

# MISSOURI STATE HWY. PATROL TROOP C HEADQUARTERS HVAC SYSTEM UPGRADES

891 TECHNOLOGY DRIVE  
WELDON SPRING, MO 63304

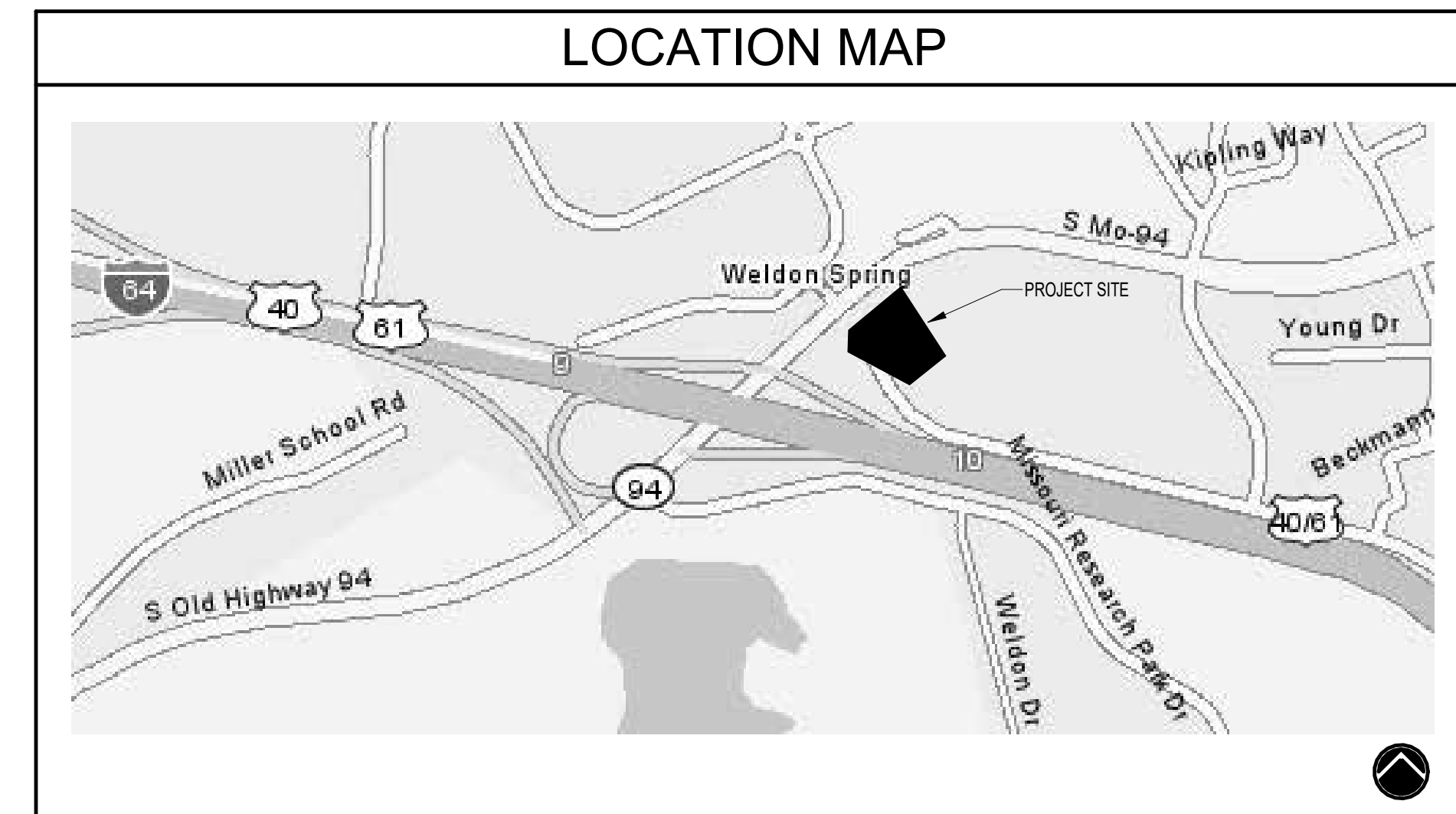
Project No: R2415-01  
Site Number: 6004  
Facility Number: 8136004003



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APPLICABLE CODES	
BUILDING CODE	2021 INTERNATIONAL BUILDING CODE
STATE CODE/REGULATIONS	-
LIFE SAFETY CODE	2021 NFPA 101
MECHANICAL CODE	2021 INTERNATIONAL MECHANICAL CODE
PLUMBING CODE	2021 INTERNATIONAL PLUMBING CODE
ELECTRICAL CODE	2020 NATIONAL ELECTRICAL CODE
ENERGY CONSERVATION CODE	2015 INTERNATIONAL ENERGY CONSERVATION CODE
SEISMIC DESIGN CRITERIA	2021 INTERNATIONAL BUILDING CODE SEISMIC OCCUPANCY CATEGORY: IV SEISMIC DESIGN CATEGORY: D

PROJECT TEAM			
Owner:	State of Missouri Mike Kehoe, Governor Department of Public Safety State Highway Patrol	Project Management:	Office of Administration Division of Facilities Management Design and Construction
MEP Engineer:	BR+A Consulting Engineers, P.C.	Architect:	The Lawrence Group



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HIGHWAY PATROL

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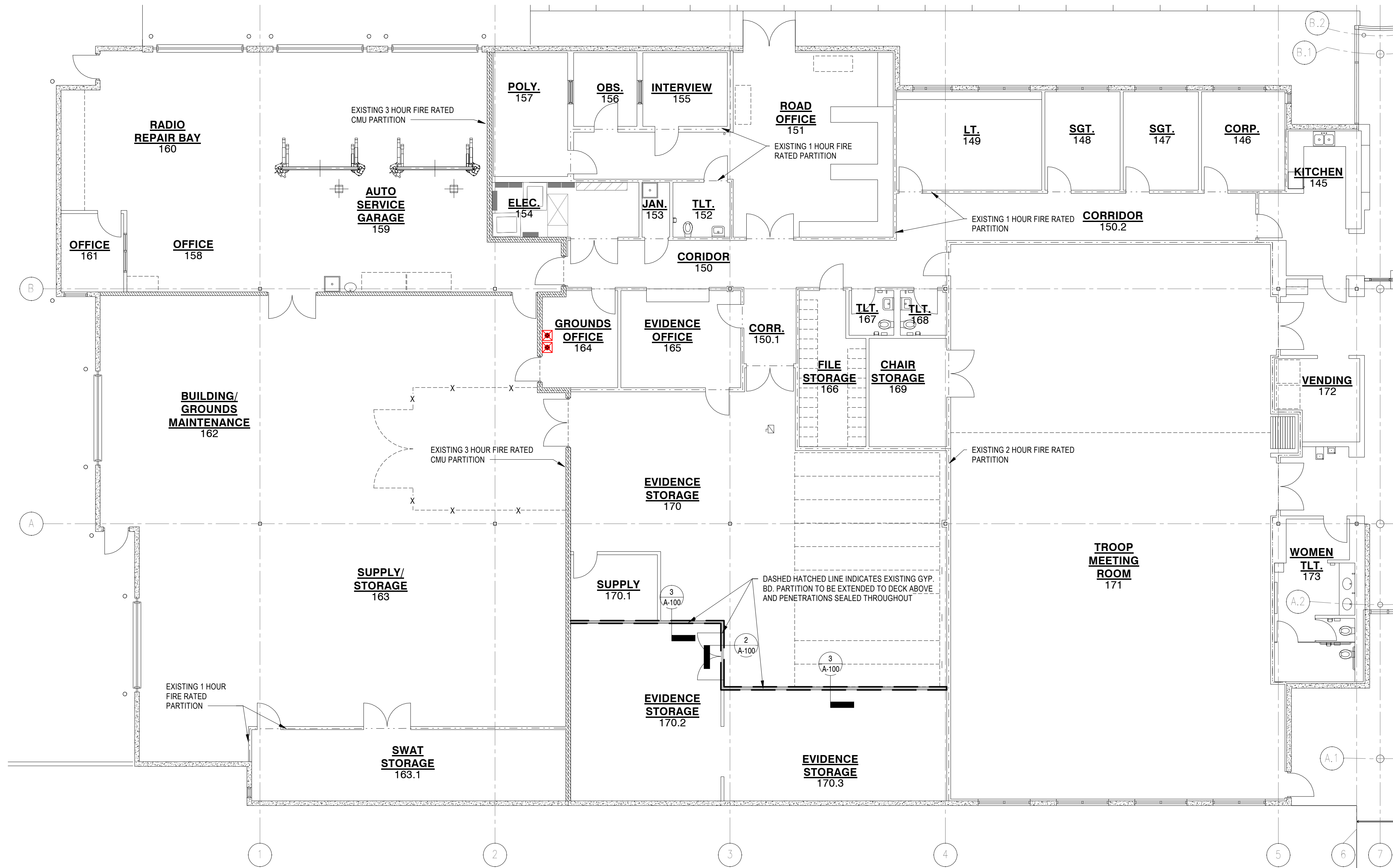
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ISSUE DATE: 02/11/2026

CAD DWG FILE: --  
DRAWN BY: Varies  
CHECKED BY: Varies  
DESIGNED BY: Varies

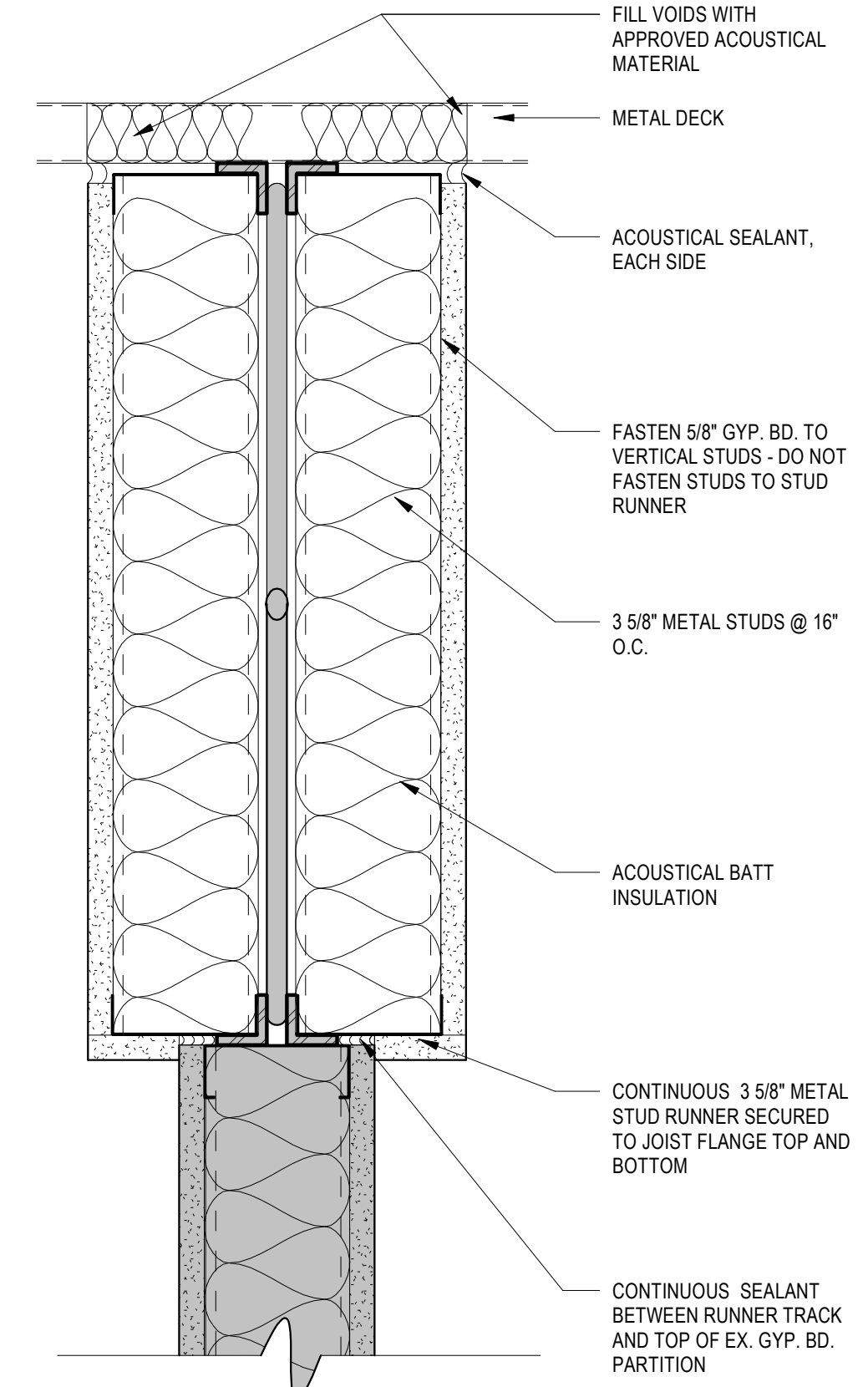
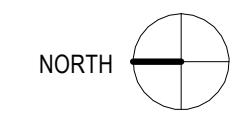
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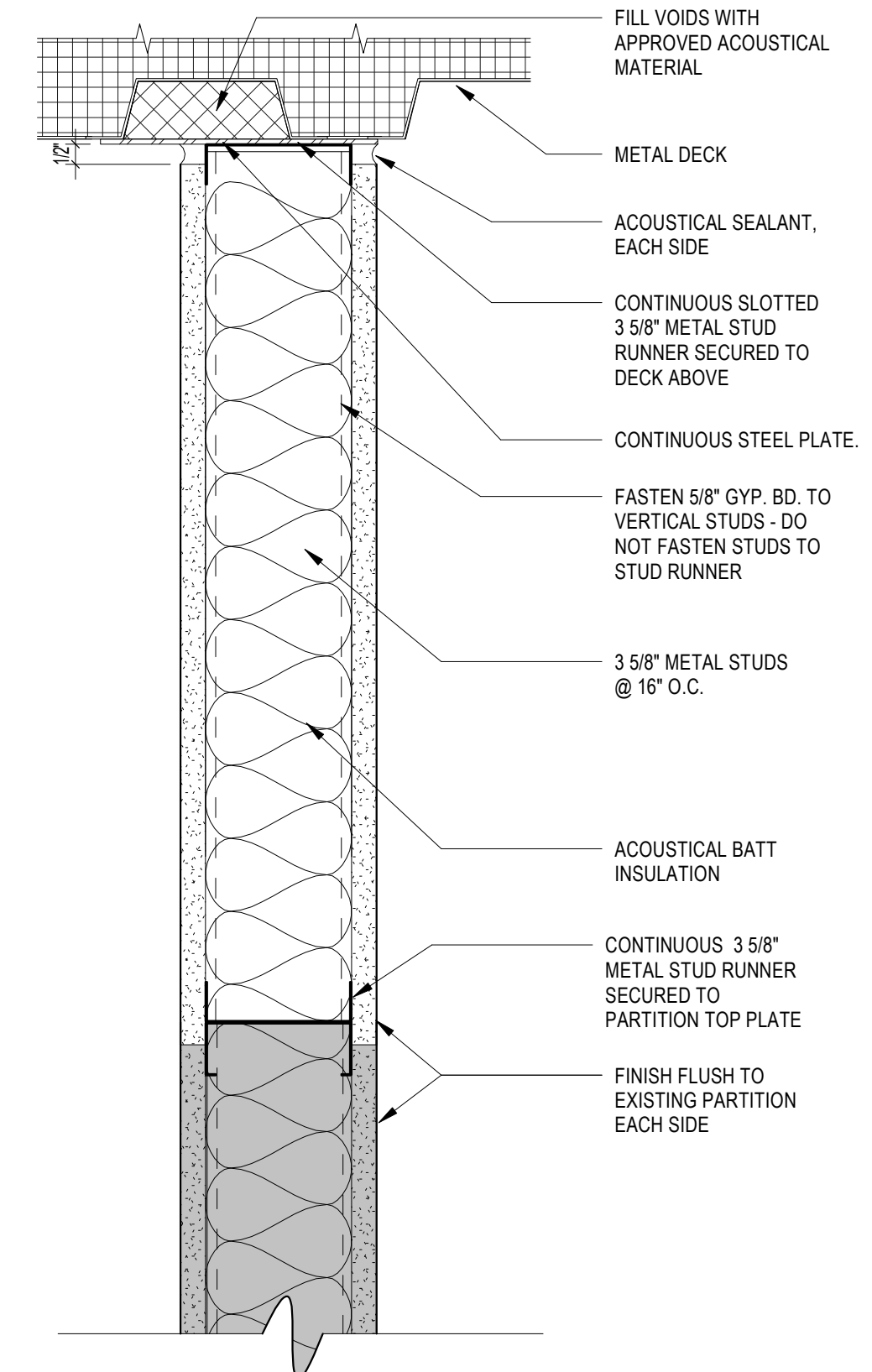
G-001



1 LEVEL 01 - PARTIAL FLOOR PLAN  
A-100 1/8" = 1'-0"

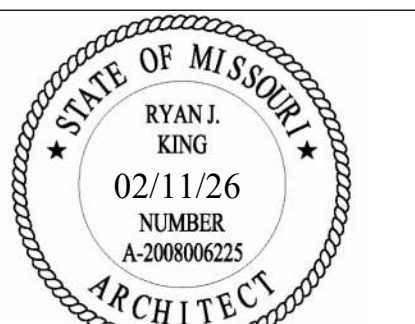


2 PARTITION TOP OUT IN LINE W/ JOIST  
A-100 3" = 1'-0"



3 PARTITION TOP OUT PERPENDICULAR TO JOIST  
A-100 3" = 1'-0"

STATE OF MISSOURI  
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PROFESSIONAL SEAL



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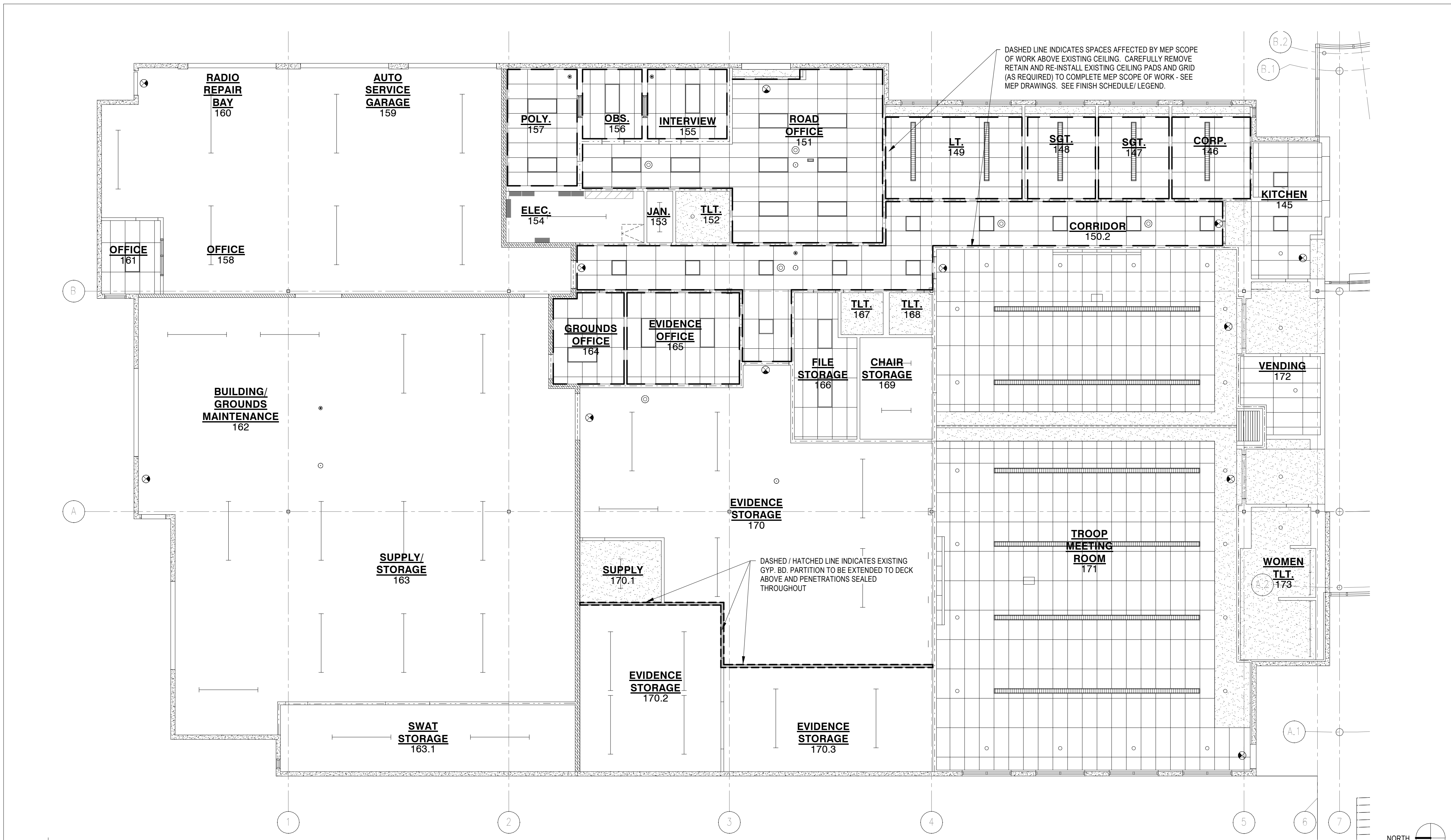
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DESIGNED BY: MJM

SHEET TITLE:  
FIRST FLOOR  
PLAN

SHEET NUMBER:

A-100

2 of 22  
02/11/2026



**GENERAL NOTES - FLOOR PLAN / FINISHES**

- GENERAL CONTRACTOR TO SUBMIT SAMPLES OF ALL LISTED FINISHES TO ARCHITECT/DESIGNER FOR APPROVAL PRIOR TO ORDERING.
- THIS ROOM FINISH SCHEDULE SHALL BE CROSS REFERENCED WITH ROOM FINISH PLANS, RCP, INTERIOR ELEVATIONS, DETAILS, ETC. ANY INCONSISTENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
- CONTRACTOR TO FOLLOW MANUFACTURERS INSTRUCTION FOR PROPER INSTALLATION, CLEANING OF ALL FINISH MATERIALS.
- PAINT ALL METAL ACCESS PANELS TO MATCH ADJACENT WALL OR CEILING COLOR IN ALKYD ENAMEL FINISH.
- PREPARE ALL EXISTING SUBSTRATES (FLOORS, WALLS, CEILINGS) TO RECEIVE NEW FINISHES. SUBCONTRACTORS INSTALLATION OF MATERIALS INDICATES ACCEPTANCE OF SUBSTRATE.
- ADDITIONAL QUANTITY/STOCK OF SPECIFIED FINISH MATERIALS SHALL BE COORDINATED WITH OWNER AND PROVIDED BY GENERAL CONTRACTOR AND STORED IN ACCEPTABLE LOCATION TO THE OWNER.
- ANY PROPOSED FINISH SUBSTITUTIONS SHALL BE SUBMITTED TO ARCHITECT FOR APPROVAL PRIOR TO BIDDING. ALL SUBMITTALS MUST INCLUDE ACTUAL SAMPLES AND COMPLETE SPECIFICATIONS. ALL SUBSTITUTIONS MUST BE APPROVED IN WRITING.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND CONFIRMING ALL SUBSTRATE CONDITIONS WHERE NEW MATERIALS ARE APPLIED. SUBSTRATE SHALL BE SMOOTH, FREE OF DEFECTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE FINISH MATERIAL MANUFACTURERS RECOMMENDATIONS.
- ALL FINISH MATERIALS SHALL BE INSTALLED PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS TO COMPLY WITH WARRANTY INFORMATION AND LOCAL CODES.
- THE CONTRACTOR SHALL PROVIDE THE BUILDING OWNER WITH WRITTEN INSTRUCTIONS ON THE CARE AND CLEANING OF ALL FINISH MATERIALS AND FIXTURES.
- CONTRACTOR IS REQUIRED TO PROVIDE FINISH SUBMITTALS INCLUDING SPECIFICATION INFORMATION, LOCATIONS, INSTALLATION DRAWINGS, AND FINISH SAMPLES TO DESIGNER FOR APPROVAL PRIOR TO ORDERING FINISH MATERIALS.
- GENERAL CONTRACTOR TO VERIFY LEAD TIMES ON ALL SPECIFIED FINISH MATERIALS AND COORDINATE FINISH PROCUREMENT WITH THE PROJECT SCHEDULE. ADDITIONAL CHARGES DUE TO RESELECTIONS OF FINISH MATERIALS, EXPEDITED SHIPPING, ETC. DUE TO LEAD TIME ISSUES WILL BE RESPONSIBILITY OF THE CONTRACTOR.
- VERIFY EXISTING PARTITIONS MEET REQUIRED FIRE RATING.
- PAINTED SURFACES SHALL BE Sanded, FILED, OR PATCHED AS REQUIRED. ALL PAINTED SURFACES SHALL BE PRIMED AND RECEIVE 2 COATS OF PAINT. PAINT BEING APPLIED TO WALL SURFACES SHALL BE AN EGGSHELL FINISH. ALL PAINT BEING APPLIED ON CEILINGS SHALL BE FLAT IN FINISH U.N.O.
- ADDITIONAL QUANTITY/STOCK OF SPECIFIED FINISH MATERIALS SHALL BE COORDINATED WITH OWNER AND PROVIDED BY GENERAL CONTRACTOR AND STORED IN ACCEPTABLE LOCATION TO THE OWNER.
- ALL FINISH MATERIALS TO MEET CLASS A FIRE & SMOKE RATINGS. IF GENERAL CONTRACTOR DISCOVERS SPECIFIED FINISH MATERIALS DO NOT MEET CLASS A RATINGS NOTIFY DESIGNER IMMEDIATELY. PROVIDE MANUFACTURERS FLAME SPREAD CERTIFICATES FOR OWNERS RECORDS. COPIES TO BE PROVIDED TO PROJECT ARCHITECT, INTERIOR DESIGNER, AND OWNER.
- PAINT ALL MECHANICAL UNITS AND GRILLS TO MATCH ADJACENT WALL OR CEILING SURFACE, UNO.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS FOR ACCURACY TO CONFIRM THAT THE WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION OR ORDER PLACEMENT OF MATERIALS. SUB CONTRACTORS ARE RESPONSIBLE FOR COORDINATING WITH OTHER TRADES.
- FINISH MATERIALS TO BE STORED IN DRY LOCATIONS WITH AMBIENT TEMPERATURES WITHIN RANGE OF MANUFACTURERS RECOMMENDATIONS. STORAGE CONDITIONS, ORIENTATION, AND ACCLIMATION PERIODS SHOULD BE PER MANUFACTURERS RECOMMENDATIONS.
- ENSURE FINISH SURFACES ARE FLUSH AND SEAMLESS WHERE PARTITIONS AND / OR FURRING ARE COPLANAR.
- PATCH / REPAIR ANY EXISTING GYPSUM BOARD WALLS TO REMAIN AND PREPARE SURFACES TO A LEVEL 4 FINISH TO ACCEPT NEW TENANT FINISHES.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING FINISHES, MATERIALS, FURNITURE, EQUIPMENT AND BUILDING SYSTEMS WITHIN THE CONSTRUCTION AREA AND IN ADJACENT OCCUPIED SPACES FROM DUST, DIRT, DAMAGE, AND UNAUTHORIZED REMOVAL THROUGHOUT THE DURATION OF THE PROJECT.
- PROVIDE, INSTALL, AND MAINTAIN TEMPORARY BARRIERS, DUST PARTITIONS, FLOOR COVERINGS (E.G., MASONITE, RAM BOARD), AND PROTECTIVE WRAPS AS NECESSARY TO PREVENT DAMAGE TO FINISHES, FURNITURE AND PERSONAL EFFECTS CAUSED AS A RESULT OF CONSTRUCTION ACTIVITY.
- ANY EXISTING FURNITURE, FIXTURES, EQUIPMENT, OR FINISHES DAMAGED, SOILED, OR OTHERWISE MARRED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED, CLEANED, OR REPLACED TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S SOLE EXPENSE AND TO THE SATISFACTION OF THE ARCHITECT/OWNER.
- FURNITURE WILL BE MOVED BY THE OWNER, PROTECTED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE FURNITURE AND PERSONAL ITEM REMOVAL/RELOCATION WITH THE OWNER. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF TWO (2) WEEK NOTICE TO THE OWNER PRIOR TO THE START OF WORK AND DURING CONSTRUCTION FOR EACH SCOPE AREA. SEE SPECIFICATION SECTION 013233 PHOTOGRAPHIC DOCUMENTATION FOR SPECIFIC REQUIREMENTS.
- THE CONTRACTOR SHALL PROVIDE PHOTOGRAPHIC DOCUMENTATION OF EXISTING CONDITIONS PRIOR TO THE START OF WORK, AND DURING CONSTRUCTION FOR EACH SCOPE AREA. SEE SPECIFICATION SECTION 013233 PHOTOGRAPHIC DOCUMENTATION FOR SPECIFIC REQUIREMENTS.

