



HVAC PLAN

SCALE: 1/4" = 1'-0"

MECHANICAL LEGEND

- Supply Duct
- Return or Exhaust Duct
- Manual Balance Damper
- Round Duct
- Transition from Square or Rectangular to Round
- Square Elbow with Turning Vanes
- Balance Damper
- Ceiling Diffuser
- Cubic Feet Per Minute
- Each
- Exhaust Register
- Exhaust Fan
- Exhaust
- Ductwork, Size in Inches, First Dimension is Side Shown
- Heating and Cooling Thermostat
- Ceiling Diffuser
- Return/Exhaust Grille
- Point of Connection to Existing
- Fire Damper
- Not to Scale
- Outside Air
- Return Air
- Return Grille
- Thermostat
- Typical

GENERAL NOTES

- A. REFER TO ARCHITECTURAL GENERAL NOTES FOR COORDINATION PURPOSES. PROVIDE COMPLETE, INTENSIVE AND ACCURATE COORDINATION WITH ALL OTHER BUILDING TRADES.
- B. MECHANICAL DRAWINGS SHALL BE ACCOMPANIED BY ALL OTHER TRADE DRAWINGS & SPECIFICATIONS AND SHALL BE CONSIDERED IN WHOLE FOR BIDDING, ROUGH-IN, INSTALLATION AND CONNECTIONS. THE MECHANICAL CONTRACTOR SHALL REVIEW ALL OTHER CONTRACT DOCUMENTS FOR NOTATIONS AND COMMENTS THAT PERTAIN TO THE MECHANICAL ASPECTS OF THE PROJECT.
- C. IN GENERAL, ALL DUCTWORK SHALL BE ROUTED AS HIGH AS POSSIBLE. COORDINATE AREAS WHERE DUCTS CROSS EACH OTHER. COORDINATE FINAL LOCATION OF ALL DUCTWORK, PIPING & AIR DEVICES WITH FINAL LIGHT FIXTURE, CEILING GRID, ETC. LAYOUT PRIOR TO FABRICATION & INSTALLATION.
- D. COORDINATE EXACT LOCATION OF AIR DEVICES WITH REFLECTED CEILING PLAN, LIGHTING LAYOUT AND EXISTING CONDITIONS.
- E. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE KENTUCKY MECHANICAL CODE, NATIONAL FIRE CODES OF THE NFPA AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION.
- F. THE MECHANICAL EQUIPMENT SHALL COMPLY WITH ALL APPLICABLE PORTIONS OF THE KENTUCKY MECHANICAL CODE 301.2 AND THE CURRENT ASHRAE ENERGY STANDARD.
- G. ALL FIELD INSTALLED POWER AND CONTROL WIRING FOR ALL MECHANICAL APPLIANCES AND EQUIPMENT SHALL BE IN ACCORDANCE WITH NFPA 70 AND THE NATIONAL ELECTRICAL CODE.
- H. MAINTAIN MINIMUM DISTANCE BETWEEN OUTSIDE AIR INTAKES AND ANY HAZARDOUS OR NOXIOUS CONTAMINATED AIR PER SECTION M401.4.1 KBC-MC.
- I. FLEXIBLE DUCT SHALL BE FACTORY FABRICATED UL 181, CLASS 1 AIR DUCT AS MANUFACTURED BY CLEVAFLEX, OR EQUAL, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

