

MECHANICAL LEGEND			
ABBREVIATION	DESCRIPTION	SYMBOL	DESCRIPTION
(E)	EXISTING (LIGHT LINE)		SMOKE DETECTOR
(N)	NEW (HEAVY LINE)		DUCT SIZE INDICATING SHEET
AFF	ABOVE FINISHED FLOOR	#" x #"	METAL DIMENSIONS, FIRST NUMBER WIDTH AND SECOND IS DEPTH (INCHES).
AFG	ABOVE FINISHED GRADE		DUCT ELBOW WITH TURNING VANE
EA	EXHAUST AIR		DUCT TEE WITH TURNING VANES
EC	ELECTRICAL CONTRACTOR		MANUAL DAMPER WITH LOCKING QUADRANT.
EO	ENGINEER OF RECORD		FLEXIBLE DUCT
GC	GENERAL CONTRACTOR		TAKE-OFF WITH MANUAL VOLUME DAMPER
MC	MECHANICAL CONTRACTOR		45° DUCT TAKE-OFF
PC	PLUMBING CONTRACTOR		RECTANGULAR SUPPLY AIR DUCT UP
SA	SUPPLY AIR		RECTANGULAR RETURN AIR DUCT UP
RA	RETURN AIR		RECTANGULAR EXHAUST AIR DUCT UP
			ROUND DUCT UP
		U.C. SIZE	DOOR UNDERCUT
			SUPPLY DIFFUSER
			RETURN OR TRANSFER GRILLE
			EXHAUST GRILLE
			THERMOSTAT OR TEMPERATURE SENSOR FOR DEVICE "XXX"
			CONNECTION NEW TO EXISTING
		NECK SIZE CFM	AIR DEVICE TAG
NOTE: NOT ALL SYMBOLS ON THIS LEGEND ARE NECESSARILY USED ON THIS PROJECT.			

**SPECIFICATION GENERAL NOTES**

GENERAL NOTES:

