

GRILLE, REGISTER, AND DIFFUSER SCHEDULE					
PLAN SYMBOL	DESCRIPTION	MANUFACTURER & MODEL NO.	MATERIAL	FINISH	NOISE CRITERIA
CDR-1	SQUARE FACE, ROUND NECK, 4-WAY DEFLECTION CEILING DIFFUSER, SPRING LOCK INNER CORE, FOR LAY-IN CEILING INSTALLATION.	PRICE SCD (4C)	STEEL	WHITE	--
CDR-2	SQUARE FACE, ROUND NECK, 4-WAY DEFLECTION CEILING DIFFUSER, SPRING LOCK INNER CORE, FOR SURFACE MOUNT INSTALLATION.	PRICE SCD (4C)	STEEL	WHITE	--
RG-1	SQUARE PATTERN GRILLE, FIXED CORE OF 1/2"x1/2"x1/2" FABRICATED ALUMINUM SQUARES, FLAT FRAME WITH 1/4" MARGIN, FOR LAY-IN CEILING INSTALLATION.	PRICE 80	ALUMINUM	WHITE	--
NOTES: SEE PLANS FOR QUANTITY AND SIZES. M.C. TO FIELD VERIFY CEILING TYPE FOR ALL GRD BEFORE PURCHASING EQUIPMENT. PROVIDE REQUIRED MOUNTING.					

DUCTWORK/INSULATION SCHEDULE													
SYSTEM	LOW PRESSURE				MED. PRESS.		HIGH PRESS.		INSULATION				NOTES
	MAX. PRES.	SEAL			MAX. PRES.	SEAL A	MAX. PRES.	SEAL A	INTERNAL	THICKNESS	EXTERNAL	THICKNESS	
		A	B	C									
SUPPLY AIR WITHIN 10' OF UNIT	2"	X	-	-	-	-	-	-	YES	1"	NO	-	-
SUPPLY AIR BEYOND 10' OF UNIT	2"	X	-	-	-	-	-	-	NO	-	YES	2" FSK	-
RETURN AIR WITHIN 10' OF UNIT	2"	-	X	-	-	-	-	-	YES	1"	NO	-	-
RETURN AIR BEYOND 10' OF UNIT	2"	-	X	-	-	-	-	-	NO	-	YES	2" FSK	-
OUTSIDE AIR/MIXED AIR	2"	-	X	-	-	-	-	-	NO	-	YES	3" FSK	-
NOTES:													

ROOF HOOD SCHEDULE - BASE DESIGN							
THROAT SIZE DIMENSION (IN)	THROAT AREA (FP)	DAMPER BDD OR MOD	CONSTRUCTION	MANUFACTURER & MODEL NO.	COMMENTS	NOTES	
3	BX24	1.33	MOD	ALUMINUM	GREENHECK FGI	COLOR BY ARCHITECT	1-3
NOTES: M.C. IS RESPONSIBLE FOR PROVIDING ANY AND ALL NECESSARY DIMENSIONAL, ELECTRICAL, MECHANICAL, AND STRUCTURAL ALTERATIONS NECESSITATED BY PROVIDING ALTERNATE EQUIPMENT. 1. M.C. TO PROVIDE ROOF HOOD WITH ALUMINUM BIRDSCREEN. 2. M.C. SHALL PROVIDE ROOF CURB, CURB INSTALLATION BY G.C. 3. M.C. SHALL PROVIDE LOW VOLTAGE MOTORIZED DAMPER.							

