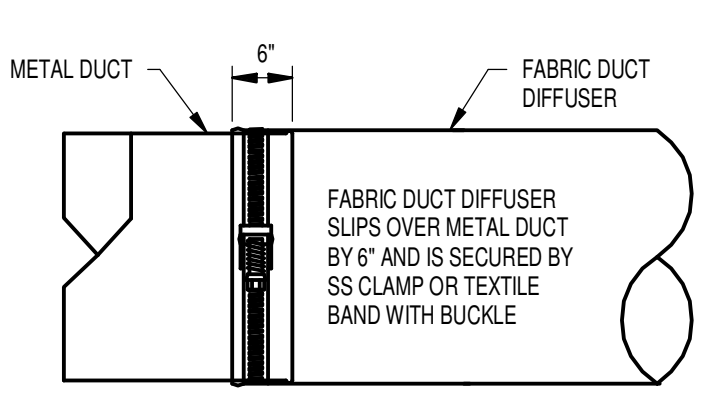
CONTRACTOR SHALL PROVIDE SAMPLES OF THE FABRIC DUCT MATERIAL IN THE PROPOSED COLOR AS PART OF SUBMITTALS.



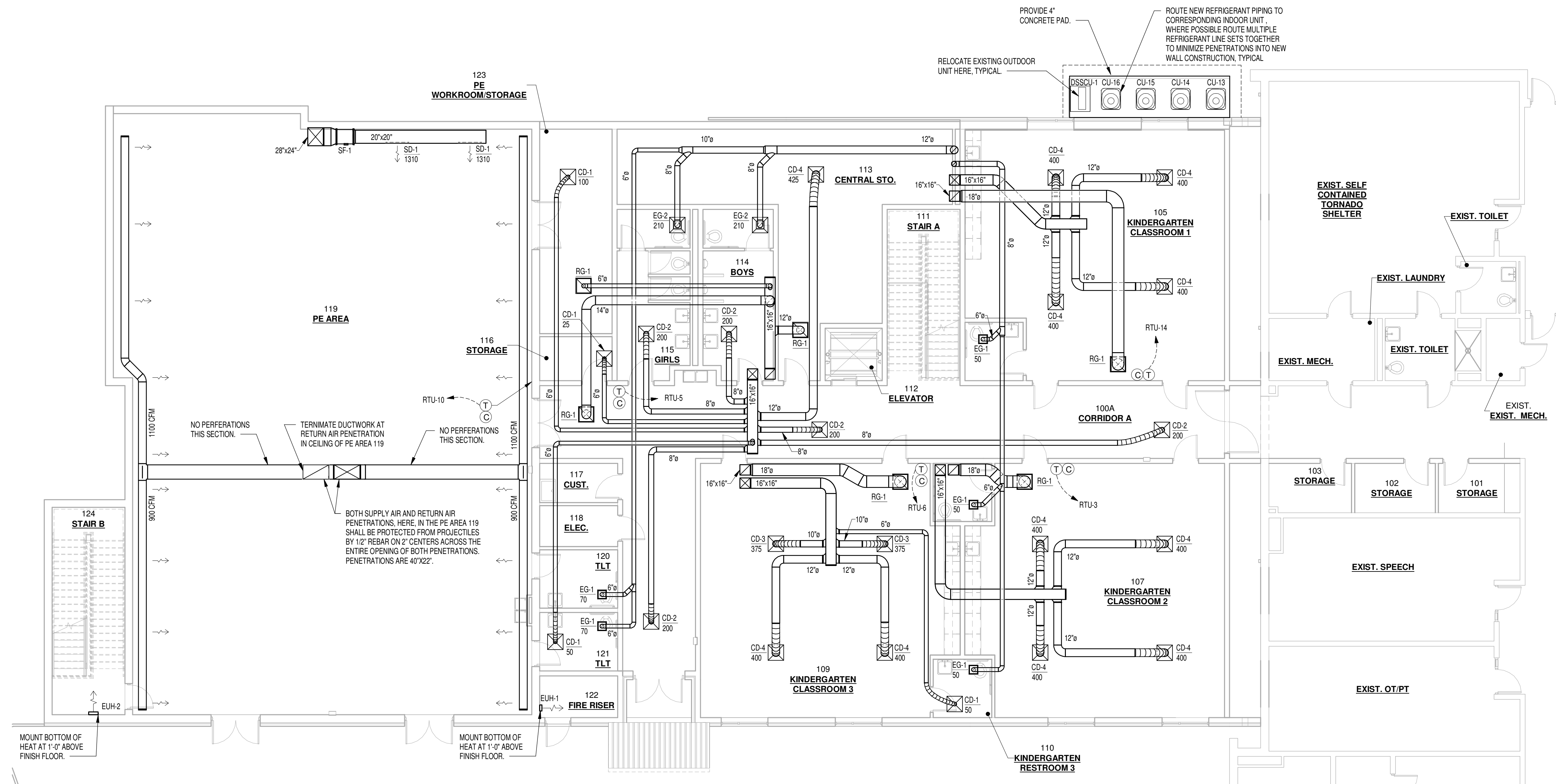
4 FABRIC DUCT INSTALLATION DETAIL
SCALE: N.T.S.



3 FABRIC DUCT HANGER DETAIL SINGLE TRACK PROFILE
SCALE: N.T.S.

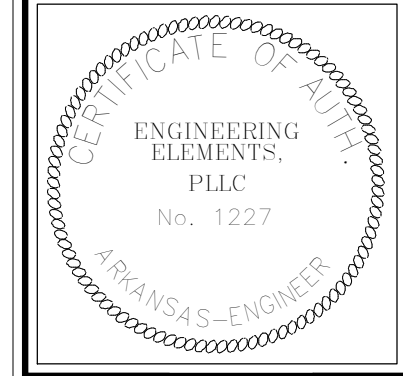


2 FABRIC DUCT INLET CONNECTION DETAIL
SCALE: N.T.S.



1 MECHANICAL PLAN - LOWER LEVEL
SCALE: 1/8" = 1'-0"

PRIMARY SCHOOL ADDITION
JOHNSON COUNTY WESTSIDE
193 SCHOOL ST., HARTMAN, AR 72840



ARCHITECTURE PLUS, INC.
907 South 21st Street, Fort Smith, Arkansas 479/783-8395
MECHANICAL PLAN - LOWER LEVEL