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DRAWN BY: MJM  
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DESIGNED BY: MJM

SHEET TITLE:  
**FIRST FLOOR  
RCP / FINISH  
SCHEDULE**

SHEET NUMBER:

**A-101**

1 LEVEL 01 - PARTIAL REFLECTED CEILING PLAN  
A-101 1/8" = 1'-0"

**FINISH SCHEDULE**

Number	Name	Floor Finish	Base	Wall Finish				Ceiling Finish	Comments
				North	East	South	West		
145	KITCHEN	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
146	CORP.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
147	SGT.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
148	SGT.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
149	LT.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
150	CORRIDOR	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
150.1	CORR.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
150.2	CORRIDOR	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
151	ROAD OFFICE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
152	TLT.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
153	JAN.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
154	ELEC.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	NO CEILING	
155	INTERVIEW	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
156	OBS.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
157	POLY.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
158	OFFICE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
159	AUTO SERVICE GARAGE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	NO CEILING	
160	RADIO REPAIR BAY	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	NO CEILING	
161	OFFICE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
162	BUILDING/ GROUNDS MAINTENANCE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	NO CEILING	
163	SUPPLY/ STORAGE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	NO CEILING	
163.1	SWAT STORAGE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
164	GROUNDS OFFICE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
165	EVIDENCE OFFICE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1	
166	FILE STORAGE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
167	TLT.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
168	TLT.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
169	CHAIR STORAGE	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
170	EVIDENCE STORAGE	EX-0	EX-0	EX-0	EX-0	EX-1 / PT-1	EX-1 / PT-1	NO CEILING	
170.1	SUPPLY	EX-0	EX-0	EX-0	EX-0	EX-0	EX-1 / PT-1	NO CEILING	
170.2	EVIDENCE STORAGE	EX-0	EX-0	EX-0	EX-0	EX-1 / PT-1	EX-1 / PT-1	NO CEILING	
170.3	EVIDENCE STORAGE	EX-0	EX-0	EX-0	EX-0	EX-1 / PT-1	EX-1 / PT-1	NO CEILING	
171	TROOP MEETING ROOM	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
172	VENDING	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	
173	WOMEN TLT.	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	EX-0	

**FINISH LEGEND**

WALLS	
PAINT SPEC SECTION 099123	
EX-0	EXISTING NO WORK
EX-1	EXISTING PATCH TO MATCH EXISTING ADJACENT
PT-1	MANUFACTURER: SHERWIN WILLIAMS FINISH: LATEX EGGSHELL COLOR: _____ A MATCH EXISTING ADJACENT LOCATION: GYPSUM BOARD WALLS
HANK MEINKING 314.281.7485 HANK.MEINKING@SHERWIN.COM	
CEILINGS	
ACOUSTICAL CEILINGS SPEC SECTION 095100	
EX-1	EXISTING CEILING REMOVED AND REPLACED PATCH TO MATCH EXISTING ADJACENT (ACT-1)
ACT-1	MANUFACTURER: ARMSTRONG STYLE: DUNE SECOND LOOK II 2712A 24" X 48" LAY-IN ANGLED TEGULAR COLOR: WHITE
ELIZABETH MOON 816.216.2890 EMOON@ARMSTRONGCEILINGS.COM	
ACOUSTICAL CEILING TILE NOTES: 1. UTILIZE EXISTING GRID 2. BASE BID PROVIDE ONE (1) BOX OF NEW TILE FOR REPLACEMENT OF DAMAGED TILE. 3. PROVIDE UNIT PRICING FOR ADDITIONAL BOXES PER OWNERS DIRECTION. GC TO COORDINATE. SEE SPEC SECTION 095100. UNIT PRICE WILL BE PER CARTON (8 TILES) WITH A SINGLE CARTON BEING THE REQUIRED BASE BID QUANTITY PROVIDED BY THE CONTRACTOR. UNUSED CEILING TILES WILL REMAIN ON SITE AND WILL BECOME PROPERTY OF THE OWNER.	

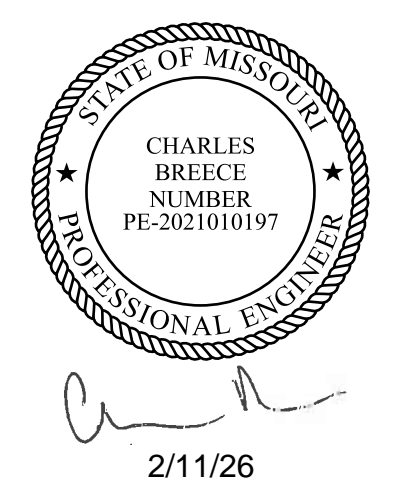
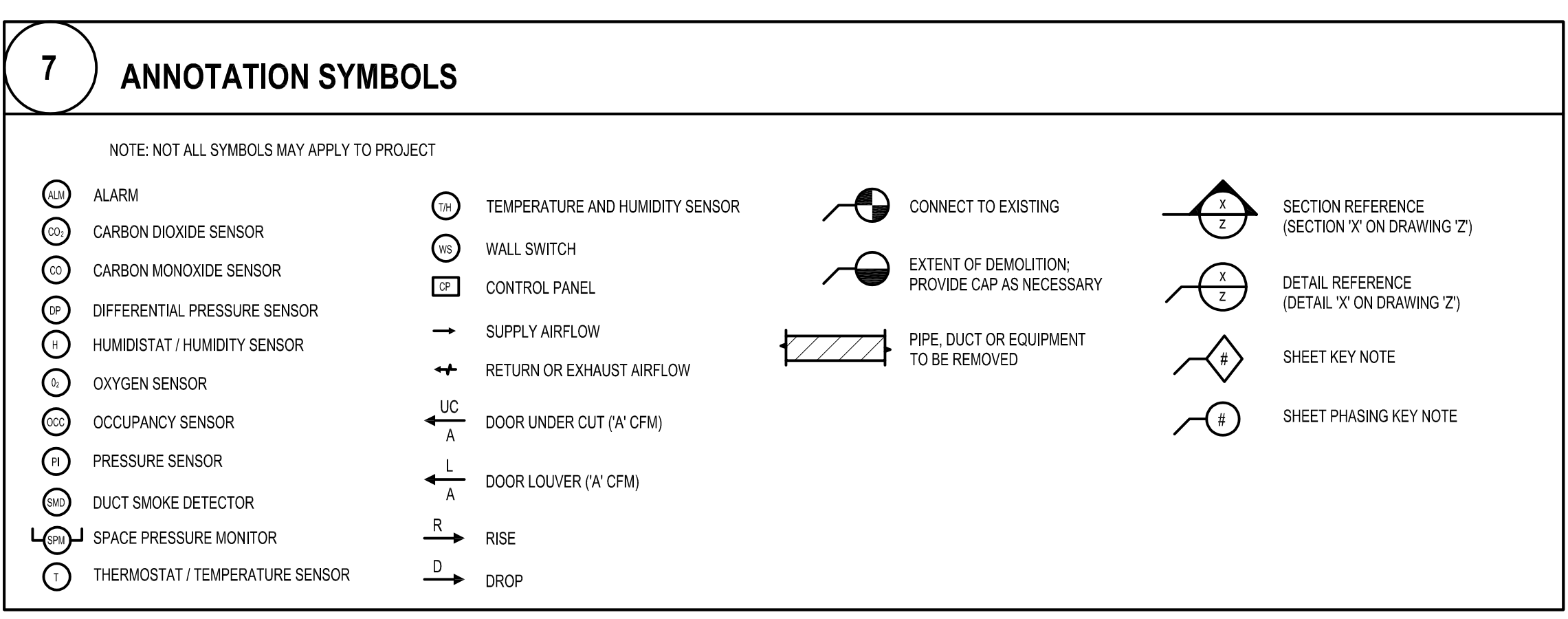
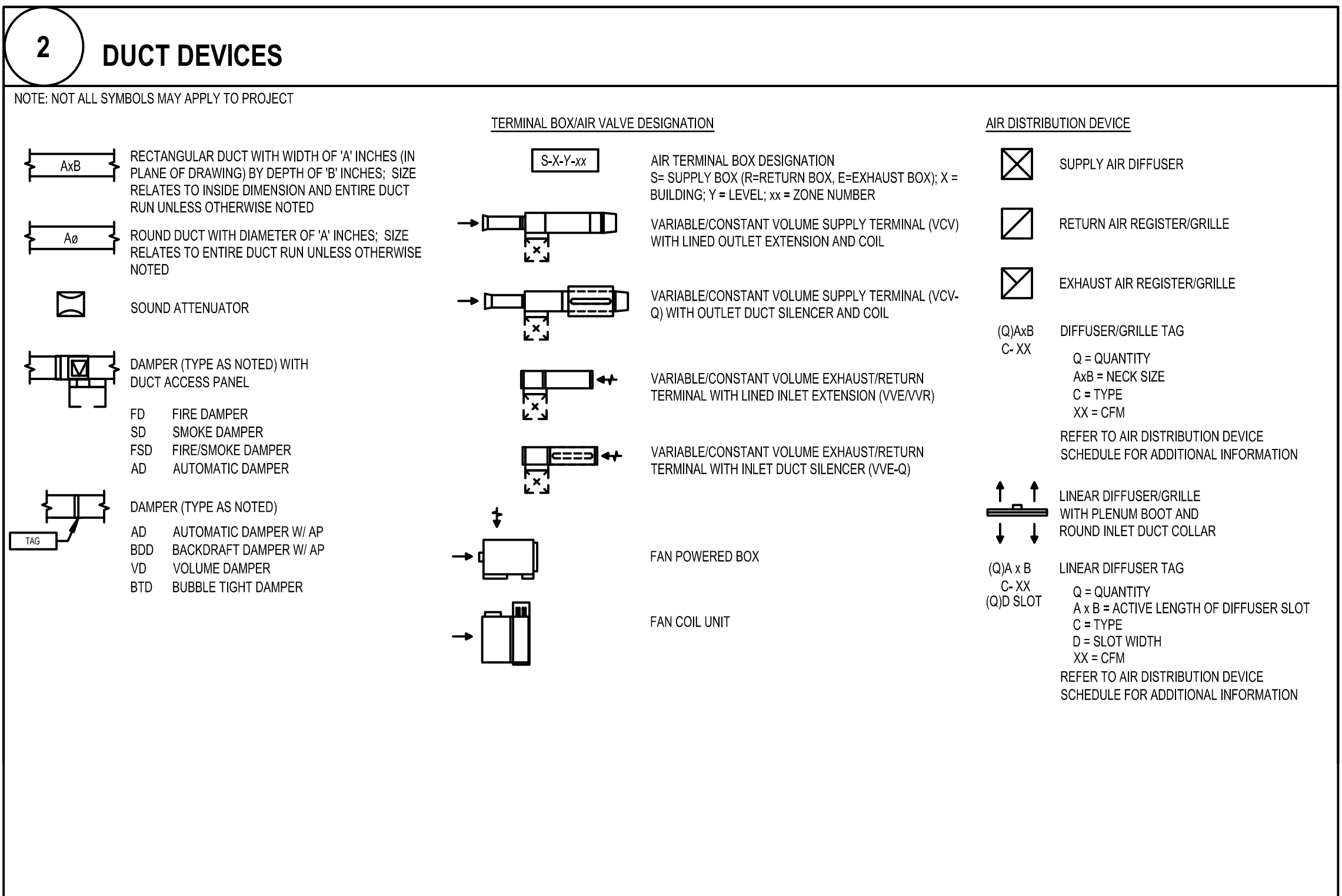
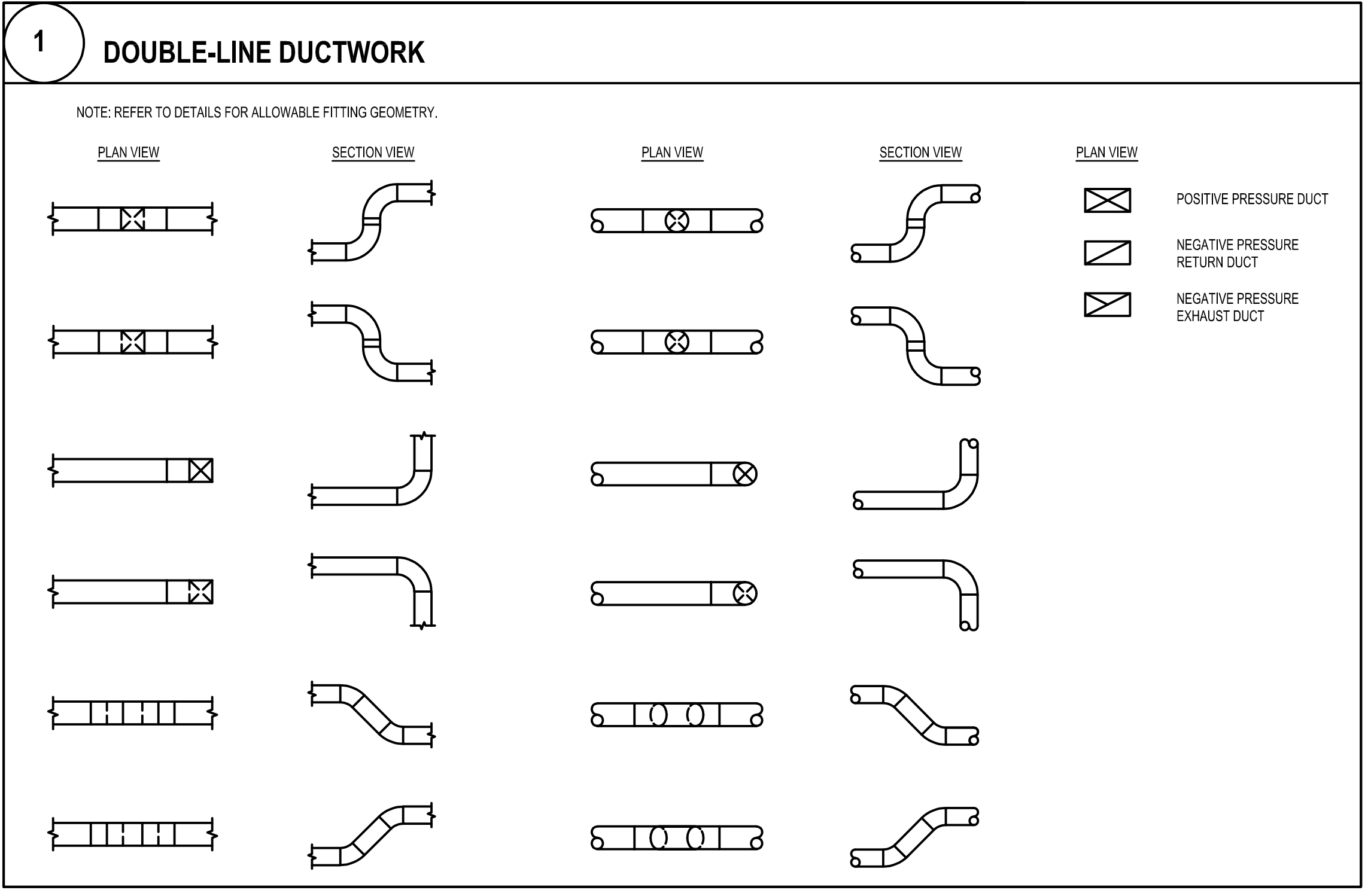
**REFLECTED CEILING PLAN GRAPHIC LEGEND**

	2X2 LAY IN LIGHT FIXTURE		SPEAKER
	2X4 LAY IN LIGHT FIXTURE (LAY-IN CEILING)		EXIT SIGN
	LINEAR PENDANT LIGHT FIXTURE (LAY-IN CEILING)		SMOKE DETECTOR
	LINEAR PENDANT LIGHT FIXTURE (OPEN CEILING)		CEILING MOUNTED CAMERA
	RECESSED CAN LIGHT FIXTURE		DESK PANIC ALARM LIGHT

**5 HVAC ABBREVIATIONS**

NOTE: NOT ALL ABBREVIATIONS MAY APPLY TO PROJECT

(E) EXISTING	EL ELEVATION	IN INCHES	PSID POUNDS PER SQUARE INCH DIFFERENTIAL
A/C AIR-CONDITIONING	ELEC ELECTRICAL	IN WC INCHES OF WATER COLUMN	PSIG POUNDS PER SQUARE INCH GAUGE
ABS ABSOLUTE	ENGR ENGINEER	IN WG INCHES OF WATER GAUGE	QTY QUANTITY
AD AUTOMATIC DAMPER	EP ELECTRICAL PNEUMATIC	IPLV INTEGRATED PART LOAD VALUE	RA RETURN AIR
AFB ABOVE FINISHED FLOOR	EQ EQUAL OR EQUIVALENT	IPS IRON PIPE SIZE	RAHU RE-CIRCULATING AIR HANDLING UNIT
ALUM ALUMINUM	ESP EXTERNAL STATIC PRESSURE (INCHES OF WATER)	ISO ISOLATION	RH RELATIVE HUMIDITY
AMB AMBIENT	ETR EXISTING TO REMAIN	IW INDIRECT WASTE W/ AIR GAP AT DISCHARGE	RHC REHEAT COIL
AP ACCESS PANEL	ETRR EXISTING TO REMAIN AND BE RELOCATED	KW KILOWATTS	RHC REHEAT COIL
APPROX APPROXIMATE	EWB ENTERING WET BULB TEMPERATURE	KWH KILOWATT HOURS	RISE PIPE/DUCT ELEV. CHANGE W/IN FLOOR LEVEL
ARCH ARCHITECTURAL	EWT ENTERING WET TEMPERATURE	L LENGTH	RLA RUNNING LOAD AMPS
ATM ATMOSPHERE	EXH EXHAUST	LAT LEAVING AIR TEMPERATURE	RPM REVOLUTIONS PER MINUTE
AVG AVERAGE	EXP EXPANSION	LBS POUNDS	SA SUPPLY AIR OR SOUND ATTENUATOR
BF BLIND FLANGE	F FAHRENHEIT	LBSHR POUNDS PER HOUR	SCFM STANDARD CUBIC FEET PER MINUTE
BFC BELOW FINISHED CEILING	FA FREE AREA (SQUARE FEET)	LDB LEAVING DRY BULB TEMPERATURE	SD SMOKE DAMPER
BHP BRAKE HORSE POWER	FC FAIL CLOSED	LEED LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN	SEC SECOND
BOD BOTTOM OF DUCT	FD FIRE DAMPER	LRA LOCK ROTOR AMPS	SEER SEASONAL ENERGY EFFICIENCY RATIO
BOP BOTTOM OF PIPE	FIP FAIL IN PLACE	LWB LEAVING WET BULB TEMPERATURE	SF OR SQFT SQUARE FEET
BTU(H) BRITISH THERMAL UNIT (PER HOUR)	FLA FILL LOAD AMPS	LWT LEAVING WATER TEMPERATURE	SG SPECIFIC GRAVITY
CAP CAPACITY	FLR FLOOR	LWX LEAVING WATER TEMPERATURE	SMD SMOKE DETECTOR
CC COOLING COIL	FLX FLEXIBLE CONNECTION	MBH 1000 BTUHR	SMD SMOKE DETECTOR
CFM CUBIC FEET PER MINUTE	FO FAIL OPEN	NCA MINIMUM CIRCUIT AMPACITY	SP STATIC PRESSURE (INCHES OF WATER)
CI CAST IRON	FOB FLAT ON BOTTOM	NCC MOTOR CONTROL CENTER	SPECS SPECIFICATIONS
CM CONSTRUCTION MANAGER	FOT FLAT ON TOP	MECH MECHANICAL	SPL SOUND POWER LEVEL
CO CLEAN OUT OR CARBON MONOXIDE	FPF FINS PER FOOT	MER MECHANICAL EQUIPMENT ROOM	SQ SQUARE
COND CONDENSATE	FPI FINS PER INCH	MERV MINIMUM EFFICIENCY RATING VALUE	SS STAINLESS STEEL
CONT CONTINUATION	FPM FEET PER MINUTE	MFR MANUFACTURER	STD STANDARD
CP CONTROL PANEL	FPS FEET PER SECOND	MHP MOTOR HORSEPOWER	TAB TESTING, ADJUSTING AND BALANCING
CTE CONNECT TO EXISTING	FSD FIRE/SMOKE DAMPER	MIN MINIMUM	TOD TOP OF DUCT
CUH CABINET UNIT HEATER	FT FEET OR FOOT	MISC MISCELLANEOUS	TOP TOP OF PIPE
CV CONTROL VALVE OR CONSTANT VOLUME	FTL FAIL TO LAST (POSITION)	MOCPP MAXIMUM OVER CURRENT PROTECTION	TSP TOTAL STATIC PRESSURE (INCHES OF WATER)
DAT DISCHARGE AIR TEMPERATURE	FV FACE VELOCITY	MTG MOUNTING	TT TOP THROAT
DB DECIBELS OR DRY BULB	GAL GALLONS	NCA NATIONAL FIRE PROTECTION ASSOCIATION	TYP TYPICAL
DBA DECIBELS (A-WEIGHTED SCALE)	GALV GALVANIZED	NIC NOT IN CONTRACT	UL UNDERWRITERS LABORATORIES
DOC DIRECT DIGITAL CONTROL	GC GENERAL CONTRACTOR	NO NORMALLY OPEN OR NUMBER	V VOLTAGE
DEFL DEFLECTION	GEN GENERATOR	NOM NOMINAL	VAV VARIABLE AIR VOLUME
DHW DOMESTIC HOT WATER	GLY GLYCOL/WATER MIX	NPLV NON STANDARD PART LOAD VALVE	VC VENT CONNECTOR
DIA DIAMETER	GPH GALLONS PER HOUR	NPSH NET POSITIVE SUCTION HEAD	VD VOLUME DAMPER
DIV SPECIFICATION DIVISION	GPM GALLONS PER MINUTE	NTS NOT TO SCALE	VEL VELOCITY
DN DOWN	GR GRAINS	OA OUTSIDE AIR	VFD VARIABLE FREQUENCY DRIVE
DP DIFFERENTIAL PRESSURE	H HEIGHT	OBD OPOSED BLADE DAMPER	VFB VERTICAL INTEGRAL FACE AND BYPASS
DPE DRAIN PAN ELBOW	HB HOSE BIB	OC ON CENTER	VOL VOLUME
DPT DEW POINT TEMPERATURE	HC HEATING COIL	OD OUTSIDE DIAMETER	VRF VARIABLE REFRIGERANT FLOW
DR DRAIN	HDPE HIGH DENSITY POLYETHYLENE	OED OPEN ENDED DUCT	VV VARIABLE VOLUME
DROP PIPE/DUCT ELEV. CHANGE W/IN FLOOR LEVEL	HEPA HIGH EFFICIENCY PARTICULATE AIR	OZ OUNCE	W WATTS OR WIDTH
DWG DRAWING	HG MERCURY	PD PRESSURE DROP	WI WITHIN
DX DIRECT EXPANSION (REFRIGERANT)	HO HUB OUTLET	PE PNEUMATIC ELECTRIC	WIO WITHOUT
EA EACH OR EXHAUST AIR	HP HORSE POWER	PG PROPYLENE GLYCOL WATER SOLUTION	WB WET BULB TEMPERATURE
EAT ENTERING AIR TEMPERATURE	HR HOUR	PH PHASE	WG WATER GAUGE
ECM ELECTRONICALLY COMMUTATED MOTOR	HVAC HEATING, VENTILATION AND AIR-CONDITIONING	PLBG PLUMBING	WMS WIRE MESH SCREEN
EDB ENTERING DRY BULB TEMPERATURE	HZ HERTZ	PRV PRESSURE REDUCING VALVE	WS WALL SWITCH
EER ENERGY EFFICIENT RATIO	ID INSIDE DIAMETER	PSI POUNDS PER SQUARE INCH	WT WEIGHT
EFF EFFICIENCY	IE INVERT ELEVATION	PSIA POUNDS PER SQUARE INCH ABSOLUTE	
EG ETHYLENE GLYCOL WATER SOLUTION	IFB INTEGRAL FACE AND BY-PASS		



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MISSOURI STATE HIGHWAY  
PATROL TROOP C  
HEADQUARTERS  
SYSTEM UPGRADES  
891 TECHNOLOGY DRIVE  
WELDON SPRING, MO 63304