MECHANICAL SPECIFICATIONS

- A. THE SCOPE OF WORK DESCRIBED IN THESE SPECIFICATIONS AND/OR INDICATED ON THE DRAWINGS SHALL INCLUDE (EXCEPT WHERE OTHERWISE NOTED) THE FURNISHING OF ALL MATERIALS, EQUIPMENT, APPURTENANCES, ACCESSORIES, CONNECTIONS, LABOR, ETC. REQUIRED AND/OR NECESSARY TO FOR A COMPLETE, INSTALLATION, CLEAN, INSPECT, ADJUST, TEST, BALANCE AND LEAVE IN SAFE AND PROPER OPERATING CONDITION ALL MECHANICAL SYSTEMS. ALL MECHANICAL WORK SHALL BE ACCOMPLISHED BY WORKMEN SKILLED IN THE VARIOUS TRADES INVOLVED.
- B. ALL MECHANICAL WORK SHALL CONFORM TO ALL ORDINANCES AND REGULATIONS OF THE LOCAL CODES AND/OR OTHER AUTHORITIES HAVING JURISDICTION.
- C. CONTRACTOR SHALL OBTAIN ALL PERMITS AND INSPECTIONS REQUIRED FOR THE INSTALLATION OF THIS WORK. CONTRACTOR SHALL SUBMIT PLANS TO LOCAL BUILDING AUTHORITIES FOR APPLICABLE PERMITS AND INSPECTIONS. CONTRACTOR SHALL PAY ALL FEES FOR PERMITS AND INSPECTIONS. PERFORM ALL TESTS, ADJUSTMENTS, ETC. AS REQUIRED BY EQUIPMENT MANUFACTURER OR AUTHORITIES HAVING JURISDICTION. HE SHALL DELIVER TO THE OWNERS' REPRESENTATIVE ALL CERTIFICATES OF SAID INSPECTION.
- D. CONTRACTORS SHALL VISIT SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS AS MAY EFFECT HIS OWN WORK. NO EXTRAS WILL BE ALLOWED FOR EXISTING CONDITIONS.
- E. ALL EQUIPMENT, MATERIALS, ACCESSORIES, ETC. USED AS PART OF THE MECHANICAL WORK SHALL BE NEW, OF THE BEST GRADE AND QUALITY AND OF CURRENT PRODUCTION, UNLESS SPECIFIED OTHERWISE. EQUIPMENT NOT SPECIFIED IN THE CONTRACT DOCUMENTS SHALL BE SUITABLE FOR THE INTENDED USE AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
- F. FOR PURPOSES OF CLEARNESS AND LEGIBILITY, DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC ALTHOUGH SIZE AND LOCATION OF EQUIPMENT ARE SHOWN TO SCALE WHEREVER POSSIBLE.
- G. ANY DISCREPANCIES OR EXISTING CONDITIONS DISCOVERED DURING CONSTRUCTION THAT PROHIBIT THE SUCCESSFUL COMPLETION OF WORK INDICATED ON THIS PLAN MUST BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY.
- H. DUCTWORK TO BE GALVANIZED, FABRICATED AND INSTALLED PER SMACNA. DUCTWORK SHALL BE CONSTRUCTED WITH A MINIMUM THICKNESS AS SPECIFIED IN SMACNA HVAC, "DUCT CONSTRUCTION STANDARD - METAL AND FLEXIBLE". ALL DUCTWORK SHALL BE SEALED. SEALING COMPOUND SHALL BE WATER-BASE ADHESIVE SEALANT DESIGNED FOR USE IN ALL PRESSURE CLASSES. SEALANT SHALL BE UV-RESISTANT, CONFORM TO ASTA E84, BE UL 723 LISTED AND MEET REQUIREMENTS NFPA REQUIREMENTS. ALL CONCEALED SUPPLY AND RETURN DUCT SHALL BE INSULATED W/ OWENS CORNING FIBERGLASS ALL SERVICE WRAP, 1 1/2" THICK, .75 LB. DENSITY WITH FSK JACKET, .002 THICK REINFORCED ALUMINUM FOIL VAPOR BARRIER, THE FIRST 15' OF SUPPLY AND RETURN AIR DUCT AND EXHAUST DUCT FROM THE FAN SHALL BE LINED W/ 1" INTERIOR, 3# DENSITY DUCT LINER PER DETAIL. WHERE DUCT IS LINED, EXTERIOR INSULATION SHALL BE OMITTED.
- I. DUCT DIMENSIONS INDICATE SHEETMETAL DIMENSIONS. VERIFY EXACT ROUTING OF ALL DUCTWORK WITH EXISTING CONDITIONS AND MAINTAIN CLEAR INSIDE DIMENSIONS.
- J. FLEXIBLE DUCT SHALL BE FACTORY FABRICATED UL 181, CLASS 1 AIR DUCT, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. MAXIMUM FLEXIBLE DUCT LENGTH LIMITED TO (7) FEET.
- K. HOOD EXHAUST DUCT FOR TYPE II HOODS (NON-GREASE) SHALL BE SHEET METAL DUCTWORK, FABRICATED OF GALVANIZED STEEL AND INSTALLED IN ACCORDANCE WITH SMACNA AND THE BUILDING AND MECHANICAL CODES. DUCTWORK SHALL HAVE CONTINUOUS LIQUID TIGHT JOINTS.
- L. FIRE DAMPERS SHALL BE RUSKIN IBD 22 RATED 1 1/2 HOUR, U.L. FIRE DAMPERS TO MEET ALL INSPECTION REQUIREMENTS WITH THE BLADE STACK OUT OF THE AIRSTREAM SHALL BE AT ALL PENETRATIONS THROUGH FIRE RATED WALLS. ALL FIRE DAMPERS SHALL BE OF THE "DYNAMIC" TYPE AS CLASSIFIED IN U.L. STANDARD 555.C. DAMPERS SHALL BE FACTORY BUILT CURTAIN TYPE. THEY SHALL CONFORM TO THE REQUIREMENTS OF NFPA STANDARD 90 AND BE U.L. LABELED FOR THE REQUIRED RATING 1-1/2 HOURS MINIMUM. ALL DAMPERS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S U.L. APPROVED INSTALLATION.
- M. PROVIDE AIR DEVICES PER AIR DEVICE SCHEDULE ON THE DRAWINGS. AIR DEVICES ARE EXISTING UNLESS OTHERWISE NOTED.
- N. COORDINATE EXACT LOCATION OF AIR DEVICES WITH REFLECTED CEILING PLAN, LIGHTING LAYOUT AND EXISTING CONDITIONS. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR COORDINATION DETAILS AS THEY MAY EFFECT HIS WORK.
- M. HVAC CONTRACTOR TO PROVIDE ALL LOW VOLTAGE TEMPERATURE CONTROL WIRING
- O. THE HVAC CONTRACTOR SHALL TEST, ADJUST, AND BALANCE SUPPLY, RETURN & OUTSIDE AIR AND VERIFY TEMPERATURE CONTROL SYSTEM OPERATION.
- P. ALL HVAC WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OR OWNER OCCUPANCY, WHICHEVER COMES FIRST. THIS WARRANTY SHALL APPLY TO ALL EQUIPMENT, MATERIALS AND WORKMANSHIP. DURING THE WARRANTY PERIOD, ALL DEFECTS IN HVAC SYSTEMS SHALL BE CORRECTED IN AN ACCEPTABLE MANNER, CONSISTENT WITH THE QUALITY OF MATERIALS AND WORKMANSHIP OF ORIGINAL CONSTRUCTION, AT NO EXPENSE TO THE OWNER.