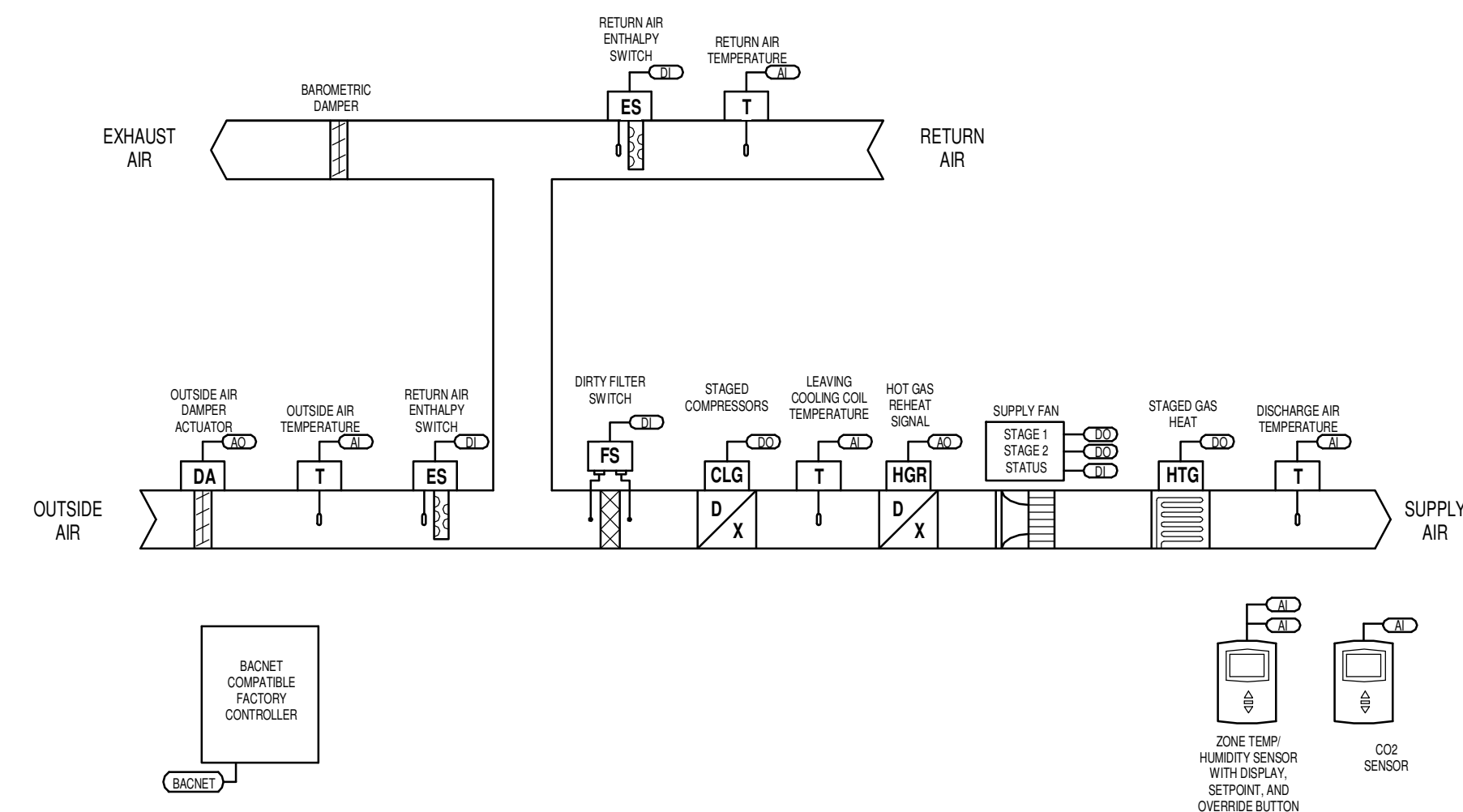
REVISIONS:		
No.	Description	Date

PROJECT: 19-68
DATE: 07/31/2024
M1.1



MINI SPLIT SYSTEM (COOLING ONLY) SCHEDULE

TAG	DESCRIPTION	MANU.	MODEL	CFM	CLG. MBH	SEER	MCA	MOCP
MAH-1	WALL MOUNTED AIR HANDLING UNIT. PROVIDE WALL MOUNTED WIRED THERMOSTAT, INTERNALLY MOUNTED CONDENSATE PUMP AND WALL MOUNTING BRACKET.	DAIKIN	FTK09AXVJU	431	8.9			
MCU-1	SINGLE ZONE, DUCTLESS SPLIT SYSTEM CONDENSING UNIT, AIR ADJUSTMENT WIND BAFFLE GRILLE, WITH SINGLE POINT 208V/ 1PH ELECTRICAL CONNECTION.	DAIKIN	RK09AXVJU			19	7 A	15 A



SINGLE ZONE ROOFTOP UNIT WITH HUMIDITY, CO2, AND DCV CONTROL
SCALE: N.T.S.

SINGLE ZONE PACKAGED UNIT WITH DEHUMIDIFICATION SEQUENCE OF OPERATION, AND CO2 CONTROL.

MODE OF OPERATION:
THE UNIT MODES OF OPERATION SHALL BE OCCUPIED, UNOCCUPIED, OR STANDBY BASED ON A BUILDING AUTOMATION SYSTEM (BAS) SCHEDULE, AN OPERATOR OVERRIDE COMMAND FROM THE BAS, A TEMPORARY OCCUPANCY OVERRIDE SIGNAL FROM THE SPACE TEMPERATURE SENSOR, OR A SIGNAL FROM THE CO2 SENSOR.

OCCUPIED MODE:
THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY FOR VENTILATION. THE SUPPLY FAN SPEED SHALL BE COMMANDED ON AT LOW OR HIGH SPEED AS DESCRIBED BELOW TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT. THE SPACE TEMPERATURE SENSOR SHALL BE SET FOR DUAL HEATING AND COOLING SETPOINTS. THE INITIAL OCCUPIED HEATING SETPOINT SHALL BE 70°F (ADJ). THE INITIAL OCCUPIED COOLING SETPOINT SHALL BE 75°F (ADJ). THE SPACE TEMPERATURE SETPOINT RANGE SHALL BE LIMITED BETWEEN A MINIMUM OF 68°F AND MAXIMUM OF 75°F.

THE OUTSIDE AIR DAMPER SHALL OPEN TO A MINIMUM POSITION THAT SHALL CORRESPOND WITH FAN SPEED. THE OUTSIDE AIR DAMPER POSITIONS REQUIRED TO MAINTAIN THE SCHEDULED OUTSIDE AIRFLOW AT BOTH HIGH AND LOW FAN SPEEDS SHALL BE SET DURING TEST AND BALANCE.

ECONOMIZER OPERATION SHALL BE ENABLED WHENEVER THE OUTDOOR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY TO UTILIZE OUTSIDE AIR FOR COOLING. DURING ECONOMIZER OPERATION THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN SUPPLY AIR TEMPERATURE AT SET POINT.