PROJECT # R2415-01  
SITE # 6004  
FACILITY # 8136004003

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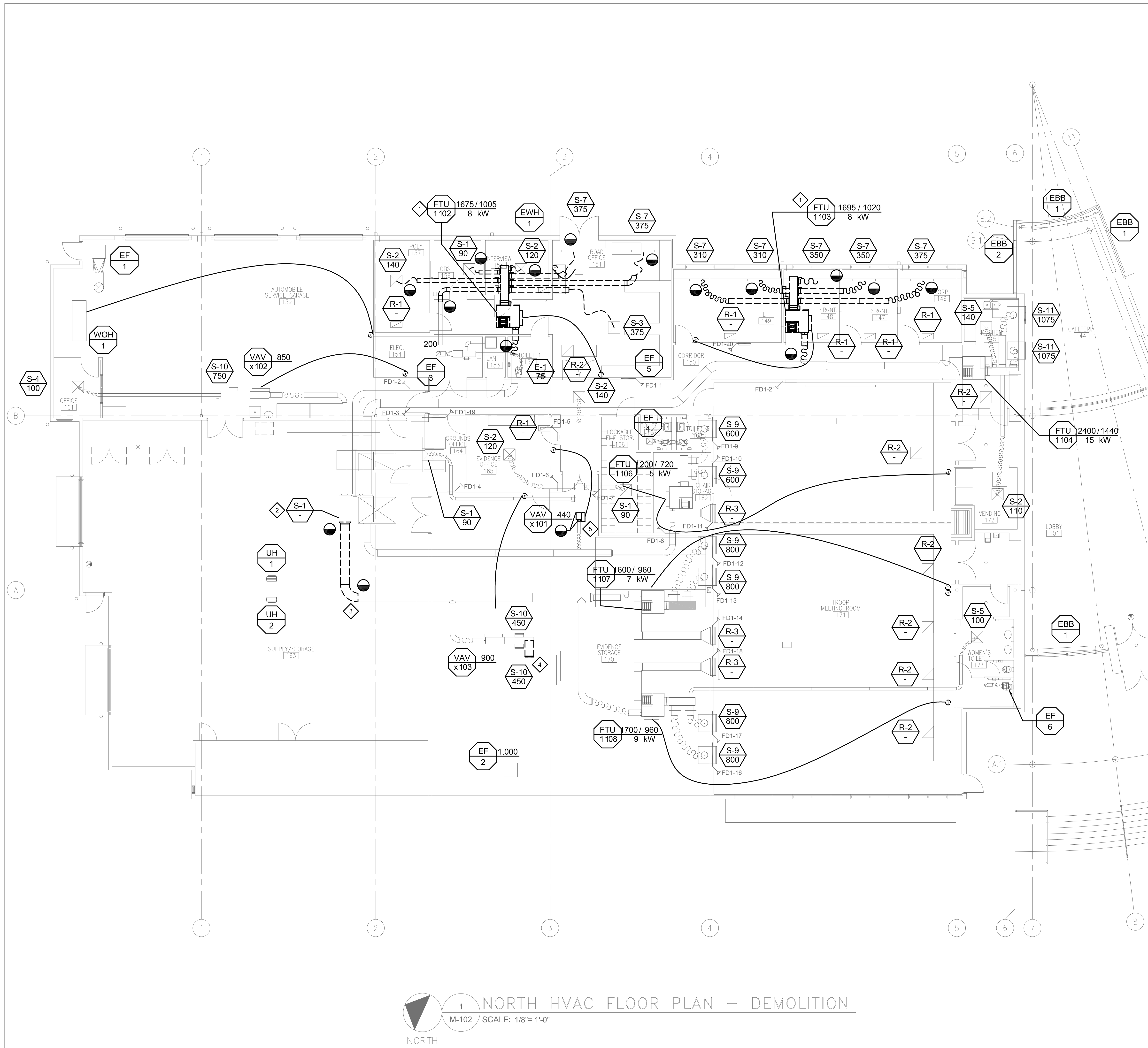
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REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 2/11/2026

CAD DWG FILE: M-001  
DRAWN BY: CBB  
CHECKED BY: CBB  
DESIGNED BY: CBB

SHEET TITLE:  
**HVAC LEGEND**

SHEET NUMBER:

**M-001**



1 NORTH HVAC FLOOR PLAN - DEMOLITION  
 SCALE: 1/8" = 1'-0"  
 NORTH

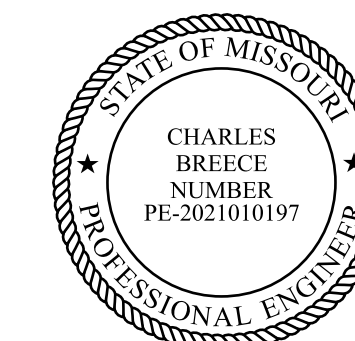
**GENERAL NOTES:**

- A. ALL BIDDERS ARE ENCOURAGED TO VISIT THE SITE TO EXAMINE THE EXISTING CONDITIONS AND ALL WORK REQUIRED FOR PHASING, DEACTIVATION, TEMPORARY LINES, ETC. QUESTIONS REGARDING PHASING, SCHEDULING OF WORK AND OTHER REQUIREMENTS ASSOCIATED WITH WORK IN THE EXISTING BUILDING SHALL BE DIRECTED TO THE ENGINEER PRIOR TO BIDDING. GENERALLY EACH SYSTEM OR SERVICE INDICATED FOR DEMOLITION SHALL BE DEACTIVATED, DISCONNECTED, MADE SAFE AND REMOVED.
- B. PRIOR TO ANY DEMOLITION, ENGAGE AN INDEPENDENT TESTING, ADJUSTING AND BALANCING (T.A.B.) AGENT WHO SHALL MEASURE, RECORD AND SUBMIT AIR FLOW OF ALL EXISTING SYSTEMS. PRIOR TO ANY TESTING, THE T.A.B. CONTRACTOR SHALL SUBMIT THE SCOPE OF WORK INVOLVED IN PRE-BALANCING INCLUDING PLANS AND DIAGRAMS SHOWING ALL POINTS OF MEASUREMENT FOR ALL REQUIRED SYSTEMS.
- C. PROTECT EXISTING EQUIPMENT, AIR INTAKES AND ADJACENT SPACES DURING CONSTRUCTION.
- D. ALL DIFFUSERS, DUCTS, HEATERS, ETC. AND OTHER SIMILAR EQUIPMENT DEACTIVATED AND NO LONGER REQUIRED SHALL BE REMOVED. REMAINING SYSTEMS SHALL BE CAPPED AS REQUIRED AT A LOCATION AS NOT TO INTERFERE WITH THE NEW CONSTRUCTION. MATERIAL AND EQUIPMENT TO BE REMOVED SHALL BE DISPOSED OF OFF SITE IN A PROPER AND LEGAL MANNER.
- E. PROVIDE ALL REQUIRED SYSTEM SHUTDOWNS; SCHEDULE SHUTDOWNS WITH OWNER IN ADVANCE OF SHUTDOWN PER THE OWNERS REQUIREMENTS. INCLUDE RE-START, DEACTIVATION, RELOCATION AND NEW WORK SHALL BE PLANNED TO MINIMIZE DISRUPTION OF BUILDING FUNCTION. PROVIDE TEMPORARY CAPPING AND CONNECTIONS AS REQUIRED TO MAINTAIN EXISTING SYSTEMS IN OPERATION DURING CONSTRUCTION.

**KEYED NOTES:**

- 1 REMOVE / RELOCATE EXISTING FTU UNIT, ASSOCIATED DUCTWORK, AND THERMOSTAT. EXISTING AIR DEVICES TO REMAIN. SEE RENOVATION PLAN FOR RELOCATION PLACEMENT.
- 2 REMOVE AND CAP EXISTING AIR DEVICE LOCATED IN RTU MAIN SUPPLY DUCT.
- 3 REMOVE EXISTING MEDIUM PRESSURE DUCTWORK TO ALLOW FOR NEW DUCTWORK ROUTING. SEE RENOVATION PLAN FOR ROUTING.
- 4 REMOVE EXISTING BRANCH DUCT FROM TOP OF DUCT INTO EVIDENCE ROOM. RELOCATE SIDE AIR DEVICE THROUGH EVIDENCE STORAGE WALL. SEE M-202 FOR EXISTING DUCT EXTENSION / RELOCATION.
- 5 REMOVE EXISTING, COOLING ONLY VAV UNIT. SEE RENOVATION PLAN AND SCHEDULE FOR REPLACEMENT VAV WITH ELECTRIC HEATING.

STATE OF MISSOURI  
 MIKE KEHOE,  
 GOVERNOR



2/11/26



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 SITE # 6004  
 FACILITY # 8136004003

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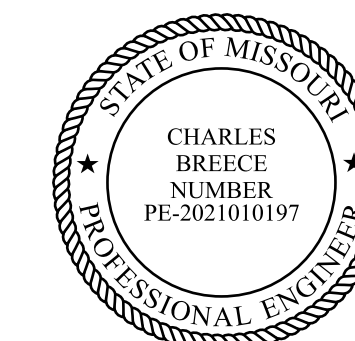
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 CHECKED BY: CBB  
 DESIGNED BY: CBB

SHEET TITLE:  
 NORTH HVAC  
 FLOOR PLAN -  
 DEMOLITION

SHEET NUMBER:

M-102



*Charles Breece*  
2/11/26



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ISSUE DATE: 2/11/2026

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DRAWN BY: CBB  
CHECKED BY: CBB  
DESIGNED BY: CBB

SHEET TITLE:  
ROOF HVAC  
PLAN -  
DEMOLITION

SHEET NUMBER:

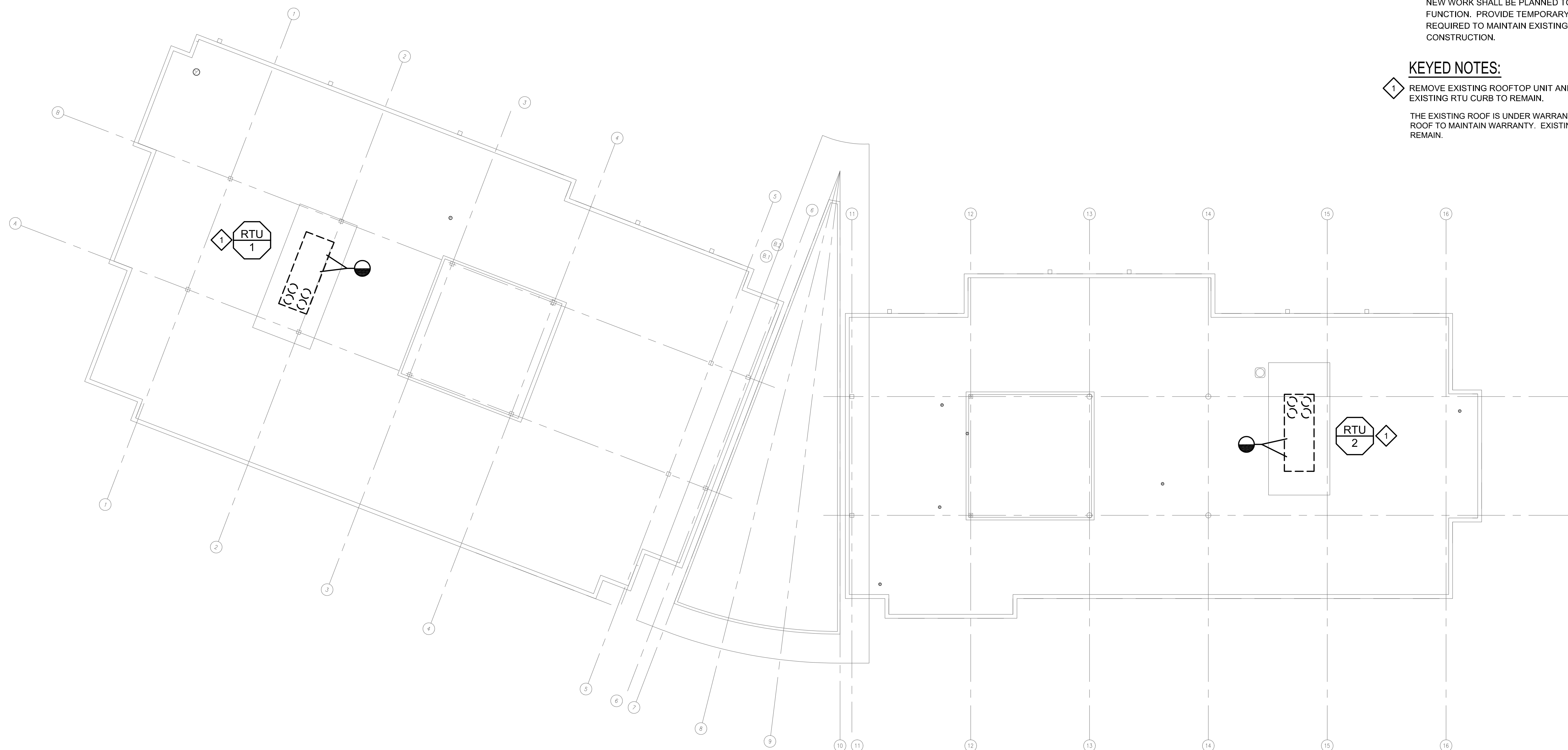
**M-103**

**GENERAL NOTES:**

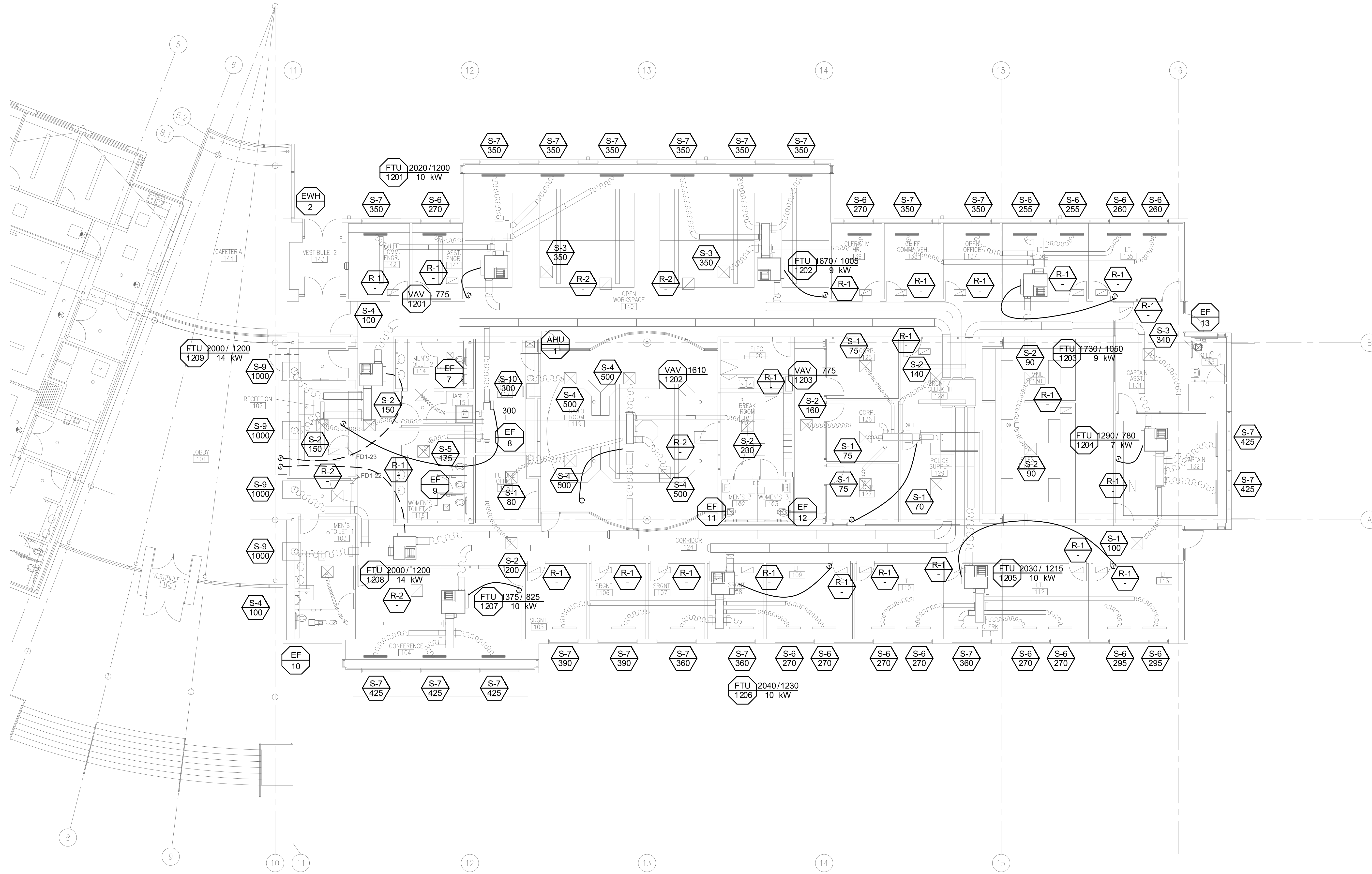
- A. ALL BIDDERS ARE ENCOURAGED TO VISIT THE SITE TO EXAMINE THE EXISTING CONDITIONS AND ALL WORK REQUIRED FOR PHASING, DEACTIVATION, TEMPORARY LINES, ETC. QUESTIONS REGARDING PHASING, SCHEDULING OF WORK AND OTHER REQUIREMENTS ASSOCIATED WITH WORK IN THE EXISTING BUILDING SHALL BE DIRECTED TO THE ENGINEER PRIOR TO BIDDING. GENERALLY EACH SYSTEM OR SERVICE INDICATED FOR DEMOLITION SHALL BE DEACTIVATED, DISCONNECTED, MADE SAFE AND REMOVED.
- B. PRIOR TO ANY DEMOLITION, ENGAGE AN INDEPENDENT TESTING, ADJUSTING AND BALANCING (T.A.B.) AGENT WHO SHALL MEASURE, RECORD AND SUBMIT AIR FLOW OF ALL EXISTING SYSTEMS. PRIOR TO ANY TESTING, THE T.A.B. CONTRACTOR SHALL SUBMIT THE SCOPE OF WORK INVOLVED IN PRE-BALANCING INCLUDING PLANS AND DIAGRAMS SHOWING ALL POINTS OF MEASUREMENT FOR ALL REQUIRED SYSTEMS.
- C. PROTECT EXISTING EQUIPMENT, AIR INTAKES AND ADJACENT SPACES DURING CONSTRUCTION.
- D. ALL DIFFUSERS, DUCTS, HEATERS, ETC. AND OTHER SIMILAR EQUIPMENT DEACTIVATED AND NO LONGER REQUIRED SHALL BE REMOVED. REMAINING SYSTEMS SHALL BE CAPPED AS REQUIRED AT A LOCATION AS NOT TO INTERFERE WITH THE NEW CONSTRUCTION. MATERIAL AND EQUIPMENT TO BE REMOVED SHALL BE DISPOSED OF OFF SITE IN A PROPER AND LEGAL MANNER.
- E. PROVIDE ALL REQUIRED SYSTEM SHUTDOWNS; SCHEDULE SHUTDOWNS WITH OWNER IN ADVANCE OF SHUTDOWN PER THE OWNERS REQUIREMENTS. INCLUDE RE-START, DEACTIVATION, RELOCATION AND NEW WORK SHALL BE PLANNED TO MINIMIZE DISRUPTION OF BUILDING FUNCTION. PROVIDE TEMPORARY CAPPING AND CONNECTIONS AS REQUIRED TO MAINTAIN EXISTING SYSTEMS IN OPERATION DURING CONSTRUCTION.

**KEYED NOTES:**

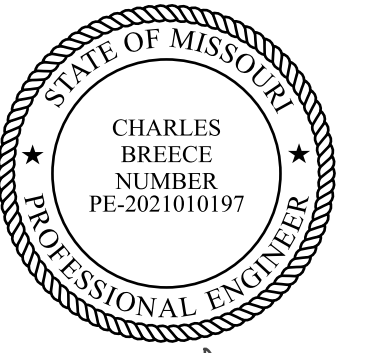
- 1 REMOVE EXISTING ROOFTOP UNIT AND PREPARE FOR DIRECT REPLACEMENT. EXISTING RTU CURB TO REMAIN.  
THE EXISTING ROOF IS UNDER WARRANTY. PROVIDE PROTECTION TO ROOF TO MAINTAIN WARRANTY. EXISTING ROOF SCREENS ARE TO REMAIN.



NOTE: NO NEW WORK ON THIS PLAN. LAYOUT IS SHOWN FOR REFERENCE AND TESTING AND BALANCING PURPOSES.



1 SOUTH HVAC FLOOR PLAN - RENOVATION  
 M-101 SCALE: 1/8"= 1'-0"  
 NORTH



2/11/26



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 WELDON SPRING, MO 63304

PROJECT # R2415-01  
 SITE # 6004  
 FACILITY # 8136004003

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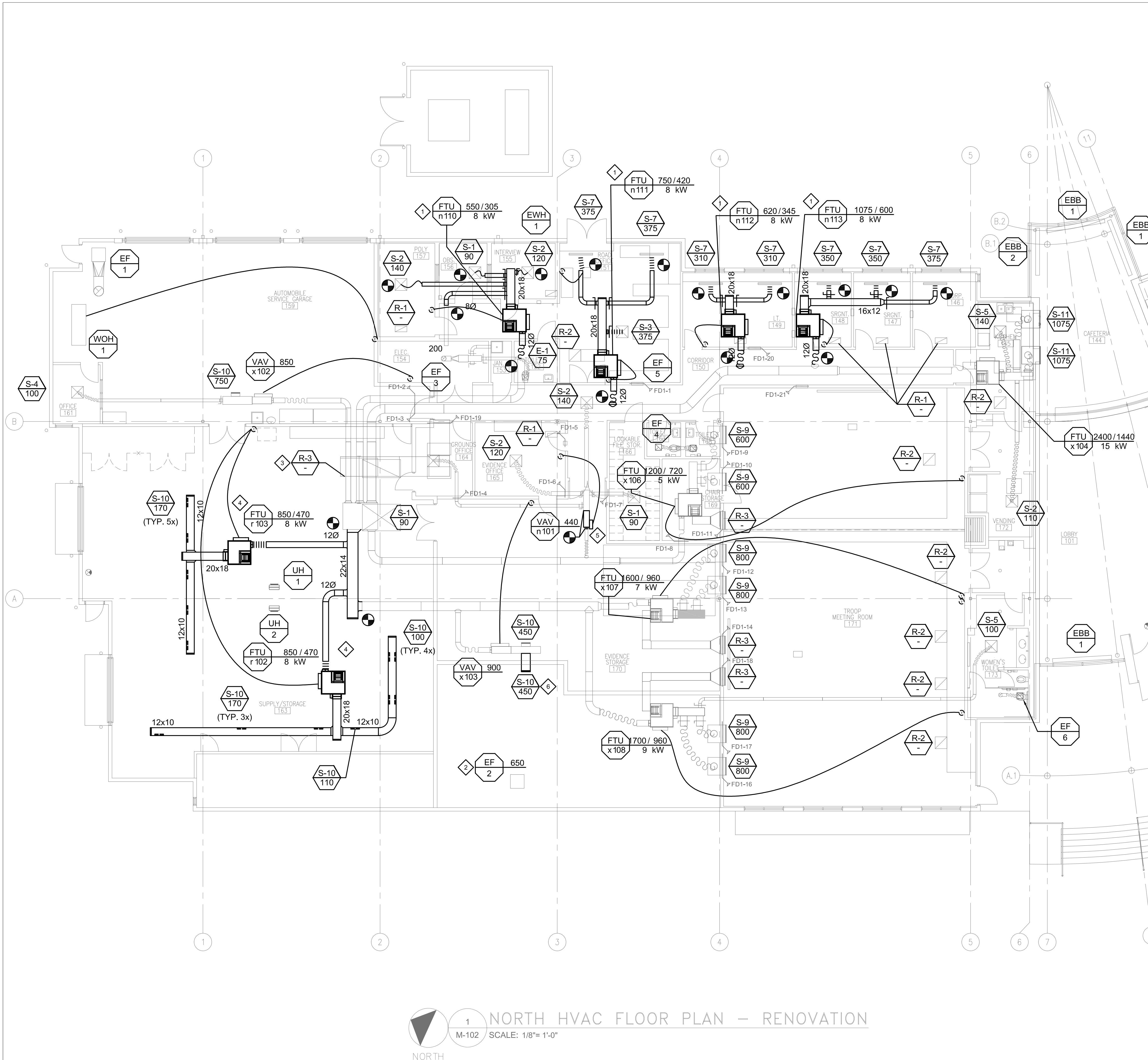
ISSUE DATE: 2/11/2026

CAD DWG FILE: M-201  
 DRAWN BY: CBB  
 CHECKED BY: CBB  
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SHEET TITLE:  
 SOUTH HVAC  
 FLOOR PLAN -  
 RENOVATION

SHEET NUMBER:

M-201



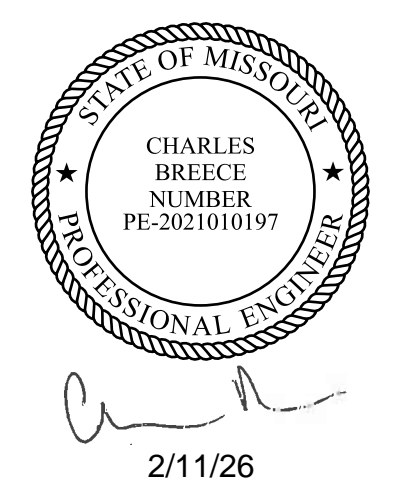
1 NORTH HVAC FLOOR PLAN - RENOVATION  
 M-102 SCALE: 1/8"= 1'-0"  
 NORTH

**GENERAL NOTES:**

- A. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL A COMPLETE AND OPERABLE HVAC SYSTEM AS INDICATED ON THE DRAWING, AS SPECIFIED, AND AS REQUIRED BY CODE.
- B. CONTRACT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND DESIGN INTENT ONLY.
- C. BRING TO THE ATTENTION OF THE ENGINEER ANY INFORMATIONAL CONFLICTS WITHIN THE SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR SHALL NOT PROCEED WITH WORK EXCEPT AT THEIR OWN RISK UNTIL ALL CONFLICTS ARE RESOLVED AND THE CLARIFYING INFORMATION IS ISSUED TO THE CONTRACTOR BY THE ENGINEER.
- D. MECHANICAL EQUIPMENT AND DUCTWORK SHALL BE SUPPORTED BY SUBSTANTIAL BUILDING STRUCTURE. REFER TO SPECIFICATIONS. DO NOT SUPPORT ONE DUCT FROM ANOTHER.
- E. ALL EQUIPMENT AND DUCTWORK SHALL BE SUPPORTED AS SPECIFIED, AND AS REQUIRED TO PROVIDE VIBRATION CONTROL PER SPECIFICATION.
- F. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS. FIELD VERIFY AND COORDINATE ALL DUCT DIMENSIONS PRIOR TO FABRICATION.
- G. ALL OPENINGS IN RATED ASSEMBLIES DUE TO DUCTWORK SHALL BE FIRE STOPPED, DRAFT-STOPPED, AND SMOKE STOPPED.
- H. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
- I. ALL DUCT CONSTRUCTION SHALL AT A MINIMUM COMPLY WITH THE CURRENT VERSION OF SMACNA CONSTRUCTION STANDARDS AND AS SPECIFIED IN THE CONTRACT DOCUMENTS. ALL 90 DEGREE ELBOWS SHALL BE LONG RADIUS TYPE. RECTANGULAR ELBOWS SHALL HAVE TURNING VANES. UNLESS OTHERWISE NOTED, PROVIDE CONICAL TAPS FOR ROUND DUCTS AND 45 DEGREE TAPS FOR RECTANGULAR DUCTS FOR ALL BRANCH CONNECTIONS.
- J. PROVIDE VOLUME DAMPERS AT ALL BRANCH DUCT TAKEOFFS, AT EACH TERMINAL RUNOUT, AND PER SPECIFICATION.
- K. PROVIDE VIBRATION-ISOLATION CONNECTORS BETWEEN DUCTWORK AND ALL FANS.
- L. PROVIDE CONTINUOUSLY DUCTED STEEL SHEET METAL (MIN 26 GA); WHERE FLEXIBLE DUCT IS PERMITTED BY SPECIFICATIONS, PROVIDE FIRE DAMPERS AT ALL 1-HR FIRE PARTITIONS. REFER TO SPECIFICATION SECTION 233100 FOR ADDITIONAL INFORMATION.
- M. ALL PRESSURE AND LEAKAGE TESTS SHALL BE COMPLETED PRIOR TO APPLYING INSULATION.
- N. EXISTING AIR DEVICES CONNECTED TO EXISTING DUCTWORK ARE TO REMAIN UNLESS INDICATED BY A CONNECT TO EXISTING SYMBOL UPSTREAM OF AIR DEVICE. BALANCE EXISTING AIR DEVICE TO CFM SHOWN.

