



**PROJECT NAME**

WSD -NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
WYNNIE AR 72396

**PROJECT NUMBER**

-

**DEVELOPER/OWNER**

WYNNIE SCHOOL DISTRICT

**INFORMATION**



Revision Description Date

MECHANICAL ABBREVIATIONS			
AD	ACCESS DOOR	LB	POUND
ADJ	ADJUSTABLE	LD	LINEAR DIFFUSER
AFF	ABOVE FINISHED FLOOR	MAU	MAKE UP AIR UNIT
AHU	AIR HANDLING UNIT	MAX	MAXIMUM
APPROX	APPROXIMATE	MH	1000 BTU PER HOUR
ARCH	ARCHITECTURAL	MCA	MINIMUM CURRENT AMPACITY
BLDG	BUILDING	MFR	MANUFACTURER
BOD	BOTTOM OF DUCT	MECH	MECHANICAL
BOP	BOTTOM OF PIPE	MIN	MINIMUM
BTU	BRITISH THERMAL UNIT	MOD	MOTORIZED DAMPER
BTUH	BTU PER HOUR	MOCP	MAX. OVERCURRENT PROTECTION
CD	CEILING DIFFUSER	NC	NOISE CRITERIA
CFM	CUBIC FEET PER MINUTE	NTS	NOT TO SCALE
CLG	CEILING	OA	OUTSIDE AIR
CONN	CONNECTION	OED	OPEN END DUCT
CTE	CONNECT TO EXISTING	PAQU	PACKAGED AIR CONDITIONING UNIT
CU	CONDENSING UNIT	PD	PRESSURE DROP
DB	DRY BULB TEMPERATURE	PH	PHASE
DIFF	DIFFUSER	PRV	PRESSURE REDUCING VALVE
DIA	DIAMETER	PSI	POUNDS PER SQ. INCH
Ø	DIAMETER	RA	RETURN AIR
DIM	DIMENSION	REQD	REQUIRED
DN	DOWN	RG	RETURN GRILLE
DWG	DRAWING	RH	RELATIVE HUMIDITY
EA	EACH	RLA	RUNNING LOAD AMPS
EA	EXHAUST AIR	RPM	REVOLUTIONS PER MINUTE
EAT	ENTERING AIR TEMPERATURE	RTU	ROOF TOP UNIT
EF	EXHAUST FAN	SA	SUPPLY AIR
EG	EXHAUST GRILLE	SD	SMOKE DAMPER
ELEC	ELECTRICAL	SF	SQUARE FOOT
ELEV	ELEVATOR	SG	SUPPLY GRILLE
EQUIP	EQUIPMENT	SP	STATIC PRESSURE
ESP	EXTERNAL STATIC PRESSURE	SQ	SQUARE
EXIST	EXISTING	SQFT	SQUARE FEET
F	FAHRENHEIT	SR	SUPPLY REGISTER
FD	FIRE DAMPER	STRUCT	STRUCTURAL
FLA	FULL LOAD AMPS	TEMP	TEMPERATURE
FLEX	FLEXIBLE	TG	TRANSFER GRILLE
FLM	FEET PER MINUTE	TSTAT	THERMOSTAT
FT	FEET	TYP	TYPICAL
FSD	FIRE/SMOKE DAMPER	UH	UNIT HEATER
GA	GAUGE	UNO	UNLESS NOTED OTHERWISE
GALV	GALVANIZED	V	VOLT
GYP BD	GYPSONUM BOARD	VAC	VOLTS ALTERNATING CURRENT
HP	HORSEPOWER	W	WATTS
HZ	HERTZ	WB	WET BULB
IN	INCH	WC	WATER COLUMN
IN	INCH	WJ	WITH
KEF	KITCHEN EXHAUST FAN	W/O	WITHOUT
KH	KITCHEN EXHAUST HOOD	(A)	ABANDONED
KW	KILOWATT	(D)	DEMO
LAT	LEAVING AIR TEMPERATURE	(E)	EXISTING

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M404	KITCHEN EQUIPMENT DETAILS - CAFETERIA
M405	KITCHEN EQUIPMENT DETAILS - CAFETERIA
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- ### MECHANICAL GENERAL NOTES
- CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE PROJECT SCOPE, UTILITY CONNECTIONS, AND ALL BUILDING SERVICES. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY IN THE PERFORMANCE OF HIS WORK.
  - FURNISH ALL MATERIALS, LABOR, TOOLS, TRANSPORTATION AND INCIDENTALS TO COMPLETE IN EVERY DETAIL AND LEAVE IN WORKING ORDER ALL ITEMS CALLED FOR HEREIN OR SHOWN ON THE ACCOMPANYING DRAWINGS.
  - CONTRACTOR SHALL FILE ALL DRAWINGS, PAY ALL FEES AND OBTAIN ALL PERMITS AND CERTIFICATES OF INSPECTION RELATIVE TO THIS WORK.
  - UPON COMPLETION OF THE PROJECT ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO ACCEPTABLE CONDITION. ALL EQUIPMENT, COMPONENTS AND OR DUCTWORK SHALL BE INSPECTED AND THOROUGHLY CLEANED, READY FOR AT COMPLETION OF THE JOB. ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY THIS CONTRACTOR.
  - STANDARD DETAILS ILLUSTRATED ON THE DRAWINGS SHALL BE APPLIED IN ALL CASES WHERE THE FEATURE OCCURS IN THE SYSTEM DESIGN.
  - ALL DUCTWORK SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS IN INCHES. REFER TO SPECIFICATIONS FOR DUCT INSULATION REQUIREMENTS.
  - MAJOR EQUIPMENT SHOWN ON THE PLANS AND ELEVATIONS ILLUSTRATE THE GENERAL ARRANGEMENT AND SPACE ALLOCATIONS. THE CONTRACTOR SHALL VERIFY THE SPACE REQUIREMENTS FOR EACH SYSTEM COMPONENT USING MANUFACTURER CERTIFIED SHOP DRAWINGS AND MAKE THE NECESSARY ADJUSTMENTS IN EQUIPMENT PLACEMENT AND CONNECTION IN ORDER TO ACCOMMODATE THE EXACT EQUIPMENT TO BE INSTALLED.
  - DRAWINGS ARE SCHEMATIC IN NATURE AND SHALL NOT BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT ROUTING OF ALL SERVICES WITH EXISTING CONDITIONS AND WITH ALL OTHER TRADES. REFER TO SPECIFICATIONS FOR COORDINATION DRAWING REQUIREMENTS.
  - SUPPORTS, ANCHOR BOLTS, AND HANGERS FOR ALL EQUIPMENT SPECIFIED IN DIVISION 23 SHALL CONFORM TO THE SPECIFICATIONS. MISCELLANEOUS STEEL BRACING SUPPORTS AND REINFORCING STEEL NEEDED TO SUPPORT EQUIPMENT SPECIFIED IN DIVISION 23 SHALL BE PART OF THE SCOPE OF WORK OF DIVISION 23.
  - WHERE PIPES OR DUCTS ARE TO PASS THROUGH WALLS, DUCT SLEEVES SHALL BE PROVIDED PRIOR TO WALL CONSTRUCTION. SLEEVE SHALL BE OF EQUAL OR GREATER GAUGE METAL THAN PIPES PASSING THROUGH.
  - DIFFUSERS, REGISTERS, AND GRILLES SHOWN ON THE MECHANICAL DRAWINGS SHALL BE IN ACCORDANCE WITH THE AIR DISTRIBUTION DEVICE SCHEDULE AND SPECIFICATIONS. BRANCH DUCTS TO AIR DEVICES SHALL BE IN ACCORDANCE WITH THE SCHEDULE UNLESS NOTED OTHERWISE.
  - FIRE DAMPERS SHALL BE INSTALLED IN DUCTWORK PENETRATIONS THROUGH RATED PARTITIONS, WALLS, BARRIERS, FLOORS, AND SHAFTS IN ACCORDANCE WITH THE PROJECT APPLICABLE BUILDING CODES. DAMPERS SHALL MEET THE REQUIREMENTS OF THE FIRE RATING AND BE "UL" LABELED. REFER TO ARCHITECTURAL DRAWINGS FOR THE LOCATIONS AND RATINGS OF ALL WALLS AND FLOORS.
  - PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE SLEEVED, SEALED AND PRESERVED TO MAINTAIN THE INTEGRITY OF THE WALL AND FLOOR UL FIRE RESISTANCE RATING.
  - DUCTWORK STORED ON-SITE AWAITING INSTALLATION SHALL REMAIN PROPERLY SEALED AND PROTECTED. OPEN ENDS OF DUCTWORK SHALL BE CAPPED AND SEALED AFTER INSTALLATION.
  - CEILING DIFFUSER LOCATIONS SHALL BE AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS.
  - CEILING DIFFUSERS, REGISTERS AND GRILLES SHALL BE FURNISHED WITH MOUNTING FRAMES AND FEATURES IN ACCORDANCE WITH THE CEILING TYPE.
  - PROVIDE MANUAL BALANCING/VOLUME DAMPERS AT ALL LOW PRESSURE BRANCH TAKE-OFFS TO DIFFUSERS AND GRILLES FROM SUPPLY, RETURN AND EXHAUST MAINS AND SUB-MAINS, AND AT ALL LOW PRESSURE DUCT SPLITS OR SUB-MAIN TAKE-OFFS. DAMPERS SHALL BE INSTALLED ABOVE AN ACCESSIBLE CEILING OR ACCESS PANEL.
  - MAINTAIN ACCESSIBILITY OF ALL EQUIPMENT, DAMPERS, CONTROL PANELS, VALVES, AND OTHER DEVICES. PROVIDE ACCESS PANELS AS REQUIRED, COORDINATE PLACEMENT WITH THE ARCHITECT PRIOR TO INSTALLATION.
  - CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT PRIOR TO CUTTING ANY OPENING IN THE STRUCTURE.
  - SEISMIC RESTRAINT IS REQUIRED ON ALL MECHANICAL EQUIPMENT, APPLIANCES AND SYSTEMS INSTALLED. A SIGNED AND SEALED LETTER FROM THE DESIGNING ENGINEER VERIFYING THE INSTALLED SEISMIC RESTRAINTS MEET WITH THEIR DESIGN INTENT AND HAS THEIR APPROVAL MUST BE SUBMITTED PRIOR TO CONCEALMENT OF ANY PORTION OF A MECHANICAL SYSTEM OR THE FINAL INSPECTION.
  - ANY CONTRACTOR WHO DESIRES TO INSTALL, ENLARGE, ALTER, REPAIR, MOVE OR REPLACE ANY MECHANICAL SYSTEM, THE INSTALLATION OF WHICH IS REGULATED BY THIS CODE, SHALL FIRST MAKE APPLICATION AND OBTAIN THE REQUIRED PERMIT FOR THE WORK PER LOCAL CODE. ALL MECHANICAL IS SUBJECT TO THE FIELD INSPECTOR'S APPROVAL.
  - ALL MECHANICAL EQUIPMENT AND APPLIANCES SHALL BE ACCESSIBLE AS REQUIRED BY IMC 306 AND IFGC 306.
  - PROVIDE WATER LEVEL DETECTION DEVICES COMPLIANT WITH IMC 307.2.3.1.

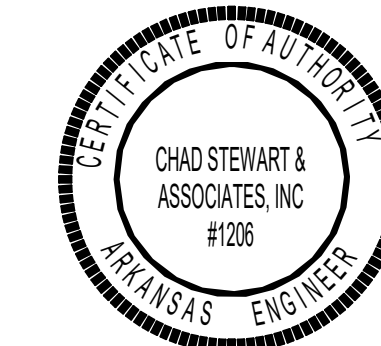
### ASHRAE CLIMATE ZONE

PROJECT CLIMATE ZONE:	ASHRAE ZONE 3A
0.4% SUMMER DESIGN COOLING:	Tdb = 96.2°F, Twb = 77.6°F
96.6% WINTER DESIGN HEATING:	Tdb = 16.8°F
1% DEHUMIDIFICATION:	Tdb = 85.2°F, Twb = 78.6°F

- ### BID DRAWINGS
- THESE DRAWINGS ARE FOR BIDDING PURPOSES ONLY. THESE ARE NOT CONSTRUCTION DRAWINGS.
  - REVISIONS DUE TO COMMENTS RECEIVED FROM STATE REVIEW AGENCIES, OWNER PROVIDED EQUIPMENT, AND COORDINATION BETWEEN ALL TRADES WILL BE INCORPORATED INTO THE FINAL CONSTRUCTION DRAWINGS SET.
  - PROVIDE CEILING MOUNTED AIR DISTRIBUTION GRILLES IN ALL CONDITIONED AREAS WHERE CEILINGS ARE PROVIDED. EXTEND FLEXIBLE DUCTWORK TO GRILLES FROM SUPPLY AND RETURN MAIN.
  - DUCTWORK IN EXPOSED AREAS SHALL BE PAINTED PER ARCHITECTURAL SPECIFICATIONS. ROUND EXPOSED DUCT SHALL BE DUAL WALL SPIRAL TYPE DUCT WITH RADIUS FRAME SUPPLY GRILLES. RECTANGULAR DUCT SHALL BE INTERNALLY LINED WITH MIN. 1" THICK ACOUSTICAL LINER.
  - PROVIDE ALL NECESSARY UTILITIES, ACCESSORIES AND APPURTENANCES REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM AT ALL OWNER FURNISHED EQUIPMENT. COORDINATE REQUIREMENTS WITH ACTUAL EQUIPMENT TO BE INSTALLED.

### MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	RECTANGULAR SUPPLY DUCT - UP / DOWN
	RECTANGULAR RETURN DUCT - UP / DOWN
	RECTANGULAR EXHAUST DUCT - UP / DOWN
	ROUND SUPPLY DUCT - UP / DOWN
	ROUND RETURN DUCT - UP / DOWN
	ROUND EXHAUST DUCT - UP / DOWN
	FLEXIBLE DUCTWORK
	TRANSITION
	SQUARE THROAT ELBOW WITH TURNING VANES
	RISE/DROP IN ELEVATION
	RADIUS ELBOW
	BRANCH DUCT CONNECTION RECTANGULAR OR ROUND BRANCH: RECTANGULAR TRUNK, MVD REQUIRED TO AIR DEVICES
	BRANCH DUCT CONNECTION CONICAL TEE AND TAP ROUND TRUNK
	MANUAL VOLUME DAMPER
	MOTORIZED DAMPER
	DUCT SMOKE DETECTOR
	DUCT-MOUNTED SENSOR
	FIRE DAMPER (HORIZONTAL DUCT)
	SMOKE DAMPER (HORIZONTAL DUCT)
	FIRE/SMOKE DAMPER (HORIZONTAL DUCT)
	FIRE DAMPER (VERTICAL DUCT)
	SMOKE DAMPER (VERTICAL DUCT)
	FIRE/SMOKE DAMPER (VERTICAL DUCT)
	SUPPLY DIFFUSER AND AIR QUANTITY. BLANK OUTS INDICATE NO THROW IN THIS DIRECTION. (SX DENOTES TYPE)
	RETURN GRILLE AND AIR QUANTITY (X DENOTES TYPE)
	EXHAUST GRILLE AND AIR QUANTITY (X DENOTES TYPE)
	AIR FLOW RATE AT DOOR UNDERCUT
	REFER TO KEYNOTE #MX
	POINT OF CONNECTION
	POINT OF DEMOLITION
WALL MOUNTED CONTROL DEVICES	
	THERMOSTAT OR TEMP SENSOR
	HUMIDISTAT OR HUMIDITY SENSOR
	PRESSURE MONITOR
	CARBON MONOXIDE SENSOR
	MULTI-POINT MONITOR
HYDRONIC PIPING SYMBOLS	
	PRESSURE GAUGE
	THERMOSTAT
	BALL VALVE OR GATE VALVE
	CHECK VALVE
	BACKFLOW PREVENTER
	GLOBE VALVE
	THREE WAY VALVE
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	HYDRONIC PUMP
NOT ALL SYMBOLS MAY BE USED	



**SHEET TITLE**  
GENERAL NOTES AND LEGEND

**DATE**  
17.10.24

**SHEET NUMBER**  
M001

# GENERAL LIFE SAFETY NOTES

- WALL RATINGS**
- UL DESIGN NUMBERS - U489, U605 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)
  - 2 HR FIRE WALL (BUILDING SEPARATION WALL)
  - UL DESIGN NUMBERS - U497, U605, U616
  - SMOKE PARTITION

# MECHANICAL DEMOLITION NOTES

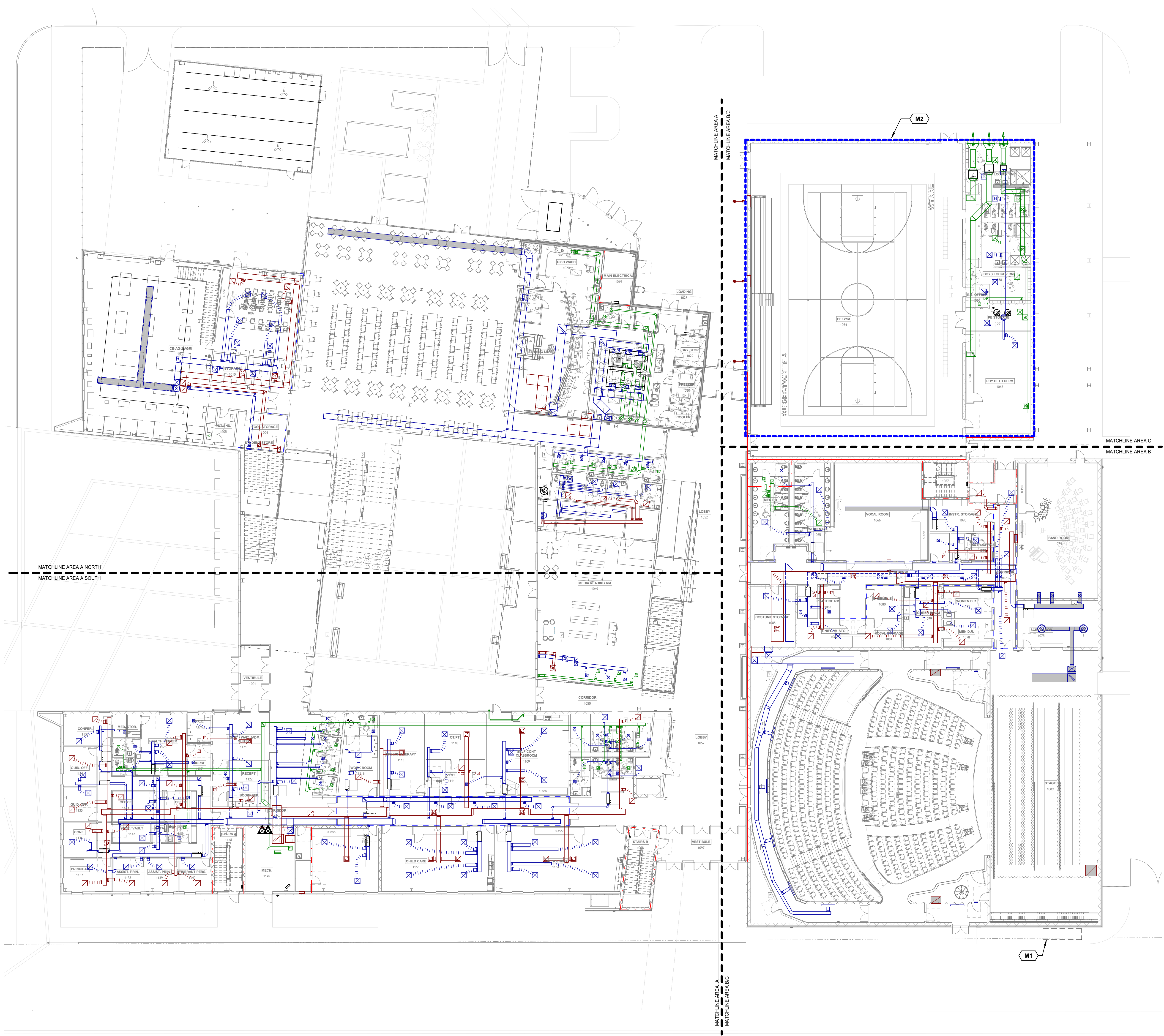
- THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS OF THE MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEMS PRIOR TO SUBMITTING A BID AND BEFORE BEGINNING WORK. BRING ANY DISCREPANCIES FROM THE DRAWINGS AND NOTES TO THE ARCHITECT IMMEDIATELY. MINOR CHANGES IN THE SCOPE OF DEMOLITION WORK SHALL NOT JUSTIFY AN ADDITIONAL COST.
- ALL EXISTING MECHANICAL EQUIPMENT, PIPING, DUCTWORK, ETC. IS TO BE DEMOLISHED THROUGHOUT THE EXISTING BUILDING.
- REMOVAL OF EXISTING FIXTURES, PIPING, AND EQUIPMENT WILL REQUIRE ISOLATING THE PIPING RISERS OR MAINS VIA SHUT-OFF VALVES. PROVIDE NEW ISOLATION VALVES AS REQUIRED FOR COMPLETION OF WORK.
- REMOVAL OF EXISTING PLUMBING FIXTURES, PIPING, AND EQUIPMENT WILL REQUIRE CAPPING AND CEILING EXISTING MAINS OR BRANCHES AS NECESSARY AND REQUIRED TO ALLOW THE REMAINING SYSTEMS TO FULLY OPERATE WITHOUT DEGRADATION.
- THE CONTRACTOR SHALL PROVIDE THE REMOVAL OF ALL EXISTING CEILINGS, WALLS, AND SLABS AS REQUIRED FOR THE DEMOLITION WORK. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED TO CREATE A SAFE ENVIRONMENT FOR CONSTRUCTION.
- EXISTING PIPING, DUCTWORK, WIRING, CONDUIT, ETC. THAT IS NOT UTILIZED IN THE COMPLETED BUILDING SHALL BE DISCONTINUED OR REMOVED. ALL ENDS OF DISCONTINUED PIPING, CONDUIT, AND DUCTWORK SHALL BE CAPPED AT THE NEAR WALL-CEILING, OR FLOOR SO THAT THEY ARE COMPLETELY CONCEALED. OPENINGS LEFT IN WALLS, CEILINGS, FLOORS, ETC., WHERE EQUIPMENT, CONDUIT, PIPING, ETC. ARE REMOVED AND NOT REPLACED SHALL BE PATCHED TO MATCH THE MATERIAL TO ADJACENT CONSTRUCTION.
- EXISTING PIPING, WIRING, CONDUIT, DUCTWORK, AND EQUIPMENT THAT IS NOT TO BE REUSED SHALL BE REMOVED IN ITS ENTIRETY AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS.
- ALL CUTTING OF EXISTING BUILDING COMPONENTS SHALL BE ACCOMPLISHED IN A NEAT AND WORKMANLIKE MANNER WITHOUT THE REMOVAL OF EXCESS MATERIALS IN A SAFE MANNER. THE CONTRACTOR SHALL PATCH AND REPLACE REMOVED MATERIAL WITH MATERIAL SIMILAR TO ADJACENT CONSTRUCTION.
- WHERE EXISTING PIPING, DUCTWORK, CONDUIT, AND EQUIPMENT ARE TO BE UTILIZED IN THE COMPLETED WORK AND IN CONFLICT WITH THE NEW CONSTRUCTION, THE COMPONENTS SHALL BE RELOCATED AND RECONNECTED TO MAINTAIN THE DESIRED SERVICES.
- PORTIONS OF THE EXISTING SYSTEMS MAY OR MAY NOT BE SHOWN EVEN THOUGH IT MAY BE NECESSARY TO MODIFY THEM. THE CONTRACTOR IS TO VERIFY ALL EXISTING CONDITIONS.
- ALL ACCESSIBLE ABANDONED PIPING, CONDUIT, DUCTWORK, AND EQUIPMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF.

# ICC 500 SHELTER - DESIGN NOTES

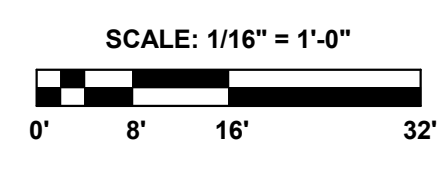
- STORM SHELTER SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE 2020 ICC 500 STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS.
- DESIGN OCCUPANCY OF THE TORNADO SHELTER IS BASED ON 2,009 OCCUPANTS.
- MECHANICAL VENTILATION FOR THE STORM SHELTER SHALL BE PROVIDED IN ACCORDANCE WITH 2020 ICC 500 SECTION 702.4.2.
- PROVIDE A MINIMUM VENTILATION RATE OF 5 CFM PER OCCUPANT FOR THE DESIGN OCCUPANT LOAD.
- OUTSIDE AIR INTAKE OPENINGS SHALL BE SEPARATED A MINIMUM OF 10-FOOT HORIZONTALLY FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT.
- AIR EXHAUST OR INTAKE OPENINGS THAT TERMINATE OUTSIDE OF OCCUPIED STORM SHELTER AREAS AND OCCUPANT SUPPORT AREAS SHALL BE CONSIDERED OPENINGS AND SHALL BE PROTECTED IN ACCORDANCE WITH 2020 ICC 500 SECTION 306.4. VENTILATION OPENINGS THAT PENETRATE THE STORM SHELTER ENVELOPE BETWEEN THE HOST BUILDING AND STORM SHELTER SHALL ALSO COMPLY WITH THE PROVISIONS OF SECTION 603.
- THE MECHANICAL VENTILATION SYSTEM SHALL BE CONNECTED TO A STANDBY POWER SYSTEM. THE STANDBY POWER SYSTEM SHALL HAVE ADEQUATE CAPACITY AND RATING TO SUPPLY ALL REQUIRED SYSTEMS AND CIRCUITS FOR STANDBY LIGHTING AND ALL MECHANICAL VENTILATION SYSTEMS INTENDED TO BE OPERATED AT ONE TIME. THE STANDBY POWER SYSTEM SHALL BE DESIGNED TO PROVIDE CONTINUOUSLY THE REQUIRED OUTPUT FOR A MINIMUM OF TWO (2) HOURS.
- PENETRATIONS THROUGH THE STORM SHELTER ENVELOPE OF MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS INCLUDING PIPING AND UTILITY LINES, LARGER THAN 3-1/2 SQUARE INCHES (RECTANGULAR) OR 2-1/2 INCHES (CIRCULAR) SHALL BE CONSIDERED OPENINGS AND SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 306.4. PENETRATIONS OF THE STORM SHELTER ENVELOPE SHALL NOT DEGRADE THE STRUCTURAL INTEGRITY OR IMPACT RESISTANCE OF THE STORM SHELTER ENVELOPE.
- PENETRATIONS OF THE STORM SHELTER ENVELOPE BY HAZARDOUS GAS OR LIQUID LINES SHALL HAVE AUTOMATIC SHUT-OFFS TO PROTECT AGAINST LEAKAGE DUE TO MOVEMENT OF THE UTILITY LINE.

# MECHANICAL KEYNOTES

- M1 PROVIDE NATURAL GAS SERVICE TO BUILDING. SIZED FOR 10,250 CFH.
- M2 BLUE DASHED LINE INDICATES BOUNDARY OF ICC 500 STORM SHELTER AREA. PROVIDE VENTILATION SYSTEM IN ACCORDANCE WITH 2020 ICC 500.



**1 FIRST FLOOR PLAN - MECHANICAL**  
1/16" = 1'-0"



**ARCH 1010**  
676 Marshall Ave., Suite 101  
Memphis, TN 38103  
901-497-6663  
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**POLK STANLEY WILCOX**  
801 South Spring Street  
Little Rock, AR 72201  
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**CONSULTANT / SEAL**  
STATE OF ARKANSAS  
REGISTERED PROFESSIONAL ENGINEER  
No. 15519 10/17/2024  
GARY E. WHITTEN

**PROJECT NAME**  
WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**  
800 E JACKSON AVE  
WYNNE AR 72396

**PROJECT NUMBER**  
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**DEVELOPER/OWNER**  
WYNNE SCHOOL DISTRICT

**INFORMATION**

**SHEET TITLE**  
FIRST FLOOR PLAN - MECHANICAL

**DATE**  
17.10.24

**SHEET NUMBER**  
M101

**REGISTERED PROFESSIONAL ENGINEER**  
CHAD STEWART & ASSOCIATES, INC.  
#126  
ARKANSAS ENGINEER

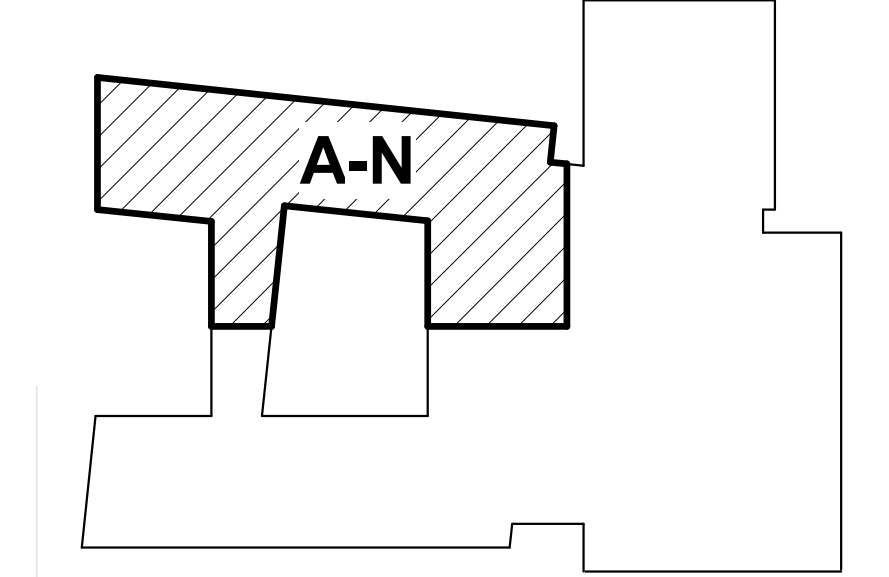
**MECHANICAL KEYNOTES**

- M3 SHADED DUCT TO BE EXPOSED, DUAL WALL, SPIRAL TYPE DUCT. EXPOSED DUCT SHALL BE PAINTED PER ARCHITECT SPECIFIED FINISHES.
- M5 24 VAC FEMA VENTILATION MANUAL ACTIVATION DEVICE EQUAL TO AMERICAN GAS SAFETY MODEL #AGS-EPO-KL WITH CLEAR FLIP COVER, RED BUTTON, KEY RESET SWITCH, BLUE HOUSING, AND CUSTOM LABEL. ALL KEY RESET SWITCHES SHALL BE KEYPED ALIKE. CUSTOM LABEL SHALL READ "SHELTER VENTILATION". MOUNT PER ADA GUIDELINES AND ARCHITECTURAL DRAWINGS.
- M7 PROVIDE 120VAC MOTORIZED DAMPER AND END SWITCH INTERLOCKED WITH SHELTER EXHAUST FANS. DAMPER SHALL BE FULLY OPEN WHEN EF IS IN OPERATION.

**GENERAL LIFE SAFETY NOTES**

- WALL RATINGS**
- 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)
  - 2 HR FIRE WALL (BUILDING SEPARATION WALLS)
  - SMOKE PARTITION

**KEYPLAN**



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**POLK  
STANLEY  
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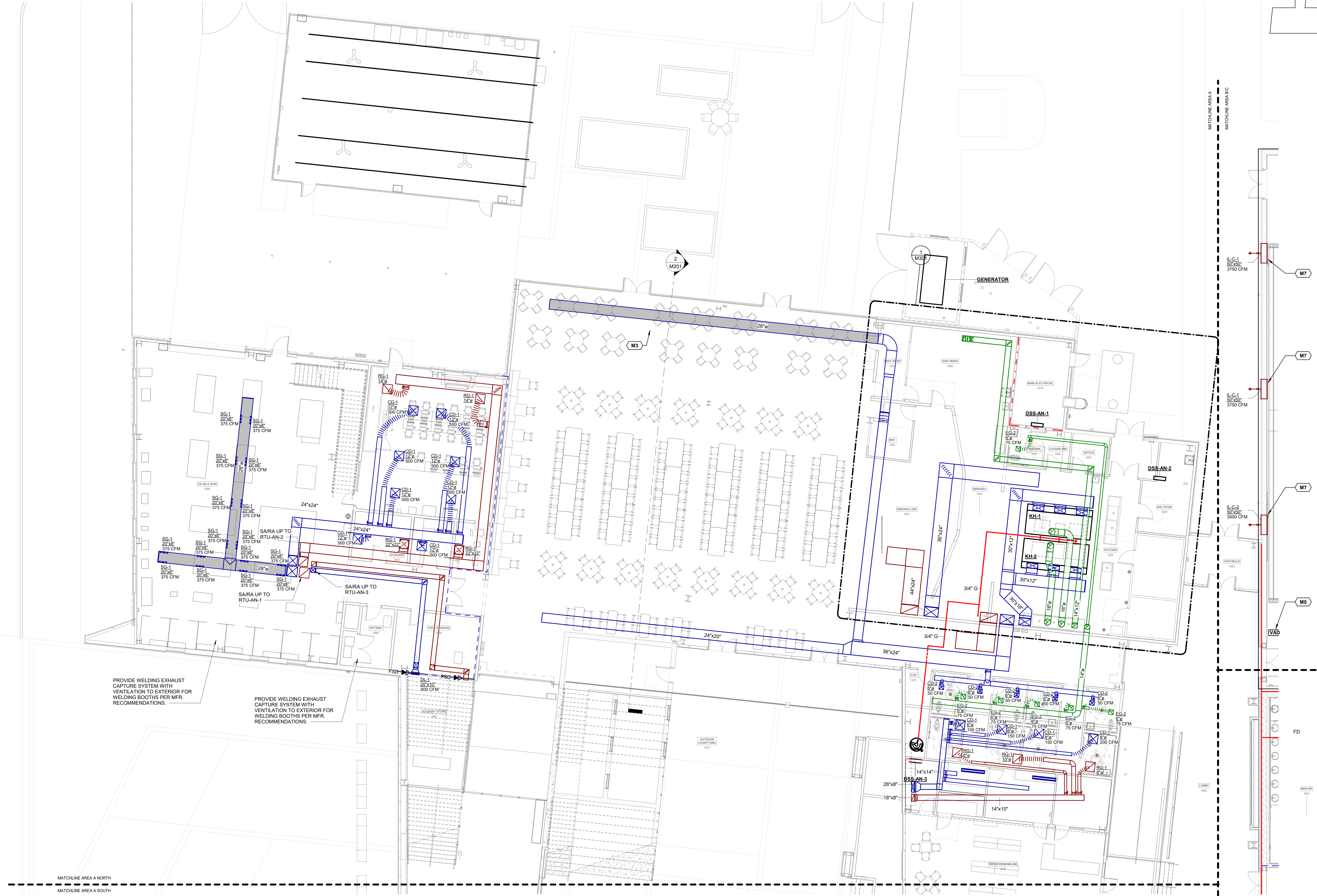
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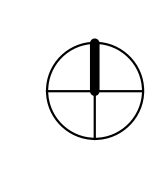


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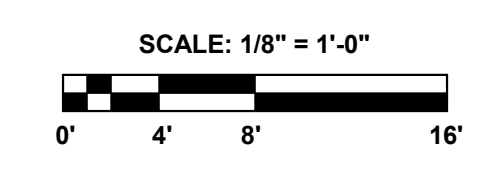


PROVIDE WELDING EXHAUST CAPTURE SYSTEM WITH VENTILATION TO EXTERIOR FOR WELDING BOOTHS PER MFR. RECOMMENDATIONS.

PROVIDE WELDING EXHAUST CAPTURE SYSTEM WITH VENTILATION TO EXTERIOR FOR WELDING BOOTHS PER MFR. RECOMMENDATIONS.



**1 FIRST FLOOR PLAN - AREA A NORTH - MECHANICAL**  
1/8" = 1'-0"

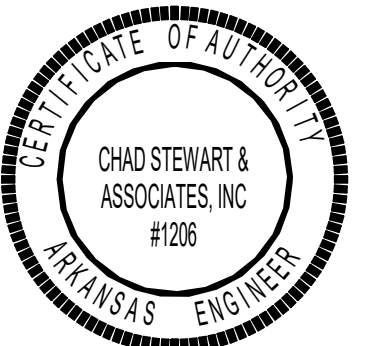


**CSA** PRODUCT NO. 24122  
Chad Stewart & Associates, Inc.  
8720 Village Circle  
Phone 901-260-7850 CSAengineeringinc.com

**SHEET TITLE**  
FIRST FLOOR PLAN - AREA A NORTH - MECHANICAL

**DATE**  
17.10.24

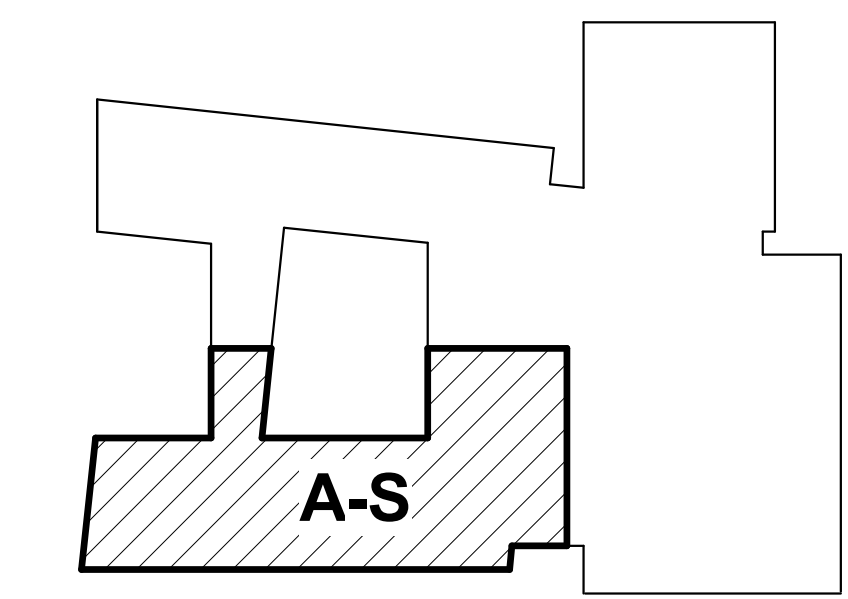
**SHEET NUMBER**  
M101.1



**GENERAL LIFE SAFETY NOTES**

- WALL RATINGS**
- 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)
  - UL DESIGN NUMBERS - U485, U995
  - 2 HR FIRE WALL (BUILDING SEPARATION WALLS)
  - UL DESIGN NUMBERS - U497, U905, U916
  - SMOKE PARTITION

**KEYPLAN**



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**PROJECT NAME**  
 WSD - NEW SENIOR HIGH SCHOOL

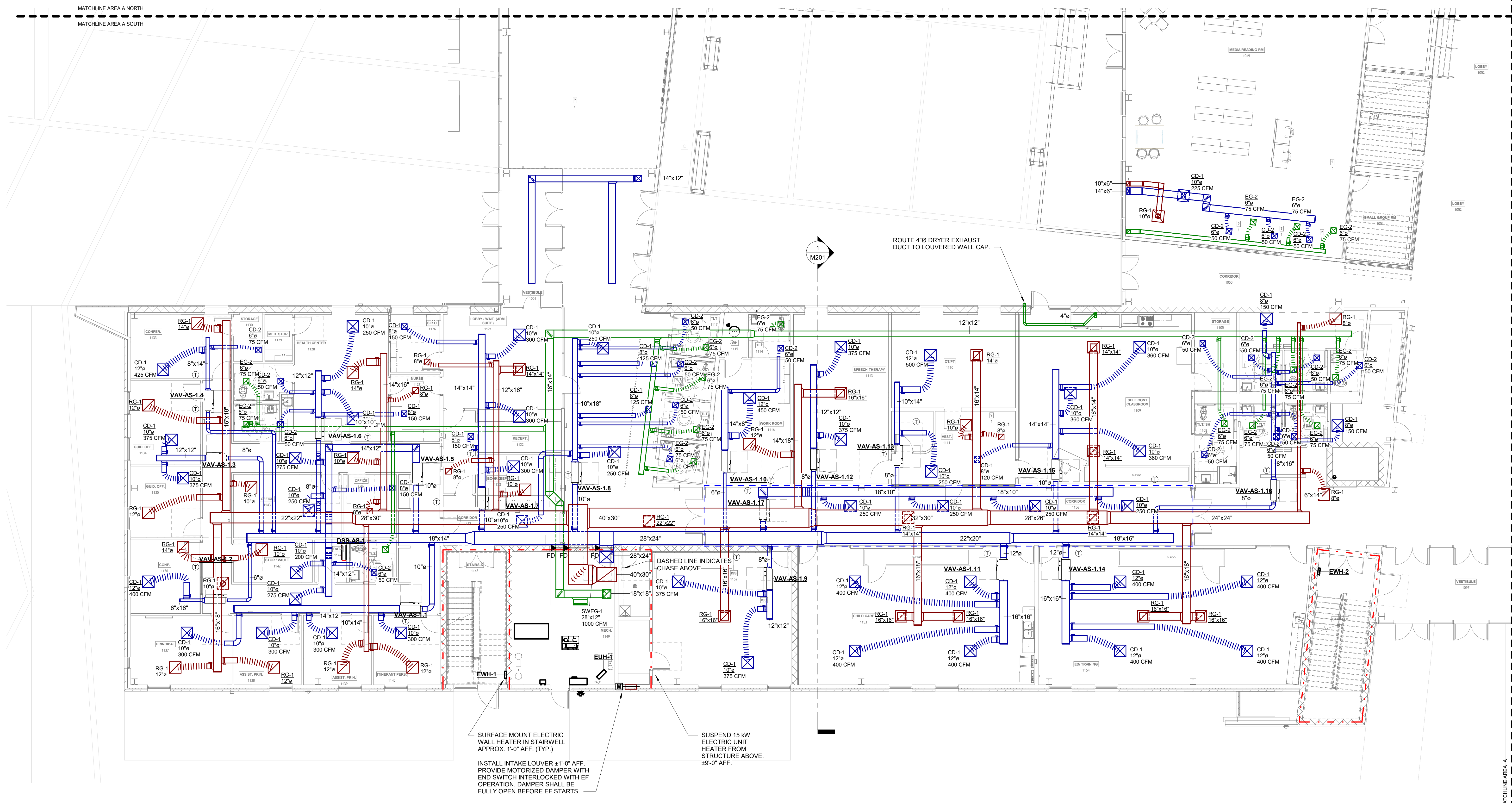
**LOCATION**  
 800 E JACKSON AVE  
 WYNNE AR 72396

**PROJECT NUMBER**  
 -

**DEVELOPER/OWNER**  
 WYNNE SCHOOL DISTRICT



Revision Description Date



**1 FIRST FLOOR PLAN - AREA A SOUTH - MECHANICAL**  
 1/8" = 1'-0"

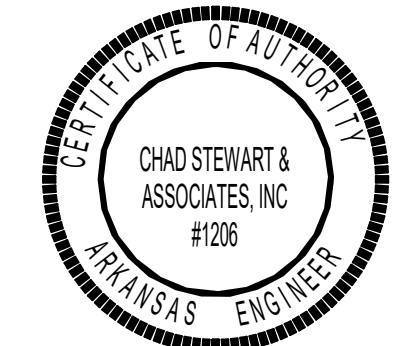
SCALE: 1/8" = 1'-0"  
 0' 4' 8' 16'

SURFACE MOUNT ELECTRIC WALL HEATER IN STAIRWELL APPROX. 1'-0" AFF. (TYP.)

