

Maffett Loftis Engineering, LLC

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Addendum No. 1

February 10, 2025 Roaden University Center HVAC Upgrades Tennessee Technological University Cookeville, Putnam County, Tennessee SBC 364/011-03-2023

The following items take precedence over that previously specified for the referenced project.

Revisions and Clarifications to the Drawings or to the Project Manual:

1. Louver schedule has been added to sheet M0.1. See attached.

Information provided at the Pre-Bid Conference:

- 1. During construction, the contractor shall provide a clear path of travel from the kitchen elevator to the storage area in the center of the basement.
- 2. The contractor shall take all necessary precautions to protect the new painted wall south of the building by the areaway near AHU-1.
- 3. The contractor shall be responsible for the relocation of the book shelves as required to install the new Which Which AHU.
- 4. The contractor shall take all necessary precautions to protect the sidewalks and other concrete surfaces while moving equipment during delivery and installation. The contractor shall photograph the existing conditions prior to construction. Any surfaces damaged during construction shall be repaired.

Addendum by:

Justin Newell, PE

Maffett Loftis Engineering, LLC



Attachments:

Pre-Bid Conference Sign-in Sheet Revised Sheet M0.1

Roaden University Center HVAC Upgrades Tennessee Technological University SBC# 364/011-03-2023 Pre-Bid Conference Sign-In Sheet

Wednesday, February 5, 2025, 9:00 a.m.

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STOVE VI	ik che	931-260-3553	stove vech companies, com
JIM COF	3B TTU		
Milve Cor	bett MAD	Electric 931	261-0464 MEORBETT
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WHICH-WICH UNIT SC	HEDULE
SYSTEM	AHU-WW
MANUFACTURER	TRANE
MODEL	BCVE120
NOMINAL CFM	4,000
OUTSIDE AIR CFM	600
EXTERNAL STATIC PRESS.	1.0
VOLTAGE	208/3/60
MINIMUM CIRCUIT AMPS (MCA)	19.75
MAXIMUM OVERCURRENT (MOCP)	35
PRIMARY FILTER	1" MERV 8
SUPPLY FAN	
FAN POWER (HP)	5
EXTERNAL STATIC PRESSURE (IN-H20)	1
TOTAL STATIC PRESSURE (IN-H20)	2.24
COOLING COIL	
ROWS	6
TOTAL COOLING CAPACITY (MBTU/H)	180.28
SENSIBLE COOLING CAPACITY (MBTU/H)	116.79
ENTERING AIR DB / WB (°F)	80.0 / 67.0
LEAVING AIR DB / WB (°F)	53.48 / 52.08
FLUID FLOW RATE (GPM)	31.5
ENTERING FLUID TEMP (°F)	42
LEAVING FLUID TEMP (°F)	54
FLUID PD (FT-H20)	11.7
HEATING COIL	
ROWS	1
TOTAL HEATING CAPACITY (MBTU/H)	194.18
ENTERING AIR DB (°F)	45
LEAVING AIR DB (°F)	89.86
FLUID TYPE	WATER
FLUID FLOW RATE (GPM)	14.94
ENTERING FLUID TEMP (°F)	180
LEAVING FLUID TEMP (°F)	155.3
FLUID PD (FT-H20)	4.7
	00 5 50 00 00
NOMINAL UNIT DIMENSIONS (L"-W"-H")	30.5x58x66.65
NOMINAL OPERATING WEIGHT (LB)	458.7
REMARKS:	

ALTERNATE MANUFACTURERS: YORK, CARRIER, DAIKIN AMBIENT OUTDOOR AIR CONDITIONS - 95°F DB / 78°F WB

2 WAY MODULATING, PRESSURE INDEPENDANT, CHILLED WATER AND HOT WATER CONTROL VALVES PROVIDE FULL VALVE PACKAGE INCLUDING STRAINERS.

