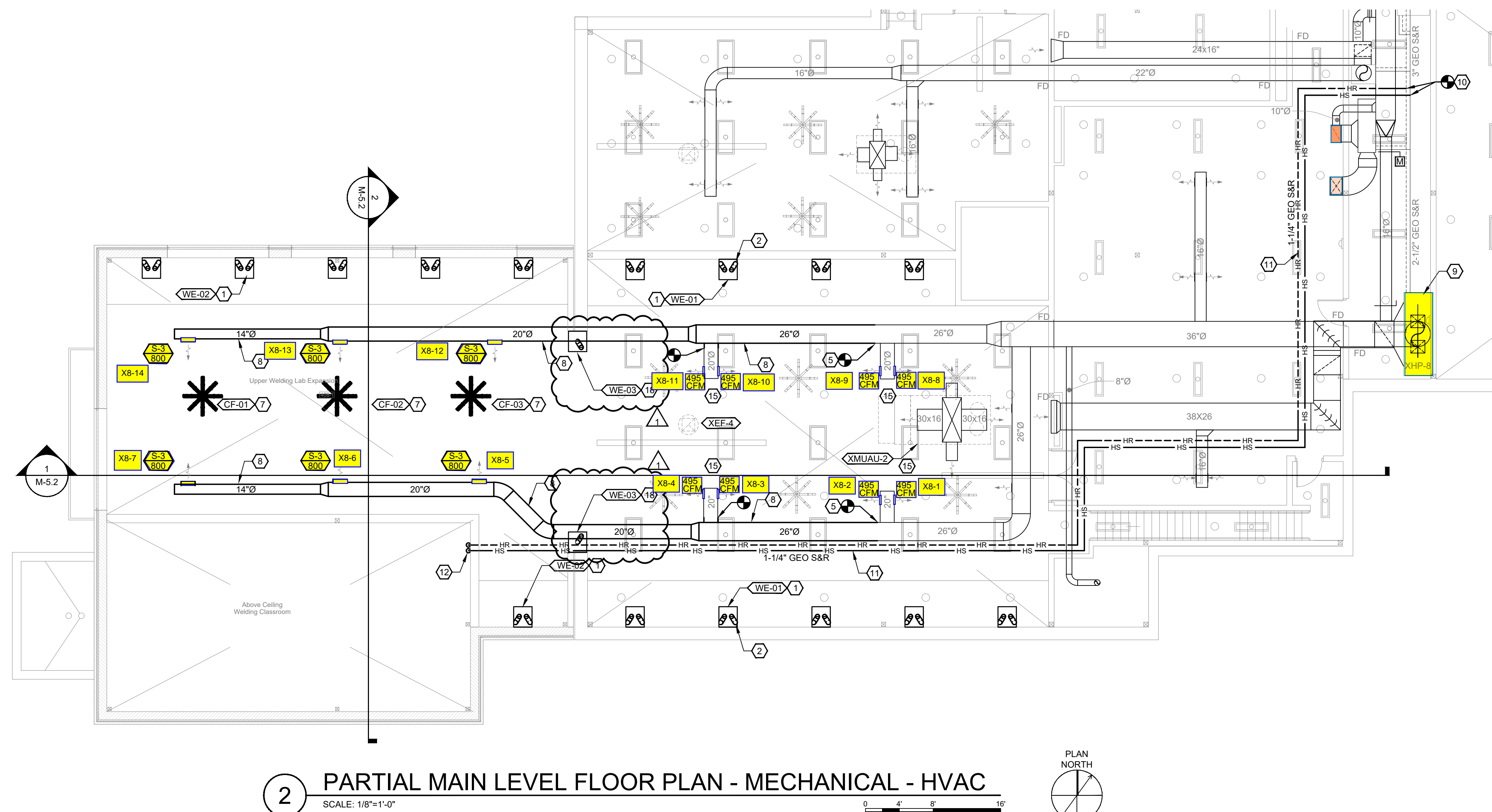


1 PARTIAL LOWER LEVEL FLOOR PLAN - MECHANICAL - HVAC
SCALE: 1/8"=1'-0"