IN COOLING MODE, ECONOMIZER OPERATION SHALL BE THE FIRST ACT OF COOLING IF CONDITIONS ALLOW. THE COMPRESSORS SHALL BE COMMANDED ON IN STAGES TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT. THE SUPPLY FAN SPEED SHALL TRACK THE COOLING STAGES. DURING THE FIRST STAGE OF COOLING, THE SUPPLY FAN SHALL OPERATE AT LOW SPEED. UPON ACTIVATION OF THE SECOND STAGE OF COOLING, THE SUPPLY FAN SHALL OPERATE AT HIGH SPEED.

IN HEATING MODE, THE GAS HEATER SHALL BE COMMANDED ON IN STAGES TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT. THE SUPPLY FAN SHALL OPERATE AT HIGH SPEED FOR BOTH THE 1ST AND 2ND STAGES OF HEATING.

DEHUMIDIFICATION WILL BE ACTIVATED WHEN THE SPACE RELATIVE HUMIDITY RISES ABOVE THE DEHUMIDIFICATION SET POINT OF 50% RH (ADJ). IN DEHUMIDIFICATION MODE, THE COMPRESSORS SHALL OPERATE AT THE 2ND STAGE OF COOLING. THE SUPPLY FAN SHALL OPERATE AT LOW SPEED, AND THE HOT GAS REHEAT VALVE SHALL OPERATE AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT. OUTSIDE AIR DAMPER SHALL BE CLOSED WHEN UNIT IS IN DEHUMIDIFICATION MODE.

STANDBY OPERATION:
STANDBY OPERATION SHALL OCCUR DURING OCCUPIED OPERATIONAL HOURS, WHEN NO OCCUPANCY HAS BEEN DETECTED BY THE ZONE OCCUPANCY SENSOR FOR 15 MINUTES. DURING STANDBY OPERATION, THE UNIT SHALL OPERATE AS DESCRIBED IN THE OCCUPIED MODE WITH THE EXCEPTION THAT THE SYSTEM SHALL BE SUBJECT TO THE STANDBY MODE HEATING AND COOLING SETPOINTS. THE INITIAL STANDBY HEATING SETPOINT SHALL BE 68°F (ADJ). THE INITIAL UNOCCUPIED COOLING SETPOINT SHALL BE 75°F (ADJ).

UNOCCUPIED OPERATION:
THE SYSTEM SHALL BE SUBJECT TO THE UNOCCUPIED MODE HEATING AND COOLING SETPOINTS. THE INITIAL UNOCCUPIED HEATING SETPOINT SHALL BE 67°F (ADJ). THE INITIAL UNOCCUPIED COOLING SETPOINT SHALL BE 76°F (ADJ).

WHEN THE SPACE UNOCCUPIED COOLING AND HEATING SETPOINTS ARE SATISFIED, THE SUPPLY FAN SHALL BE OFF. THE OUTSIDE AIR DAMPER SHALL BE FULLY CLOSED AND ALL HEATING AND COOLING COMMANDS SHALL BE DISABLED.

WHEN THE SPACE UNOCCUPIED COOLING AND HEATING SETPOINTS ARE NOT SATISFIED, THE UNIT SHALL OPERATE AS DESCRIBED IN THE OCCUPIED MODE WITH THE EXCEPTION THAT NO MINIMUM FLOW SHALL BE MAINTAINED SINCE VENTILATION IS NOT REQUIRED.

PACKAGED ROOFTOP AIR CONDITIONING UNIT SCHEDULE

TAG	MANU.	MODEL	DESCRIPTION	NOM. TONS	EER	SUPPLY CFM	OA CFM	E.S.P.	HEAT MBH IN	HEAT MBH OUT	FAN HP	VOLTS/PHASE	FLA	MCA	MOCP	WEIGHT	CONTROL TYPE	COMMENTS
RTU-1	LENNOX	LGH6024HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	5	12.7	2000	300	0.5	108	87	1	208/3	24.2 A	28 A	40 A	1000	BAS	
RTU-2	LENNOX	LGH744HT	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	6	12.2	2400	300	0.5	108	87	1.5	208/3	24.8 A	30 A	45 A	1000	BAS	
RTU-3	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-4	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-5	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-6	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-7	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-8	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-9	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-10	LENNOX	LGH120H4M	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	10	12.1	4000	800	0.5	240	194	3.75	208/3	47.4 A	52 A	60 A	1600	BAS	
RTU-11	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-12	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-13	LENNOX	LGH6024HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	5	12.7	2000	300	0.5	108	87	1	208/3	24.2 A	28 A	40 A	1000	BAS	
RTU-14	LENNOX	LGH48HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	4	12.8	1600	300	0.5	108	87	1	208/3	21.9 A	25 A	35 A	1000	BAS	
RTU-15	LENNOX	LGH6024HE	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	5	12.7	2000	300	0.5	108	87	1	208/3	24.2 A	28 A	40 A	1000	BAS	
RTU-16	LENNOX	LGH120H4M	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	10	12.1	4000	800	0.5	240	194	3.75	208/3	47.4 A	52 A	60 A	1600	BAS	
RTU-17	LENNOX	LGH120H4M	PACKAGED AIR CONDITIONING UNIT, MULTI SPEED FAN, 2 STAGE GAS HEAT, 2 STAGE DX COOLING	15	12	6000	1200	0.5	360	292	3	208/3	60.9 A	64 A	70 A	2700	BAS	

ACCESSORIES

a. ECONOMIZER HOOD
b. BAROMETRIC RELIEF
c. OUTDOOR AIR DAMPERS
d. HOT GAS REHEAT
e. LOW AMBIENT CONTROLS
f. HAIL GUARD
g. PROVIDE NEMA 3R FACTORY MOUNTED DISCONNECT, FIELD POWERED CONVENIENCE OUTLET, TVX AND 2" PLEATED FILTER
h. PROVIDE 18" ROOF CURB. ALLOW FOR MINIMUM 6" UNIT CLEARANCE ABOVE FINISH ROOF. VERIFY FINISHED ROOF HEIGHT PRIOR TO ORDER.
i. PROVIDE ROOM TEMPERATURE SENSOR AND HUMIDITY SENSOR W/ ADJUSTABLE TEMPERATURE SET POINT.
j. PROVIDE DDC CONTROLLER W/ BACNET MS/TP CONNECTION.
k. PROVIDE HIGH AND LOW PRESSURE CUTOFFS.

