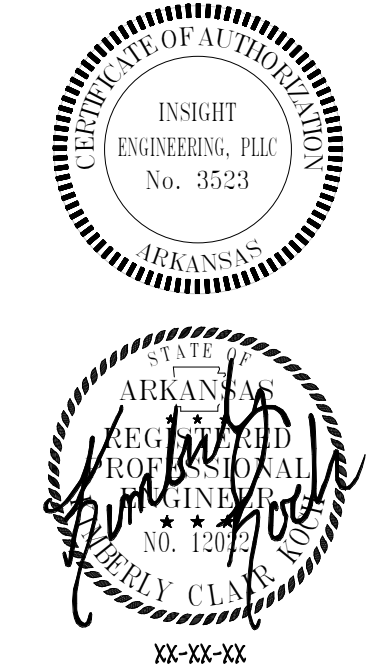




MECHANICAL GENERAL NOTES

- ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE A HARD SUSPENDED CEILING.
- THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS.
- ACCESS PANELS IN HARD SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. COORDINATE LOCATION OF PANELS WITH MECHANICAL INSTALLATION AND DEMONSTRATE ACCESS TO EQUIPMENT SERVED.
- TOTAL STATIC PRESSURE NOTES IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC. LOSS FOR FILTERS SHALL BE FOR FILTERS AT 50% LOADING.
- ALL DUCT AND PIPE ROUTING AND CONSTRUCTION SHOWN ON THE DRAWINGS IS DIAGRAMMATIC IN NATURE AND MAY NOT BE SHOWN IN EXACT LOCATIONS OR WITH ALL ANGLARY ITEMS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. CONTRACTOR SHALL COORDINATE ROUTING OF ALL DUCTWORK AND PIPING PER TYPICAL CONSTRUCTION PRACTICE IN THE MOST EFFICIENT WAY POSSIBLE WHILE ADHERING AS CLOSELY TO THE DRAWINGS AS POSSIBLE.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL INSTALLATION WITH THE WORK OF OTHER TRADES. FIELD MODIFICATIONS SUCH AS OFFSETS IN PIPING OR DUCTWORK NEEDED DUE TO OBSTRUCTIONS OR INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST.
- ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER WITHIN STANDARD OF CARE FOR PROFESSION. ALL LABOR, MATERIAL, TOOLS, PERMITS, INSPECTIONS, TESTING, CERTIFICATION, ETC. REQUIRED FOR A COMPLETE AND SATISFACTORY INSTALLATION TO DESIGN INTENT SHALL BE FURNISHED BY CONTRACTOR. PROVIDE ALL INCIDENTAL ITEMS NOT SPECIFICALLY SHOWN BUT NORMALLY REQUIRED FOR A COMPLETE AND OPERATING INSTALLATION AT NO ADDITIONAL COST.
- DRAWINGS NOT BEARING THE STAMP OR SEAL AND SIGNATURE OF A REGISTERED PROFESSIONAL ENGINEER SHALL NOT BE USED FOR BIDDING OR CONSTRUCTION PURPOSES UNLESS EXPRESSLY APPROVED IN WRITING BY THE ARCHITECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL DRAWINGS AND SPECIFICATIONS BEING USED FOR BIDDING AND CONSTRUCTION PURPOSES ARE OF THE LATEST REVISION AVAILABLE AND ALL ADDENDUM DOCUMENTS HAVE BEEN INCORPORATED EITHER BY REVISION RELEASE OF DRAWINGS/SPECIFICATIONS OR ATTACHMENT OF SKETCHES OR OTHER ADDENDUM INFORMATION.
- THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW PRODUCTS OF ESTABLISHED AND REPUTABLE MANUFACTURERS. NO EQUIPMENT SUBSTITUTIONS SHALL BE MADE THAT WOULD LEAVE INADEQUATE OPERATING OR SERVICE SPACE. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES AND IN AN ARRANGEMENT THAT WILL GIVE THE GREATEST PRACTICAL EASE OF OPERATION AND SERVICE TO THE OWNER.
- ALL EQUIPMENT WHICH IS INDICATED TO BE FURNISHED AND/OR INSTALLED BY OTHERS OR BY OWNER IS INCLUDED FOR REFERENCE ONLY UNLESS NOTED OTHERWISE. DESIGN OF MECHANICAL SYSTEMS IN THESE AREAS IS BASED ON INFORMATION AVAILABLE AT THE TIME OF DESIGN. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND VERIFYING INSTALLATION REQUIREMENTS OF THIS EQUIPMENT WITH THE APPLICABLE SUPPLIER OR THE OWNER. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
- ACCESS PANELS IN DUCTWORK AND CEILINGS SHALL BE PROVIDED WHERE REQUIRED FOR OPERATION, BALANCING OR MAINTENANCE OF ALL MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE CONVENIENTLY LOCATED WITH REFERENCE TO THE FINISHED BUILDING. COORDINATE LOCATION OF ACCESS PANELS WITH ARCHITECT.
- DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARD.
- COORDINATE DIFFUSER, GRILLE AND REGISTER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND EQUIPMENT OF ALL TRADES.
- VERIFY FINISH WITH ARCHITECT PRIOR TO PURCHASING GRILLES, REGISTERS, DIFFUSERS, LOUVERS AND OTHER AIR DISTRIBUTION DEVICES.
- LOCATE THERMOSTATS AT 48" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE LOCATIONS WITH OTHER EQUIPMENT, FURNITURE, AND DOOR SWINGS.
- ALL EQUIPMENT, DUCTWORK, ETC. SHALL BE SUPPORTED AS DETAILED AND/OR SPECIFIED. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO PROVIDE A VIBRATION-FREE, RIGID INSTALLATION.
- DUCTWORK DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.
- DAMPERS AND INSIDES OF DUCTS VISIBLE THROUGH GRILLES, REGISTERS AND DIFFUSERS SHALL BE PAINTED FLAT BLACK.
- PROVIDE AND INSTALL SMOOTH TURN RADIUS ELBOWS IN ALL RECTANGULAR 90° ELBOWS AND TEES, UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL PROVIDE ALL AUTOMATIC TEMPERATURE CONTROLS INCLUDING WIRING, THERMOSTATS AND ALL MISCELLANEOUS APPURTENANCES TO MEET THE INTENT OF THESE DOCUMENTS. THE EXISTING BAS IS KMC.
- PENETRATIONS OF WALLS OR FLOORS FOR THE PASSAGE OF PIPING, DUCTWORK, OR OTHER EQUIPMENT SHALL BE PROPERLY SEALED AFTER INSTALLATION OF ITEMS AND EQUIPMENT.
- PIPING, DUCTWORK, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO ELECTRICAL SWITCHBOARDS, PANELBOARDS, DISTRIBUTION BOARDS, OR MOTOR CONTROL CENTERS SHALL NOT BE INSTALLED WITHIN THE REQUIRED SPACE FOR WORKING CLEARANCES OR DEDICATED SPACES OF THE ELECTRICAL EQUIPMENT. EXTENDING IN FRONT OF AND FROM FLOOR TO STRUCTURAL CEILING WITH A WIDTH AND DEPTH OF THE ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC-110.26.