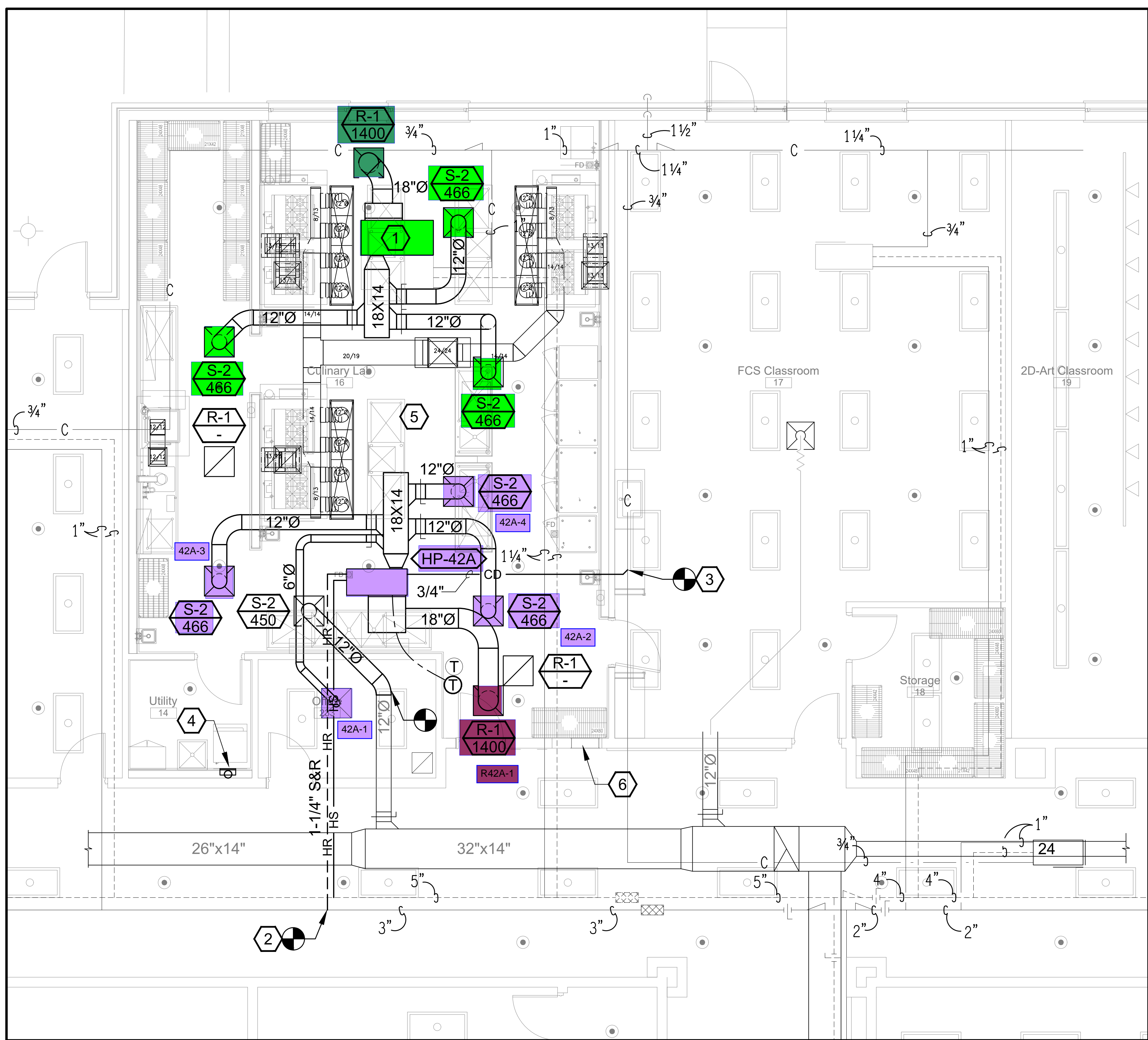
2 PARTIAL MAIN LEVEL FLOOR PLAN - MECHANICAL - HVAC
SCALE: 1/8"=1'-0"

GENERAL NOTES:

A. REFER TO SHEET M0.1 FOR GENERAL NOTES.

SHEET KEYNOTES:

1. WELDING EXHAUST FAN/FILTER UNIT WITH PICK-UP HOSE ASSEMBLIES INTO TWO(2) BOOTHS. MOUNT UNIT ON WALL ABOVE BOOTH (TYPICAL).
2. EXISTING PICK-UP HOSE ASSEMBLY IN EXISTING BOOTH TO BE REUSED (TYPICAL FOR EXISTING BOOTHS).
3. EXISTING BOOTH PICKUP HOSE ASSEMBLY TO BE RE-CONNECTED TO NEW EXHAUST FAN/FILTER UNIT VIA 6" ROUND EXHAUST DUCT (TYPICAL).
4. NEW PICK-UP HOSE ASSEMBLY WITHIN BOOTH CONNECTED TO NEW EXHAUST FAN/FILTER UNIT ABOVE BOOTH VIA 6" ROUND EXHAUST DUCT (TYPICAL).
5. EXTEND NEW SUPPLY AIR DUCTWORK INTO NEW WELDING LAB ADDITION.
6. NEW HVAC UNIT ABOVE CEILING TO SERVE NEW WELDING CLASSROOM. MOUNT BOTTOM OF UNIT 2'-0" ABOVE CEILING.
7. NEW CEILING VENTILATION FAN (TYPICAL). MOUNT TO SAME ELEVATION OF EXISTING FANS WITHIN EXISTING WELDING LAB AREA.
8. NEW SUPPLY AIR DUCTWORK INSTALLED BELOW ROOF STRUCTURE AT SAME ELEVATION AS EXISTING SUPPLY AIR DUCTWORK.
9. EXISTING HEAT PUMP UNIT SERVING WELDING LAB.
10. CONNECT NEW GEOTHERMAL HEAT PUMP SUPPLY AND RETURN PIPING TO EXISTING PIPING.
11. INSTALL PIPING AT BOTTOM OF ROOF STRUCTURE.
12. PIPING DOWN TO HEAT PUMP UNIT ABOVE CLASSROOM. SEE LOWER LEVEL PLAN FOR CONTINUATION. PROVIDE AIR VENT AT TURN DOWN.
13. PIPING UP. SEE MAIN LEVEL PLAN FOR CONTINUATION.
14. MOUNT TOP OF LOUVER 12'-0" AFF.
15. EXISTING DIFFUSERS TO BE RE-BALANCED TO CFM INDICATED.
16. ADJUST LOCATION OF EXISTING CARBON MONOXIDE SENSOR IF REQUIRED DUE TO EXTENTS OF EXISTING WALL DEMOLITION.
17. NEW CARBON MONOXIDE SENSOR MOUNTED 60" AFF. CONNECT SENSOR TO BUILDING AUTOMATION SYSTEM (BAS). SEE TEMPERATURE CONTROL SPECIFICATION FOR ADDITIONAL INFORMATION.
18. WELDING EXHAUST FAN/FILTER UNIT WITH SINGLE 8" ROUND EXTRACTOR PICK-UP HOSE ASSEMBLY. MOUNT UNIT ON WALL.
19. NEW 8" ROUND EXTRACTOR ARM PICK-UP HOSE ASSEMBLY CONNECTED TO NEW EXHAUST FAN/FILTER UNIT.
20. EXISTING WELDING EXHAUST HOOD TO REMAIN. PROVIDE NEW 12" ROUND EXHAUST DUCTWORK FROM HOOD TO NEW EXHAUST FAN/FILTER UNIT.
21. WELDING EXHAUST FAN/FILTER UNIT MOUNTED HORIZONTALLY WITH INLINE FAN. SUPPORT UNIT FROM ROOF STRUCTURE ABOVE.