**KEYED NOTES:**

- 1 PROVIDE NEW FTU UNIT AND ASSOCIATED DUCTWORK. INSTALL IN REMOVED, RELOCATED FTU LOCATION IF HANGERS ALLOW.
- 2 REBALANCE EXISTING EXHAUST FAN TO CFM SHOWN.
- 3 PROVIDE NEW RETURN AIR DEVICE WITHIN RTU MAIN RETURN TRUNK.
- 4 EXISTING, RELOCATED FAN TERMINAL UNIT.
- 5 PROVIDE NEW (REPLACEMENT) VAV BOX WITH ELECTRIC HEATING AS SCHEDULED AND SPECIFIED. MODIFY EXISTING DUCTWORK CONNECTIONS FOR FITMENT.
- 6 EXTEND EXISTING SIDEWALL DUCT THROUGH WALL.



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PROJECT # R2415-01  
 SITE # 6004  
 FACILITY # 8136004003

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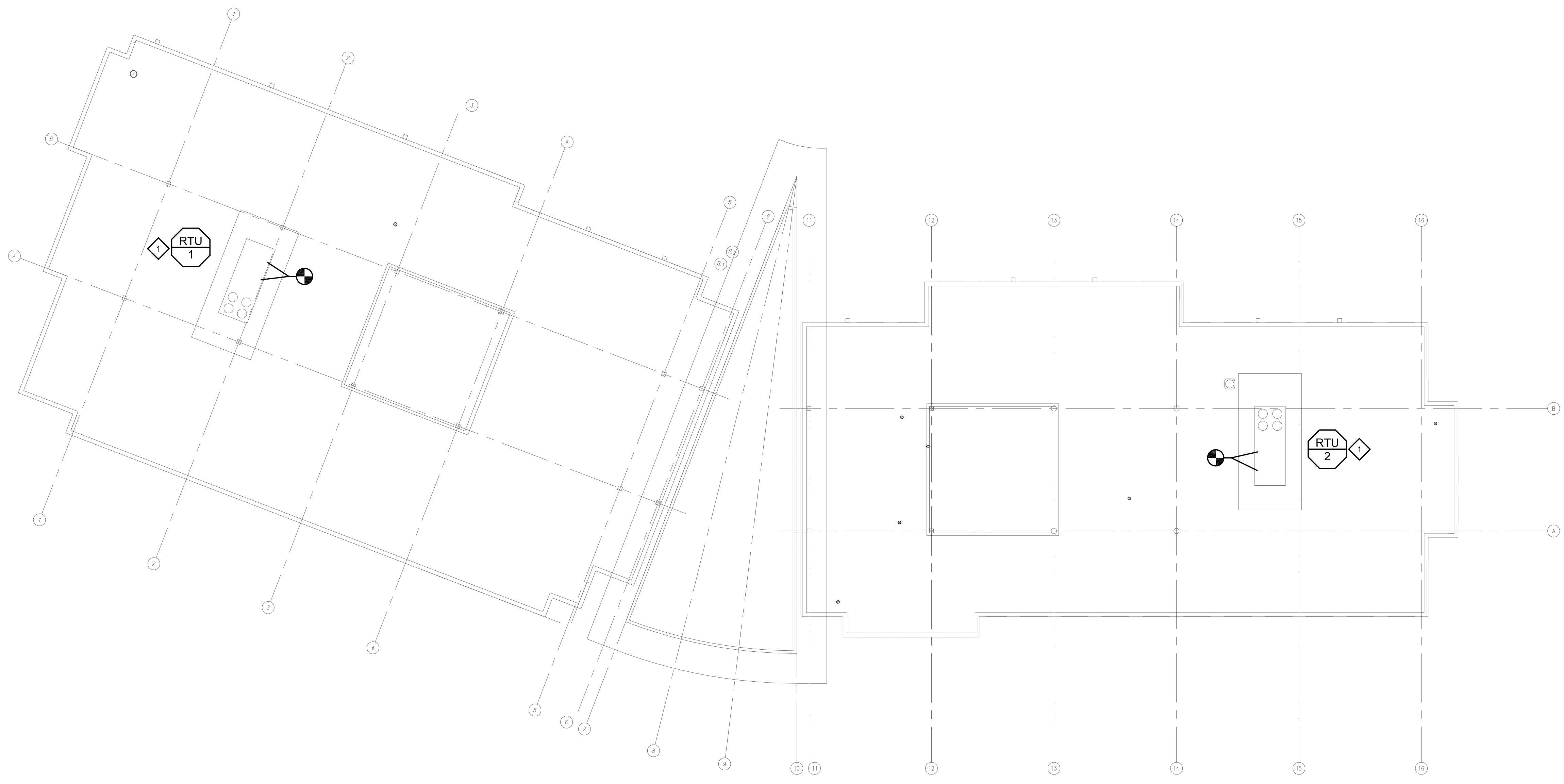
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 ISSUE DATE: 2/11/2026

CAD DWG FILE: M-202  
 DRAWN BY: CBB  
 CHECKED BY: CBB  
 DESIGNED BY: CBB

SHEET TITLE:  
 NORTH HVAC  
 FLOOR PLAN -  
 RENOVATION

SHEET NUMBER:

**M-202**

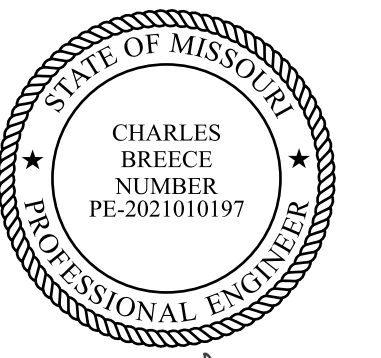


**GENERAL NOTES:**

- A. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL A COMPLETE AND OPERABLE HVAC SYSTEM AS INDICATED ON THE DRAWING, AS SPECIFIED, AND AS REQUIRED BY CODE.
- B. CONTRACT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND DESIGN INTENT ONLY.
- C. BRING TO THE ATTENTION OF THE ENGINEER ANY INFORMATIONAL CONFLICTS WITHIN THE SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR SHALL NOT PROCEED WITH WORK EXCEPT AT THEIR OWN RISK UNTIL ALL CONFLICTS ARE RESOLVED AND THE CLARIFYING INFORMATION IS ISSUED TO THE CONTRACTOR BY THE ENGINEER.
- D. MECHANICAL EQUIPMENT AND DUCTWORK SHALL BE SUPPORTED BY SUBSTANTIAL BUILDING STRUCTURE. REFER TO SPECIFICATIONS. DO NOT SUPPORT ONE DUCT FROM ANOTHER.
- E. ALL EQUIPMENT AND DUCTWORK SHALL BE SUPPORTED AS SPECIFIED, AND AS REQUIRED TO PROVIDE VIBRATION CONTROL PER SPECIFICATION.
- F. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS. FIELD VERIFY AND COORDINATE ALL DUCT DIMENSIONS PRIOR TO FABRICATION.
- G. ALL OPENINGS IN RATED ASSEMBLIES DUE TO DUCTWORK SHALL BE FIRE STOPPED, DRAFT-STOPPED, AND SMOKE STOPPED.
- H. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
- I. ALL DUCT CONSTRUCTION SHALL AT A MINIMUM COMPLY WITH THE CURRENT VERSION OF SMACNA CONSTRUCTION STANDARDS AND AS SPECIFIED IN THE CONTRACT DOCUMENTS. ALL 90 DEGREE ELBOWS SHALL BE LONG RADIUS TYPE. RECTANGULAR ELBOWS SHALL HAVE TURNING VANES. UNLESS OTHERWISE NOTED, PROVIDE CONICAL TAPS FOR ROUND DUCTS AND 45 DEGREE TAPS FOR RECTANGULAR DUCTS FOR ALL BRANCH CONNECTIONS.
- J. PROVIDE VOLUME DAMPERS AT ALL BRANCH DUCT TAKEOFFS, AT EACH TERMINAL RUNOUT, AND PER SPECIFICATION.
- K. PROVIDE VIBRATION-ISOLATION CONNECTORS BETWEEN DUCTWORK AND ALL FANS.
- L. PROVIDE CONTINUOUSLY DUCTED STEEL SHEET METAL (MIN 26 GA); WHERE FLEXIBLE DUCT IS PERMITTED BY SPECIFICATIONS, PROVIDE FIRE DAMPERS AT ALL 1-HR FIRE PARTITIONS. REFER TO SPECIFICATION SECTION 233100 FOR ADDITIONAL INFORMATION.
- M. ALL PRESSURE AND LEAKAGE TESTS SHALL BE COMPLETED PRIOR TO APPLYING INSULATION.
- N. EXISTING AIR DEVICES CONNECTED TO EXISTING DUCTWORK ARE TO REMAIN UNLESS INDICATED BY A CONNECT TO EXISTING SYMBOL UPSTREAM OF AIR DEVICE. BALANCE EXISTING AIR DEVICE TO CFM SHOWN.

**KEYED NOTES:**

- 1 PROVIDE NEW ROOFTOP UNIT AS SCHEDULED AND SPECIFIED. STUFF EXISTING CURB WITH SOUND PROOF INSULATION WHERE POSSIBLE.
- THE EXISTING ROOF IS UNDER WARRANTY. PROVIDE PROTECTION TO ROOF TO MAINTAIN WARRANTY. EXISTING ROOF SCREENS ARE TO REMAIN.



*Charles Breece*  
2/11/26



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SITE # 6004  
FACILITY # 8136004003

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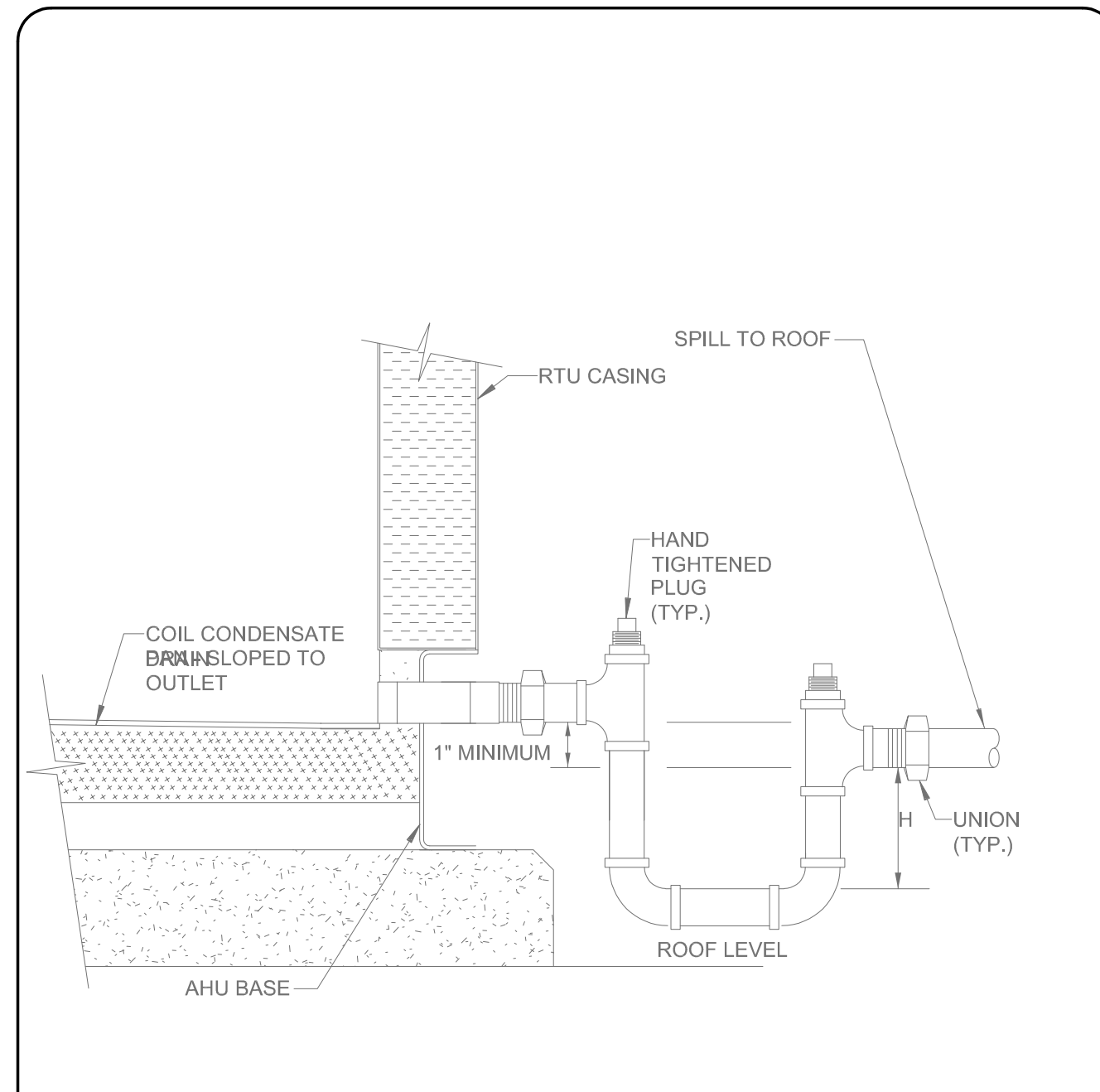
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DESIGNED BY: CBB

SHEET TITLE:  
**ROOF HVAC  
PLAN -  
RENOVATION**

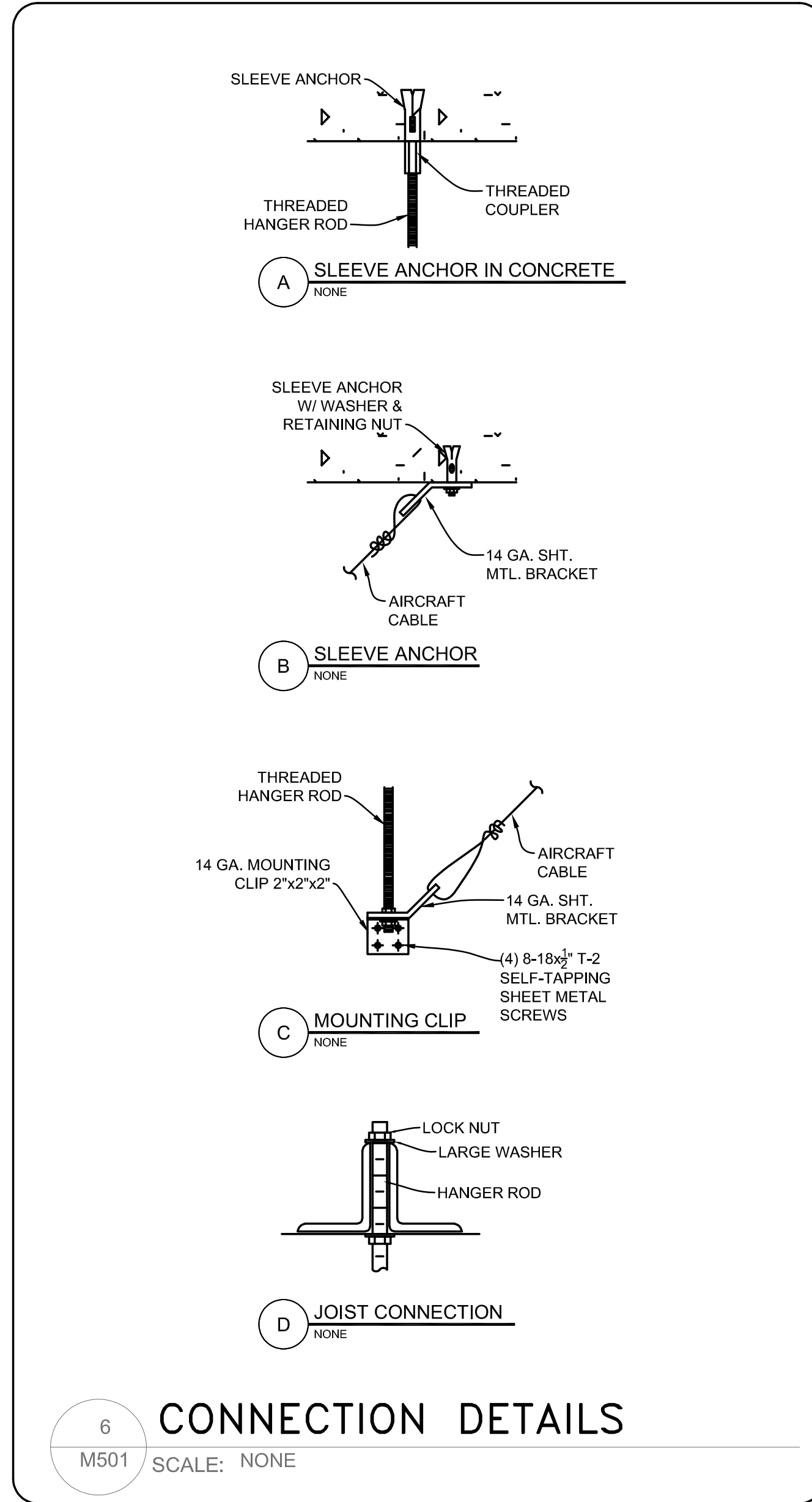
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**M-203**

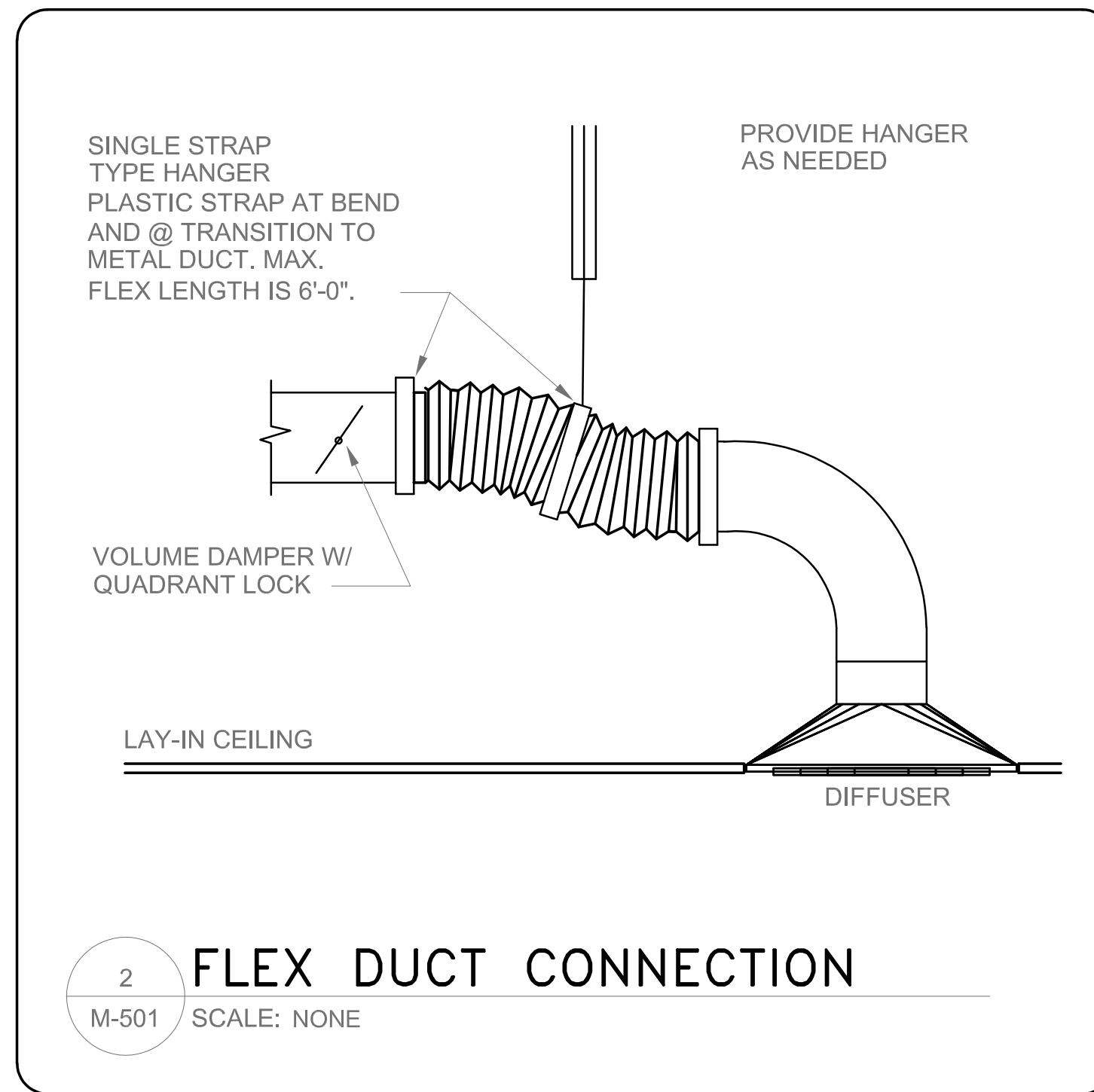
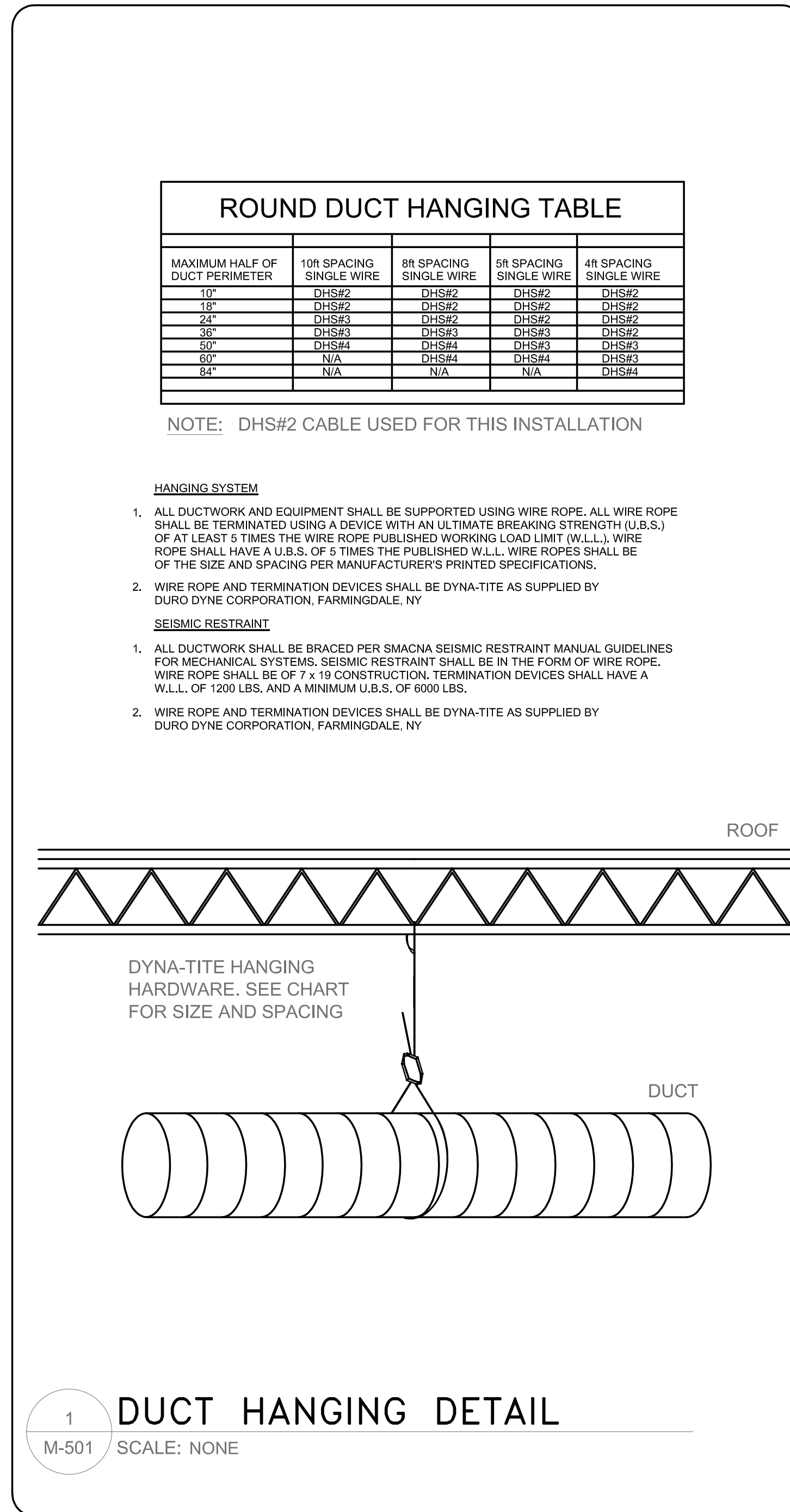
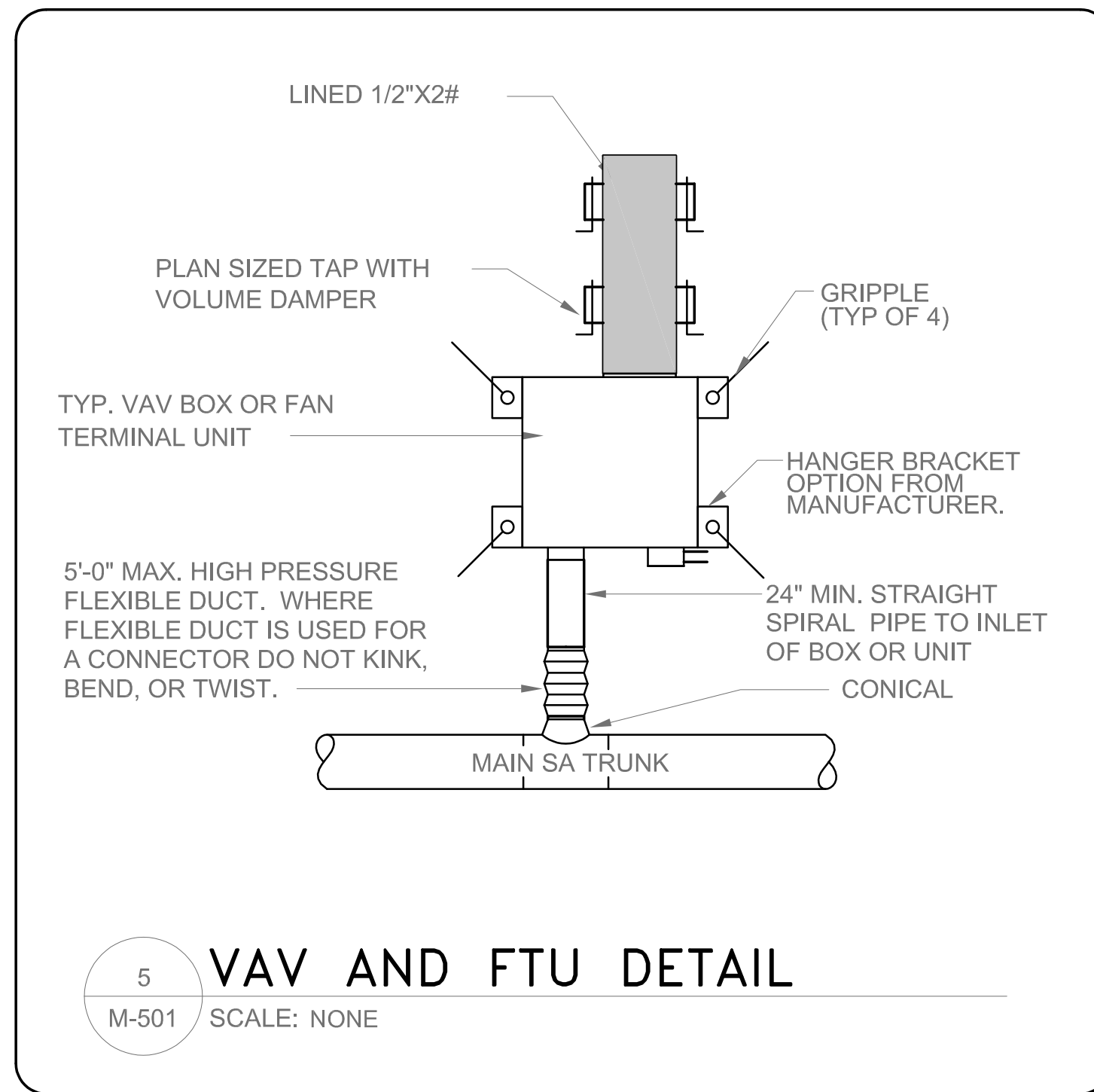
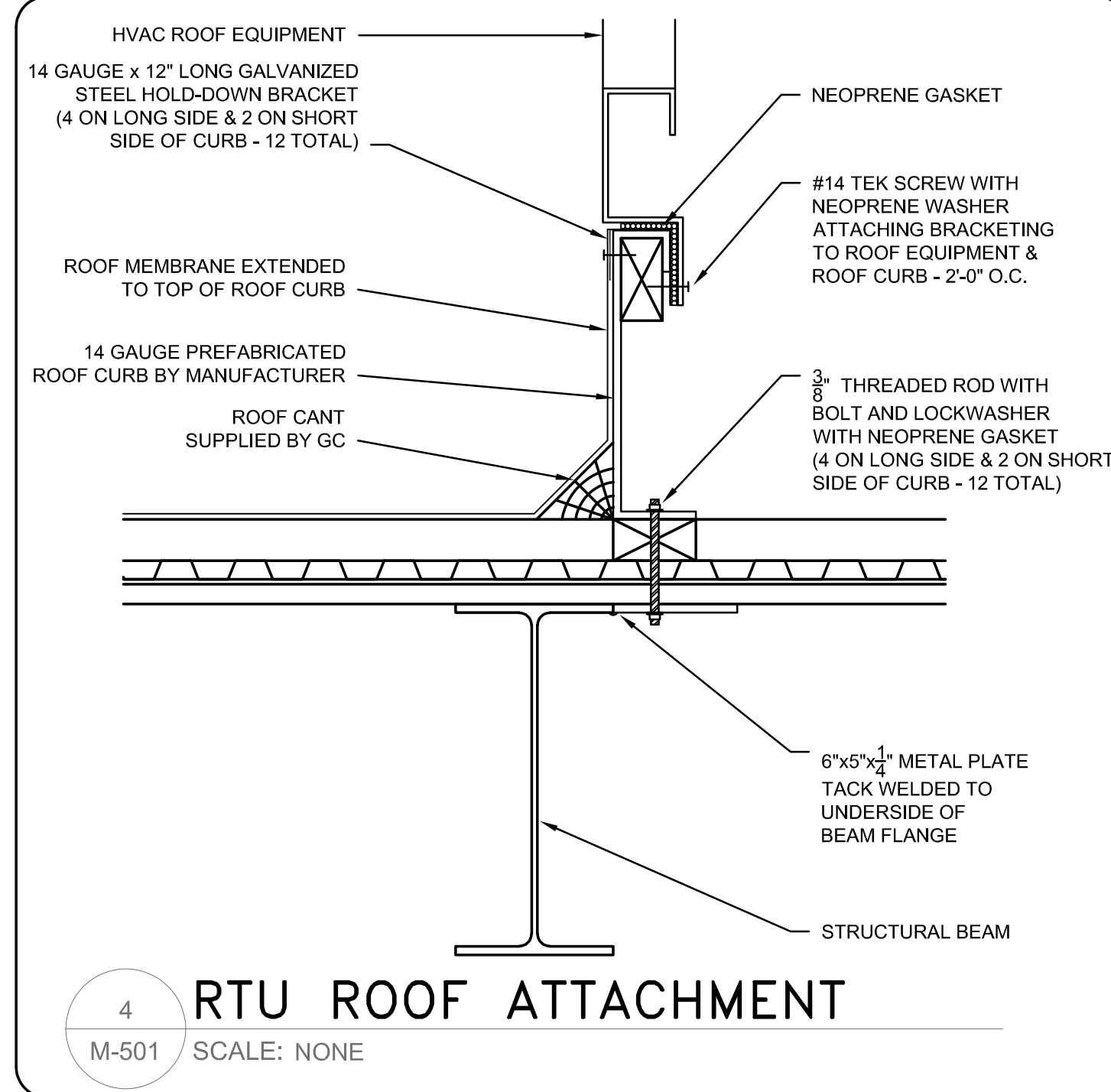
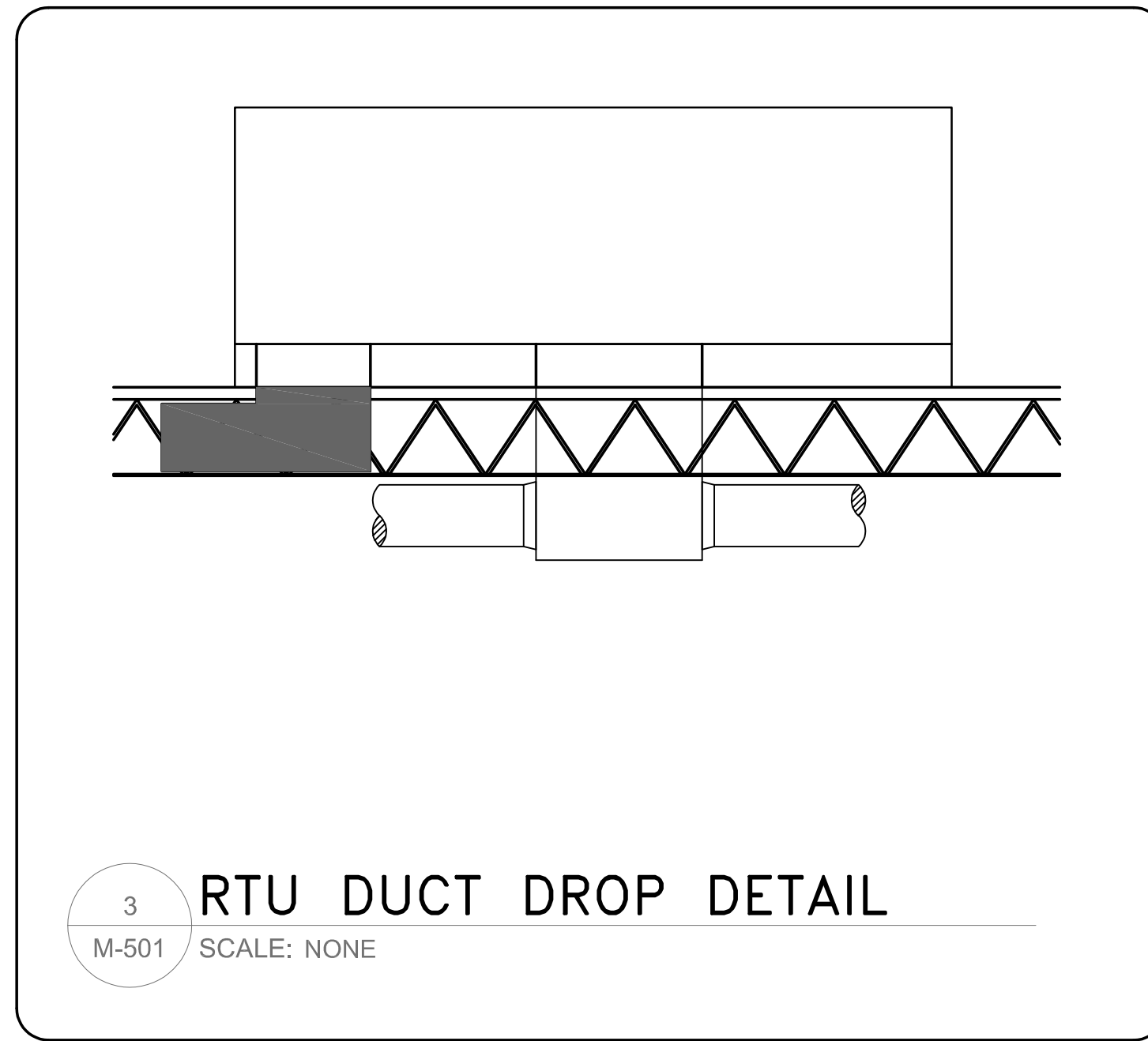