MECHANICAL LEGEND

ABBREVIATIONS			
AFF	ABOVE FINISHED FLOOR	ESP	EXTERNAL STATIC PRESSURE
AFG	ABOVE FINISHED GRADE	EWT	ENTERING WATER TEMPERATURE
AH/AHU	AIR HANDLING UNIT	FD	FLOOR DRAIN
BHP	BRAKE HORSEPOWER	FLA	FULL LOAD AMPS
BTU	BRITISH THERMAL UNIT	FPF	FEET PER INCH
CFM	CUBIC FEET PER MINUTE	FPF	FEET PER FOOT
CO	CLEAN OUT	FTM	FEET PER MINUTE
CO ₂	CARBON DIOXIDE	GPM	GALLONS PER MINUTE
CV	CONSTANT VOLUME	IPLV	INTEGRATED PART LOAD VALUE
DB	DRY BULB TEMPERATURE (°F)	KW	KILOWATT
DDC	DIRECT DIGITAL CONTROLS	LAT	LEAVING AIR TEMPERATURE
DG	DOOR GRILLE	LB	POUNDS
DN	DOWN	LRA	LOCKED ROTOR AMPS
DX	DIRECT EXPANSION	LWT	LEAVING WATER TEMPERATURE
EA	EXHAUST AIR	MBH	THOUSAND BTU/H PER HOUR
EAT	ENTERING AIR TEMPERATURE	MCA	MINIMUM CIRCUIT AMPS
ECM	ELECT. COMMUTATED MOTOR	MOP	MAXIMUM OVER CURRENT PROTECTION
EER	ENERGY EFFICIENCY RATION	NC	NORMALLY CLOSED
NO	NORMALLY OPEN	NTS	NOT TO SCALE
OA/OSA	OUTSIDE AIR	PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE	PSIG	POUNDS PER SQUARE INCH
PIT	PRESSURE/TEMPERATURE PORT	PVC	POLYVINYL CHLORIDE
RA	RETURN AIR	RH	RELATIVE HUMIDITY
RLA	RUNNING LOAD AMPS	RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR	SF	SQUARE FEET
SP	STATIC PRESSURE	VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB TEMPERATURE (°F)		