ELECTRIC UNIT HEATER SCHEDULE

TAG	DESCRIPTION	MANU.	MODEL	AREA SERVED	KW/MBH	HEAT CFM	VOLTS/PHASE	MCA	MOCP	WT (lbs)	CONTROL
EUH-1	ELECTRIC UNIT HEATER, SURFACE WALL MOUNTED	MARKEL	E35572DWB	FIRE RISER 118	75.2/6	100	120V/1PH	8 A	20 A	6	INTEGRAL
EUH-2	HEAVY-DUTY ELECTRIC UNIT HEATER, SURFACE WALL MOUNTED	TPI	F3422T	STAR B 124	2.0/6.8	345	208V/1PH	12 A	20 A	41	INTEGRAL

AIR DEVICE SCHEDULE

TAG	MANU.	MODEL	DESCRIPTION	FACE SIZE	FRAME SIZE	NECK	MATERIAL FINISH	COMMENTS
CD-1	NAILOR	RNS	CEILING DIFFUSER, SQUARE CONES	22"x22"	24"x24"	6"	STEEL, WHITE	LAY-IN, UP TO 110 CFM
CD-2	NAILOR	RNS	CEILING DIFFUSER, SQUARE CONES	22"x22"	24"x24"	8"	STEEL, WHITE	LAY-IN, UP TO 220 CFM
CD-3	NAILOR	RNS	CEILING DIFFUSER, SQUARE CONES	22"x22"	24"x24"	10"	STEEL, WHITE	LAY-IN, UP TO 375 CFM
CD-4	NAILOR	RNS	CEILING DIFFUSER, SQUARE CONES	22"x22"	24"x24"	12"	STEEL, WHITE	LAY-IN, UP TO 500 CFM
CD-5	NAILOR	6500	CEILING DIFFUSER, SQUARE PATTERN	22"x22"	24"x24"	10"	STEEL, WHITE	LAY-IN, UP TO 375 CFM
CD-6	NAILOR	6500	CEILING DIFFUSER, SQUARE PATTERN	22"x22"	24"x24"	12"	STEEL, WHITE	LAY-IN, UP TO 500 CFM
CD-7	CAPTAINREAR	DI-PSP	DROP IN SUPPLY PLENUM PERFORATED CORE	22"x22"	24"x24"	10"	STAINLESS STEEL	LAY-IN, UP TO 400 CFM W/ INTEGRAL DAMPER
DVB-1	IN-O-VATE	DB-425	DRYER VENT WALL BOX	9-1/2"x18-1/4"	12-1/2"x21"	4"	22 GAUGE ALUMINIZED STEEL	RECESSED MOUNTED
EG-1	NAILOR	51EC	EXHAUST GRILLE, EGGRATE	12"x12"	13-3/4"x13-3/4"	6"	ALUMINUM, WHITE	SURFACE MOUNTED, UP TO 110CFM
EG-2	NAILOR	51EC	EXHAUST GRILLE, EGGRATE	12"x12"	24"x24"	8"	ALUMINUM, WHITE	LAY-IN, UP TO 210 CFM
EG-3	NAILOR	51EC	EXHAUST GRILLE, EGGRATE	12"x12"	24"x24"	10"	ALUMINUM, WHITE	LAY-IN, UP TO 380 CFM
RH-1	NAILOR	LOW-518	INTAKE HOOD	31"x31"	31"x31"	18"	ALUMINUM	CURB MOUNTED, UP TO 2680 CFM
RI-1	NAILOR	51EC	RETURN GRILLE, EGGRATE	12"x12"x1/2" CORE	24"x24"	22"x22"	ALUMINUM, WHITE	LAY-IN, UP TO 1600 CFM
RG-2	NAILOR	51EC	RETURN GRILLE, EGGRATE	48"x22"	48"x24"	<varies>	ALUMINUM, WHITE	LAY-IN, UP TO 3200 CFM
SD-1	NAILOR	61DV	SUPPLY GRILLE, DOUBLE DEFLECTION, 3/4" SPACING, BLADES PARALLEL TO SHORT DIM.	36"x12"	37-3/4"x13-3/4"	36"x12"	STEEL, WHITE	SURFACE MOUNT, UP TO 1400 CFM

FAN SCHEDULE

TAG	MANU./MODEL	DESCRIPTION	DRIVE	CFM	E.S.P.	TS, RPM	HP, WATTS	VOLTS/PHASE	SONES	WT (lbs)	CONTROL
EF-1	ACME PRN110	EXHAUST FAN, DOME CENTRIFUGAL	DIRECT	560	0.25	3424, 1189	1/10 HP	120V1	4.5	24	SWITCH WITH LIGHTS
EF-2	ACME PRN60(9B-1)	EXHAUST FAN, DOME CENTRIFUGAL	DIRECT	150	0.25	3455, 1295	1/10 HP	120V1	5.1	21	SWITCH WITH LIGHTS
EF-3	ACME PRN110	EXHAUST FAN, DOME CENTRIFUGAL	DIRECT	700	0.2	3677, 1277	1/10 HP	120V1	5.3	24	SWITCH WITH LIGHTS
EF-4	ACME PRN60(9B-1)	EXHAUST FAN, DOME CENTRIFUGAL	DIRECT	50	0.2	2484, 931	1/10 HP	120V1	2.5	21	SWITCH WITH LIGHTS
EF-5	ACME PRN60(9B-1)	EXHAUST FAN, DOME CENTRIFUGAL	DIRECT	50	0.2	2484, 931	1/10 HP	120V1	2.5	21	SWITCH WITH LIGHTS
SF-1	ACME 08M110	IN-LINE MIXED FLOW FAN	DIRECT	2620	0.75	46, 117516	1.5 HP	208/3	9.5	260	SWITCH SEPARATELY

ACCESSORIES

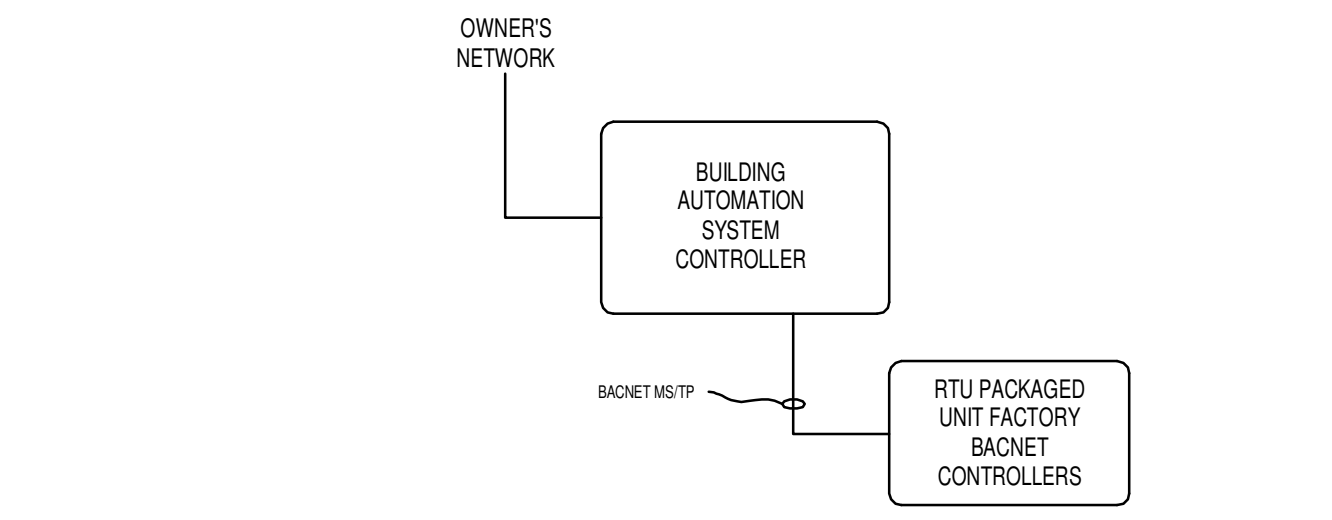
a. PROVIDE VIBRATION ISOLATING MOUNTING KIT AND ALL REQUIRED MOUNTING ACCESSORIES.
b. PROVIDE BACKDRAFT DAMPER FOR ALL FANS.
c. FACTORY MOUNTED NEMA 1 (INDOORS) OR NEMA 3R (OUTDOORS) DISCONNECT SWITCH.
d. PROVIDE INSECT SCREEN.
e. PROVIDE FACTORY INSTALLED FAN SPEED CONTROLLER.
f. PROVIDE ALUMINUM GRILLE CEILING MOUNTED FANS.
g. PROVIDE ROOF CURB EQUAL TO ACME'S MODEL #81.