UNIONS. AND BUTTERFLY ISOLATION VALVES VIBRATION INSOLATION SPRINGS ON FAN SUPPORT FRAMES SUPPLY FAN VFD

RETURN/RELIEF FAN SCHEDULE

IDENTIFICATION	RF-1A,B	RF-3A,B
TYPE	INLINE DD	INLINE DD
MANUFACTURER	GREENHECK	GREENHECK
MODEL	SQ-33-M2-VG	SQ-33-M2-VG
CFM	15,300	15,300
STATIC PRESSURE	0.5"	0.5"
MOTOR HP / WATTS	7.5 /	7.5 /
VOLTAGE	480/3/60	480/3/60
ACCESSORIES	1,2,3	1,2,3
NOTES:	•	·

NOTES:

1. ALTERNATE MANUFACTURERS: COOK, TWIN CITY FANS

FACTORY MOUNTED DISCONNECT SWITCH BACKDRAFT DAMPER VARIABLE FREQUENCY DRIVE

DDC CONTROL NOTES:

- CONNECT NEW AHUS TO THE EXISTING SCHNIEDER DDC SYSTEM 2. PROVIDE ALL EQUIPMENT, SENSORS, PROGRAMMING, ETC.
- REQUIRED TO MATCH THE EXISTING AHU CONTROL SEQUENCES. 3. ALL NEW VFD SHALL COMMUNICATE WITH THE DDC THROUGH
- BACNET-IP. 4. SEE THE DIRECT DIGITAL CONTROLS SPEC SECTION FOR ADDITIONAL INFORMATION.

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AHU-1 UNIT SCHEDULE			AHU-3 UNIT SCHEDU	
	SYSTEM	AHU-1	SYSTEM	
	MANUFACTURER	TRANE	MANUFACTURER	
	MODEL	CSAA066	MODEL	
	NOMINAL CFM	35,600	NOMINAL CFM	
	MIN OUTSIDE AIR CFM	5,000	MIN OUTSIDE AIR CFM	
	EXTERNAL STATIC PRESS. (IN-H20)	4.5	EXTERNAL STATIC PRESS.	
	VOLTAGE	480/3/60	VOLTAGE	
	MINIMUM CIRCUIT AMPS (MCA)		MINIMUM CIRCUIT AMPS (MCA)	
	MAXIMUM OVERCURRENT (MOCP)		MAXIMUM OVERCURRENT (MOCP)	
	POSITION 1: AIR MIXING SECTION		POSITION 1: AIR MIXING SECTION	
	OUTSIDE AIR DIRECTION	BACK	OUTSIDE AIR DIRECTION	
	RETURN AIR DIRECTION	ТОР	RETURN AIR DIRECTION	
	POSITION 2: FILTER SECTION		POSITION 2: FILTER SECTION	
	PRIMARY FILTER	18" MERV 12	PRIMARY FILTER	
	PREFILTER FILTER	2" MERV 8	PREFILTER FILTER	
	POSITION 3: ACCESS PANEL		POSITION 3: HEATING COIL	
	POSITION 4: SUPPLY FAN		ROWS	
	QUANTITIY	4	TOTAL HEATING CAPACITY (MBTU/H)	
	FAN POWER (HP)	20	ENTERING AIR DB (°F)	
	TOTAL STATIC PRESSURE (IN-H20)	7.88	LEAVING AIR DB (°F)	
	EXTERNAL STATIC PRESSURE (IN-H20)	4.5	FLUID TYPE	
	POSITION 5: ACCESS PANEL		INLET PRESSURE (PSI)	
	POSITION 6: COOLING COIL		PRESSURE DROP (IN-H20)	
	ROWS	6	COIL CONDENSATE (LB/HR)	
	TOTAL COOLING CAPACITY (MBTU/H)	1,246.34	POSITION 4: ACCESS PANEL	
	SENSIBLE COOLING CAPACITY (MBTU/H)	873.65	POSITION 5: COOLING COIL	
	ENTERING AIR DB / WB (°F)	80.4 / 67.2	ROWS	
	LEAVING AIR DB / WB (°F)	55.0 / 54.3	TOTAL COOLING CAPACITY (MBTU/H)	
	POSITION 7: ACCESS PANEL		SENSIBLE COOLING CAPACITY (MBTU/H)	
	POSITION 8: DOUBLE DUCT CONVERSION		ENTERING AIR DB / WB (°F)	
	ROWS	2	LEAVING AIR DB / WB (°F)	
	TOTAL HEATING CAPACITY (MBTU/H)	1,149.57	POSITION 6: SUPPLY FAN	
	ENTERING AIR DB (°F)	60	QUANTITIY	
	LEAVING AIR DB (°F)	100	FAN POWER (HP)	
	FLUID TYPE	WATER	EXTERNAL STATIC PRESSURE (IN-H20)	
	FLUID FLOW RATE (GPM)	114.8	TOTAL STATIC PRESSURE (IN-H20)	
	ENTERING FLUID TEMP (°F)	180		
	LEAVING FLUID TEMP (°F)	160	NOMINAL UNIT DIMENSIONS (L"-W"-H")	
	FLUID PD (FT-H20)	19.7	NOMINAL OPERATING WEIGHT (LB)	
			LARGEST SPLIT DIMENSIONS (L"-W"-H")	
	NOMINAL UNIT DIMENSIONS (L"-W"-H")	268.6x140.5x92.5	LARGEST SPLIT WEIGHT (LB)	
	NOMINAL OPERATING WEIGHT (LB)	10,046		
	LARGEST SPLIT DIMENSIONS (L"-W"-H")	88 5x140 5x92 5	REMARKS.	