GENERAL NOTES:  
A. ALL PIPE FULL SIZE OF DRAIN PAN CONNECTION.

6 RTU DRAIN PIPING DETAILS  
M-501 SCALE: NONE



6 CONNECTION DETAILS  
M-501 SCALE: NONE

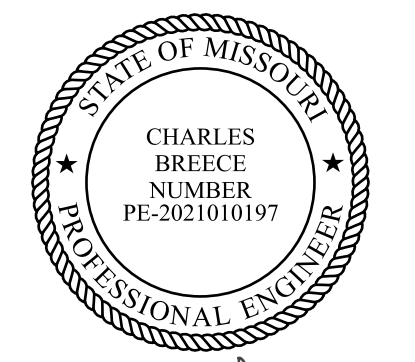


ROUND DUCT HANGING TABLE

MAXIMUM HALF OF DUCT PERIMETER	1/8" SPACING SINGLE WIRE	3/8" SPACING SINGLE WIRE	5/8" SPACING SINGLE WIRE	1" SPACING SINGLE WIRE
10"	DHS#2	DHS#2	DHS#2	DHS#2
16"	DHS#2	DHS#2	DHS#2	DHS#2
24"	DHS#3	DHS#2	DHS#2	DHS#2
36"	DHS#3	DHS#3	DHS#3	DHS#2
50"	DHS#4	DHS#4	DHS#3	DHS#3
60"	N/A	DHS#4	DHS#4	DHS#3
84"	N/A	N/A	N/A	DHS#4

NOTE: DHS#2 CABLE USED FOR THIS INSTALLATION

- HANGING SYSTEM
- ALL DUCTWORK AND EQUIPMENT SHALL BE SUPPORTED USING WIRE ROPE. ALL WIRE ROPE SHALL BE TERMINATED USING A DEVICE WITH AN ULTIMATE BREAKING STRENGTH (U.B.S.) OF AT LEAST 5 TIMES THE WIRE ROPE PUBLISHED WORKING LOAD LIMIT (W.L.L.). WIRE ROPE SHALL HAVE A U.B.S. OF 5 TIMES THE PUBLISHED W.L.L. WIRE ROPES SHALL BE OF THE SIZE AND SPACING PER MANUFACTURER'S PRINTED SPECIFICATIONS.
  - WIRE ROPE AND TERMINATION DEVICES SHALL BE DYNA-TITE AS SUPPLIED BY DURO DYNE CORPORATION, FARMINGDALE, NY
- SEISMIC RESTRAINT
- ALL DUCTWORK SHALL BE BRACED PER SMACNA SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS. SEISMIC RESTRAINT SHALL BE IN THE FORM OF WIRE ROPE. WIRE ROPE SHALL BE OF 7 x 19 CONSTRUCTION. TERMINATION DEVICES SHALL HAVE A W.L.L. OF 1200 LBS. AND A MINIMUM U.B.S. OF 6000 LBS.
  - WIRE ROPE AND TERMINATION DEVICES SHALL BE DYNA-TITE AS SUPPLIED BY DURO DYNE CORPORATION, FARMINGDALE, NY



2/11/26



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DEPARTMENT OF  
PUBLIC SAFETY  
MISSOURI STATE  
HIGHWAY PATROL

MISSOURI STATE HIGHWAY  
PATROL TROOP C  
HEADQUARTERS  
SYSTEM UPGRADES  
891 TECHNOLOGY DRIVE  
WELDON SPRING, MO 63304

PROJECT # R2415-01  
SITE # 6004  
FACILITY # 8136004003

ISSUED FOR BID  
AND PERMIT

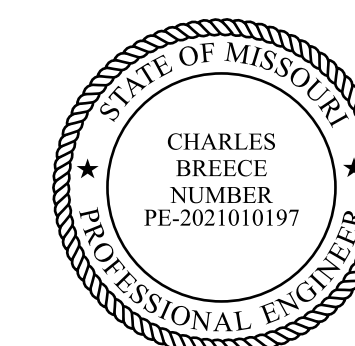
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DATE: \_\_\_\_\_  
ISSUE DATE: 2/11/2026

CAD DWG FILE: M-501  
DRAWN BY: CBB  
CHECKED BY: CBB  
DESIGNED BY: CBB

SHEET TITLE:  
HVAC DETAILS

SHEET NUMBER:

M-501



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REVISION: \_\_\_\_\_  
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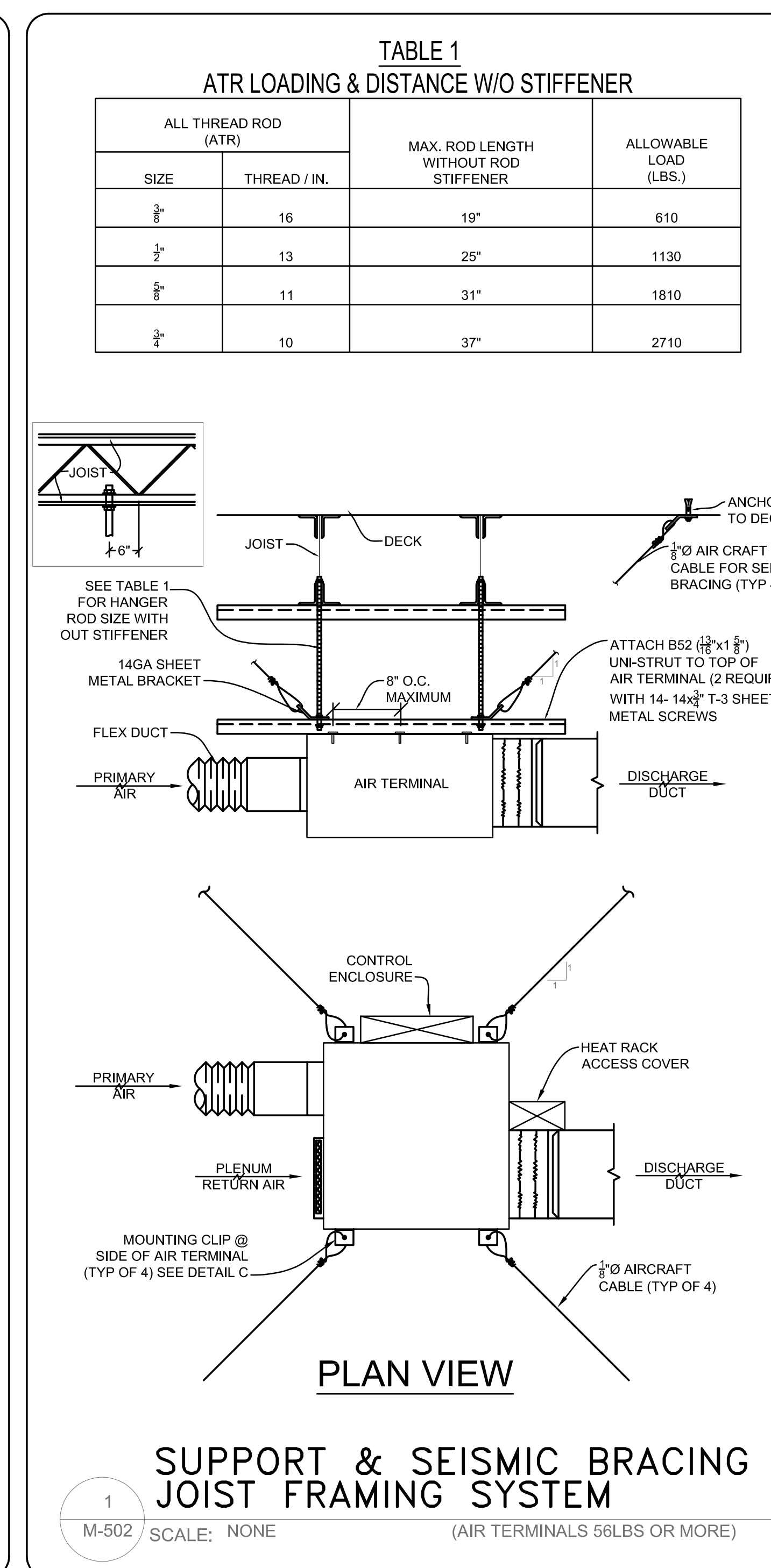
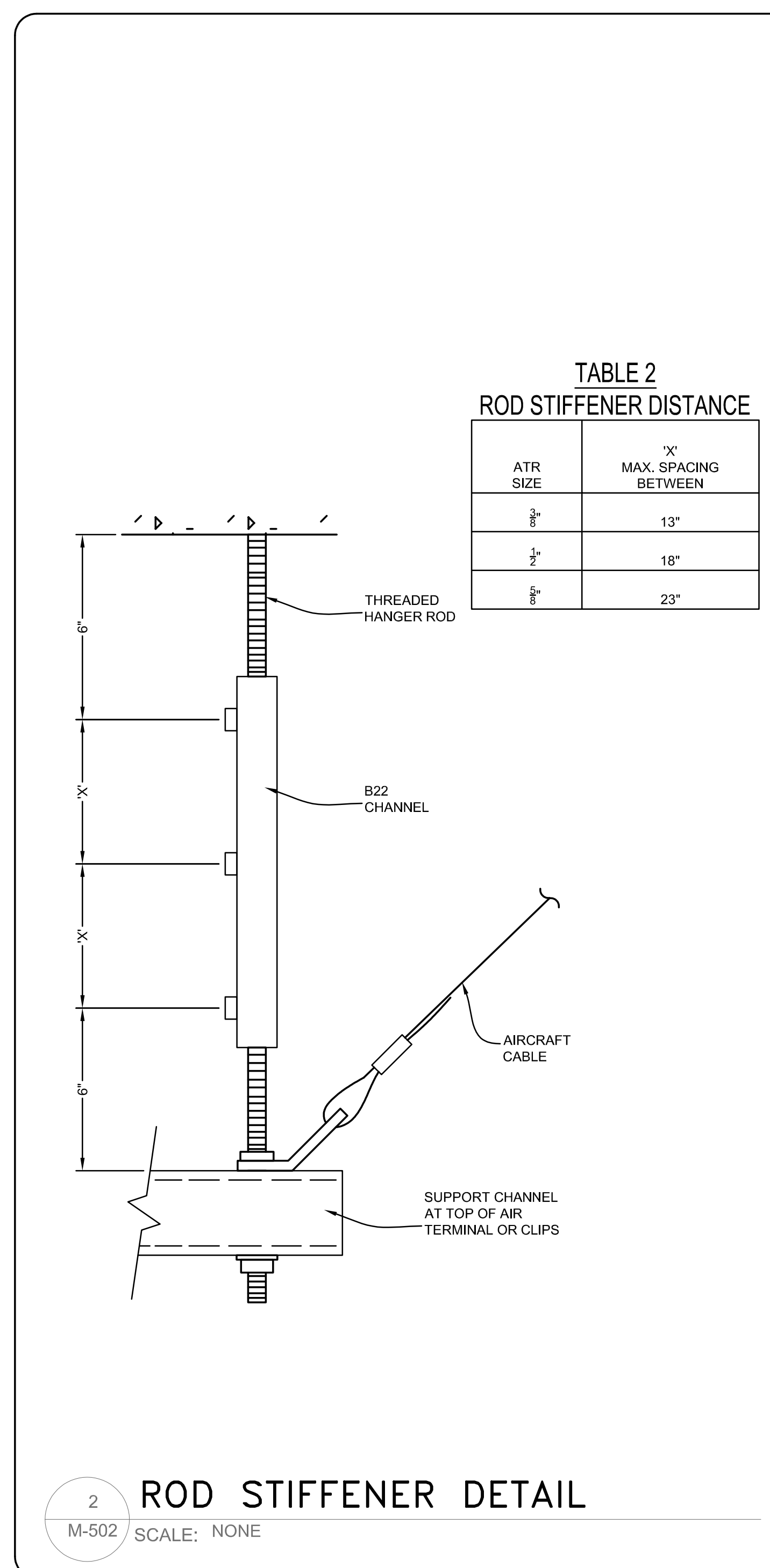
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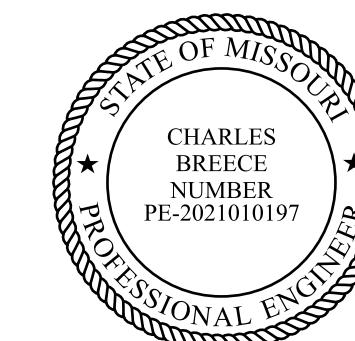
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DRAWN BY: CBB  
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DESIGNED BY: CBB

SHEET TITLE:  
HVAC DETAILS

SHEET NUMBER:

M-502





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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 2/11/2026

CAD DWG FILE: M-601  
DRAWN BY: CBB  
CHECKED BY: CBB  
DESIGNED BY: CBB

SHEET TITLE:  
HVAC  
SCHEDULES

SHEET NUMBER:

M-601

ROOFTOP UNIT SCHEDULE																							
PLAN MARK	MANUFACTURER	MODEL	NOMINAL TONS	SUPPLY FAN				COOLING COIL			LVG UNIT DB/WB	AMB TEMP	ELECTRIC HEAT			ELECTRICAL			MIN OA CFM	WEIGHT	REMARKS		
				CFM	TSP/ESP	BHP	HP	TOTAL MBH	SENS MBH	ENT DB/WB			KW	STAGES	EER @ARI	SEER @ARI	MCA	MOCP				VOLTS/Ø	
RTU-1	TRANE	TED480	40	11,595	2.8/2.0	10.7	15	464	364	81.7/66.3	56/55	44	-	11.3	16.8	-	95	110	460/3	2,450	5520	1-10	
RTU-2	TRANE	TED600	50	15,715	3.2/2.0	15.13	20	499	456	77.2/60.9	52/49	95	54	-	10.4	16.0	-	116	125	460/3	1,600	5811	1-10

GENERAL NOTES:  
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED COILS.  
2. MAINTAIN MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE AS TO ALLOW PROPER AIR FLOW TO CONDENSER, OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE, AND INSPECTION.  
3. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:  
1. SINGLE POINT POWER CONNECTION  
2. FACTORY MOUNTED DISCONNECT  
3. VFD INTEGRAL TO UNIT  
4. EXISTING PREFABRICATED CURB TO REMAIN.  
5. FURNISHED WITH 100% OUTSIDE AIR ECONOMIZER.  
6. FURNISHED WITH BAROMETRIC RELIEF DAMPER.  
7. VERTICAL DISCHARGE.  
8. SERVICE OUTLET.  
9. PROVIDE NEW SUPPLY AND RETURN DUCT SMOKE DETECTORS WITH AUXILIARY RELAY.  
10. PROVIDE COMPRESSOR SHROUDS FOR SOUND MITIGATION AND COIL HAILGUARDS.

FAN TERMINAL UNIT- ELECTRIC HEATING SCHEDULE																						
PLAN MARK	MANUFACTURER	MODEL	INLET SIZE	UNIT SIZE	DISCHARGE SIZE	RAD. N.C.	DIS. N.C.	INLET PRESS.	DIS. E.S.P.	TYPE	PRIMARY AIR		FAN DATA			HEATING COIL			REMARKS			
											MIN. CFM	MAX. CFM	CFM	H.P.	VOLTS/Ø	STEPS	KW	VOLTS/Ø		APD		
FTU-102	KRUEGER	KQFP	12"Ø	04	15X12	33	20	1.0	0.25	PAR.	335	850	470	0.25	277/1	2	8	460/3	-	1, 2, 3, 5		
FTU-103	KRUEGER	KQFP	12"Ø	04	15X12	33	20	1.0	0.25	PAR.	340	850	470	0.25	277/1	2	8	460/3	-	1, 2, 3, 5		
FTU-x104	KRUEGER	KQFP	14"Ø	05	17X15	32	15	1.0	0.25	PAR.	480	2400	960	0.5	277/1	3	15	460/3	-	1, 2, 3, 4		
FTU-x106	KRUEGER	KQFP	10"Ø	03	15X12	24	20	1.0	0.25	PAR.	240	1200	480	0.25	277/1	2	6	460/3	-	1, 2, 3, 4		
FTU-x107	KRUEGER	KQFP	12"Ø	04	15X12	32	20	1.0	0.25	PAR.	320	1600	640	0.25	277/1	2	6	460/3	-	1, 2, 3, 4		
FTU-x108	KRUEGER	KQFP	12"Ø	04	15X12	32	20	1.0	0.25	PAR.	340	1700	680	0.25	277/1	2	9	460/3	-	1, 2, 3, 4		
FTU-n110	KRUEGER	KQFP	12"Ø	04	15X12	33	20	1.0	0.25	PAR.	335	550	335	0.25	277/1	2	8	460/3	-	1, 2, 3, 6		
FTU-n111	KRUEGER	KQFP	12"Ø	04	15X12	33	20	1.0	0.25	PAR.	335	750	420	0.25	277/1	2	8	460/3	-	1, 2, 3, 6		
FTU-n112	KRUEGER	KQFP	12"Ø	04	15X12	33	20	1.0	0.25	PAR.	335	620	345	0.25	277/1	2	8	460/3	-	1, 2, 3, 6		
FTU-n113	KRUEGER	KQFP	12"Ø	04	15X12	33	20	1.0	0.25	PAR.	335	1075	600	0.25	277/1	2	8	460/3	-	1, 2, 3, 6		
FTU-1201	KRUEGER	KQFP	14"Ø	05	17X15	30	14	1.0	0.25	PAR.	400	2020	800	0.5	277/1	2	10	460/3	-	1, 2, 3, 4		
FTU-1202	KRUEGER	KQFP	12"Ø	04	15X12	33	20	1.0	0.25	PAR.	335	1670	670	0.25	277/1	2	9	460/3	-	1, 2, 3, 4		
FTU-1203	KRUEGER	KQFP	12"Ø	04	15X12	34	21	1.0	0.25	PAR.	350	1730	700	0.25	277/1	2	9	460/3	-	1, 2, 3, 4		
FTU-1204	KRUEGER	KQFP	12"Ø	04	15X12	30	18	1.0	0.25	PAR.	260	1290	520	0.25	277/1	2	7	460/3	-	1, 2, 3, 4		
FTU-1205	KRUEGER	KQFP	14"Ø	05	17X15	30	14	1.0	0.25	PAR.	405	2030	810	0.5	277/1	2	10	460/3	-	1, 2, 3, 4		
FTU-1206	KRUEGER	KQFP	14"Ø	05	17X15	30	14	1.0	0.25	PAR.	410	2040	820	0.5	277/1	2	10	460/3	-	1, 2, 3, 4		
FTU-1207	KRUEGER	KQFP	12"Ø	04	15X12	29	18	1.0	0.25	PAR.	275	1375	550	0.25	277/1	2	10	460/3	-	1, 2, 3, 4		
FTU-1208	KRUEGER	KQFP	14"Ø	05	17X15	30	14	1.0	0.25	PAR.	400	2000	800	0.5	277/1	3	14	460/3	-	1, 2, 3, 4		
FTU-1209	KRUEGER	KQFP	14"Ø	05	17X15	30	14	1.0	0.25	PAR.	400	2000	800	0.5	277/1	3	14	460/3	-	1, 2, 3, 4		

GENERAL NOTES:  
1. "x" IN EQUIPMENT TAG IS EXISTING TO REMAIN EQUIPMENT. "r" IN EQUIPMENT TAG IS EXISTING, RELOCATED EQUIPMENT. REBALANCE TO CFM SHOWN. "n" IN EQUIPMENT TAG IS NEW FTU TO BE PURCHASED FOR PROJECT.  
2. ALL FTU-12XXS ARE EXISTING TO REMAIN EQUIPMENT SHOWN FOR REFERENCE AND BALANCING ONLY.

