

MECHANICAL GENERAL NOTES

BASIC MECHANICAL REQUIREMENTS

- Furnish all labor and materials and perform all operations necessary for the installation of complete and functioning new and existing mechanical systems, as specified and as required by code.
- Contractor shall be responsible for verifying operation of all existing equipment and systems to remain. Contractor shall provide new or repair existing systems or equipment that are missing or malfunctioning to comply with note #1 above.
- Install all mechanical equipment and appurtenances in accordance with manufacturers' recommendations and written instructions, contract documents, and applicable codes and regulations.
- Coordinate and order the progress of mechanical work to conform to the Owner's schedule and the progress of the work of the other trades.
- Coordinate all equipment connections with manufacturers' certified drawings and/or documents. Coordinate and provide all duct and piping transitions required for final equipment connections to furnished equipment. Field verify and coordinate all duct and piping dimensions before fabrication.
- Apply for and pay for all permits, fees, licenses and inspections for this Division of work.
- Comply with state and local code requirements and ordinances. Comply with requirements of the Utility Companies. In the case of differences between these requirements and ordinances, the most stringent shall govern. Call for inspections required by local building inspection authority.
- Submit shop drawings for all materials and specified equipment, in addition submit shop drawings showing any changes required in piping, ducting, electrical wiring, space allocation, etc.
- The location of existing underground/concealed utilities is shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. The contractor shall pay for and repair all damages caused by failure to exactly locate and preserve any and all underground utilities.
- Patch and repair to match existing any walls, ceilings, or floors accessed during the installation of ductwork and piping, or during the removal of grilles, equipment etc.
- Maintain one set of redlined drawings on the job site indicating all changes and deviations from the work shown on the drawings.
- Prior to final acceptance, thoroughly clean all work.
- At completion of Work, deliver completed Project Record Documents marked with field changes to Owner's Representative.
- Provide a written warranty to the Owner covering the entire mechanical work to be free from defective materials, equipment and workmanship for a period of one year after Date of Acceptance.
- Any substitutions of equipment, including but not limited to RTU's, AHU's, VAV's, VVT's, FPB's, etc. shall be approved by Engineer of Record. The contractor is responsible for any additional costs incurred by substituting equipment. Cost shall include additional cost incurred by other trades associated with the substitution. This shall include, but not be limited to, additional engineering, architectural services, electrical, structural, fire, and general contractor requirements.

BASIC MATERIALS AND METHODS

- For all removed equipment contractor shall remove all supports, hangers, controls, piping, utilities, etc.
- The mechanical drawings indicate the general design and arrangement of piping, equipment, systems, etc. Information shown is diagrammatic in character and does not indicate every required offset, fitting, etc.
- The locations of the items shown on the drawings or called for in the specifications that are not definitely fixed by dimensions are approximate only. The exact locations necessary to secure the best conditions and results must be determined by the project site conditions and shall have the approval of the engineer before being installed. DO NOT SCALE THE DRAWINGS (unless noted otherwise).
- Contractor shall field verify locations and sizes of all existing equipment, ductwork, piping, electrical conduit, structural members, etc. prior to bid. Contractor shall notify engineer of any and all discrepancies between field conditions and contract drawings.
- All ductwork, piping and equipment supported from structural steel shall be coordinated with the GC. All attachments to steel bar joints, trusses, or joist girders, shall be at panel points. Provide beam clamps meeting MSS standards. Welding to structural members shall not be permitted. The use of C-clamps shall not be permitted.
- Mechanical equipment, ductwork, and piping shall not be supported from metal deck.
- Boxes shall be provided wherever ducts pass through floor, wall and roof construction.
- Where horizontal ducts pass through walls and vertical ducts pass through floors or roofs, seal off void between opening and duct, with an approved non-combustible material.
- Furnish and install all foundations, bases and supports.
- Test ductwork systems prior to concealment.
- Provide vibration isolation for all mechanical equipment to prevent transmission of vibration to building structure.
- Valves and cleanouts shall be installed as shown on the drawings and as required by code.
- Provide access panels for installation in walls and ceilings, where required, to service dampers, valves, smoke detectors, and other concealed mechanical equipment. Access panels shall be turned over to general contractor for installation.
- All openings in firewalls due to ductwork, piping, conduit, etc., shall be fire stopped with a product similar to SM or approved equal.
- All air conditioning condensate drain lines from each air handling unit and rooftop unit shall be piped full size of the unit drain outlet, with a P-trap, and piped to nearest drain. Provide a condensate pump if required, field verify.
- All ductwork shall clear doors and windows.

