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MECHANICAL LEGEND	
☒ SUPPLY DUCT UP	— PIPING DOWN
☒ SUPPLY DUCT DOWN	○ PIPING UP
☒ RETURN DUCT UP	⌋ TURNING VANES
☒ RETURN DUCT DOWN	— VOLUME DAMPER
☒ FIRE DAMPER	— C CONDENSATE DRAIN
☒ SMOKE DAMPER	☒ M— MOTORIZED DAMPER
☒ COMB. FIRE/SMOKE DAMPER	— BACKDRAFT DAMPER
☒ BACKDRAFT DAMPER	Ⓐ REMOTE ANNUNCIATOR
☒ SMOKE DETECTOR	Ⓢ REMOTE TEMP. SENSOR
☒ SPIN-IN WITH VOLUME DAMPER	Ⓣ THERMOSTAT
☒ 45° RETURN DUCT TAP WITH VOL. DAMPER	~ FLEX DUCT
☒ DIFFUSER	— LINEAR DIFFUSER WITH FLEX CONNECTION
☒ DIFFUSER WITH FLEX CONNECTION	○ ROUND DUCT UP
☒ GRILLE/REGISTER	○ ROUND DUCT DOWN
☒ SIDEWALL GRILLE/ REGISTER/ DIFFUSER	— REDUCER
☒ CONNECT TO EXISTING	⊕ EXTENT OF DEMOLITION

**SEQUENCE OF OPERATION**

A. PROVIDE STAND ALONE OR APPLICATION SPECIFIC CONTROLLER AS REQUIRED TO PERFORM THE FOLLOWING SEQUENCES OF OPERATIONS.

B. **PACKAGED ROOFTOP UNITS**

- UNIT SHALL CONSIST OF SUPPLY AIR FAN, FLEX, DX COOLING COIL, GAS-FIRED HEAT SECTION, AND A 7-DAY PROGRAMMABLE THERMOSTAT.
- PROVIDE AN OVERRIDE SWITCH TO OPERATE THE UNIT DURING UNOCCUPIED HOURS. THIS SWITCH SHALL BE PART OF THE PROGRAMMABLE THERMOSTAT. OVERRIDE SWITCH ALLOWS THE UNIT TO OPERATE FOR TWO HOURS (ADJUSTABLE).
- OCCUPIED MODE: BASED ON THE ROOFTOP UNITS HOURS OF OCCUPANCY, START THE UNIT AT THE BEGINNING OF OCCUPANCY AND SHUT DOWN THE UNIT AT THE END OF OCCUPANCY (NOTE: OUTSIDE AIR DAMPER WITHIN THE RTU SHALL OPEN AND THEN THE RTU SHALL START). THE UNIT SHALL START EARLY AS DETERMINED BY THE PROGRAM FOR EARLY WARM-UP OR COOL DOWN ON A SYSTEM STARTUP. THE RTU FAN SHALL START AND RUN CONTINUOUSLY AND THE INITIAL FACTORY CONTROL SHALL BE ENABLED. BASED ON THE SPACE TEMPERATURE SENSOR, THE UNIT SHALL CYCLE THE HEATING/COOLING TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.
  - ECONOMIZER MODE: WHEN ENTHALPY OF OA IS BELOW 28 BTU/LB, ECONOMIZER MODE SHALL BE ENABLED. ECONOMIZER MODE SHALL LINEARLY MODULATE OUTDOOR AIR CFM FROM MINIMUM OA CFM TO 100% BASED ON ENTHALPY READINGS.
- UNOCCUPIED MODE: THE RTU INTERNAL OA DAMPERS SHALL REMAINED CLOSED WHEN THE BUILDING IS NOT OCCUPIED. THE RTU SHALL STOP HEATING/COOLING AND THE FAN SHALL STOP. IF THE SPACE TEMPERATURE FALLS BELOW 60 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND HEAT UNTIL THE SPACE TEMPERATURE IS 64 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN. IF THE SPACE TEMPERATURE RISES ABOVE 85 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND COOL UNTIL THE SPACE TEMPERATURE IS 80 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN.
- UPON DETECTION OF SMOKE BY UNIT SMOKE DETECTOR THE RTU SHALL SHUT DOWN AND AN ALARM SHALL BE SENT TO THE RESPECTIVE LOCAL REMOTE ANNUNCIATORS.

C. **KITCHEN HOOD EXHAUST FAN (EF-1)**

- THE KITCHEN HOOD EXHAUST FAN SHALL BE ENABLED WHEN ANY COOKING APPLIANCE LOCATED UNDER THE HOOD IS IN USE.

D. **EF-2**

- EXHAUST FAN SHALL RUN WHEN THE BUILDING IS OCCUPIED. EC TO WIRE THROUGH KITCHEN LIGHT SWITCH.

E. **ANSUL SYSTEM ACTIVATION**

- UPON ACTIVATION OF ANSUL SYSTEM, SHUT DOWN RTU-1 AND RTU-2. PROVIDE RELAYS CONTACTS, INTERLOCKS, TRANSFORMERS AND ALL ASSOCIATED WIRING TO ACCOMPLISH SEQUENCE. MECHANICAL CONTRACTOR SHALL INTERLOCK RTU-1 AND RTU-2 TO ALSO SHUT DOWN.