REMARKS:  
1. FURNISHED WITH DISCONNECT SWITCH-NON FUSED.  
2. CONTROLLER PROVIDED BY CONTROL CONTRACTOR FOR MOUNTING BY BOX MANUFACTURER IN MANUFACTURER PROVIDED ENCLOSURE  
3. 3-PHASE, 4 WIRE, NEUTRAL.  
4. EXISTING UNIT TO REMAIN. SHOWN FOR REFERENCE ONLY.  
5. RELOCATED EXISTING UNIT.  
6. PROVIDE NEW FAN POWERED TERMINAL UNIT.

VARIABLE AIR VOLUME BOX SCHEDULE												
PLAN MARK	MANUFACTURER	MODEL	UNIT SIZE	INLET SIZE	DISCHARGE SIZE	PRIMARY AIR		ELECTRIC HEAT			REMARKS	
						MIN	MAX	KW	VOLTS/Ø	STEPS		
VAV-n101	KRUEGER	LMHS	6	6"Ø	12X8	80	440	5	460/3	2	1, 3	
VAV-x102	KRUEGER	LMHS	10	10"Ø	14X13	750	850	10	460/3	2	1, 3	
VAV-x103	KRUEGER	LMHS	10	10"Ø	14X13	700	900	7	460/3	2	1, 3	
VAV-1201	KRUEGER	LMHS	10	10"Ø	14X13	160	775	-	-	-	3	
VAV-1202	KRUEGER	LMHS	12	12"Ø	16X15	320	1610	-	-	-	3	
VAV-1203	KRUEGER	LMHS	10	10"Ø	14X13	160	775	-	-	-	3	

GENERAL NOTES:  
1. "x" IN EQUIPMENT TAG IS EXISTING TO REMAIN EQUIPMENT. "r" IN EQUIPMENT TAG IS EXISTING, RELOCATED EQUIPMENT. REBALANCE TO CFM SHOWN. "n" IN EQUIPMENT TAG IS NEW FTU TO BE PURCHASED FOR PROJECT.  
2. ALL VAV-12XXS ARE EXISTING TO REMAIN EQUIPMENT SHOWN FOR REFERENCE AND BALANCING ONLY.

REMARKS:  
1. FURNISHED WITH DISCONNECT SWITCH  
2. FURNISHED WITH TRANSFORMER  
3. CONTROLLER PROVIDED BY CONTROL CONTRACTOR FOR MOUNTING BY BOX MANUFACTURER

EXISTING EXHAUST FAN SCHEDULE (FOR REFERENCE ONLY)												
PLAN MARK	MANUFACTURER	MODEL	LOCATION	CFM	S.P.	HP	VOLT/Ø	FAN RPM	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	REMARKS
EF-2	LOREN COOK	100SQN-B	EVIDENCE STG.	1000	0.2	1/4	460/3	1890	-	BMS	-	-
EF-3	LOREN COOK	90 SQN12D	ELEC. RM NORTH	350	0.25	1/6	120/1	1350	-	RTU-1	-	7
EF-4	LOREN COOK	GC-124	ROAD OFFICE RR	75	0.1	63W	120/1	900	-	LIGHT SWITCH	-	-
EF-5	LOREN COOK	GC-124	ROAD OFFICE RR	75	0.1	63W	120/1	900	-	LIGHT SWITCH	-	-
EF-6	LOREN COOK	GC-162	MENS PUBLIC RR	150	0.1	101W	120/1	1200	-	LIGHT SWITCH	-	-
EF-7	LOREN COOK	GC-162	MENS OFFICE RR	150	0.1	101W	120/1	1200	-	LIGHT SWITCH	-	-
EF-8	LOREN COOK	GC-124	JANITORS CLOSET	75	0.1	63W	120/1	900	-	LIGHT SWITCH	-	-
EF-9	LOREN COOK	GC-320	WOMENS OFF. RR	225	0.25	70W	120/1	1360	-	LIGHT SWITCH	-	-
EF-10	LOREN COOK	GC-162	WOMENS PUB. RR	150	0.1	101W	120/1	1200	-	LIGHT SWITCH	-	-
EF-11	LOREN COOK	GC-124	RADIO ROOM RR	75	0.1	63W	120/1	900	-	LIGHT SWITCH	-	-
EF-12	LOREN COOK	GC-124	RADIO ROOM RR	75	0.1	63W	120/1	900	-	LIGHT SWITCH	-	-
EF-13	LOREN COOK	GC-124	CAPTAINS RR	75	0.1	63W	120/1	900	-	LIGHT SWITCH	-	-
EF-14	LOREN COOK	GC-124	FIRING RANGE RR	75	0.1	63W	120/1	900	-	LIGHT SWITCH	-	-

GENERAL NOTES:  
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.  
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.  
3. FAN SHALL BE CENTRIFUGAL, BELT DRIVEN TYPE UNLESS OTHERWISE SCHEDULED.

REMARKS:  
1. EXHAUST FAN FOR EMERGENCY SMOKE REMOVAL ONLY  
2. INLINE, BELT DRIVEN EXHAUST FAN OR SUPPLY FAN WITH DISCONNECT SWITCH AND FACTORY INSTALLED HANGING BRACKETS.  
3. FAN TO BE CONTROLLED BY LINE VOLTAGE THERMOSTAT THAT IS FURNISHED BY DIV. 15 AND INSTALLED BY DIV. 16  
4. PROVIDE LOW LEAKAGE BACKDRAFT DAMPER  
5. ROOF MOUNTED, BELT DRIVEN FAN. PROVIDE WITH ROOF CURB, DISCONNECT SWITCH AND ALUMINUM BIRD SCREEN  
6. ROOF MOUNTED, UPBLAST BELT DRIVEN FAN. PROVIDE WITH ROOF CURB, DISCONNECT SWITCH AND ALUMINUM BIRD SCREEN  
7. INLINE, DIRECT DRIVE EXHAUST FAN WITH DISCONNECT SWITCH, FAN SPEED CONTROLLER AND HANGING BRACKETS.

AIR DEVICE LEGEND										
PLAN MARK	MANUFACTURER	MODEL	MODULE SIZE	MAX CFM	N.C.	NECK SIZE	MAT	FIN	FRAME TYPE	REMARKS
S-1	TITUS	TDC	24X24	120	14	6"Ø	STD	BWE	LAY-IN	-
S-2	TITUS	TDC	24X24	250	20	8"Ø	STD	BWE	LAY-IN	-
S-3	TITUS	TDC	24X24	440	28	10"Ø	STD	BWE	LAY-IN	-
S-4	TITUS	TDC	24X24	120	14	6"Ø	STD	BWE	SRF.MT.	1
S-5	TITUS	TDC	24X24	250	20	8"Ø	STD	BWE	SRF.MT.	1
S-6	TITUS	TDB-10	48"	250	21	8"Ø	STD	BWE	LAY-IN	-
S-7	TITUS	TDB-10	48"	425	30	10"Ø	STD	BWE	LAY-IN	-
S-8	TITUS	TDB-10	48"	455	30	12"Ø	STD	BWE	LAY-IN	-
S-9	TITUS	300RS	36X6	800	35	36"X6"	STD	BWE	SRF.MT.	3
S-10	TITUS	300RS	22x6	540	32	22"X6"	STD	BWE	SRF.MT.	3
S-11	TITUS	300RS	36X12	1100	30	36X12	STD	BWE	SRF.MT.	3
R-1	EGGCRATE	-	24X12	1500	-	-	PLC	-	-	-
R-2	EGGCRATE	-	24X24	3000	-	-	PLC	-	-	-
R-3	TITUS	350RS	36X6	1200	35	36"X6"	STD	BWE	SRF.MT.	-
R-4	TITUS	350RL	18x10	600	30	18x10	STD	BWE	SRF.MT.	3
E-1	TITUS	PAR	24X24	140	19	6"Ø	STD	BWE	SRF.MT.	1
E-2	TITUS	PAR	24X24	260	22	8"Ø	STD	BWE	SRF.MT.	1
T-1	TITUS	350RL	30X12	1000	30	30"X12"	STD	BWE	SRF.MT.	-
T-2	TITUS	350RL	14X14	600	30	14"X14"	STD	BWE	SRF.MT.	-

**GENERAL NOTES:**  
1. SUPPLIER TO FURNISH ALL RELEVANT CLIPS & SCREWS FOR INSTALLATION.  
2. TDC GRILLES TO HAVE 18X18 LOUVERED FACE.

**MATERIAL:**  
STD-STANDARD  
STL-STEEL  
ALM-ALUMINUM  
PLC-PLASTIC

**FINISH:**  
BWE-BAKED WHITE ENAMEL  
CA-CLEAR ANODIZED  
PRM-PRIME COAT FOR PAINTING BY G.C.

**REMARKS:**  
1. PLASTER FRAME  
2. VOLUME DAMPER  
3. OPPOSED BLADE DAMPER  
4. INSULATED PLENUM  
5. FILTER FRAME  
6. AIR PATTERN CONTROLLER  
7. QUARTER TURN FASTENER  
8. SECTIONAL BAFFLE  
9. SQUARE TO ROUND ADAPTOR

EXISTING ELECTRIC BASEBOARD HEATER SCHEDULE (FOR REFERENCE ONLY)										
PLAN MARK	MANUFACTURER	MODEL	VOLTS/Ø	AMPS	WATTS/ FT	TOTAL WATTS	ELEMENT LENGTH	ENCLOS. LENGTH	REMARKS	
EBB-1	TPI	RDBT-PD	277/1	-	300	3000	10	10	1	
EBB-2	TPI	RDBT-PD	277/1	-	300	2400	8	8	1	

**GENERAL NOTES:**  
1. FIELD VERIFY EXACT ENCLOSURE LENGTH.

**REMARKS:**  
1. PROVIDE INTEGRAL THERMOSTAT, DISCONNECT SWITCH AND PEDESTALS.

EXISTING ELECTRIC UNIT HEATER SCHEDULE (FOR REFERENCE ONLY)										
PLAN MARK	MODEL	MFR.	AMPS	KW	MOTOR		REMARKS			
					H.P./ WATTS	VOLT/Ø				
UH-1	P3P5107CA1N	TPI	9.1	7.5	-	480/3	2, 4			
UH-2	P3P5107CA1N	TPI	9.1	7.5	-	480/3	2, 4			

**GENERAL NOTES:**  
1. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR.

**REMARKS:**  
1. PROVIDE WALL BRACKET  
2. PROVIDE CEILING BRACKET  
3. PROVIDE INTEGRAL THERMOSTAT  
4. PROVIDE WITH SPACE THERMOSTAT REMOTELY MOUNTED

EXISTING ELECTRIC WALL HEATER SCHEDULE (FOR REFERENCE ONLY)										
PLAN MARK	MODEL	MFR.	AMPS	KW	MOTOR		REMARKS			
					H.P./ WATTS	VOLT/Ø				
EW-1	G3385D-RP	TPI	10.8	3	-	277/1	4, 5			
EW-2	G3324TTD-RP	TPI	7.2	2	-	277/1	1, 3			

**GENERAL NOTES:**  
1. DISCONNECT SWITCH INCLUDED.  
2. EWH-1 IS CEILING MOUNTED HEATER. HEATER REQUIRES 4-WIRE SUPPLY LINE.

**REMARKS:**  
1. PROVIDE RECESSED WALL BOX  
2. PROVIDE CEILING BRACKET  
3. PROVIDE INTEGRAL THERMOSTAT  
4. PROVIDE WITH LINE-VOLTAGE SPACE THERMOSTAT REMOTELY MOUNTED  
5. PROVIDE 2X2 T-BAR MOUNTING KIT

EXISTING FIRE DAMPER SCHEDULE (FOR REFERENCE ONLY)										
PLAN MARK	MANUFACTURER	SIZE	RATING HRS.	STYLE	APPLICATION S/D	FUSIBLE LINK (F°)	MOUNTING	SERVICE	LOCATION	REMARKS
FD1-2	RUSKIN/BD2	14Ø	1 1/2	C	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-3	RUSKIN/BD2	18Ø	1 1/2	C	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-4	RUSKIN/BD2	6Ø	1 1/2	C	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-5	RUSKIN/BD2	8X8	1 1/2	B	STATIC	165	VERTICAL	TRANSFER		1, 2
FD1-6	RUSKIN/BD2	8Ø	1 1/2	C	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-7	RUSKIN/BD2	6Ø	1 1/2	C	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-8	RUSKIN/BD2	12Ø	1 1/2	C	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-9	RUSKIN/BD2	36X6	1 1/2	G	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-10	RUSKIN/BD2	36X6	1 1/2	G	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-11	RUSKIN/BD2	36X6	1 1/2	G	STATIC	165	VERTICAL	RETURN		1, 2
FD1-12	RUSKIN/BD2	36X6	1 1/2	G	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-13	RUSKIN/BD2	36X6	1 1/2	G	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-14	RUSKIN/BD2	36X6	1 1/2	G	STATIC	165	VERTICAL	RETURN		1, 2
FD1-15	-	-	-	-	-	-	-	-		NOT USED
FD1-16	RUSKIN/BD2	36X6	1 1/2	G	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-17	RUSKIN/BD2	36X6	1 1/2	G	STATIC	165	VERTICAL	SUPPLY		1, 2
FD1-18	RUSKIN/BD2	36X6	1 1/2	G	STATIC	165	VERTICAL	RETURN		1, 2
FD1-19	RUSKIN/BD2	40X24	1 1/2	B	STATIC	165	VERTICAL	RETURN		1, 2
FD1-20	RUSKIN/BD2	28X12	1 1/2	B	STATIC	165	VERTICAL	RETURN		1, 2
FD1-21	RUSKIN/BD2	42X16	1 1/2	B	STATIC	165	VERTICAL	RETURN		1, 2
FD1-22	RUSKIN/BD2	36X18	1 1/2	B	STATIC	165	VERTICAL	RETURN		1, 2
FD1-23	RUSKIN/BD2	8X8	1 1/2	B	STATIC	165	VERTICAL	RETURN		1, 2

**GENERAL NOTES:**  
1. ALL DAMPERS ARE UL 555 CLASSIFIED.  
2. APPLICATION = STATIC OR DYNAMIC.  
3. FUSIBLE LINK = 165° F STANDARD, 212° F AND 285° F.

**STYLE:**  
A- BLADES IN AIRSTREAM  
B- BLADES OUT OF AIRSTREAM  
C- BLADES OUT OF AIRSTREAM  
R- BLADES PARTIALLY IN AIRSTREAM

**REMARKS:**  
1. PROVIDE SLEEVES  
2. PROVIDE RETAINING ANGLES

EXISTING ELECTRIC SPLIT SYSTEM - UNIT SCHEDULE (FOR REFERENCE ONLY)																								
PLAN MARK	MANUFACTURER	MODEL	AIR HANDLING UNIT							HEAT			PLAN MARK	CONDENSING UNIT				REMARKS						
			CFM	ESP	HP	SPEED	MCA	BLOWER FLA	TOTAL MBH	SENS MBH	ENT/LVG DB	ENT/LVG WB		KW	MCA	MOC	MODEL		AMP TEMP	VOLTS/Ø	LRA	RLA		
			AHU-1	TRANE	TEC 036	1300	0.31	1/3	HI	2.75	2.2	208/1		35.5	25.8	-	-		7.7	39	40	CU-1	TRANE	TTA036
AHU-2	TRANE	TEC 018	600	0.66	1/4	HI	1.88	1.5	208/1	18.8	13.4	-	-	5.76	36	40	CU-2	TRANE	TTB018	100	460/3	38.6	6.4	1, 6, 7, 10

**GENERAL NOTES:**  
1. -

**REMARKS: CONDENSING UNIT**  
1. EXPANSION VALVE KIT  
2. HIGH PRESSURE SWITCH  
3. REFRIGERANT LINE KIT  
4. HAIL GUARDS  
5. MOUNTING BASE  
6. FREEZE STAT  
7. LOW AMBIENT KIT  
8. THERMOSTAT

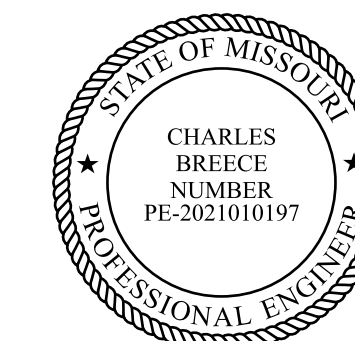
**REMARKS: AIR HANDLING UNIT**  
9. FILTER RACK KIT  
10. CONDENSATE DRAIN PUMP

EXISTING WASTE OIL HEATER (FOR REFERENCE ONLY)							
PLAN MARK	MANUFACTURER	MODEL	OIL CONSUM. (GPH)	CFM	STACK SIZE	ELEC. CONNEX.	REMARKS
WOH-1	CLEAN BURN	CB-1750	1.2	1700	8"Ø	120/1	1

**GENERAL NOTES:**  
1. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR.

**REMARKS:**  
1. EC TO PROVIDE 20A CIRCUIT

STATE OF MISSOURI  
**MIKE KEHOE,**  
GOVERNOR



2/11/26



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PROJECT # R2415-01  
SITE # 6004  
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CAD DWG FILE: M-602  
DRAWN BY: CBB  
CHECKED BY: CBB  
DESIGNED BY: CBB

SHEET TITLE:  
**HVAC**  
**SCHEDULES**

SHEET NUMBER:

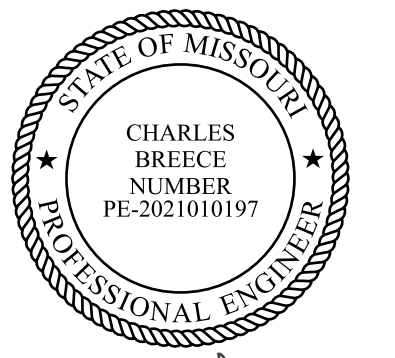
**M-602**

DEVICE LEGEND - ROOM / SPACE SENSORS			
SYMBOL	TYPE	DESIGNATION	SERVICE
	AI	CO	CARBON MONOXIDE
	AI	CO2-RM	CARBON DIOXIDE (CO2) ROOM / SPACE
	AI	DWP-RM	DEW POINT TEMPERATURE
	AI	H-RM H-OA	HUMIDITY ROOM / SPACE HUMIDITY OUTSIDE AIR
	AI	MS	MOISTURE SENSOR
	AI	NO2	NITROGEN DIOXIDE
	BI	OCC	OCCUPANCY SENSOR
	AI	OS	OXYGEN SENSOR
	AI	PC	PARTICLE COUNTER
	AI	RS-M RS-W RS-ALM	REFRIGERANT SENSOR MONITOR (PPM) REFRIGERANT SENSOR - LOW WARNING REFRIGERANT SENSOR - HIGH ALARM
	BI	SD-RM	SMOKE DETECTOR ROOM / SPACE
	AI	SPI	SPACE PRESSURE INDICATOR
	AI	SPM	SPACE PRESSURE MONITOR
	AI	T-RM T-OA T-SLB T-FZ T-FRIG	ROOM / SPACE TEMPERATURE OUTSIDE AIR TEMPERATURE SLAB TEMPERATURE FREEZER TEMPERATURE REFRIGERATOR TEMPERATURE
	AI	VOC	VOLATILE ORGANIC COMPOUND

DEVICE LEGEND - MISCELLANEOUS			
SYMBOL	TYPE	DESIGNATION	SERVICE
	BI	BAT-L	UPS BATTERY LOW ALARM
	BO	ST/ST	MOTOR START/STOP
	BO	GR	GENERAL RELAY (ON/OFF)
	AI	LS	ELECTRICAL LIGHT SENSOR
	AI	CT-A	CURRENT TRANSDUCER (ANALOG)
	BI	CT-B	CURRENT TRANSDUCER (BINARY)
	BI	CM	FIRE ALARM CONTROL MODULE
	BO	CM	FIRE ALARM MONITOR MODULE
	BI	STS	STATUS
	BI	ALM	ALARM
	AO	E-HTG	ELECTRIC SCR HEAT CONTROL
	AO	SPD-C	MOTOR SPEED CONTROL
	AO	SP-RES	SETPOINT RESET
	AI	FH-SS	FUME HOOD SASH SENSOR
	AI	VCI	VARIABLE COMMAND INPUT
	AO	VCO	VARIABLE COMMAND OUTPUT
	BI	SW	SWITCH
	BI	S-SS	SNOW SENSOR SWITCH

DEVICE LEGEND - DUCTWORK			
SYMBOL	TYPE	DESIGNATION	SERVICE
	AI	A-EA A-MDOA A-MNOA A-MXOA A-OA A-RA A-RF A-SA	EXHAUST AIR FLOW MEASURING STATION MID OUTSIDE AIRFLOW MEASURING STATION MIN OUTSIDE AIRFLOW MEASURING STATION MAX OUTSIDE AIRFLOW MEASURING STATION OUTSIDE AIR FLOW MEASURING STATION RETURN AIR FLOW MEASURING STATION RELIEF AIR FLOW MEASURING STATION SUPPLY AIR FLOW MEASURING STATION
	AO	D-AD D-BP D-MDOA D-MNOA D-MXOA D-OA D-RA D-RF D-VAV	GENERAL DAMPER BY-PASS / BLEED DAMPER MIDDLE OUTSIDE AIR DAMPER MINIMUM OUTSIDE AIR DAMPER MAXIMUM OUTSIDE AIR DAMPER OUTSIDE AIR DAMPER RETURN AIR DAMPER RELIEF AIR DAMPER VAV DAMPER
	BO	D-BT D-DA D-EISO D-ISO D-RISO D-SISO D-JISO DSM-SA DSM-RA FSD-SA FSD-RA	BUBBLE TIGHT DAMPER DISCHARGE AIR DAMPER EXHAUST FAN ISOLATION ISOLATION DAMPER RETURN FAN ISOLATION DAMPER SUPPLY FAN ISOLATION DAMPER UNIT ISOLATION DAMPER SMOKE DAMPER / SUPPLY AIR SMOKE DAMPER / RETURN AIR FIRE SMOKE DAMPER / SUPPLY AIR FIRE SMOKE DAMPER / RETURN AIR
	AI	POS-A	DAMPER POSITION - ANALOG
	BI	POS-C	DAMPER POSITION - CLOSED
	BI	POS-O	DAMPER POSITION - OPEN
	BI	POS-OC	DAMPER POSITION - OPEN & CLOSED
	AI	FE-EA FE-HA FE-RA FE-SA	EXHAUST AIR FLOW HOOD AIR FLOW RETURN AIR FLOW SUPPLY AIR FLOW
	AI	T-CC T-DA T-DWE T-DWL T-EA T-ERCL T-EWE T-ENL T-HRCL T-HRT T-MA T-OA T-PHT T-RA T-RHT T-SA T-SMC	COOLING COIL LEAVING AIR TEMPERATURE DISCHARGE AIR TEMPERATURE DESICCANT WHEEL ENTERING AIR TEMPERATURE DESICCANT WHEEL LEAVING AIR TEMPERATURE EXHAUST AIR TEMPERATURE ENERGY RECOVERY CORE LEAVING TEMP ENTHALPY WHEEL ENTERING AIR TEMPERATURE ENTHALPY WHEEL LEAVING AIR TEMPERATURE HEAT RECOVERY CORE LEAVING TEMP HEAT RECOVERY COIL LEAVING AIR TEMPERATURE MIXED AIR TEMPERATURE OUTSIDE AIR TEMPERATURE PREHEAT COIL LEAVING AIR TEMPERATURE RETURN AIR TEMPERATURE REHEAT COIL LEAVING AIR TEMPERATURE SUPPLY AIR TEMPERATURE SNOW MELT COIL LEAVING AIR TEMPERATURE
	BI	T-LTD	LOW TEMPERATURE DETECTOR (FREEZE-STAT)
	AI	H-DA H-DWE H-DWL H-EA H-ERCL H-EWE H-EWL H-RA H-SA H-LHL	DISCHARGE AIR HUMIDITY DESICCANT WHEEL ENTERING HUMIDITY SENSOR DESICCANT WHEEL LEAVING HUMIDITY SENSOR EXHAUST AIR HUMIDITY ENERGY RECOVERY CORE LEAVING HUMIDITY ENTHALPY WHEEL ENTERING HUMIDITY SENSOR ENTHALPY WHEEL LEAVING HUMIDITY SENSOR RETURN AIR HUMIDITY SUPPLY AIR HUMIDITY HUMIDITY HIGH LIMIT
	AI	CO2-OA CO2-RA	CARBON DIOXIDE - OUTSIDE AIR CARBON DIOXIDE - RETURN AIR
	BI	SD-EA SD-RA SD-SA	SMOKE DETECTOR - EXHAUST AIR SMOKE DETECTOR - RETURN AIR SMOKE DETECTOR - SUPPLY AIR
	AI	P-DASP P-DPA P-EASP P-RASP P-RFSP P-SASP P-VPS	DISCHARGE AIR / STATIC PRESSURE DIFFERENTIAL PRESSURE - ANALOG EXHAUST AIR / STATIC PRESSURE RETURN AIR / STATIC PRESSURE RELIEF AIR / STATIC PRESSURE SUPPLY AIR / STATIC PRESSURE VELOCITY PRESSURE SENSOR
	BI	P-DAHL P-DALL P-DP-D P-EAHL P-EALL P-RAHL P-RALL P-SAHL P-SALL	DISCHARGE AIR / HIGH LIMIT PRESSURE DISCHARGE AIR / LOW LIMIT PRESSURE DIFFERENTIAL PRESSURE - DIGITAL EXHAUST AIR / HIGH LIMIT PRESSURE EXHAUST AIR / LOW LIMIT PRESSURE RETURN AIR / HIGH LIMIT PRESSURE RETURN AIR / LOW LIMIT PRESSURE SUPPLY AIR / HIGH LIMIT PRESSURE SUPPLY AIR / LOW LIMIT PRESSURE
	BI	AFS	AIR FLOW SWITCH
	AI	DWP-EA DWP-OA DWP-RA DWP-SA	DEW POINT - EXHAUST AIR DEW POINT - OUTSIDE AIR DEW POINT - RETURN AIR DEW POINT - SUPPLY AIR