SUSPEND 15 KW ELECTRIC UNIT HEATER FROM STRUCTURE ABOVE. ±9'-0" AFF.

DASHED LINE INDICATES CHASE ABOVE

INSTALL INTAKE LOUVER ±1'-0" AFF. PROVIDE MOTORIZED DAMPER WITH END SWITCH INTERLOCKED WITH EF OPERATION. DAMPER SHALL BE FULLY OPEN BEFORE EF STARTS.



**SHEET TITLE**  
 FIRST FLOOR PLAN - AREA A SOUTH - MECHANICAL

**DATE**  
 17.10.24

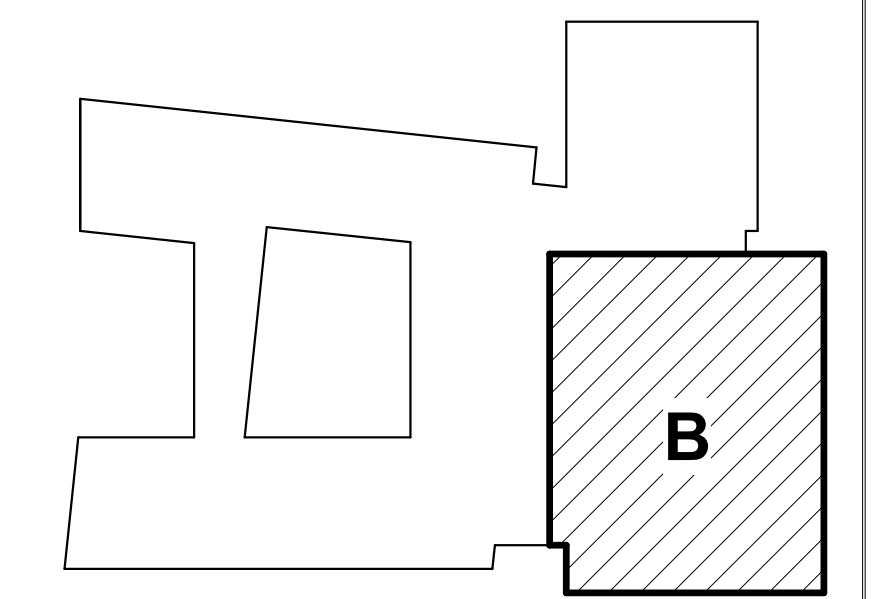
**SHEET NUMBER**

**M101.2**

**GENERAL LIFE SAFETY NOTES**

- WALL RATINGS**
- UL DESIGN NUMBERS - U485, U915
  - UL DESIGN NUMBERS - U487, U915, U916
  - UL DESIGN NUMBERS - U487, U915, U916
  - SMOKE PARTITION

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**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
WYNNE AR 72396

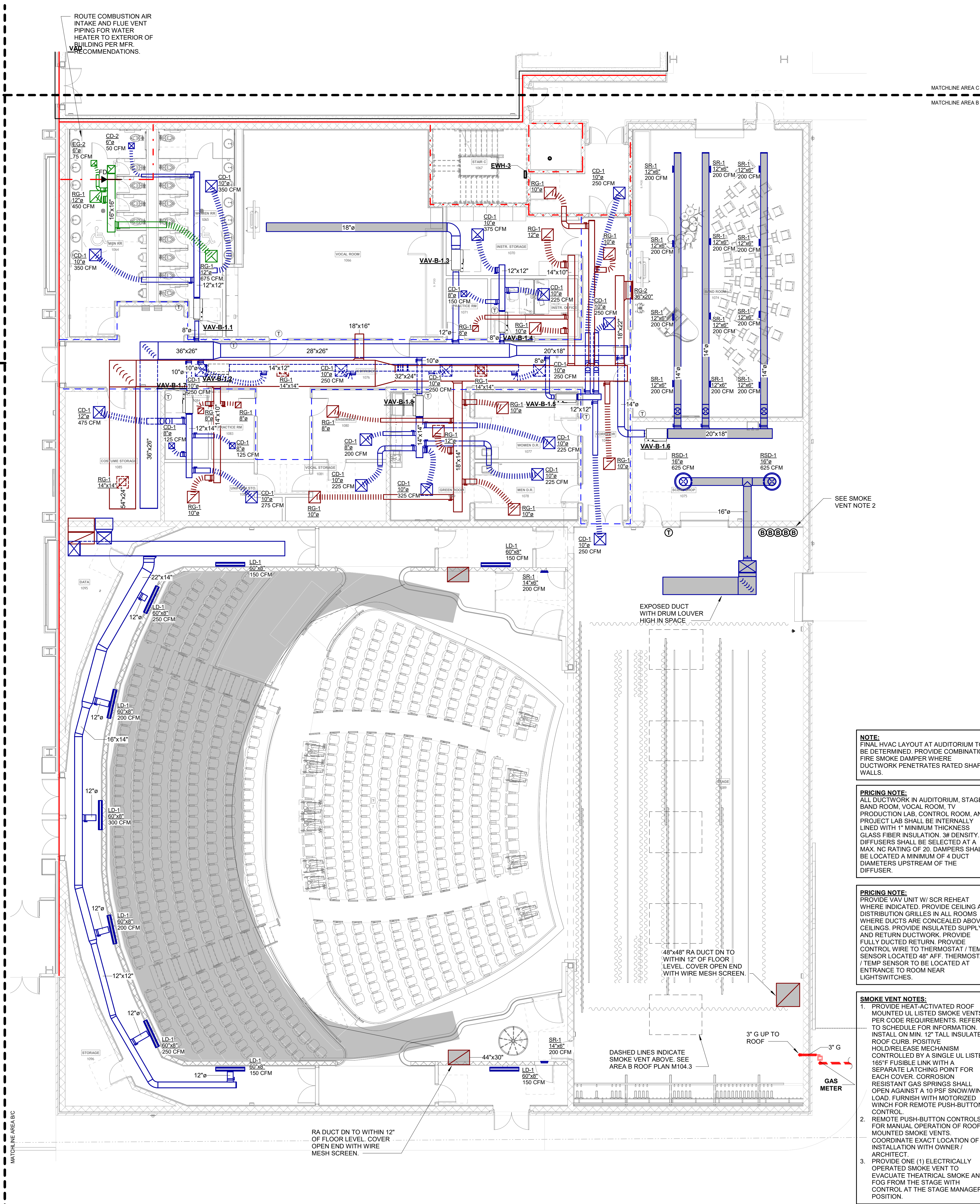
**PROJECT NUMBER**

-

**DEVELOPER/OWNER**

WYNNE SCHOOL DISTRICT

**INFORMATION**



**NOTE:**  
FINAL HVAC LAYOUT AT AUDITORIUM TO BE DETERMINED. PROVIDE COMBINATION FIRE SMOKE DAMPER WHERE DUCTWORK PENETRATES RATED SHAFT WALLS.

**PRICING NOTE:**  
ALL DUCTWORK IN AUDITORIUM, STAGE, BAND ROOM, VOCAL ROOM, TV PRODUCTION LAB, CONTROL ROOM, AND PROJECT LAB SHALL BE INTERNALLY LINED WITH 1" MINIMUM THICKNESS GLASS FIBER INSULATION. 3# DENSITY. DIFFUSERS SHALL BE SELECTED AT A MAX. NC RATING OF 20. DAMPERS SHALL BE LOCATED A MINIMUM OF 4 DUCT DIAMETERS UPSTREAM OF THE DIFFUSER.

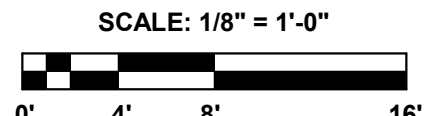
**PRICING NOTE:**  
PROVIDE VAV UNIT W/ SCR REHEAT WHERE INDICATED. PROVIDE CEILING AIR DISTRIBUTION GRILLES IN ALL ROOMS WHERE DUCTS ARE CONCEALED ABOVE CEILING. PROVIDE INSULATED SUPPLY AND RETURN DUCTWORK. PROVIDE FULLY DUCTED RETURN. PROVIDE CONTROL WIRE TO THERMOSTAT /TEMP SENSOR LOCATED 48" AFF. THERMOSTAT /TEMP SENSOR TO BE LOCATED AT ENTRANCE TO ROOM NEAR LIGHTSWITCHES.

**SMOKE VENT NOTES:**

1. PROVIDE HEAT-ACTIVATED ROOF MOUNTED UL LISTED SMOKE VENTS PER CODE REQUIREMENTS. REFER TO SCHEDULE FOR INFORMATION. INSTALL ON MIN. 12" TALL INSULATED ROOF CURB. POSITIVE HOLD/RELEASE MECHANISM CONTROLLED BY A SINGLE UL LISTED 165' FUSIBLE LINK WITH A SEPARATE LATCHING POINT FOR EACH COVER. CORROSION RESISTANT GAS SPRINGS SHALL OPEN AGAINST A 10 PSF SNOW/WIND LOAD. FURNISH WITH MOTORIZED WINCH FOR REMOTE PUSH-BUTTON CONTROL.
2. REMOTE PUSH-BUTTON CONTROLS FOR MANUAL OPERATION OF ROOF MOUNTED SMOKE VENTS. COORDINATE EXACT LOCATION OF INSTALLATION WITH OWNER / ARCHITECT.
3. PROVIDE ONE (1) ELECTRICALLY OPERATED SMOKE VENT TO EVACUATE THEATRICAL SMOKE AND FOG FROM THE STAGE WITH CONTROL AT THE STAGE MANAGER'S POSITION.

**1 FIRST FLOOR PLAN - AREA B - MECHANICAL**

1/8" = 1'-0"



**SHEET TITLE**

FIRST FLOOR PLAN - AREA B - MECHANICAL

**DATE**

17.10.24

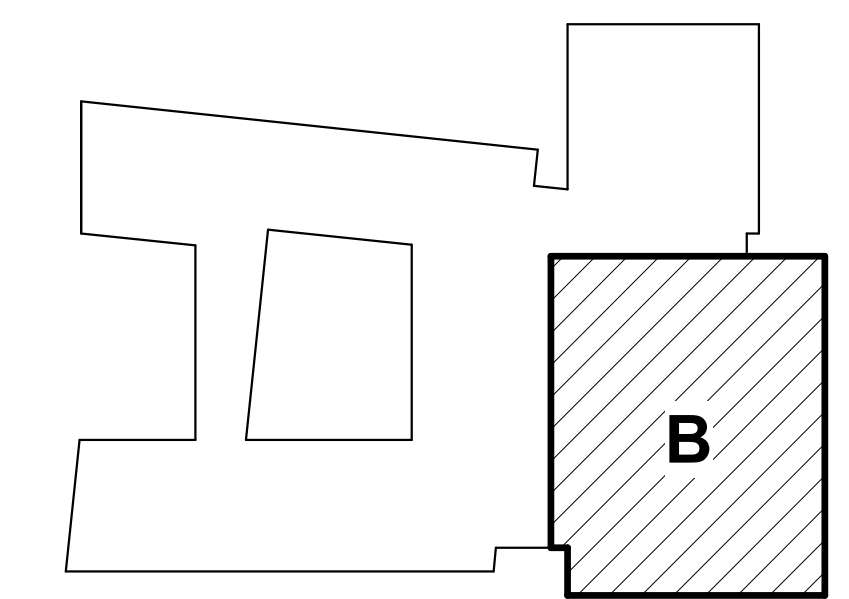
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M101.3

**GENERAL LIFE SAFETY NOTES**

- WALL RATINGS**
- 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)
  - UL DESIGN NUMBERS - U485, U995
  - 2 HR FIRE WALL (BUILDING SEPARATION WALLS)
  - UL DESIGN NUMBERS - U497, U905, U916
  - SMOKE PARTITION

**KEYPLAN**



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**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
WYNNE AR 72396

**PROJECT NUMBER**

-

**DEVELOPER/OWNER**

WYNNE SCHOOL DISTRICT

**INFORMATION**



Revision Description Date

**ICC 500 SHELTER - DESIGN NOTES**

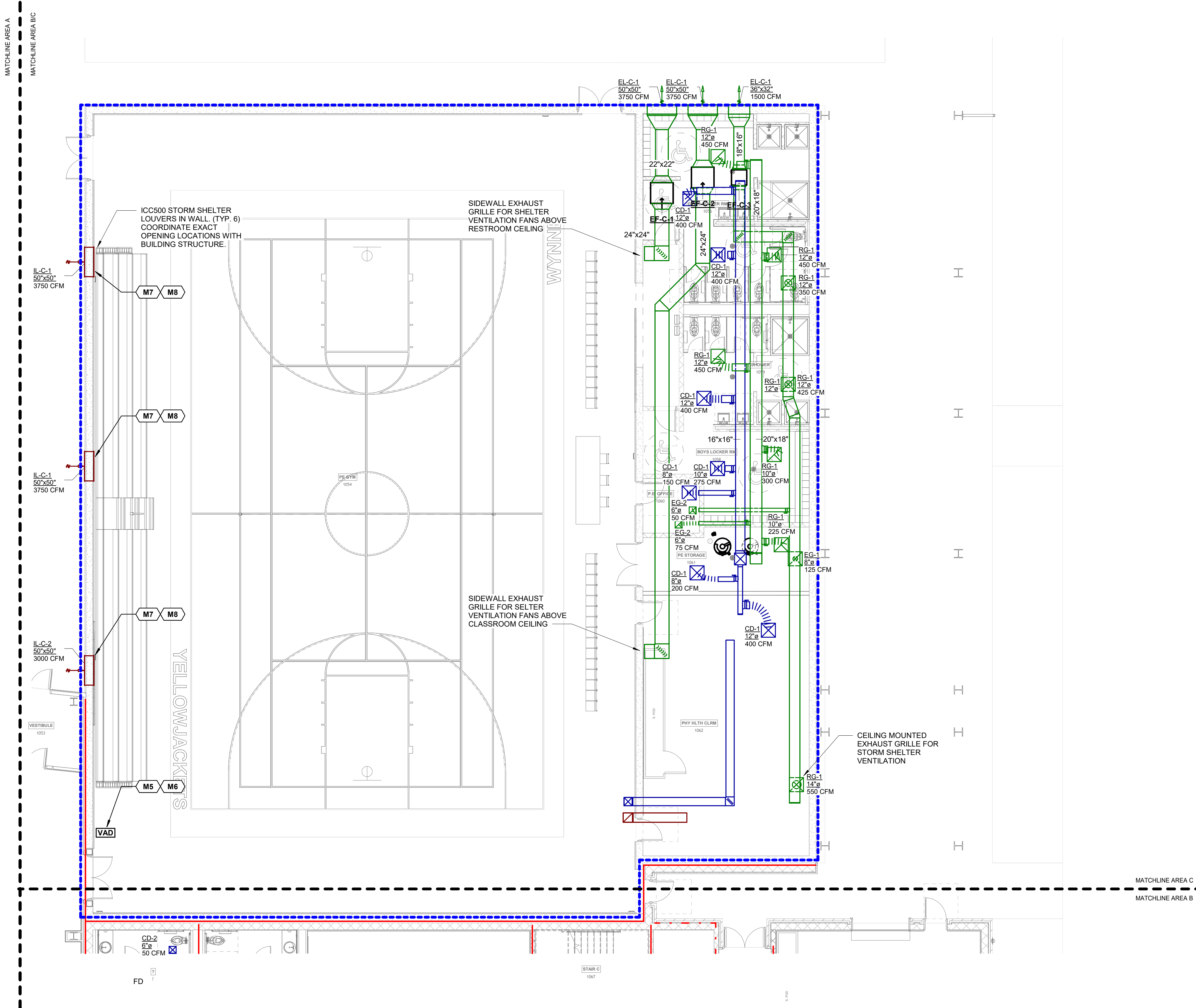
- STORM SHELTER SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE 2020 ICC 500 STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS.
- DESIGN OCCUPANCY OF THE TORNADO SHELTER IS BASED ON 2,009 OCCUPANTS.
- MECHANICAL VENTILATION FOR THE STORM SHELTER SHALL BE PROVIDED IN ACCORDANCE WITH 2020 ICC 500 SECTION 702.4.2.
- PROVIDE A MINIMUM VENTILATION RATE OF 5 CFM PER OCCUPANT FOR THE DESIGN OCCUPANT LOAD.
- OUTSIDE AIR INTAKE OPENINGS SHALL BE SEPARATED A MINIMUM OF 10- FEET HORIZONTALLY FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT.
- AIR EXHAUST OR INTAKE OPENINGS THAT TERMINATE OUTSIDE OF OCCUPIED STORM SHELTER AREAS AND OCCUPANT SUPPORT AREAS SHALL BE CONSIDERED OPENINGS AND SHALL BE PROTECTED IN ACCORDANCE WITH 2020 ICC 500 SECTION 306.4. VENTILATION OPENINGS THAT PENETRATE THE STORM SHELTER ENVELOPE BETWEEN THE HOST BUILDING AND STORM SHELTER SHALL ALSO COMPLY WITH THE PROVISIONS OF SECTION 603.
- THE MECHANICAL VENTILATION SYSTEM SHALL BE CONNECTED TO A STANDBY POWER SYSTEM. THE STANDBY POWER SYSTEM SHALL HAVE ADEQUATE CAPACITY AND RATING TO SUPPLY ALL REQUIRED SYSTEMS AND CIRCUITS FOR STANDBY LIGHTING AND ALL MECHANICAL VENTILATION SYSTEMS INTENDED TO BE OPERATED AT ONE TIME. THE STANDBY POWER SYSTEM SHALL BE DESIGNED TO PROVIDE CONTINUOUSLY THE REQUIRED OUTPUT FOR A MINIMUM OF TWO (2) HOURS.
- PENETRATIONS THROUGH THE STORM SHELTER ENVELOPE OF MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS INCLUDING PIPING AND UTILITY LINES, LARGER THAN 3-1/2 SQUARE INCHES (RECTANGULAR) OR 2-1/2 INCHES (CIRCULAR) SHALL BE CONSIDERED OPENINGS AND SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 306.4. PENETRATIONS OF THE STORM SHELTER ENVELOPE SHALL NOT DEGRADE THE STRUCTURAL INTEGRITY OR IMPACT RESISTANCE OF THE STORM SHELTER ENVELOPE.
- PENETRATIONS OF THE STORM SHELTER ENVELOPE BY HAZARDOUS GAS OR LIQUID LINES SHALL HAVE AUTOMATIC SHUTOFFS TO PROTECT AGAINST LEAKAGE DUE TO MOVEMENT OF THE UTILITY LINE.

**ICC 500 SHELTER - VENTILATION**

OCCUPANTS	VENTILATION RATE (CFM / OCCUPANT)	VENTILATION REQD (CFM)	VENTILATION PROVIDED (CFM)
2,009	5	10,045	10,500

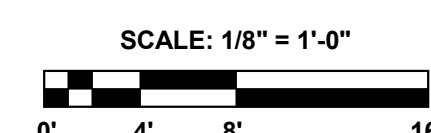
**MECHANICAL KEYNOTES**

- M5 24 VAC FEMA VENTILATION MANUAL ACTIVATION DEVICE EQUAL TO AMERICAN GAS SAFETY MODEL #AGS-EPO-KL WITH CLEAR FLIP COVER, RED BUTTON, KEY RESET SWITCH, BLUE HOUSING, AND CUSTOM LABEL. ALL KEY RESET SWITCHES SHALL BE KEYPED ALIKE. CUSTOM LABEL SHALL READ "SHELTER VENTILATION". MOUNT PER ADA GUIDELINES AND ARCHITECTURAL DRAWINGS.
- M6 WHEN FEMA VENTILATION MANUAL ACTIVATION DEVICE IS DEPRESSED, ALL FEMA OUTSIDE AIR DAMPER ACTUATORS SHALL MOTOR OPEN AND EXHAUST FANS SHALL ACTIVATE. WHEN FEMA VENTILATION MANUAL ACTIVATION DEVICE IS IN THE RESET POSITION, ALL FEMA OUTSIDE AIR DAMPERS SHALL MOTOR CLOSED AND EXHAUST FAN SHALL BE OFF. PROVIDE 120VAC MOTORIZED DAMPER AND END SWITCH INTERLOCKED WITH SHELTER EXHAUST FANS. DAMPER SHALL BE FULLY OPEN WHEN EF IS IN OPERATION.
- M8 DAMPERS USED TO OPERATE VENTILATION OPENINGS SHALL BE CONNECTED TO STANDBY POWER SYSTEM. (2020 ICC 500 702.4.2)



**1 FIRST FLOOR PLAN - AREA C - MECHANICAL**

1/8" = 1'-0"



**SHEET TITLE**

FIRST FLOOR PLAN - AREA C - MECHANICAL

**DATE**

17.10.24

**SHEET NUMBER**

**M101.4**

**GENERAL LIFE SAFETY NOTES**

**WALL RATINGS**  
 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)  
 2 HR FIRE WALL (BUILDING SEPARATION WALL)  
 SMOKE PARTITION

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**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
 WYNNE AR 72396

**PROJECT NUMBER**

-

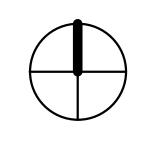
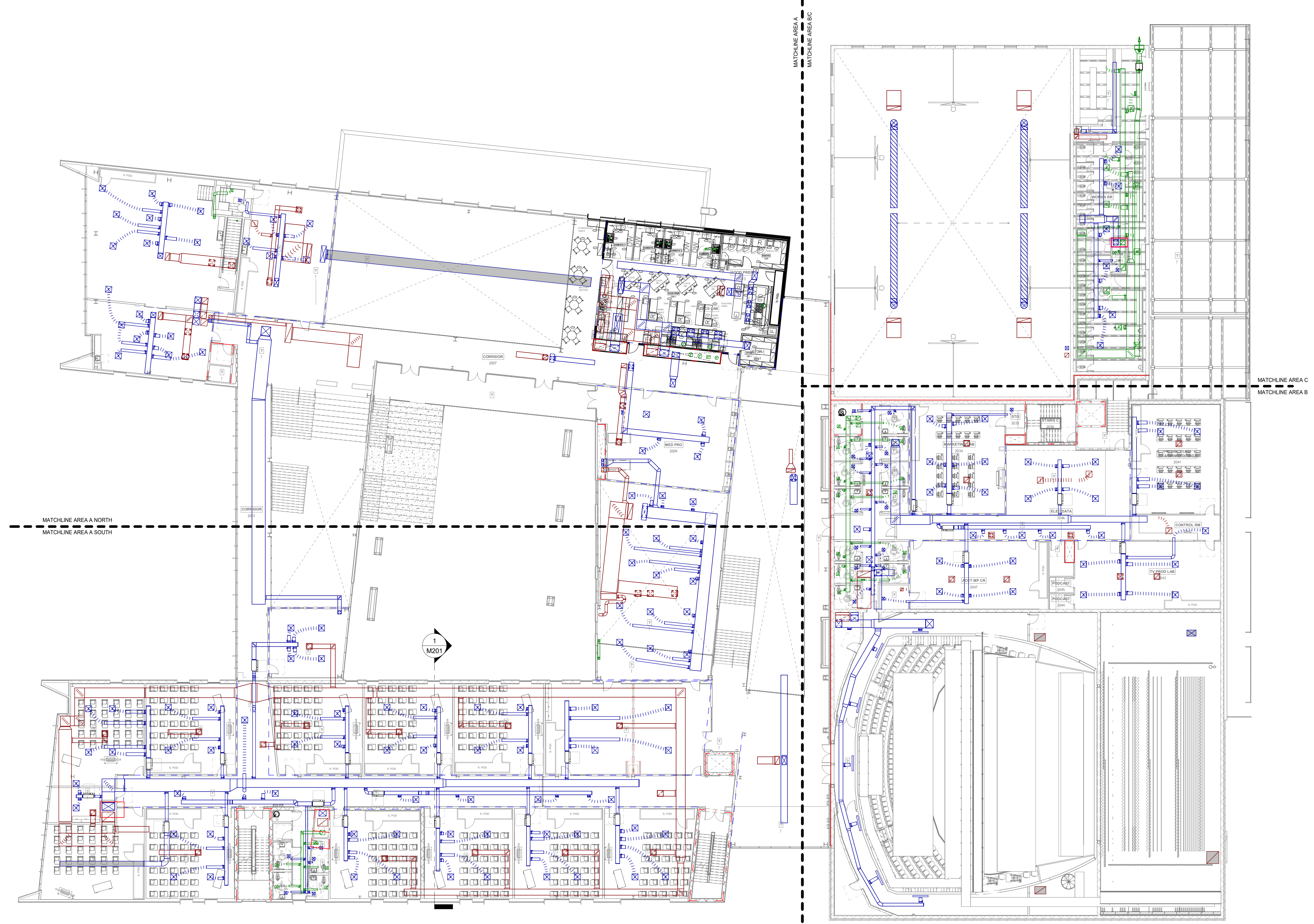
**DEVELOPER/OWNER**

WYNNE SCHOOL DISTRICT

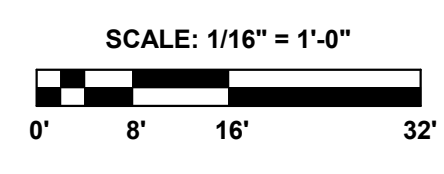
**INFORMATION**



Revision Description Date



**1 SECOND FLOOR PLAN - MECHANICAL**  
 1/16" = 1'-0"



**SHEET TITLE**  
 SECOND FLOOR PLAN - MECHANICAL

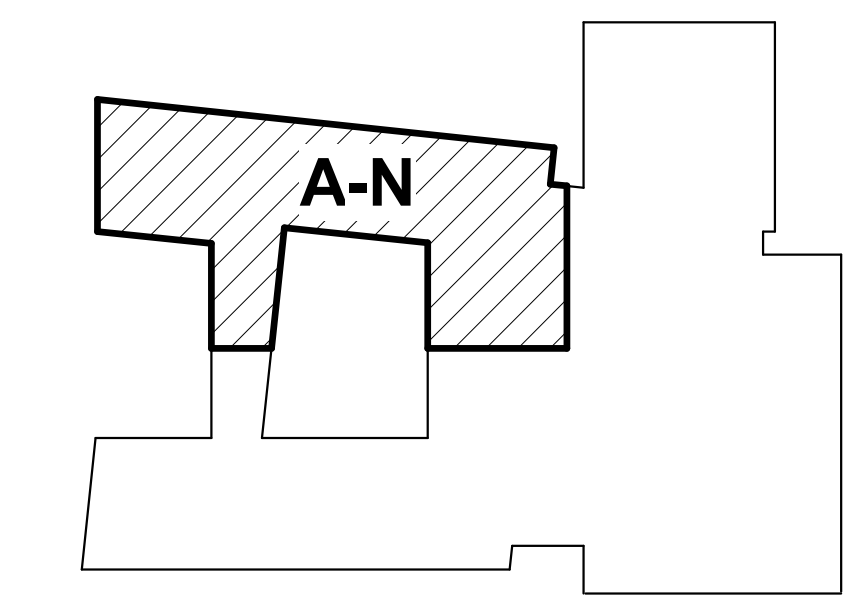
**DATE**  
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**SHEET NUMBER**  
 M102

**GENERAL LIFE SAFETY NOTES**

- WALL RATINGS**
- 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)
  - UL DESIGN NUMBERS - U485, U905
  - 2 HR FIRE WALL (BUILDING SEPARATION WALL)
  - UL DESIGN NUMBERS - U497, U905, U916
  - SMOKE PARTITION

**KEYPLAN**



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**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
WYNNE AR 72396

**PROJECT NUMBER**

-

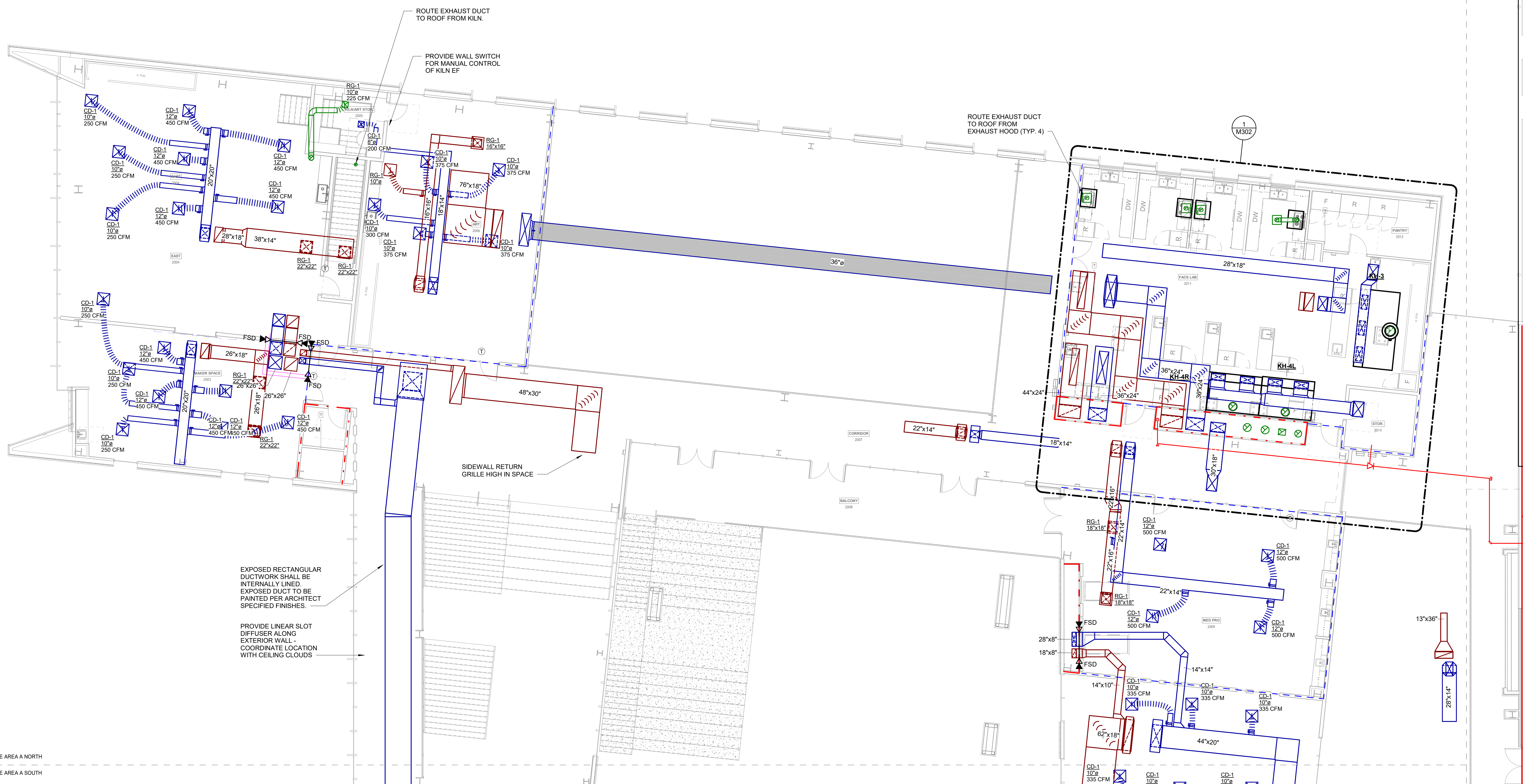
**DEVELOPER/OWNER**

WYNNE SCHOOL DISTRICT

**INFORMATION**



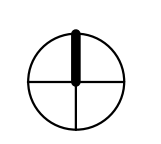
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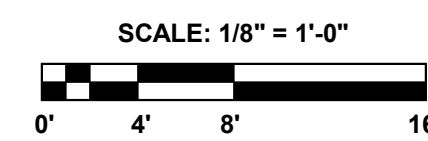
EXPOSED RECTANGULAR DUCTWORK SHALL BE INTERNALLY LINED. EXPOSED DUCT TO BE PAINTED PER ARCHITECT SPECIFIED FINISHES.

PROVIDE LINEAR SLOT DIFFUSER ALONG EXTERIOR WALL. COORDINATE LOCATION WITH CEILING CLOUDS

MATCHLINE AREA A NORTH  
MATCHLINE AREA A SOUTH



**1 SECOND FLOOR PLAN - AREA A NORTH - MECHANICAL**  
1/8" = 1'-0"



**SHEET TITLE**

SECOND FLOOR PLAN - AREA A NORTH - MECHANICAL

**DATE**

17.10.24

**SHEET NUMBER**

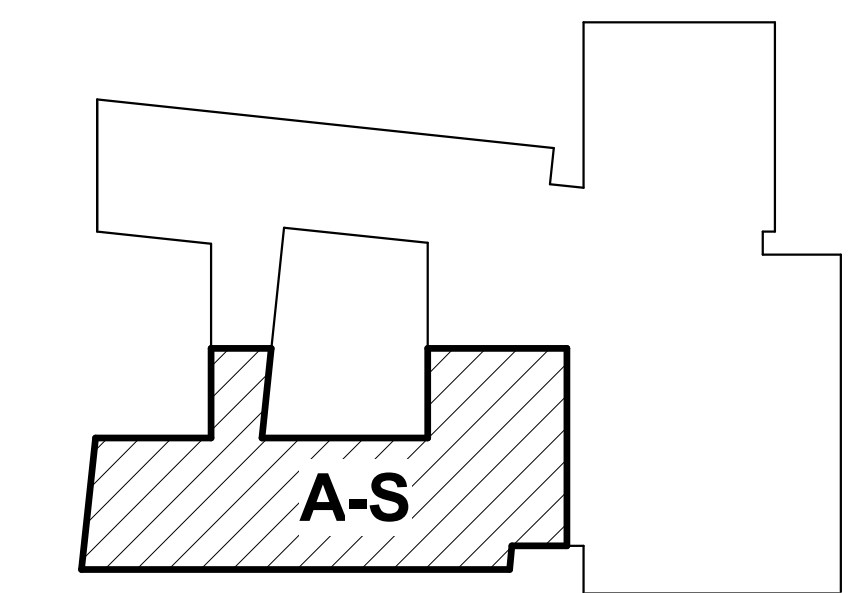
**M102.1**



**GENERAL LIFE SAFETY NOTES**

- WALL RATINGS**
- 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)
  - UL DESIGN NUMBERS - U485, U995
  - 2 HR FIRE WALL (BUILDING SEPARATION WALLS)
  - UL DESIGN NUMBERS - U497, U905, U916
  - SMOKE PARTITION

**KEYPLAN**



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**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

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WYNNE AR 72396

**PROJECT NUMBER**

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**DEVELOPER/OWNER**

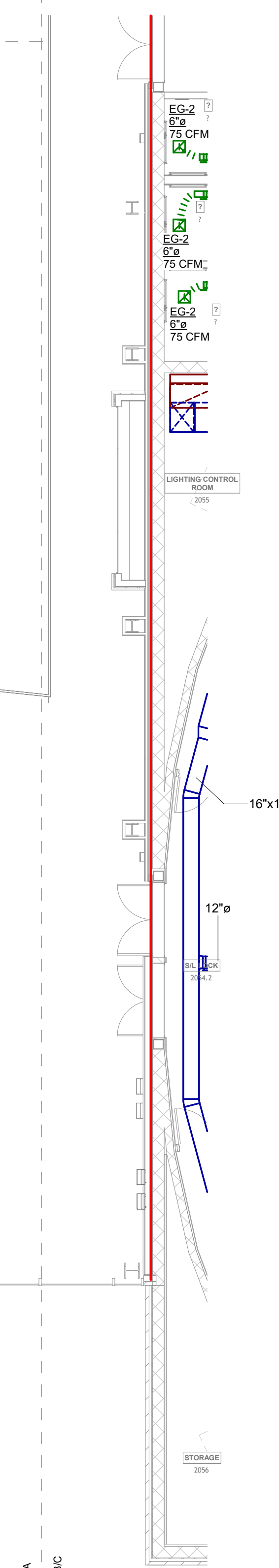
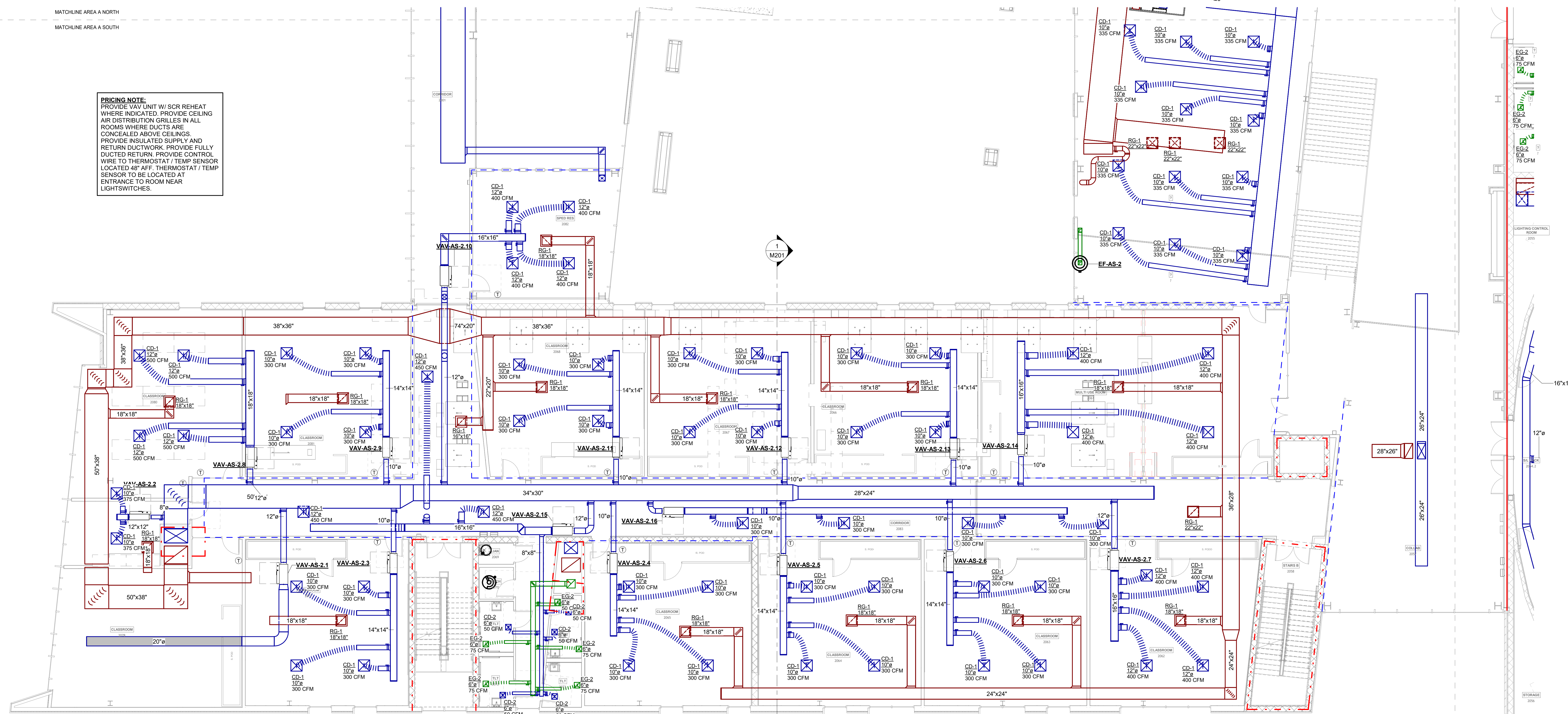
WYNNE SCHOOL DISTRICT

**INFORMATION**

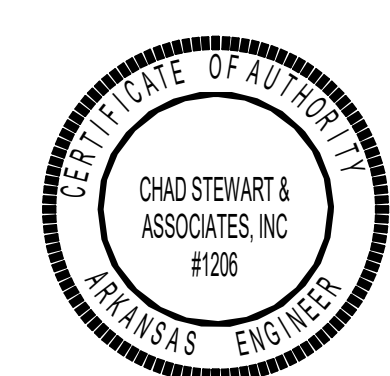
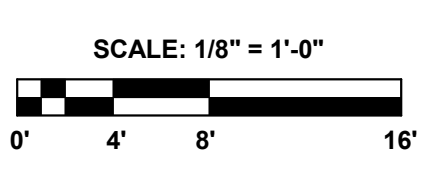


Revision Description Date

**PRICING NOTE:**  
PROVIDE VAV UNIT W/ SCR REHEAT WHERE INDICATED. PROVIDE CEILING AIR DISTRIBUTION GRILLES IN ALL ROOMS WHERE DUCTS ARE CONCEALED ABOVE CEILINGS. PROVIDE INSULATED SUPPLY AND RETURN DUCTWORK. PROVIDE FULLY DUCTED RETURN. PROVIDE CONTROL WIRE TO THERMOSTAT / TEMP SENSOR LOCATED 48" AFF. THERMOSTAT / TEMP SENSOR TO BE LOCATED AT ENTRANCE TO ROOM NEAR LIGHTSWITCHES.



