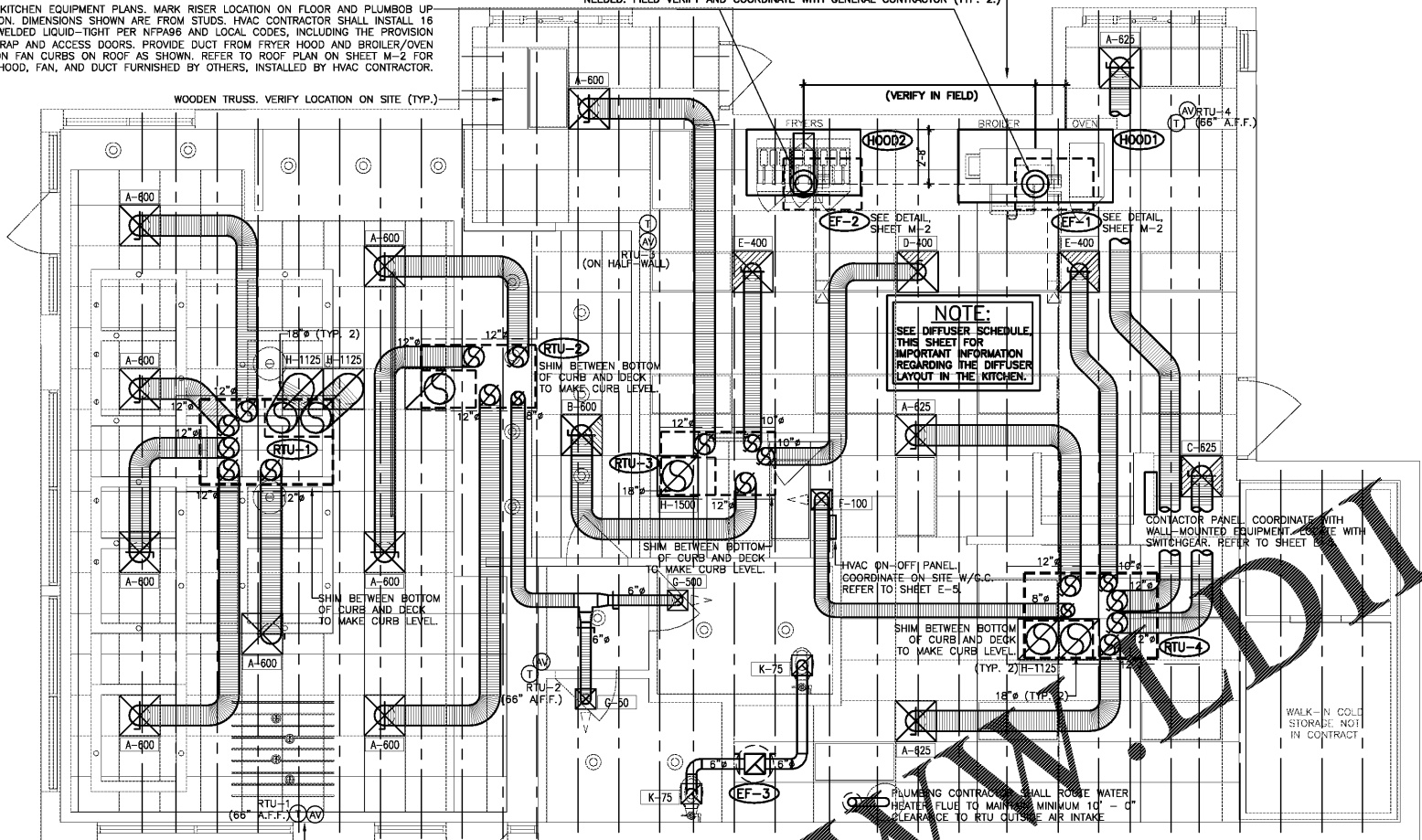


VERIFY LOCATION ON SITE WITH MOST RECENT KITCHEN EQUIPMENT PLANS. MARK RISER LOCATION ON FLOOR AND PLUMBBO UP FOR ACCURATE LOCATION OF DECK PENETRATION. DIMENSIONS SHOWN ARE FROM STUDS. HVAC CONTRACTOR SHALL INSTALL 18 GAUGE BLACK IRON GREASE EXHAUST DUCT, WELDED LIQUID-TIGHT PER NFPA96 AND LOCAL CODES, INCLUDING THE PROVISION OF ZERO CLEARANCE TO COMBUSTIBLES FIRE WRAP AND ACCESS DOORS. PROVIDE DUCT FROM FRYER HOOD AND BROILER/OVEN HOOD FROM COLLAR ON HOODS TO FLANGE ON FAN CURBS ON ROOF AS SHOWN. REFER TO ROOF PLAN ON SHEET M-2 FOR POSITION OF CURB AND FAN, HOOD, FAN, AND DUCT FURNISHED BY OTHERS, INSTALLED BY HVAC CONTRACTOR.

NOTE: EXCLUDING THE DUCT THAT SHIPS WITH THE HOODS, THE EXHAUST RISERS CANNOT HAVE ADDITIONAL "FIELD" OFFSETS. TRUSSES CLOSEST TO THE EXHAUST RISERS MUST BE SPACED SO THAT NO ADDITIONAL OFFSETS ARE NEEDED. FIELD VERIFY AND COORDINATE WITH GENERAL CONTRACTOR (TYP. 2.)