- REVIEW THE CONTRACT CONDITIONS AND GENERAL REQUIREMENTS FOR INFORMATION THAT APPLIES.
- THE WORD "PROVIDE" IS USED TO MEAN "FURNISH AND INSTALL."
- PROVIDE ALL ITEMS FOR A COMPLETE AND SUCCESSFUL OPERATION OF ALL SYSTEMS SHOWN ON THESE DRAWINGS.
- THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF THE WORK. LOCATIONS ARE APPROXIMATE UNLESS DIMENSIONED. MINOR MODIFICATIONS IN LOCATION TO MEET SITE REQUIREMENTS ARE ACCEPTABLE. REFER TO LATEST ARCHITECTURAL DRAWINGS FOR EXACT WALL LOCATIONS AND DIMENSIONS.
- THE ARCHITECTURAL AND ENGINEERING DRAWINGS ARE COMPLEMENTARY. GENERAL CONTRACTORS, SUBCONTRACTORS, AND VENDORS SHALL ACKNOWLEDGE ALL THE ARCHITECTURAL AS WELL AS ALL THE ENGINEERING DRAWINGS AND INCLUDE ALL WORK NECESSARY TO ACHIEVE A COMPLETE WORKING INSTALLATION FOR ALL DEVICES OR EQUIPMENT WHICH MAY BE SHOWN ON ONE DRAWING BUT NOT SHOWN ON ANOTHER. WHERE ELEMENTS ARE INDICATED OR DESCRIBED IN ANY DRAWING, IT IS THE INTENT THAT ALL RELATED CONSTRUCTION ASSOCIATED WITH SUCH ELEMENTS IS TO BE INCLUDED IN ORDER TO OBTAIN A COMPLETE INSTALLATION. FOR INSTANCE, IF A PIECE OF EQUIPMENT IS IDENTIFIED IN THE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS, BUT THE ELECTRICAL CIRCUIT FOR SUCH EQUIPMENT IS NOT IDENTIFIED IN THE ELECTRICAL DRAWINGS, THE CONTRACTOR IS TO PROVIDE SUCH CIRCUIT IN ORDER TO HAVE FULLY OPERATIONAL EQUIPMENT. FOR ANOTHER EXAMPLE, IF A SINK IS INDICATED, IT IS THE INTENT THAT RELATED PLUMBING WORK INCLUDING DRAINS, VENT, PIPING, VALVES, ETC. ARE TO BE INCLUDED IN ORDER TO RESULT IN A FULLY OPERATIONAL SYSTEM. NO SUBCONTRACTOR SHALL BE ALLOWED TO EXCLUDE PORTIONS OF THE COMPLIMENTARY DRAWING SET. LAY OUT ALL WORK IN ADVANCE. DO NOT DEFACE THE WORK OF OTHER TRADES OR THE EXISTING BUILDING.
- LOCATION OF PIPES, DUCTS, SWITCHES, PANELS, EQUIPMENT, AND FIXTURES SHALL BE ADJUSTED TO ACCOMMODATE THE WORK OR INTERFERENCES ANTICIPATED AND ENCOUNTERED. DETERMINE THE EXACT ROUTE AND LOCATION OF EACH PIPE AND DUCT PRIOR TO FABRICATION.
- A. RIGHT-OF-WAY: LINES WHICH PITCH SHALL HAVE THE RIGHT-OF-WAY OVER THOSE WHICH DO NOT PITCH. LINES WHOSE ELEVATIONS CANNOT BE CHANGED SHALL HAVE THE RIGHT-OF-WAY OVER LINES WHOSE ELEVATIONS CAN BE CHANGED.
- B. OFFSETS, TRANSITIONS, AND CHANGES IN DIRECTION: OFFSETS, TRANSITIONS, AND CHANGES IN DIRECTION OF PIPES AND DUCTS SHALL BE MADE AS REQUIRED TO MAINTAIN PROPER HEADROOM AND PITCH OF SLOPING LINES WHETHER OR NOT INDICATED ON THE DRAWINGS.
- C. FURNISH AND INSTALL ALL TRAPS, AIR VENTS, SANITARY VENTS, AND DEVICES AS REQUIRED TO EFFECT THESE OFFSETS, TRANSITIONS, AND CHANGES IN DIRECTION.
- H. ALL PENETRATIONS OF FIRE RATED WALLS, FLOORS, AND CEILINGS SHALL HAVE THE SPACE AROUND PENETRATIONS SEALED WITH A FIRE BARRIER SEALANT MEETING THE REQUIREMENTS OF U.L. STANDARD 1479 AND ASTM-E 814. INSTALL SEALANT IN FULL COMPLIANCE WITH MANUFACTURER'S STANDARD INSTALLATION INSTRUCTIONS.
- I. ALL MATERIALS LOCATED ABOVE CEILING SHALL BE SUITABLE FOR USE WITHIN A RETURN AIR PLENUM AS REQUIRED BY THE ADOPTED EDITION OF THE INTERNATIONAL MECHANICAL CODE.
- J. WHEN USING A TORCH OR OTHER FLAME-PRODUCING DEVICE ON THIS PROJECT, CONTRACTOR SHALL PROVIDE ONE APPROVED FIRE EXTINGUISHER OR WATER HOSE EQUIPPED WITH A SUITABLE NOZZLE, SUFFICIENT IN LENGTH TO REACH ALL PORTIONS OF THE BUILDING AND CONNECTED TO A WATER SUPPLY ON THE PREMISES WHERE SAID BURNING OPERATION IS PERFORMED. COMBUSTIBLE MATERIAL IN THE CLOSE PROXIMITY OF OPEN FLAME SHALL BE PROTECTED AGAINST IGNITION BY SHIELDING, WETTING, OR OTHER MEANS. IN ALL CASES, A FIRE WATCH SHALL BE MAINTAINED IN THE VICINITY OF THE OPERATION BY THE CONTRACTOR FOR ONE-HALF HOUR AFTER THE TORCH OR FLAME-PRODUCING DEVICE HAS BEEN USED.
- K. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING THE PROJECT AND TAKE INTO CONSIDERATION CONDITIONS THAT MAY AFFECT THE WORK. NO ADDITIONAL COMPENSATION WILL BE APPROVED FOR FAILURE TO VISIT THE SITE PRIOR TO PRICING THE WORK.
- L. MAINTAIN A CONTRACT SET OF THESE DRAWINGS AT THE SITE, WITH ALL CHANGES OR DEVIATIONS FROM THE ORIGINAL DRAWINGS NEATLY MARKED ON THEM IN RED COLOR. THIS SHALL BE A SEPARATE SET OF DRAWINGS NOT USED FOR CONSTRUCTION PURPOSES, WHICH SHALL BE KEPT UP TO DATE AS THE JOB PROGRESSES AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE ENGINEER AT ALL TIMES. UPON COMPLETION OF THE CONTRACT, THIS SET OF "AS-BUILTS" SHALL BE DELIVERED TO THE OWNER WITHIN 15 DAYS OF COMPLETION OF THE PROJECT.
- M. MATERIAL SHALL BE AS SPECIFIED. SUBSTITUTIONS WILL BE CONSIDERED IF SUBMITTED FOR PRIOR APPROVAL AT LEAST ONE (1) WEEK PRIOR TO THE CONTRACT BID DATE. SUBSTITUTIONS SHOULD BE SUBMITTED SEPARATELY FOR EACH PRODUCT WITH SUPPORTING DATA, DRAWINGS AND SAMPLES AS APPROPRIATE, INCLUDING: 1.) COMPARISON OF THE QUALITIES OF THE PROPOSED SUBSTITUTION WITH THAT SPECIFIED. 2.) CHANGES REQUIRED IN OTHER ELEMENTS OF THE WORK BECAUSE OF THE SUBSTITUTION. 3.) COST DATA COMPARING THE PROPOSED SUBSTITUTION WITH THE PRODUCT SPECIFIED. THE ENGINEER WILL DETERMINE THE ACCEPTABILITY OF THE PROPOSED SUBSTITUTION.
- N. SUBMIT ELECTRONIC PDF OF MANUFACTURER'S SHOP DRAWINGS FOR EQUIPMENT AND DEVICES. PRIOR TO SUBMITTING THE SHOP DRAWINGS FOR REVIEW, THE CONTRACTOR SHALL REVIEW AND CERTIFY SAME AS TO COMPLIANCE WITH THE PLANS AND SPECIFICATIONS AND FOR DIMENSIONAL SUITABILITY FOR THE APPLICATIONS.
- O. WHEN ALTERNATE OR SUBSTITUTED EQUIPMENT IS USED, CONTRACTOR IS RESPONSIBLE FOR COORDINATING SPACE REQUIREMENTS, CONFIGURATIONS, CHANGES IN SUPPORTS OR STRUCTURAL MEMBERS, ELECTRICAL REQUIREMENTS, AND COORDINATION OF OTHER TRADES THAT MAY BE AFFECTED BY THEIR USE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SAME WHEN USING LISTED APPROVED MANUFACTURERS OTHER THAN THE BASIS OF DESIGN.
- P. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND PERSONNEL REQUIRED FOR TESTING OF INSTALLED EQUIPMENT.
- Q. THE CONTRACTOR SHALL DEMONSTRATE THE PROPER OPERATION AND CALIBRATION OF ALL SYSTEMS TO THE OWNER, AT A TIME AS AGREED TO BY THE OWNER AND DIRECTED BY THE OWNER.
- R. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH OPERATION AND MAINTENANCE MANUALS FOR ALL SYSTEMS WITHIN 15 DAYS OF THE COMPLETION OF THE PROJECT.
- S. THE CONTRACTOR SHALL INCLUDE THE COST FOR COMMISSIONING BY PCD ENGINEERING TO VERIFY THE PERFORMANCE OF THE SYSTEM CONTROLS SHOWN ON THIS DRAWING. THIS INCLUDES PREPARING A COMMISSIONING PLAN, VERIFYING THE OPERATION OF ALL SYSTEMS PER CODE REQUIREMENTS, AND PROVIDING A FINAL COMMISSIONING REPORT. FINAL COMMISSIONING REPORT IS DUE UPON COMPLETION OF THE PROJECT.