**1 SECOND FLOOR PLAN - AREA A SOUTH - MECHANICAL**  
1/8" = 1'-0"



**SHEET TITLE**  
SECOND FLOOR PLAN - AREA A SOUTH - MECHANICAL

**DATE**  
17.10.24

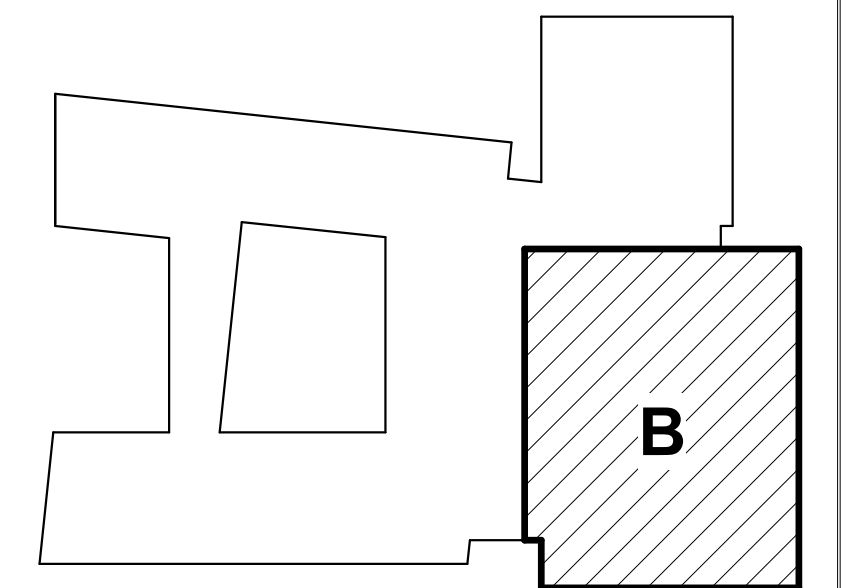
**SHEET NUMBER**

**M102.2**

**GENERAL LIFE SAFETY NOTES**

- WALL RATINGS**
- 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)
  - UL DESIGN NUMBERS - U485, U995
  - 2 HR FIRE WALL (BUILDING SEPARATION WALLS)
  - UL DESIGN NUMBERS - U497, U905, U916
  - SMOKE PARTITION

**KEYPLAN**

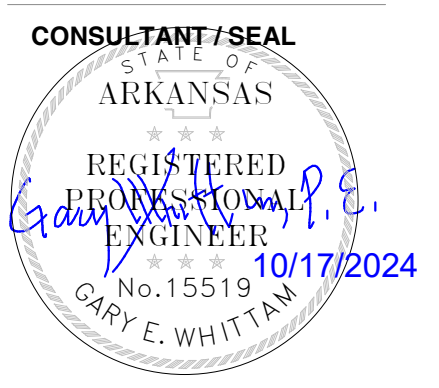


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**PROJECT NAME**

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**PROJECT NUMBER**

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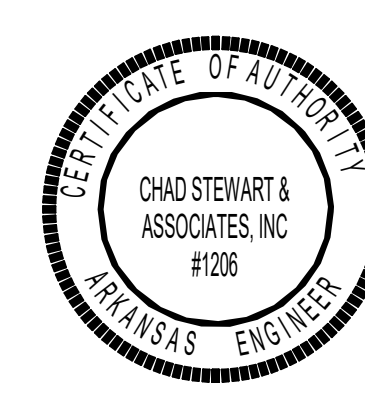
**DEVELOPER/OWNER**

WYNNE SCHOOL DISTRICT

**INFORMATION**



Revision Description Date

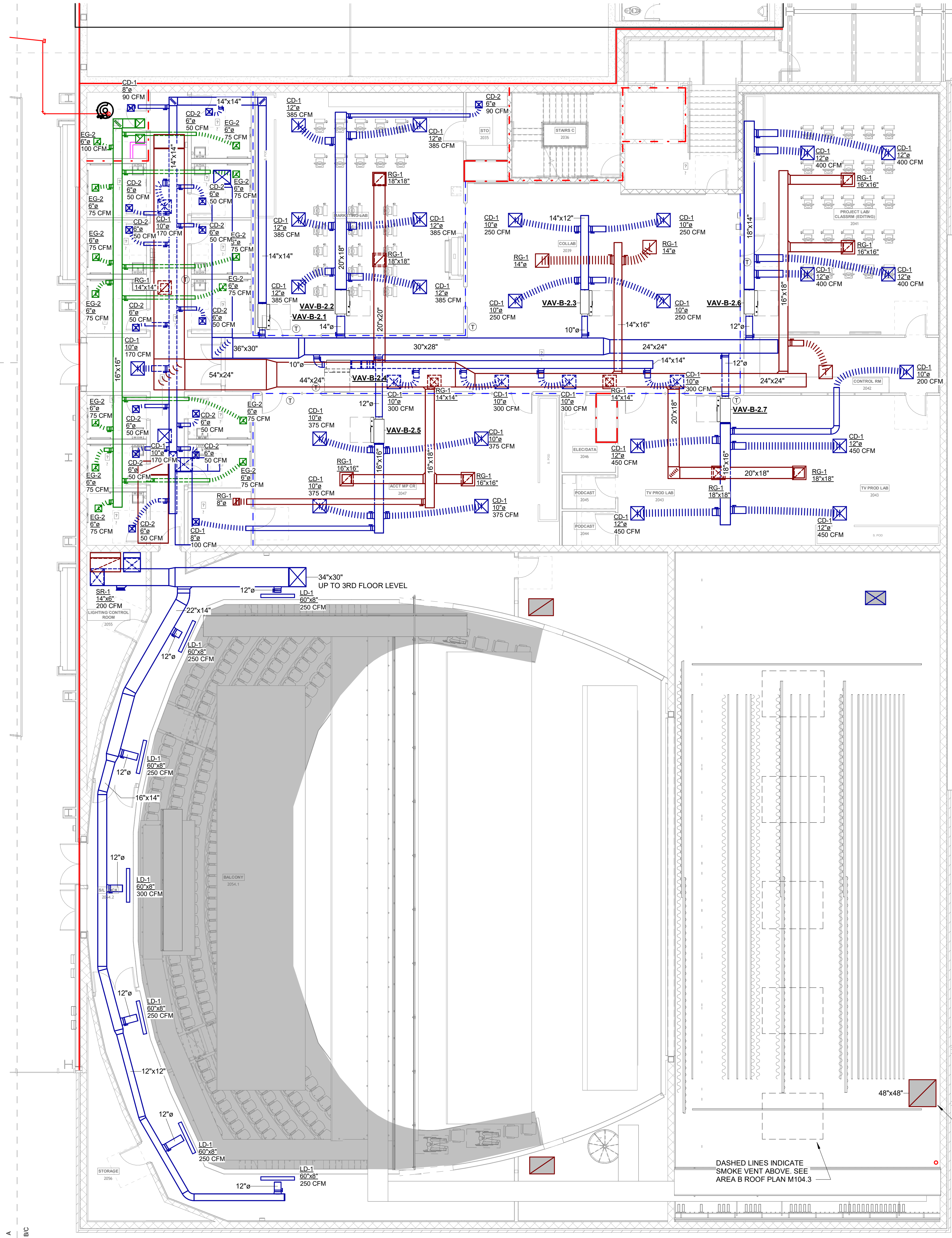


**SHEET TITLE**  
SECOND FLOOR PLAN - AREA B - MECHANICAL

**DATE**  
17.10.24

**SHEET NUMBER**

**M102.3**



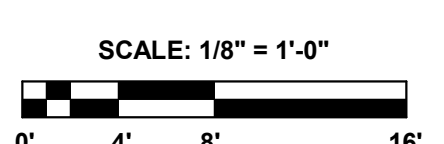
**PRICING NOTE:**  
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**PRICING NOTE:**  
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48"x48" RA DUCT DN TO WITHIN 12" OF FLOOR LEVEL. COVER OPEN END WITH WIRE MESH SCREEN.

DASHED LINES INDICATE SMOKE VENT ABOVE. SEE AREA B ROOF PLAN M104.3

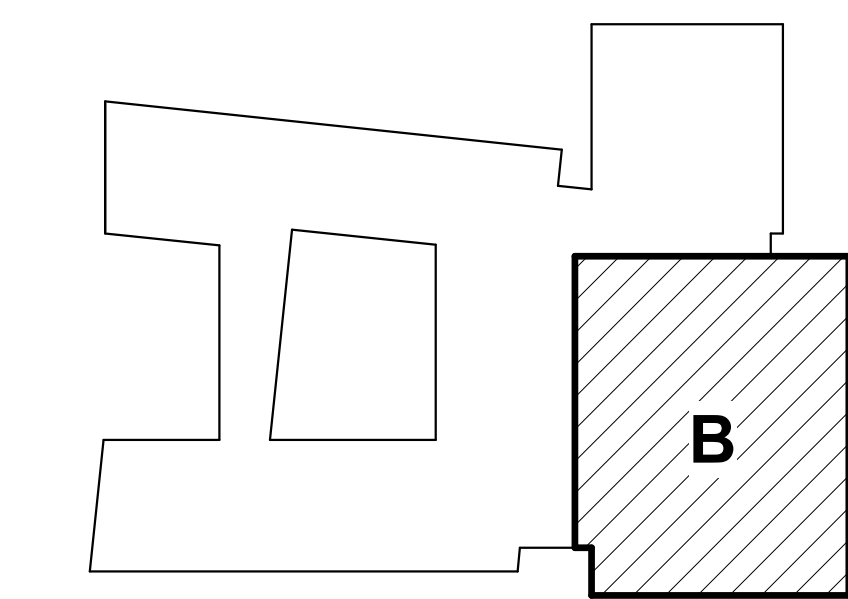
**1 SECOND FLOOR PLAN - AREA B - MECHANICAL**  
1/8" = 1'-0"



**GENERAL LIFE SAFETY NOTES**

- WALL RATINGS**
- 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)
  - UL DESIGN NUMBERS - U485, U995
  - 2 HR FIRE WALL (BUILDING SEPARATION WALL)
  - UL DESIGN NUMBERS - U497, U995, U916
  - SMOKE PARTITION

**KEYPLAN**

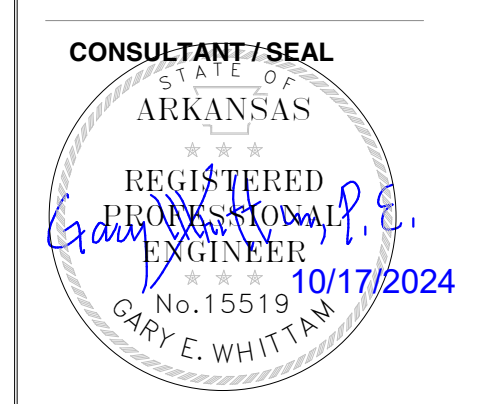


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**PROJECT NUMBER**

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**DEVELOPER/OWNER**

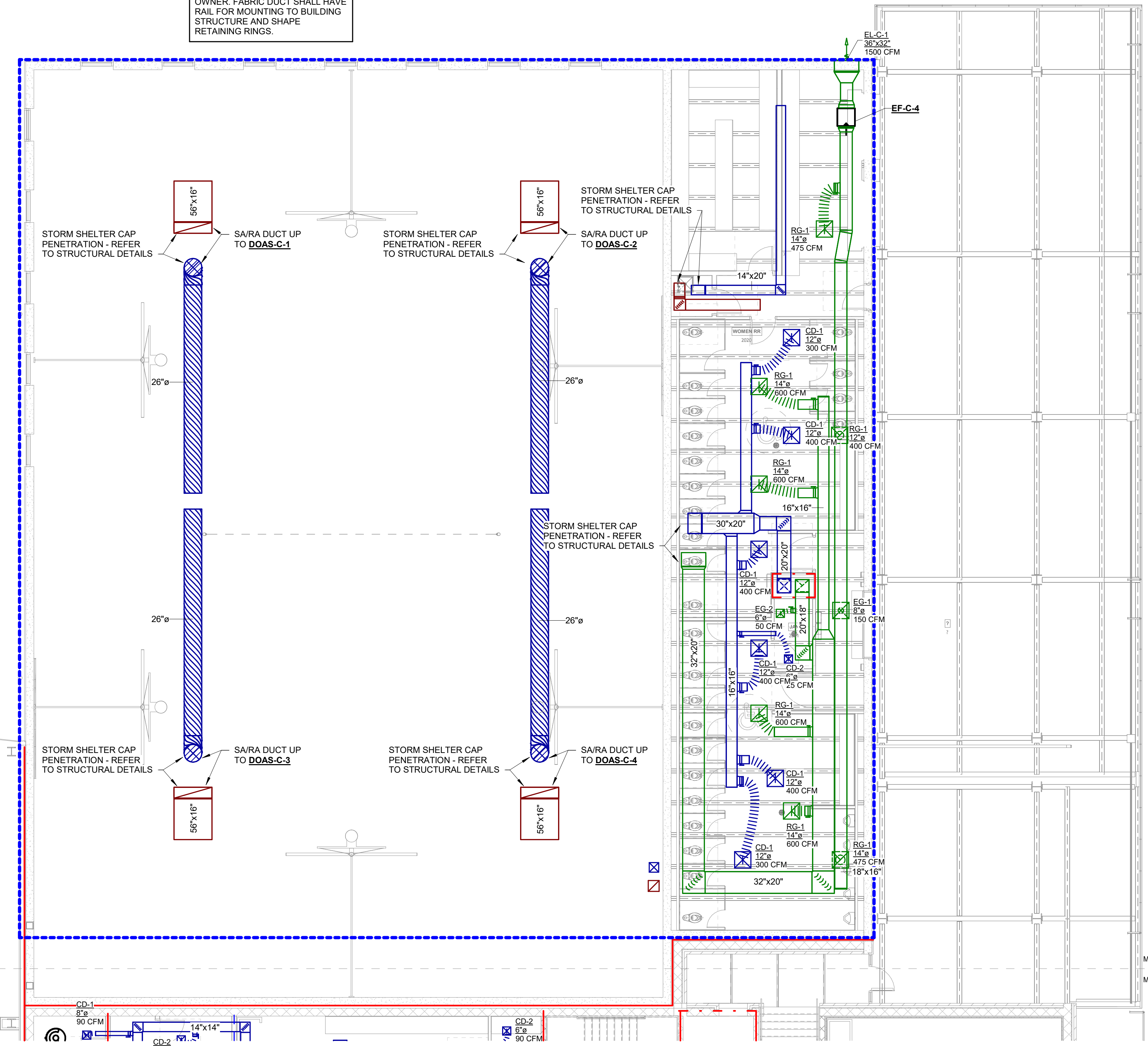
WYNNE SCHOOL DISTRICT

**INFORMATION**

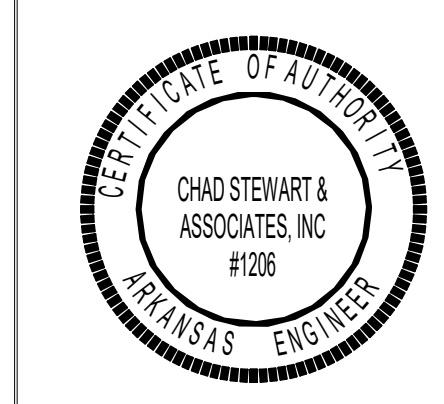
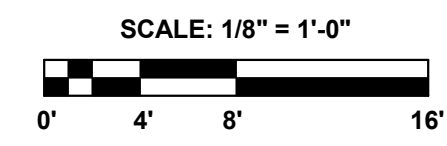


**PRICING NOTE:**  
PROVIDE FABRIC DUCT FOR GYM UNITS. FABRIC DUCT SHALL HAVE TWO (2) CUSTOM COLORS, CUSTOM GRAPHIC OR TEXT AS SELECTED BY ARCHITECT / OWNER. FABRIC DUCT SHALL HAVE RAIL FOR MOUNTING TO BUILDING STRUCTURE AND SHAPE RETAINING RINGS.

MATCHLINE AREA A  
MATCHLINE AREA B/C



**1 SECOND FLOOR PLAN - AREA C - MECHANICAL**  
1/8" = 1'-0"



**SHEET TITLE**  
SECOND FLOOR PLAN - AREA C - MECHANICAL

**DATE**  
17.10.24

**SHEET NUMBER**  
M102.4

**GENERAL LIFE SAFETY NOTES**

**WALL RATINGS**  
 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)  
 UL DESIGN NUMBERS - U469, U905  
 2 HR FIRE WALL (BUILDING SEPARATION WALL)  
 UL DESIGN NUMBERS - U497, U905, U916  
 SMOKE PARTITION

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 www.arch1010.com

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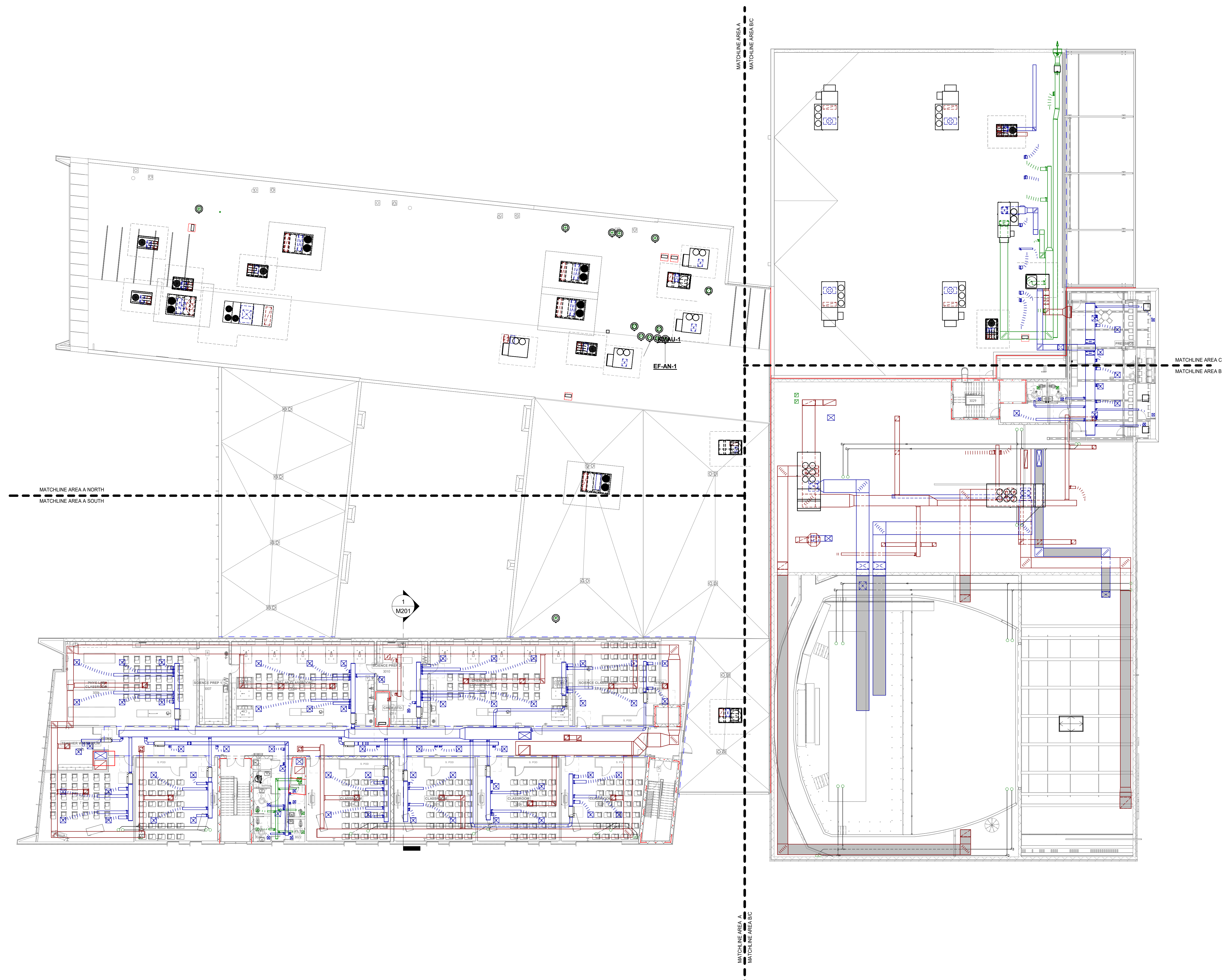
801 South Spring Street  
 Little Rock, AR 72201  
 501.378.0878 office  
 www.polkstanleywilcox.com



**PROJECT NAME**  
 WSD - NEW SENIOR HIGH SCHOOL  
**LOCATION**  
 800 E JACKSON AVE  
 WYNNE AR 72396  
**PROJECT NUMBER**  
 -  
**DEVELOPER/OWNER**  
 WYNNE SCHOOL DISTRICT

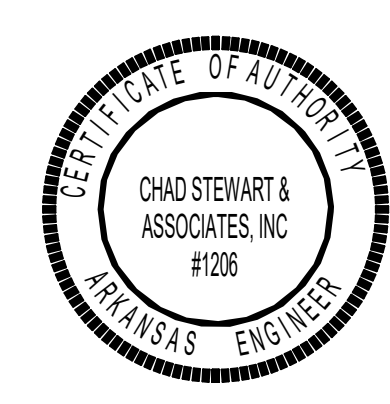


Revision Description Date



**1 THIRD FLOOR PLAN - MECHANICAL**  
 1/16" = 1'-0"

SCALE: 1/16" = 1'-0"  
 0' 8' 16' 32'



**SHEET TITLE**  
 THIRD FLOOR PLAN - MECHANICAL

**DATE**  
 17.10.24

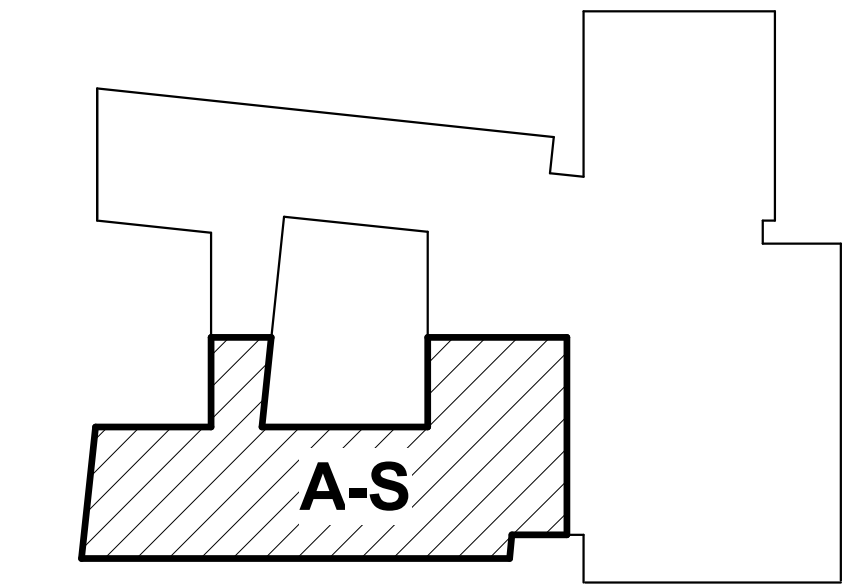
**SHEET NUMBER**

**M103**

**GENERAL LIFE SAFETY NOTES**

- WALL RATINGS**
- 1 HR FIRE BARRIER (FIRE STAIRS, ELEVATOR SHAFTS, MECH. SHAFTS, SHAFTS)
  - UL DESIGN NUMBERS - U485, U985
  - 2 HR FIRE WALL (BUILDING SEPARATION WALLS)
  - UL DESIGN NUMBERS - U487, U985, U916
  - SMOKE PARTITION

**KEYPLAN**



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**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
WYNNE AR 72396

**PROJECT NUMBER**

-

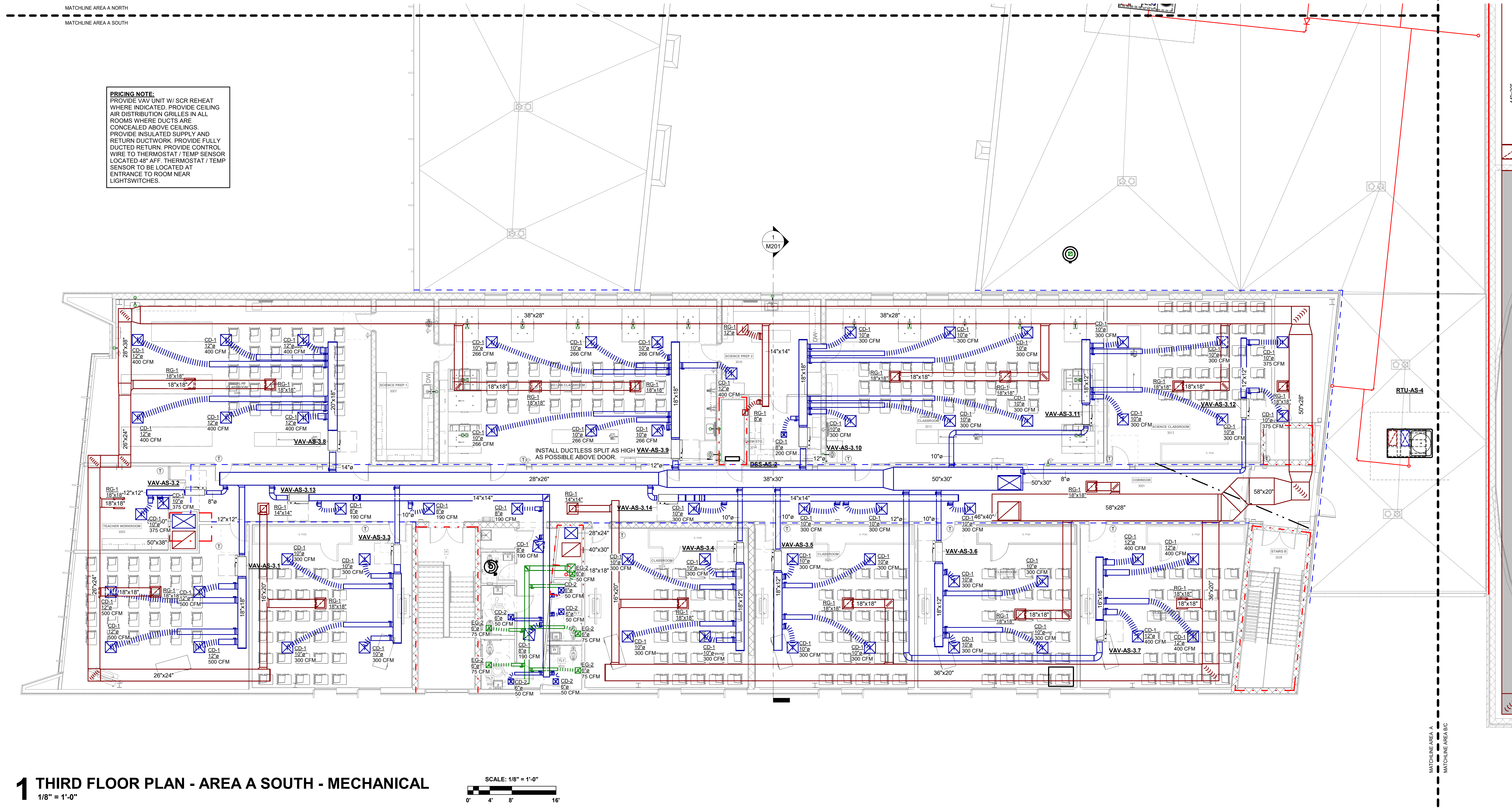
**DEVELOPER/OWNER**

WYNNE SCHOOL DISTRICT

**INFORMATION**

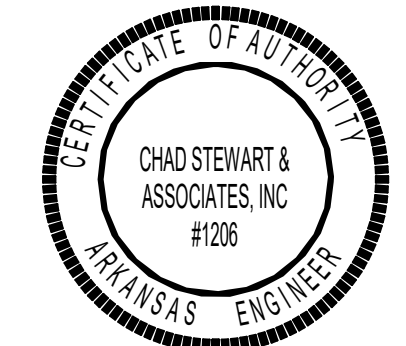
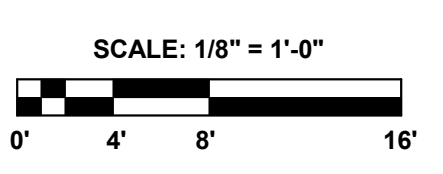


Revision Description Date



**PRICING NOTE:**  
PROVIDE VAV UNIT W/ SCR REHEAT WHERE INDICATED. PROVIDE CEILING AIR DISTRIBUTION GRILLES IN ALL ROOMS WHERE DUCTS ARE CONCEALED ABOVE CEILINGS. PROVIDE INSULATED SUPPLY AND RETURN DUCTWORK. PROVIDE FULLY DUCTED RETURN. PROVIDE CONTROL WIRE TO THERMOSTAT / TEMP SENSOR LOCATED 48" AFF. THERMOSTAT / TEMP SENSOR TO BE LOCATED AT ENTRANCE TO ROOM NEAR LIGHTSWITCHES.

**1 THIRD FLOOR PLAN - AREA A SOUTH - MECHANICAL**  
1/8" = 1'-0"



**SHEET TITLE**  
THIRD FLOOR PLAN - AREA A SOUTH - MECHANICAL

**DATE**  
17.10.24

**SHEET NUMBER**

**M103.1**





**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
 WYNNE AR 72396

**PROJECT NUMBER**

-

**DEVELOPER/OWNER**

WYNNE SCHOOL DISTRICT

**INFORMATION**



Revision Description Date

**NATURAL GAS PIPE SIZING - 5 PSI**

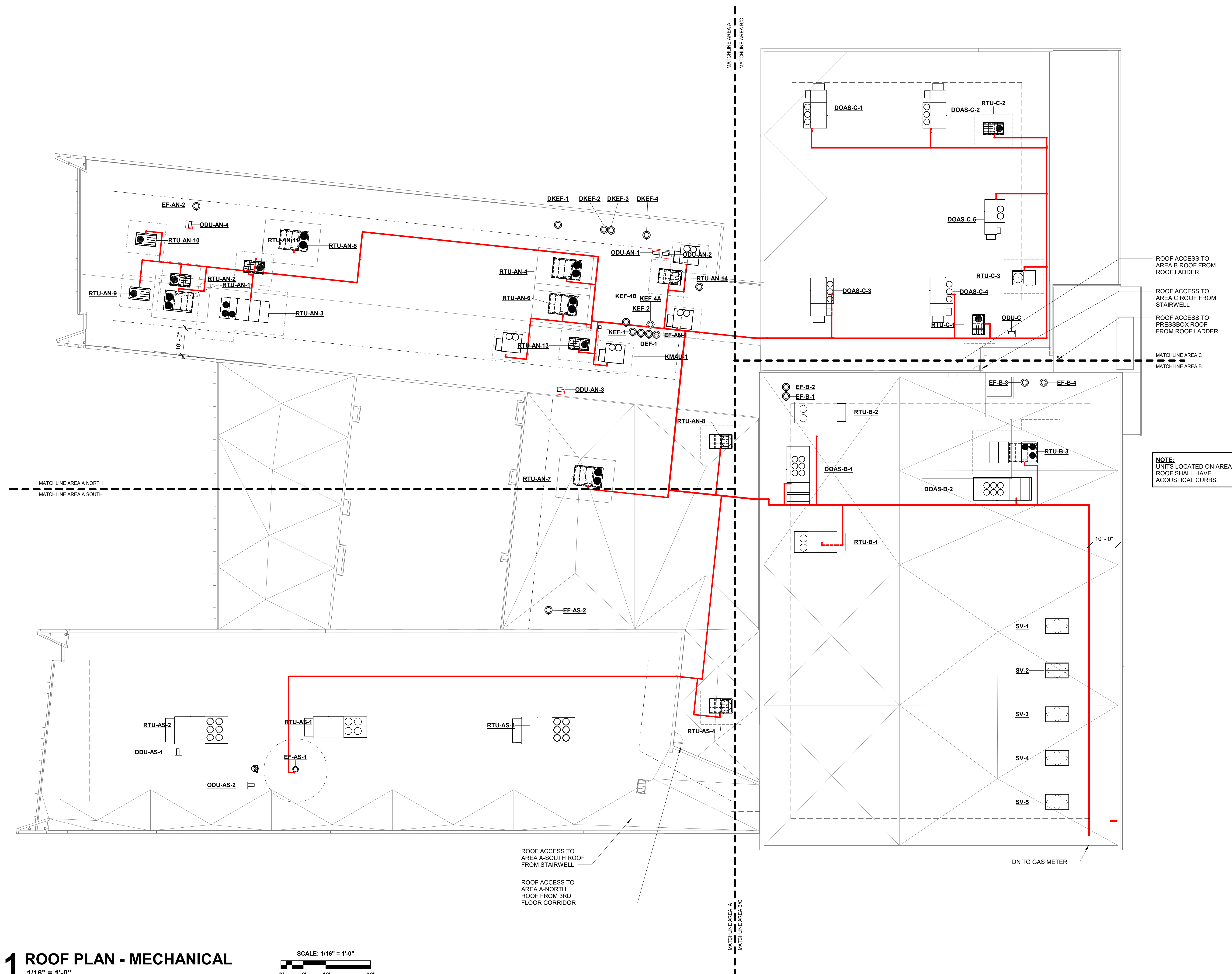
EQUIVALENT LENGTH (FT)	MAXIMUM CFH PER PIPE SIZE							
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
700	320	669	1,260	2,590	3,880	7,460	11,900	21,000

**NOTES:**  
 THE STEEL PIPE MATERIAL PORTION OF THE LOW PRESSURE (7" W.C.) GAS SYSTEM IS SIZED IN ACCORDANCE WITH INTERNATIONAL FUEL GAS CODE (IFGC) TABLE 402.4(2). INLET PRESSURE < 2 PSI, PRESSURE DROP = 0.5" W.C., SPECIFIC GRAVITY = 0.60, BASED ON TOTAL DEVELOPED LENGTH OF 250 FT AND FLOW RATE OF 296 CFH.

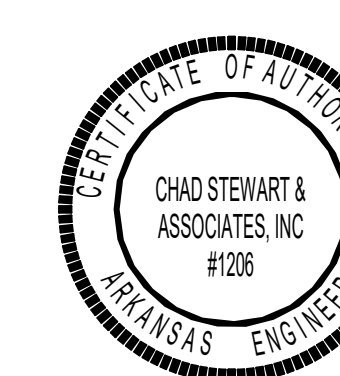
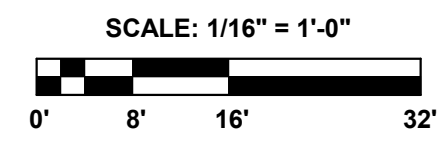
**GAS LOAD SIZING**

MARK	GAS DEMAND (CFH)
DKMAU-1	400
DOAS-B-1	600
DOAS-B-2	600
DOAS-C-1	300
DOAS-C-2	300
DOAS-C-3	300
DOAS-C-4	300
DOAS-C-5	200
GENERATOR	4098
K-16	260
K-17	120
K-18	200
K-19	88
K-20	88
K-21	198
KITCHEN	1500
KMAU-1	400
KMAU-3	400
KMAU-4	400
RTU-AN-1	200
RTU-AN-2	200
RTU-AN-4	200
RTU-AN-5	200
RTU-AN-6	200
RTU-AN-9	200
RTU-AN-10	200
RTU-AN-11	200
RTU-AN-13	200
RTU-AN-14	200
RTU-AS-4	400
RTU-B-1	0
RTU-B-2	0
RTU-B-3	600
RTU-C-1	200
RTU-C-2	200
RTU-C-3	400
SCIENCE LABS	750
	15302

- NOTES:**
1. LONGEST EQUIVALENT RUN ESTIMATED AT 900 FT.
  2. PROVIDE REGULATOR SIZED FOR CFH LISTED AT EACH APPLIANCE AS REQUIRED. PROVIDE VENTING FOR REGULATORS INSTALLED INDOORS PER CODE.
  3. PROVIDE GAS PIPING WITH A MINIMUM OF 5 PSI ON GAS LOW PRESSURE SIDE.
  4. PROVIDE NEW GAS METER AND PRESSURE REGULATING VALVE. COORDINATE FINAL LOCATION AND PAY ALL COSTS OF UPGRADE OF METER WITH LOCAL UTILITY AS REQUIRED.
  5. GAS PIPING AT BUILDING EXTERIOR TO BE PAINTED TO MATCH ARCHITECT SPECIFIED FINISHES.



**1 ROOF PLAN - MECHANICAL**  
 1/16" = 1'-0"



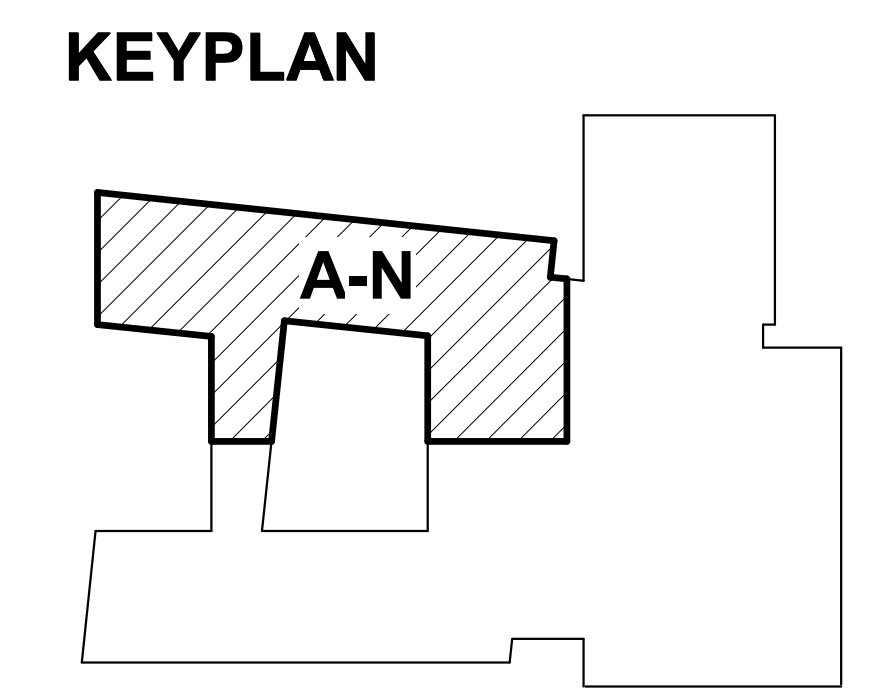
**SHEET TITLE**  
 OVERALL ROOF PLAN - MECHANICAL

**DATE**  
 17.10.24

**SHEET NUMBER**

**M104**

EQUIVALENT LENGTH (FT)	MAXIMUM CFH PER PIPE SIZE							
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
700	320	669	1,260	2,590	3,880	7,460	11,900	21,000



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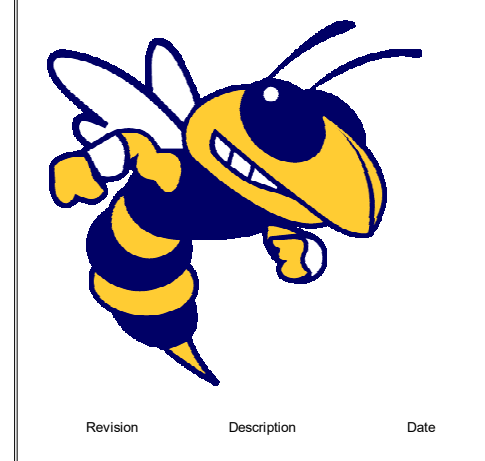
**CONSULTANT / SEAL**  
 STATE OF ARKANSAS  
 REGISTERED PROFESSIONAL ENGINEER  
 GARY E. WHITTEN  
 No. 15519  
 10/17/2024

**PROJECT NAME**  
 WSD - NEW SENIOR HIGH SCHOOL

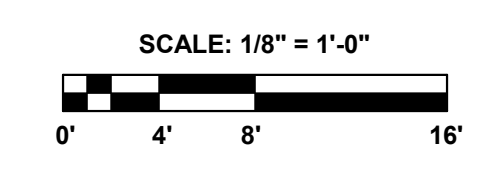
**LOCATION**  
 800 E JACKSON AVE  
 WYNNE AR 72396

**PROJECT NUMBER**  
 -

**DEVELOPER/OWNER**  
 WYNNE SCHOOL DISTRICT



**1 ROOF PLAN - AREA A NORTH - MECHANICAL**  
 1/8" = 1'-0"



**SHEET TITLE**  
 ROOF PLAN - AREA A NORTH - MECHANICAL

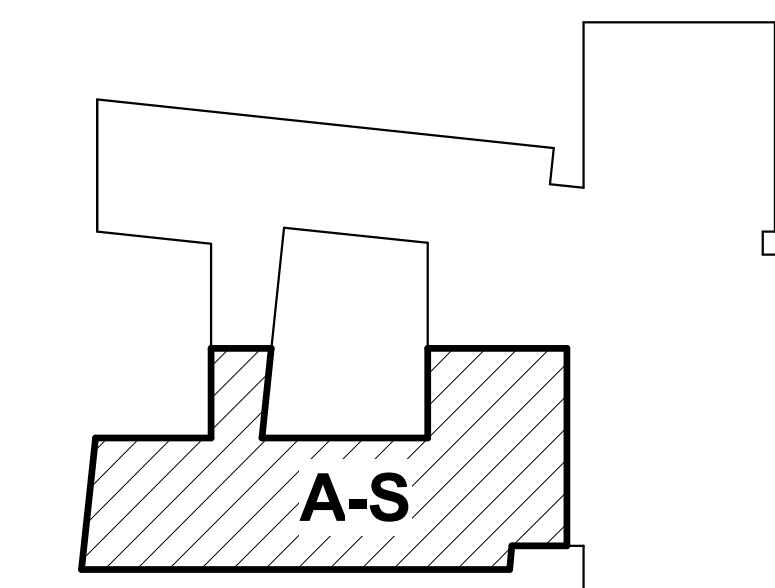
**DATE**  
 17.10.24

**SHEET NUMBER**  
 M104.1

**M104.1**



KEYPLAN

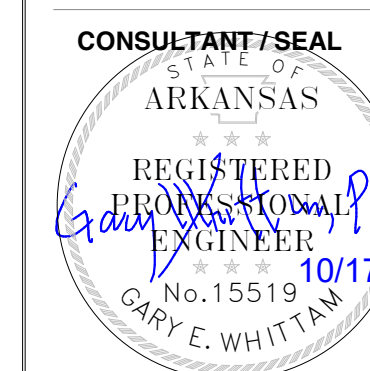


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PROJECT NAME

WSD - NEW SENIOR HIGH SCHOOL

LOCATION

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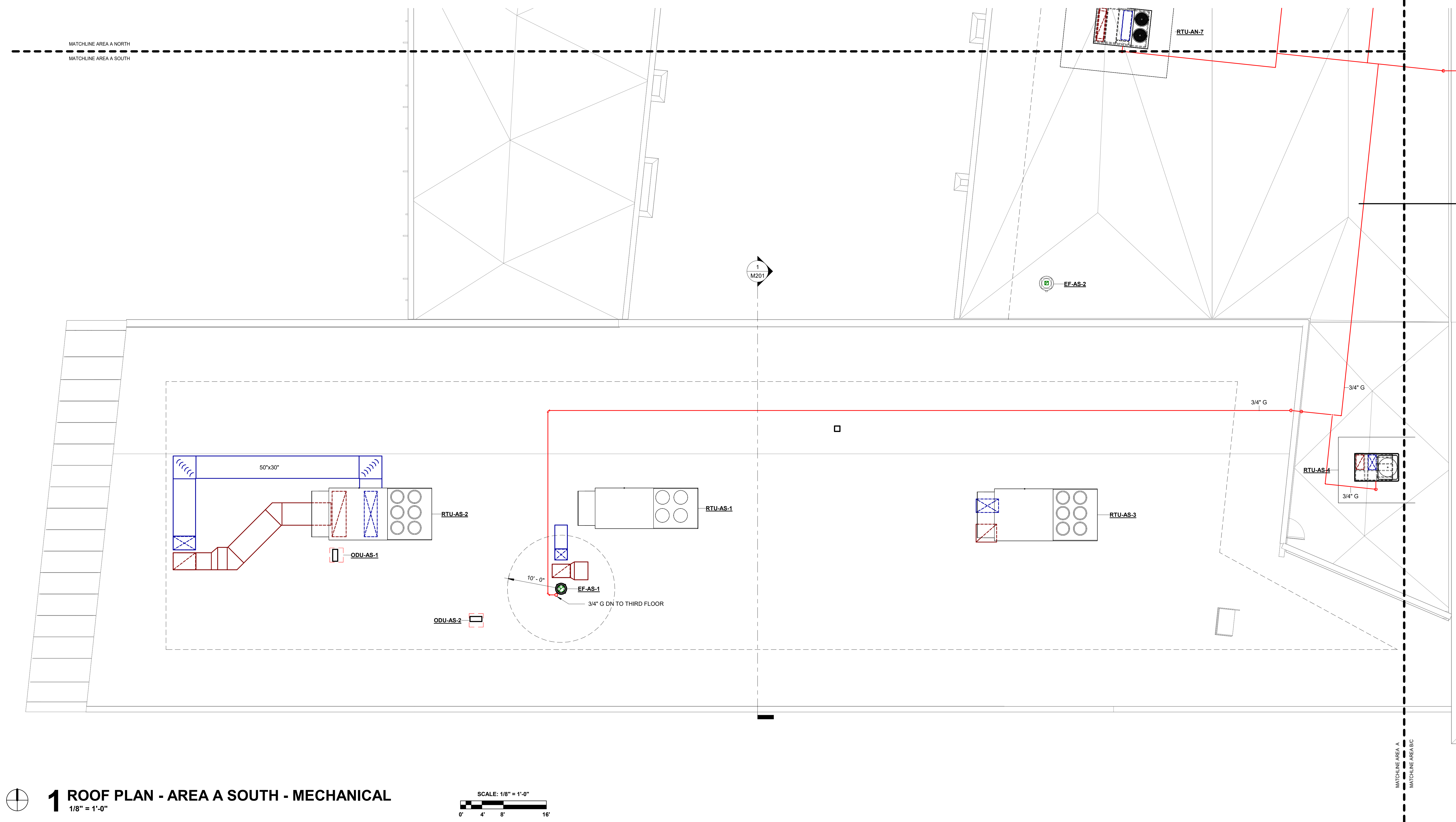
PROJECT NUMBER