MECHANICAL IDENTIFICATION

- Identify piping, ducts and valves above ceilings, as well as exposed to view except in finished areas. Conform to ASME A13.1.
- Contractor to label appliances in an approved manner that uniquely identifies the appliance and the area it serves, when appliance is remotely located from space it serves.

INSULATION

- Furnish and install insulation for all ductwork systems that are not within the space the duct is serving. All equipment insulation shall include a vapor barrier.
- Ductwork insulation: 1-1/2" exterior duct wrap or 1" duct liner. Minimum R-value shall be R-5, except where local jurisdiction states otherwise.

TEMPERATURE CONTROLS SYSTEMS

- All control work to be per the mechanical equipment list. Provide all necessary transformers for low voltage control circuits. Low voltage (24 V) wiring to be by this contractor. Provide all motor disconnects and contactors.
- Install all thermostats and switches where shown on plans at 54 inches A.F.F. Coordinate locations with the electrical contractor.
- All control wire and conduit shall comply with the National Electric Code.

TESTING, ADJUSTING, AND BALANCING

- Test and balance the environmental systems including but not limited to air distribution systems, hydronic distribution systems, and the equipment and apparatus connected thereto.
- The Mechanical Contractor shall procure the services of an independent testing and balancing firm certified and specializing in this work.
- Air inlets and outlets shall be balanced to within 10 percent of the air quantity specified on the drawings.
- At completion of Work, deliver three copies of the Test and Balance Report to the General Contractor. Report shall list all supply, return, and exhaust air flows, electrical data, temperatures, and pressure drops. G.C. shall deliver one copy to Consulting Engineering for review and approval. One copy shall be for landlord records. One copy shall be on site for final inspection.

AIR DISTRIBUTION SYSTEMS

- Sheet metal duct systems shall be fabricated and installed in accordance with SMACNA HVAC Duct Construction Standards Manual. Supply ductwork shall be low pressure (2" w.g.).
- All round and flat oval ducts exposed to view shall be spiral seam. Concealed round and flat oval ducts may be fabricated with lock type or welded longitudinal seams.
- If ductwork is to be painted, ductwork shall be paintlock type.
- Suspend ducts from structure with proper hangers at a maximum of 8'-0" intervals, at each floor, change of direction and wherever necessary.
- All duct connections to motor driven equipment shall be with flexible connections.
- All ductwork to be of sheet metal construction per SMACNA standards for low pressure distribution. Provide volume dampers at each round duct and 45 degree duct take-off to allow complete balancing of all branches and diffusers.
- Coordinate diffuser and grille locations with ceiling and lighting layout to avoid conflicts.
- Make all radius elbows with radius of one and one half times the diameter or width of duct and an inside throat radius of one times the diameter or width. Radius elbows are the preferred method for 90° duct turns.
- Attach flexible duct inner liner to duct connectors, diffuser necks, or ductwork with stainless steel worm drive clamp. Tape outer vapor barrier securely over clamp with vapor barrier tape.
- Low and medium pressure flexible duct shall be air duct listed by Underwriters Laboratories, Inc. under UL standard 181 as a Class 1 flexible air duct and complying with NFPA Standards 90A and 90B. Duct shall be GREENGUARD tested and certified. Low permeability outer vapor barrier of fiberglass bi-directional reinforced metalized laminate film shall complete the composite.
- Flexible ductwork hanger supports shall be constructed of durable composite material and shall be 1-1/2" wide to prevent any restriction of the internal diameter of the ductwork when the weight of the supported section rests on the hanger. Hanger supports shall be UL listed for use in return air plenum spaces.
- Maximum length of any section of flexible duct shall be eight feet.
- Certain items such as rises and drops in ductwork, access doors, volume dampers, etc., are indicated on the contract document drawings for clarity for a specific location requirement and shall not be interpreted as the extent of the requirements for these items.
- All ductwork dimensions, as shown on the drawings, are internal clear dimensions and duct size shall be increased to compensate for duct lining thickness.
- Locate all mechanical equipment (single duct, dual duct, variable volume, constant volume and fan powered boxes, fan coil units, cabinet heaters, unit heaters, unit ventilators, coils, steam humidifiers, etc.) for unobstructed access to unit access panels, controls and valving.
- Smoke detectors shall be furnished and wired by the electrical contractor. The mechanical contractor shall be responsible for mounting the smoke detector in ductwork in accordance with manufacturer's printed instructions.