ANNOTATION			
	THERMOSTAT		POINT OF CONNECTION TO EXISTING
	HUMIDISTAT		POINT OF DEMOLITION
			REVISION DELTA
			SINGLE LINE CONTINUATION
			AIR FLOW ARROW
			FLOW ARROW
	GRILLE DESIGNATION (GRILLE SCHEDULE DESIGNATION / CFM AIRFLOW)		

EQUIPMENT			
	EQUIPMENT		EXISTING EQUIPMENT TO REMAIN
	← EQUIPMENT TAG		← EQUIPMENT TAG
			EXISTING EQUIPMENT TO BE DEMOLISHED
			← EQUIPMENT TAG

DUCTWORK			
	SQUARE DUCT TAG (WIDTH x HEIGHT)		STREAMLINE CONNECTION (RECT. TO ROUND)
	ROUND DUCT TAG (DIAMETER)		STREAMLINE CONNECTION (RECT. TO RECT.)
	OVAL DUCT TAG (WIDTH / HEIGHT)		STREAMLINE CONNECTION WITH MANUAL VOLUME DAMPER (RECT. TO ROUND)
	SUPPLY AIR DUCTWORK		CONCENTRIC REDUCER (30° OR LESS)
	OUTSIDE AIR DUCTWORK		ECCENTRIC REDUCER (30° OR LESS)
	RETURN AIR DUCTWORK		RECT. AND/OR ROUND DUCT 90° 1X RADIUS
	EXHAUST AIR DUCTWORK		RECT. AND/OR ROUND DUCT 90° 1.5X RADIUS
	EXISTING DUCTWORK TO REMAIN		RECT. AND/OR ROUND DUCT 45° 1X RADIUS
	EXISTING DUCTWORK TO BE DEMOLISHED		RECT. ELBOW (WITH TURNING VANES)
	DUCT ELEVATION CHANGE (RISE) (ARROW FOLLOWS AIRFLOW DIRECTION)		RECT. ELBOW (WITHOUT TURNING VANES)
	DUCT ELEVATION CHANGE (FALL) (ARROW FOLLOWS AIRFLOW DIRECTION)		RECT. DUCT UP / RECT. DUCT DOWN
	SUPPLY FLEXIBLE DUCT		ROUND DUCT UP / ROUND DUCT DOWN
	MANUAL BALANCING DAMPER		

AIR DEVICES			
	SUPPLY DIFFUSER		SUPPLY SIDE WALL GRILLE
	RETURN GRILLE		RETURN SIDE WALL GRILLE
	EXHAUST GRILLE		EXHAUST SIDE WALL GRILLE
	EXISTING DIFFUSER TO REMAIN		
	EXISTING DIFFUSER TO BE DEMOLISHED		

PIPING			
	CONDENSATE DRAIN OR DRAIN PIPING		ELBOW, TURNED UP
	NATURAL GAS PIPING		ELBOW, TURNED DOWN
	REFRIGERANT PIPING (SUCTION & LIQUID)		RISE OR DROP IN PIPE
	EXISTING PIPING TO REMAIN		TEE, SIDE CONNECTION
	EXISTING PIPING TO BE DEMOLISHED		TEE, OUTLET UP
			TEE, OUTLET DOWN
			CAPPED OUTLET
			CAPPED PIPE
			BALL VALVE
			GATE VALVE
			BUTTERFLY VALVE
			CHECK VALVE
			STRAINER W/ DRAIN VALVE
			UNION
			CONTROL VALVE (2-WAY) ELECTRIC
			CONTROL VALVE (3-WAY) ELECTRIC