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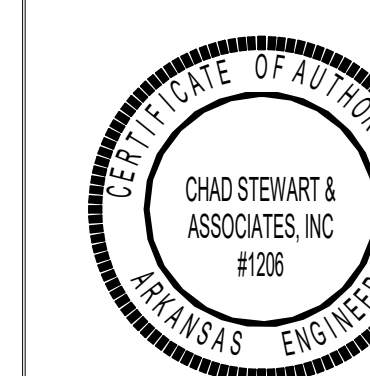
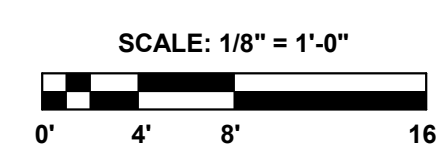
DEVELOPER/OWNER

WYNNE SCHOOL DISTRICT

INFORMATION



**1 ROOF PLAN - AREA A SOUTH - MECHANICAL**  
 1/8" = 1'-0"



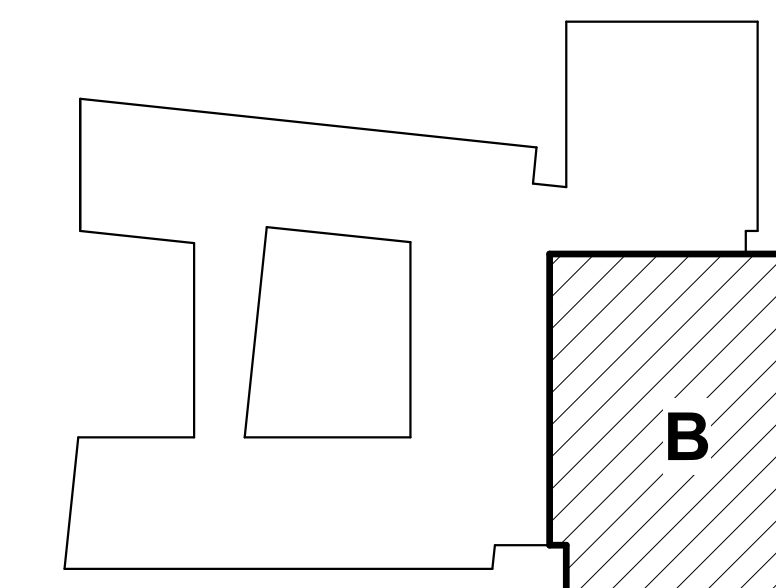
SHEET TITLE  
 ROOF PLAN - AREA A SOUTH - MECHANICAL

DATE  
 17.10.24

SHEET NUMBER

**M104.2**

KEYPLAN



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PROJECT NAME

WSD - NEW SENIOR HIGH SCHOOL

LOCATION

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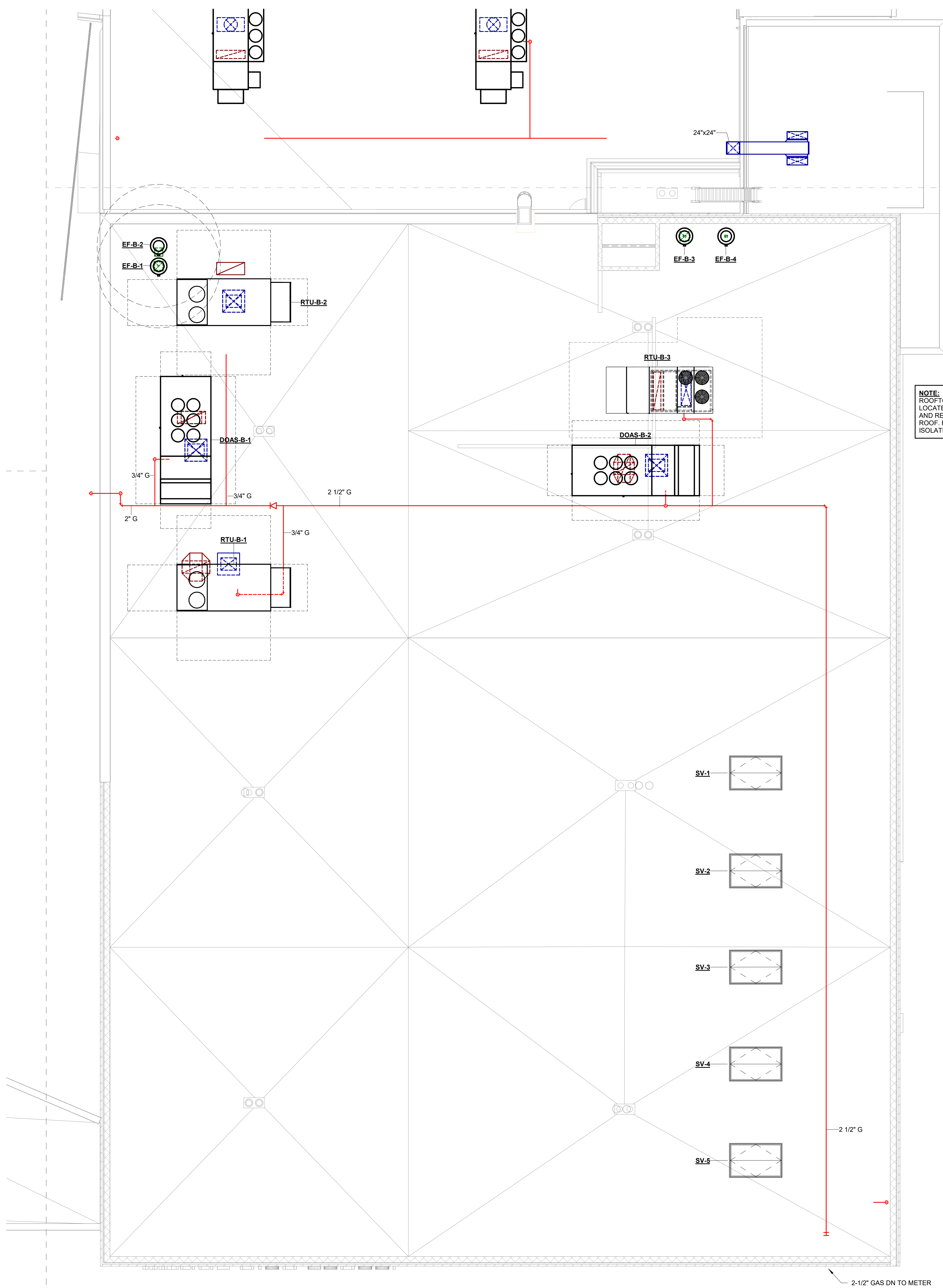
PROJECT NUMBER

-

DEVELOPER/OWNER

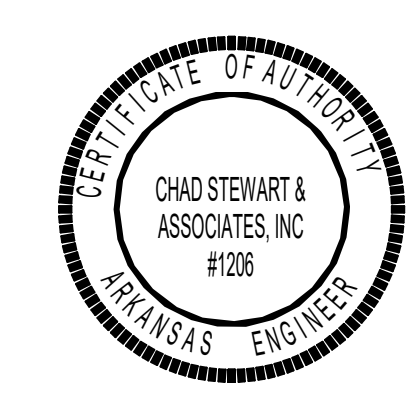
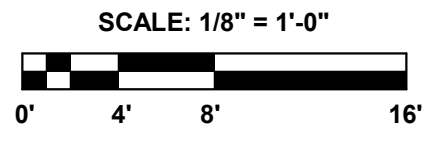
WYNNE SCHOOL DISTRICT

INFORMATION



NOTE:  
 ROOFTOP UNITS SHALL BE  
 LOCATED ABOVE CORRIDORS  
 AND RESTROOMS ON AREA B  
 ROOF. PROVIDE VIBRATION  
 ISOLATION CURBS.

**1 ROOF PLAN - AREA B - MECHANICAL**  
 1/8" = 1'-0"



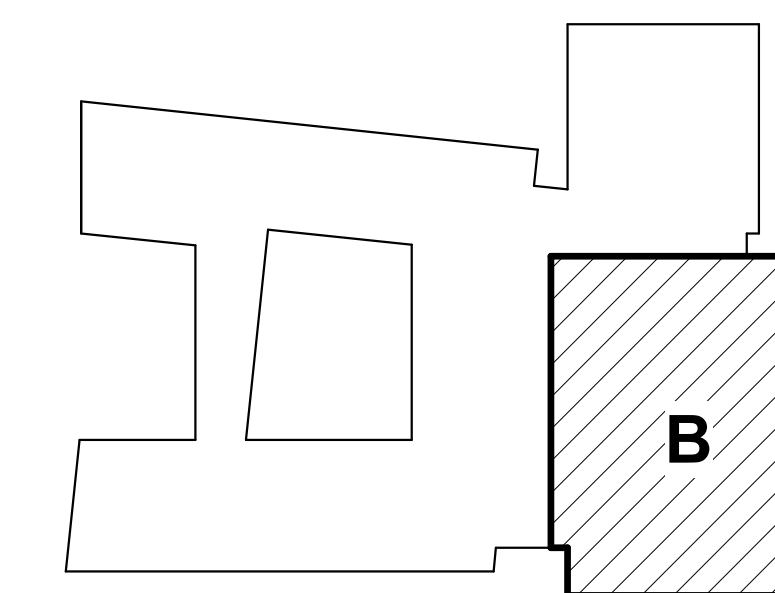
SHEET TITLE  
 ROOF PLAN - AREA B -  
 MECHANICAL

DATE  
 17.10.24

SHEET NUMBER

**M104.3**

KEYPLAN



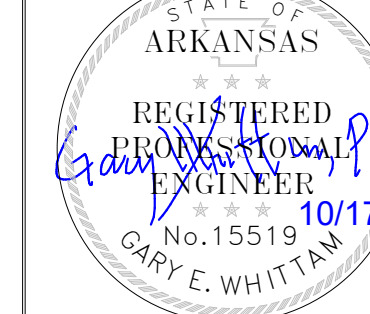
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CONSULTANT / SEAL



PROJECT NAME

WSD - NEW SENIOR HIGH SCHOOL

LOCATION

800 E JACKSON AVE  
 WYNNE AR 72396

PROJECT NUMBER

-

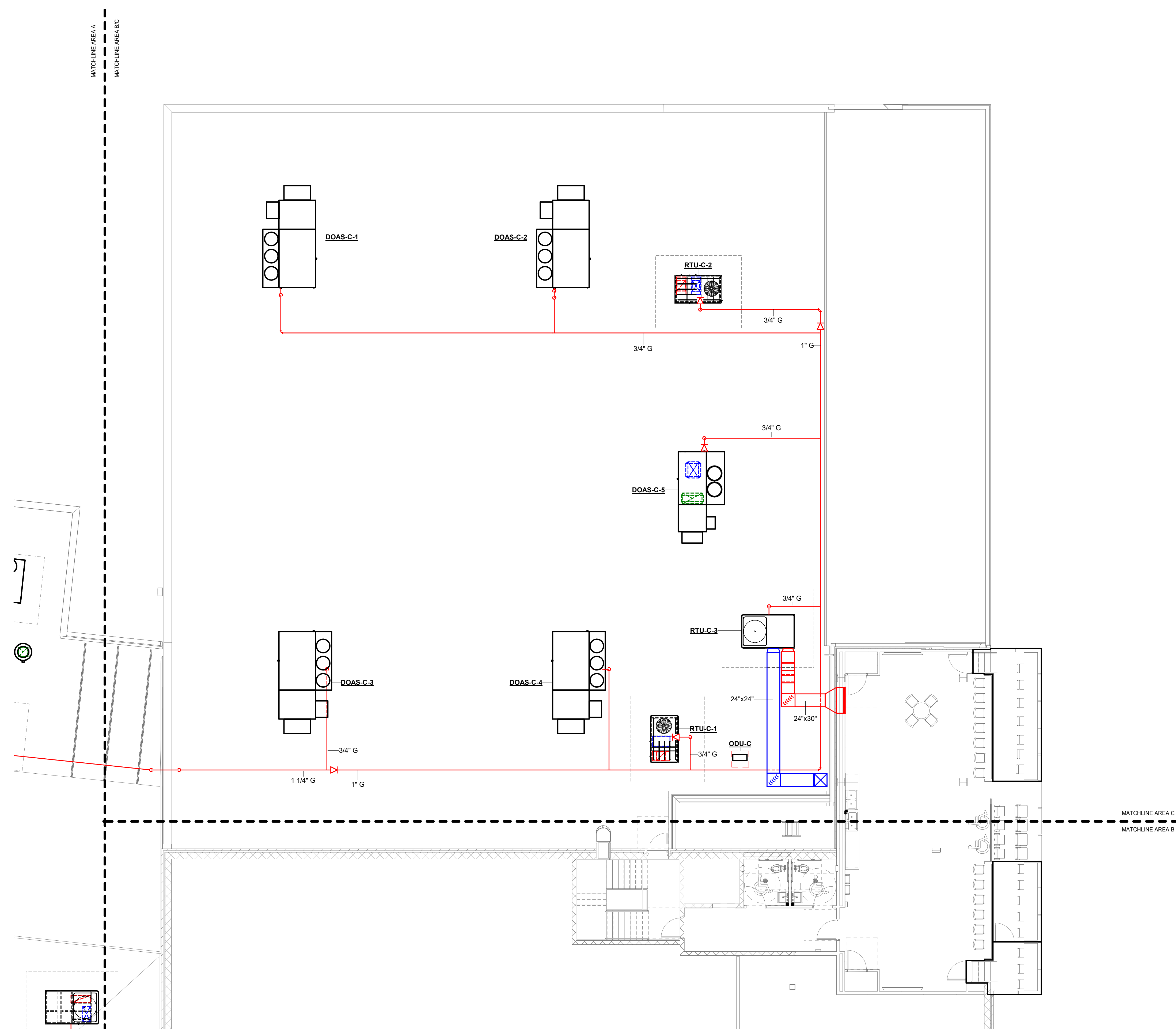
DEVELOPER/OWNER

WYNNE SCHOOL DISTRICT

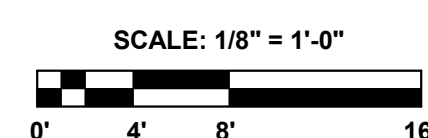
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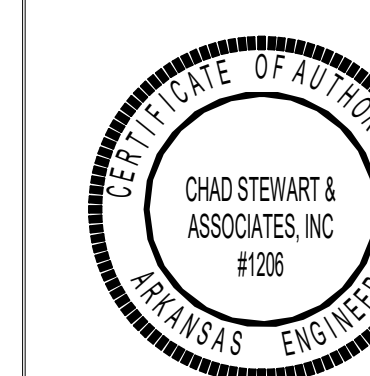
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**1 ROOF PLAN - AREA C - MECHANICAL**  
 1/8" = 1'-0"



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 9720 Village Circle Lakeland, TN 38002  
 Phone 901-260-7850 CSAengineeringinc.com



SHEET TITLE  
 ROOF PLAN - AREA C - MECHANICAL

DATE

17.10.24

SHEET NUMBER

**M104.4**



**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
WYNNE AR 72396

**PROJECT NUMBER**

-

**DEVELOPER/OWNER**

WYNNE SCHOOL DISTRICT

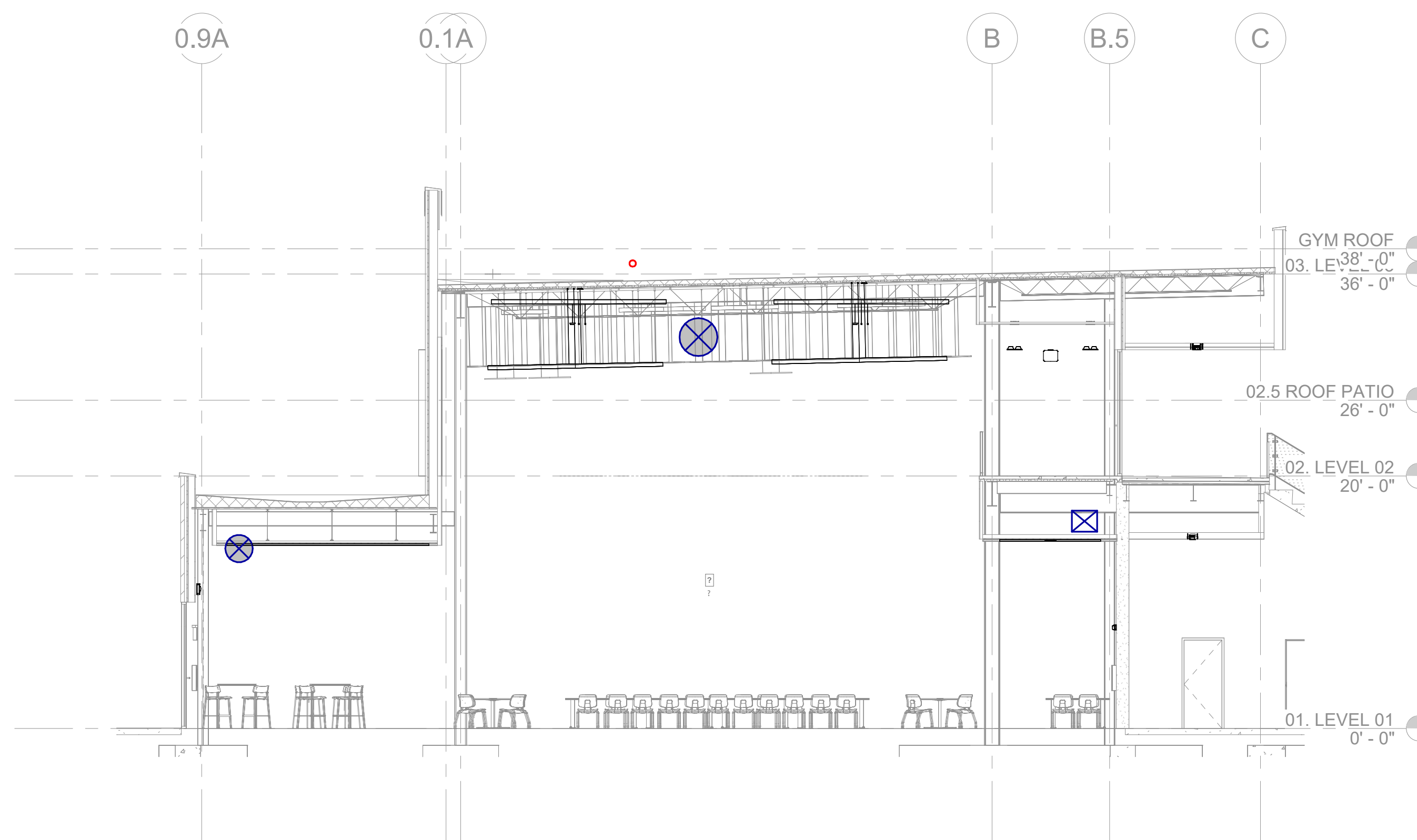
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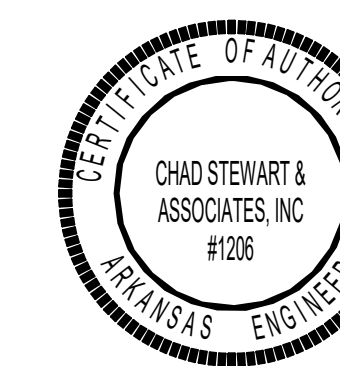
Revision Description Date



**1 MECHANICAL SECTION @ A-SOUTH**  
1/8" = 1'-0"



**2 MECHANICAL SECTION @ CAFETERIA**  
1/8" = 1'-0"



**SHEET TITLE**

SECTIONS - MECHANICAL

**DATE**

17.10.24

**SHEET NUMBER**

**M201**





**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
 WYNNE AR 72396

**PROJECT NUMBER**

-

**DEVELOPER/OWNER**

WYNNE SCHOOL DISTRICT

**INFORMATION**

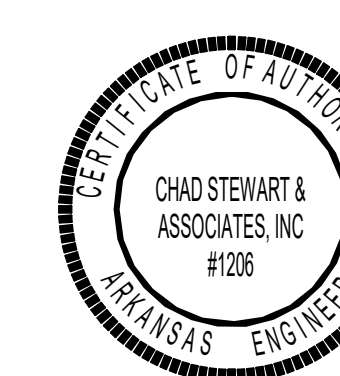


Revision Description Date



KITCHEN AIR BALANCE TABLE FACS LAB		
UNIT	MAKE-UP AIR (CFM)	EXHAUST AIR (CFM)
KEF-3	--	2,900
KEF-4A	--	1,900
KEF-4B	--	1,900
DKEF-1	--	400
DKEF-2	--	400
DKEF-3	--	400
DKEF-4	--	400
KMAU-3	2,600	--
KMAU-4	3,400	--
DKMAU-1	1,600	--
RTU-AN-14	400	--
TRANSFER AIR	300	--
TOTAL	8,300	8,300
KITCHEN NEGATIVE PRESSURIZATION		3.8%

**1 ENLARGED PLAN - FACS LAB**  
 1/4" = 1'-0"

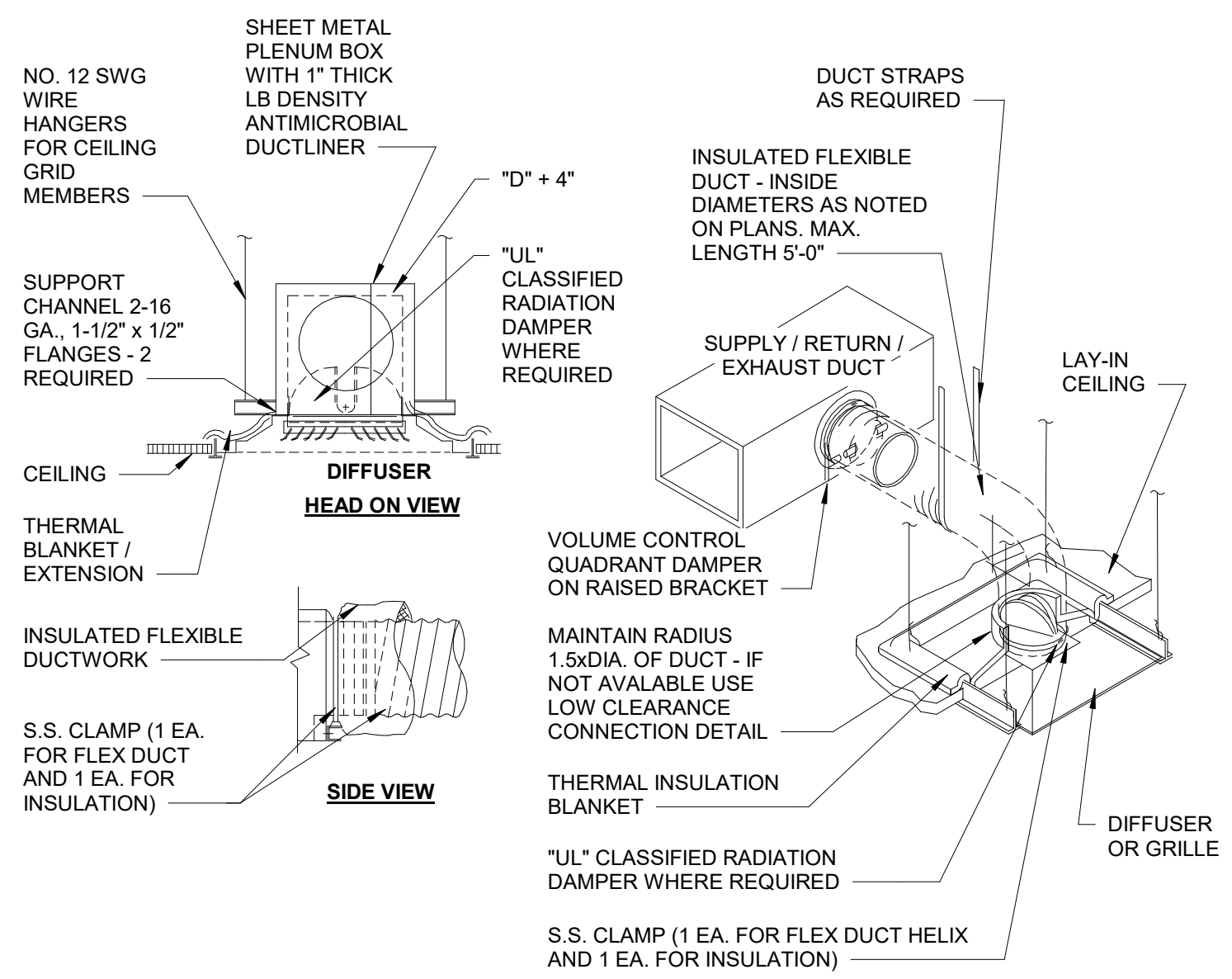


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 ENLARGED PLANS - MECHANICAL

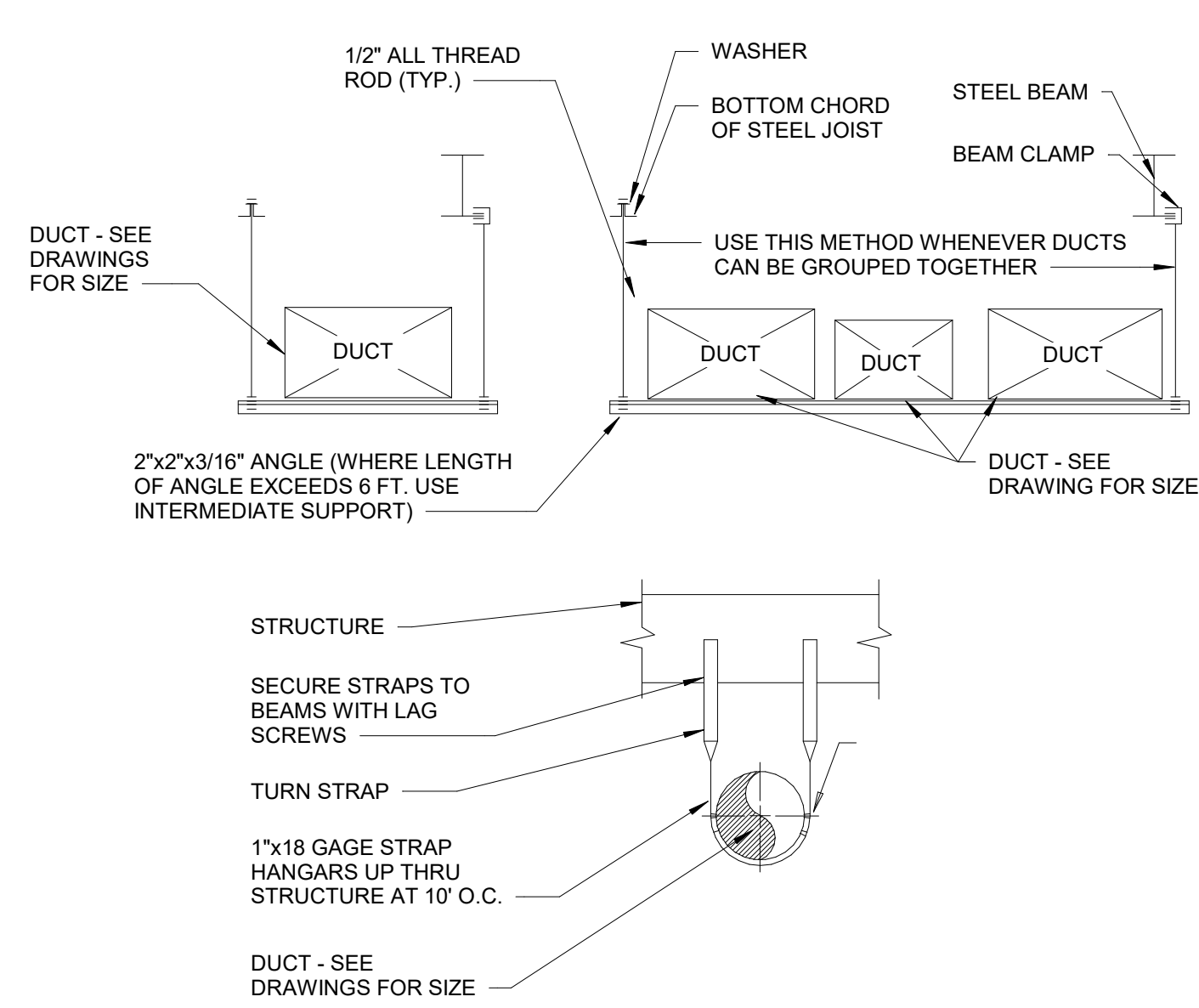
**DATE**  
 17.10.24

**SHEET NUMBER**

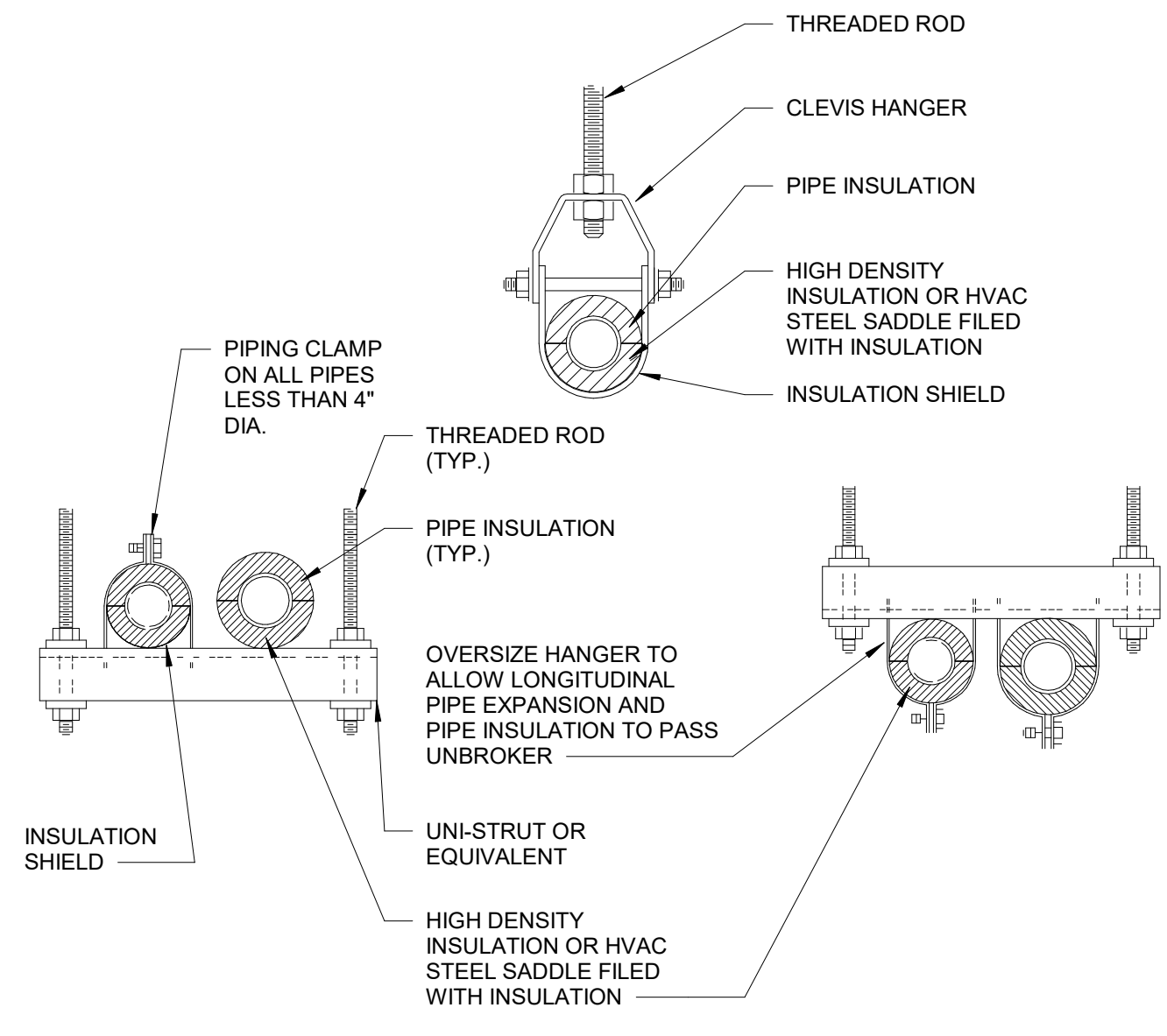
**M302**



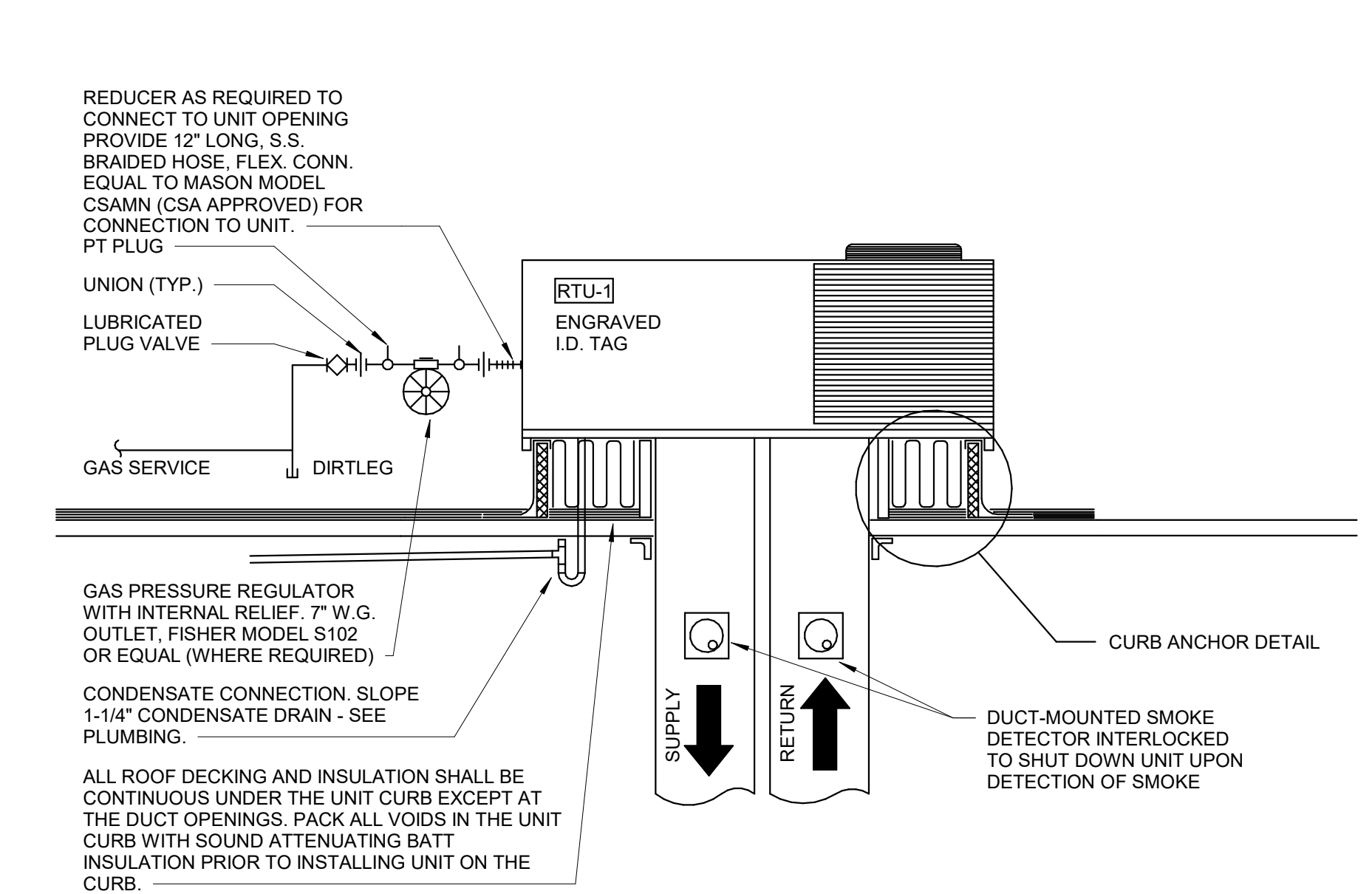
**1 DIFFUSER & GRILLE DETAIL**  
N.T.S.



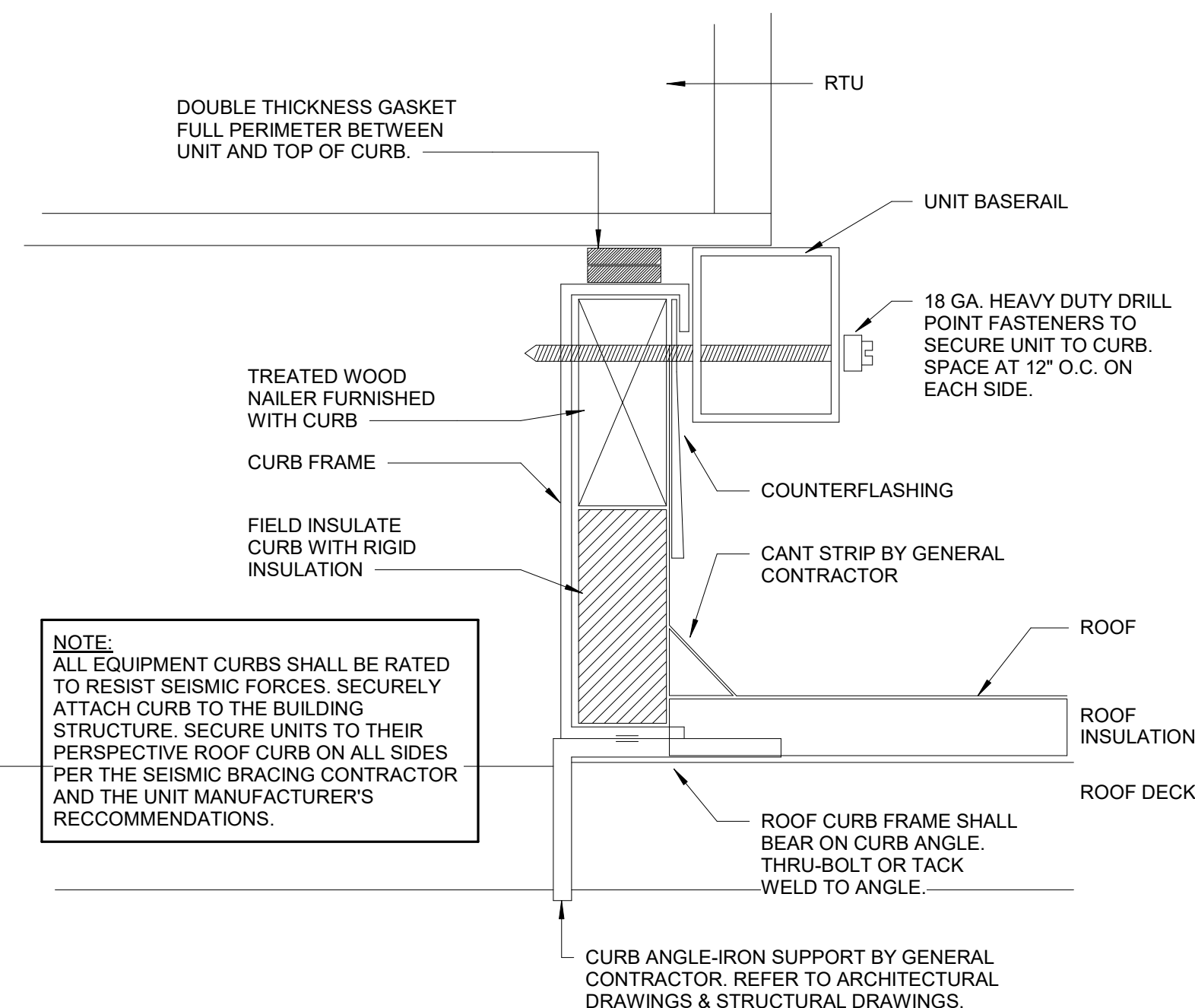
**2 LOW PRESS. DUCT SUPPORT DETAIL**  
N.T.S.



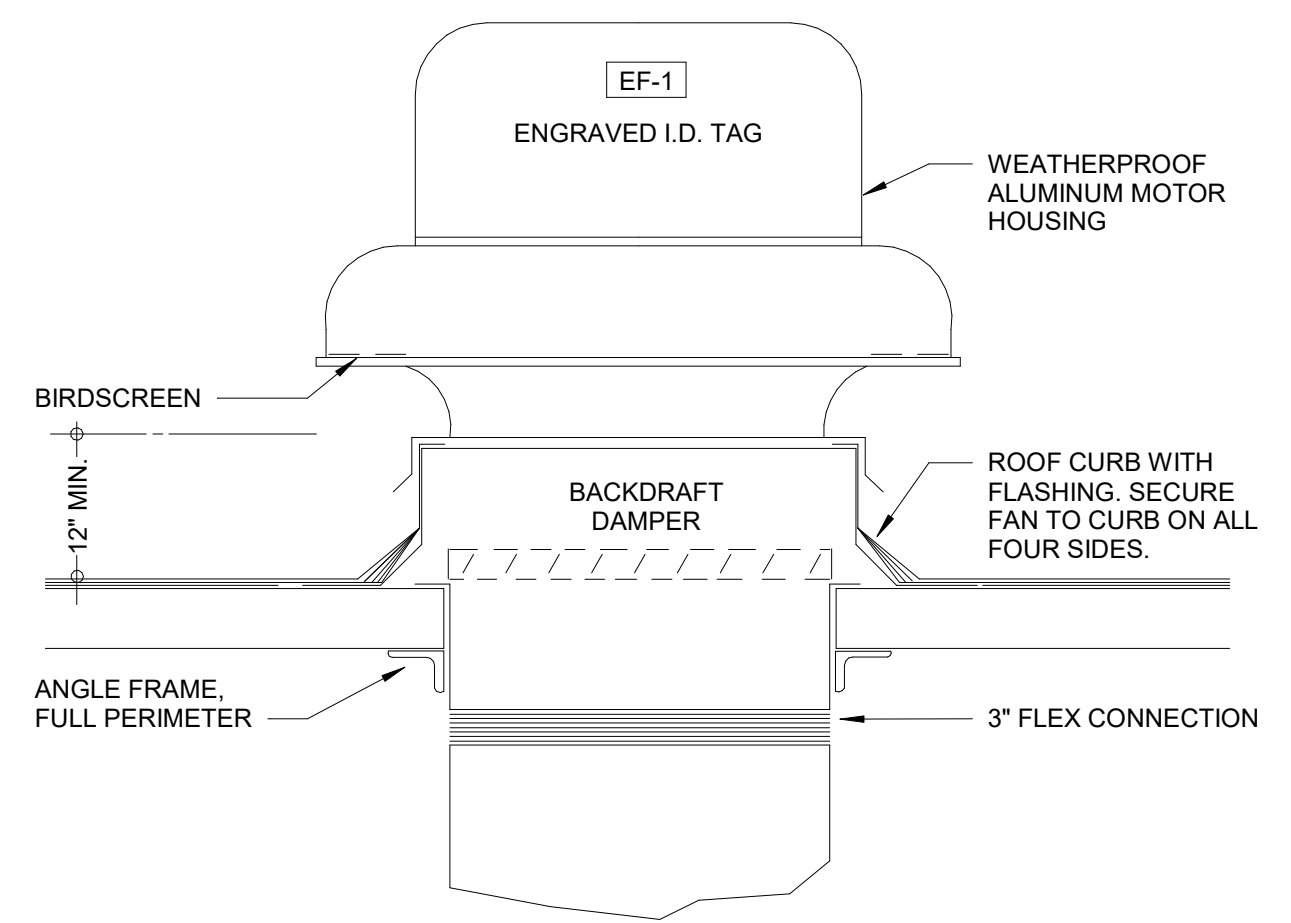
**3 PIPE SUPPORT DETAIL**  
N.T.S.