MECHANICAL DUCTWORK SCHEDULE

DESCRIPTION	DUCT TYPE
RESTROOM EXHAUST DUCTS	ROUND OR RECTANGULAR DUCT WITH WRAP INSULATION
LOW PRESSURE SUPPLY AND RETURN RECTANGULAR DUCTS	RECTANGULAR WITH WRAP INSULATION
LOW PRESSURE ROUND RUNOUTS TO SUPPLY DIFFUSERS AND RETURN GRILLES	ROUND DUCT WITH WRAP INSULATION

MECHANICAL PIPING SCHEDULE

DESCRIPTION	DUCT TYPE
MECHANICAL EQUIPMENT DRAINS (PRIMARY & SECONDARY)	SCHEDULE 40 PVC
MECHANICAL EQUIPMENT REFRIGERANT PIPING	COPPER

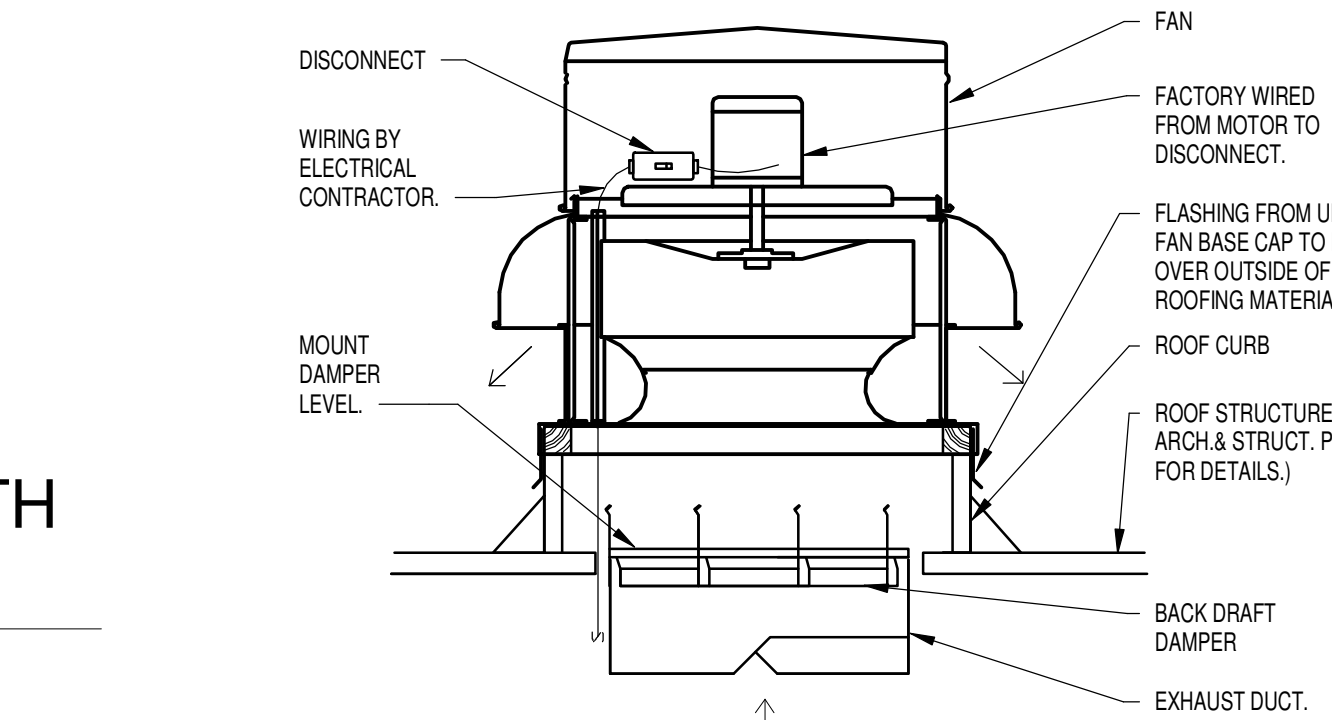


BUILDING AUTOMATION NETWORK RISER
SCALE: N.T.S.

CONTROLS GENERAL NOTES

- HIGH VOLTAGE POWER TO THE NETWORK DDC CONTROLLER IS BY THE DIVISION OF ELECTRICAL CONTRACTOR. COORDINATE REQUIREMENTS WITH ELECTRICAL CONTRACTOR. CONTROLS CONTRACTOR TO PROVIDE LOW VOLTAGE POWER AS REQUIRED TO POWER CONTROL DEVICES.
- CONTROLLERS SHOWN IN THE BAS NETWORK RISER DIAGRAM ARE SHOWN FOR SYSTEM INFORMATION ONLY. ALL CONTROLLERS ARE TO BE INSTALLED INSIDE ENCLOSURES APPROPRIATE FOR THEIR ENVIRONMENT. FINAL BACNET COMMUNICATION WIRING TO BE FIELD DETERMINED IN THE MOST EFFICIENT AND NEAT MANNER POSSIBLE.
- ALL CONTROLS FOR THE PACKAGED UNIT ARE PROVIDED FROM THE FACTORY WITH THE UNIT. THE CONTROLS CONTRACTOR IS TO FIELD INSTALL ANY CONTROLS SHIPPED LOOSE WITH THE EQUIPMENT. COORDINATE WITH THE EQUIPMENT PROVIDER FOR UNIT CONTROLS INFORMATION.
- SMOKE DETECTOR IS INSTALLED BY THE FIRE ALARM CONTRACTOR AND IS WIRED TO THE FIRE ALARM SYSTEM. FIRE ALARM CONTRACTOR TO WIRE FIRE ALARM SHUTDOWN WIRE FROM FIRE ALARM SYSTEM TO UNIT SAFETY SHUTDOWN TERMINAL.