GAS FURNACE SCHEDULE - BASE DESIGN																
TYPE	INPUT MBH	OUTPUT MBH	CFM	MIN. F.A.	EXT. S.P.	HEAT EXCH. MTL	BLOWER				PILOT	VENT	FILTER MERV 8 MIN.	MANUFACTURER & MODEL NO.	NOTES	
							SIZE	DRIVE	H.P.	ELEC. CHAR						
1	HORIZ	120	115	1750	350	0.6	ALUMINIZED STL	11X11	DIRECT	1	120/1	HOT S	3"	2" TA	YORK TM9V120D20MP12C	1-4
NOTES: M.C. IS RESPONSIBLE FOR PROVIDING ANY AND ALL NECESSARY DIMENSION, ELECTRICAL, MECHANICAL, AND STRUCTURAL ALTERATIONS NECESSITATED BY PROVIDING ALTERNATE EQUIPMENT. 1. PROVIDE CONCENTRIC VENT. INSTALL PER MANUFACTURER INSTRUCTIONS. MAINTAIN MINIMUM CLEARANCES: 36" BETWEEN VENTS, 10'-0" FROM ANY FRESH AIR INTAKE. 2. PROVIDE CO <sub>2</sub> SENSOR. INSTALLATION BY CONTROLS CONTRACTOR. INTERLOCK CO <sub>2</sub> SENSOR WITH MOTORIZED DAMPER IN OUTSIDE AIR DUCT. 3. PROVIDE FURNACE WITH 2 STAGE HEATING. 4. DUCT SMOKE DETECTOR AND REMOTE TEST STATION PROVIDED BY AND INSTALLED BY E.C. REMOTE TEST STATION TO BE LOCATED IN OCCUPIED SPACE AND CONNECTION TO FIRE ALARM SYSTEM BY E.C. COORDINATE WITH E.C.																

CONDENSING UNIT SCHEDULE - BASE DESIGN														
NOMINAL TONNAGE	ELEC. CHAR	MCA	MOCP	S.E.E.R	WEIGHT (LBS)	MANUFACTURER & MODEL NO.	EVAPORATOR UNIT				MANUFACTURER & MODEL NO.	NOTES		
							CFM	MAX S.P.	BLOWER MOTOR	ELEC. CHAR				
1	5	240/1	31.4	50	19	295	YORK YXT60B21S	1750	0.3	-	SEE FURNACE SCHEDULE	-	YORK XAFD60JBCN1	1-7
NOTES: M.C. IS RESPONSIBLE FOR PROVIDING ANY AND ALL NECESSARY DIMENSIONAL, ELECTRICAL, MECHANICAL, AND STRUCTURAL ALTERATIONS NECESSITATED BY PROVIDING ALTERNATE EQUIPMENT. 1. E.C. TO PROVIDE AND INSTALL POWER DISCONNECT FOR UNIT. COORDINATE WITH M.C. 2. M.C. TO INCLUDE PRE-CHARGED LINE KIT. INSULATE SUCTION LINE. 3. TWO STAGE COOLING. 4. FOR LINE LENGTH EXCEEDING 50', M.C. MUST PROVIDE FACTORY DESIGNED AND FACTORY OR FIELD FABRICATED REFRIGERANT PIPING. 5. MOUNT UNITS ON CONDENSING UNIT SUPPORTS RE: 10/M501 FOR MORE INFORMATION. 6. INSULATE SUCTION LINE WITH 5/8" AP ARMAFLEX INSULATION OR EQUAL. SEAL ALL JOINTS WATER TIGHT TO PREVENT CONDENSATE IN THE CEILING. 7. PROVIDE UNIT WITH HAIL GUARD.														