COORDINATE LOCATIONS ON SITE WITH WALL-MOUNTED EQUIPMENT - INSULATE BACK OF STAIRS, AVOID SOURCES OF HEAT. REFER TO MANUFACTURERS WIRING DIAGRAM THAT SHIPS WITH THE THERMOSTATS. AUDIO-VISUAL ANNUNCIATOR TIED INTO SMOKE DETECTOR (TYP. 4)

FLOOR PLAN - HVAC
SCALE 1/4" = 1' - 0" W/PLOTTED 36" X 24" 19937

DRAWING INFORMATION		
DATE	DESCRIPTION	BY
08-01-19	FOR CONSTRUCTION	KM
08-07-19	UPDATED	KM

NCA
CONSULTANTS/GROUP

4585 140TH AVE. NORTH, SUITE #1001
CLEARWATER, FLORIDA
PHONE: (877) 530-0078
CALL NCA MARKETING FOR PRICING
NCA JOB# 19937

B1914
DATE: 08.26.19
RELEASE: FOR CONSTRUCTION

CHECKED BY: AK
DRAWN BY: CY

NOTE: THESE DRAWINGS ARE THE PROPERTY OF NCA CONSULTANTS, P.C. AND SHALL NOT BE USED, REPRODUCED, AND/OR MODIFIED WITHOUT WRITTEN CONSENT FROM ARIE KOHN ARCHITECTS, P.C.

ATTENTION GENERAL CONTRACTOR: "RE-ENGINEERING" DEVIATIONS FROM THE SHOWN DESIGN AND REQUIRED HVAC EQUIPMENT MUST BE APPROVED IN ADVANCE BY THE ARCHITECT AND PROFESSIONAL ENGINEER. UNAUTHORIZED SUBSTITUTIONS OR ALTERATIONS WILL VOID THE SIGNATURE AND SEAL OF THE PROFESSIONAL ENGINEER AND LEAVE VIOLATORS RESPONSIBLE FOR RESUBMISSION OF SIGNED AND SEALED DRAWINGS.

