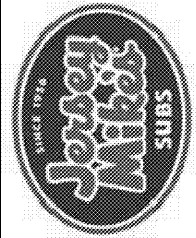


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ARCHITECT/ENGINEER STAMP

REV. NO.	DATE	DESCRIPTION

PROJECT NO. JMW-C-200
DRAWN BY: AA
CHECKED BY: KM
ISSUE DATE: 11/04/19

HVAC FLOOR PLAN

H1.01

CONTRACTOR FIELD VERIFICATION

THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND MAY NOT REFLECT EXACT FIELD CONDITIONS OR CONSTRAINTS. WHILE REASONABLE EFFORTS HAVE BEEN MADE TO VERIFY THE EXISTING CONDITIONS, THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THE EXISTING CONDITIONS SHOWN ON THESE PLANS.

THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING THE EXACT LOCATION, MANUFACTURER, MODEL NUMBER, SERIAL NUMBER, AND UTILITY REQUIREMENTS FOR ALL HVAC EQUIPMENT SERVING THIS SPACE. ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE ENGINEER FOR RESOLUTION PRIOR TO BID. ALL COSTS TO MODIFY THE INSTALLATION TO ACCOMMODATE FIELD CONDITIONS SHALL BE INCLUDED IN THE CONTRACTOR'S BID.

GENERAL NOTES:

- PROVIDE MINIMUM 10'-0" HORIZONTAL SEPARATION BETWEEN OA INTAKES AND TERMINATIONS OF ALL CONTAMINANT SOURCES (EXHAUST SYSTEMS, PLUMBING VENTS, OR GAS VENTS) WHERE POSSIBLE. CLEARANCE MAY BE REDUCED TO 5'-0" PROVIDED THE OA INTAKE IS NOT LESS THAN 2'-0" BELOW THE CONTAMINANT SOURCE IN ACCORDANCE WITH IMC. FIELD VERIFY LOCATIONS OF EXISTING OA AND EXH/VENT TERMINATIONS, INCLUDING THOSE OF ADJACENT TENANTS, AND ADJUST JERSEY MIKE'S SUBS' INSTALLATION AS REQUIRED TO COMPLY.
- THERMOSTATS IN KITCHEN AREAS SHALL BE MOUNTED MINIMUM 8" ABOVE BACKSPASH ELEVATION. THERMOSTATS IN DINING ROOM (NOT ADJUSTABLE BY THE PUBLIC) SHALL BE MOUNTED 84" AFF OR AS DIRECTED BY THE OWNER. COORDINATE LOCATION AND MOUNTING HEIGHT OF ALL OTHER THERMOSTATS WITH OWNER.

KEYED NOTES:

- KEF-1 DISCHARGE SHALL BE MIN. 40 INCHES ABOVE FLAT ROOF SURFACE, MINIMUM 10 FEET HORIZONTALLY OR 3 FEET ABOVE ANY OA INTAKES (INCLUDING THOSE OF ADJACENT TENANTS/BUILDINGS - FIELD VERIFY), MINIMUM 10 FEET HORIZONTALLY FROM VERTICAL WALLS PROJECTING MORE THAN 40 INCHES ABOVE THE ROOF, AND SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- OA INTAKE SHALL BE 10'-0" FROM KITCHEN HOOD EXHAUST, RESTROOM EXHAUST, GAS VENT (FLUE), OR PLUMBING VENT TERMINATION, INCLUDING THOSE OF ADJACENT TENANTS/BUILDINGS - CONTRACTOR TO FIELD VERIFY).
- VENT AND COMBUSTION AIR PIPING, TERMINATE WITH CONCENTRIC VENTING KIT - MATERIALS, SIZING AND INSTALLATION SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- DIFFUSER SHALL BE ADJUSTABLE, DOUBLE DEFLECTION TYPE AS SCHEDULED - NO EXCEPTIONS. ADJUST REAR BLADES (PARALLEL TO LONG DIMENSION) FOR VERTICAL, DOWNWARD THROW. ADJUST FRONT BLADES (PARALLEL TO SHORT DIMENSION) 2-WAYS, EACH HALF OF BLADES AT 45° FROM VERTICAL. TEST KITCHEN HOOD PERFORMANCE WITH ALL SYSTEMS ON AND AFTER ALL AIR DEVICES ARE ADJUSTED AND BALANCED - ADJUST DIFFUSER THROWS IF REQUIRED TO AVOID INTERFERENCE WITH HOOD'S CAPTURE AND CONTAINMENT PERFORMANCE AND TO AVOID DISCHARGING AIR DIRECTLY ONTO THERMOSTATS.
- MANUAL PULL STATION SHALL BE LOCATED MINIMUM 10FT, MAXIMUM 20FT FROM RANGE HOOD ALONG THE PATH OF EGRESS. INSTALLATION SHALL BE PER IBC. COORDINATE FINAL LOCATION WITH OWNER AND AHI.
- HOOD SYSTEM INSTALLATION AND PERFORMANCE SHALL BE TESTED AND CERTIFIED BY A THIRD PARTY AGENCY.
- KEF-2 DISCHARGE SHALL BE MIN. 30 INCHES ABOVE THE FLAT ROOF SURFACE, MINIMUM 3 FEET FROM ANY OA INTAKES OR BUILDING OPENINGS (INCLUDING THOSE OF ADJACENT TENANTS/BUILDINGS - FIELD VERIFY), MINIMUM 30 INCHES HORIZONTALLY FROM VERTICAL WALLS PROJECTING ABOVE THE ROOF, AND SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- LOCATE RTU WITHIN MECHANICAL ZONE. REFER TO STRUCTURAL DRAWINGS, SHEET (S1.3).
- PROVIDE SECTORIZING BAFFLE IN NECK OF DIFFUSER TO BLOCK AIRFLOW IN QUADRANT FACING HOOD.