VENTILATION AIR SCHEDULE

ROOM NAME	OCCUPANCY CLASSIFICATION	AREA SQ FT A _Z	OCCUPANT DENSITY PEOPLE/1000 SQ FT	NUMBER OF OCCUPANTS P _Z	CFM PER OCCUPANT R _P	O.A./SQ. FT. R _A	ZONE AIR DISTRIBUTION EFFECTIVENESS E _Z	O.A. REQ'D FOR ROOM (CFM/PERSON X # PERSONS + CFM/SQ. FT. X AREA) ZONE AIR DISTRIBUTION EFFECTIVENESS	REQUIRED OA CFM	ACTUAL OA CFM	ACTUAL SA CFM	REQUIRED EA CFM	ACTUAL EA CFM	TRANSFER AIR CFM	NOTES
VESTIBULE 100	ENTRY	45	10/1000	1	5	.06	.8	(5 X 1 + .06 X 45)/.8 = 10	10	50	200				1
SEATING AREA 101	DINING	289	70/1000	20	7.5	.18	.8	(7.5 X 20 + .18 X 289)/.8 = 249	249	250	1000				1
SALES AREA 102	SALES	256	15/1000	4	7.5	.12	.8	(7.5 X 4 + .12 X 252)/.8 = 75	75	150	600				1
SERVICE AREA 103	SALES	324	15/1000	5	7.5	.12	.8	(7.5 X 5 + .12 X 324)/.8 = 95	95	200	800				1
DRIVE THRU 104	SALES	31	15/1000	1	7.5	.12	.8	(7.5 X 1 + .12 X 31)/.8 = 14	14	76	400				1
KITCHEN 105	KITCHEN	380								228	1200	266	525		1
BACK KITCHEN 106	KITCHEN	323								209	1100	226	450		1
OFFICE 107	OFFICE	42	5/1000	1	5	.06	.8	(5 X 1 + .06 X 42)/.8 = 9	9	19	100				1
MEN'S RESTROOM 108	RESTROOM	52								15	80	70	96	16	1
WOMEN'S RESTROOM 109	RESTROOM	52								15	80	70	96	16	1