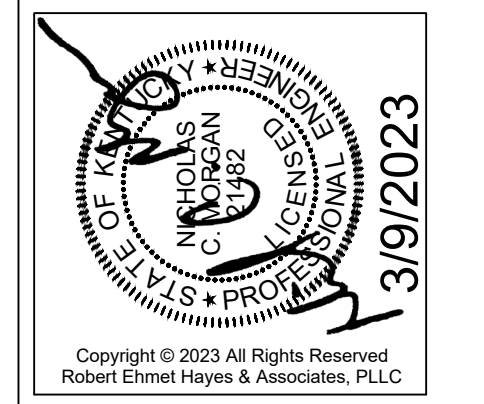
1 PARTIAL MAIN LEVEL FLOOR PLAN - MECHANICAL - HVAC
 SCALE: 1/4"=1'-0" PLAN NORTH

GENERAL NOTES:

A. REFER TO SHEET M0.1 FOR GENERAL NOTES.

SHEET KEYNOTES:

1. RELOCATE EXISTING WATER SOURCE HEAT PUMP UNIT AS REQUIRED FOR PLACEMENT OF ASSOCIATED DUCTWORK AND OTHER DUCTWORK RELATED TO RANGE HOOD VENTILATION SYSTEMS. REWORK EXISTING PIPING TO UNIT AS REQUIRED.
2. CONNECT NEW CONVENTIONAL WATER SOURCE HEAT PUMP PIPING TO EXISTING PIPING ABOVE CEILING.
3. CONNECT NEW CONDENSATE DRAIN PIPING TO EXISTING PIPING ABOVE CEILING.
4. PROVIDE DRYERBOX MODEL DB-425 IN WALL AND 4" ROUND DRYER VENT UP TO ABOVE CEILING. CONNECT VENT PIPING TO EXISTING VENT PIPING THROUGH ROOF. LIMIT AMOUNT OF ELBOWS USED TO TWO.
5. COORDINATE ALL NEW AND EXISTING WORK ABOVE CEILING AS REQUIRED FOR PROPER INSTALLATION OF ALL SYSTEMS. RELOCATE EXISTING MECHANICAL COMPONENTS AS IF/AS REQUIRED.
6. ENLARGE EXISTING 24X18 TRANSFER AIR OPENING ABOVE CEILING TO 36X18.