- CODES, REGULATIONS, AND STANDARDS:  
ALL WORK SHALL BE IN STRICT ACCORD WITH LOCAL GOVERNING LAWS, ORDINANCES, AND REGULATIONS. ALL WORK MUST BE IN FULL ACCORDANCE WITH ALL CODES, ORDINANCES, AND CODE RULINGS. CONTRACTOR SHALL PROVIDE, WITHOUT EXTRA CHARGE, THE LABOR AND MATERIALS REQUIRED FOR FULL CODE COMPLIANCE.
- ALL MATERIALS SHALL BE NEW AND SHALL COMPLY WITH THE SPECIFICATIONS ON DRAWINGS.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LOCAL FEES, PERMITS, AND SERVICES OF INSPECTION AUTHORITIES REQUIRED BY THE WORK OF THE PROJECT. THE CONTRACTOR SHALL ARRANGE FOR ALL INSPECTIONS WHEN THEY BECOME DUE AND SHALL NOT COVER NEW WORK UNTIL APPROVED BY THE INSPECTION AUTHORITY.
- THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, MATERIALS, AND EQUIPMENT PROVIDED FOR THE PROJECT AGAINST DEFECTS AND/OR FAULTY WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.
- THE CONTRACTOR SHALL REPAIR AND/OR REPLACE DEFECTIVE OR FAULTY WORKMANSHIP, MATERIALS, OR EQUIPMENT, AND SHALL BE RESPONSIBLE FOR THE REPAIR AND/OR REPLACEMENT OF OTHER PROPERTY OR WORK DAMAGED AS A RESULT, WITHOUT CHARGE TO THE OWNER AND AS QUICKLY AS POSSIBLE, DURING THE GUARANTEE PERIOD.

**BUILDING CODE DATA**

	CODE	EDITION
GENERAL	BUILDING SUBCODE (IBC 2021)	CURRENT
HVAC/MECHANICAL	MECHANICAL SUBCODE (IMC 2021)	CURRENT
PLUMBING	PLUMBING SUBCODE (NSPC 2021)	CURRENT
ELECTRICAL	ELECTRICAL SUBCODE (NEC 2020)	CURRENT
FIRE PROTECTION	NJ STATE FIRE PREVENTION CODE (IFC 2015)	CURRENT
FUEL	NFPA STANDARDS	CURRENT
ENERGY	FUEL GAS SUBCODE (IFGC 2021)	CURRENT
LOCAL AMENDMENTS	ENERGY SUBCODE (ASHRAE 90.1-2019)	CURRENT
	NEW JERSEY ADMINISTRATIVE CODES (NJAC)	CURRENT

NOTES:  
A. ALL WORK PERFORMED SHALL COMPLY WITH THE REQUIREMENTS OF THE LISTED CODES, LOCAL CODE AMENDMENTS, AND REFERENCED STANDARDS AS ENFORCED BY THE AUTHORITY HAVING JURISDICTION (AH J).  
B. ALL WORK SUBJECT TO INSPECTION BY THE AHJ AT THE PROJECT SITE FOR COMPLIANCE

**PROJECT DESCRIPTION**

THIS PROJECT CONSIST OF A TENANT FINISH OF A BRAND NEW CORE AND SHELL BUILDING. THE TENANT FINISH OF THIS 2,400 SQUARE FOOT SPACE WILL BE A RESTAURANT. THE RESTAURANT NEW MECHANICAL WORK INCLUDES NEW ROOFTOP UNITS, NEW KITCHEN HOOD SYSTEM WITH EXHAUST FAN/MAKEUP AIR UNIT, AND NEW RESTROOM EXHAUST FAN.