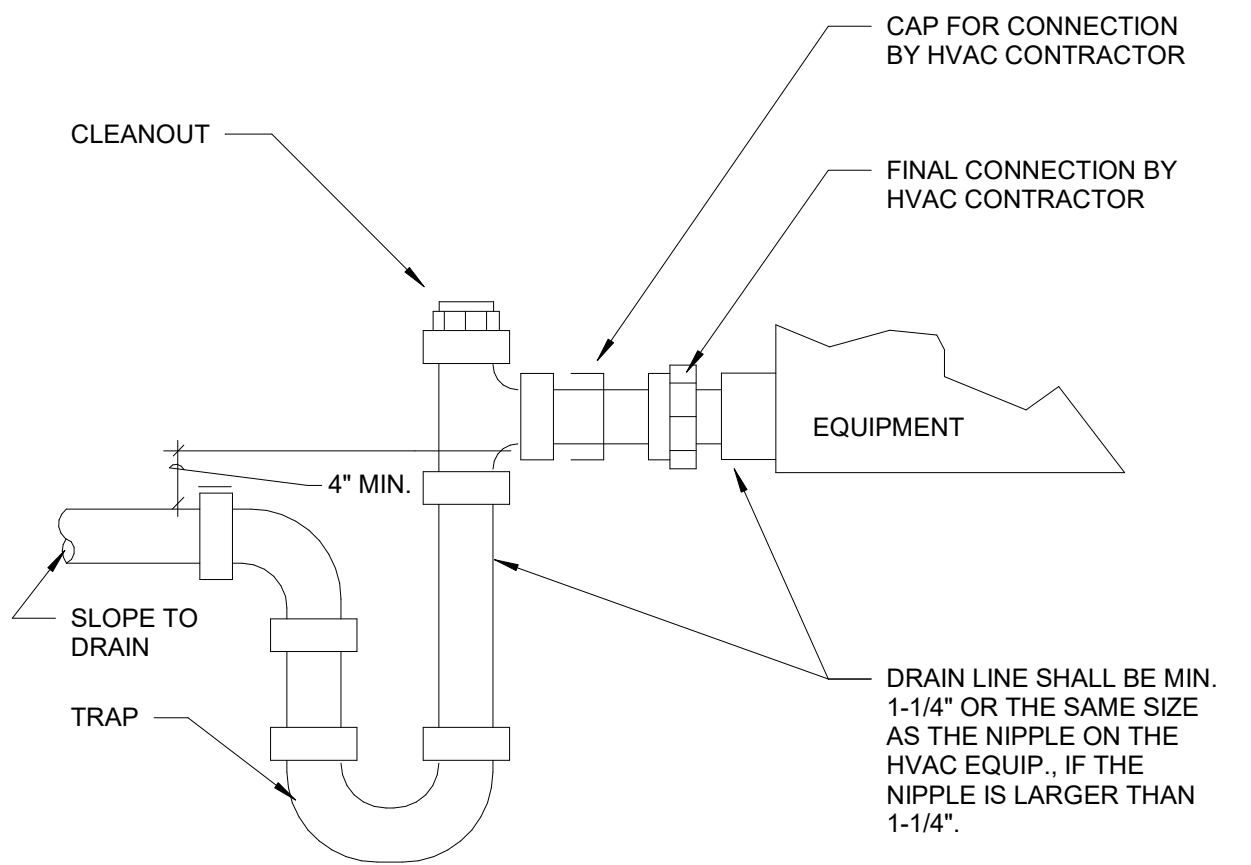
**4 ROOFTOP UNIT DETAIL**  
N.T.S.



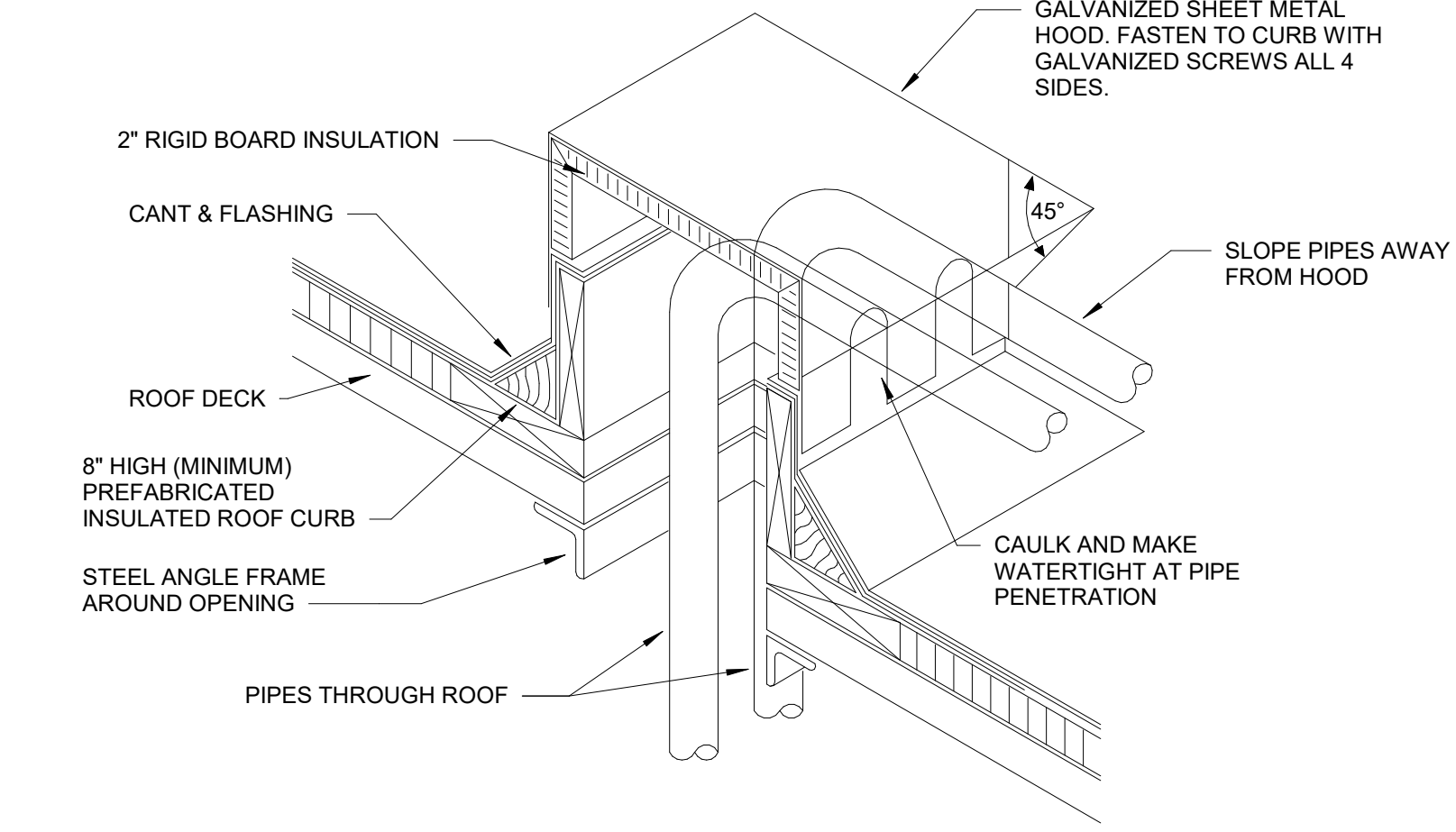
**5 CURB ANCHOR DETAIL**  
N.T.S.



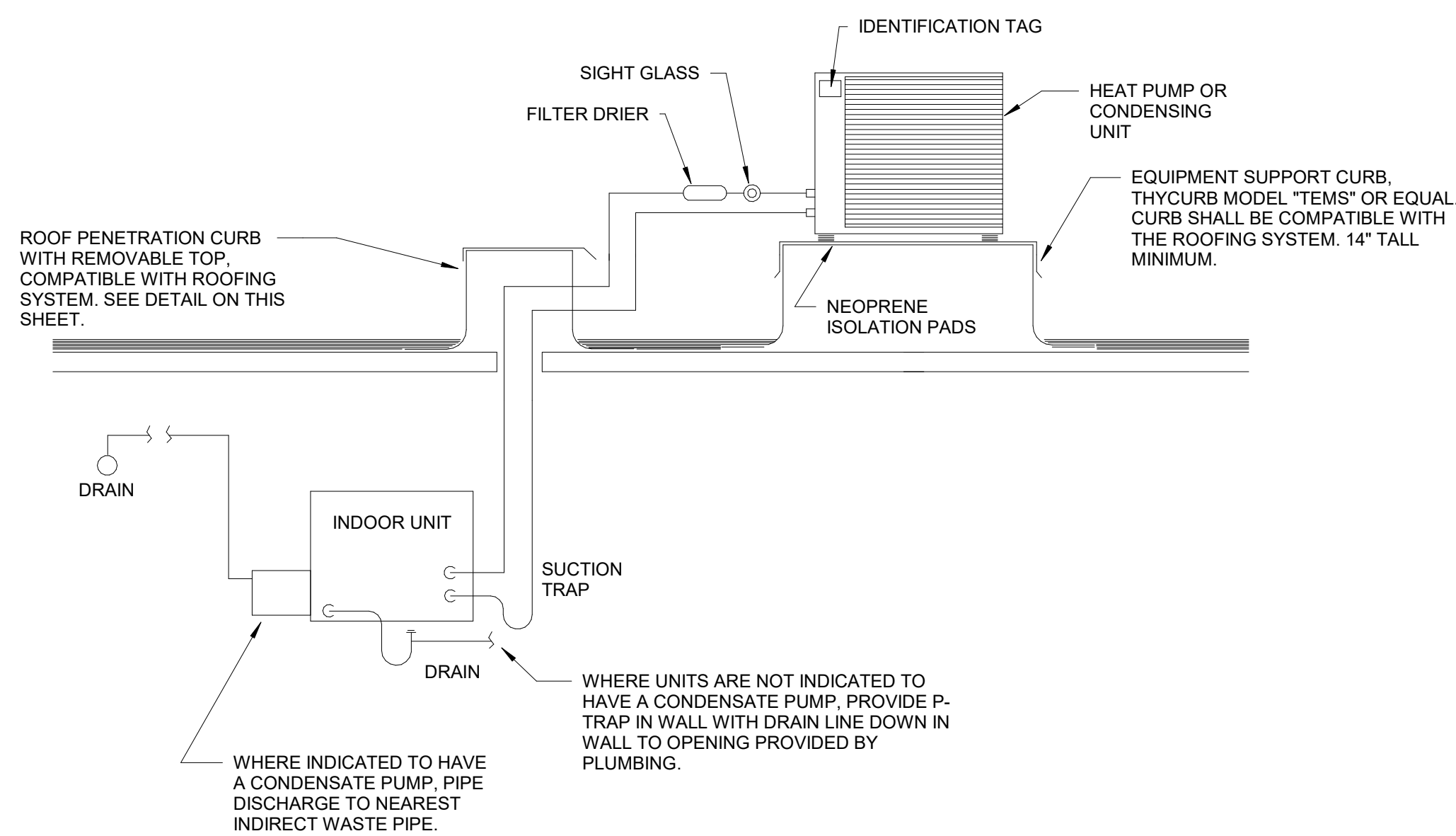
**6 ROOF MOUNTED CENTRIFUGAL FAN DETAIL**  
N.T.S.



**7 CONDENSATE TRAP PIPING DETAIL**  
N.T.S.

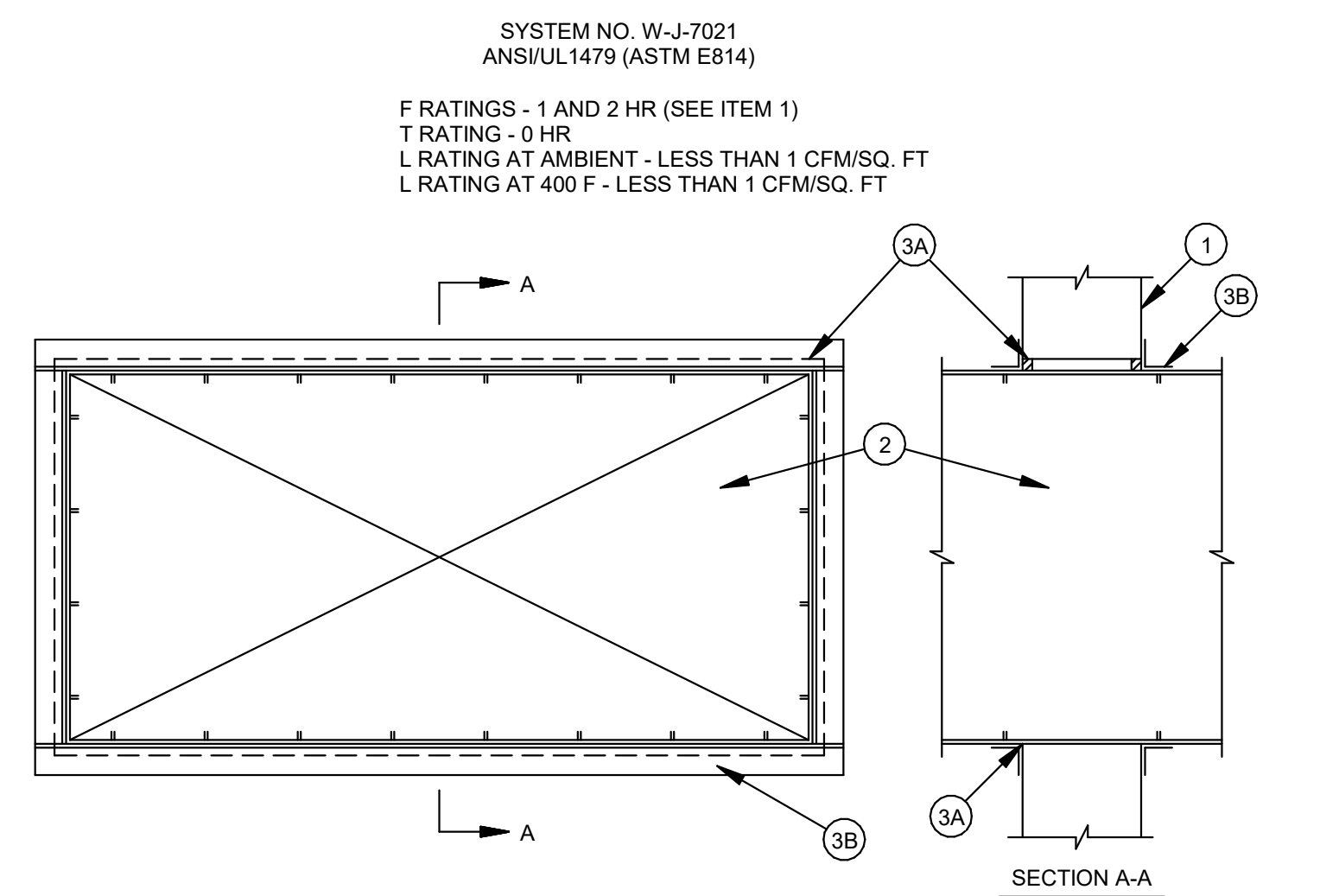


**8 PIPE PENETRATION OF ROOF DETAIL**  
N.T.S.



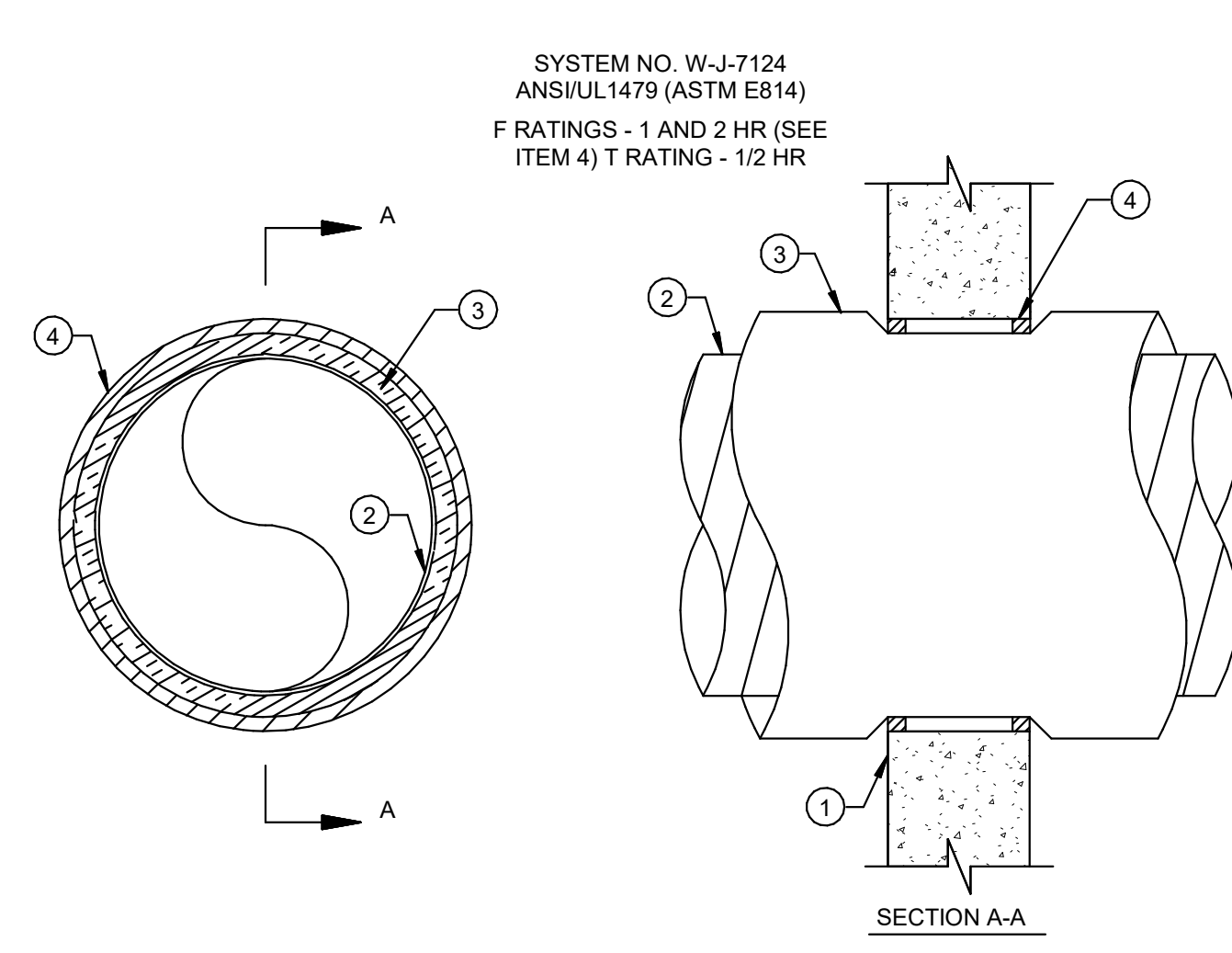
**9 SPLIT SYSTEM DETAIL**  
N.T.S.





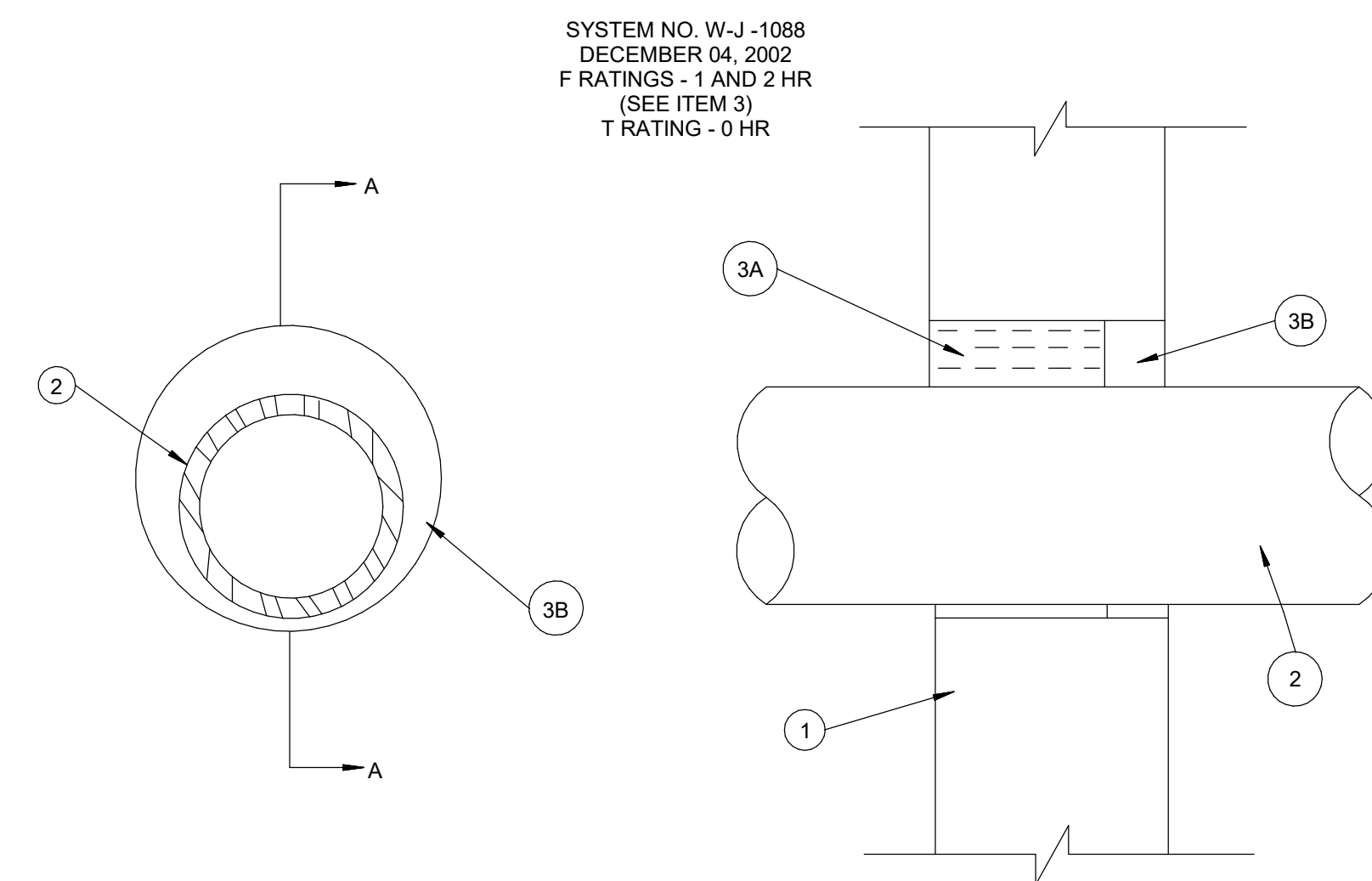
- WALL ASSEMBLY - MIN 4-3/4 IN. AND 6 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE FOR 1 AND 2 HR RATINGS, RESPECTIVELY. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS\* MAX AREA OF OPENING IS 1300 IN<sup>2</sup> WITH A MAX DIMENSION OF 50 IN. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
- STEEL DUCT - NOM. 24 IN. BY 46 IN. (OR SMALLER) NO. 24 GAUGE (OR HEAVIER) GALV. STEEL DUCT TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE SHALL BE MIN 0 (POINT CONTACT) IN. TO A MAX 2 IN. DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE WALL ASSEMBLY.
- FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
  - FILL VOID OR CAVITY MATERIAL - SEALANT - MIN 3/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS FLUSH WITH BOTH SURFACES OF WALL. AT POINT CONTACT LOCATION, A MIN 1/2 IN. DIAM BEAD OF FILL MATERIAL SHALL BE APPLIED TO THE WALL/DUCT INTERFACE ON BOTH SURFACES OF WALL. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT, FS-ONE MAX INTUMESCENT SEALANT, CP601S ELASTOMERIC FIRESTOP SEALANT, CFS-S-SIL, GG SEALANT OR CP606 FLEXIBLE SEALANT.
  - STEEL RETAINING ANGLE - MIN NO. 18 MSG (0.048 IN.) GALV. STEEL ANGLES CUT TO FIT CONTOUR OF DUCT WITH A 2 IN. OVERLAP ON THE DUCT AND A MIN 1 IN. OVERLAP ON THE GYPSUM BOARD ASSEMBLY ON BOTH SURFACES OF WALL. 2 IN. LEG OF ANGLE SECURED TO DUCT WITH MIN NO. 8 BY 3/4 IN. LONG SHEET METAL SCREWS, SPACED A MAX OR 6 IN. OC.

\* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.



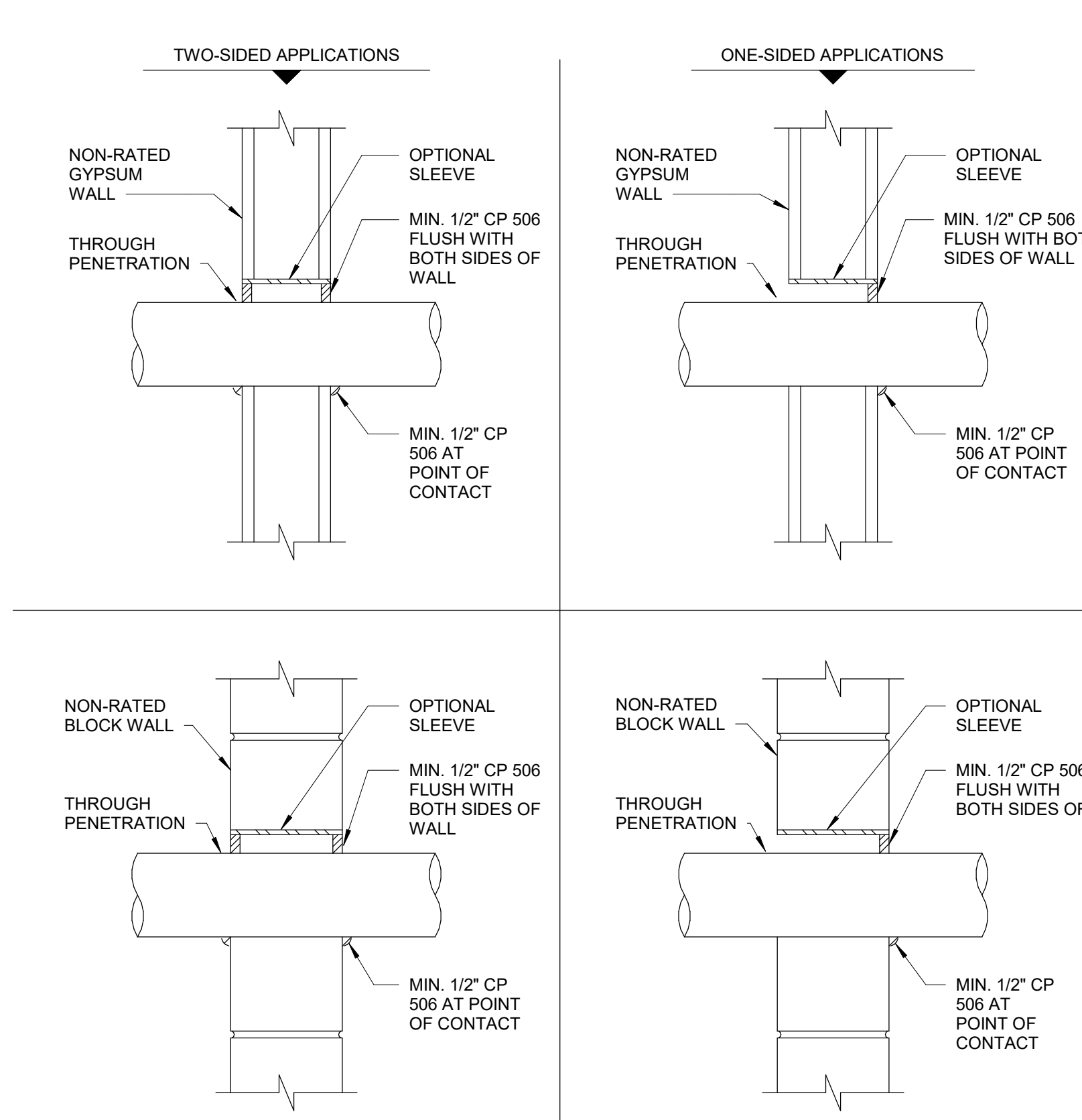
- WALL ASSEMBLY - MIN 6 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS\* MAX. DIAM. OF OPENING IS 24 IN. SEE CONCRETE BLOCKS (CAZT) IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
- STEEL DUCT - GALV. STEEL DUCT TO BE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
- THROUGH-PENETRANTS - ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. AN ANNULAR SPACE OF MIN 1/4 IN. TO MAX 1-5/8 IN. IS REQUIRED WITHIN FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
  - STEEL PIPE - NOM 8 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
  - IRON PIPE - NOM 8 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
  - CONDUIT - NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING (EMT) OR 6 IN. DIAM STEEL CONDUIT.
  - COPPER TUBING - NOM 4 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
  - COPPER PIPE - NOM 4 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
  - FLEXIBLE STEEL CONDUIT - NOM 2 IN. DIAM (OR SMALLER) FLEXIBLE STEEL CONDUIT. SEE FLEXIBLE METAL CONDUIT (DMXJ) CATEGORY IN THE ELECTRICAL CONSTRUCTION EQUIPMENT DIRECTORY FOR NAMES OF MANUFACTURERS.
- FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
  - PACKING MATERIAL - MIN 2-1/8 IN. OR 2-3/4 IN. THICKNESS OF MIN 4 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING ON ONE SIDE OF THE WALL AS PERMANENT FORM FOR 1 AND 2 HR WALLS, RESPECTIVELY. PACKING MATERIAL TO BE RECESSED FROM ONE SIDE OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
  - FILL VOID OR CAVITY MATERIAL - SEALANT - MIN 5/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT.

\* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.



- WALL ASSEMBLY - MIN 3-3/4 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS\* MAX DIAMETER OF OPENING 10-12 IN. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
- THROUGH-PENETRANTS - ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. AN ANNULAR SPACE OF MIN 1/4 IN. TO MAX 1-5/8 IN. IS REQUIRED WITHIN FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
  - STEEL PIPE - NOM 8 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
  - IRON PIPE - NOM 8 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
  - CONDUIT - NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING (EMT) OR 6 IN. DIAM STEEL CONDUIT.
  - COPPER TUBING - NOM 4 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
  - COPPER PIPE - NOM 4 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
  - FLEXIBLE STEEL CONDUIT - NOM 2 IN. DIAM (OR SMALLER) FLEXIBLE STEEL CONDUIT. SEE FLEXIBLE METAL CONDUIT (DMXJ) CATEGORY IN THE ELECTRICAL CONSTRUCTION EQUIPMENT DIRECTORY FOR NAMES OF MANUFACTURERS.
- FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
  - PACKING MATERIAL - MIN 2-1/8 IN. OR 2-3/4 IN. THICKNESS OF MIN 4 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING ON ONE SIDE OF THE WALL AS PERMANENT FORM FOR 1 AND 2 HR WALLS, RESPECTIVELY. PACKING MATERIAL TO BE RECESSED FROM ONE SIDE OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
  - FILL VOID OR CAVITY MATERIAL - SEALANT - MIN 1 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN OPENING, FLUSH WITH ONE SURFACE OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT \*BEARING THE UL CLASSIFICATION MARK \*BEARING THE UL LISTING MARK



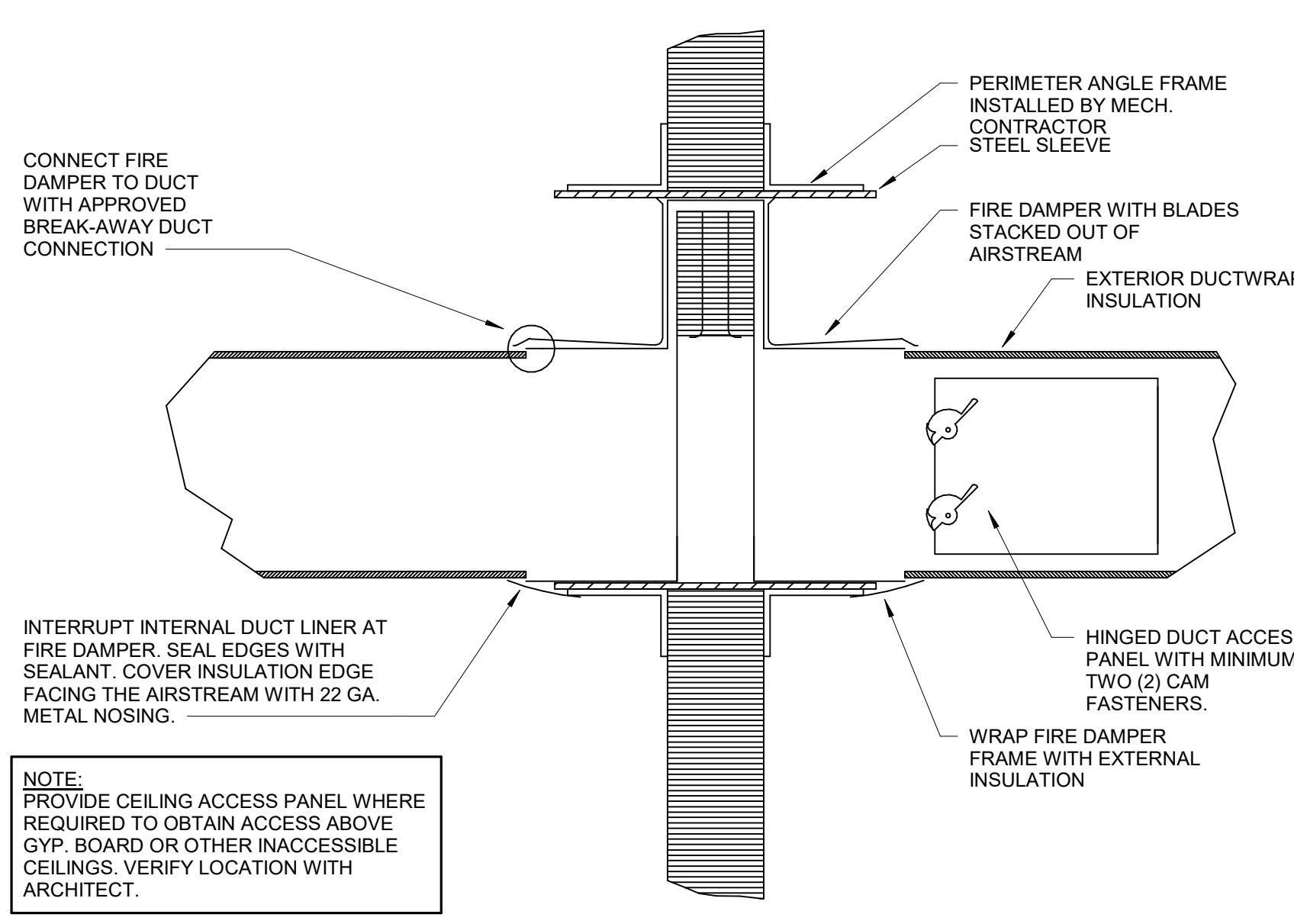
- LIMITATIONS:
- HILTI CP 506 SMOKE AND ACOUSTIC SEALANT MAY BE INSTALLED WHERE IT IS NECESSARY TO RESTRICT SMOKE MIGRATION THROUGH NON-FIRE RATED ASSEMBLIES.
  - NOT FOR FIRE-RATED ASSEMBLIES.
  - NOT FOR USE WITH CPVC PIPING.
  - REFER TO PRODUCT LITERATURE FOR COMPLETE DETAILS ON INSTALLATION, SUITABLE APPLICATIONS, AND LIMITATIONS. THESE DETAILS REPRESENT GENERAL INSTALLATION GUIDELINES TO SATISFY SMOKE PARTITION SEALING REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE (2003, 2006, 2009, 2012, 2015, OR 2018). OBTAIN ALL APPLICABLE HAVING JURISDICTION APPROVAL PRIOR TO INSTALLATION.

**1 DUCT PENETRATION THROUGH FIRE RATED WALL**  
N.T.S.

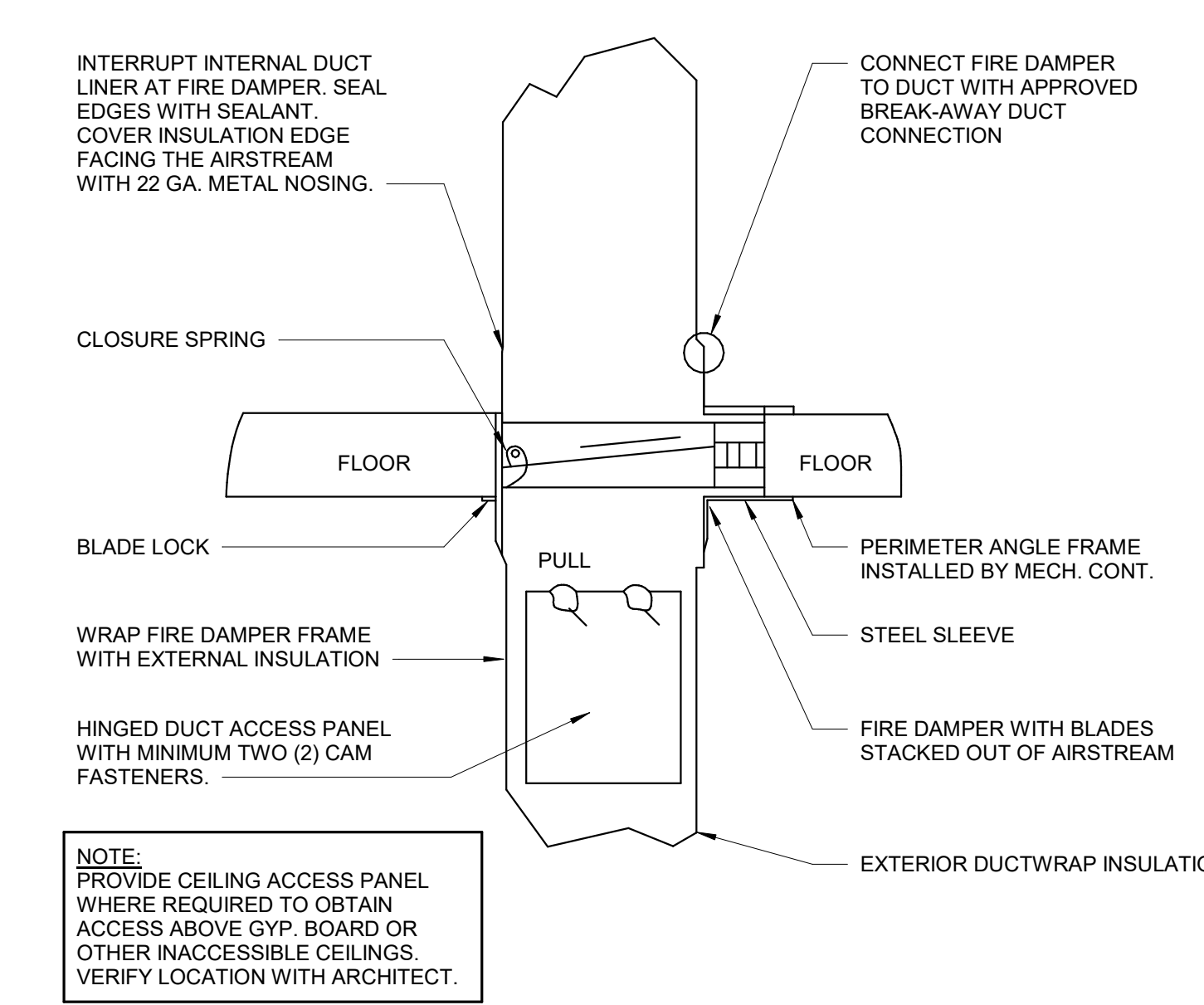
**2 ROUND DUCT PENETRATION THROUGH FIRE RATED WALL**  
N.T.S.