GENERAL MECHANICAL NOTES	
1. ALL WORK SHALL BE IN COMPLIANCE WITH STATE AND LOCAL CODES.	14. DUCT MATERIAL SHALL BE GALVANIZED OR ALUMINUM CONSTRUCTION IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARD 2005 FOR THE PRESSURE AND SEAL CLASS LISTED IN DUCTWORK/INSULATION SCHEDULE.
2. THE CONTRACTOR SHALL PAY FOR ALL FEES, PERMITS, LICENSES, ETC., NECESSARY FOR PROPER COMPLETION OF THE WORK.	15. DUCT SIZES LISTED ON PLANS ARE THE REQUIRED CLEAR INTERIOR DIMENSIONS.
3. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.	16. SUPPLY AND RETURN BRANCH DUCTS MAY BE INSULATED FLEX DUCT IF THE RUN IS LESS THAN 5 FEET IN LENGTH. ANY LENGTHS OVER 5 FEET SHALL BE RIGID DUCTWORK. DUCT SHALL BE THE SAME SIZE AS THE LISTED DIFFUSER THROAT UNLESS NOTED OTHERWISE.
4. VERIFY ALL EXISTING CONDITIONS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN CONTRACT DRAWINGS AND ACTUAL CONDITIONS.	17. PROVIDE VOLUME CONTROL DAMPERS WHERE INDICATED AND AT ALL TAKEOFFS, BOTH SUPPLY AND RETURN SYSTEMS, AND MAJOR DUCT RUNS. DAMPERS SHALL BE FACTORY-FABRICATED WITH ZINC-PLATED, DIE-CAST CONTROL HARDWARE. CONTROL HARDWARE SHALL INCLUDE HEAVY GAUGE DIAL AND HANDLE WITH ELEVATED PLATFORM FOR INSULATED DUCT MOUNTING.
5. EXISTING UTILITIES TO BE ABANDONED SHALL BE PROPERLY DISCONNECTED AND CAPPED AS REQUIRED BY CODE OR LOCAL ORDINANCE.	18. PROVIDE TURNING VANES IN ALL RECTANGULAR ELBOWS CONFORMING TO SMACNA DUCT CONSTRUCTION STANDARD 2005 FIG. 4-2 TYPE RE-3 WITH STANDARD RADIUS. WHERE SPACE PERMITS, PROVIDE RADIUS ELBOWS IN ACCORDANCE WITH FIGURES 4-2, TYPE RE-1.
6. THESE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. ADDITIONAL DATA SHALL BE FROM THE ENGINEER THROUGH WRITTEN CLARIFICATION ONLY. VERIFY ALL EXISTING CONDITIONS, ELEVATIONS, AND DIMENSIONS BEFORE PROCEEDING WITH ANY PORTION OF ANY WORK. THE CONTRACTOR SHALL PROVIDE ALL OFFSETS AND TRANSITIONS REQUIRED TO MEET EXISTING CONDITIONS.	19. ALL RECTANGULAR MAIN TO RECTANGULAR BRANCH CONNECTIONS, BOTH CONVERGING AND DIVERGING CONFIGURATIONS, SHALL HAVE A 45 DEG. ENTRY TAP CONSTRUCTED IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARD 2005 FIG. 4-6.
7. THE CONTRACTOR SHALL PERFORM WORK IN A SKILLED AND PROFESSIONAL MANNER.	20. DIFFUSER PATTERN 4-WAY UNLESS OTHERWISE INDICATED. PROVIDE FIBERGLASS DUCT INSULATION WITH VAPOR BARRIER AS SCHEDULED UNLESS NOTED OTHERWISE.
8. ALL CONTRACTORS ARE RESPONSIBLE TO FIELD COORDINATE WORK SCHEDULE WITH OWNER REPRESENTATIVE.	21. MECHANICAL CONTRACTOR TO REPAIR ANY DAMAGE DONE TO THE FIRE PROOFING WHILE INSTALLING THE MECHANICAL TRADES. SEAL ALL PENETRATIONS THROUGH RATED STRUCTURES WITH UL LISTED FIRE SEAL DESIGNED FOR THE SPECIFIED APPLICATION.
9. THE CONTRACTOR SHALL WORK AND COORDINATE WITH THE OTHER TRADES.	22. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
10. ALL EQUIPMENT SHALL BE NEW AND IN UNDAMAGED CONDITION. ANY EQUIPMENT FOUND DEFECTIVE SHALL BE IMMEDIATELY REMOVED FROM THE PROJECT.	23. THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OR AS OTHERWISE REQUIRED IN THE SPECIFICATIONS.
11. PROVIDE 3 COPIES OF AN OPERATION AND MAINTENANCE MANUAL FOR ALL MAJOR EQUIPMENT INCLUDING SERVICE. MAJOR EQUIPMENT INCLUDES BUT IS NOT LIMITED TO COILS, FANS, AND CONTROL WIRING DIAGRAMS. EACH PIECE OF EQUIPMENT SHALL STATE THE CONTRACT DATE AND THE NAME, ADDRESS AND PHONE NUMBER FOR THE PRIME CONTRACTOR, SUBCONTRACTOR PERFORMING THE INSTALLATION, AND THE LOCAL VENDOR FOR SPARE PARTS. THE MANUALS SHALL CONTAIN MAINTENANCE INSTRUCTIONS REQUIRED FOR THE INSTALLED EQUIPMENT. MANUALS SHALL BE BOUND IN A THREE RING HARD COVER BINDER. O & M MANUALS SHALL BE SUBMITTED TO THE OWNER PRIOR TO FINAL WALK THROUGH OF THE PROJECT.	24. MECHANICAL CONTRACTOR TO INCLUDE THE TEST AND BALANCE, AND ANY PERMIT FEES IN THEIR BID.
12. PROVIDE 8 HOURS OF OWNER TRAINING FOR THE INSTALLED EQUIPMENT. TRAINING SHALL BE HELD ONLY AFTER ALL OF THE EQUIPMENT IS INSTALLED AND PROPER OPERATION IS VERIFIED.	25. MECHANICAL CONTRACTOR SHALL VERIFY ALL ROOFTOP EQUIPMENT WEIGHTS, SIZES, LOCATIONS AND OPENINGS REQUIRED AND SHALL COORDINATE ANY CHANGES WITH THE ARCHITECT.
13. CONTRACTOR SHALL SUBMIT A CERTIFIED REPORT INDICATING SYSTEM PERFORMANCE INCLUDING, BUT NOT LIMITED TO, VOLTAGE AND AMPERAGE MEASUREMENTS OF ALL EQUIPMENT GREATER THAN 1/3 H.P. WATER BALANCE MEASUREMENTS OF EACH COIL AND PUMP. AIR BALANCE MEASUREMENTS OF OUTSIDE AIR DELIVERY, AIR HANDLING UNIT SUPPLY, SUPPLY DIFFUSERS, EXHAUST AND RETURN GRILLES. AIR BALANCE SHALL BE WITHIN 10% OF DESIGN CONDITIONS. THE REPORT CERTIFICATION SHALL BE AS FOLLOWS:  I (name) of (company) CERTIFY THAT ALL MEASUREMENTS, FIGURES AND STATEMENTS INDICATED IN THIS REPORT WERE TAKEN BY ME OR UNDER MY SUPERVISION AND ARE ACCURATE AS OF (date). DESIGN FLOWS WERE BASED UPON PLANS DATED (xx/xx/xx).	26. UPON PROJECT COMPLETION, RECORD (AS-BUILT) DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE BUILDING OWNER. ALL CHANGES MADE TO EQUIPMENT, DUCTWORK, AND GENERAL DESIGN SHALL BE NOTED ON THE DRAWINGS. PROVIDE IN PDF FORMAT OR PRINTED SET AT THE OWNER'S REQUEST.