**SPECIFICATION GENERAL NOTES CONTINUED**

DEMOLITION NOTES:

- VERIFY LOCATION OF EXISTING SYSTEMS AND EXISTING FIELD CONDITIONS.
- REVIEW ALL SHEETS FOR OTHER DEMO AND REMOVAL REQUIREMENTS.
- COORDINATE ALL DEMOLITION WORK WITH THE ARCHITECTURAL DRAWINGS.
- ALL CONFLICTS, OMISSIONS, AND CONCERNS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING FOR A WRITTEN RESOLUTION, BEFORE PROCEEDING WITH WORK SO INVOLVED.
- UNLESS SPECIFICALLY NOTED TO THE CONTRARY, REMOVED MATERIALS SHALL NOT BE REUSED IN THE WORK. SALVAGED MATERIALS THAT ARE TO BE REUSED SHALL BE STORED SAFE AGAINST DAMAGE AND TURNED OVER TO THE APPROPRIATE TRADE FOR REUSE.
- WHERE INDICATED, SALVAGED MATERIALS SHALL REMAIN THE PROPERTY OF THE OWNER. THESE MATERIALS ARE TO BE REMOVED BY THE SUBCONTRACTOR AND TURNED OVER TO THE OWNER WITHOUT DAMAGE. ALL OTHER SALVAGED MATERIALS SHALL BECOME THE PROPERTY OF THE SUBCONTRACTOR, WHO SHALL REMOVE AND LEGALLY DISPOSE OF OR (PREFERABLY) RECYCLE THEM AWAY FROM THE PREMISES.
- WORK THAT HAS BEEN CUT OR PARTIALLY REMOVED SHALL BE PROTECTED AGAINST DAMAGE UNTIL COVERED BY PERMANENT CONSTRUCTION.
- INSPECT, CLEAN, AND RECONDITION ALL EQUIPMENT AND ACCESSORIES THAT ARE TO BE REUSED. REMOVE ALL MUD, DEBRIS, RUST AND OTHER EXTRANEIOUS MATERIALS SO THAT THE EXISTING EQUIPMENT AND ALL ACCESSORIES CAN BE REPAINTED AND REPAIRED AS REQUIRED TO PLACE IN FIRST CLASS WORKING CONDITION.
- WHERE EXISTING EQUIPMENT IS REMOVED, PIPING OR CONDUIT SHALL BE CAPPED UNDER THE FLOOR OR BEHIND THE WALL FACE, UNLESS OTHERWISE NOTED.
- REPAIR ALL WALL, FLOOR, AND CEILING PENETRATIONS TO MAINTAIN THE EXISTING FIRE RATING AND FINISHES.

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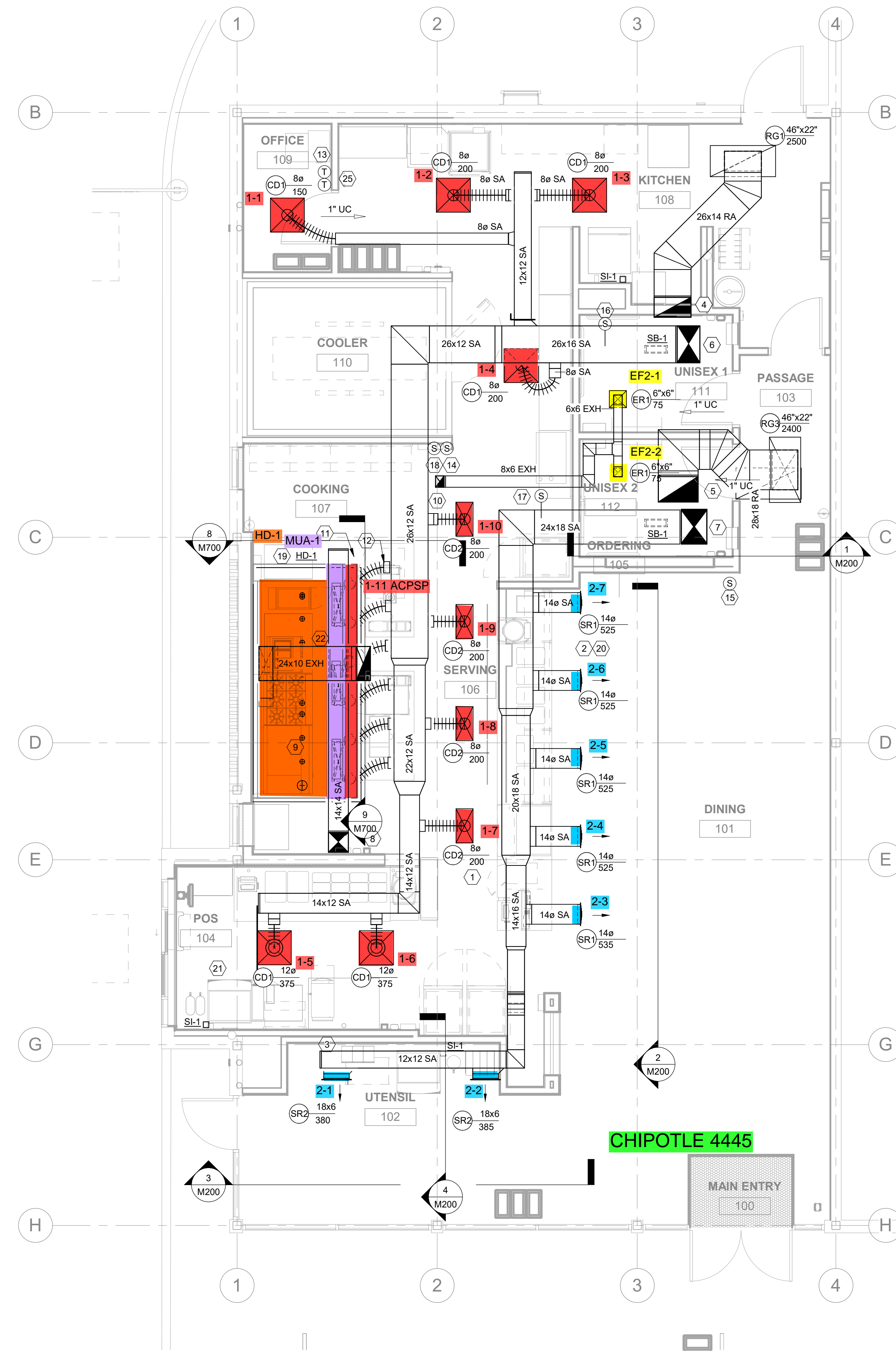
MECHANICAL LEGENDS AND NOTES