LARGEST SPLIT WEIGHT (LB)

LARGEST SPLIT DIMENSIONS (L"-W"-H")

AMBIENT OUTDOOR AIR CONDITIONS - 95°F DB / 78°F WB

88.5x140.5x92.5

0.5

1150

23

15

2 WAY MODULATING, PRESSURE INDEPENDANT, CHILLED WATER AND HOT WATER CONTROL VALVES PROVIDE FULL VALVE PACKAGE INCLUDING STRAINERS, UNIONS, AND BUTTERFLY ISOLATION VALVES VIBRATION INSOLATION SPRINGS ON FAN SUPPORT FRAMES

ALTERNATE MANUFACTURERS: YORK, CARRIER, DAIKIN

SUPPLY FAN VFD THYBAR DOUBLE DUCT CONVERSION KIT

PUMP SCHEDULE IDENTIFICATION P-1 P-2 TYPE **END SUCTION** END SUCTION SERVICE CHILLED WATER HOT WATER MANUFACTURER BELL & GOSSETT | BELL & GOSSET MODEL E-1510 1.25AD-es | E-1510 1.25AD-es IMPELLER SIZE (IN) 5.375 6.875

0.5

1750

30

32

1. COUPLING MUST BE CAPABLE OF BEING REPLACED WITHOUT DISTURBING PUMP/MOTOR ALIGNMENT. COMPLETELY INSULATE PUMPS AND ACCESSORIES.

. ALT. MANUFACTURERS: TACO, ARMSTRONG

MECHANICAL SEALS . TRIPLE DUTY VALVE

SUCTION DIFFUSER

MOTOR POWER (HP)

DUTY POINT RPM

FLOW RATE (GPM)

HEAD (FT H20)

AHU-3 UNIT SCHEDULE AHU-3

YSTEM	AHU-3
ANUFACTURER	TRANE
ODEL	CSAA066
OMINAL CFM	30,045
IN OUTSIDE AIR CFM	2,230
XTERNAL STATIC PRESS.	2"
OLTAGE	480/3/60
INIMUM CIRCUIT AMPS (MCA)	
AXIMUM OVERCURRENT (MOCP)	
OSITION 1: AIR MIXING SECTION	
UTSIDE AIR DIRECTION	BACK
ETURN AIR DIRECTION	TOP
OSITION 2: FILTER SECTION	
RIMARY FILTER	18" MERV 12
REFILTER FILTER	2" MERV 8
OSITION 3: HEATING COIL	
ows	2
OTAL HEATING CAPACITY (MBTU/H)	1466.27
NTERING AIR DB (°F)	45
EAVING AIR DB (°F)	90
UID TYPE	STEAM
LET PRESSURE (PSI)	15
RESSURE DROP (IN-H20)	8.42
OIL CONDENSATE (LB/HR)	1,549
OSITION 4: ACCESS PANEL	
OSITION 5: COOLING COIL	
OWS	6
OTAL COOLING CAPACITY (MBTU/H)	2,479.39
ENSIBLE COOLING CAPACITY (MBTU/H)	1,338.24
NTERING AIR DB / WB (°F)	95 / 78
EAVING AIR DB / WB (°F)	55.0 / 54.7
OSITION 6: SUPPLY FAN	
UANTITIY	4
AN POWER (HP)	10
XTERNAL STATIC PRESSURE (IN-H20)	2
OTAL STATIC PRESSURE (IN-H20)	4.53

REMARKS

OF PROJECT.