ABBREVIATIONS	
A AMP	IN INCH
ADD ADDENDUM	LAT LEAVING AIR TEMPERATURE
ADJ ADJUSTABLE	LB POUND
AFF ABOVE FINISH FLOOR	LWT LEAVING WATER TEMPERATURE
AHU AIR HANDLER UNIT	MAX MAXIMUM
AI ANALOG INPUT	MBH 1000 BTU PER HOUR
ALT ALTERNATE	MC MECHANICAL CONTRACTOR
AD ANALOG OUTPUT	MCA MINIMUM CIRCUIT AMPS
APPRX APPROXIMATE	MECH MECHANICAL
ARCH ARCHITECT, ARCHITECTURAL	MIN MINIMUM
BDD BACK DRAFT DAMPER	MFR MANUFACTURER
BLDG BUILDING	NTS NOT TO SCALE
BTUH BRITISH THERMAL UNIT PER HOUR	OA OUTSIDE AIR
C CENTER	OC ON CENTER
CD CEILING DIFFUSER	P PUMP
CFM CUBIC FEET PER MINUTE	PC PLUMBING CONTRACTOR
CO CLEAN OUT	PLBG PLUMBING
COND CONDENSATE	PSI POUNDS PER SQUARE INCH
CONT CONTINUOUS	QTY QUANTITY
COP COEFFICIENT OF PERFORMANCE	RA RETURN AIR
DB DRY BULB	REQD REQUIRED
DET DETAIL	REV REVERSE OR REVISION
DG DOOR GRILLE	RG RETURN AIR GRILLE
DI DIGITAL INPUT	RPM REVOLUTIONS PER MINUTE
DIA OR Ø DIAMETER	RTU ROOF TOP UNIT
DIM DIMENSION	SA SUPPLY AIR
DN DOWN	SOFT SQUARE FEET
DO DIGITAL OUTPUT	SG SUPPLY GRILLE
DWG DRAWING	SP STATIC PRESSURE
EA EXHAUST AIR	SPEC SPECIFICATIONS
EAT ENTERING AIR TEMPERATURE	SS STAINLESS STEEL
EC ELECTRICAL CONTRACTOR	T&B TEST AND BALANCE
EER ENERGY EFFICIENCY RATIO	TEMP TEMPERATURE OR TEMPORARY
EF EXHAUST FAN	TG TRANSFER GRILLE
EG EXHAUST GRILLE	TYP TYPICAL
ELEC ELECTRICAL	V VOLT
ERV ENERGY RECOVERY VENTILATOR	VAR VARIABLE OR VARIES
ESP EXTERNAL STATIC PRESSURE	VEL VELOCITY
EWT ENTERING WATER TEMPERATURE	VFD VARIABLE FREQUENCY DRIVE
EXIST EXISTING	VTR VENT THRU ROOF
FA FRESH AIR	W/ WITH
FFM FEET PER MINUTE	W/IN WITHIN
FT FOOT (FEET)	W/O WITH OUT
GA GAUGE/GAGE	WB WET BULB
GALV GALVANIZED	WC WATER COLUMN (INCHES OF)
GC GENERAL CONTRACTOR	WT WEIGHT
GPM GALLONS PER MINUTE	
GYP GYPSUM	
HORIZ HORIZONTAL	
HP HORSEPOWER	
HT HEIGHT	
I/O INPUT/OUTPUT	