REFRIGERANT PIPING

- Slope refrigerant piping one percent in the direction of oil return. Liquid lines may be installed level.
- Install horizontal refrigerant hot gas discharge piping with 1/2" per 10 feet downward slope away from the compressor.
- Install horizontal refrigerant suction lines with 1/2" per 10 feet downward slope to the compressor, with no long traps or dead ends which may cause oil to separate from the suction gas and return to the compressor in damaging slugs.
- Provide line size liquid indicators in main liquid line leaving condenser or receiver. Install moisture-liquid indicators in liquid lines between filter dryers and thermostatic expansion valves and in liquid line to receiver.
- Provide line size strainer upstream of each automatic valve. Provide shutoff valve on each side of strainer.
- Provide permanent filter dryers in low temperature systems and systems using hermetic compressors.
- Provide replaceable cartridge filter dryers with three-way valve bypass assembly for solenoid valves, adjacent to receivers.
- Provide refrigerant charging valve connections in liquid line between receiver shutoff valve and expansion valve.

SPECIAL NOTICE TO CONTRACTORS

- All contractors (general contractor and sub-contractors) bidding this project are required to visit the job site and verify the existing conditions prior to submitting their bid. Contractors are to carefully review all construction documents and note any discrepancies between the construction documents and the conditions observed at the job site prior to submission of any bid. The building owner representative may be contacted for access to the job site.
- Prior to construction contractors are responsible for verifying the location and condition of the following:
 - All points of connection to building utilities and/or systems including, but not limited to, gas, water, sewer, vent, electrical, mechanical systems, ductwork, exhaust/outside air, security, fire/life safety, data, and phone.
 - All required connections to the building structure
 - All required building penetrations. It is recommended that the contractor x-ray all penetrations thru concrete and masonry.
- Any discrepancies between the construction documents and the conditions observed shall be brought to the attention, in writing, to the architect and/or engineer prior to proceeding with construction.
- See architectural plans for contact information.

ROOFTOP UNIT SCHEDULE

Item	Manufacturer	Model	Nominal Tonnage	Design CFM	Min O.A. CFM	ESP (IN)	Total CAP (MBH)	SEN CAP (MBH)	E.A.T. DB DEG F	E.A.T. WB DEG F	L.A.T. DB DEG F	O.A.T. Input ("F)	HTG Input (MBH)	HTG Output (MBH)	Motor Data		Elec. MCA	Elec. MOCP	E.E.R./ I.E.E.R.	Max Weight (Lbs)
															HP	V/PH				
RTU-1	Lennox	LGH150H5E	12.5	5000	1250	0.5	138.2	99.3	80.0	67.0	58.6	105	240	194	3.75	460/3	28	35	10.8/15.4	1446
DOAS-1	Captive Aire	CAS-HVAC3-I-200	5.75	2300	2300	0.5	139.8	108.1	97.3	71.2	52.0	95	134.3	108.7	2.0	460/3	36.3	40	-14.2	2083