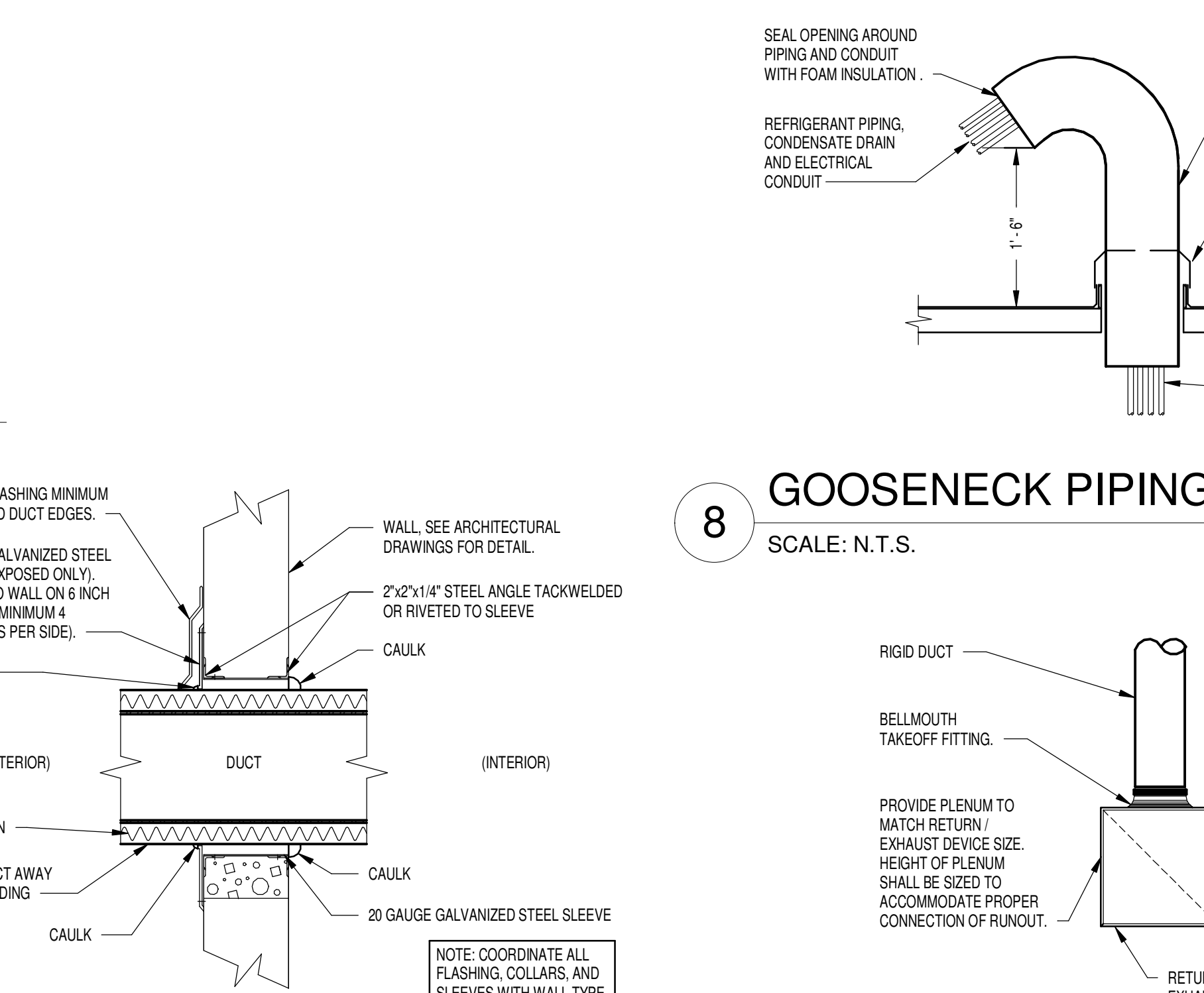
SINGLE ZONE ROOFTOP UNIT WITH HUMIDITY AND DCV CONTROL
SCALE: N.T.S.



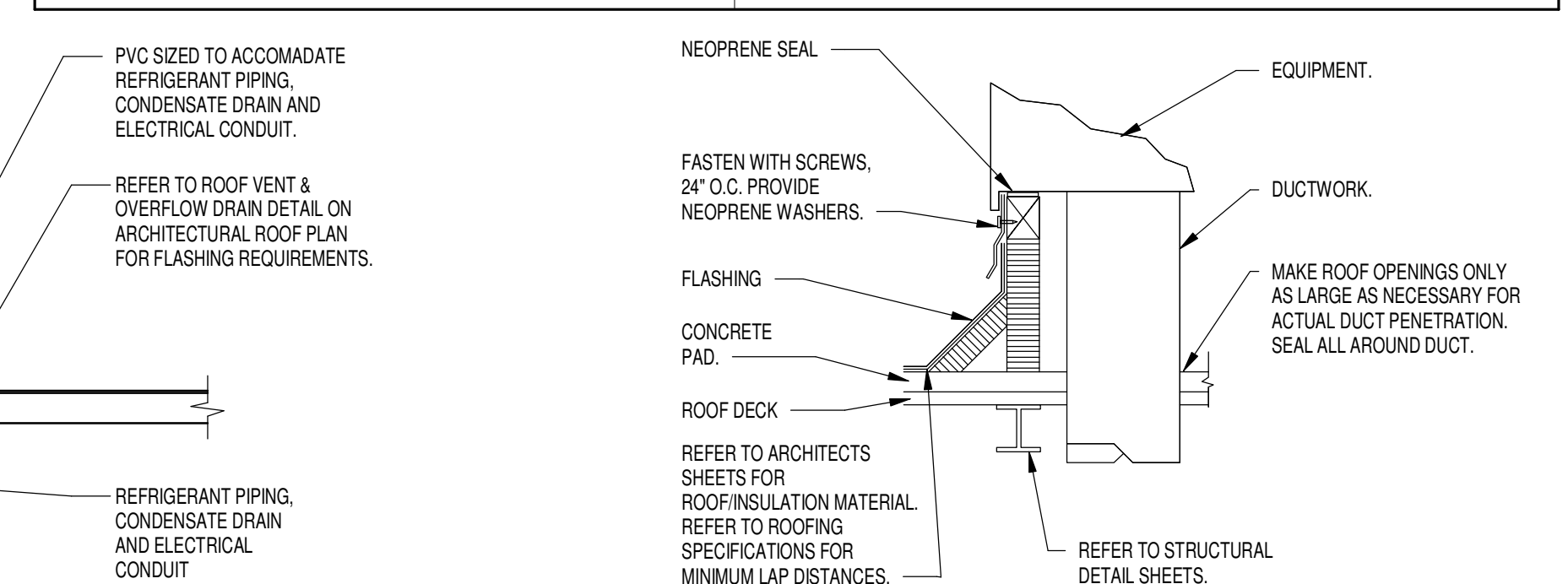
ROOF MOUNTED EXHAUST FAN
SCALE: N.T.S.