CONTRACTORS NOTES

- HVAC CONTRACTOR SHALL FURNISH AND INSTALL THE HVAC SYSTEM AS SHOWN IN THE NCA HVAC EQUIPMENT PACKAGE NOTE, THIS SHEET. ALL FANS SHALL BE LISTED.
 - THE HVAC CONTRACTOR SHALL INSTALL THE EXHAUST HOOD. REFER TO MOST RECENT KITCHEN PLANS ON SITE. HOOD EXHAUST DUCT IS FACTORY-MANUFACTURED DOUBLE-WELDED DUCT WITH ZERO-CLEARANCE TO COMBUSTIBLES RATING, MANUFACTURED BY METAL-FAB. INSTALL ALL HOOD EXHAUST DUCT PER MANUFACTURERS PUBLISHED REQUIREMENTS THAT SHIP WITH THE DUCTWORK. VERIFY LOCATION ON SITE WITH MOST RECENT KITCHEN EQUIPMENT PLANS.
 - ALL AIR CONDITIONING UNIT CURBS SHALL BE SUPPLIED BY NCA CONSULTANTS.
 - ALL AIR CONDITIONING UNIT CURBS SHALL BE FABRICATED BY NCA CONSULTANTS FROM 18 GA. GALVANIZED METAL WITH WELDED SEAM WATER TIGHT AND EXTERNALLY INSULATED.
 - SHIMS SHALL BE PROVIDED BY HVAC CONTRACTOR BETWEEN THE ROOF DECK AND THE CURB AS NEEDED TO COMPENSATE FOR ROOF PITCH.
 - ALL EXHAUST DUCT SHALL BE FOIL-BACKED, R-6, U.L. LISTED, CLASSIFIED AS A CLASS 1 AIR DUCT, AND MEET ALL CODE REQUIREMENTS.
 - EXCLUDING AN EXPOSED DUCTWORK, ALL NON-FLEXIBLE DUCT AND ALL AIR DISTRIBUTION DEVICES SHALL BE INSULATED WITH R-6, 2" X .75 DENSITY FOIL-BACKED INSULATION, WITH FIRE AND SMOKE RATING [150].
 - DUCTWORK SHALL BE INDEPENDENTLY HUNG FROM STRUCTURAL MEMBERS.
 - ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED PER SMACNA LOW-VELOCITY DUCT MANUAL (LATEST ISSUE).
 - UNLESS OTHERWISE NOTED, EVERY SUPPLY TAP COLLAR SHALL HAVE A LOCKING MANUAL VOLUME DAMPER.
 - THE HVAC CONTRACTOR SHALL COORDINATE DIFFUSER LOCATIONS ON SITE WITH THE MOST RECENT REFLECTED CEILING PLAN.
 - THE HVAC CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE COVERING A ONE-YEAR PERIOD FOR ALL EQUIPMENT AND AN ADDITIONAL FOUR-YEAR PERIOD FOR THE COMPRESSORS IN THE AIR CONDITIONING UNITS.
 - UPON COMPLETION OF PROJECT THE HVAC CONTRACTOR SHALL HIRE AN A.A.B.C. OR N.E.B.B. CERTIFIED, INDEPENDENT TEST AND BALANCE COMPANY TO CONDUCT A COMPLETE TEST AND BALANCE OF ALL HVAC EQUIPMENT. PROVIDE A WRITTEN REPORT TO NCA CONSULTANTS. ALL CAPACITIES MUST BE SET TO AMOUNTS INDICATED ON THE FLOOR PLANS AND SCHEDULES.
 - THE HVAC CONTRACTOR SHALL VERIFY LOCATIONS OF THE EXHAUST HOOD AND EF-1 FROM MOST RECENT KITCHEN EQUIPMENT PLANS ON SITE. THIS IS TO ENSURE NO OFFSETS IN EXHAUST DUCTWORK.
 - HVAC CONTRACTOR IS TO MAKE ALL LOW-VOLTAGE WIRING FINAL CONNECTIONS FOR ALL HVAC EQUIPMENT INCLUDING SENSORS, THERMOSTATS, AUDIO-VISUAL ANNUNCIATORS, ROOF-TOP UNITS, SMOKE DETECTORS, CONTACTOR PANEL, AND CONTROL PANEL.
- GENERAL CONTRACTOR
- IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO RECEIVE, OFFLOAD, AND STORE ALL HVAC MATERIALS WHICH ARE RESPONSIBLE AT THE JOB SITE. JOINT EFFORT BETWEEN G.C. AND M.C. SHALL BE UNDERTAKEN TO POSITION HOODS IN THE KITCHEN FOR INSTALLATION.
 - IT IS VERY IMPORTANT THAT ACCURATE MEASUREMENTS ARE USED WHEN LOCATING EXHAUST FAN ROOF OPENING TO ENSURE THAT NO OFFSETS ARE REQUIRED IN THE EXHAUST DUCTWORK FROM THE KITCHEN HOOD. COORDINATE ROOF OPENINGS WITH THE KITCHEN EQUIPMENT PLAN AND EXHAUST HOOD PLANS. OBTAIN THE CORRECT PLANS FROM THE KITCHEN EQUIPMENT SUPPLIER.
 - RTU ROOF OPENING SIZES AND ROOF CURBS ARE BASED ON EQUIPMENT SHOWN. IF OTHER EQUIPMENT IS USED, VERIFY ROOF OPENING REQUIREMENTS. MAKE PENETRATION AS NEEDED FOR INSTALLATION OF NEW CURB AND RTU. COORDINATE ON SITE WITH HVAC CONTRACTOR. ENSURE THAT ROOFING MATERIAL DOES NOT COVER THE TOP OF ANY HVAC EQUIPMENT CURB.
 - ANY FRAMING REQUIRED FOR HVAC WORK SHALL BE BY THE GENERAL CONTRACTOR.
 - GENERAL CONTRACTOR IS TO PROVIDE ANY SCREENING, GUARD RAILS, ETC. FOR ROOF-MOUNTED HVAC EQUIPMENT PER IBC AND LOCAL CODES.
 - ANY EXPOSED HVAC WORK IN THE DINING ROOM IS TO BE PREPARED, PRIMED, AND PAINTED BY THE GENERAL CONTRACTOR.
 - NOTE: EXCLUDING THE DUCT THAT SHIPS WITH THE HOODS, THE EXHAUST RISERS CANNOT HAVE ADDITIONAL "FIELD" OFFSETS. TRUSSES CLOSEST TO THE EXHAUST RISERS MUST BE SPACED SO THAT NO ADDITIONAL OFFSETS ARE NEEDED. FIELD VERIFY AND COORDINATE WITH GENERAL CONTRACTOR.