MECHANICAL HVAC LEGEND		
EXHAUST AIR DUCT (DOWN)		EXHAUST AIR DUCT (UP)
RETURN AIR DUCT (DOWN)		RETURN AIR DUCT (UP)
OUTSIDE OR SUPPLY AIR DUCT (DOWN)		OUTSIDE OR SUPPLY AIR DUCT (UP)
DUCT SIZE		NEW DUCTWORK
FLEX DUCT		EXISTING DUCTWORK
DEMOLITION LINETYPE		SUPPLY AIR CEILING DIFFUSER
RETURN AIR GRILLE		EXHAUST AIR GRILLE
DIFFUSER, GRILLE, AND REGISTER CALL-OUTS		SCHEDULED EQUIPMENT TAG
MANUAL BALANCING DAMPER		PIPE PENETRATION THROUGH FIRE RATED WALL
FIRE DAMPER		SMOKE DAMPER
MOTORIZED DAMPER		FIRE/SMOKE DAMPER
THERMOSTAT		HUMIDISTAT
REMOTE SENSOR		CARBON DIOXIDE SENSOR
DUCT SMOKE DETECTOR		

MECHANICAL SHEET INDEX	
M000	MECHANICAL LEGEND, NOTES, AND SCHEDULES
M101	MECHANICAL DUCTWORK PLAN
M201	MECHANICAL ROOF PLAN
M501	MECHANICAL DETAILS
M601	MECHANICAL SCHEDULE

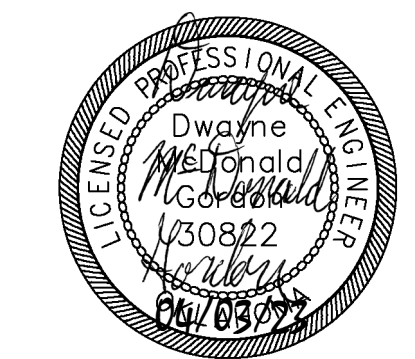
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KFC ENGINEERING

STRUCTURAL

SALAS O'BRIEN

MECHANICAL / ELECTRICAL



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APRIL 2023

date

revisions

MOORE PUBLIC SCHOOLS  
BOARD OF EDUCATION  
MOORE, OKLAHOMA



OFFICE  
ADDITION -  
SOUTHGATE  
ELEMENTARY SCHOOL

sheet no:

M000



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Salas O'Brien Registration: CA# 7058  
Expiration Date: 6/30/2023  
Salas O'Brien Project Number: 2023-01140-00

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