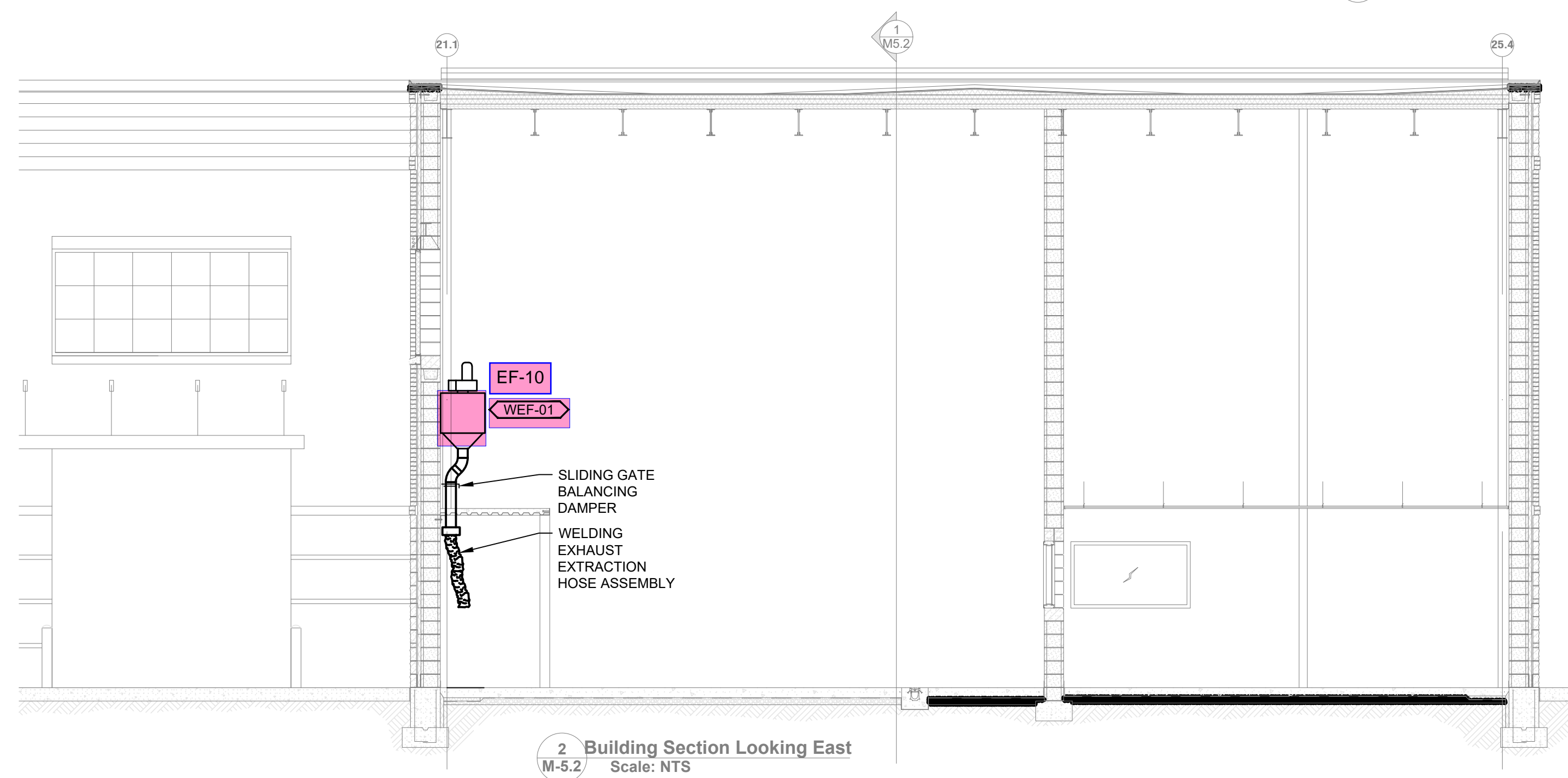
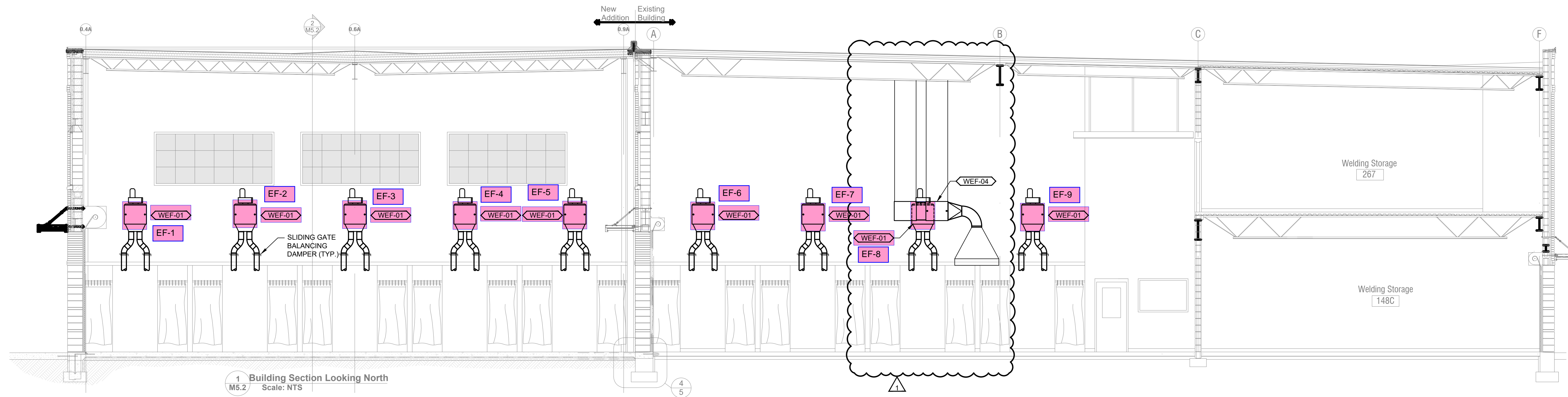


Grant County ATC - Addition and Renovations
 715 Warsaw Road
 Dry Ridge, Kentucky 41035
 Grant County Board of Education
 Mr. Matt Morgan, Superintendent