**GENERAL NOTES:**

- ALL WORK TO BE PERFORMED TO MEET ALL STATE, CITY & LOCAL CODE REQUIREMENTS.
- ALL DUCTWORK TO BE CONSTRUCTED OF GALVANIZED METAL ACCORDING TO SMACMNA STANDARDS.
- ALL WALL PATCHING TO BE BY THE GENERAL CONTRACTOR.
- HVAC CONTRACTOR IS TO COORDINATE WITH OTHER TRADES BEFORE INSTALLING DUCTWORK. IF THE HVAC CONTRACTOR FAILS TO COORDINATE WITH OTHER TRADES AND THE WORK MUST BE ALTERED THE HVAC CONTRACTOR WILL CHANGE IT AT HIS OWN EXPENSE.
- ONCE THE SYSTEM IS COMPLETE AND ALL CEILING TILES ARE INSTALLED THE SYSTEM FILTER SHALL BE CHANGED AND THE AIR SIDE SHALL BE BALANCED. SUBMIT ELECTRONIC COPY OF BALANCE REPORT TO ENGINEER FOR REVIEW.
- COORDINATE THE EXACT LOCATION OF ALL GRILLES, REGISTERS & DIFFUSERS WITH ARCHITECTURAL REFLECTED CEILING PLAN. ALSO COORDINATE MOUNTING HEIGHTS OF FIXTURES.
- HVAC CONTRACTOR IS TO VISIT THE SITE PRIOR TO SUBMITTING A BID & INCLUDE IN THE BID ANY ITEMS NECESSARY FOR A COMPLETE & OPERATIONAL SYSTEM.
- PROVIDE TURNING VANES AT ALL 90° CHANGES IN DIRECTION.
- DRAWINGS ARE SCHEMATIC IN NATURE. HVAC CONTRACTOR TO INCLUDE ANY ITEMS REQUIRED FOR A COMPLETE & OPERATIONAL SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
- HVAC CONTRACTOR TO FINISH ALL PERMITS REQUIRED FOR HIS PORTION OF THE WORK.
- HVAC CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR CONCERNING ELECTRICAL REQUIREMENTS BEFORE ORDERING ANY EQUIPMENT.
- FLEXIBLE DUCT SHALL BE WIREMOLD TYPE WGC, 1-1/2" INSULATION & RATED AT 10" W.C WITH A MAXIMUM LENGTH OF 5'

**ABBREVIATIONS**

(D)	DEMOLITION	FPI	FINS PER INCH
(E)	EXISTING	GTC	GENERAL TRADES CONTRACTOR
(F)	FUTURE	ID	INNER DIAMETER
(R)	(RELOCATE)	LAT	LEAVING AIR TEMPERATURE
AAV	AUTOMATIC AIR VENT	LWT	LEAVING WATER TEMPERATURE
AFF	ABOVE FINISHED FLOOR	MFR	MANUFACTURER
AMB	AMBIENT	N/A	NOT APPLICABLE
APD	AIR PRESSURE DROP	NC	NORMALLY CLOSED
BAS	BUILDING AUTOMATIC SYSTEM	NO	NORMALLY OPEN
BDD	BACKDRAFT DAMPER	NTS	NOT TO SCALE
BFP	BACKFLOW PREVENTER	OA	OUTSIDE AIR
BLDG	BUILDING	OD	OUTSIDE DIAMETER
BOB	BOTTOM OF BEAM	PD	PRESSURE DROP
BOD	BOTTOM OF DUCT	PRV	PRESSURE REDUCING VALVE
BOP	BOTTOM OF PIPE	RA	RETURN AIR
BOS	BOTTOM OF STRUCTURE	REL	RELIEF AIR
CL	CENTER LINE	SA	SUPPLY AIR
CO	CLEAN OUT	SCC	SENSIBLE COOLING CAPACITY
DB	DRY BULB	SP	STATIC PRESSURE
DIA	DIAMETER	TCP	TEMPERATURE CONTROL PANEL
DN	DOWN	TSP	TOTAL STATIC PRESSURE
EA	EXHAUST AIR	TYP	TYPICAL
EAT	ENTERING AIR TEMPERATURE	UNO	UNLESS NOTED OTHERWISE
EFF	EFFICIENCY	VFD	VARIABLE FREQUENCY DRIVE
EG	ETHYLENE GLYCOL	WB	WET BULB
ESP	EXTERNAL STATIC PRESSURE	WG	WATER GAUGE
EWI	ENTERING WATER TEMPERATURE	WPD	WATER PRESSURE DROP
EXH	EXHAUST		

**DRAWING INDEX**

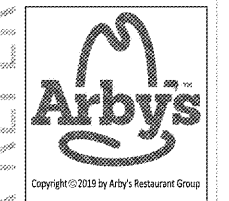
M0.0	GENERAL INFORMATION - MECHANICAL
M1.1	FLOOR PLAN - MECHANICAL
M3.1	ROOF PLAN - MECHANICAL
M5.1	SCHEDULES & DETAILS - MECHANICAL
M7.1	SPECIFICATIONS - MECHANICAL
M7.2	SPECIFICATIONS - MECHANICAL

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GENERAL INFORMATION  
MECHANICAL

SHEET:  
**M0.0**

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