PACKAGED ROOFTOP AIR CONDITIONING UNITS

MARK	NOM TONS	SEER	#STAGES	SUPPLY FAN		OA CFM EACH	GAS HEATER		ELEC		WEIGHT (LBS)	BASIS OF DESIGN		REMARKS
				CFM	ESP (W.G.)		INPUT MBH	EFF%	V/PH	DISC BY		MANUFACTURER	MODEL	
RTU-1,2	4	14.0	1	1,600	0.8	315	115	81	208/3	E.C.	800	CARRIER	48KCEA05	(1)(2)(3)

- UL AND CGA LISTED NATURAL GAS HEATING FURNACE AND DX COOLING UNIT; HEAVY GAUGE STEEL CABINET, BAKED ENAMEL FINISH; SEAMLESS TOP; REMOVABLE ACCESS PANELS; FWD CURVED, EVAPORATOR FAN W/ADJ. BELT DRIVE; ALUMINIZED STEEL HEAT EXCHANGER W/INDUCED DRAFT BLOWER AND SPARK PILOT IGNITION; ALUMINUM FIN/COPPER TUBE EVAPORATOR COIL WITH FREEZE STAT; FILTER RACK WITH 1" PLEATED MEDIA MERV-8 FILTERS; SCROLL COMPRESSOR WITH VIBRATION ISOLATION MOUNTING; THERMOSTATIC EXPANSION VALVE; ALUMINUM FIN/COPPER TUBE CONDENSER COIL W/HAIL GUARD; DIRECT DRIVE PROPELLER TYPE CONDENSER FAN; EXTERNAL SERVICE VALVES; REFRIGERANT FILTER DRYER; CRANKCASE HEATER; COMPRESSOR START ASSIST; SHORT CYCLE, THERMAL AND HI/LO PRESSURE COMPRESSOR OVERLOAD PROTECTION; CONTROL VOLTAGE TRANSFORMER; LOW AMBIENT KIT FOR COOLING OPERATION DOWN TO 0F; SINGLE POINT ELECTRICAL CONNECTION; R-410A.
- 7-DAY PROGRAMMABLE, AUTOMATIC CHANGEVER THERMOSTAT WITH SETPOINT OVERLAP PROTECTION, 5°F DEADBAND, SETBACK CONTROL WITH 4 OCCUPIED/UNOCCUPIED EVENTS PER DAY, SYSTEM AUTO/HEAT/COOL/OFF CONTROL, AND 2-HOUR PROGRAM OVERRIDE. OPTIMUM START CONTROL; 24 HR BATTERY BACK-UP.
- OA HOOD WITH BIRDSCREEN AND 2 POSITION, MOTORIZED OA DAMPER.

FANS

MARK	TYPE	SERVICE	CFM	ESP (W.G.)	MOTOR	ELEC (60 HZ)		MAX SONES	BASIS OF DESIGN		REMARKS
						V/PH	DISC BY		MANUFACTURER	MODEL	
EF-1,2	CEILING-MTD	RESTROOMS	100	0.375	80 W	120/1	MC	1.7	FREEDRICK	SP-B110	(1)(2)

- DIRECT DRIVE, GALVANIZED STEEL FORWARD CURVED FAN; LOW SOUND CONSTRUCTION; HEAVY GAUGE CABINET INTERNALLY LINED WITH 1/2" ACOUSTICAL LINER; CEILING GRILLE; BACKDRAFT DAMPER; ELECTRICAL DISCONNECT. CONTROL VIA WALL SWITCH.