TYPE

INTAKE /

EXHAUST AIR

LOUVER

ALTERNATE MANUFACTURERS: YORK, CARRIER, DAIKIN AMBIENT OUTDOOR AIR CONDITIONS - 95°F DB / 78°F WB

2 WAY MODULATING, PRESSURE INDEPENDANT, CHILLED WATER AND STEAM CONTROL VALVES PROVIDE FULL VALVE PACKAGE INCLUDING STRAINERS, UNIONS, AND BUTTERFLY ISOLATION VALVES

VIBRATION INSOLATION SPRINGS ON FAN SUPPORT FRAMES SUPPLY FAN VFD PROVIDE FREE FLOAT BALL STEAM TRAPS. INSTALL TRAPS WITH STRAINER AND THERMOSTATIC AIR VENT. MANUFACTURERS: NICHOLSON, TLV, SPENCE

DESCRIPTION MATERIAL **STANDARDS** REMARKS SCHEDULE 40 ASTM A53, PIPES 2.5" AND LARGER SHALL BE STEEL HOT WATER PIPE AND ASTM B88 CHILLED WATER PIPE BLACK STEEL, PIPES 2" AND SMALLER SHALL BE COPPER TYPE L COPPER EXTERNALLY INSULATED - AEROCELL ELASTOMETRIC LESS THAN 4" - 1" THICK 4" AND ABOVE - 1-1/2" THICK PVC JACKETING INSIDE MECHANICAL ROOM HYDRONIC WROUGHT COPPER ASTM B16.22 FITTINGS 2" AND SMALLER WELDED FORGED ASTM A234/A234M **HYDRONIC** FITTINGS 2.5" AND LARGER SOLDER, LEAD HYDRONIC JOINTS

HYDRONIC MATERIALS SCHEDULE

WELDED

DISC: BRONZE

DISC: BRASS

BODY: CAST IRON

FLANGES CARBON STEEL FACTORY FORGED - USA, ASTM A105 **ANSI B16.5 GASKETS: TEFLON BOLTING MATERIALS: SEMI-FINISHED CARBON STEEL BOLTS AND NUTS ASTM A-307** BALL VALVES **BODY: BRONZE** THREADED ENDS BALL: CHROME SEAT AND RING: TEFLON PLATED BRASS NIBCO MODEL # T585-70 OR EQUAL **BUTTERFLY VALVES** BODY: DUCTILE **ENDS: LUG STYLE** GEAR OPERATED 2.5" AND LARGER NIBCO SERIES 6822 OR EQUAL DISC: ALUMINUM-BRONZE CHECK VALVES **BODY: DUCTILE** NIBCO MODEL # KW-900-W OR EQUAL WAFER STYLE

AWS D1.1

ASTM F1476

HOUSING CLAMPS: DUCTILE IRON

GASKETS: ELASTOMER COMP. TEMPS -30°-230°

BELL AND GOSSETT MODEL CB OR EQUAL

ACCESSORIES: STEEL BOLTS, NUTS, AND WASHERS

205.1x140.5x92.5

9,207

58.5x140.5x92.5

3,146

LOUVER, DIFFUSER AND GRILLE SCHEDULE

ALL CEILING DIFFUSERS AND GRILLES SHALL INCLUDE MOLDED FIBERGLASS BACK PANELS.

INCLUDE MOUNTING FRAMES FOR ALL GRILLES INSTALLED IN GYP. BOARD CEILINGS.

MAIN DUCT OR INTEGRAL DAMPER IN DIFFUSER UNLESS OTHERWISE NOTED.

MANUFACTURER

UNITED ENERTECH,

GREENHECK

DIFFUSER OR GRILLE NECK SIZE TO MATCH OR EXCEED FLEX CONNECTOR SIZE AS NOTED IN THE PLANS.

MODEL

AIR VOLUME TO ALL SUPPLY DIFFUSERS SHALL BE CONTROLLABLE BY EITHER MANUAL DAMPER IN CONNECTOR TO

INCLUDE FILTERS WITH ALL FILTER GRILLES. FILTERS SHALL BE REPLACED WITH NEW AT SUBSTANTIAL COMPLETION

CIRCUIT SETTERS

THERMOSTAT AND

FL-D-4, FABRICATED STATIONARY BLADE LOUVER. 4" X 0.81"

ESD-435 EXTRUDED ALUMINUM BLADES, WITH 1/2" X1/2" ALUMINUM

MESH BIRDSCREEN, FINISH COLOR AS SELECTED BY

CONTROL WIRING

2" AND SMALLER

HYDRONIC JOINTS

2.5" AND LARGER

. ALL METALLIC MATERIALS SHALL BE UL 181 CLASS 0 (NO FLAME SPREAD OR SMOKE DEVELOPMENT) ALL NON-METALLIC MATERIALS SHALL BE UL 181 CLASS 1 (25 FLAME SPREAD AND 50 SMOKE DEVELOPMENT)

PROVIDE AND INSTALL PIPE HANGERS AND SUPPORTS AS REQUIRED PER CODE AND MANUFACTURERS INSTALLATION INSTRUCTIONS PAINT ALL EXPOSED MATERIALS. PAINT TO MATCH ADJACENT SURFACES.