BAS LEGEND ABBREVIATIONS AND SYMBOLS	
AI	ANALOG INPUT
AO	ANALOG OUTPUT
BAS	BUILDING AUTOMATION SYSTEM
BDD	BACK DRAFT DAMPER
BI	BINARY INPUT
BO	BINARY OUTPUT
CP	CONTROL PANEL
CT	CURRENT TRANSDUCER
DDC	DIRECT DIGITAL CONTROL
DDCP	DIRECT DIGITAL CONTROL PANEL
ECM	ELECTRONICALLY COMMUTATED MOTOR
EF	EXHAUST FAN
FAS	FIRE ALARM SYSTEM
FC	FAIL CLOSED
FO	FAIL OPEN
H.W.	HARD WIRED CONNECTION
HOA	HAND-OFF-AUTO
IP	INTERNET PROTOCOL
LAN	LOCAL AREA NETWORK
MMG	MAGNETIC MOTOR CONTROL
MS/TP	MASTER SLAVE/TOKEN PASSING
NC	NORMALLY CLOSED
NET	NETWORK CONNECTION TO BAS SYSTEM
NO	NORMALLY OPEN
PC	PROGRAMMABLE CONTROLLER
PHC	PREHEAT COIL
RHC	REHEAT COIL
RF	RETURN FAN
SF	SUPPLY FAN
SPD-C	SPEED CONTROL (VFD)
ST / ST	START / STOP
STS	STATUS
TCP/IP	TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL
TEC	TERMINAL EQUIPMENT CONTROLLER
UPS	UNINTERRUPTIBLE POWER SUPPLY
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
	2-WAY ISOLATION VALVE (24V / 120V)
	MOTORIZED DAMPER (24V / 120V)
	HUMIDIFIER
	ROOM TEMPERATURE - 24V/120V
	ELECTRICAL DISCONNECT SWITCH
	ELECTRICAL STEPDOWN TRANSFORMER
	DAMPER END SWITCH
	NETWORK AUTOMATION CONTROLLER: REFER TO 251000 FOR REQUIREMENTS
	UNITARY APPLICATION CONTROLLER: REFER TO 251000 FOR REQUIREMENTS
	ROOM SWITCH - HARDWIRE
	AQUASTAT
	FIRE ALARM MONITOR MODULE
	FIRE ALARM CONTROL MODULE
	TEMPERATURE SENSOR FOR MANUFACTURES EQUIPMENT



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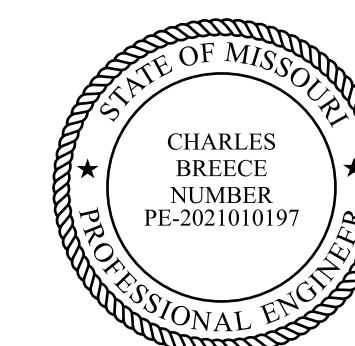
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SHEET NUMBER:

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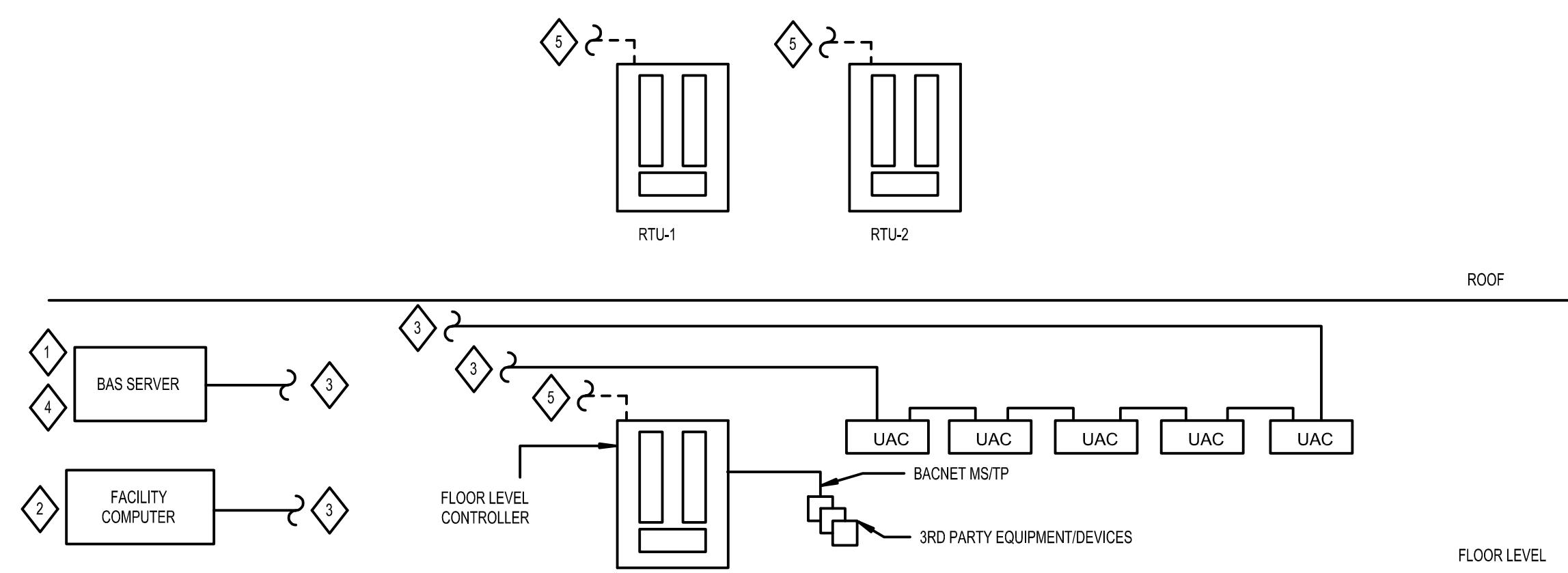
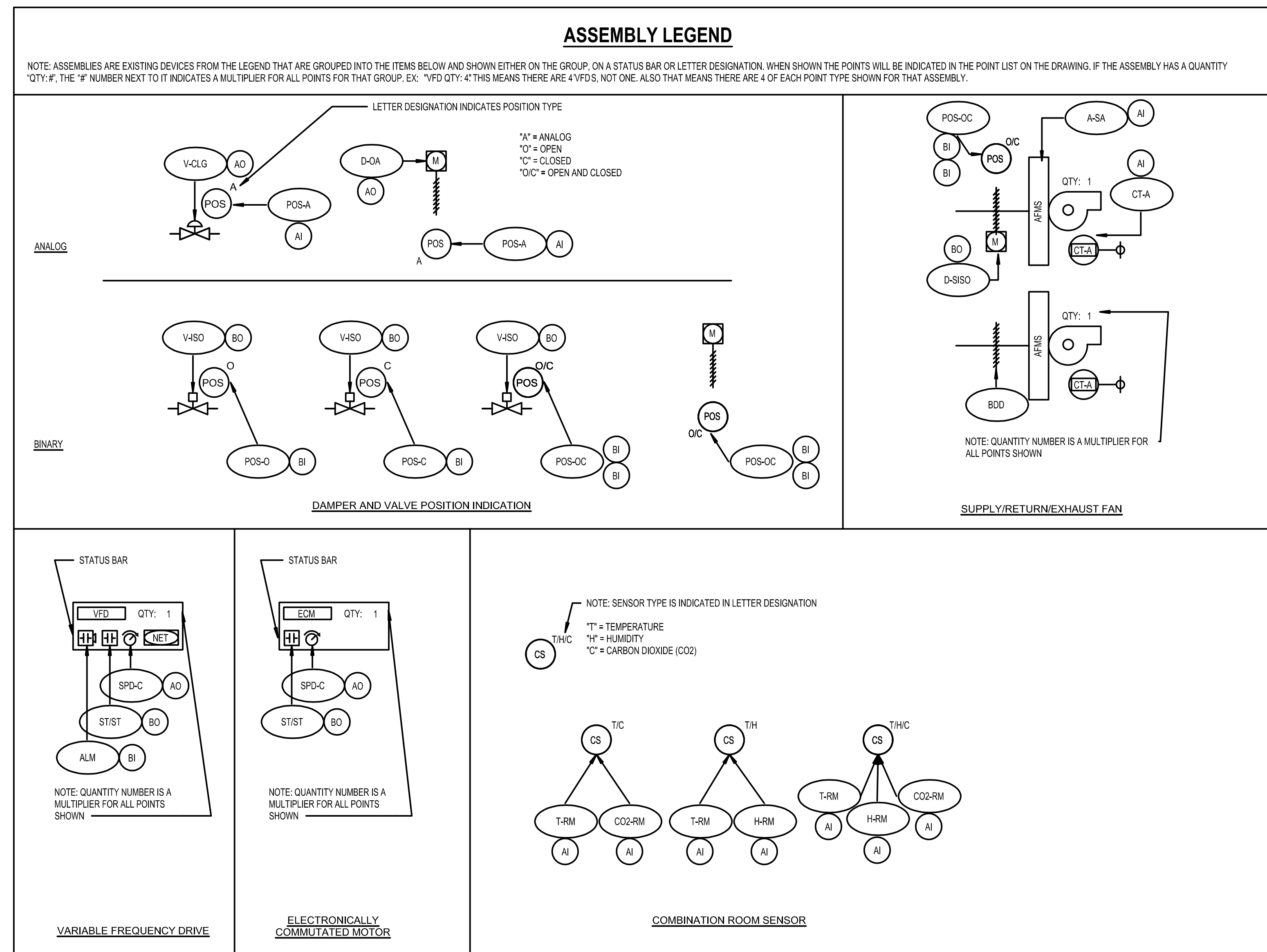
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**GENERAL NOTES**

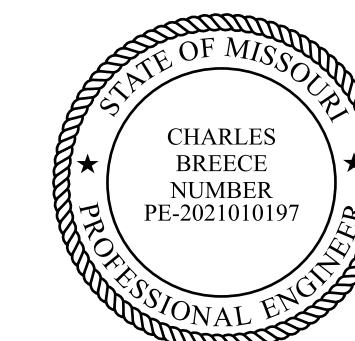
1. THE NETWORK INFRASTRUCTURE SHOWN SHALL BE PROVIDED AT A MINIMUM. IF ADDITIONAL NAC CONTROLLERS ARE REQUIRED DUE TO BANDWIDTH ISSUES OR TO ACCOMPLISH THE SEQUENCE, THEY WILL BE PROVIDED AS PART OF THE BASE CONTRACT SCOPE.
2. THE TIER 1 NETWORK SHALL BE A MINIMUM 100 MBS UTILIZING CAT 6 CABLE AS SHOWN TO ALL NAC AND UAC CONTROLLERS. WHERE REQUIRED BY DISTANCE LIMITATIONS, FIBER OPTIC CABLE SHALL BE PROVIDED. THE CABLE SHALL BE A MINIMUM OF 50/125 GRADED-INDEX MULTIMODE FIBER.
3. UAC CONTROLLERS ARE DEPICTED DIAGRAMATICALLY. THE BAS CONTRACTOR SHALL REVIEW THE CONTRACT DRAWINGS TO DETERMINE THE NUMBER UAC CONTROLLERS PER FLOOR. THE QUANTITY SHALL DETERMINE THE NUMBER OF BACNET IP LOOPS ON A FLOOR BASED ON THE MANUFACTURERS RECOMMENDATIONS.

**LINE TYPES**

- DIVISION 25 BACNET IP
- DIVISION 25 BACNET MS/TP
- DIVISION 27 IP - COORDINATE FINAL LOCATION WITH DIVISION 27 CONTRACTOR

**KEY NOTES**

1. BAS CONTRACTOR TO COORDINATE WITH OWNER IF PROJECT WILL HAVE A NEW HARD CASE OR VIRTUAL SERVER. IF THIS IS AN EXTENSION OF AN EXISTING CAMPUS NETWORK WITH AN EXISTING SERVER, THE BAS CONTRACTOR SHALL ADVISE AS PART OF THEIR BID IF UPGRADES ARE REQUIRED TO THE EXISTING SERVER AND SYSTEM.
2. FINAL LOCATION OF FACILITIES WORKSTATION MAY MOVE AND REQUIRES COORDINATION WITH OWNER.
3. ETHERNET WIRING TO BAS CONTROLLERS BY DIVISION 25. BAS CONTRACTOR TO COORDINATE WITH DIVISION 27 CONTRACTOR FOR FINAL CONNECTION LOCATIONS.
4. BAS CONTRACTOR TO PROVIDE REMOTE ACCESS TO THE BAS SYSTEM OVER THE INTERNET. THIS SHALL INCLUDE ALL FUNCTIONALITY AS IF THE USER WAS AT THE MAIN OPERATOR INTERFACE. TRAIN PERSONNEL AND CONFIRM THAT FACILITIES CAN MAKE SETPOINT CHANGES AND OVERRIDES REMOTELY.
5. ETHERNET WIRING TO BAS CONTROLLERS BY DIVISION 27. BAS CONTRACTOR TO COORDINATE WITH DIVISION 27 CONTRACTOR FOR FINAL CONNECTION LOCATIONS.



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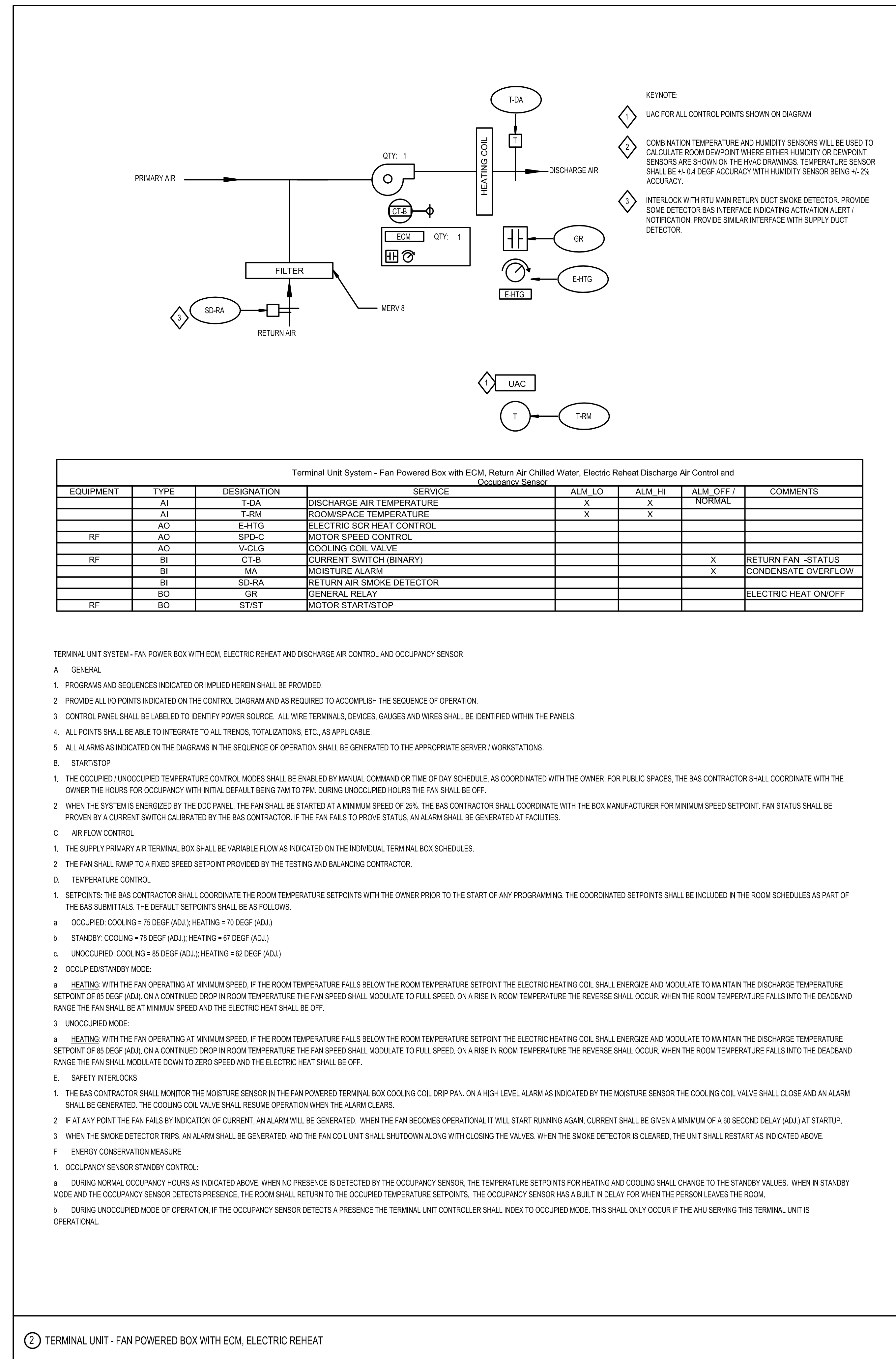
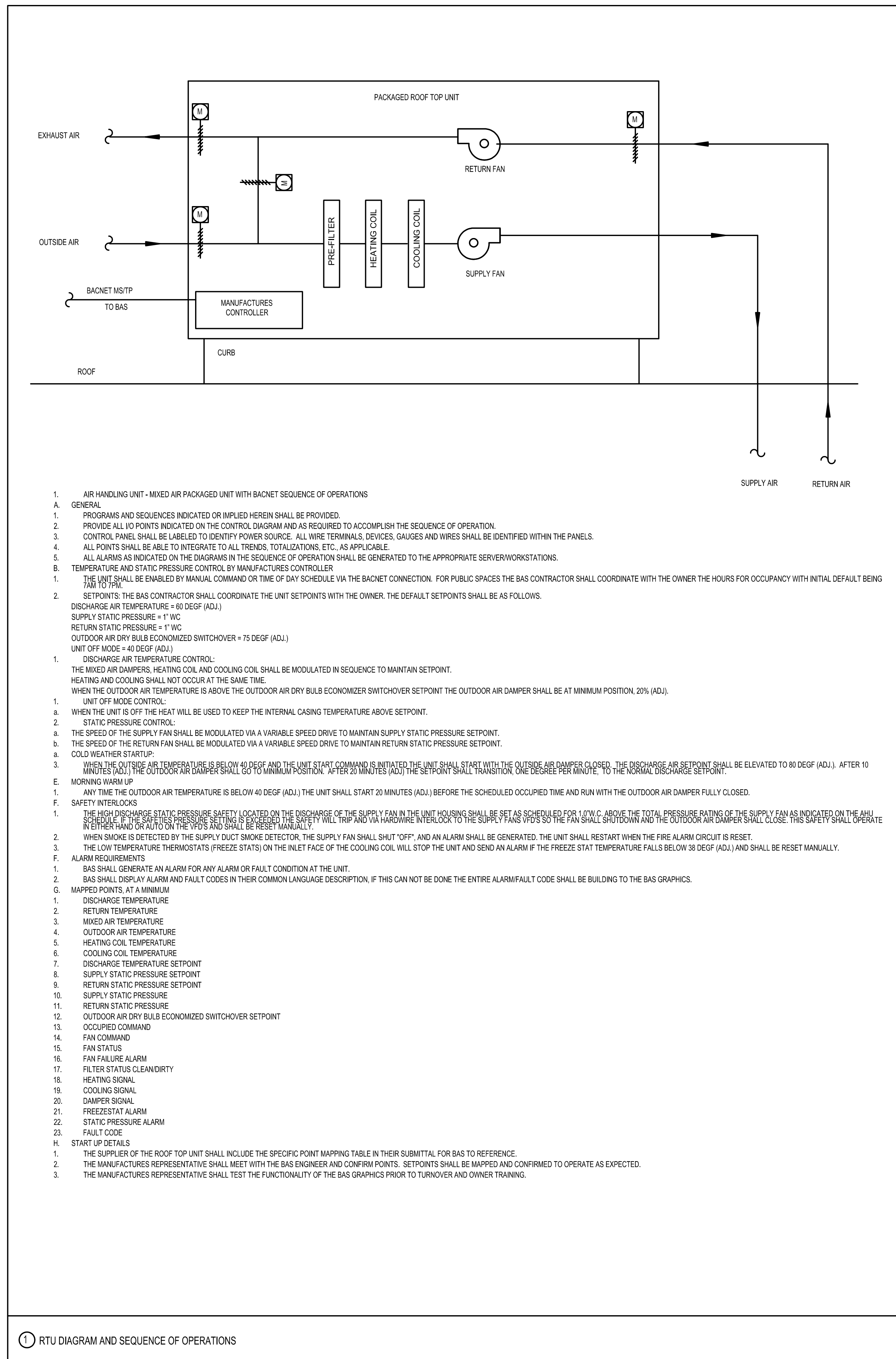
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CHECKED BY: CBB  
DESIGNED BY: CBB

SHEET TITLE:

BAS DIAGRAMS

SHEET NUMBER:

M-702



### RACEWAYS AND WIRING

NP-2-6-1(1,3) HOME RUN TO PANELBOARD. "NP-2-6-1" INDICATES PANEL. "1,3" INDICATES CIRCUIT NUMBERS. ALL CIRCUITS 20A-1P UNLESS NOTED OTHERWISE. NUMBER OF SLASH MARKS INDICATE NUMBER OF #12 AWG CONDUCTORS IN MINIMUM 3/4" DIAMETER CONDUIT. NO SLASH MARKS INDICATE 2#12 & 1#12G IN MINIMUM 3/4" DIAMETER CONDUIT UNLESS NOTED OTHERWISE.

NOTES:

- GREEN GROUND CONDUCTOR NOT INDICATED BUT SHALL BE INCLUDED
- IN EACH RACEWAY, SIZE SHALL BE #12 AWG UNLESS NOTED OTHERWISE. HOME RUNS TO POWER PANELS SHALL HAVE A MAXIMUM OF THREE (3) PHASE CONDUCTORS PLUS THREE (3) NEUTRALS AND GROUND CONDUCTORS IN EACH CONDUIT.
- ALL BRANCH CIRCUITS SHALL HAVE INDIVIDUAL NEUTRALS.

### ANNOTATION SYMBOLS

SHEET KEYNOTE  
 'XX' - REPRESENTS DISCIPLINE SPECIFICATION DIVISION  
 '01' - REPRESENTS KEY NOTE NUMBER

SECTION REFERENCE  
 SECTION 'X' ON DRAWING 'Z'

DETAIL REFERENCE  
 DETAIL 'X' ON DRAWING 'Z'

### POWER DISTRIBUTION EQUIPMENT

	DISTRIBUTION PANEL		NON-FUSED DISCONNECT SWITCH. SIZE AS REQUIRED. "6P" INDICATES 6 POLE
	PANELBOARD, SURFACE MOUNTED		FUSED DISCONNECT SWITCH. SIZE OF SWITCH AND FUSE AS REQUIRED
	PANELBOARD, FLUSH MOUNTED		COMBINATION MAGNETIC STARTER AND FUSED DISCONNECT SWITCH. SIZE OF STARTER, SWITCH AND FUSE AS REQUIRED
	BUILDING MANAGEMENT SYSTEM LIGHTING CONTROL RELAY PANEL AND ASSOCIATED INPUT AND DATA CONTROLS WIRING PROVIDED BY ATC CONTRACTOR. BRANCH CIRCUIT CONDUCTOR WIRING BY ELECTRICAL CONTRACTOR.		DRY-TYPE DISTRIBUTION TRANSFORMER.
	JUNCTION BOX, SIZED PER NEC		BUSWAY POWER TAKE-OFF WITH INTEGRAL LSIG ELECTRONIC CIRCUIT BREAKER. REFER TO RISER DIAGRAM
	MOTOR, "2" INDICATES HORSEPOWER		SHUNT TRIP
	MAGNETIC MOTOR STARTER		SURGE PROTECTIVE DEVICE. REFER TO SPECIFICATION SECTION 264310 FOR REQUIREMENTS.
	MANUAL MOTOR SWITCH WITH THERMAL OVERLOAD. "P" INDICATES PILOT LIGHT		

### ABBREVIATIONS

A	AMPERES	M	MONITOR
AP	AREA ALARM PANEL BY OTHERS	MBS	MANUAL BYPASS SWITCH
AC	ALTERNATING CURRENT	MCB	MAIN CIRCUIT BREAKER
AD	AUTOMATIC DOOR OPENER	MCP	MOTOR CONTROL PANEL
AF	AMPERE FRAME (CIRCUIT BREAKER RATING)	MCC	MOTOR CONTROL CENTER
AFB	ABOVE FINISHED FLOOR	MGAP	MEDICAL GAS PANEL BY OTHERS
AFG	ABOVE FINISHED GRADE	MIC	MICROWAVE
AH	AMPERE-HOUR METER	MISC	MISCELLANEOUS
AIC	AMPERE INTERRUPTING CAPACITY	MLO	MAIN LUGS ONLY
AL	ALUMINUM	MTR	MOTOR
AM	AMMETER	MV	MEDIUM VOLTAGE
ARCH	ARCHITECT		
AT	AMPERE TRIP (CIRCUIT BREAKER RATING)	NC	NORMALLY CLOSED
ATC	AUTOMATIC TEMPERATURE CONTROL	NEC	NATIONAL ELECTRICAL CODE
ATS	AUTOMATIC TRANSFER SWITCH	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
AWG	AMERICAN WIRE GAUGE	NL	NIGHT LIGHT
		NO	NORMALLY OPEN
		NTS	NOT TO SCALE
BIO	BIOLOGY	OHM	OHMMETER
BLDG	BUILDING	OP	OIL PRESSURE
BMS	BUILDING MANAGEMENT SYSTEM		
BSC	BIO SAFETY CABINET		
C	CONDUIT	P	POLE
CAT	CATALOG	PDP	POWER DISTRIBUTION PANEL
CENT.	CENTRIFUGE	FDU	POWER DISTRIBUTION UNIT
CIR	CIRCUIT	PE	PHOTOCELL
COF	COFFEE MAKER	PF	POWER FACTOR METER
COL	COLUMN	PI	POSITION INDICATOR
COM	COMMUNICATION	PNL	PANEL
COMPY	COPY MACHINE	PNLBD	PANELBOARD
CP	CONTROL PANEL	PP	POWER POLE
CPT	CONTROL POWER TRANSFORMER	PRN	PRINTER
CR	CARD READER	PSD	PHASE SHIFTING DEVICE
CR	CURRENT TRANSFORMER	PTZ	PAN TILT ZOOM
CU	COPPER	PVC	POLYVINYL CHLORIDE
C.B.	CIRCUIT BREAKER	PWR	POWER
C.T.	CURRENT TRANSFORMER	PXV	PYXIS
		P.T.	POTENTIAL TRANSFORMER
		Ø	PHASE
Δ	DELTA		
DC	DIRECT CURRENT	R	RECESSED
DH	DOOR HOLD	RD	RECESSED DEMAND METER
DM	DISPLAY MONITOR	REC	RECEPTACLE(S)
DSC	DISCONNECT SWITCH	RECP	RECEPTACLE PANEL
DW	DISHWASHER	REF	REFRIGERATOR
DWG	DRAWING	REF	RECYCLION PER MINUTE
		RTD	RESISTANCE TEMPERATURE DETECTOR, INDICATOR OR RELAY
E	WIRED ON EMERGENCY CIRCUIT		
EC	EMPTY CONDUIT	S	SURFACE
EM	EMERGENCY	SCC	SYSTEM CONTROL CABINET
ENL	EXISTING IN NEW LOCATION	SCR	SHORT CIRCUIT INTERRUPTING RATING
ETD	EXISTING TO BE DEMOLISHED AND REMOVED	SGR	SWITCHGEAR
ETR	EXISTING TO REMAIN	SHT	SHEET
ETRL	EXISTING TO BE REMOVED AND REUSED/RELOCATED	SP	SPARE
EWC	ELECTRIC WATER COOLER	SPEC	SPECIFICATION
EXP	EXPLOSION PROOF	SRG	SIGNAL REFERENCE GRID
		SUB	SUB UNIT SUBSTATION
F	FLUSH	SW	SWITCH
FAX	FAX MACHINE	SWBD	SWITCHBOARD
FCU	FAN COIL UNIT		
FE	FREQUENCY METER	T	TEMPERATURE METER
FEET	FEET	TC	TIMECLOCK
FRZ	FREEZER	TCP	TEMPERATURE CONTROL PANEL
FU	FUSE	TEL	TELEPHONE
FWNR	FULL VOLT NON-REVERSING FIRE ALARM	TVSS	TRANSIENT VOLTAGE SUPPRESSION SYSTEM
F.A.	FIRE ALARM	TYP	TYPICAL
G	GROUND		
GC	GENERAL CONTRACTOR	UC	UNDER COUNTER
GD	GROUND DETECTOR	UCR	UNDERCOUNTER REFRIGERATOR
GEN	GENERATOR	UG	UNDERGROUND
GFI	GROUND FAULT CIRCUIT INTERRUPTER	ULP	UPS LIGHTING PANEL
GWB	GYP SUM WALL BOARD	UNO	UNLESS NOTED OTHERWISE
HMI	HUMAN MACHINE INTERFACE	UPS	UNINTERRUPTIBLE POWER SUPPLY
HV	HIGH VOLTAGE	URP	UPS RECEPTACLE PANEL
HVAC	HEATING, VENTILATION, AIR CONDITIONING		
HZ	HERTZ	V	VOLT
I	INDICATING	VA	VOLT AMPS, VOLT-AMMETER
ICE	ICE MACHINE	VARM	VARMETER
IG	ISOLATED GROUND	VARVAR	VAR TRANSUCER
INC	INCUBATOR	VD	VOLTAGE DROP
IP	INSTRUMENT PANEL	VDER	VOICE DATA EQUIPMENT ROOM
II	CURRENT TRANSDUCER	VFD	VARIABLE FREQUENCY DRIVE
		VH	VAR-HOUR METER
JB	JUNCTION BOX	VS	VOLTMETER SWITCH
		VV	VOLTAGE TRANSDUCER
KCML	ONE THOUSAND CIRCULAR MILS	W	WATT
KH	KNEE HOLE	WH	WATTHOUR METER
KVA	KILOVOLT-AMPERES	WHO	WATTHOUR METER WITH DEMAND ATTACHMENT
KVAR	KILOVOLT-AMPERES REACTIVE	WM	WATTMETER
KW	KILOWATTS	WP	WEATHER PROOF
		WRM	WARMING CABINET
LVL	LEVEL	WVS	WATT-VAR SELECTOR SWITCH
LP	LIGHTING PANEL	W-V	WATT-VAR INDICATING METER
LS	LIFE SAFETY	WW	WATT TRANSDUCER
LTG	LIGHTING		
LV	LOW VOLTAGE	XFMR	TRANSFORMER
		XP	EXPLOSION PROOF
		Y	WYE