DIFFUSERS, REGISTERS, AND GRILLES

MARK	TYPE	MOUNTING	NECK DAMPER	MAX NC	MAX AP	SIZE		FINISH	MFR	MODEL	REMARKS
						NECK	FRAME				
S1	4-WAY LOUVERED DIFFUSER	LAY-IN	N	30	0.1"	PLA	24x24	AL	(3)	TITUS	TMS
S2	4-WAY LOUVERED DIFFUSER	SURFACE	Y	30	0.1"	PER PLANS	12x12	AL	(3)	TITUS	TDC
S3	DBL-DEFLECTION REGISTER	LAY-IN	Y	30	0.1"	PER PLANS	23.5x11.5	AL	(3)	TITUS	272FS (1)(2)
R1	LOUVERED GRILLE	LAY-IN	N	30	0.05"	PER PLANS	24x24 UNO	AL	(3)	TITUS	3F (2)
R2	FILTER LOUVERED GRILLE	LAY-IN	N	30	0.05"	PER PLANS	20x20	AL	(3)	TITUS	3FF (4)

- INSTALL LAY-IN CEILING.
- PROVIDE 1/4" PEEP HOLE WITH ROUND NECK FOR FLEX DUCT CONNECTION.
- AIR DEVICE COLOR SHALL MATCH COLOR OF ASSEMBLY IN WHICH INSTALLED. CONTRACTOR SHALL COORDINATE. EGGRATE GRILLE WITH REMOVABLE FACE/CONE, WITH FOUR QUARTER-TURN FASTENERS AND NO HINGE.

AIR BALANCE

	OA CFM	EXH CFM
RTU-1,2	630	-
KEH-1	750	1,000
KEH-2	-	375
TOTAL	+1,380	-1,375

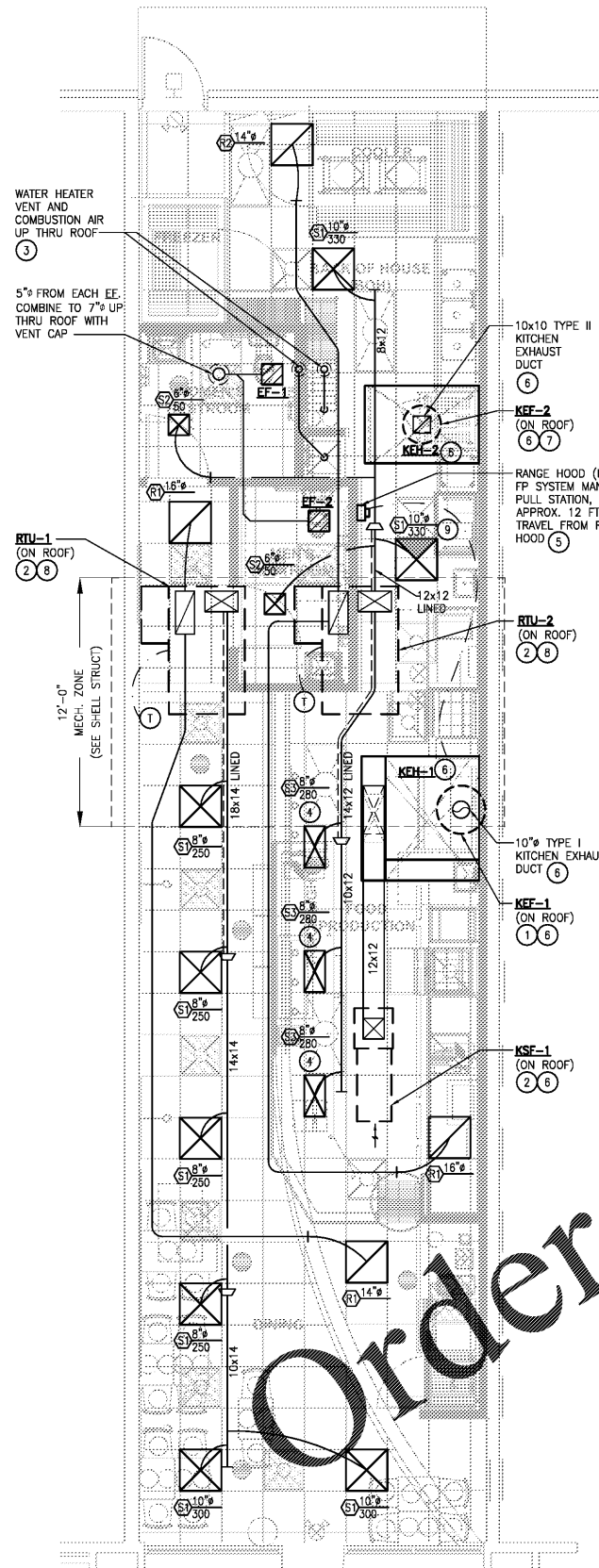
FINAL TEST AND BALANCE SHALL PROVIDE FOR SLIGHT OVERALL POSITIVE PRESSURE. RESTROOM EXHAUST FANS ARE CONSIDERED INCIDENTAL (INTERLOCKED WITH LIGHTS) AND ARE IGNORED.