M010

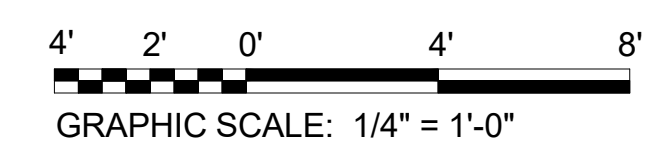


**KEY NOTES:**

- 1 SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING MOUNTED EQUIPMENT LOCATION. TYPICAL.
- 2 PAINT DUCTWORK VISIBLE THROUGH DINING ROOM SUPPLY REGISTERS BLACK. TYPICAL.
- 3 PENETRATIONS THROUGH SHEAR WALL SHALL BE LIMITED TO 10" DIAMETER (OR A GROUP OF PENETRATIONS ALL CONTAINED WITHIN 10" DIAMETER). IF LARGER PENETRATIONS OR GROUPS OF PENETRATIONS ARE REQUIRED COORDINATE WITH STRUCTURAL ENGINEER FOR APPROPRIATE BRACING. SEE STRUCTURAL DRAWINGS FOR SHEAR WALL LOCATION.
- 4 26"x14" DUCT UP FOR TRANSITION TO RTU-1 RETURN CONNECTION IN ROOF CURB. RTU-1 SHALL HAVE AN INTEGRAL SMOKE DETECTOR MOUNTED IN THE RETURN AIR STREAM. INTERLOCK SMOKE DETECTOR TO RTU-1 OPERATION.
- 5 18"x28" DUCT UP FOR TRANSITION TO RTU-2 RETURN CONNECTION IN ROOF CURB. RTU-2 SHALL HAVE AN INTEGRAL SMOKE DETECTOR MOUNTED IN THE RETURN AIR STREAM. INTERLOCK SMOKE DETECTOR TO RTU-2 OPERATION.
- 6 28"x16" DUCT UP FROM BUILDING SUPPLY THROUGH ROOF. TRANSITION TO RTU-1 SUPPLY CONNECTION IN ROOF CURB.
- 7 24"x18" DUCT UP FROM BUILDING SUPPLY TO RTU-2 SUPPLY CONNECTION. TRANSITION IN ROOF CURB.
- 8 14"x14" DUCT UP THROUGH ROOF. TRANSITION TO MAU-1 SUPPLY CONNECTION IN ROOF CURB.
- 9 24"x10" DUCT UP FROM HOOD THROUGH ROOF TO EF-1 COMPLIANT WITH NFPA 96. PROVIDE RADIUS ELBOWS WITH AN INSIDE RADIUS OF 0.5W AT ELBOWS IN GREASE DUCT.
- 10 8"x6" DUCT UP THROUGH ROOF TO EF-2.
- 11 28"x6" DUCT DOWN TO MAKEUP AIR PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL OF 3.
- 12 8" DIA. DUCT DOWN TO AC PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL OF 6. CAP UNUSED DUCT CONNECTIONS.
- 13 INSTALL GRIDPOINT THERMOSTATS FURNISHED BY TEMS FOR RTU-1 AND RTU-2 AT THIS LOCATION AT 48" AFF. COORDINATE WITH ELECTRICAL SWITCHING IN THIS AREA. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- 14 INSTALL GRIDPOINT ZONE SENSOR MODULE FURNISHED BY TEMS FOR RTU-1 AT THIS LOCATION 60" AFF DIRECTLY TO WALL (NO JUNCTION BOX). COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- 15 INSTALL GRIDPOINT ZONE SENSOR MODULE FURNISHED BY TEMS FOR RTU-2 AT THIS LOCATION 60" AFF DIRECTLY TO WALL (NO JUNCTION BOX). COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- 16 INSTALL GRIDPOINT SUPPLY PROBE FURNISHED BY TEMS FOR RTU-1 IN THE SUPPLY DUCTWORK UPSTREAM FROM THE FIRST BRANCH CONNECTION. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- 17 INSTALL GRIDPOINT SUPPLY PROBE FURNISHED BY TEMS FOR RTU-2 IN THE SUPPLY DUCTWORK UPSTREAM FROM THE FIRST BRANCH CONNECTION. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- 18 INSTALL REMOTE TEMPERATURE SENSOR FOR HOOD HD-1 AT THIS LOCATION 66" AFF. COORDINATE LOCATION WITH EQUIPMENT. PROVIDE (2) #18 G. THERMISTOR CABLE FROM TEMPERATURE SENSOR TO HOOD CONTROL PANEL.
- 19 INSTALL KITCHEN HOOD, HD-1. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL HOOD ACCORDING TO THE REQUIREMENTS OF ITS LISTING, IN COMPLIANCE WITH NFPA 96, THE BUILDING CODE, AND AUTHORITIES HAVING JURISDICTION. HOOD SHALL HAVE AN INTEGRAL DUCT COLLAR TEMPERATURE SENSOR TO AUTOMATICALLY ENERGIZE THE EXHAUST AND MAKEUP AIR FANS IF COOKING TEMPERATURES ARE DETECTED. EXHAUST DUCT SYSTEM TO BE WELDED OR FACTORY MANUFACTURED WATER AND AIR TIGHT. INSTALL CLEANOUTS PER CODE AND AS SHOWN. INSTALL HOOD PER DETAILS 2, 4, AND 9/M700. CHIPOTLE WILL PROVIDE AN INDEPENDENT TESTING AGENCY FOR TESTING THE INTEGRITY OF THE GREASE DUCT SYSTEM.
- 20 ADJUST SUPPLY REGISTERS SO THAT SUPPLY AIR HITS WALL ON OPPOSITE SIDE OF ROOM AT APPROXIMATELY 7' AFF WITH NO DRAFTS FELT IN THE DINING ROOM.
- 21 PROVIDE INTEGRAL HEATED AIR CURTAIN IN DRIVE THRU WINDOW ASSEMBLY. SEE ARCH FOR DETAILS.
- 22 PROVIDE GREASE DUCT ACCESS DOORS PER SECTION 506 OF THE INTERNATIONAL MECHANICAL CODE.