ADDENDA
SHEET TITLE
PARTIAL MAIN LEVEL FLOOR PLAN - MECHANICAL - HVAC
BG #
23-083
REH #
180-1121-B (NCO)
DATE
3/9/2023

M1.2



MAKE-UP AIR UNIT SCHEDULE (ENERGY RECOVERY)																																				
TAG	MANUFACTURER	MODEL	DX COIL DEHUMIDIFICATION PERFORMANCE				ER WHEEL - DEHUMIDIFICATION				HEATING PERFORMANCE				ER WHEEL - HEATING		ELECTRICAL				REMARKS															
			OUTSIDE AIR	RETURN/EXHAUST AIR	PERCENT OA	ESP	OUTSIDE AIR TEMP		RETURN AIR TEMP		LEAVING AIR TEMP - DX COIL		WHEEL SUPPLY AIR TEMP		OUTSIDE AIR TEMP		RETURN AIR TEMP		UNIT SUPPLY AIR TEMP			WHEEL SUPPLY AIR TEMP		VOLTAGE		SUPPLY FAN MOTOR		EXHAUST FAN MOTOR		COMPRESSOR		UNIT MCA	UNIT MOP			
			CFM	CFM	%	IN. H2O	DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	KW	AMPS	KW	AMPS	LRA	RLA	AMPS	AMPS
MAU-01	UNITED COOLAIR	AAH100G1ASTAS	450	450	100	0.5	95.0	78.0	75.0	63.0	50.0	49.2	79.1	67.2	0.0	-1.0	68.0	53.0	69.8	52.4	55.7	46.1	208/230-1-60		0.4	2.0	0.4	2.0	21.9	3.9	9.3	15.0		ALL		

REMARKS:
1. UNITED COOLAIR IS BASIS OF DESIGN.
2. UNIT TO BE ETL.
3. ENTHALPY ENERGY RECOVERY WHEEL
4. SINGLE PACKAGE - HORIZONTAL
5. ECM FANS - SUPPLY AND EXHAUST
6. SOLID DOUBLE WALL LINER WITH 1" R-8 THERMAL/ACOUSTIC FIBERGLASS INSULATION
7. SUBCOOLING COIL FOR INCREASE EFFICIENCY
8. STAINLESS STEEL DRAIN PANS - EVAPORATOR & CONDENSER
9. BUILT-IN PRESSURE TRANSDUCERS FOR AIRFLOW MEASUREMENT
10. 4" MERV 13 PLEATED THROWAWAY SUPPLY FILTER
11. 2" MERV 8 PLEATED THROWAWAY SUPPLY FILTER
12. QUICK CONNECT REFRIGERANT FITTINGS TO SHIP SPLIT FIELD ASSEMBLED
13. ISOLATED ELECTRICAL CONTROL BOX
14. MICROPROCESSOR WITH BUILT-IN DISPLAY INTERFACE AND BACNET (MS/TP)
15. PREHEAT REQUIRED IN WINTER FOR FROST PREVENTION. WINTER OUTSIDE AIR TEMPERATURE AFTER PREHEAT - 6.5 DB; 4.29 WB.
16. PROVIDE WITH EXTERNAL CONDENSATE PUMP.
17. MODULATING HOT GAS REHEAT
18. COOLING SUPPLY AIR TEMPERATURE AFTER REHEAT - 74.4 DB; 59.0 WB.