**3 PIPE PENETRATION THROUGH RATED WALL**  
N.T.S.

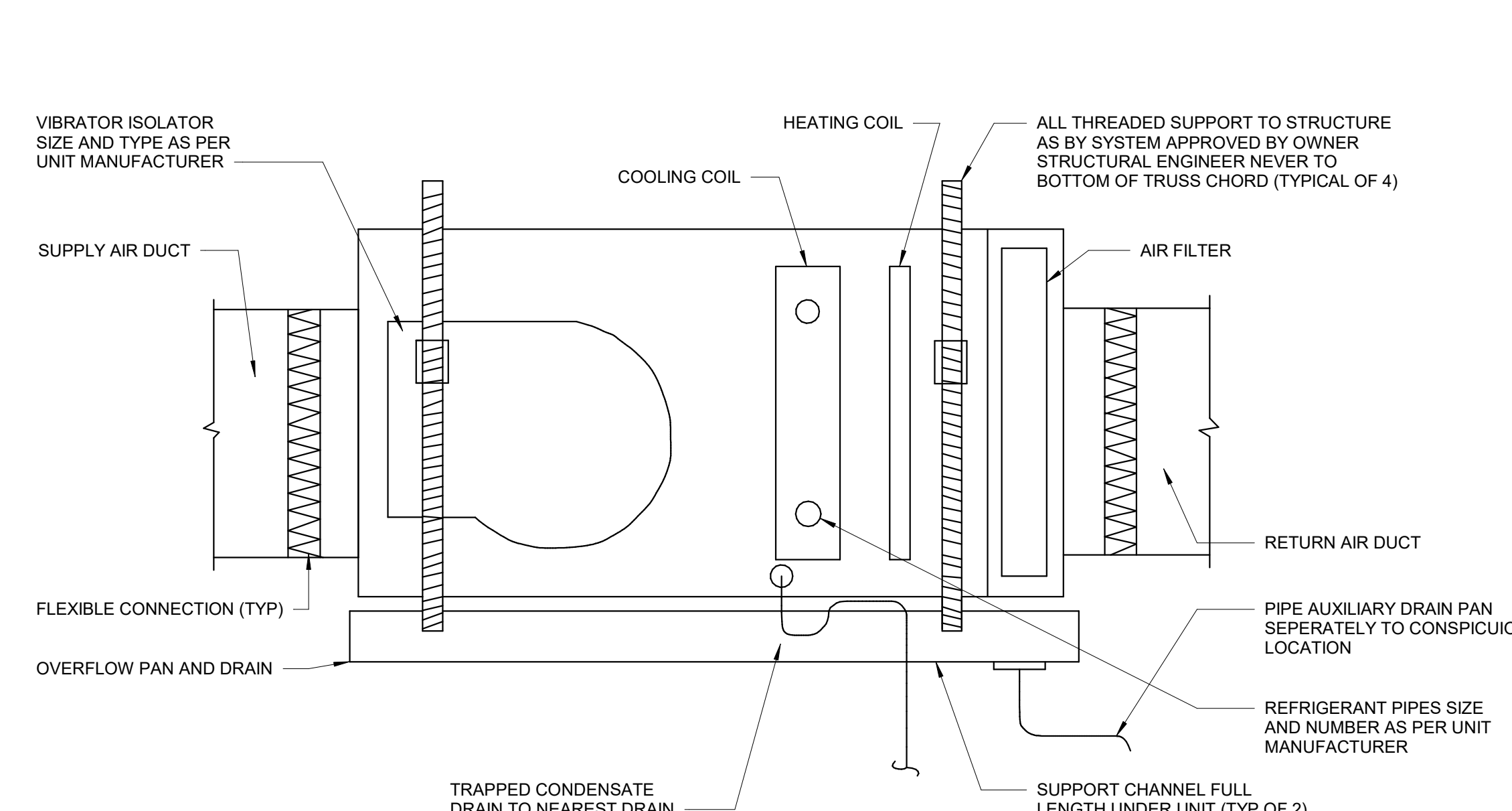
**4 SMOKE PARTITION DETAIL**  
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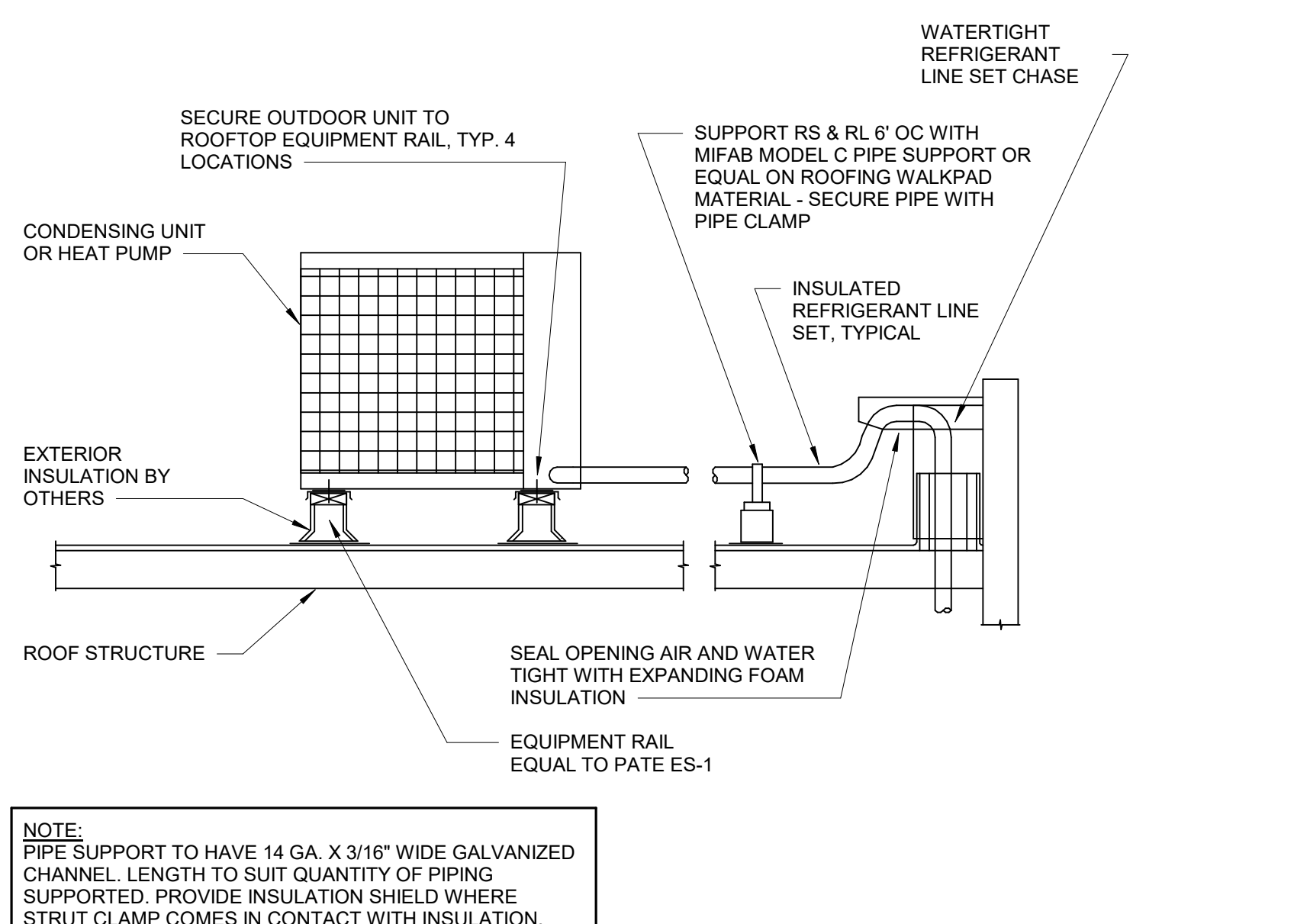
**5 FIRE DAMPER DETAIL**  
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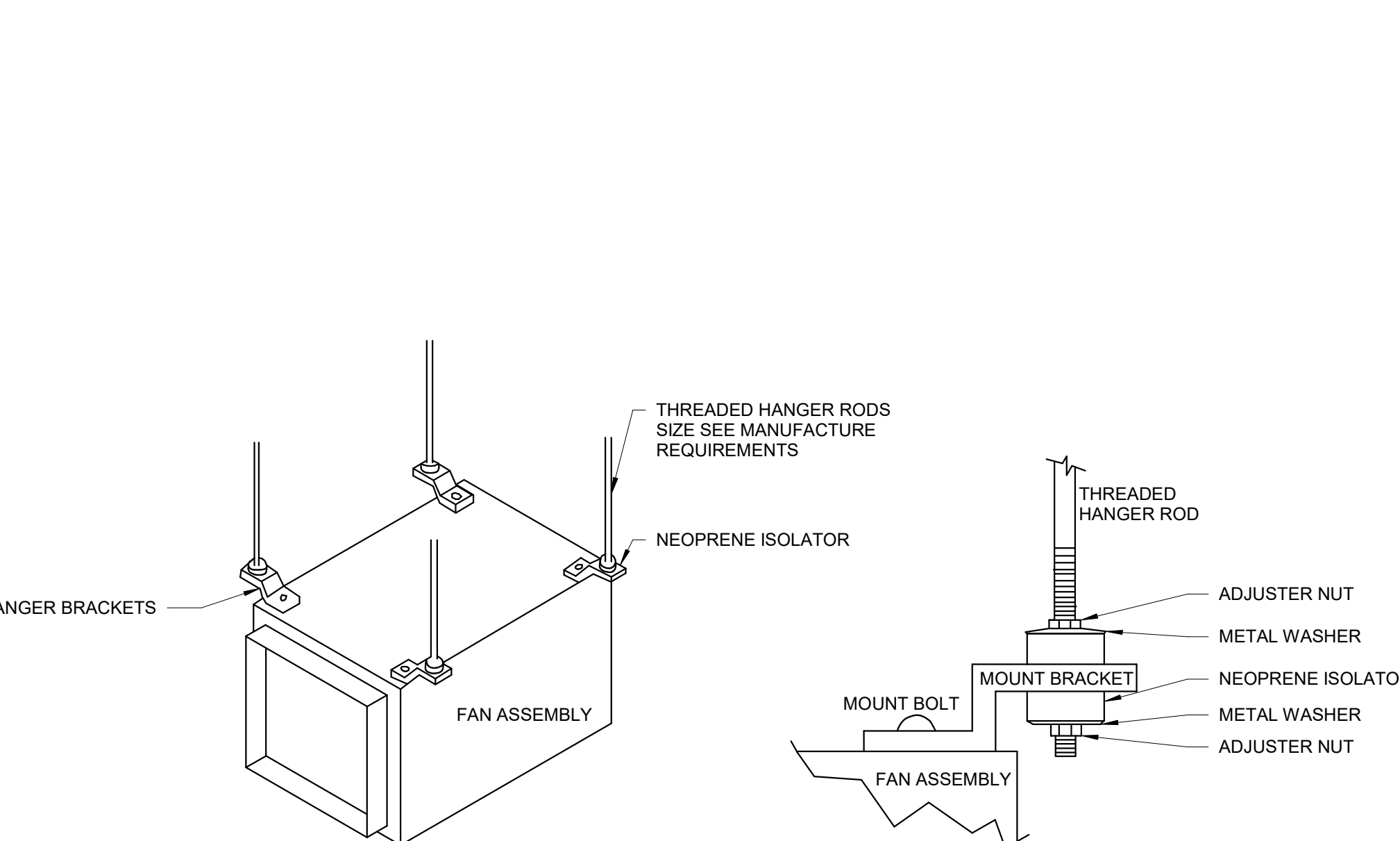
**6 FIRE DAMPER FLOOR MOUNT**  
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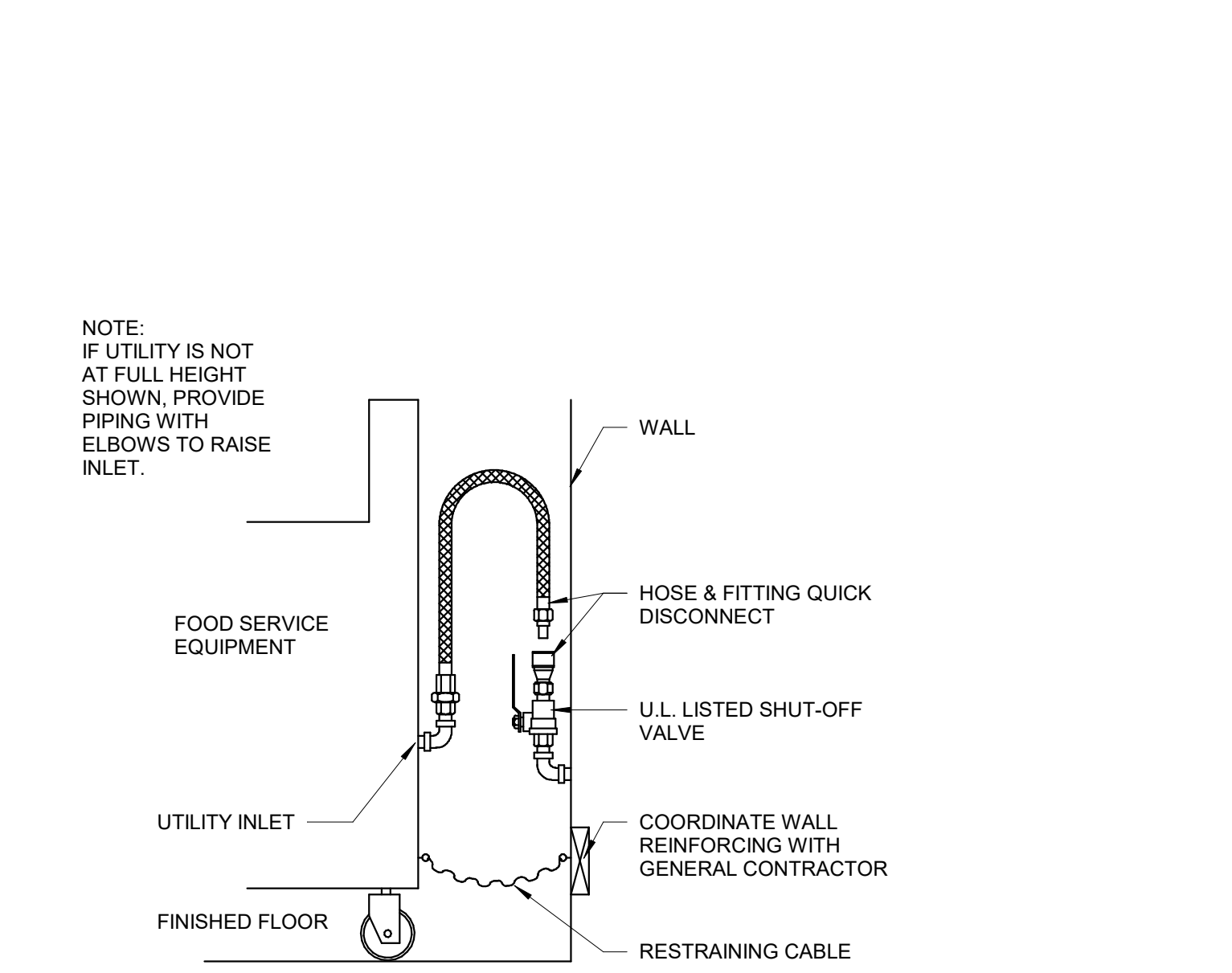
**7 AHU HORIZONTAL INSTALLATION DETAIL**  
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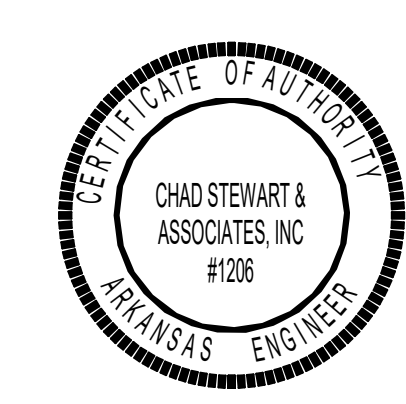
**8 OUTDOOR UNIT ROOF MOUNTING DETAIL**  
N.T.S.



**9 NEOPRENE HANGING ISOLATOR DETAIL**  
N.T.S.



**10 GAS CONNECTION TO KITCHEN EQUIPMENT**  
N.T.S.







EXHAUST FAN INFORMATION - JOB#682305																
FAN UNIT NO.	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL.	HP	BHP	PHASE	VOL.T	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDMS
1	KEF-1	1	DUB80FA	CAPTIVEAIR	8000	1.000	3037	ESP-PREMIUM	1.000	0.7950	3	460	3.0	427 FPM	170	111
2	KEF-2	1	DUB80FA	CAPTIVEAIR	8000	1.000	3037	ESP-PREMIUM	1.000	0.7950	3	460	3.0	427 FPM	170	111
4	KEF-1	1	DUB80FA	CAPTIVEAIR	750	0.500	1369	TEAD-CH	0.500	0.393	1	115	4.3	371 FPM	64	13

DOAS/RTU FAN SCHEDULE - JOB#682305																
FAN UNIT NO.	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM (RAI)	MAX TOTAL CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOL.T	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDMS
1	KMAU-1	1	CAS-HVAC2-1300-18-10T-MPU	CAPTIVEAIR	20M-2-RTU	0	4300	4300	0.500	0.500	3	460	3.0	427 FPM	170	111

ELECTRICAL INFORMATION													
DISCHARGE	CAPACITY	RESISTIVE LOAD	GAS TYPE	WINDUPT/TEMP	TEMP	REQUIRED SHUT	REMARKS						
28	V3	DESIGNS	MAX	NATURAL	2049/7239/36	477	7 IN. V.C. - 14 IN. V.C.						

GAS HEAT INFORMATION													
DISCHARGE	CAPACITY	RESISTIVE LOAD	GAS TYPE	WINDUPT/TEMP	TEMP	REQUIRED SHUT	REMARKS						
28	V3	DESIGNS	MAX	NATURAL	2049/7239/36	477	7 IN. V.C. - 14 IN. V.C.						

NOTES													
1. EXHAUST SCROLL COMPRESSOR WITH INTEGRATED DEL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL.													
2. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER.													
3. REGENERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE. SIZE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE.													
4. FACTORY INSTALLED.													
5. FACTORY INSTALLED.													
6. ELECTRONIC EXPANSION VALVE. TVV NOT ACCEPTABLE.													
7. FACTORY INSTALLED.													
8. AEROSOL INTAKE. 20 YEAR WARRANTY IN STAINLESS STEEL HEAT EXCHANGER.													
9. AEROSOL INTAKE. 20 YEAR WARRANTY IN STAINLESS STEEL HEAT EXCHANGER.													
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100. 20 YEAR WARRANTY IN STAINLESS STEEL HEAT EXCHANGER.													

### KITCHEN EQUIPMENT DETAILS - CAFETERIA 5

FAN #3 CAS-HVAC2-1300-18M-10T-MPU - HEATER (KMAU-1)

NOTES

- DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
- DO NOT OBSTRUCT EXHAUST WEIGHT.
- ROOF OPENING MUST BE 2" SMALLER THAN CURB.
- CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.

NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN ANCA PUBLICATION 08L WHEN USING RECTANGULAR DUCTWORK. USE ROUND DUCTWORK WHERE PRACTICABLE. ALL DUCTWORK MUST BE PROPERLY SUPPORTED AND SQUARE THROUGHOUT. SQUARE BLOCK ELBOWS SHOULD NOT BE USED. ANY TUNCTION AND/OR TURN IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT SYSTEM EFFECT WILL BRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT REDUCE DUCT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 20 1/2" X 30 1/2".

Typical DOAS/RTU Roof Mounting Installation Instructions

- Secure the curb to the roof framing members by drilling 1/4" x 1/2" pilot holes in the curb flanges at locations shown in the diagram below using 3/8" x 4" zinc plated steel lag bolts and zinc plated washers. Insert washers through the curb flanges and into the roof framing members a minimum of 6" on each side of each short side, and 10" on each long side. Size is required.
- Secure the unit base to the side walls of the curb using 1/4" x 4" x 2" self-drilling, steel zinc plated screws. Pre-drilled holes have been provided for each curb location.

### KITCHEN EQUIPMENT DETAILS - CAFETERIA 7

FAN #1 KEF-1, #2 KEF-2, #4 KEF-1 - BURGER EXHAUST FAN

FEATURES

- DIRECT DRIVE CONSTRUCTION AND MULTIPALLETS
- ROOF MOUNTED FAN
- RECYCLABLE METAL
- UL700 AND UL740 AND ILL-645
- VARIABLE SPEED CONTROL
- INTERNAL OVERLOAD PROTECTION (SINGLE PHASE)
- INTERNAL OVERLOAD PROTECTION (THREE PHASE)
- HIGH HEAT OPERATION (300°F 149°C)
- GREASE CLASSIFICATION TESTING
- NEW OR SAFETY DISCONNECT SWITCH

NORMAL TEMPERATURE TEST

EXHAUST FAN MUST OPERATE CONTINUOUSLY UNTIL ALL PARTS HAVE REACHED THERMAL EQUILIBRIUM AND WITHOUT ANY INTERFERING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL TEMPERATURE TEST

EXHAUST FAN MUST OPERATE CONTINUOUSLY UNTIL ALL PARTS HAVE REACHED THERMAL EQUILIBRIUM AND WITHOUT ANY INTERFERING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

Electrical Package - Job#682305

NO	TAG	PACKAGE #	LOCATION	SWITCHES	OPTION	FANS CONTROLLED
1	SC-30100A	UTILITY CABINET RIGHT	HEAD # 1	1 LIGHT	SMART CONTROL'S THERMOSTATIC CONTROL V/ RELAY ON/OFF WITH SUPPLY	KEF-1 EXHAUST 3 1300 400 3.0 KEF-2 EXHAUST 3 1300 400 3.0 KMAU-1 SUPPLY 3 1300 400 3.0

### KITCHEN EQUIPMENT DETAILS - CAFETERIA 6

ELECTRICIAN NOTES

All Hand/Fan/BCV electrical connections and interconnections to be provided and installed by Electrician. Electrician to provide, install and label wiring between hood lights, hood temp sensors, remote fire system microswitches, and any other components requiring an electrical connection to the Captive-Aire electrical package.

Failure by the Electrician to make ALL required electrical connections and interconnections will result in the electrical controls not working properly. Any loss or failed test as a result of electrical controls not working properly is the responsibility of the Electrician.

MECHANICAL AND CONTROL PRINTS LIST

NO	DESCRIPTION	DATE	BY	REVISION
1	MECHANICAL AND CONTROL PRINTS LIST			

TANK PROTECTION ELECTRICAL DETAIL

TANK PROTECTION LOW-VOLTAGE DETAIL

### KITCHEN EQUIPMENT DETAILS - CAFETERIA 8

676 Marshall Ave. Suite 101  
Memphis, TN 38103  
901-487-6663  
www.arch1010.com

REGISTERED PROFESSIONAL ARCHITECT  
No. 15519  
GARY E. WHITTEN

PROJECT NAME  
WSD - NEW SENIOR HIGH SCHOOL

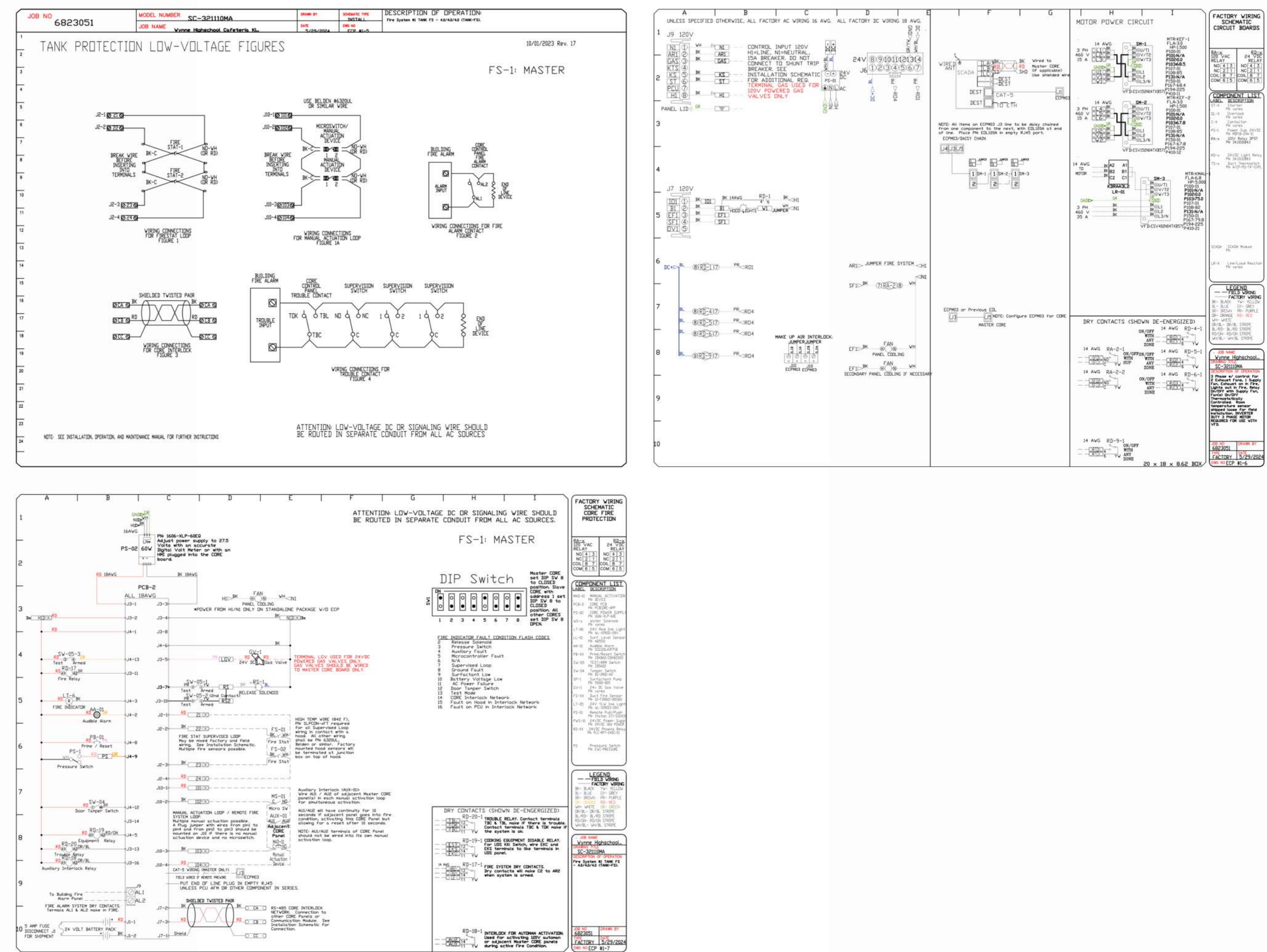
LOCATION  
800 E JACKSON AVE  
WYNNIE AR 72396

PROJECT NUMBER

DEVELOPER/OWNER  
WYNNIE SCHOOL DISTRICT

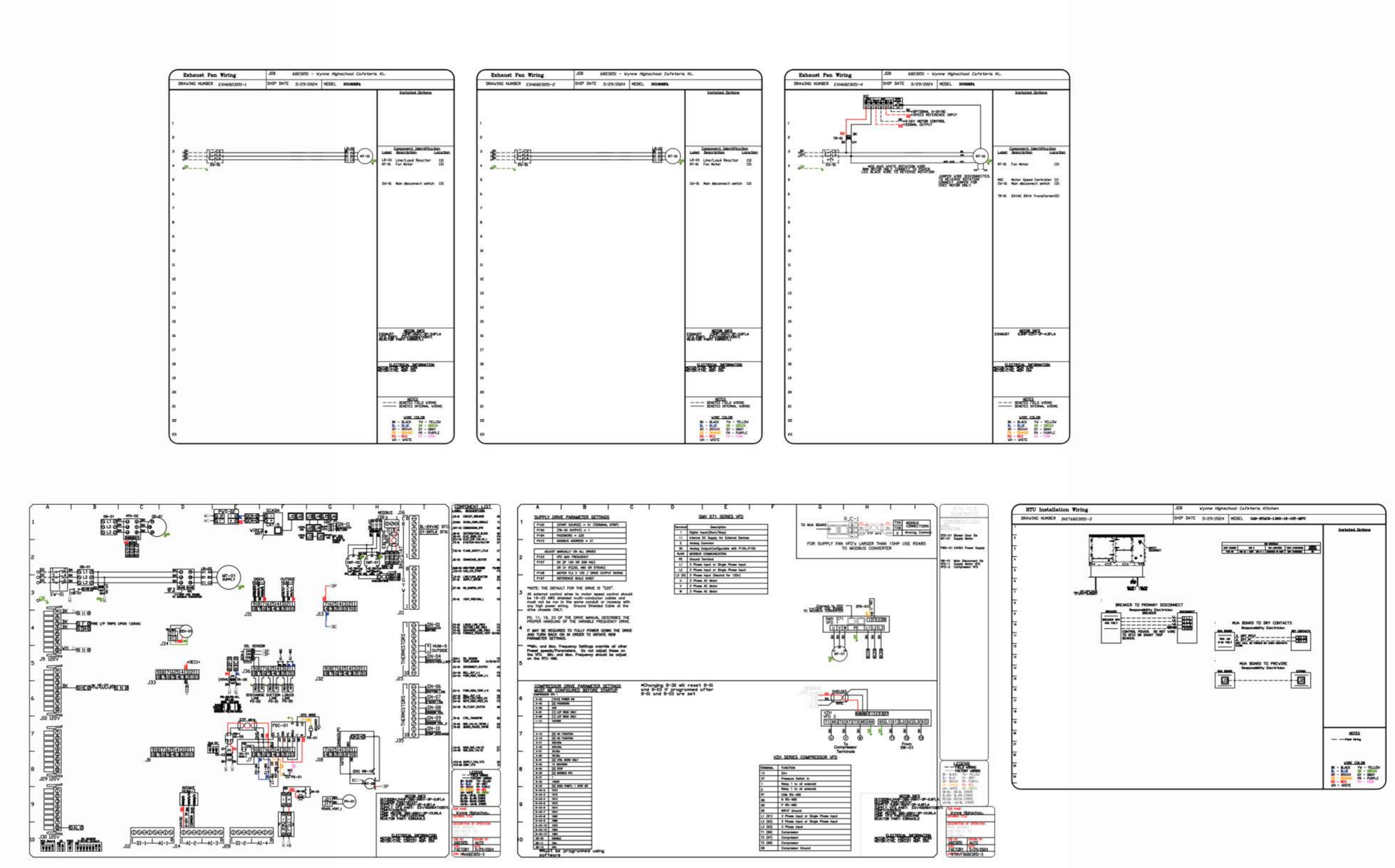
INFORMATION

**ELECTRICIAN NOTES:**  
 All Hood/Fan/DCV electrical connections and interconnections to be provided and installed by Electrician. Electrician to provide, install, and land wiring between hood lights, hood temp sensors, remote fire system microswitches, and any other component requiring an electrical connection to the Captive-Aire electrical package.  
 Failure by the Electrician to make ALL required electrical connections and interconnections will result in the electrical controls not working properly. Any loss or failed test as a result of electrical controls not working properly is the responsibility of the Electrician.



**KITCHEN EQUIPMENT DETAILS - CAFETERIA 9**

**ELECTRICIAN NOTES:**  
 All Hood/Fan/DCV electrical connections and interconnections to be provided and installed by Electrician. Electrician to provide, install, and land wiring between hood lights, hood temp sensors, remote fire system microswitches, and any other component requiring an electrical connection to the Captive-Aire electrical package.  
 Failure by the Electrician to make ALL required electrical connections and interconnections will result in the electrical controls not working properly. Any loss or failed test as a result of electrical controls not working properly is the responsibility of the Electrician.



**KITCHEN EQUIPMENT DETAILS - CAFETERIA 10**

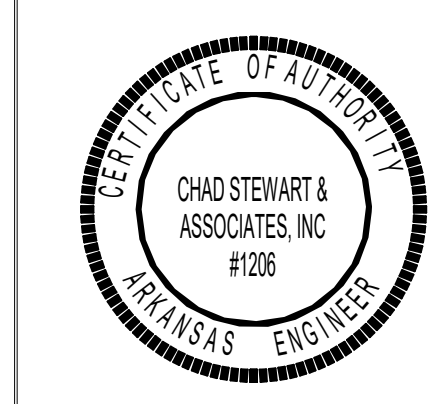
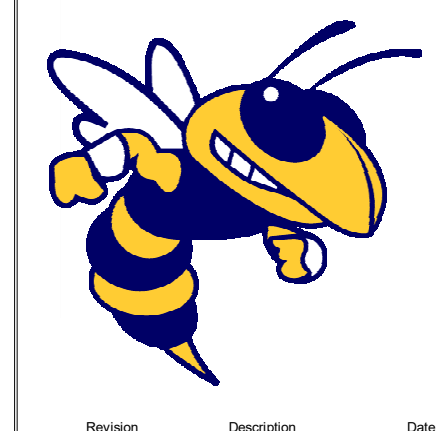


**PROJECT NAME**  
 WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**  
 800 E JACKSON AVE  
 WYNNE AR 72396

**PROJECT NUMBER**  
 -

**DEVELOPER/OWNER**  
 WYNNE SCHOOL DISTRICT



**SHEET TITLE**  
 KITCHEN EQUIPMENT  
 DETAILS - CAFETERIA

**DATE**  
 17.10.24

**SHEET NUMBER**

**M405**

**HOOD INFORMATION - JOB#6895301**

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/KFT	TOTAL EXH. CFM	EXHAUST FLENUM (DIAMETER)	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD END TO END	HOOD ROW
1	KH-3	6024	ECON-AIR	13' 0"	600 DEG	1	HEAVY	223	2900	16x1	2600	430 SS WHERE EXPOSED	ALINE	ALINE
2	KH-4 Left	6024	ECON-AIR	8' 9"	600 DEG	1	HEAVY	217	1900	16x1	1700	430 SS WHERE EXPOSED	LEFT	ALINE
3	KH-4 Right	6024	ECON-AIR	8' 9"	600 DEG	1	HEAVY	217	1900	16x1	1700	430 SS WHERE EXPOSED	RIGHT	ALINE

**HOOD INFORMATION**

HOOD NO	TAG	TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 FEET	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE	SIZE	UTIL. CABINET(S) FIRE SYSTEM	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE HOOD SYSTEM/HANGING PIPING WEIGHT
1	KH-3	CAPTRATE SOLID FILTER	9	20"	16'	85% SEE FILTER SPEC	4	RECESSED ROUND	NO								879 LBS
2	KH-4 Left	CAPTRATE SOLID FILTER	6	20"	16'	85% SEE FILTER SPEC	3	RECESSED ROUND	NO								548 LBS
3	KH-4 Right	CAPTRATE SOLID FILTER	6	20"	16'	85% SEE FILTER SPEC	3	RECESSED ROUND	NO	RIGHT	12'x60"x24"	TANK FS	4.0/4.0/4.0				997 LBS

**HOOD OPTIONS**

HOOD NO	TAG	OPTION
1	KH-3	FIELD WRAPPER 1800" HIGH FRONT, LEFT, RIGHT, BACK STANDOFF (FLAT) 12" WIDE 156" LONG, RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS, LEFT VERTICAL END PANEL 23" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS
2	KH-4 Left	FIELD WRAPPER 1800" HIGH FRONT, LEFT, BACKSPLASH 800" HIGH x 222" LONG 430 SS VERTICAL, LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS
3	KH-4 Right	FIELD WRAPPER 1800" HIGH FRONT, RIGHT, RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS

**PERFORATED SUPPLY PLENUM(S)**

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	WIDTH	LENGTH	DIAM	CFM	SP
1	KH-3	Front	156"	18"	6"	MJA	12"	28"	866	0.276"	
2	KH-4 Left	Front	105"	18"	6"	MJA	12"	28"	849	0.266"	
3	KH-4 Right	Front	117"	16"	6"	MJA	12"	28"	849	0.230"	

**WALL-MOUNT UTILITY CABINET**

HOOD NO	LOCATION	SIZE	TYPE	SIZE	MODEL #	QUANTITY	WEIGHT
1	WALL MNT	12'x48"x24"	TANK FS	4.0/4.0	SC-31109MA	1 LIGHT 1 FAN	3400 LBS

**GENERAL NOTES**

- VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.
- IF IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.
- IF IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.

**VERIFY CEILING HEIGHT**

**HVAC DISTRIBUTION NOTE**

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD PERFORATED DIFFUSERS ARE RECOMMENDED.

**CUSTOMER APPROVAL TO MANUFACTURE:**

APPROVED AS NOTED   
 APPROVED WITH NO EXCEPTION TAKEN   
 REUSE AND RESUBMIT   
 SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**KITCHEN EQUIPMENT DETAILS - FACS 1**

**VERIFY HOOD ORIENTATION**

Verify Hood Orientation to Ensure Piping, Structural Distributions and Walls are Completed.

**BACKSPLASH**

NON-COMBUSTIBLE WALL

**PLAN VIEW - HOOD #1 (KH-3)**  
 13'-0" LONG 6024EX-2-PSP-F

**PLAN VIEW - HOOD #2 (KH-4 Left)**  
 8'-9" LONG 6024EX-2-PSP-F

**SECTION VIEW - MODEL 6024EX-2-PSP-F HOOD - #1 (KH-3)**

**SECTION VIEW - MODEL 6024EX-2-PSP-F HOOD - #2 (KH-4 Left)**

**SECTION VIEW - MODEL 6024EX-2-PSP-F HOOD - #3 (KH-4 Right)**

**GENERAL NOTES**

- VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.
- IF IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.
- IF IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.

**KITCHEN EQUIPMENT DETAILS - FACS 3**

**VERIFY HOOD ORIENTATION**

Verify Hood Orientation to Ensure Piping, Structural Distributions and Walls are Completed.

**PLAN VIEW - HOOD #1 (KH-3)**  
 13'-0" LONG 6024EX-2-PSP-F

**SECTION VIEW - MODEL 6024EX-2-PSP-F HOOD - #1 (KH-3)**

**GENERAL NOTES**

- VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.
- IF IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.
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**CLEARANCE TO COMBUSTIBLES**

HOODS #	SURFACE	CLEARANCE
1,2	FRONT	18"
	BACK	18"
	LEFT	18"
3	FRONT	18"
	BACK	18"
	LEFT	18"

**ASSEMBLY INSTRUCTIONS**

- HOOD ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 MINIMUM ALL-THREAD HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 MINIMUM STEEL FLAT WASHERS AND 1/2" (1) TPI GRADE 5 MINIMUM HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONSIDERATION BENEATH HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

**KITCHEN EQUIPMENT DETAILS - FACS 2**

**FIRE SYSTEM INFORMATION - JOB#6895301**

FIRE SYSTEM TAG	TYPE	SIZE	MAX FP	SYSTEM	LOCATION (DN HOOD)
1	KH-3 FE	TANK FS	4.0/4.0	WALL UTILITY CABINET	N/A
2	KH-4 FE	TANK FS	4.0/4.0	FIRE CABINET	RIGHT HOOD 3

**CAS VALVES(S)**

FIRE SYSTEM TAG	TYPE	SIZE	SUPPLIED BY
2	KH-4 FS	SC ELECTRICAL 0.000	ECON-AIR

**LEGEND - FIRE CABINET TANK SYSTEM**

- 4 GALLON TANK
- PRIMARY ACTIVATOR RELEASE
- PRESSURE SUPPRESSION SWITCH
- PRIMARY HOOD SYSTEM
- SECONDARY HOOD SYSTEM
- REMOTE MANUAL ACTIVATION DEVICE

**GENERAL NOTES**

- VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.
- IF IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.
- IF IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING HOOD ORIENTATION TO ENSURE PIPING, STRUCTURAL DISTRIBUTIONS AND WALLS ARE COMPLETED.