HVAC MATERIALS SCHEDULE				
DESCRIPTION	MATERIAL	STANDARDS	REMARKS	
CONCEALED RECTANGULAR METAL DUCT	24 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 1" WG SEAL - CLASS A EXTERNALLY INSULATED	
EXPOSED RECTANGULAR METAL DUCT	24 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 1" WG SEAL - CLASS A UNINSULATED UNLESS OTHERWISE NOTED	
CONCEALED ROUND METAL DUCT	26 GAUGE MINIMUM GALVANIZED STEEL LONGITUDAL SEAM	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 2" WG SEAL - CLASS A EXTERNALLY INSULATED	
EXPOSED ROUND METAL DUCT	28 GAUGE MINIMUM GALVANIZED STEEL SPIRAL SEAM	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 2" WG SEAL - CLASS A UNINSULATED	
EXTERIOR TO BUILDING RECTANGULAR METAL DUCT	24 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 1" WG SEAL - CLASS A RIGID INSULATION, VENTURE CLAD WEATHER TIGHT WRAP	
FLEXIBLE AIR DUCT	TYPE NM-IL	CLASS 1 ASTM B209	8' MAXIMUM LENGTH INSULATION R-VALUE = R-4.2 WHERE ROUTED WITHIN THERMAL ENVELOPE R-8 WHERE ROUTED OUTSIDE THERMAL ENVELOPE	
FLEXIBLE EXHAUST DUCT	TYPE M-UN CORRUGATED ALUMINUM	CLASS 1	8' MAXIMUM LENGTH UNINSULATED	
DUCT SEALANT	SURE-GRIP 404	ASTM D-2202	GRAY, SOLVENT BASED, SYNTHETIC RUBBER RESIN, SMACNA PRESSURE CLASSES 1/2 - 10" WG SMACNA SEAL CLASSES A, B, C,	
DUCT JOINT TAPE	ECO-DUCT SEAL		3" MINIMUM FOIL FACED	
DUCT INSULATION EXTERNAL WRAP	2" THICK FIBERGLASS BLANKET	ASTM C 553-92 ASTM C 1290	FOIL SCRIM KRAFT FACED, VAPOR SEAL R= 5.6 HR FT ² °F / BTU	
DUCT INSULATION INTERNALLY LINED	1" THICK ELASTOMERIC DUCT LINER	ASTM C 411 ASTM C 1071	R=4.3 HR FT ² °F / BTU CLOSED CELL ELASTOMERIC INSULATION ARMAFLEX OR EQUAL.	

18 GA. SHIELDED

1) ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH NFPA STANDARDS 90A AND 90B AND SMACNA.

COPPER

2) ALL METALLIC MATERIALS SHALL BE UL 181 CLASS 0 (NO FLAME SPREAD OR SMOKE DEVELOPMENT) 3) ALL NON-METALLIC MATERIALS SHALL BE UL 181 CLASS 1 (25 FLAME SPREAD AND 50 SMOKE DEVELÓPMENT) 4) DUCTING NOTED TO BE INTERNALLY INSULATED SHALL NOT REQUIRE EXTERNAL INSULATION

5) ALL DIMENSIONS NOTED ARE INSIDE CLEAR DIMENSIONS. SIZE INTERNALLY LINED DUCTS ACCORDINGLY

- 2. THE CONTRACTOR SHALL BALANCE EACH DUCT SYSTEM AND MAKE ADJUSTMENTS AS NECESSARY SO THAT THE AIR FLOWS ARE CONSISTENT WITH THAT NOTED ON THE PLANS AND WITH THE OVERALL DESIGN INTENT. ADJUSTMENTS SHALL INCLUDE DAMPER
- 4. AIR FLOWS THAT DEVIATE FROM THE DESIGN INTENT MORE THAN 10% SHALL BE HIGHLIGHTED AND BROUGHT TO SPECIAL ATTENTION OF THE DESIGNER FOR FURTHER INVESTIGATION.