OUTDOOR AIR REQUIREMENTS (NCMC 2018)

SPACE TYPE	AREA (Az)	PEOPLE-RELATED OA			AREA-RELATED OA		MIN BREATHING ZONE OA, Vb (Pz x Rp) + (Az x Ro)
		# OCC (Pz)	CFM/OCC (Rp)	CFM (Pz x Rp)	CFM/SF (Ro)	CFM (Az x Ro)	
DINING	429	18	7.5	135	0.18	77	212
SERVICE LINE & PREP AREA	544	5	7.5	38	0.18	98	136
RESTROOM/CORRIDOR	149	-	-	-	0.06	9	9
SUB-TOTAL (Vb)							357
ZONE AIR DISTRIBUTION EFFECTIVENESS (Ez)							0.80
MINIMUM ZONE OUTDOOR AIR REQUIRED (Voz/Ez)							447
ACTUAL OUTDOOR AIR PROVIDED							630

TESTING, ADJUSTING AND BALANCING

- PROVIDE CERTIFIED TESTING, ADJUSTING, AND BALANCING (TAB) REPORT FOR ALL MECHANICAL CONSTRUCTION SERVING AREAS UNDER THIS SCOPE OF WORK. TAB SHALL BE PERFORMED BY NEBB OR AABC CERTIFIED AGENT, USING PROCEDURES COMPLYING WITH CERTIFYING AUTHORITY. SUBMIT FINAL REPORT TO ENGINEER FOR REVIEW AND APPROVAL.
- REPORT SHALL INCLUDE NAME, CONTACT INFORMATION, AND PROOF OF CERTIFICATION FOR TAB AGENT.
- FINAL BALANCE ALL QUANTITIES TO WITHIN +/-5% OF DESIGN. ADJUST FAN SPEED TO LOWEST POSSIBLE.
- KITCHEN HOODS SHALL BE BALANCED BY TESTING AGENCY CERTIFIED BY HOOD MANUFACTURER.
- AT A MINIMUM, THE FOLLOWING SHALL BE CERTIFIED IN THE REPORT (DESIGN QUANTITIES AND FINAL, BALANCED QUANTITIES):
 - MANUFACTURER, MODEL #, AND SERIAL # OF ALL EXISTING AND NEW EQUIPMENT.
 - ELECTRICAL CHARACTERISTICS OF ALL EXISTING AND NEW EQUIPMENT.
 - AIR CONDITIONING SYSTEM PERFORMANCE: UNIT SUPPLY AIR FLOW, UNIT OUTSIDE AIR FLOW, FAN INLET AND DISCHARGE PRESSURES, UNIT INLET AND DISCHARGE PRESSURES, FAN SPEED AND AMP DRAW, COOLING AND HEATING COIL ENTERING AND LEAVING TEMPERATURES (DRY BULB AND WET BULB), OUTSIDE AIR TEMPERATURE (DRY BULB AND WET BULB).
 - KITCHEN EXHAUST SYSTEM PERFORMANCE: EXHAUST AIRFLOW, FAN INLET AND DISCHARGE PRESSURE, FAN SPEED AND AMP DRAW.
 - KITCHEN MAKE-UP AIR SYSTEM PERFORMANCE: AIRFLOW, FAN INLET AND DISCHARGE PRESSURE, HEAT EXCHANGER INLET AND DISCHARGE TEMPERATURES.
 - AIR DISTRIBUTION: AIRFLOWS AT EACH AIR DEVICE, CONFIRMATION OF DIRECTIONAL ADJUSTMENT OF SUPPLY DIFFUSER PATTERN CONTROLLERS WHERE NOTED ON PLANS.
 - DESCRIPTION OF ANY PROBLEMS NOTED DURING BALANCING.



1 HVAC FLOOR PLAN
H1.01 SCALE: 1/4"=1'-0"