**KITCHEN EQUIPMENT DETAILS - FACS 4**

**ARCH 1010**

676 Marshall Ave. Suite 101  
 Memphis, TN 38103  
 901-487-6663  
 www.arch1010.com

**I POLK STANLEY WILCOX**

801 South Spring Street  
 Little Rock, AR 72201  
 501.378.0878 office  
 www.polkstanleywilcox.com

**CONSULTANT/SEAL**

REGISTERED PROFESSIONAL ENGINEER  
 GARY E. WHITTEN  
 10/17/2024


**PROJECT NAME**  
 WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**  
 800 E JACKSON AVE  
 WYNNIE AR 72396

**PROJECT NUMBER**  
 -

**DEVELOPER/OWNER**  
 WYNNIE SCHOOL DISTRICT

**INFORMATION**



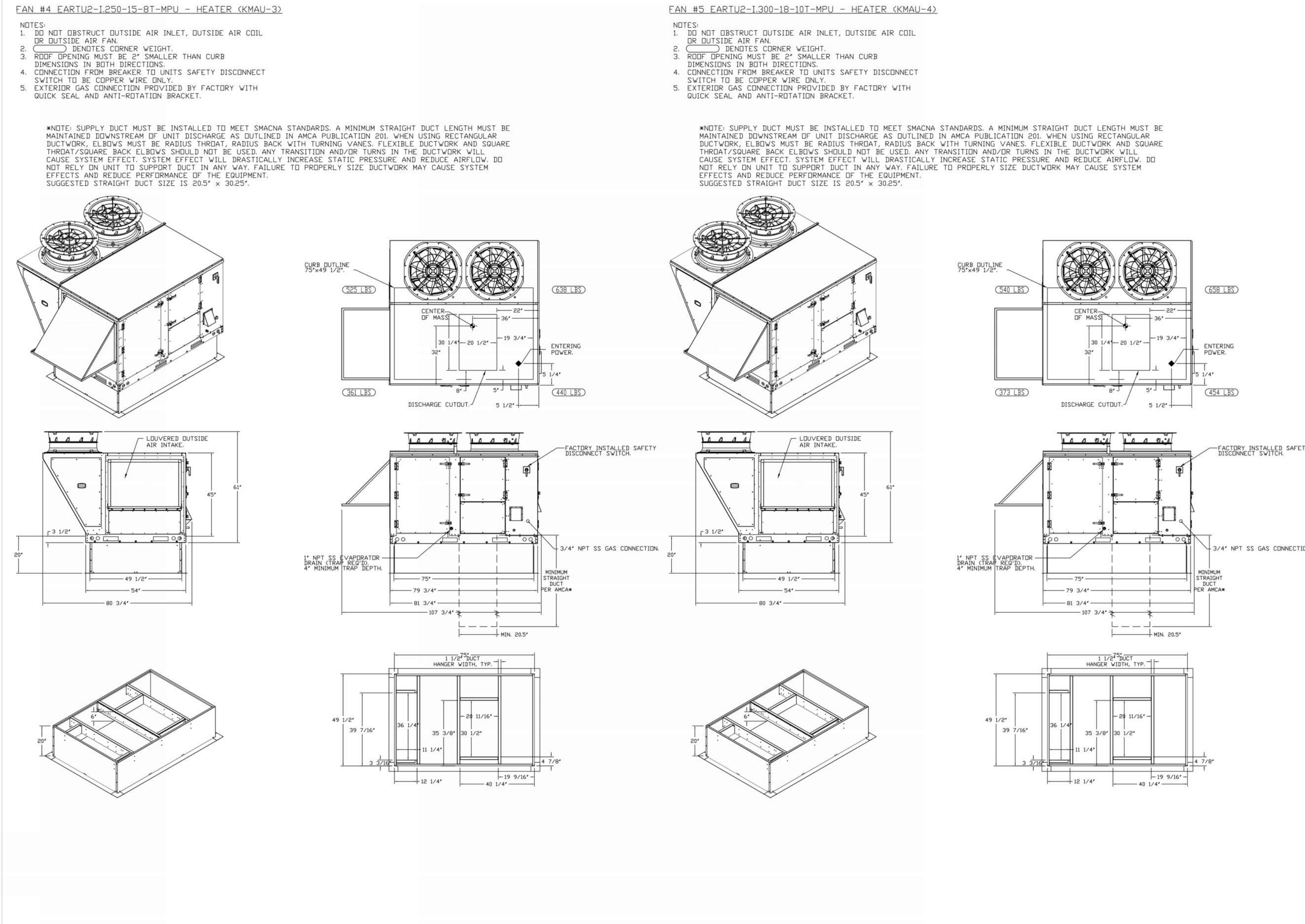
EXHAUST FAN INFORMATION - JOB#6895301																
UNIT	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	BLDWRK	RETURN	MAX	ELECTRICAL INFORMATION	COOLING INFORMATION	GAS HEAT INFORMATION	NOTES					
NO.						TYPE	CFM	HP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES		
1	KEF-3	1	EADUBSH	ECON-AIR	3900	1400	1804	2000	2.000	1.4340	3	460	3.3	670 FPM	214	185
2	KEF-4A	1	EADUBSH	ECON-AIR	1900	1100	1025	2000	0.7290	3	460	1.7	439 FPM	151	104	
3	KEF-4H	1	EADUBSH	ECON-AIR	1900	1100	1025	2000	0.7290	3	460	1.7	439 FPM	151	104	

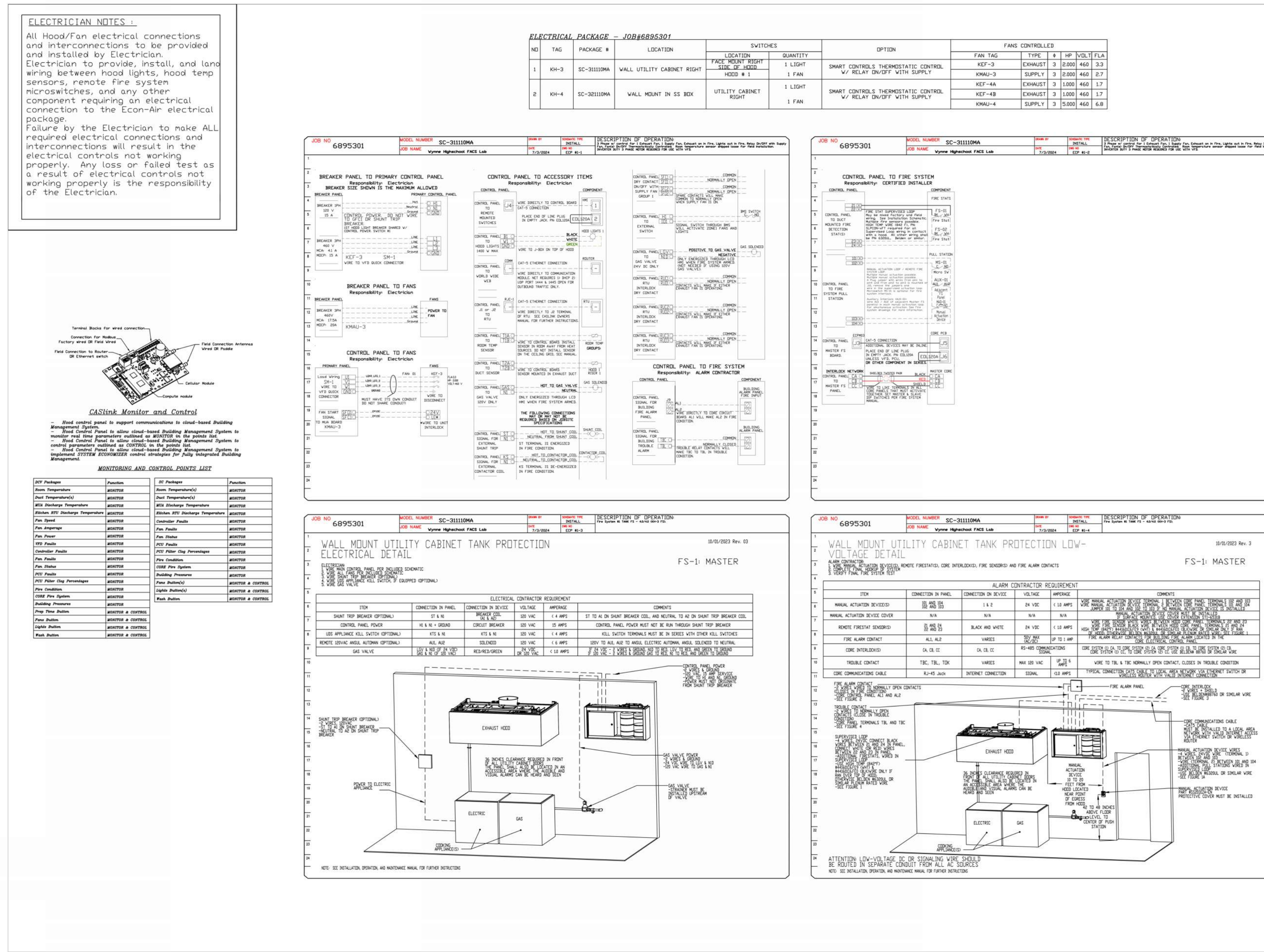
DOAS/RTU FAN SCHEDULE - JOB#6895301																
FAN UNIT	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLDWRK	RETURN	MAX	ELECTRICAL INFORMATION	COOLING INFORMATION	GAS HEAT INFORMATION	NOTES					
NO.						TYPE	CFM	HP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES		
4	KMAU-3	1	EARTU2-1200-10-BT-MPU	ECON-AIR	ISP-2	0	8600	2000	2.000	3	460	5.9	1013.00	282	232	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15
5	KMAU-4	1	EARTU2-1300-10-BT-MPU	ECON-AIR	ISP-2	0	9400	2400	2.000	3	460	30.8A	94.07	76.97	65.07	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15

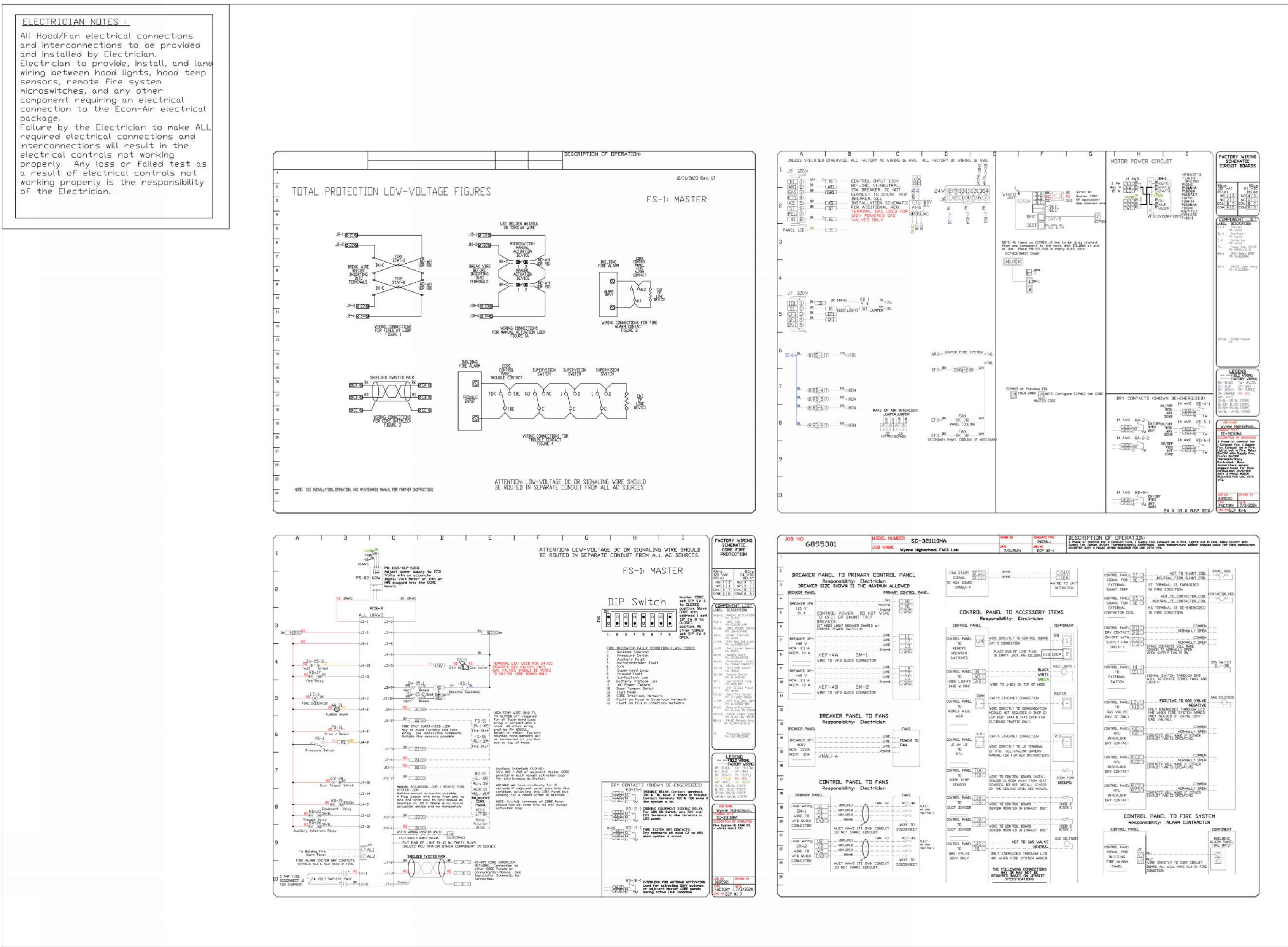
FAN ACCESSORIES															
FAN UNIT	TAG	QTY	DESCRIPTION	WEIGHT	ITEM	SIZE									
1	KEF-3	1	GREASE BOX	43	LBS	CURB	36"00"V X 24"00"V X 20"00"V	10001200	PITCH	ALONG	LENGTH	RIGHT	VENTED		
2	KEF-4A	1	GREASE BOX	43	LBS	CURB	36"00"V X 24"00"V X 20"00"V	10001200	PITCH	ALONG	LENGTH	RIGHT	VENTED		
3	KEF-4H	1	GREASE BOX	43	LBS	CURB	36"00"V X 24"00"V X 20"00"V	10001200	PITCH	ALONG	LENGTH	RIGHT	VENTED		
4	KMAU-3	1	100 LBS. CONDENSING FAN	100	LBS	CURB	49"50"V X 75"00"V X 20"00"V	10001200	PITCH	ALONG	WIDTH	RIGHT	INSULATED		
5	KMAU-4	1	100 LBS. CONDENSING FAN	100	LBS	CURB	49"50"V X 75"00"V X 20"00"V	10001200	PITCH	ALONG	WIDTH	RIGHT	INSULATED		



### KITCHEN EQUIPMENT DETAILS - FACS 5



### KITCHEN EQUIPMENT DETAILS - FACS 6



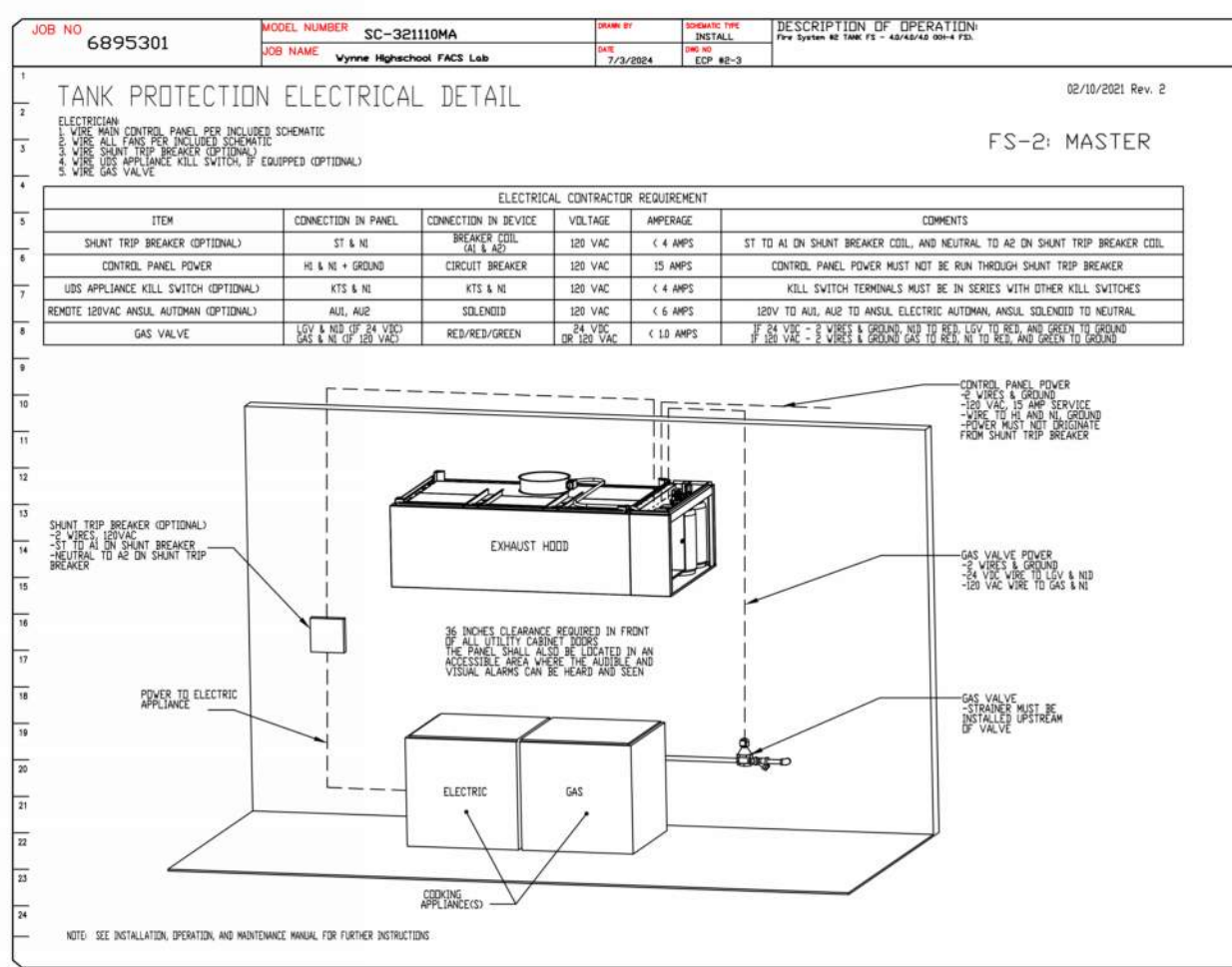
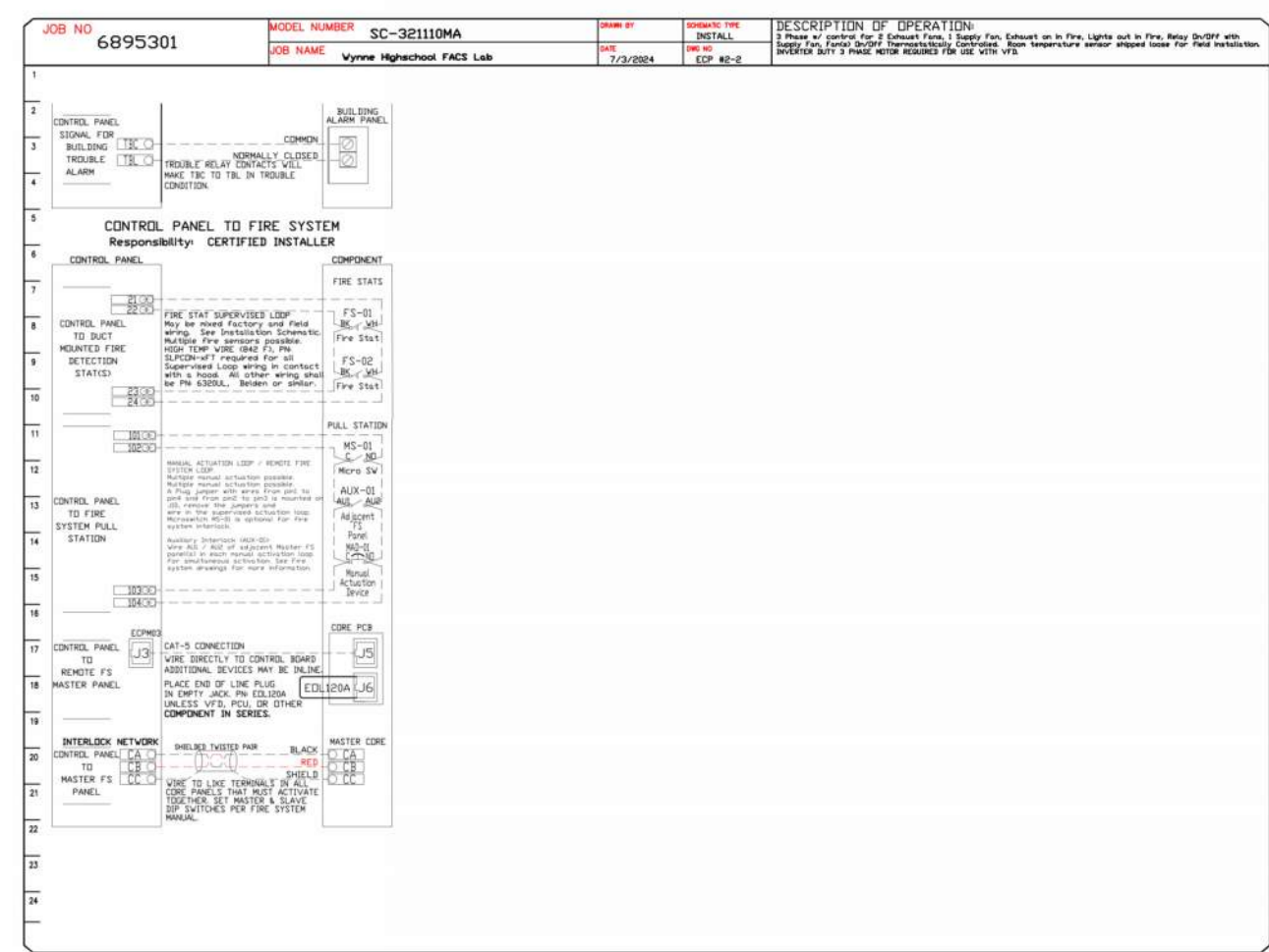
### KITCHEN EQUIPMENT DETAILS - FACS 7



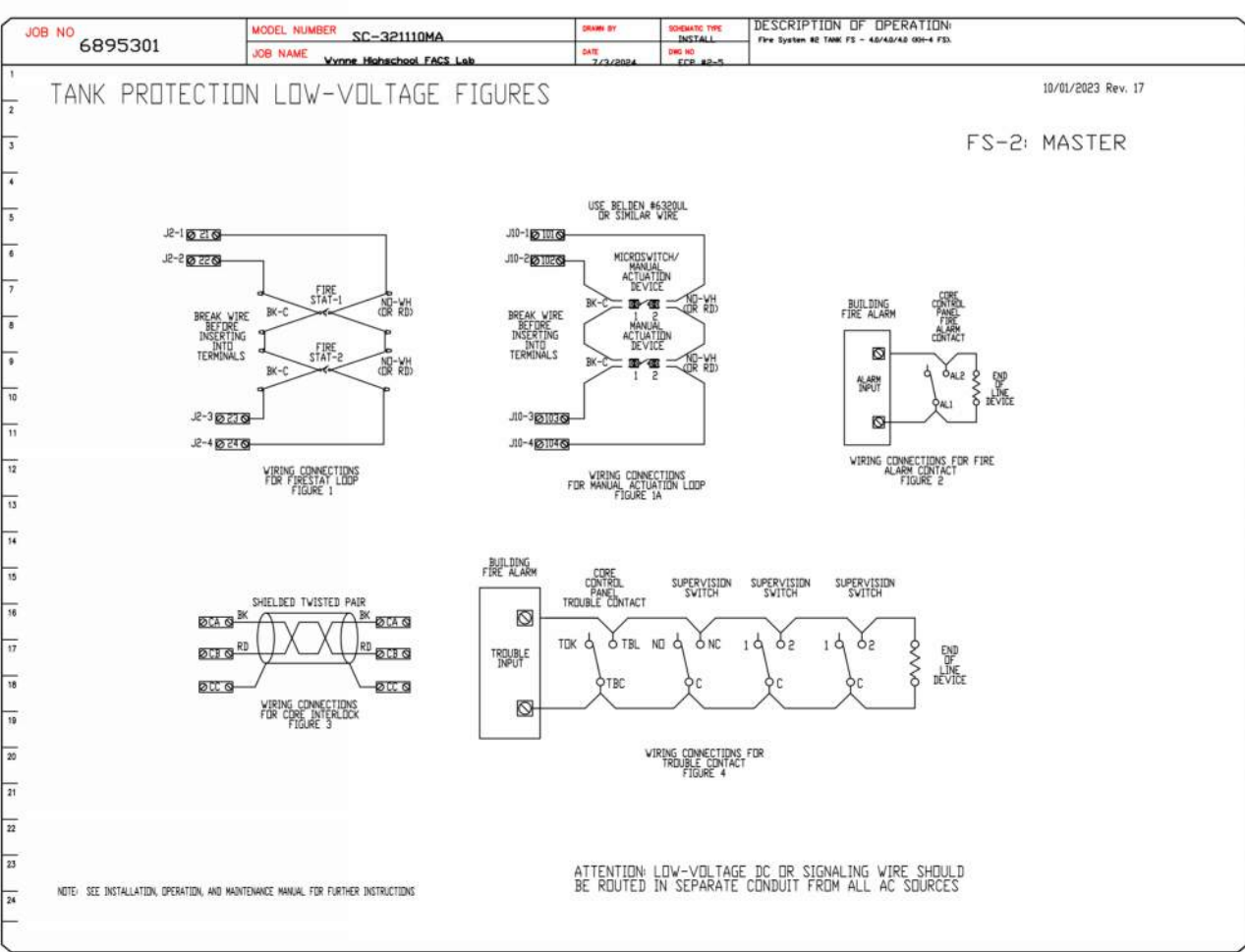
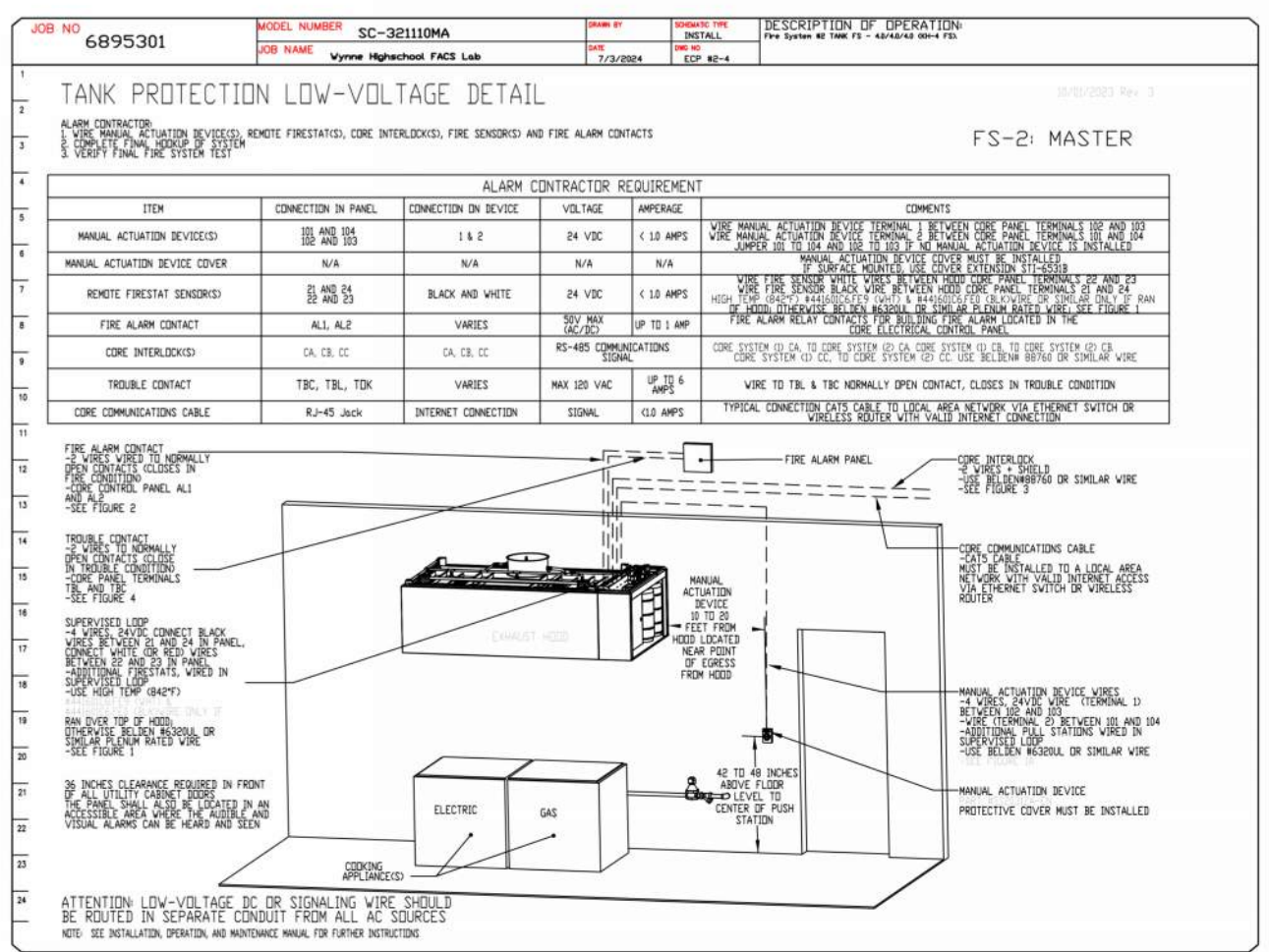
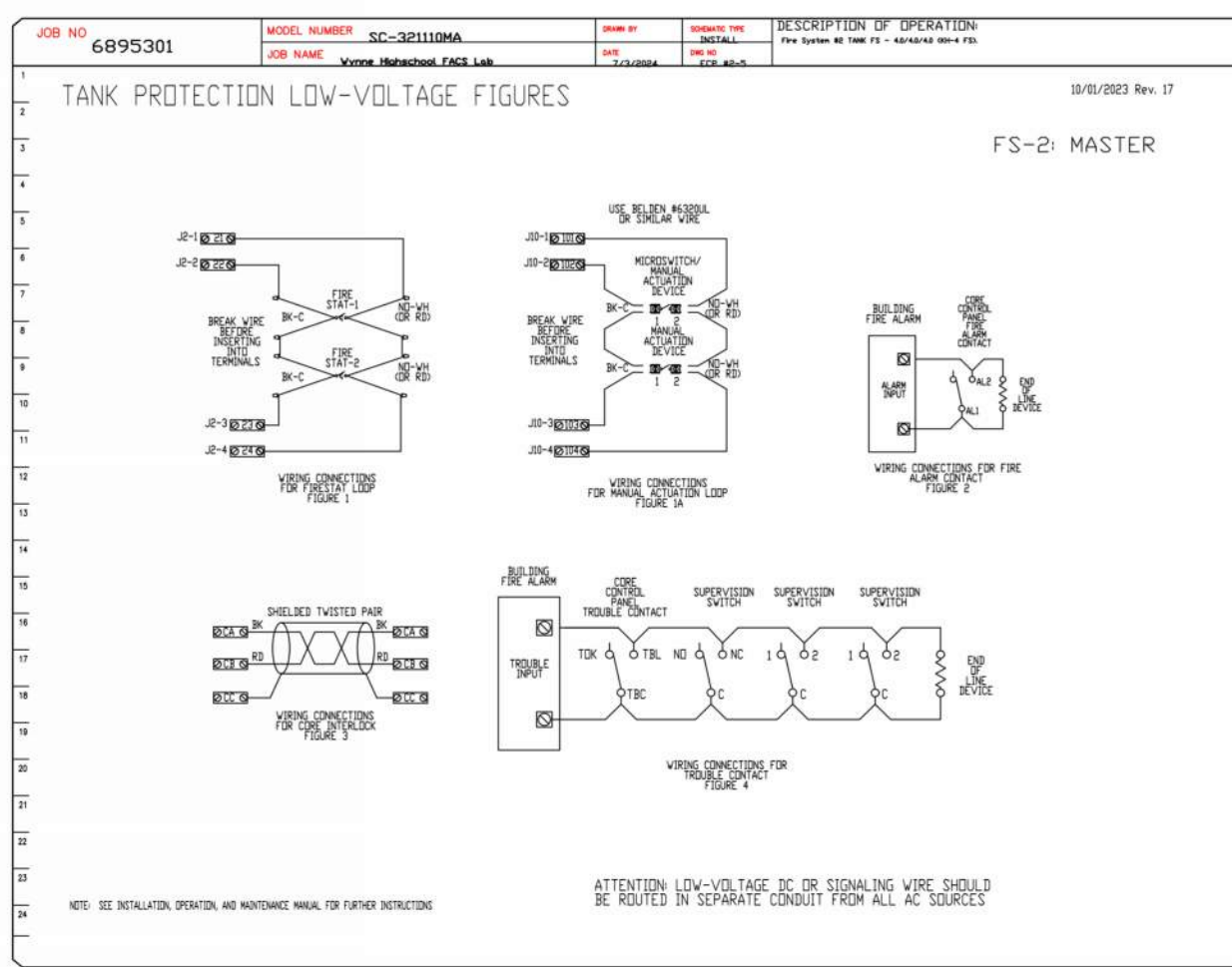
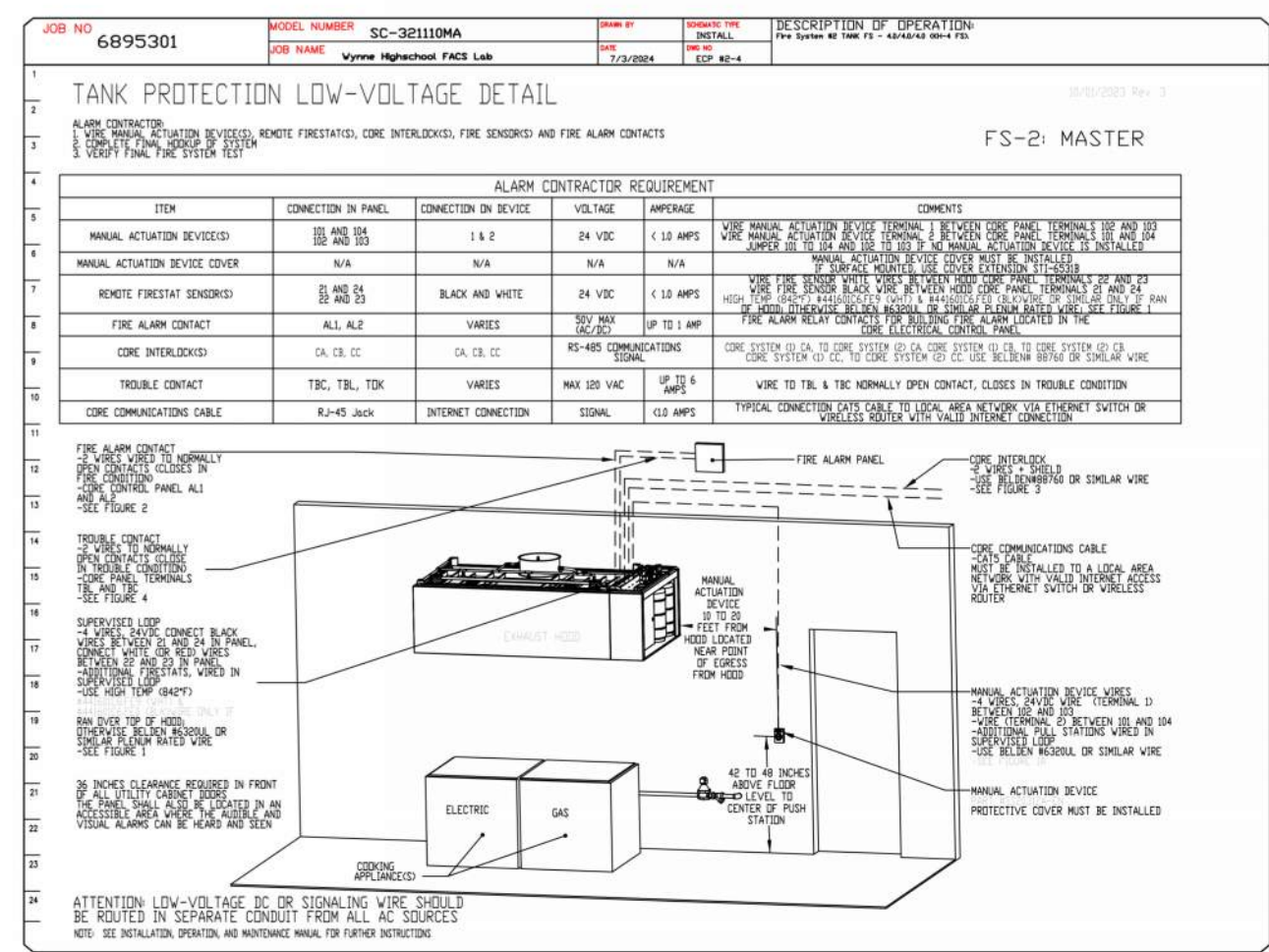
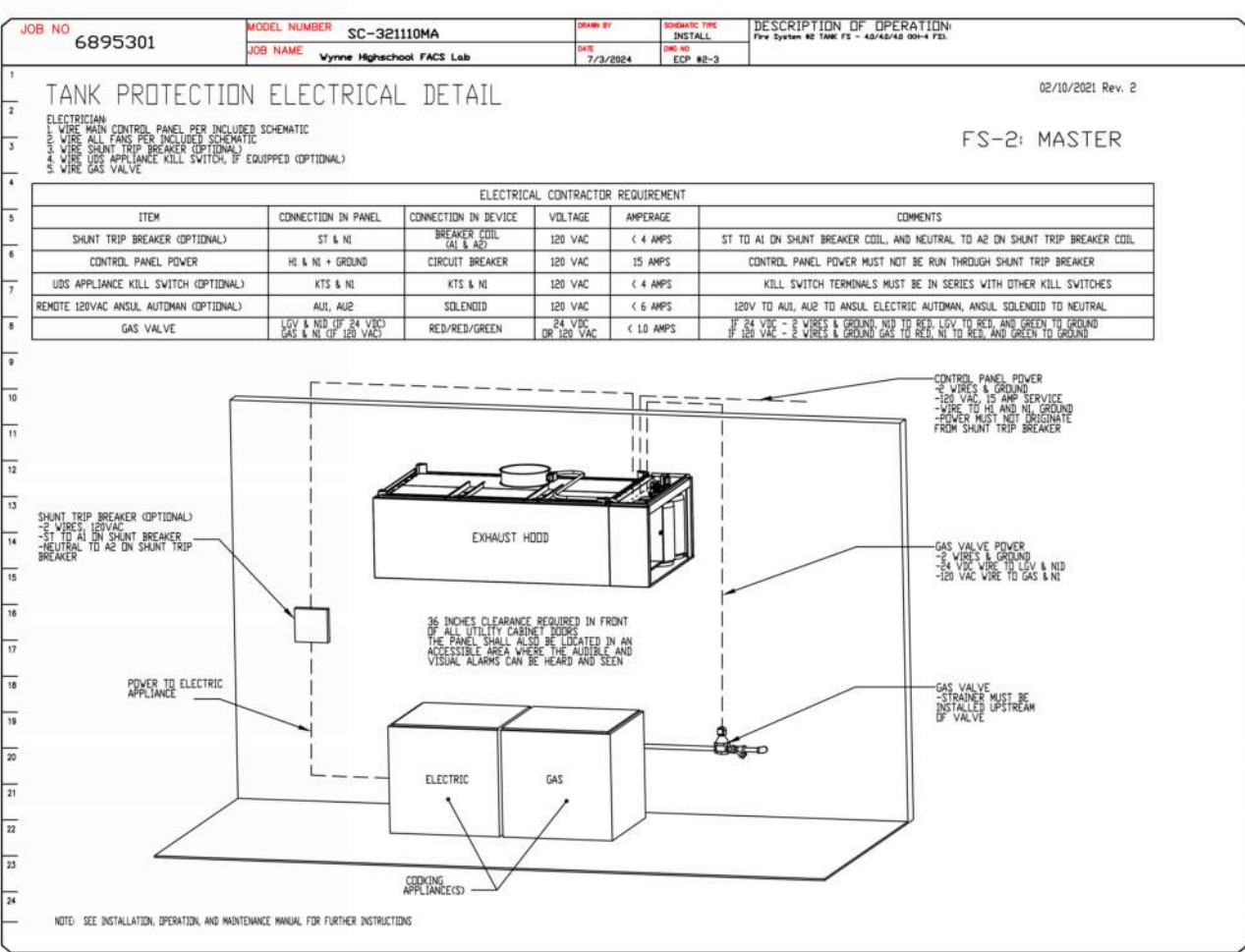
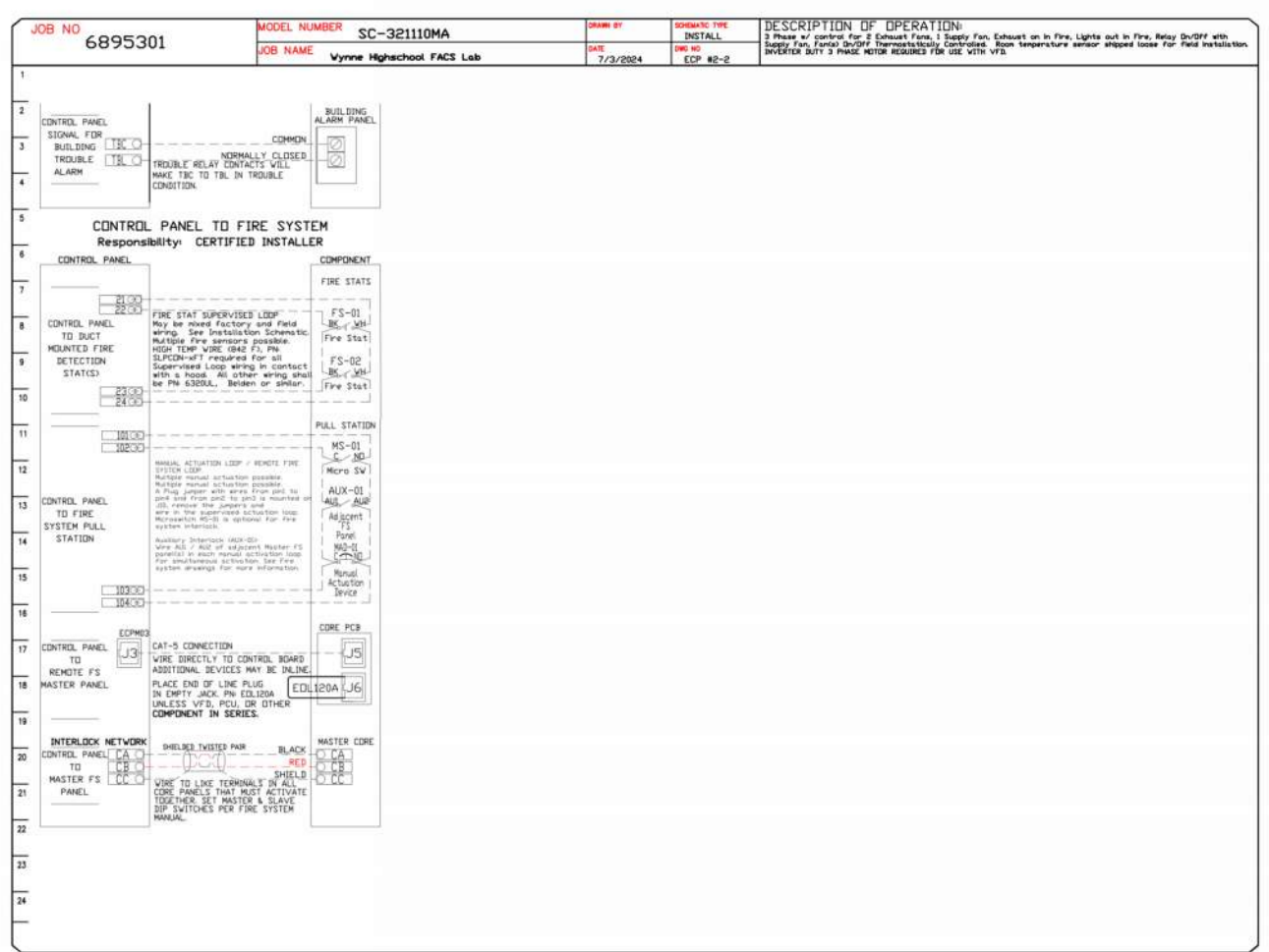
### KITCHEN EQUIPMENT DETAILS - FACS 8



**ELECTRICIAN NOTES...**  
 All Hood/Fan electrical connections and interconnections to be provided and installed by Electrician.  
 Electrician to provide, install, and label wiring between hood lights, hood temp sensors, remote fire system microswitches, and any other component requiring an electrical connection to the Econ-Air electrical package.  
 Failure by the Electrician to make ALL required electrical connections and interconnections will result in the electrical controls not working properly. Any loss or failed test as a result of electrical controls not working properly is the responsibility of the Electrician.



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 All Hood/Fan electrical connections and interconnections to be provided and installed by Electrician.  
 Electrician to provide, install, and label wiring between hood lights, hood temp sensors, remote fire system microswitches, and any other component requiring an electrical connection to the Econ-Air electrical package.  
 Failure by the Electrician to make ALL required electrical connections and interconnections will result in the electrical controls not working properly. Any loss or failed test as a result of electrical controls not working properly is the responsibility of the Electrician.



**KITCHEN EQUIPMENT DETAILS - FACS 9**

**HOOD INFORMATION - JOB#688813**

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX. COOKING TEMP	TYPE	DESIGN DUTY	TOTAL EXH. CFM	EXHAUST PLENUM	HOOD CONSTRUCTION	HOOD END TO END	
									WIDTH	LENGTH	HEIGHT	
1	DKH-1	3044	ECON-AIR	3' 0"	450 DEG	I	MEDIUM	133	400	4' 0"	8' 0"	1146
2	DKH-2	3044	ECON-AIR	3' 0"	450 DEG	I	MEDIUM	133	400	4' 0"	8' 0"	1146
3	DKH-3	3044	ECON-AIR	3' 0"	450 DEG	I	MEDIUM	133	400	4' 0"	8' 0"	1146
4	DKH-4	3044	ECON-AIR	3' 0"	450 DEG	I	MEDIUM	133	400	4' 0"	8' 0"	1146

**HOOD INFORMATION**

HOOD NO	TAG	TYPE	FILTERS	EFFICIENCY @ 7 MICRONS	LIGHTS	WIRE GUARD	LOCATION	SIZE	TYPE	QUANTITY	ELECTRICAL	SWITCHES	FIRE HOOD
1	DKH-1	SS BAFFLE WITH HANDLES	2	16"	30%	1	RECESSED ROUND	NO			YES	166 LBS	
2	DKH-2	SS BAFFLE WITH HANDLES	2	16"	30%	1	RECESSED ROUND	NO			YES	166 LBS	
3	DKH-3	SS BAFFLE WITH HANDLES	2	16"	30%	1	RECESSED ROUND	NO			YES	166 LBS	
4	DKH-4	SS BAFFLE WITH HANDLES	2	16"	30%	1	RECESSED ROUND	NO			YES	166 LBS	

**HOOD OPTIONS**

HOOD NO	TAG	OPTION
1	DKH-1	FIELD WRAPPER 36.00" HIGH FRONT, LEFT, RIGHT. BACKPLASH 61.00" HIGH X 36.00" LONG 430 SS VERTICAL. RIGHT QUARTER END PANEL 80" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS. LEFT QUARTER END PANEL 80" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS. RISER SENSOR INSTALL 6IN PLEN.
2	DKH-2	FIELD WRAPPER 36.00" HIGH FRONT, LEFT, RIGHT. BACKPLASH 61.00" HIGH X 36.00" LONG 430 SS VERTICAL. RIGHT QUARTER END PANEL 80" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS. LEFT QUARTER END PANEL 80" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS. RISER SENSOR INSTALL 6IN PLEN.
3	DKH-3	FIELD WRAPPER 36.00" HIGH FRONT, LEFT, RIGHT. BACKPLASH 61.00" HIGH X 36.00" LONG 430 SS VERTICAL. RIGHT QUARTER END PANEL 80" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS. LEFT QUARTER END PANEL 80" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS. RISER SENSOR INSTALL 6IN PLEN.
4	DKH-4	FIELD WRAPPER 36.00" HIGH FRONT, LEFT, RIGHT. BACKPLASH 61.00" HIGH X 36.00" LONG 430 SS VERTICAL. RIGHT QUARTER END PANEL 80" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS. LEFT QUARTER END PANEL 80" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS. RISER SENSOR INSTALL 6IN PLEN.