REMARKS

- Provide unit with a compatible electronic 7-day programmable thermostat with compatible remote sensor.
- Mechanical contractor shall program thermostats prior to job completion, add Captive Aire owner's representative in operation.
- Unit shall be field labeled with unit number and area served per plans or field conditions.
- All units shall be interlocked with exhaust fan EF-2 to come on when energized.
- Interlock RTU to override occupancy contact to turn on occupancy mode when CaptiveAire hood turns on.
- Unit shall be provided with: humidifier hot gas reheat, factory disconnect, field wired convenience outlet, hail guards, min 2 stage operation for units over 5 tons, high gas heat, economizer and barometric relief.
- See hood drawings for additional information on DOAS-1.

EXHAUST FAN SCHEDULE

Mark	Manufacturer Model No.	CFM	Fan Design S.P. (IN W.C.)	B.H.P.	Operating Power (HP)	Voltage	Location	Weight
EF-1	Greenheck G-090-VG	400	0.5	-	1/10 HP	115/60/1	Roof	29
EF-2	Captive Aire DU180HFA	2800	1.5	1.5	3.0 HP	480/60/3	Roof	144

NOTES

- EF-2 is a new rooftop mounted up-blast grease exhaust fan that is Hood Supplier furnished and contractor installed. Unit to serve kitchen exhaust hood.
- EF-2 shall be UL 762 listed, with factory vented curb, hinge base kit, grease drain and direct drive.
- Install EF-2 per typical detail 3/M300.
- Furnish and install exhaust fan EF-1 with roof curb and backdraft damper.

AIR BALANCE SCHEDULE

Equipment	Supply Air	Return Air	Outside Air	Exhaust Air	Balance
RTU-1	5000	-3750	1250		1250
DOAS-1	2300	0	2300		2300
EF-1				-300	-300
EF-2				-2800	-2800
Totals	7300	-3750	3640	-3100	
RESULTING BUILDING PRESSURIZATION (CFM)					+450

AIR DISTRIBUTION SCHEDULE

Tag	MFG.	Model	Type	Neck Size	Pattern	Damper	Mounting	Notes
①	Metal Aire	9000 Series	Supply	Note 2	Adjust, 4-way	MVD @ Duct	T-bar, Surface	1,2
②	Metal Aire	7300 Series	Supply	Note 2	Perf	MVD @ Duct	T-bar, Surface	1,2
③	Metal Aire	4004P	Supply	16X6	Sidewall	MVD @ Duct	Duct	1,2
Ⓐ	Metal Aire	RH	Return	22"x22"	None	None	T-bar	1
Ⓑ	Metal Aire	RH	Return	48"x16"	None	None	Surface	1
Ⓒ	Metal Aire	RH	Exhaust	8"x8"-8"Ø	None	None	Surface, T-bar	1

ⓧ 'X' DENOTES EXISTING DIFFUSER TO REMAIN. RE-BALANCE TO CFM SHOWN.

Notes:

- See Architectural plans for painting.
- See Diffuser Schedule this sheet.

DIFFUSER SCHEDULE

CFM	Neck Ø
0 - 125	6"
126 - 250	8"
251 - 350	10"
351 - 550	12"
551 - 700	14"
701 - 850	16"

For any run-out over 20' in length, use next size up on this schedule. Determine length in field.