MECHANICAL INSULATION SCHEDULE

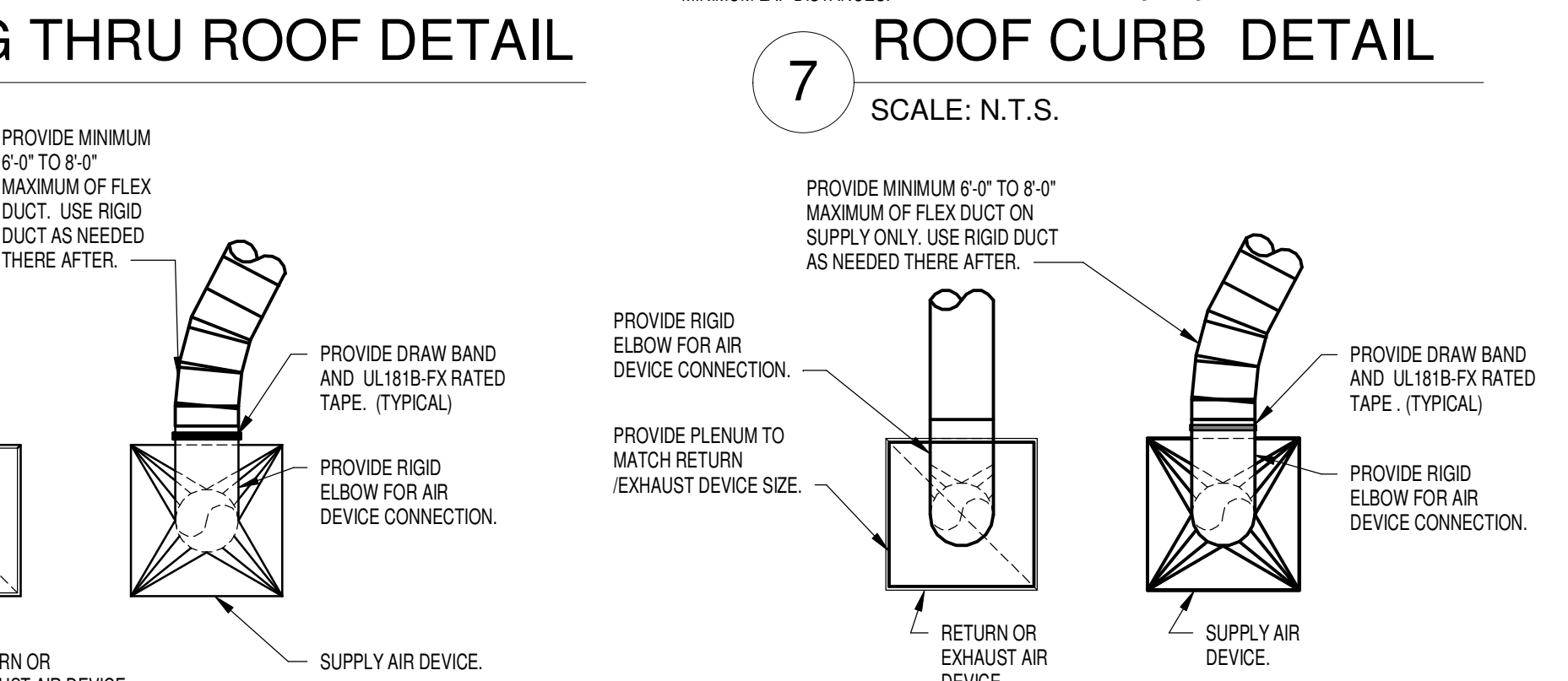
DESCRIPTION	TYPE	THICKNESS
RECTANGULAR SUPPLY, RETURN AND OUTSIDE AIR DUCTS	DUCT WRAP	2"
ROUND SUPPLY AIR DUCTS, RESTROOM EXHAUST DUCTS, OUTSIDE AIR DUCTS	DUCT WRAP	2"
SUPPLY CEILING DIFFUSERS AND GRILLES	DUCT WRAP	2"
REFRIGERANT PIPING, CONDENSATE DRAIN PIPING	ELASTOMERIC	1/2"



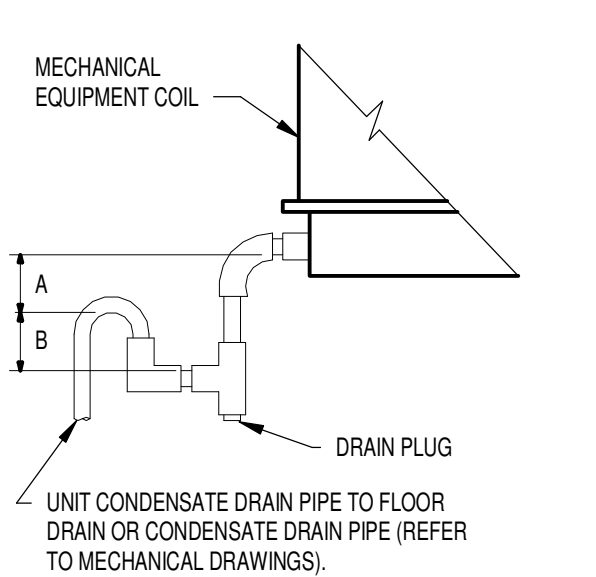
DUCT PENETRATION THROUGH WALL
SCALE: N.T.S.