GENERAL HVAC NOTES:

- INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CURRENTLY ADOPTED CODES AT THE TIME OF THE PLAN DATE, INCLUDING (BUT NOT LIMITED TO) THE FOLLOWING:
 - IBC INTERNATIONAL BUILDING CODE IFC INTERNATIONAL FIRE CODE IMC INTERNATIONAL MECHANICAL CODE NFPA 90A AIR CONDITIONING AND VENTILATION CODE NFPA 90B AIR CONDITIONING AND VENTILATION CODE SMACNA HVAC DUCT CONSTRUCTION MATERIALS IECC INTERNATIONAL ENERGY CONSERVATION CODE
- HVAC SYSTEM SHALL BE INSTALLED COMPLETE WITH ALL WORK, MATERIALS, AND EQUIPMENT CUSTOMARILY CONSIDERED PART OF SUCH WORK FOR FULLY OPERATIONAL, COMPLETE AND CODE COMPLIANT SYSTEMS. PROVIDE AND INSTALL ALL EQUIPMENT, DUCTING, DAMPERS, DIFFUSERS, LOUVERS, GRILLES, ETC. AS REQUIRED.
- PLANS ARE DIAGRAMMATIC AND ARE PROVIDED ONLY TO SHOW GENERAL SYSTEMS. CONTRACTOR SHALL CONSIDER ACTUAL FIELD CONDITIONS DURING INSTALLATION ANY GROSS INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE CONTINUING.
- PLAN SCALES NOTED, IF ANY, ARE ONLY APPLICABLE TO PLANS PLOTTED AT FULL SIZE. CONTRACTOR IS CAUTIONED WHEN USING PLANS PLOTTED AT REDUCED SIZES. REGARDLESS, CONTRACTOR SHALL NOT SCALE PLANS, BUT SHALL REFER TO NOTED DIMENSIONS. FOR DIMENSIONS NOT NOTED, CONTRACTOR SHALL REFER TO ACTUAL FIELD CONDITIONS AND/OR DIMENSIONED ARCHITECTURAL, STRUCTURAL, OR CIVIL PLANS.
- SUBMITTAL REQUIREMENTS: CONTRACTORS SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL DETAILED PRODUCT INFORMATION ON ALL EQUIPMENT PROPOSED FOR USE. SUBMITTAL SHALL BE PROVIDED AND ENGINEER SHALL REVIEW AND APPROVE. PRIOR TO EQUIPMENT PURCHASE. SUBMITTALS SHALL BE SUBMITTED IN ELECTRONIC (PDF) FORMAT. PRIOR TO SUBMITTAL CONTRACTOR SHALL REVIEW AND CERTIFY BY SIGNATURE THAT SUBMITTED EQUIPMENT MEETS SPECIFICATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS, FITTING, AND CONSTRUCTION FEATURES RELATIVE TO EQUIPMENT. APPROVAL OF SUBMITTAL INFORMATION BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR'S OBLIGATION TO PROVIDE CODE COMPLIANT SYSTEMS
- 6. ALL SERVICEABLE EQUIPMENT, VALVES, UNIONS, FIRE DAMPERS, CONTROLS, ETC. SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- LOCATE AND INSTALL ALL EQUIPMENT CONSIDERING MANUFACTURERS CLEARANCES, MANUFACTURERS INSTALLATION INSTRUCTIONS, AND LISTING AGENCY CERTIFICATIONS.
- 8. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT MANUFACTURERS. COORDINATE WITH ELECTRICAL CONTRACTOR.
- FIRE STOPPING SYSTEM SHALL BE INSTALLED AT ALL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS OR CONSTRUCTION.
- 10. A FIRE DAMPER SHALL BE INSTALLED IN EACH AIR DUCT AS IT PENETRATES FIRE RATED WALLS OR FLOORS.
- 1. PROVIDE AND INSTALL ALL HANGERS AND SUPPORTS PER CODE AND SMACNA RECOMMENDATIONS.
- 12. THERMOSTATS SHALL BE PROGRAMMABLE TYPE COMPATIBLE WITH MECHANICAL EQUIPMENT SERVED.
- 13. ALL DUCT WORK DIMENSIONS SHOWN ARE INSIDE CLEAR. FABRICATE DUCT SO TO MAINTAIN CLEARANCE SPECIFIED. INTERNALLY LINED DUCTS SHALL BE OVERSIZED SO TO ACCOMMODATE THICKNESS OF
- 14. SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL WITH INSULATION AS NOTED ON THE PLANS AND MATERIALS SCHEDULES.
- LOCATE ALL CEILING MOUNTED REGISTERS, GRILLES, DIFFUSERS, FANS, ETC. PER REFLECTED CEILING PLAN. COORDINATE WITH ELECTRICAL AND FINISH CEILING INSTALLATION.
- 16. ALL TRANSVERSE JOINTS TO BE SEALED WITH APPROVED DUCTSEALER.
- 17. TURNS IN DUCTWORK SHALL HAVE 1.5 MINIMUM RADIUS RATIO WHENEVER POSSIBLE, OTHERWISE TURNING VANES SHALL BE INSTALLED WITHIN DUCT.
- 18. EVERY SUPPLY DIFFUSER SHALL BE INDIVIDUALLY CONTROLLED BY A DAMPER PLACED AT THAT DIFFUSER'S SUPPLY DUCT TAKEOFF.
- 19. INSTALL FLEXIBLE VIBRATION ISOLATION DUCT SECTIONS AT BOTH SUPPLY AND RETURN DUCT CONNECTIONS TO THE FURNACE / AIR
- 20. ALL OUTDOOR AIR INTAKE LOUVERS SHALL BE 10'-0" MINIMUM DISTANCE AWAY FROM SEWER OR COMBUSTION EXHAUST VENTS.
- 21. THE PLANS AND SPECIFICATIONS FOR THIS WORK HAVE BEEN PREPARED WITH THE INTENT TO BE AS ACCURATE AND COMPLETE AS PRACTICAL, BUT ERRORS, OMISSIONS, AND CONFLICTS MAY EXIST. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS IN DETAIL. ANY QUESTIONS OR COMMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMITTING A BID. BY SUBMITTING A BID FOR THE WORK, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS REVIEWED THE PLANS AND SPECIFICATIONS, UNDERSTANDS THE DESIGN INTENT, AND DOES NOT HAVE ANY FURTHER QUESTIONS OR COMMENTS.