FAN SCHEDULE			
TAG	EF-1	EF-2	EF-3
MANUFACTURER	COOK	COOK	COOK
MODEL	120 CPS-BK	100 CPS-BK	100C10DH
LOCATION	ROOF	ROOF	ROOF
AREA SERVED	BROILER	FRYERS	RESTROOM
CEM	1100*	800*	150
STATIC PRESSURE, "WG	1.85*	2.5*	0.25
FAN HORSEPOWER	1.0	1.9	1/23
FAN RPM	1957	2675	911
DRIVE	BELT	BELT	DIRECT
ELECTRICAL REQUIREMENT, V/PH/Hz	208-230/1/60	208-230/1/60	120/1/60
ROOF OPENING, INCHES	22X22	22X22	13.5X13.5
ROOF CURB	YES	YES	YES
BACKDRAFT DAMPER	NO	NO	YES
BIRDSCREEN	NO	NO	YES
GREASE TROUGH	YES	YES	NO
INTERLOCK	YES	YES	NO

* SEE AIR BALANCE SCHEDULE
NOTE: VERIFY ALL INFORMATION WITH MANUFACTURER PRIOR TO ORDERING AND INSTALLATION

AIR DEVICE SCHEDULE						
SIZE	TYPE	DUCT SIZE	MODEL#	FINISH	BOOT SIZE	OPENING SIZE
12"	SUPPLY 4 WAY	12"	NCA12	WHITE	12"	T-BAR
12"	SUPPLY ROUND	12"	PARCD-14	WHITE	---	---
12"	SUPPLY 3 WAY	12"	NCA12-3	WHITE	12"	T-BAR
12"	SUPPLY 2 WAY (PARALLEL)	12"	NCA12-2P	WHITE	12"	T-BAR
10"	SUPPLY 3 WAY	10"	NCA10-2C	WHITE	10"	T-BAR
12"	SUPPLY 2 WAY (CORNER)	12"	NCA10-3	WHITE	12"	T-BAR
12"	SUPPLY 1 WAY W/O.B.D.	8"	630	WHITE	12X12	SIZE + 1/4"
12"	SUPPLY 1 WAY W/O.B.D.	6"	630	WHITE	12X12	SIZE + 1/4"
18"	RETURN	18"	630TB	WHITE	22X22	T-BAR
12"	EXHAUST	6"	630	WHITE	12X12	SIZE + 1/4"

ALL DIFFUSERS SHALL BE MANUFACTURED BY METALAIR OR EQUIVALENT AND 100% ALUMINUM CONSTRUCTION
* PROVIDE WITH PVC99 SLIDING-BLADE DAMPER
** PROVIDE WITH EIGHT 14"-TO-12" REDUCERS FOR INSTALLATION ON TOP OF DIFFUSERS
NOTE: LOCATION AND ORIENTATION OF DIRECTIONAL BLOW PATTERN DIFFUSERS IN THE KITCHEN IS CRITICAL. INSTALLER WILL ENSURE PROPER INSTALLATION OF DIFFUSERS. CONTACT THE NCA CONSULTANTS PROJECT COORDINATOR IMMEDIATELY WITH ANY CONFLICTS THAT PREVENT INSTALLATION PER THE PROPOSED DESIGN.