RTU-1: OUTDOOR AIR VENTILATION SCHEDULE CONSTANT VOLUME SYSTEM

ROOM	OCCUPANCY DESCRIPTION	Rp	Az	OCCUPANT DENSITY (#/1000 SQ.FT)	Ra	Pz	Ez	CODE: TOTAL EXHAUST (CFM)	EXHAUST SPECIFIED ON DRAWINGS	Voz=(Rp*Pz+Ra*Az)/Ez	MINIMUM CFM REQUIRED BASED ON PERCENT OUTSIDE AIR	CFM SPECIFIED ON DRAWINGS
		CFM/PERSON	SQ FT	AREA CFM	People	ZONE AIR DISTANCE EFFECTIVENESS	Minimum Outside Air Required					
Restroom 1	Toilet Rooms - Public	5	58	0	0	0	0.8	40.6	100	0.0	0.0	50
Restrooms 2 & 3	Toilet Rooms - Public	5	116	0	0	0	0.8	81.2	100	0.0	0.0	100
Dining Room	Dining Rooms	7.5	839	70	0.18	36	0.8	49	0	526.3	2105.1	4000
Service Area	Reception Areas	5	127	30	0.12	2	0.8	21	0	31.6	126.2	670
Hallway	Corridors	0	56	0	0.06	0	0.8	0	0	4.2	16.8	180
Percent Outside Air For Equipment:										25.00%		
										Total Outside Air Specified:	1250.0	
										Total CFM Outside Air Required:	562.0	
										Total Unit CFM:	5000	
										Total Unit CFM:	5000	

DOAS-1: OUTDOOR AIR VENTILATION SCHEDULE (CMC 2022) CONSTANT VOLUME SYSTEM

ROOM	OCCUPANCY DESCRIPTION	Rp	Az	OCCUPANT DENSITY (#/1000 SQ.FT)	Ra	Pz	Ez	CODE: TOTAL EXHAUST (CFM)	EXHAUST SPECIFIED ON DRAWINGS	Voz=(Rp*Pz+Ra*Az)/Ez	MINIMUM CFM REQUIRED BASED ON PERCENT OUTSIDE AIR	CFM SPECIFIED ON DRAWINGS
		CFM/PERSON	SQ FT	AREA CFM	People	ZONE AIR DISTANCE EFFECTIVENESS	Minimum Outside Air Required					
Back Prep Area	Prep Areas	7.5	562	20	0.12	2	0.8	393.4	0	103.1	13.7	1150
Cooking Area	Kitchens	7.5	251	20	0.12	3	0.8	175.7	0	65.8	8.8	1150
										Total CFM Outside Air Required:	2300.0	
										Total Outside Air Specified:	2300.0	
										Total Unit CFM:	2300	

NOTICE OF NON RESPONSIBILITY - ALL DRAWINGS AND SPECIFICATIONS ARE FURNISHED ONLY AS A GUIDE TO THE ARCHITECT AND OWNER WITH EQUIPMENT INSTALLATION AND OPERATING REQUIREMENTS. USE OF DRAWINGS FOR STRUCTURAL OR ARCHITECTURAL PURPOSE IS NOT AUTHORIZED. USE OF DRAWINGS AND SPECIFICATIONS IS ALSO SUBJECT TO APPLICABLE ORDINANCES AND COMPLIANCE THEREWITH IS THE RESPONSIBILITY OF THE ARCHITECT AND OWNER. ALL DRAWINGS AND SPECIFICATIONS ARE SUBMITTED UPON THE UNDERSTANDING THAT NO RESPONSIBILITY IS ASSUMED BY DAVE'S HOT CHICKEN, INC. WITH RESPECT THERETO."



07/18/25

PROJECT#:

25-157

DRAWN BY: MW

CHECKED BY: MP

REVISIONS

06/11/25 - DESIGN DEVELOPMENT SET

△ 07/16/25 - CHECK SET

△ 07/18/25 - PERMIT SET

△ -

△ -

△ -

△ -

△ -



DAVE'S HOT CHICKEN

STORE#

ADDRESS

1650 E MONTE VISTA AVE, SUITE 103, VACAVILLE, CA 95688

SHEET TITLE

MECHANICAL SPECIFICATIONS

SHEET NUMBER:

M100