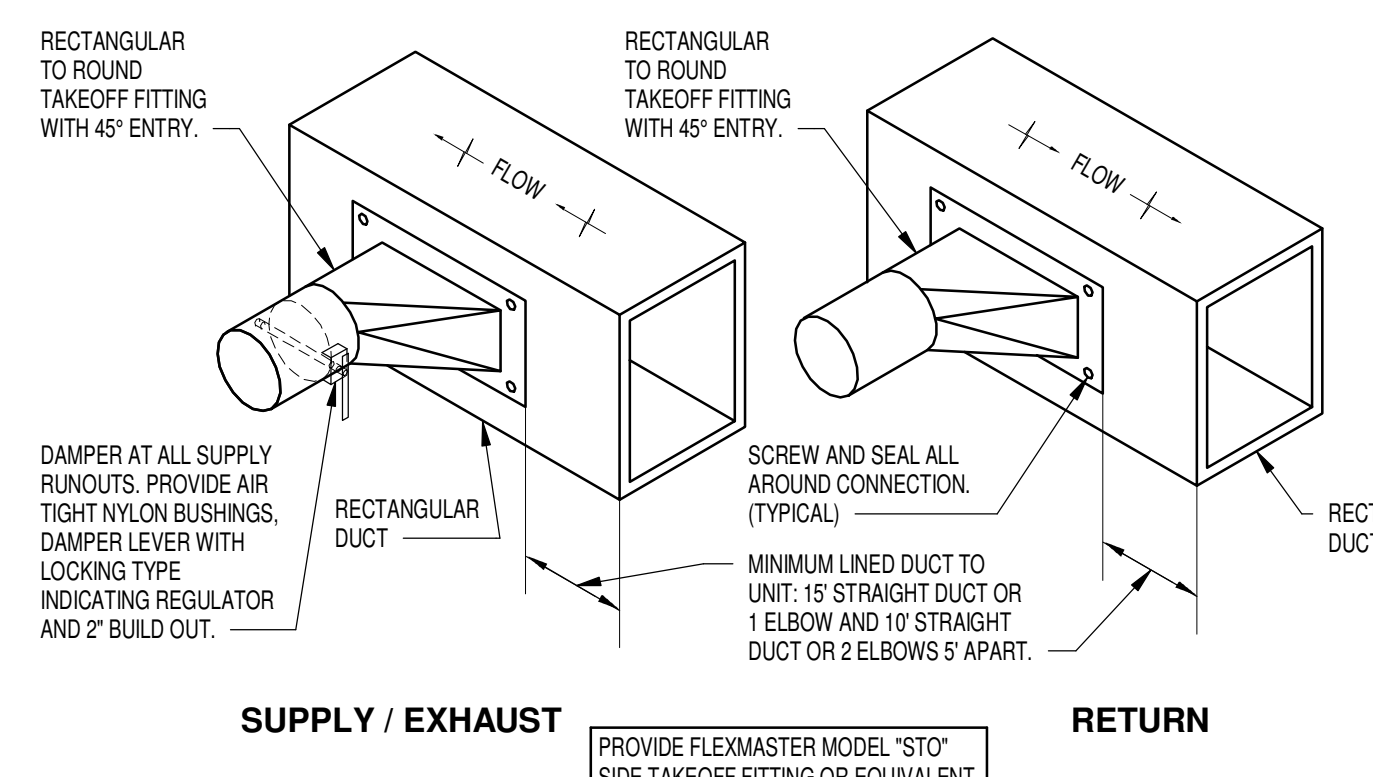
GOOSENECK PIPING THRU ROOF DETAIL
SCALE: N.T.S.



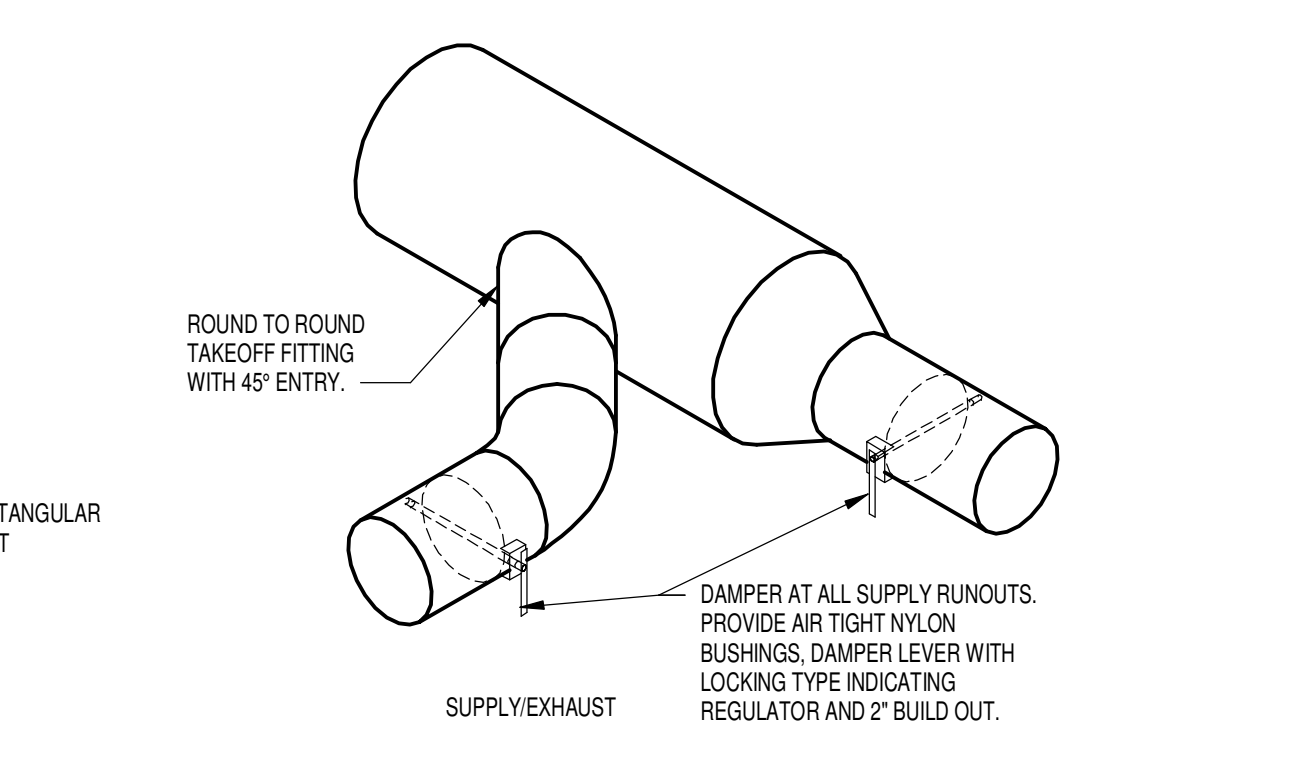
ROOF CURB DETAIL
SCALE: N.T.S.



P-TRAP DETAIL
SCALE: N.T.S.



DUCT TAP - ROUND
SCALE: N.T.S.



DUCT TAP - ROUND
SCALE: N.T.S.

P-TRAP DETAIL
SCALE: N.T.S.

ARCHITECTURE PLUS, INC.
907 South 21st Street, Fort Smith, Arkansas 71913-5395
No. 1227

ARCHITECTS PLANNERS

PRIMARY SCHOOL ADDITION
JOHNSON COUNTY WESTSIDE
193 SCHOOL ST., HARTMAN, AR 72840

MECHANICAL SCHEDULES AND DETAILS

REVISIONS:
No. Description Date

PROJECT: 19-68
DATE: 07/31/2024
M2.1