PACKAGE ROOFTOP UNIT SCHEDULE (RTU-1,2,3,4)	
TAG	RTU-1,4
MANUFACTURER	CARRIER
MODEL	48HCED06 (7.5 TON)
LOCATION, CURB DIMENSIONS	ROOF, 78" X 50"
TYPE OF HEAT	NATURAL GAS
TOTAL COOLING CAPACITY, MBTU/HR	95.2
SENSIBLE COOLING CAPACITY, MBTU/HR	71.0
ENTERING AIR CONDITIONS, DB/F W/F	80/67
AMBIENT AIR DB TEMPERATURE, °F	95
SUPPLY AIR CFM	3000
OUTSIDE AIR CFM	SEE SCHEDULE
EXTERNAL STATIC PRESSURE, "WG	0.75
RHP - MEDIUM STATIC MOTOR	12.0
E.E.E.R.	15.2 (S.E.E.R.)
GAS INPUT MBTU/HR	120/180
GAS OUTPUT MBTU/HR	98/148
UNIT WEIGHT, LBS.	1100
ELECTRICAL REQUIREMENT, V/PHASE/Hz	208-230/3/60
MINIMUM CIRCUIT AMPERAGE	38.8
MAXIMUM OVER CURRENT PROTECTION	50

ACCESSORIES:
1. 100% ECONOMIZER WITH BAROMETRIC RELIEF
2. NCA PLENUMIZED CURB TO ORDER CALL TOLL-FREE (877) 530-0078.
3. ONE YEAR COMPLETE PARTS AND LABOR WARRANTY
4. ADDITIONAL FOUR YEAR PARTS WARRANTY COVERING COMPRESSORS
5. SMOKE DETECTOR (SEE HVAC ROOF PLAN, SHEET M-2)
6. AQUAGUARD AG-3180E MOISTURE SENSOR FOR PRIMARY PAN
NOTE: COORDINATE RTU PLACEMENT ON SITE PRIOR TO SETTING EQUIPMENT. IF ADJUSTMENT IS NECESSARY MAINTAIN FRESH AIR INTAKE CLEARANCES

AIR BALANCE SCHEDULE						
TAG	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR	BLDG. PRESSURE	% OUTSIDE AIR
RTU-1	3000 CFM	750 CFM	2250 CFM	---	+ 750 CFM	25
RTU-2	2000 CFM	500 CFM	1500 CFM	---	+ 500 CFM	25
RTU-3	2000 CFM	500 CFM	1500 CFM	---	+ 500 CFM	25
RTU-4	3000 CFM	750 CFM	2250 CFM	---	+ 750 CFM	25
EF-1	---	---	---	1100 CFM	- 1100 CFM	---
EF-2	---	---	---	800 CFM	- 800 CFM	---
EF-3	---	---	---	300 CFM	- 300 CFM	---
TOTAL	10000 CFM	2500 CFM	7500 CFM	2200 CFM	+ 300 CFM	25

* NOTE: UPON START-UP VERIFY THAT THE EXHAUST FAN CURRENT SENSOR IS SET TO THE MOTOR AMPERAGE. IF IT IS NECESSARY TO ADJUST THE AMPERAGE OF THE EXHAUST HOOD FAN MOTOR, THE FAN MOTOR CURRENT SENSOR MUST BE RESET BY THE ELECTRICAL CONTRACTOR AS FOLLOWS: ADJUST UNDERCURRENT POTENTIOMETER TO MINIMUM (CLOCKWISE IS MAXIMUM). APPLY CURRENT. ONCE CURRENT IS STABILIZED, INCREASE UNDERCURRENT POT UNTIL RED LIGHTS, WITHIN SEVEN SECONDS TURN DOWN UNTIL RED LIGHT TURNS OFF. IF A LIGHT REMAINS ON FOR MORE THAN TEN SECONDS, DISCONNECT SUPPLY VOLTAGE TO RESET. SEE MANUFACTURERS OPERATION-INSTALLATION INSTRUCTIONS THAT SHIP WITH THE FAN. WITH LIMITED BUILDING PRESSURE, THE ±10% TOLERANCE IS NOT ACCEPTABLE. SET CFM AS SPECIFIED. ENSURE THAT EXHAUST FAN PULLEY IS ADJUSTED FOR PROPER ALIGNMENT.