NOTES:
1. OUTSIDE AIR CALCULATIONS BASED ON SECTION 403, 2017 KBC-MC.

ROOFTOP UNIT SCHEDULE

TAG	MANUFACTURER & MODEL #	NOM TONS	SA CFM	ESP IN. WG	MINIMUM O.A. CFM	COOL TOTAL-BTU	COOL SENSIBLE-BTU	STAGES	HEAT-BTU (NPLUT)	EER	VOLT/PHASE/HZ	MCA	MOCF	WEIGHT	ACCESSORIES
RTU/1	CARRIER #48HCE007	6	2400	.75	600	74,700	56,800	2	125,000	12.0	208/3/60	34.0	50	961	1 THRU 13
RTU/2	CARRIER #48HCE008	7 1/2	2960	.75	570	93,300	72,200	2	180,000	12.0	208/3/60	41.0	50	1122	1 THRU 13

- ACCESSORIES:
1. ECONOMIZER W/ BAROMETRIC RELIEF
 2. 2- STAGE COOLING
 3. HUMIDIFIER
 4. SMOKE DETECTOR
 5. DISCONNECT SWITCH W/ UNPOWERED GFC RECEPTACLE
 6. AUTOMATIC CHANGEOVER PROGRAMMABLE THERMOSTAT W/ REMOTE SENSOR
 7. CONDENSATE DRAIN 2" DEEP VENTED TRAP DISCHARGE TO GRADE
 8. VFD SUPPLY FAN
 9. 5 YEAR COMPRESSOR WARRANTY
 10. 14" HIGH INSULATED ROOF CURB
 11. CABINET W/ 1/2" FIBERGLASS INSULATION
 12. ANTI SHORT CYCLE TIMER
 13. 2" THROWAWAY FILTERS (MERV 8)

EXHAUST FAN SCHEDULE

TAG #	SERVICE	MFR. & MODEL #	TYPE	CFM	RPM	S.P. IN. W.C.	VOLT/PH/HZ	HP	INTERLOCKED WITH	ACCESSORIES
EF/1	JUST BAKED OVENS HOOD	CAPTIVE-AIRE #DU12FHA	ROOF FAN	450	1500	.50	120/1/60	1/4	HOOD CONTROL	1,2,3,4,5,6,7,8
EF/2	SANDWICH STATION HOOD	CAPTIVE-AIRE #DU33FHA	ROOF FAN	525	850	.50	120/1/60	1/3	HOOD CONTROL	1,2,3,4,5,6,7,8
EF/3	RESTROOMS	GREENHECK #SP-A110	CEILING VENTILATOR	96	950	.125	120/1/60	FRAC	LIGHTS	1,4,6,8

- ACCESSORIES:
1. BIRD SCREEN
 2. WEATHER PROOF DISCONNECT
 3. VARIABLE SPEED CONTROL
 4. SPEED CONTROL SWITCH
 5. THERMAL OVERLOAD PROTECTION
 6. GRAVITY BACKDRAFT DAMPER
 7. ROOF CURB
 8. AMCA SEAL & UL CERTIFIED

dunkin' brands
SM

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DATE	SCALE	AS NOTED	DRAWN	RCF	CKD	APPD
09/12/2022						

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HVAC PLAN, SPECIFICATIONS & SCHEDULES

PC 364390

M-1.0