**MECHANICAL FLOOR PLAN**  
1/4" = 1'-0"



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**M100**





TAG	SUPPLY AIRFLOW (CFM)	RETURN AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	SUBTOTAL (CFM)
EF-1	0	0	2550	-2550
EF-2	0	0	150	-150
MAU-1	1300	0	0	1300
RTU-1	3000	2500	0	5000
RTU-2	3400	2400	0	1000
NET PRESSURIZATION				100

TAG	DESCRIPTION	MANUFACTURER	MODEL	MATERIAL	FINISH	MOUNTING	FACE SIZE	NECK SIZE	OPPOSED BLADE DAMPER	SERVICE	MAXIMUM NOISE CRITERIA (NC)	NOTES
CD-1	PERFORATED CEILING DIFFUSER	NAILOR	4320A TYPE L	ALUMINUM	WHITE	LAY-IN	24" X 24"	SEE PLANS	YES	SUPPLY	35	2, 3, 5
CD-2	PERFORATED CEILING DIFFUSER	NAILOR	4320A TYPE L	ALUMINUM	WHITE	SURFACE	24" X 12"	SEE PLANS	YES	SUPPLY	35	2, 3, 4, 5
CD-3	PERFORATED CEILING DIFFUSER	NAILOR	4320A TYPE S	ALUMINUM	WHITE	SURFACE	20" X 20"	SEE PLANS	YES	SUPPLY	35	2, 3, 5
ER-1	PERFORATED CEILING EXHAUST	NAILOR	4330R TYPE S	ALUMINUM	WHITE	SURFACE	12" X 12"	SEE PLANS	YES	EXHAUST	35	2, 3
RG-1	PERFORATED CEILING RETURN	NAILOR	4330R TYPE L	ALUMINUM	WHITE	LAY-IN	48" X 24"	SEE PLANS	NO	RETURN	35	2, 3
RG-3	PERFORATED CEILING RETURN	NAILOR	4330R TYPE S	ALUMINUM	WHITE	SURFACE	48" X 24"	SEE PLANS	NO	RETURN	35	2, 3
SR-1	ADJUSTABLE TURBO NOZZLE	AIRCONCEPTS	ANR14	ALUMINUM	WHITE	WALL	NECK + 1-2"	SEE PLANS	YES	SUPPLY	35	2, 3
SR-2	DOUBLE DEFLECTION SUPPLY REGISTER	NAILOR	51DH	ALUMINUM	WHITE	WALL	NECK + 2"	SEE PLANS	YES	SUPPLY	35	2, 3, 5

Room Name	Room Area (A2)	Room Type	Zone Air Distribution Effectiveness (Ez)	Number of People (P2)	CFM/Person (Rp)	CFM/sqft	Breathing Zone OA (Voz)	Zone Outdoor Airflow (Voz)	System Ventilation Efficiency (Ev)	Required Outdoor Air Intake (Vot)	Outside Air Provided
<b>RTU-1 &amp; MAU-1 - KITCHEN (MULTIPLE ZONE WITH SINGLE RECIRC)</b>											
104 - POS	225	Cafeteria, fast food	0.8	23	7.5	0.18	213	267	0.65	949	1000
106 - SERVING	81	Cafeteria, fast food	0.8	8	7.5	0.18	75	94			
107 - COOKING	354	Kitchens (cooking)	0.7 CFM/SF EXHAUST								
108 - KITCHEN (FOOD PREP)	350	Cafeteria, fast food	0.8	35	7.5	0.18	326	407			
109 - OFFICE	45	Office spaces	0.8	1	5	0.06	8	10			
<b>Total</b>						<b>621</b>	<b>778</b>				
<b>RTU-2 - DINING (SINGLE ZONE)</b>											
101 - DINING/ORDERING	714	Dining rooms	0.8	42	7.5	0.18	457	571	N/A	577	500
102 - UTENSIL	74	Dining rooms									
103 - PASSAGE	68	Corridors	0.8	0	0	0.06	4	6			
<b>Total</b>						<b>461</b>	<b>577</b>				