PLENUMIZED CURB INSTALLATION NOTES

- CAREFULLY LOCATE AND MARK ROOF CURB LOCATIONS SO THAT DUCT WORK CAN BE INSTALLED IN THE APPROXIMATE LOCATIONS AS SHOWN BY THE FLOOR PLAN. PAY ATTENTION TO THE LOCATION OF THE ROOF STRUCTURE IN ORDER TO ACCOMMODATE THE CURB AND DUCTWORK.
- MARK THE EXACT LOCATION OF EACH ROOF CURB. MARK ALL EQUIPMENT LOCATIONS IN ORDER TO MAINTAIN PROPER CLEARANCES FROM EXISTING FANS AND VENTS AS WELL AS PROVIDING FOR PROPER SERVICE CLEARANCES.
- GENERAL CONTRACTOR SHALL CUT ROOF DECKING MATERIALS TAKING CARE TO AVOID CUTTING ANY STRUCTURAL COMPONENTS. GENERAL CONTRACTOR SHALL ALSO INSTALL ANY NECESSARY FRAMING OR BLOCKING AT OPENINGS.
- WITH ROOF CURB UP, MEASURE (SOLID FROM BOTTOM UP) MEASURE AND MARK THE LOCATION OF ANY JOISTS OR OTHER FRAMING MEMBERS THAT MUST BE AVOIDED. MEASURE AND MARK THE LOCATION OF ALL THE DUCTS.
- CUT ALL TAP TAPS INTO THE BOTTOM PANEL OF THE ROOF CURB. BE CAREFUL NOT TO DAMAGE THE ROOFING SURFACE WHILE MAKING THESE CUTS.
- INSTALL DUCTAP FITTINGS AND MANUAL DAMPERS INTO THE OPENINGS PREVIOUSLY CUT. SEAL ALL CONNECTIONS FROM THE BOTTOM AND THE TOP SIDES OF THE TAPS.
- FLATTEN TAB OF START COLLAR INSIDE CURB, TIGHT AGAINST INSULATION, SEAL INSIDE OF COLLAR AND TAPS TO INSULATION USING MASTIC DUCT SEALER. ALLOW SEALER TO DRY PRIOR TO PROCEEDING.
- APPLY DUCT SEALER TO OPEN END OF COLLAR. SLIDE INNER CORE OF FLEXIBLE DUCT ONTO COLLAR, AND CONNECT PANOUT STRIP PER MANUFACTURERS INSTRUCTIONS.
- SLIDE OUTER INSULATION SLEEVE OF FLEX TIGHT TO BOTTOM OF CURB. SEAL INSULATION TO BOTTOM OF CURB WITH PRESSURE-SENSITIVE FOIL TAPE. DO NOT USE TAPE MEANT FOR RIGID DUCTBOARD. SQUEEZE OUT ALL AIR BUBBLES FOR PROPER ADHESION.
- TURN CURB RIGHT SIDE UP. LEVEL CURB BETWEEN BOTTOM OF CURB AND DECK. INSTALL IN ROOF OPENING. SECURE CURB TO ROOF FRAMING AS REQUIRED.
- GENERAL CONTRACTOR OR ROOFING CONTRACTOR SHALL FLASH AND ROOF IN THE CURB AS DETAILED ON THE DRAWINGS.
- INSIDE BUILDING, THE DUCT RUNS SHALL BE INSTALLED FROM THE TAPS TO THE DIFFUSER LOCATIONS AS SHOWN ON THE PLANS. SUPPORT PER SMACNA AND LOCAL CODES.
- NOTE: IF NECESSARY, FLEX DROPS MAY BE CONNECTED TO TAPS AFTER CURB HAS BEEN INSTALLED. REFER TO STEPS #8 AND #9.

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PROJECT: B1914
DATE: 07/22/2019
BURGER KING
RESTAURANT
#06-0008-021-00-00
HVAC FLOOR PLAN, NOTES, AND SCHEDULES

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