### ONE LINE POWER DIAGRAM

	LOAD-BREAK SWITCH		CABLE TAP BOX
	FUSE, SIZE AS INDICATED		PLUG-IN BUSWAY CIRCUIT BREAKER
	TRANSFORMER, SIZE AS INDICATED		DRY TYPE TRANSFORMER. "Z" INDICATES SIZE. REFER TO DRY TYPE TRANSFORMER SCHEDULE
	CIRCUIT BREAKER		"K" FACTOR DRY TYPE TRANSFORMER. "Z" INDICATES SIZE. REFER TO "K" FACTOR DRY TYPE TRANSFORMER SCHEDULE
	DRAW-OUT CIRCUIT BREAKER		PANELBOARD WITH TRANSIENT VOLTAGE SURGE SUPPRESSION
	DRAW-OUT CIRCUIT BREAKER WITH NETWORK PROTECTOR		PANELBOARD WITH ISOLATED GROUND BAR
	1600AF		SQUARE D PM20 METER
	SPACE WITH PROVISIONS FOR FRAME SIZE		ANSI DEVICE. "S2" INDICATES DEVICE TYPE. REFER TO ANSI DEVICE NUMBER SCHEDULE FOR SPECIFIC DEVICE TYPE.
	UTILITY CIRCUIT BREAKER		ETHERNET GATEWAY "SQUARE D" POWERLOGIC EGX100 OR APPROVED EQUAL
	KIRK-KEY INTERLOCK		SURGE SUPPRESSION - REFER TO SPECIFICATION
	CURRENT TRANSFORMER		PULL BOX
	POTENTIAL TRANSFORMER		CONDUIT TURN DOWN
	GROUND		CONDUIT TURN UP
	AMMETER		EXTERNAL ENCLOSED CIRCUIT BREAKER
	AMMETER SWITCH		ATS WITH BYPASS
	VOLTMETER		
	VOLTMETER SWITCH		
	PLUG-IN BUSWAY		
	FEEDER BUSWAY		
	ATS		

### TOGGLE SWITCHES

(MOUNTED 45° AFF TO TOP OF BOX, UNLESS OTHERWISE NOTED)

S <sub>1</sub>	SINGLE POLE TOGGLE SWITCH. "S1" INDICATES FIXTURE CONTROL.
S <sub>2</sub>	DOUBLE POLE, DOUBLE THROW CENTER OFF TOGGLE SWITCH.
S <sub>3</sub>	THREE WAY TOGGLE SWITCH.
S <sub>4</sub>	FOUR WAY TOGGLE SWITCH.
S <sub>k</sub>	KEY OPERATED SWITCH.
S <sub>p</sub>	SINGLE POLE TOGGLE SWITCH WITH PILOT LIGHT.
S <sub>sp</sub>	SINGLE POLE SWITCH WITH BYPASS RELAY.
S <sub>sc</sub>	THREE POSITION MOMENTARY CONTACT SWITCH, CENTER OFF.
S <sub>ms</sub>	MOTORIZED SHADES WALL SWITCH.
S <sub>ps</sub>	PROJECTION SCREEN WALL SWITCH.

### MISCELLANEOUS

	ELECTRIC HEATER, FURNISHED AND INSTALLED BY HVAC SUBCONTRACTOR, WIRED BY ELECTRICAL SUBCONTRACTOR		INDICATES FLEXIBLE CONNECTION TO UTILIZATION EQUIPMENT
	ELECTRIC REHEAT COIL FURNISHED AND INSTALLED BY HVAC SUBCONTRACTOR, WIRED BY ELECTRICAL SUBCONTRACTOR		CONNECTION TO AUTOMATIC DOORS.
	ELECTRIC RADIANT HEATER, FURNISHED AND INSTALLED BY HVAC SUBCONTRACTOR, WIRED BY ELECTRICAL SUBCONTRACTOR		CONNECTION TO HVAC AIR TERMINAL BOX MOUNTED ABOVE CEILING.
	OVERHEAD LAB UTILITIES POINT OF USE PANEL, SPECIFIC CONNECTION REQUIREMENTS PER ARCHITECTURAL DETAILS. REFER TO DETAIL 2/ES.01.		120V CONNECTION TO AUTOMATIC TEMPERATURE CONTROL SYSTEM.
	CONTROL PANEL, BY OTHERS.		CONNECTION TO WALL MOUNTED AV CONTROL PANEL, MOUNTED 54" AFF.
	MOTORIZED SHADE CONTROL SWITCH, EQUAL TO LUTRON QSWS2-3BRLH-WH-E01		CONNECTION TO ELEVATOR PRIORITY CALL BUTTON, WALL MOUNTED WITH 3/4" RUN TO ABOVE CEILING.
	MOTORIZED SHADE CONTROL SWITCH, EQUAL TO LUTRON QSWS2-2RLD-H-WH-E01		CONNECTION TO ELECTRIC WATER COOLER.
	ELECTROMAGNETIC LOCK, 120V CONNECTION		CONNECTION TO CEILING MOUNTED EXAMINATION LIGHT.
	CARD READER - EMPTY CONDUIT AND BACKBOXES ONLY, REFER TO DETAIL.		CONNECTION TO ELECTRIFIED FURNITURE. REQUIREMENTS TO BE CONFIRMED WITH FURNITURE MANUFACTURER.
	EMERGENCY POWER OFF BUTTON		CONNECTION TO FUME HOOD, LOCATED AT TOP OF FUME HOOD.
	PUSHBUTTON AND PLATE		CONNECTION TO MOTORIZED FIRE SHUTTER.
	TOUCHLESS WAVE PLATE		CONNECTION TO AUTOMATIC HAND DRYER.
	CONNECTION TO UTILITY PANEL		CONNECTION TO ICE MACHINE.
	CONNECTION TO UTILITY COLUMN		CONNECTION TO MOTORIZED SHADES POWER PANEL SUPPLY, EQUAL TO QSPS-P1-10-60.
	CONNECTION TO WALL MOUNTED UTILITY PANEL		CONNECTION TO CEILING MOUNTED PROJECTOR.
	CONNECTION TO MEDICAL GAS ALARM PANEL		CONNECTION TO MOTORIZED PROJECTION SCREEN.
	CONNECTION TO VARIABLE FREQUENCY DRIVE		CONNECTION TO PNEUMATIC TUBE STATION.
	HAND HOLE BY HUBBELL QUARTZITE BOX PART # PC1118BDG18 COVER PART # PC1118CG17		CONNECTION TO ACCESS CONTROL PANEL.
	BUZZERBELL, LOW VOLTAGE		CONNECTION TO SECURITY DOOR POWER.
	LOW VOLTAGE TRANSFORMER, 120 VOLT TO 24 VAC		120V CONNECTION TO TRAP PRIMER.
	REMOTE ALARM INDICATOR AND TEST SWITCH		CONNECTION TO WATER CHILLER MOUNTED BELOW SINK.
	REMOTE CLOCK COUPLER		
	CABLE TRAY. "12" INDICATES WIDTH		
	THERMAL CABLES FOR SNOW MELT, EQUAL TO PENTAIR MODEL # GM-2XT PROVIDE FINAL CONNECTIONS, CONTROLS, AND ACCESSORIES AS REQUIRED BY MANUFACTURER.		
	INDICATES MI CABLE		

STATE OF MISSOURI  
 MIKE KEHOE,  
 GOVERNOR



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 SYSTEM UPGRADES

891 TECHNOLOGY DRIVE  
 WELDON SPRING, MO 63304

PROJECT # R2415-01  
 SITE # 6004  
 FACILITY # 8136004003

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 ELECTRICAL  
 LEGEND

SHEET NUMBER:

E-001



**KEYED NOTES**

- 1 REMOVE 480V CIRCUIT FROM DEMOLISHED FAN TERMINAL BOX BACK TO PANEL LP1.
- 2 REWIRE EXISTING FAN TERMINAL UNIT DUE TO CIRCUIT BEING DISRUPTED BY REMOVAL OF UPSTREAM FTU-1103. REFER TO E2.02 POWER PLAN
- 3 REMOVE AND REINSTALL LIGHT FIXTURES AND OTHER CEILING MOUNTED DEVICES IN SAME LOCATIONS AS REQUIRED TO ACCOMMODATE DUCTWORK AND FAN-TERMINAL BOX MODIFICATIONS. REWIRE TO EXISTING CIRCUITING AND CONTROLS. REFER TO DRAWING A101 FOR EXISTING LIGHTING LAYOUT

**DEMOLITION GENERAL NOTES:**

- 1. NOTIFY THE ENGINEER OF ANY UNEXPECTED FIELD CONDITIONS BEFORE PROCEEDING, AS HIDDEN OR UNCOVERED CONDITIONS NOT SHOWN ON DRAWINGS. IT IS RECOMMENDED THAT THE CONTRACTOR HAS INSPECTED THE SITE AND VERIFIED THE INFORMATION PROVIDED.
- 2. CAP AND SHUT OFF ALL UNUSED OR RELOCATED UTILITIES PER CITY AND STATE REQUIREMENTS
- 3. REPAIR AND PATCH AREAS TO MATCH EXISTING CONDITIONS WHEN DEMOLITION WORK AFFECTS ADJACENT AREAS NOT IN SCOPE.
- 4. TEMPORARY SERVICES AND MAINTAINING EXISTING ELECTRICAL SYSTEMS IN OPERATION DURING DEMOLITION MAY REQUIRE DISCONNECTING CIRCUITS, COORDINATING OUTAGES WITH THE OWNER AND UTILITY COMPANIES, AND PROVIDING TEMPORARY WIRING TO MAINTAIN SERVICE.
- 5. DEMOLITION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DISCONNECT AND REMOVE EXISTING ELECTRICAL PANELBOARDS, JUNCTION BOXES, BRANCH CIRCUITS, FEEDERS, RACEWAYS, DEVICES ETC. AS REQUIRED TO ACCOMPLISH THE NEW WORK AS SHOWN OR IMPLIED. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, PLUMBING, MECHANICAL AND ELECTRICAL WORK SHOWN ON THE OTHER DRAWINGS OF THIS SET TO DETERMINE THE EXTENT OF THE DEMOLITION WORK REQUIRED.
- 6. EXISTING BRANCH CIRCUITS NO LONGER SERVING ANY EQUIPMENT OR DEVICES SHALL BE PULLED BACK TO AND DISCONNECTED FROM THE PANEL OF ORIGIN. RE-LABEL EXISTING CIRCUIT BREAKERS AS SPARE AND PROVIDE A NEW TYPE WRITTEN PANEL DIRECTORY.
- 7. BRANCH CIRCUITS SERVING EXISTING DEVICES THAT REMAIN AND EXISTING DEVICES TO BE REMOVED SHALL BE MAINTAINED AND RECONNECTED AS REQUIRED AFTER REMOVAL OF THE EXISTING DEVICES NECESSARY TO ACCOMMODATE THE ALTERATIONS. RELOCATE OR MAINTAIN ACCESS TO EXISTING JUNCTION BOXES AND PULLBOXES AS NECESSARY TO ACCOMMODATE THE ADDITION OF FIT OUT SCOPE OF WORK INCLUDE DUCTWORK, PIPING, JHOOKS, CEILING GRID, HANGERS, SUPPORTS, ETC. ALL PULLBOXES AND JBOXES (NEW AND EXISTING) SHALL BE ACCESSIBLE AT THE COMPLETION OF THE PROJECT. PROVIDE A NEW TYPE-WRITTEN PANEL DIRECTORY.
- 8. RELOCATE EXISTING ELECTRICAL AND LOW VOLTAGE CONDUITS, CABLES, SUPPORTS, ETC. AS REQUIRED TO ACCOMMODATE THE NEW WORK.
- 9. COORDINATE WITH THE ARCHITECTURAL DRAWINGS AND THE C.M./G.C. FOR EXISTING PARTITIONS TO BE REMOVED. DISCONNECT EXISTING BRANCH CIRCUITS SERVING DEVICES IN PARTITIONS TO BE REMOVED. MAINTAIN CONTINUITY OF EXISTING CIRCUITS SERVING EXISTING DEVICES IN OTHER AREAS TO REMAIN.
- 10. THE CONTRACTOR SHALL REMOVE ALL WIRING/CABLING NO LONGER IN USE FROM EXISTING RACEWAY/CONDUITS. SURFACE MOUNTED RACEWAYS/CONDUITS NO LONGER IN USE SHALL BE REMOVED. RACEWAYS/CONDUITS NO LONGER IN USE THAT ARE EMBEDDED IN FLOOR SLABS SHALL BE CUT BACK AS REQUIRED AND CAPPED. RACEWAYS/CONDUITS IN CEILING SPACE NO LONGER IN USE SHALL BE REMOVED.
- 11. THE CONTRACTOR SHALL PROVIDE BLANK METAL COVER PLATES FOR ALL JUNCTION/DEVICE BOXES NO LONGER IN USE THAT ARE EMBEDDED IN FLOOR SLABS OR MASONRY WALL. PROVIDE PLUGS FOR ALL PANELS WHERE CONDUITS HAVE BEEN REMOVED. COVER PLATES SHALL BE PAINTED TO MATCH EXISTING CONDITIONS.
- 12. REFER TO SPECIFICATIONS FOR ADDITIONAL DEMOLITION CRITERIA.



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SYSTEM UPGRADES

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PROJECT # R2415-01  
SITE # 6004  
FACILITY # 8136004003

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CAD DWG FILE:	--
DRAWN BY:	CW
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SHEET TITLE:  
**ELECTRICAL  
DEMOLITION  
PLAN - LEVEL 1  
AREA 2**  
SHEET NUMBER:



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SHEET TITLE:  
POWER PLAN -  
LEVEL 1 AREA 1

SHEET NUMBER:

E-201

19 of 22  
02/11/2026

KEYED NOTES

- 1 UTILIZE EXISTING CIRCUIT WITHIN PANEL TO FEED REPLACEMENT ROOF TOP AIR HANDLING UNIT (RTU).



1 POWER PLAN - LEVEL 1 - AREA 1  
1/8" = 1'-0"



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SHEET TITLE:  
**POWER PLAN -  
LEVEL 1 AREA 2**

SHEET NUMBER:

**E-202**

20 of 22  
02/11/2026

**KEYED NOTES**

- 1 UTILIZE EXISTING PANEL TO FEED REPLACEMENT ROOF TOP AIR HANDLING UNIT (RTU), FTU's, AND VAV BOXES AS INDICATED.
- 2 REWIRE EXISTING CIRCUIT AS REQUIRED TO THE EXISTING FAN TERMINAL UNIT
- 3 REMOVE, RELOCATE AND REINSTALL LIGHTING FIXTURES AS REQUIRED DUE TO HVAC NEW WORK.





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SHEET TITLE:  
**POWER PLAN -  
ROOF**

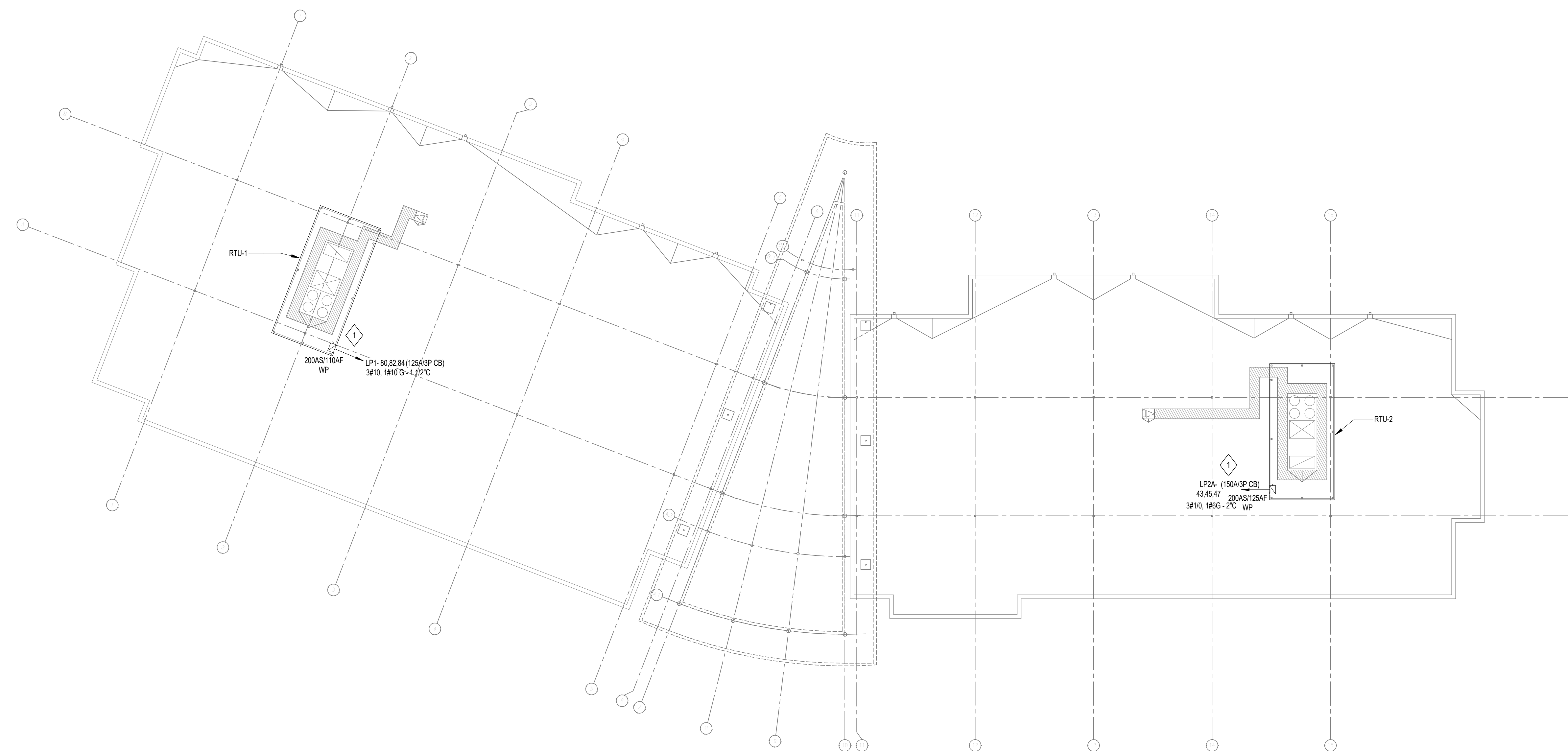
SHEET NUMBER:

**E-203**

21 of 22  
02/11/2026

**KEYED NOTES**

- 1 DISCONNECT, INTERCEPT, SPLICE AND EXTEND EXISTING CIRCUIT FEEDING THE REPLACEMENT ROOF TOP AIR HANDLING UNIT (RTU). MATCH CONDUIT AND CONDUCTOR SIZE. PROVIDE NEW WEATHERPROOF FUSED DISCONNECT SWITCH AS SHOWN MOUNTED WITHIN THE HOUSING OF THE UNIT. WIRE FROM THE DISCONNECT SWITCH TO THE NEW RTU AS REQUIRED. FIELD COORDINATE EXACT MOUNTING LOCATION



2 POWER PLAN - ROOF  
1/16" = 1'-0"



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OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
PUBLIC SAFETY  
MISSOURI STATE  
HIGHWAY PATROL

MISSOURI STATE HIGHWAY  
PATROL TROOP C  
HEADQUARTERS HVAC  
SYSTEM UPGRADES

891 TECHNOLOGY DRIVE  
WELDON SPRING, MO 63304

PROJECT # R2415-01  
SITE # 6004  
FACILITY # 8136004003

ISSUED FOR BID  
AND PERMIT

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 02/11/2026

CAD DWG FILE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_

SHEET TITLE:  
**ELECTRICAL  
SCHEDULES**

SHEET NUMBER:

**E-601**

BRANCH PANEL: LP1													
VOLTAGE:		480Y/277		LOCATION:		NEMA 1		# BREAKERS:		84			
PHASES:		3		ENCLOSURE:		Surface		MAIN BUS:		400 A			
WIRES:		4		MOUNTING:		DP1		MAIN DEVICE:		MLO			
AIC RATING:		18000		SUPPLY FROM:		DP1		MCB TRIP:		N/A			
NOTES:		EXISTING SQUARE D NF PANEL											
NOTES	#	LOAD NAME	POLES	AMPS	A	B	C	AMPS	POLES	LOAD NAME	#	NOTES	
EX	1	SITE NL	1	20	920	2810			20	1	LIGHTS	2	EX
EX	3	SITE NL	1	20		920	2380		20	1	LIGHTS	4	EX
EX	5	SITE LIGHTS	1	20			3220	2760	20	1	LOBBY LTS	6	EX
EX	7	SITE LIGHTS	1	20	3220	0			20	1	SPARE	8	
EX	9	SITE LIGHTS TIMER	1	20		200	0		20	1	SPARE	10	
	11	SPARE	1	20			0	0	20	1	SPARE	12	
	13	SPARE	1	--	--	305							
	15	SPARE	1	--	--		305		15	3	EP-1	16	EX
	17	SPARE	1	--	--			305					
NB	19	FTU-n110	3	20	2889	305			15	3	EF-2	20	EX
	21				2667	1667							
NB	23	FTU-n111	3	20		2889	1667		15	3	VAV-1101	28	NB
	25				2667	1667							
NB	27	FTU-n112	3	20	2667	--			--	1	SPACE	32	
	29				2667	--			--	1	SPACE	34	
EX	31	T-1	3	100	10766	2889			20	3	FTU-n113	36	NB
	33				10766	2667							
EX	35	VAV-1102	3	20	3333	3232			20	3	FTU-1108	42	EX
	37				3333	3000							
RC	39	FTU-1102	3	20	2667	2333			20	3	VAV-1103	50	EX
	41				2667	2333							
RC	43	FTU-1103	3	20	2667	2500			20	3	UH-1	56	EX
	45				2889	2500							
EX	47	FTU-1104	3	30	5392	2500			20	3	UH-2	62	EX
	49				5000	2500							
EX	51	FTU-1106	3	20	2000	3000			20	1	EW-1	68	EX
	53				2000	3000			20	1	EBB-1	70	EX
EX	55	FTU-1107	3	20	2000	2400			20	1	EBB-1	72	EX
	57				2232	0			20	1	EBB-2	74	EX
	59						2000	0	20	1	SPARE	76	
	61								20	1	SPARE	78	
	63				0	26327			125	3	RTU-1	80	EX
	65				0	26327							
	67						0	26327					
	69												
	71												
	73												
	75												
	77												
	79												
	81												
	83												
<b>TOTAL LOAD:</b>					91456 VA	85214 VA	87694 VA	<b>TOTAL CONN. LOAD:</b> 264364 VA					
<b>TOTAL CURRENT:</b>					332 A	308 A	318 A	<b>TOTAL CONN. CURRENT:</b> 318 A					
								<b>TOTAL DEMAND LOAD:</b> 301542 VA					
								<b>TOTAL DEMAND CURRENT:</b> 363 A					

BRANCH PANEL: LP2A														
VOLTAGE:		480Y/277		LOCATION:		Electrical Room 120		# BREAKERS:		48				
PHASES:		3		ENCLOSURE:		NEMA 1		MAIN BUS:		400 A				
WIRES:		4		MOUNTING:		Surface		MAIN DEVICE:		MLO				
AIC RATING:		18000		SUPPLY FROM:		DP1		MCB TRIP:		N/A				
NOTES:		EXISTING SQUARE D NF PANEL												
NOTES	#	LOAD NAME	POLES	AMPS	A	B	C	AMPS	POLES	LOAD NAME	#	NOTES		
EX	1	FTU-1209	3	30	4667	3725			20	3	FTU-1207	2	EX	
	3					4667	3333							
	5							5059	3333					
EX	7	FTU-1201	3	20	3725	4667			30	3	FTU-1208	8	EX	
	9					3333	5059							
	11							3333	4667					
EX	13	FTU-1202	3	20	3000	2000			15	1	EW-2	14		
	15					3392	3000		20	1	EBB-1	16		
EX	17	FTU-1203	3	20	3000	15132			20	1	EBB-1	18	EX	
	19						3392	15132						
EX	21	FTU-1204	3	20	2565	2616			100	3	LP2B	20	EX	
	23					2333	2616							
	25							2333	2616					
EX	27	FTU-1205	3	20	3333	3333			20	3	FTU-1206	28	EX	
	29						3725	3333						
EX	31	SPARE	1	20	0	0			20	1	SPARE	32		
	33	SPARE	1	20			0	0	20	1	SPARE	34		
	35	SPARE	1	20				0	0	20	1	SPARE	36	
EX	37	RTU-2	3	150	32132	--			--	3	BLANK	42	EX	
	39						32132	--						
	41													
	43													
	45													
	47													
<b>TOTAL LOAD:</b>					83895 VA	85055 VA	85055 VA	<b>TOTAL CONN. LOAD:</b> 254005 VA						
<b>TOTAL CURRENT:</b>					303 A	308 A	308 A	<b>TOTAL CONN. CURRENT:</b> 306 A						
								<b>TOTAL DEMAND LOAD:</b> 278104 VA						
								<b>TOTAL DEMAND CURRENT:</b> 335 A						

**PANEL SCHEDULE NOTES:**

EX - EXISTING LOAD TO REMAIN

SP - EXISTING LOAD MADE SPARE IN DEMOLITION

RC - EXISTING BREAKER RECIRCUITED TO SERVE NEW LOAD

NB - NEW BREAKER TO SERVE NEW LOAD

GF - GFCI BREAKER

ST - SHUNT TRIP BREAKER