TYPE	APPLICATION	ALLOWABLE MATERIAL
DUCT	CONCEALED, GENERAL EXHAUST	RECTANGULAR OR ROUND AS SHOWN
DUCT	CONCEALED, RETURN	RECTANGULAR OR ROUND AS SHOWN, LINED OR INSULATED
DUCT	CONCEALED, SUPPLY	RECTANGULAR OR ROUND AS SHOWN, LINED OR INSULATED
DUCT	CONCEALED, TYPE I HOOD EXHAUST	RECTANGULAR 16 GA. BLACK IRON WITH WRAP OR UL 1978 FACTORY-MANUFACTURED DUCT WITH WRAP (SUBMIT SHOP DRAWINGS FOR FACTORY-MANUFACTURED DUCT PRIOR TO ORDERING FOR APPROVAL)
DUCT	EXPOSED GENERAL EXHAUST	RECTANGULAR, NO EXPOSED DUCT-SEALING MASTIC
DUCT	EXPOSED RETURN	RECTANGULAR, NO EXPOSED DUCT-SEALING MASTIC
DUCT	EXPOSED SUPPLY	RECTANGULAR LINED OR ROUND AS SHOWN, NO EXPOSED DUCT-SEALING MASTIC

TAG	DESCRIPTION	MANUFACTURER	MODEL	NUMBER OF COMPRESSORS	CIRCUITS	REFRIGERANT TYPE	CHARGE	WEIGHT	ELECTRICAL MOCP	FLA	V/PH	NOTES
CU-1	CONDENSING UNIT - WALK IN COOLER	HARFORD	KPCL9M20P-3E	1	1	R-404A	10.4 LB	250 LBS	15 A	9 A	208/3/60	1, 2
CU-2	REMOTE CONDENSER - LOW CAPACITY ICE MAKER	HOSHIZAKI	URC-9F	0	1	R-404A	11.46 LB	100 LBS			120/1/60	1, 3
CU-3	REMOTE CONDENSER - SODA MACHINE ICE MAKER	HOSHIZAKI	URC-5F	0	1	R-404A	3.86 LB	100 LBS			120/1/60	1, 3

TAG	DESCRIPTION	MANUFACTURER	MODEL	SERVICE	LOCATION	FAN DATA				ELECTRICAL DATA				NOTES	
						AIRFLOW	E.S.P.	MOUNT	DRIVE	MOTOR POWER	FLA	VOLTAGE	PHASE		
EF-1	UPBLAST UL762 EXHAUST FAN	CAPTIVEAIRE	DU180HFA	KITCHEN HOOD	ROOF	2,550 CFM	1.45"WC	ROOF CURB	DIRECT	2.0 HP	8.3	208	3	1-4	
EF-2	DOWNBLAST RESTROOM EXHAUST FAN	CAPTIVEAIRE	DR12HFA	RESTROOMS	ROOF	150 CFM	0.6"WC	ROOF CURB	DIRECT	0.25 HP	2.9	115	1	5-7	

TAG	DESCRIPTION	MANUFACTURER	MODEL	MAX COOKING TEMP	EXHAUST PLENUM				PERFORATED SUPPLY PLENUMS				# OF LIGHT FIXTURES	WEIGHT	NOTES								
					AIRFLOW	E.S.P.	WIDTH	LENGTH	DUCT COLLARS		MAKEUP AIR PLENUM		HVAC PLENUM										
									#	WIDTH	LENGTH	#	WIDTH	LENGTH	AIRFLOW	#	DIAMETER						
HD-1	TYPE 1 CANOPY HOOD WITH PERFORATED MAU AND HVAC SUPPLY PLENUMS	CAPTIVEAIRE	5424 ND-2-ACPS-P	600 DEG. F.	2,550 CFM	0.97"WC	4'-3"	13'-9"	3	6"	2'-4"	1'-10"	15'-3"	1,300 CFM	3	6"	2'-4"	700 CFM	6	8"	8	1,150 LBS	1-11

TAG	DESCRIPTION	MANUFACTURER	MODEL	SERVICE	AIRFLOW	E.S.P.	HEATING DATA			ELECTRICAL DATA			WEIGHT	NOTES	
							INPUT	OUTPUT	TEMP RISE	MOTOR POWER	FLA	VOLTAGE	PHASE		
MAU-1	DIRECT-FIRED MAKEUP AIR UNIT	CAPTIVEAIRE	A1-D-250-15D	KITCHEN HOOD	1,300 CFM	0.5"WC	90.4 MBH	83.2 MBH	60 DEG. F.	1.0 HP	3.1	208	3	495 LBS	1-7

TAG	COUNT	DESCRIPTION	MANUFACTURER	MODEL	FURNISHED BY	INSTALLED BY	REMARKS
SB-1	2	BATHROOM AIR PURIFICATION UNIT	RGF ENVIRONMENTAL GROUP	BRU ASSEMBLY	TUV	GC	SEE ELECTRICAL SHEETS FOR CONNECTION INFORMATION
SH-1	2	HVAC AIR PURIFICATION UNIT	RGF ENVIRONMENTAL GROUP	REME-HALO	TUV	GC	SEE DETAIL 6/M700 FOR INSTALLATION INFORMATION
SI-1	3	ICE MACHINE TREATMENT SYSTEM	RGF ENVIRONMENTAL GROUP	IMS-B-GA	TUV	GC	SEE PLUMBING DRAWINGS FOR INSTALLATION INFORMATION