WATER-SOURCE HEAT PUMP UNIT SCHEDULE																																		
Mark	Manufacturer	Model	Capacity	Airflow (CFM)	External Static Pressure (inH ₂ O)	Fluid Flow (gpm)	Water PD (ft/hd)	Fluid Type	Cooling										Heating										Electrical		Remarks			
									EWT (°F)	LWT (°F)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	Total (Btu/hr)	Sensible (Btu/hr)	Heat of Rejection (Btu/hr)	EER (Design)	EER (AHR)	EWT (°F)	LWT (°F)	EAT (°F)	LAT (°F)	Total (Btu/hr)	Heat of Absorption (Btu/hr)	COP (Design)	COP (AHR)	Voltage	Compressor RLA	Fan Motor FLA		Total Unit FLA	MCA (A)	Max Fuse
HP-8A	DAIKIN	WGDH030	FULL	1075.00	0.5	7.50	15.02	Water	85.0	94.0	75.0	63.0	58.4	54.5	26093	19315	33573	11.9	15.7	50.0	44.1	68.0	93.2	29434	21944	3.9	3.2	208-230/60/3	8.7	2.8	11.5	13.7	20	1-6
			PART	1000.00	0.5	7.50	14.88	Water	85.0	94.0	75.0	63.0	57.0	53.6	23757	17314	27845	12.4	16.9	50.0	44.5	68.0	93.8	28764	22942	3.6	3.0	208-230/60/3	8.7	2.8	11.5	13.7	20	1-6
HP-42A	DAIKIN	WGDH042	FULL	1400.00	0.5	10.50	15.13	Water	85.0	94.1	75.0	63.0	57.0	53.6	37557	27314	47855	12.4	16.9	50.0	44.5	68.0	93.8	39156	28702	3.3	3.3	208-230/60/3	14.2	5.9	20.1	23.7	35	1-7
			PART	1225.00	0.5	10.50	15.89	Water	80.0	66.4	70.0	59.0	54.6	50.4	28056	20523	33459	17.7	20.5	75.0	69.6	70.0	96.9	35843	28341	3.7	3.7	208-230/60/3	14.2	5.9	20.1	23.7	35	1-7

REMARKS:
1. HORIZONTAL UNIT
2. TWO-STAGE UNIT
3. UNIT MOUNTED DISCONNECT
4. PROVIDE FLEXIBLE DUCT CONNECTIONS
5. UNIT TO HAVE ECM VARIABLE SPEED FAN MOTOR
6. PROVIDE UNIT WITH CONTROL FOR COMPRESSORS, FAN, REVERSING VALVE, AND REFRIGERANT SAFETIES (DDC READY CONTROLS). UNIT TO BE CONTROLLED BY ROOM THERMOSTAT TO BE CONNECTED TO BUILDING AUTOMATION SYSTEM VIA BACNET.
7. TCC TO FURNISH ISOLATION/CONTROL VALVE TO MECHANICAL CONTRACTOR FOR INSTALLATION. TCC TO WIRE VALVE TO THERMOSTAT.
OTHER ACCEPTABLE MANUFACTURERS INCLUDE: TRANE, CLIMATE MASTER, WATER FURNACE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

AIR DEVICE SCHEDULE											
MARK	MANUFACTURER	MODEL	MODULE	NECK	MAX CFM	S.P.	OBD	MAX NC	MOUNTING	COLOR	REMARKS
S-1	PRICE	ASCD	24x24	8" ROUND	275	09"	NO	20	LAY-IN	WHITE	1,2
S-2	PRICE	ASCD	24x24	10" ROUND	300	09"	NO	20	LAY-IN	WHITE	1,2
S-3	PRICE	6200	20X14	18X12	800	05"	YES	20	DUCT	WHITE	4
R-1	PRICE	85	24X24	SEE DRAWINGS	2000	05"	NO	26	LAY-IN	WHITE	1,3

REMARKS:
1. COORDINATE AIR DEVICE LOCATIONS WITH REFLECTED CEILING PLANS PRIOR TO INSTALLATION. LIGHTING HAS PRIORITY OVER HVAC
2. ALUMINUM SQUARE CONE DIFFUSER WITH 4-WAY THROW.
3. 45 DEGREE ANGLED, SIGHT RESISTANT CUBE CORE.
4. ALUMINUM DOUBLE DEFLECTION GRILLE.
OTHER ACCEPTABLE MANUFACTURERS INCLUDE: KRUEGER, TITUS.