**WALL-MOUNT UTILITY CABINET**

HOOD NO	LOCATION	SIZE	TYPE	MODEL #	ELECTRICAL	SWITCHES	WEIGHT
1	WALL INT	12"x48"x30"	TANK FS	4.0/4.0	SC-34110MA	1 LIGHT	340.00 LBS
2	WALL INT	12"x36"x30"	TANK FS	4.0/4.0		1 FAN	300.00 LBS

FOR QUESTIONS, CALL THE VENDOR TO OBTAIN MECHANICAL RECORDS.  
 PHONE: (800) 480 - 4443  
 EMAIL: info@econair.com

**SYSTEM DESIGN VERIFICATION (SDV)**  
 IF ORDERED, GAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.  
 ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF GAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.  
 DURING THE SDV, GAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

**KITCHEN EQUIPMENT DETAILS - FACS 10**

**VERIFY HOOD ORIENTATION**

Verify Hood Orientation to Ensure Proper Structural Obstructions and Walks are Considered.

**CLEARANCE TO COMBUSTIBLES**

HOODS #	SURFACE	CLEARANCE
1,2,3,4	TOP	18"
	FRONT	18"
	BACK	18"
	LEFT	18"
	RIGHT	18"

**NOTE**  
 ALL WALLS AND STRUCTURES THAT COME WITHIN 18" OF HOOD MUST BE METAL STUDS AND SHEETROCK, WOOD STUDS OR ANY OTHER COMBUSTIBLE MATERIAL WITHIN 18" OF HOOD NOT ALLOWED.

**PLAN VIEW - HOOD #1 (DKH-1), HOOD #2 (DKH-2), #3 (DKH-3), #4 (DKH-4)**  
 3' 0.00" LONG 30x44LFX-2

**SECTION VIEW - MODEL 3044LFX-2 HOOD - #1 (DKH-1) #2 (DKH-2), #3 (DKH-3), #4 (DKH-4)**

**BACKPLASH**

NON-COMBUSTIBLE WALL HEIGHT LENGTH

**ASSEMBLY INSTRUCTIONS**  
 HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE S ODOMARK ALL THREADS. SHOWN HANGING ANGLE AND CEILING ANCHOR POINTS WITH 1/2" GRADE S ODOMARK STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE S ODOMARK HEX NUTS AS SHOWN. MUST USE DOUBLE END NUT CONFIGURATION. BEHIND HOOD HANGING ANGLE AND ABOVE CEILING ANCHORS. HANGING 1/4" X 1/4" EXPOSED THREADS. BENEATH BOTTOM HEX NUT, TORQUE ALL HEX NUTS TO 37 FT-LBS.

**KITCHEN EQUIPMENT DETAILS - FACS DOMESTIC KITCHEN 1**

**VERIFY CEILING HEIGHT**

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

**CUSTOMER APPROVAL TO MANUFACTURE:**

APPROVED AS NOTED   
 APPROVED WITH NO EXCEPTION WHEN   
 REVIEW AND REQUIRED   
 SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**HVAC DISTRIBUTION NOTE**  
 HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

**KITCHEN EQUIPMENT DETAILS - FACS DOMESTIC KITCHEN 2**

**CSA** PRODUCT NO. 24122  
 Chad Stewart & Associates, Inc.  
 6720 Vibron Circle  
 Lakeland, TN 38002  
 Phone 901-260-7850 CSAEngineeringInc.com

**ARCH 1010**  
 676 Marshall Ave., Suite 101  
 Memphis, TN 38103  
 901-497-6563  
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 ALL RIGHTS RESERVED

**POLK STANLEY WILCOX**  
 801 South Spring Street  
 Little Rock, AR 72201  
 501.378.0878 office  
 www.polkstanleywilcox.com



**PROJECT NAME**

WSD - NEW SENIOR HIGH SCHOOL

**LOCATION**

800 E JACKSON AVE  
 WYNNIE AR 72396

**PROJECT NUMBER**

-

**DEVELOPER/OWNER**

WYNNIE SCHOOL DISTRICT

**INFORMATION**



Revision Description Date



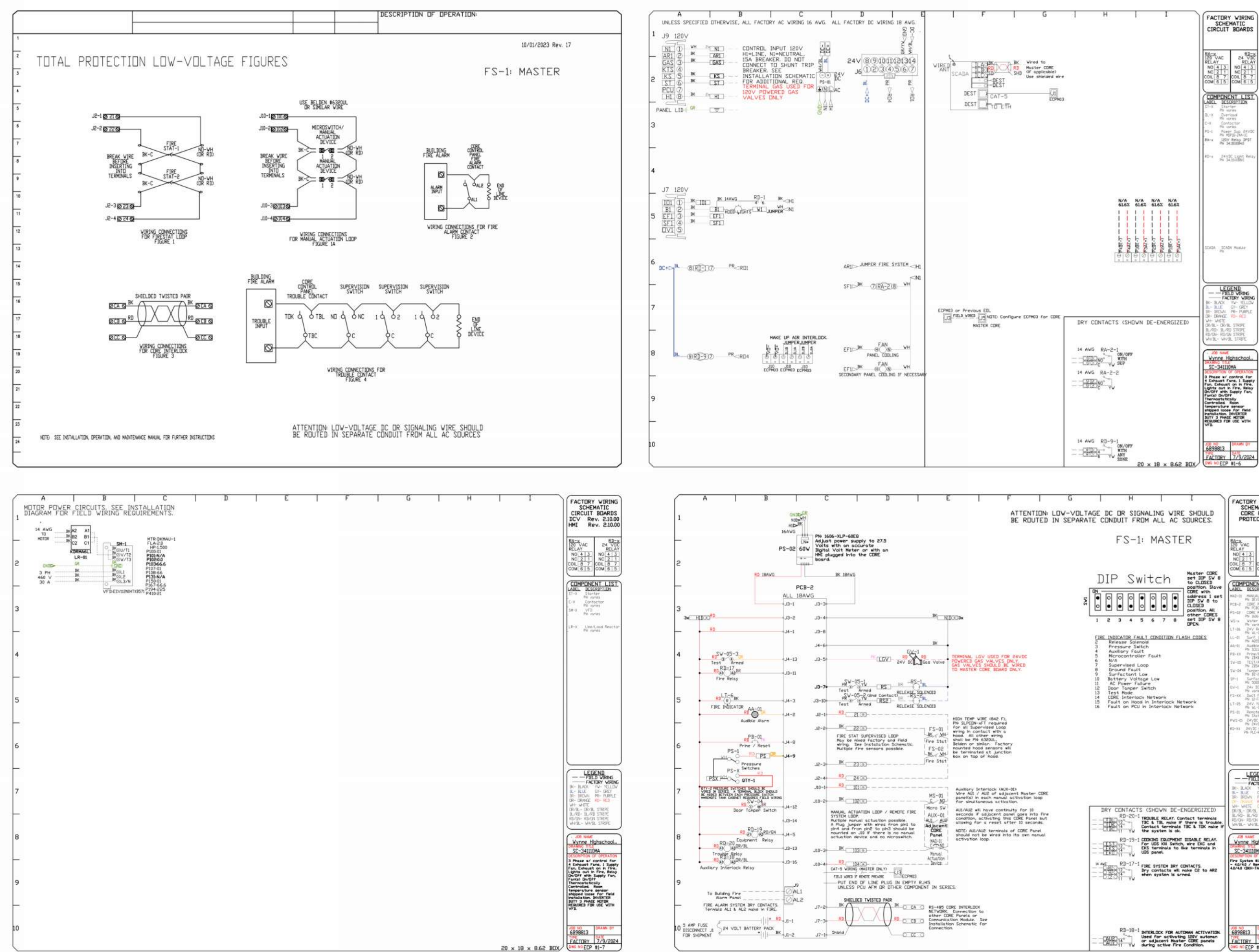
**SHEET TITLE**  
 KITCHEN EQUIPMENT DETAILS - FACS LAB

**DATE**  
 17.10.24

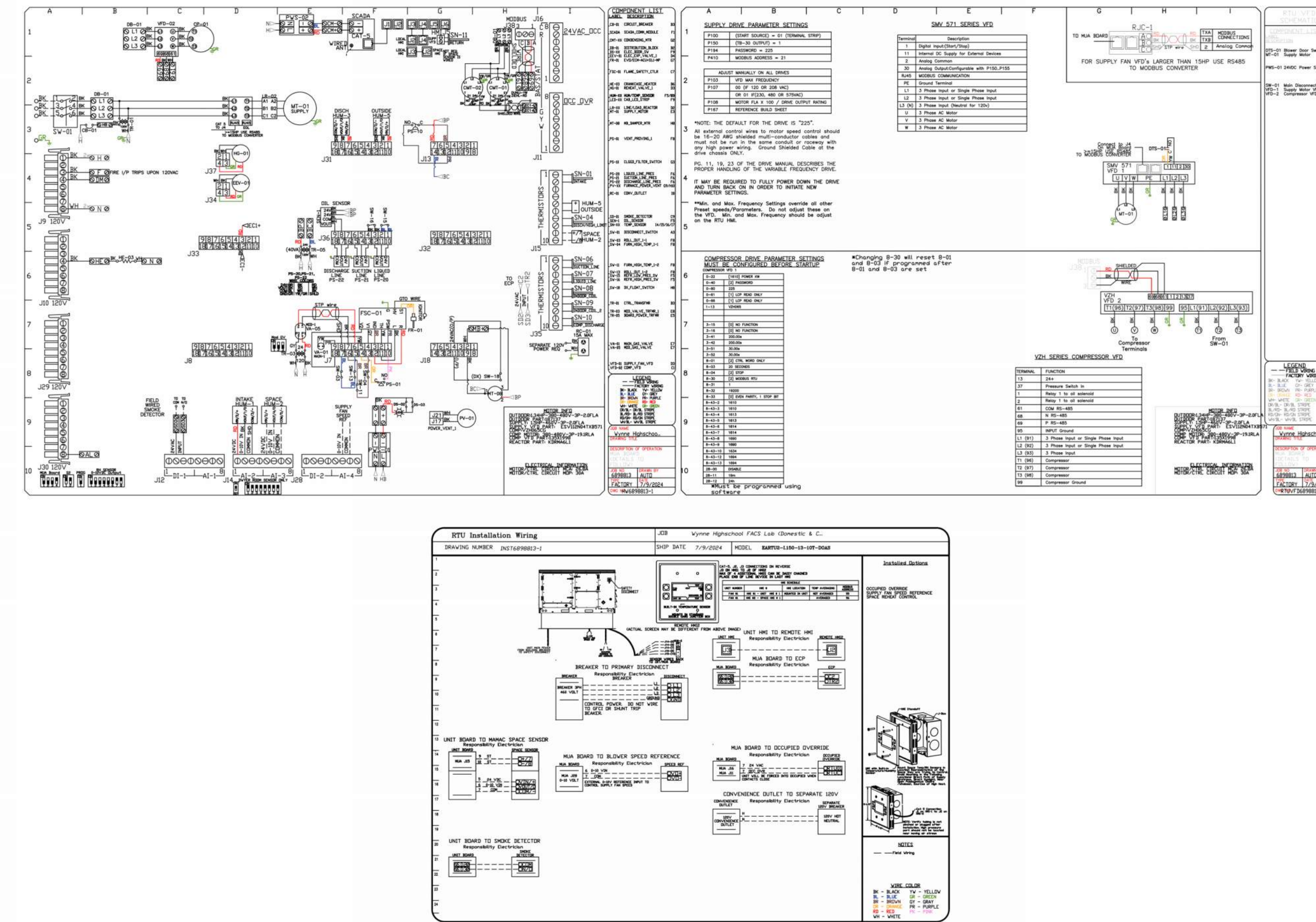
**SHEET NUMBER**

**M408**

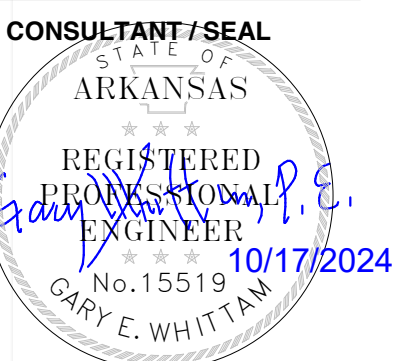




KITCHEN EQUIPMENT DETAILS - FACS DOMESTIC KITCHEN 7



KITCHEN EQUIPMENT DETAILS - FACS DOMESTIC KITCHEN 8



PROJECT NAME

WSD - NEW SENIOR HIGH SCHOOL

LOCATION

800 E JACKSON AVE  
 WYNNE AR 72396

PROJECT NUMBER

-

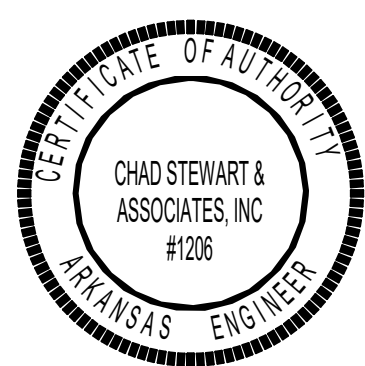
DEVELOPER/OWNER

WYNNE SCHOOL DISTRICT

INFORMATION



Revision Description Date



SHEET TITLE  
 KITCHEN EQUIPMENT  
 DETAILS - FACS LAB

DATE  
 17.10.24

SHEET NUMBER

M410





## PROJECT NAME

WSD - NEW SENIOR HIGH  
SCHOOL

## LOCATION

800 E JACKSON AVE  
WYNNIE AR 72396PROJECT  
NUMBER

-

## DEVELOPER/OWNER

WYNNIE SCHOOL DISTRICT

## INFORMATION



Revision Description Date

Run Conditions - Scheduled:  
The unit shall run based upon an operator adjustable schedule.

Freeze Protection:  
The unit shall shut down and generate an alarm upon receiving a freeze/estat status.

High Static Shutdown:  
The unit shall shut down and generate an alarm upon receiving an high static shutdown signal.

Return Air Smoke Detection:  
The unit shall shut down and generate an alarm upon receiving a return air smoke detector status.

Supply Air Smoke Detection:  
The unit shall shut down and generate an alarm upon receiving a supply air smoke detector status.

Supply Fan:  
The supply fan shall run anytime the unit is commanded to run, unless shutdown on safeties. To prevent short cycling, the supply fan shall have a user definable (adj.) minimum runtime.

Alarms shall be provided as follows:

- Supply Fan Failure: Commanded on, but the status is off.
- Supply Fan in Hand: Commanded off, but the status is on.
- Supply Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).

Supply Air Duct Static Pressure Control:  
The controller shall measure duct static pressure and shall modulate the supply fan VFD speed to maintain a duct static pressure setpoint of 1.5in H2O (adj.). The supply fan VFD speed shall not drop below 30% (adj.).

Alarms shall be provided as follows:

- High Supply Air Static Pressure: If the supply air static pressure is 25% (adj.) greater than setpoint.
- Low Supply Air Static Pressure: If the supply air static pressure is 25% (adj.) less than setpoint.
- Supply Fan VFD Fault.

Return Fan:  
The return fan shall run whenever the supply fan runs.

Alarms shall be provided as follows:

- Return Fan Failure: Commanded on, but the status is off.
- Return Fan in Hand: Commanded off, but the status is on.
- Return Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).
- Return Fan VFD Fault.

Building Static Pressure Control:  
The controller shall measure building static pressure and modulate the return fan VFD speed to maintain a building static pressure setpoint of 0.5in H2O (adj.). The return fan VFD speed shall not drop below 20% (adj.).

Alarms shall be provided as follows:

- High Building Static Pressure: If the building air static pressure is 25% (adj.) greater than setpoint.
- Low Building Static Pressure: If the building air static pressure is 25% (adj.) less than setpoint.

Supply Air Temperature Setpoint - Outside Air Reset:  
The controller shall monitor the supply air temperature and shall maintain a supply air temperature setpoint reset based on outside air temperature.

The supply air temperature setpoint shall reset for cooling as follows:

- As outside air temperature rises from 50°F (adj.) to 35°F (adj.), the supply air temperature setpoint shall reset downwards from 65°F (adj.) to 55°F (adj.).

If the return air temperature drops below 68°F (adj.), then the supply air temperature setpoint shall be reset for heating as follows:

- As outside air temperature drops from 50°F (adj.) to 20°F (adj.), the supply air temperature setpoint shall reset upwards from 75°F (adj.) to 85°F (adj.).

Cooling Stages:  
The controller shall measure the supply air temperature and stage the cooling to maintain its cooling setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The cooling shall be enabled whenever:

- Outside air temperature is greater than 60°F (adj.).
- AND the economizer (if present) is disabled or fully open.
- AND the supply fan status is on.
- AND the heating (if present) is not active.

Alarms shall be provided as follows:

- High Supply Air Temp: If the supply air temperature is 5°F (adj.) greater than setpoint.

Gas Heating Stages:  
The controller shall measure the supply air temperature and stage the heating to maintain its heating setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The heating shall be enabled whenever:

- Outside air temperature is less than 65°F (adj.).
- AND the supply fan status is on.
- AND the cooling (if present) is not active.

The heating stages shall run for freeze protection whenever:

- Supply air temperature drops from 40°F to 35°F (adj.).
- AND the supply fan status is on.

Alarms shall be provided as follows:

- Low Supply Air Temp: If the supply air temperature is 5°F (adj.) less than setpoint.

Economizer:  
The controller shall measure the mixed air temperature and modulate the economizer dampers in sequence to maintain a setpoint 2°F (adj.) less than the supply air temperature setpoint. The outside air dampers shall maintain a minimum adjustable position of 20% (adj.) open whenever occupied.

The economizer shall be enabled whenever:

- Outside air temperature is less than 65°F (adj.).
- AND the outside air temperature is less than the return air temperature.
- AND the supply fan status is on.

The economizer shall close whenever:

- Mixed air temperature drops from 40°F to 35°F (adj.).
- OR the freeze/estat (if present) is on.
- OR on loss of supply fan status.

The outside and exhaust air dampers shall close and the return air damper shall open when the unit is off. If Optimal Start Up is available the mixed air damper shall operate as described in the occupied mode except that the outside air damper shall modulate to fully closed.

Minimum Outside Air Ventilation - Fixed Percentage:  
The outside air dampers shall maintain a minimum adjustable position during building occupied hours and be closed during unoccupied hours.

Dehumidification:  
The controller shall measure the return air humidity and override the cooling sequence to maintain return air humidity at or below 60% rh (adj.). Dehumidification shall be enabled whenever the supply fan status is on.

Mixed Air Temperature:  
The controller shall monitor the mixed air temperature and use as required for economizer control (if present) or preheating control (if present).

Alarms shall be provided as follows:

- High Mixed Air Temp: If the mixed air temperature is greater than 90°F (adj.).
- Low Mixed Air Temp: If the mixed air temperature is less than 45°F (adj.).

Return Air Humidity:  
The controller shall monitor the return air humidity and use as required for economizer control (if present) or humidity control (if present).

Alarms shall be provided as follows:

- High Return Air Humidity: If the return air humidity is greater than 70% (adj.).
- Low Return Air Humidity: If the return air humidity is less than 35% (adj.).

Return Air Temperature:  
The controller shall monitor the return air temperature and use as required for setpoint control or economizer control (if present).

Alarms shall be provided as follows:

- High Return Air Temp: If the return air temperature is greater than 90°F (adj.).
- Low Return Air Temp: If the return air temperature is less than 45°F (adj.).

Supply Air Temperature:  
The controller shall monitor the supply air temperature.

Alarms shall be provided as follows:

- High Supply Air Temp: If the supply air temperature is greater than 120°F (adj.).
- Low Supply Air Temp: If the supply air temperature is less than 45°F (adj.).

Run Conditions - Scheduled:  
The unit shall run according to a user definable time schedule in the following modes:

- Occupied Mode: The unit shall maintain
  - A 75°F (adj.) cooling setpoint
  - A 70°F (adj.) heating setpoint.
- Unoccupied Mode (night setback): The unit shall maintain
  - A 85°F (adj.) cooling setpoint.
  - A 55°F (adj.) heating setpoint.

Alarms shall be provided as follows:

- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

Demand Limiting - Zone Setpoint Optimization:  
To lower power consumption, the zone setpoints shall automatically relax when the facility power consumption exceeds definable thresholds. The amount of relaxation shall be individually configurable for each zone. The zone setpoints shall automatically return to their previous settings when the facility power consumption drops below the thresholds.

Zone Setpoint Adjust:  
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Zone Optimal Start:  
The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:  
A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

Constant Volume Terminal Unit - Flow Control:  
The unit shall maintain constant airflow through one of the following:

Occupied:

- The zone damper shall modulate to maintain a constant occupied airflow (adj.) distributed into the zone.
- When zone temperature is less than its heating setpoint, the controller shall enable heating to maintain the zone temperature at its heating setpoint.

Unoccupied:

- The zone damper shall modulate to a constant unoccupied airflow (adj.) distributed into the zone.
- When zone temperature is less than its heating setpoint, the controller shall enable heating to maintain the zone temperature at its unoccupied heating setpoint.

Discharge Air Temperature:  
The controller shall monitor the discharge air temperature.

Alarms shall be provided as follows:

- High Discharge Air Temp: If the discharge air temperature is greater than 120°F (adj.).
- Low Discharge Air Temp: If the discharge air temperature is less than 40°F (adj.).

Zone Humidity:  
The controller shall monitor the zone humidity.

Alarms shall be provided as follows:

- High Zone Humidity: If the zone humidity is greater than 70% (adj.).
- Low Zone Humidity: If the zone humidity is less than 35% (adj.).

Run Conditions - Continuous:  
The fan shall run continuously.

Fan:  
The fan shall have a user definable (adj.) minimum runtime.

Fan Status:  
The controller shall monitor the fan status.

Alarms shall be provided as follows:

- Fan Failure: Commanded on, but the status is off.
- Fan in Hand: Commanded off, but the status is on.
- Fan Runtime Exceeded: Fan status runtime exceeds a user definable limit (adj.).

Run Conditions - Scheduled:  
The unit shall run according to a user definable time schedule in the following modes:

- Occupied Mode: The unit shall maintain
  - A 75°F (adj.) cooling setpoint
  - A 70°F (adj.) heating setpoint.
- Unoccupied Mode (night setback): The unit shall maintain
  - A 85°F (adj.) cooling setpoint.
  - A 55°F (adj.) heating setpoint.

Alarms shall be provided as follows:

- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

Demand Limiting - Zone Setpoint Optimization:  
To lower power consumption, the zone setpoints shall automatically relax when the facility power consumption exceeds definable thresholds. The amount of relaxation shall be individually configurable for each zone. The zone setpoints shall automatically return to their previous settings when the facility power consumption drops below the thresholds.

Zone Setpoint Adjust:  
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Zone Optimal Start:  
The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:  
A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

Freeze Protection:  
The unit shall shut down and generate an alarm upon receiving a freeze/estat status.

Return Air Smoke Detection:  
The unit shall shut down and generate an alarm upon receiving a return air smoke detector status.

Supply Air Smoke Detection:  
The unit shall shut down and generate an alarm upon receiving a supply air smoke detector status.

Supply Fan:  
The supply fan shall run anytime the unit is commanded to run, unless shutdown on safeties. To prevent short cycling, the supply fan shall have a user definable (adj.) minimum runtime.

Alarms shall be provided as follows:

- Supply Fan Failure: Commanded on, but the status is off.
- Supply Fan in Hand: Commanded off, but the status is on.
- Supply Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).

Static Pressure Relief - Bypass Damper Control:  
The bypass damper control shall be enabled whenever the unit is operating. The controller shall measure duct static pressure and shall modulate the bypass damper to maintain a duct static pressure setpoint of 1.5in H2O (adj.). When enabled, the damper shall have a minimum position of 30% (adj.).

Alarms shall be provided as follows:

- High Supply Air Static Pressure: If the supply air static pressure is 25% (adj.) greater than setpoint.
- Low Supply Air Static Pressure: If the supply air static pressure is 25% (adj.) less than setpoint.

Return Fan:  
The return fan shall run whenever the supply fan runs.

Alarms shall be provided as follows:

- Return Fan Failure: Commanded on, but the status is off.
- Return Fan in Hand: Commanded off, but the status is on.
- Return Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).

Cooling Stages:  
The controller shall measure the zone temperature and stage the cooling to maintain its cooling setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The cooling shall be enabled whenever:

- Outside air temperature is greater than 60°F (adj.).
- AND the economizer (if present) is disabled or fully open.
- AND the zone temperature is above cooling setpoint.
- AND the supply fan status is on.
- AND the heating is not active.

Gas Heating Stages:  
The controller shall measure the zone temperature and stage the heating to maintain its heating setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The heating shall be enabled whenever:

- Outside air temperature is less than 65°F (adj.).
- AND the zone temperature is below heating setpoint.
- AND the supply fan status is on.
- AND the cooling is not active.

Economizer:  
The controller shall measure the zone temperature and modulate the economizer dampers in sequence to maintain a setpoint 2°F less than the zone cooling setpoint. The outside air dampers shall maintain a minimum adjustable position of 20% (adj.) open whenever occupied.

The economizer shall be enabled whenever:

- Outside air temperature is less than 65°F (adj.).
- AND the outside air temperature is less than the return air temperature.
- AND the supply fan status is on.

The economizer shall close whenever:

- Mixed air temperature drops from 45°F to 40°F (adj.).
- OR on loss of supply fan status.
- OR the freeze/estat (if present) is on.

The outside and exhaust air dampers shall close and the return air damper shall open when the unit is off. If Optimal Start Up is available, the mixed air damper shall operate as described in the occupied mode except that the outside air damper shall modulate to fully closed.

Minimum Outside Air Ventilation - Fixed Percentage:  
The outside air dampers shall maintain a minimum position (adj.) during building occupied hours and be closed during unoccupied hours.

Dehumidification:  
The controller shall measure the return air humidity and override the cooling sequence to maintain return air humidity at or below 60% rh (adj.).

During dehumidification, the heating shall modulate to maintain a setpoint 1°F (adj.) less than the zone cooling setpoint.

Dehumidification shall be enabled whenever:

- the supply fan status is on.
- AND zone temperature is greater than the cooling setpoint.

Mixed Air Temperature:  
The controller shall monitor the mixed air temperature and use as required for economizer control (if present) or preheating control (if present).

Alarms shall be provided as follows:

- High Mixed Air Temp: If the mixed air temperature is greater than 90°F (adj.).
- Low Mixed Air Temp: If the mixed air temperature is less than 45°F (adj.).

Return Air Humidity:  
The controller shall monitor the return air humidity and use as required for economizer control (if present) or humidity control (if present).

Alarms shall be provided as follows:

- High Return Air Humidity: If the return air humidity is greater than 70% (adj.).
- Low Return Air Humidity: If the return air humidity is less than 35% (adj.).

Return Air Temperature:  
The controller shall monitor the return air temperature and use as required for economizer control (if present).

Alarms shall be provided as follows:

- High Return Air Temp: If the return air temperature is greater than 90°F (adj.).
- Low Return Air Temp: If the return air temperature is less than 45°F (adj.).

Run Conditions - Scheduled:  
The unit shall run according to a user definable time schedule in the following modes:

- Occupied Mode: The unit shall maintain
  - A 75°F (adj.) cooling setpoint
  - A 70°F (adj.) heating setpoint.
- Unoccupied Mode (night setback): The unit shall maintain
  - A 85°F (adj.) cooling setpoint.
  - A 55°F (adj.) heating setpoint.

Alarms shall be provided as follows:

- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

Demand Limiting - Zone Setpoint Optimization:  
To lower power consumption, the zone setpoints shall automatically relax when the facility power consumption exceeds definable thresholds. The amount of relaxation shall be individually configurable for each zone. The zone setpoints shall automatically return to their previous settings when the facility power consumption drops below the thresholds.

Zone Setpoint Adjust:  
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Zone Optimal Start:  
The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:  
A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

Freeze Protection:  
The unit shall shut down and generate an alarm upon receiving a freeze/estat status.

Smoke Detection:  
The unit shall shut down and generate an alarm upon receiving a smoke detector status.

Outside Air Damper:  
The outside air damper shall open anytime the unit runs and shall close anytime the unit stops. The supply fan shall start only after the damper status has proven the damper is open. The outside air damper shall close 4sec (adj.) after the supply fan stops.

Alarms shall be provided as follows:

- Outside Air Damper Failure: Commanded open, but the status is closed.
- Outside Air Damper in Hand: Commanded closed, but the status is open.

Enthalpy Wheel - Constant Speed:  
The controller shall run the enthalpy wheel for energy recovery as follows.

Cooling Mode:  
The enthalpy wheel shall run for full cool recovery (hot humid days) whenever:

- The outside air humidity ratio is less than the return air humidity ratio.
- AND the zone temperature is above cooling setpoint.
- AND the supply fan is on.

The enthalpy wheel shall run for partial cool recovery (hot dry days) whenever:

- The outside air humidity ratio is less than the return air humidity ratio
- AND the outside air temperature is greater than the return air temperature
- AND the unit discharge air drybulb does not drop below the enthalpy wheel supply air dewpoint
- AND the zone temperature is above cooling setpoint
- AND the supply fan is on.

Heating Mode:  
The enthalpy wheel shall run for full heat recovery whenever:

- Outside air enthalpy is less than return air enthalpy
- AND the outside air temperature is less than the return air temperature
- AND the zone temperature is below heating setpoint.
- AND the supply fan is on.

Periodic Self-Cleaning:  
The enthalpy wheel shall run for 10sec (adj.) every 4hr (adj.) the unit runs.

Frost Protection:  
The enthalpy wheel shall run for 10sec (adj.) every 600sec (adj.) whenever:

- Outside air temperature drops to within 2°F (adj.) of the enthalpy wheel discharge air dewpoint when outside air temperature is below 35°F (adj.).
- OR the exhaust air temperature drops below 25°F (adj.).

The bypass dampers shall open whenever the enthalpy wheel is disabled.

Alarms shall be provided as follows:

- Enthalpy Wheel Rotation Failure: Commanded on, but the status is off.
- Enthalpy Wheel in Hand: Commanded off, but the status is on.
- Enthalpy Wheel Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).

Supply Fan:  
The supply fan shall run anytime the unit is commanded to run. To prevent short cycling, the supply fan shall have a user definable (adj.) minimum runtime, unless shutdown on safeties.

Alarms shall be provided as follows:

- Supply Fan Failure: Commanded on, but the status is off.
- Supply Fan in Hand: Commanded off, but the status is on.
- Supply Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).

Exhaust Fan:  
The exhaust fan shall run whenever the supply fan runs, unless shutdown on safeties.

Alarms shall be provided as follows:

- Exhaust Fan Failure: Commanded on, but the status is off.
- Exhaust Fan in Hand: Commanded off, but the status is on.
- Exhaust Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).

Cooling Stages:  
The controller shall measure the zone temperature and stage the cooling to maintain its cooling setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The cooling shall be enabled whenever:

- Outside air temperature is greater than 60°F (adj.).
- AND the zone temperature is above cooling setpoint.
- AND the fan status is on.

Gas Heating Stages:  
The controller shall measure the zone temperature and stage the heating to maintain its heating setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The heating shall be enabled whenever:

- Outside air temperature is less than 65°F (adj.).
- AND the zone temperature is below heating setpoint.
- AND the fan status is on.

Filter Differential Pressure Monitor:  
The controller shall monitor the differential pressure across the filter.

Alarms shall be provided as follows:

- Filter Change Required: Filter differential pressure exceeds a user definable limit (adj.).

Discharge Air Temperature:  
The controller shall monitor the discharge air temperature.

Alarms shall be provided as follows:

- High Discharge Air Temp: If the discharge air temperature is greater than 120°F (adj.).
- Low Discharge Air Temp: If the discharge air temperature is less than 40°F (adj.).

Zone Humidity:  
The controller shall monitor the zone humidity.

Alarms shall be provided as follows:

- High Zone Humidity: If the zone humidity is greater than 70% (adj.).
- Low Zone Humidity: If the zone humidity is less than 35% (adj.).

1 SEQUENCE OF OPERATION - VAV RTU  
N.T.S.3 SEQUENCE OF OPERATION - ROOF MOUNTED EF  
N.T.S.4 SEQUENCE OF OPERATION - RTU  
N.T.S.5 SEQUENCE OF OPERATION - DOAS  
N.T.S.SHEET TITLE  
CONTROLS -  
MECHANICALDATE  
17.10.24

SHEET NUMBER



PROJECT NAME

WSD - NEW SENIOR HIGH SCHOOL

LOCATION

800 E JACKSON AVE  
WYNNNE AR 72396

PROJECT NUMBER

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DEVELOPER/OWNER

WYNNNE SCHOOL DISTRICT

INFORMATION



OUTSIDE AIR ROOFTOP UNITS WITH ENERGY RECOVERY

Table with columns: MARK, DESCRIPTION, EFFICIENCY, ENERGY RECOVERY WHEEL DATA, FAN DATA, DX COOLING DATA, HOT GAS REHEAT, GAS HEATING DATA, COMPRESSOR DATA, ELECTRICAL DATA, UNIT DATA, BASIS OF DESIGN.

NOTES:  
1. EQUIVALENT EQUIPMENT FROM OTHER MANUFACTURERS INCLUDING AAO, CARRIER, DAIKIN, TRANE, AND VALENT SHALL BE ACCEPTABLE.

VARIABLE AIR VOLUME ROOFTOP UNIT SCHEDULE

Table with columns: MARK, AREA SERVED, NOMINAL TONS, EFFICIENCY, SUPPLY FAN, DX COOLING DATA @ 95°F AMBIENT, HEATING DATA, ELECTRICAL DATA, BASIS OF DESIGN, WEIGHT (LBS), REMARKS.

NOTES:  
1. PROVIDE AND INSTALL REFRIGERANT SUPPLY AND RETURN LINES PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.  
2. ALL CAPACITIES ARE NET VALUES.  
3. PROVIDE WATER LEVEL MONITORING DEVICE IN ACCORDANCE WITH IMC 307.2.3.1.  
4. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS SHALL BE ACCEPTABLE INCLUDING CARRIER, DAIKIN, JCI, LENNOX, YORK.

DUCTLESS SPLIT HEAT PUMP UNIT SCHEDULE

Table with columns: MARK, DESCRIPTION, NOMINAL TONS, EFFICIENCY, COOLING DATA, HEATING DATA, COMPRESSOR, ELECTRICAL DATA, BASIS OF DESIGN, WEIGHT (LBS), REMARKS.

NOTES:  
1. PROVIDE AND INSTALL REFRIGERANT SUPPLY AND RETURN LINES PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.  
2. ALL CAPACITIES ARE NET VALUES.  
3. PROVIDE WATER LEVEL MONITORING DEVICE IN ACCORDANCE WITH IMC 307.2.3.1.  
4. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS SHALL BE ACCEPTABLE INCLUDING CARRIER, DAIKIN, JCI, LENNOX, YORK.

CONSTANT VOLUME ROOFTOP UNIT SCHEDULE

Table with columns: MARK, AREA SERVED, NOMINAL TONS, EFFICIENCY, SUPPLY FAN, DX COOLING DATA @ 95°F AMBIENT, HEATING DATA, ELECTRICAL DATA, BASIS OF DESIGN, WEIGHT (LBS), REMARKS.

NOTES:  
1. PROVIDE UNIT WITH FACTORY INSTALLED DISCONNECT SWITCH, PHASE MONITOR, AND 120V UNPOWERED SERVICE OUTLET.  
2. PROVIDE FACTORY UNIT CONTROL WITH 7-DAY PROGRAMMABLE ROOM SENSORS.  
3. PROVIDE UNITS 5-TONS AND LARGER WITH ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF DAMPER.  
4. PROVIDE MERV 8 FILTER(S).  
5. PROVIDE UNIT WITH HINGED ACCESS PANELS.  
6. PROVIDE WATER LEVEL MONITORING DEVICE IN ACCORDANCE WITH IMC 307.2.3.1.  
7. PROVIDE WITH 18" HIGH ROOF CURB. ROOF CURBS SHALL BE ONE PIECE, WELDED, 14 GA. MIN. GALVANIZED. CURBS SHALL BE SLOPED AS REQUIRED FOR THE ROOF WITH RESTRAINT BRACKETS AS REQUIRED FOR SEISMIC REQUIREMENTS. CURBS SHALL BE ANCHORED TO THE ROOF STRUCTURE AS RECOMMENDED BY THE MANUFACTURER. CONTRACTOR TO VERIFY CURB HEIGHT WITH ROOF PITCH AND INSULATION THICKNESSES PRIOR TO ORDERING EQUIPMENT AND CURB.  
8. PROVIDE VIBRATION ISOLATION CURBS FOR UNITS ON AREA B ROOF.  
9. SMOKE DETECTORS SHALL BE INSTALLED IN THE SUPPLY & RETURN OF AIR SYSTEMS WITH A DESIGN AIRFLOW CAPACITY GREATER THAN 2000 CFM PER IMC 606.2.1.  
10. PROVIDE UNITS WITH MANUFACTURER'S STANDARD PARTS, COMPRESSOR, AND HEAT EXCHANGER WARRANTY(S).  
11. UNITS SHALL COMPLY WITH THE LATEST ENFORCED EDITION OF ASHRAE 90.1 AND U.S. DEPARTMENT OF ENERGY 2023 ENERGY STANDARD FOR MINIMUM SEER REQUIREMENTS.  
12. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS SHALL BE ACCEPTABLE INCLUDING CARRIER, DAIKIN, JCI, LENNOX, TEMPEMASTER, TRANE, YORK.

DUCTLESS SPLIT INDOOR UNIT SCHEDULE

Table with columns: MARK, DESCRIPTION, AIRFLOW (CFM), COOLING DATA, HEATING CAP., CD SIZE, FILTER, ELECTRICAL DATA, BASIS OF DESIGN, REMARKS.

NOTES:  
1. PROVIDE AND INSTALL REFRIGERANT SUPPLY AND RETURN LINES PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.  
2. ALL CAPACITIES ARE NET VALUES.  
3. PROVIDE CONDENSATE PUMP.  
4. PROVIDE WATER LEVEL MONITORING DEVICE IN ACCORDANCE WITH IMC 307.2.3.1.  
5. PROVIDE CONDENSATE OVERFLOW SWITCH, INTERLOCK WITH UNIT SHUTDOWN.  
6. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS SHALL BE ACCEPTABLE INCLUDING CARRIER, DAIKIN, JCI, LENNOX, YORK.

GRILLE, REGISTER, & DIFFUSER SCHEDULE

Table with columns: MARK, DESCRIPTION, APPLICATION, MFR., MODEL, MATERIAL, FINISH, DAMPER, N.C. MAX, REMARKS.

NOTES:  
1. COORDINATE AIR DISTRIBUTION DEVICE LOCATION WITH LIGHTS AND REFLECTED CEILING PLANS.  
2. CEILING DEVICES SHALL BE COMPATIBLE WITH CEILINGS SPECIFIED BY ARCHITECT.  
3. UNLESS NOTED OTHERWISE, DIFFUSER NECK SIZE INDICATES DUCT RUNOUT SIZE.  
4. COORDINATE FINISH OF AIR TERMINALS IN EXPOSED AREAS WITH ARCHITECT.

LOUVER SCHEDULE

Table with columns: MARK, DESCRIPTION, APPLICATION, MFR., MODEL, QTY, WIDTH (IN), HEIGHT (IN), FREE AREA (SF), CFM, PRESSURE DROP (IN-WG), FREE AREA VELOCITY (FPM), BPWP (FPM), REMARKS.

NOTES:  
1. PROVIDE LOUVER WITH INTEGRAL GALVANIZED BIRD SCREEN.  
2. CUSTOM PAINT COLOR TO BE SELECTED BY ARCHITECT TO MATCH OTHER BUILDING FINISHES.  
3. PROVIDE LOUVER WITH EXTENDED SILL.  
4. GREENHECK CHOWN IN THE SCHEDULE IS SHOWN TO ESTABLISH A STANDARD OF QUALITY. NOT TO LIMIT COMPETITION. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS SHALL BE ACCEPTABLE.

ELECTRIC UNIT HEATER SCHEDULE

Table with columns: MARK, MFR., MODEL, AIRFLOW (CFM), TOTAL HEATING CAPACITY (KW), ELECTRICAL, REMARKS.

NOTES:  
1. ALL CAPACITIES ARE NET VALUES.  
2. PROVIDE SURFACE MOUNT KIT AND 16 GA. STEEL HEAVY DUTY GRILLE.  
3. PROVIDE WITH INTEGRAL THERMOSTAT.  
4. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT. SEE ELECTRICAL DRAWINGS.

SMOKE VENT SCHEDULE

Table with columns: MARK, DESCRIPTION, MANUFACTURER, MODEL, MATERIAL, LENGTH (IN), WIDTH (IN), REMARKS.

NOTES:  
1. VENT SHALL BE UL LISTED AND COMPLY WITH UL 793 AND UL 790 CLASS A.  
2. VENT COVERS SHALL OPEN SIMULTANEOUSLY IN A CONTROLLED MANNER AGAINST A 10 PSF SNOW/WIND LOAD WHEN LATCH IS MANUALLY RELEASED OR WHEN HEAT BREAKS THE UL LISTED FUSIBLE LINK.  
3. COVER SHALL BE REINFORCED TO SUPPORT A MINIMUM LIVE LOAD OF 40 PSF WITH A MAX. DEFLECTION OF 1/150TH OF THE SPAN OR 20 PSF WIND UPLIFT.  
4. STIFFEN ROOF AUTOMATIC SMOKE VENT SHALL BE WEATHER TIGHT WITH FULLY WELDED CORNER JOINTS ON COVER AND CURB.  
5. SMOKE VENT SHALL BE INSTALLED IN STRICT ACCORDANCE OF 2021 IBC 410.2.7 STAGE VENTILATION FOR STAGES GREATER THAN 1,000 SF.  
6. STAGE = 3.471 SF. 5% OF TOTAL AREA OF STAGE REQUIRED FOR AUTOMATIC SMOKE VENTS = 5% x 3.471 SF = 173.6 SF REQUIRED AREA. 173.6 SF/40 SF PER VENT (5x8) = 4 VENTS MIN.

SINGLE DUCT VAV TERMINAL UNIT SCHEDULE

Table with columns: MARK, UNIT DATA, DESIGN AIRFLOW DATA, SCR ELECTRIC HEATING COIL DATA, BASIS OF DESIGN, REMARKS.

NOTES:  
1. ELECTRIC HEAT SHALL HAVE SCR CONTROLS.  
2. PROVIDE 1" CLOSED CELL INSULATION.  
3. PROVIDE PRIMARY AND SECONDARY FUSING WITH INTERLOCKING FUSED DISCONNECT.  
4. PROVIDE HANGER BRACKETS.

SINGLE DUCT VAV TERMINAL UNIT SCHEDULE

Table with columns: Mark, UNIT DATA, DESIGN AIRFLOW DATA, SCR ELECTRIC HEATING COIL DATA, BASIS OF DESIGN, REMARKS.

NOTES:  
1. ALL CAPACITIES ARE NET VALUES.  
2. PROVIDE SURFACE MOUNT KIT AND 16 GA. STEEL HEAVY DUTY GRILLE.  
3. PROVIDE WITH INTEGRAL THERMOSTAT.  
4. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT. SEE ELECTRICAL DRAWINGS.