TAG	DESCRIPTION	MANUFACTURER	MODEL	NOMINAL CAPACITY	AIRFLOW			COOLING DATA				HEATING DATA			ELECTRICAL DATA			NOTES				
					SUPPLY AIR	OUTSIDE AIR	E.S.P.	REFRIGERANT	EAT (°F)	EWBT (°F)	TOTAL CAPACITY (NET)	SENSIBLE CAPACITY (NET)	EER	IEER	FUEL INPUT	OUTPUT	MOCP	MCA	VOLTAGE	PHASE		
RTU-1	KITCHEN ROOFTOP UNIT	CARRIER	48FCDM08A3M5-9U0C0	7.5 TONS	3,000 CFM	500 CFM	0.61"WC	R-410A	78.2	65.8	91.64 MBH	65.46 MBH	11.2	15	N. GAS	125 MBH	103 MBH	50	40	208	3	1-9
RTU-2	DINING ROOM ROOFTOP UNIT	CARRIER	48FCDM08A3M5-9U0C0	8.5 TONS	3,400 CFM	1,000 CFM	0.64"WC	R-410A	79.8	67.2	105.58 MBH	78.95 MBH	11.2	15	N. GAS	180 MBH	148 MBH	50	42	208	3	1-9

TAG	DESCRIPTION	DUCT CONNECTION SIZE	BASIS FOR DESIGN MANUFACTURER	FAN	SERVICE	FURNISHED BY	INSTALLED BY
VG-1	VIROGUARD HOOD EXHAUST FAN ROOFTOP CONTAINMENT SYSTEM	16" X 16"	ENVIROMATIC	CAPTIVEAIRE DU180HFA	KITCHEN HOOD EXHAUST FAN	TDC	GC

## COMcheck Software Version COMcheckWeb Mechanical Compliance Certificate

### Project Information

Energy Code: 90.1 (2019) Standard  
 Project Title: CMGX - Bridgeton, NJ  
 Location: Bridgeton, New Jersey  
 Climate Zone: 4a  
 Project Type: Alteration

Construction Site: 16 CENTERON RD. BRIDGETON, New Jersey 08302  
 Owner/Agent: BOWMAN CONSULTING GROUP LTD. 323 3RD AVE STE #100 LONGMONT, Colorado 80503 303-678-1108  
 Designer/Contractor: BOWMAN CONSULTING GROUP LTD. 323 3RD AVE STE #100 LONGMONT, Colorado 80503 303-678-1108

### Mechanical Systems List

#### Quantity System Type & Description

- RTU-1  
 Heating: 1 each - Central Furnace, Gas, Capacity = 103 kbtu/h  
 Proposed Efficiency = 82.00% Et, Required Efficiency: 80.00 % Et (or 80% AFUE)  
 Cooling: 1 each - Single Package DX Unit, Capacity = 91 kbtu/h, Air-Cooled Condenser, Air Economizer  
 Proposed Efficiency = 11.20 EER, Required Efficiency = 11.00 EER  
 Proposed Part Load Efficiency = 15.00 IEER, Required Part Load Efficiency = 12.70 IEER  
 Fan System: FAN SYSTEM 1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes  
 Fans:  
 FAN 1 Supply, Single-Zone VAV, 3000 CFM, 3.0 motor nameplate hp, 1.00 fan energy index , fan exception: Fan array <= 5 total HP or <= 4.1 kW  
 SYSTEM VERIFICATION REQUIRED.
- RTU-2  
 Heating: 1 each - Central Furnace, Gas, Capacity = 148 kbtu/h  
 Proposed Efficiency = 82.00% Et, Required Efficiency: 80.00 % Et (or 80% AFUE)  
 Cooling: 1 each - Single Package DX Unit, Capacity = 105 kbtu/h, Air-Cooled Condenser, Air Economizer  
 Proposed Efficiency = 11.20 EER, Required Efficiency = 11.00 EER  
 Proposed Part Load Efficiency = 15.00 IEER, Required Part Load Efficiency = 12.70 IEER  
 Fan System: FAN SYSTEM 1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes  
 Fans:  
 FAN 1 Supply, Single-Zone VAV, 3000 CFM, 3.0 motor nameplate hp, 1.00 fan energy index , fan exception: Fan array <= 5 total HP or <= 4.1 kW  
 SYSTEM VERIFICATION REQUIRED.
- DWH-1  
 Gas Instantaneous Water Heater, Capacity: 1 gallons, Input Rating: 199 kbtu/h w/ Circulation Pump  
 No minimum efficiency requirement applies  
 SWH COMPLIANCE REQUIRED.
- DWH-2  
 Gas Instantaneous Water Heater, Capacity: 1 gallons, Input Rating: 199 kbtu/h w/ Circulation Pump  
 No minimum efficiency requirement applies  
 SWH COMPLIANCE REQUIRED.

Project Title: CMGX - Bridgeton, NJ Report date: 02/21/23  
 Data filename: Page 1 of 13

Consultant:

# Bowman

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## MECHANICAL SCHEDULES

# M600