LOUVER SCHEDULE											
MARK	MANUFACTURER	MODEL	INTAKE / EXHAUST	SIZE			MAX CFM	PRESSURE DROP (IN)	VELOCITY (FPM)	FREE AREA (SQ FT)	REMARKS
				WIDTH	HEIGHT	DEPTH					
L-01	GREENHECK	ESD-435	EXHAUST	16"	16"	4"	450	0.070	728	0.6	1,2,3
L-02	GREENHECK	ESD-435	INTAKE	16"	16"	4"	450	0.090	728	0.6	1,2,3

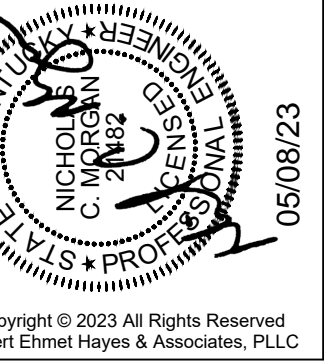
REMARKS:
1. LOUVER COLOR SELECTED BY ARCHITECT
2. COORDINATE ALL LOUVER LOCATIONS WITH ARCHITECT AND ENGINEER PRIOR TO INSTALLATION
3. ALUMINUM CONSTRUCTION; MAXIMUM NC LEVEL 25. PROVIDE WITH BIRD SCREEN.
OTHER ACCEPTABLE MANUFACTURERS INCLUDE: RUSKIN, UNITED ENERTECH. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

CEILING FAN SCHEDULE											
MARK	MANUFACTURER	MODEL	SIZE	RPM	ELECTRICAL				MOUNTING	REMARKS	
					V/Ø/Hz	AMPS	WATTS	MOCP			
CF-01,02,03	DAYTON	IND86MR4LP	56"	320	120/1/60	0.7	85	15	CEILING	ALL	

REMARKS:
1. CONTROL WITH WALL MOUNTED SWITCH TO CONTROL ALL FANS. SEE ELECTRICAL DRAWINGS FOR LOCATION.
2. MOUNT ROOF STRUCTURE.
3. PROVIDE WITH WIRE GUARD - DAYTON MODEL 2JF88
OTHER ACCEPTABLE MANUFACTURERS INCLUDE: CARNES, GREENHECK. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

WELDING EXHAUST SYSTEM FAN/FILTER SCHEDULE											
MARK	MANUFACTURER	FILTER MODEL	FAN MODEL	CFM	ESP (IN H2O)	SONES	DRIVE TYPE	ELECTRICAL			REMARKS
								V/Ø/Hz	HP	MOCP	
WEF-01	CAR-MON	CMX-24-D	CMW-11	1100	3	69	DIRECT	208/3/60	1	15	1,2
WEF-02	CAR-MON	CMX-24-D	CMW-11	1100	3	69	DIRECT	208/3/60	1	15	1,2,3
WEF-03	CAR-MON	CMX-24-D	CMW-11	950	3	69	DIRECT	208/3/60	1	15	1,2,4
WEF-04	CAR-MON	CMX-24-D	GREENHECK BSQ-160HP	1800	3	72	BELT	208/3/60	2	15	1,2,5

REMARKS:
1. PROVIDE ALUMINUM PREFILTER AND HEPA (MERV 16) FINAL FILTER. PROVIDE UNIT WITH EXTRA MERV 16 FILTER.
2. PROVIDE FILTER UNIT WITH DWYER SERIES 200 MAGNETIC AIR FILTER GUAGE.
3. PROVIDE WITH TWO (2) 6" CAR-MON WXT-047 EXTRACTOR ARMS.
4. PROVIDE WITH ONE (1) 8" CAR-MON WXS-100 EXTRACTOR ARM.
5. PROVIDE WITH INLINE FAN AS SPECIFIED. PROVIDE FAN OUTLET WITH WOVEN WIRE MESH PROTECTION COVERING.
OTHER ACCEPTABLE MANUFACTURERS INCLUDE: PLYMOVENT, LINCOLN ELECTRIC. REFER TO SPECS. FOR ADDITIONAL REQMTS.



Grant County ATC - Addition and Renovations
715 Warsaw Road
Dry Ridge, Kentucky 41035
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ADDENDA
ADD #1 - 5/8/2023

SHEET TITLE
SCHEDULES - MECHANICAL

BG #
23-083

REH #
180-1121-B (NCO)

DATE
3/9/2023

M6.1