AIR BALANCE NOTES:

1. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL MEASURE AIR FLOW AT EACH LOUVER, REGISTER, AND GRILLE.

ROUTE REMOTE FROM LINE VOLTAGE WIRING

- SETTINGS AND FAN SPEEDS.
- 3. CONTRACTOR SHALL PRODUCE A RECORD DOCUMENT THAT IDENTIFIES ALL MEASURED AIR FLOWS, FANS SPEEDS, AND DAMPER SETTINGS. TWO COPIES OF THE RECORD DOCUMENT SHALL BE PROVIDED - ONE FOR THE OWNER AND ONE FOR THE DESIGNER.

EXISTING CONDITIONS NOTES:

- 1. SUBSTANTIAL EFFORT HAS BEEN MADE TO IDENTIFY, LOCATE, AND DEPICT IN THE PLANS THE EXISTING CONDITIONS OF THIS PROJECT. REGARDLESS, BOTH EXISTING AND PROPOSED SYSTEMS, EQUIPMENT, AND CONDITIONS SHALL BE CONSIDERED DIAGRAMMATIC. THE CONTRACTOR SHALL CONSIDER THE ACTUAL FIELD CONDITIONS WHEN BIDDING AND PERFORMING THE
- 2. THE CONTRACTOR SHALL FIELD VERIFY BY MEASUREMENT THE EXACT LOCATIONS OF THE EXISTING CONDITIONS THAT MAY AFFECT THE COMPLETION OF THE WORK. COORDINATION BETWEEN EXISTING AND NEW CONDITIONS AND ALL TRADES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL MAKE ADJUSTMENTS TO THE INSTALLATION OF NEW EQUIPMENT AND RELOCATIONS OF EXISTING CONDITIONS AS REQUIRED TO ACCOMPLISH THE DESIGN INTENT. ALL SUCH ITEMS SHALL BE BROUGHT TO THE PRIOR ATTENTION OF THE OWNER AND
- DESIGNER. 4. THE CONTRACTOR SHALL LOCATE ALL NEW EQUIPMENT SO TO AVOID CONFLICTS AND INTERFERENCES. INSTALLATION OF NEW SYSTEMS AND EQUIPMENT SHALL NOT INTERFERE WITH THE ACCESS OR SERVICING OF EXISTING EQUIPMENT.





