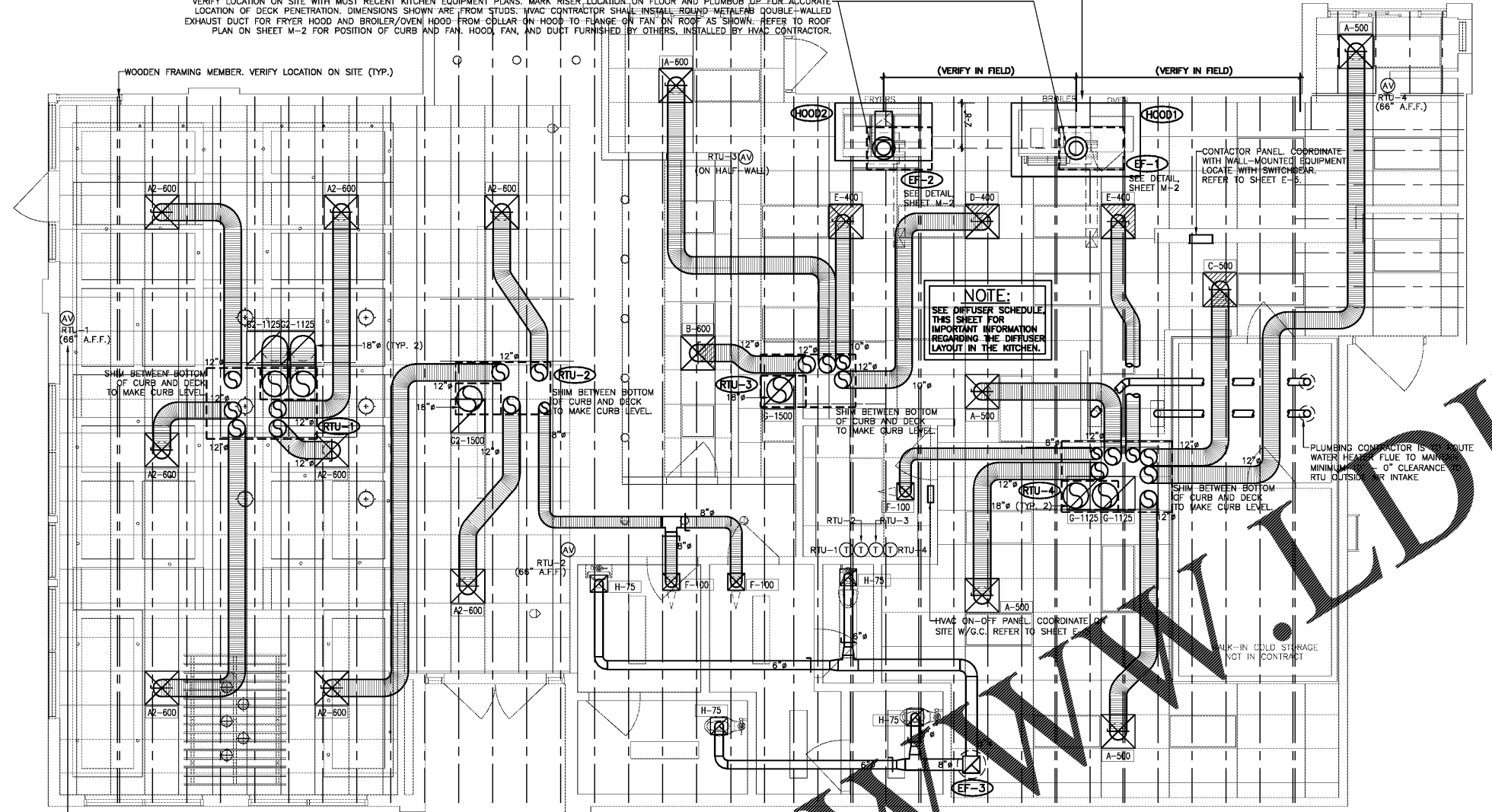


VERIFY LOCATION ON SITE WITH MOST RECENT KITCHEN EQUIPMENT PLANS. MARK RISER LOCATION ON FLOOR AND PLUMBBOB UP FOR ACCURATE LOCATION OF DECK PENETRATION. DIMENSIONS SHOWN ARE FROM STUDS. HVAC CONTRACTOR SHALL INSTALL ROUND METAL FLEX DOUBLE-WALLED EXHAUST DUCT FOR FRYER HOOD AND BROILER/OVEN HOOD FROM COLLAR ON HOOD TO FLANGE ON FAN TRUSS 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: THE EXHAUST RISERS CANNOT BE OFFSET. TRUSSES CLOSEST TO THE EXHAUST RISERS MUST BE SPACED SO THAT THE RISERS CAN BE INSTALLED PLUMB ON BOTH AXES. FIELD VERIFY AND COORDINATE WITH GENERAL CONTRACTOR.



NOTE: SEE DIFFUSER SCHEDULE THIS SHEET FOR IMPORTANT INFORMATION REGARDING THE DIFFUSER LAYOUT IN THE KITCHEN.

NOTE: HVAC ON-OFF PANEL COORDINATE ON SITE W/G.C. REFER TO SHEET E-5.

**FLOOR PLAN HVAC**  
SCALE: 1/4" = 1' 0" WHEN PLOTTED 36" X 48" 18-576

DRAWING INFORMATION			
DATE	DESCRIPTION	BY	KM
05-13-18	FOR CONSTRUCTION		

**NCA**  
CONSULTANTS / GROUP  
4585 140TH AVE. NORTH, SUITE #1001  
CLEARWATER, FLORIDA  
PHONE: (877) 530-0078  
CALL NCA MARKETING FOR PRICING  
NCA JOB# 18-576

ATTENTION GENERAL CONTRACTOR: "RE-ENGINEERING" DEVIATIONS FROM THE 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**

1. THE HVAC CONTRACTOR SHALL FURNISH AND INSTALL THE HVAC SYSTEMS SHOWN IN THE NCA HVAC EQUIPMENT PACKAGE NOTE, THIS SHEET.
2. THE HVAC CONTRACTOR SHALL INSTALL THE EXHAUST HOOD. REFER TO MOST RECENT KITCHEN PLANS ON SITE. INSTALL ALL EXHAUST DUCT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE SHEET M-3. VERIFY LOCATION ON SITE WITH MOST RECENT KITCHEN EQUIPMENT PLANS.
3. ALL AIR CONDITIONING UNIT CURBS SHALL BE SIZED BY NCA CONSULTANTS.
4. ALL AIR CONDITIONING UNITS SHALL BE FASTENED TO NCA CONSULTANTS FROM 18 GA. GALVANIZED METAL WITH WELDED SEAMS, WATER TIGHT AND INTERNALLY INSULATED.
5. SHIMS SHALL BE PROVIDED BY HVAC CONTRACTOR BETWEEN THE ROOF DECK AND THE CURB AS NEEDED TO COMPENSATE FOR ROOF PITCH.
6. ALL FLEX DUCT SHALL BE FLEXIBLE, R-6, U.L. LISTED, CLASSIFIED AS A CLASS 1 AIR DUCT, AND MEET LOCAL CODE REQUIREMENTS.
7. INCLUDING ANY EXPOSED WORK, ALL NON-FLEXIBLE DUCT AND ALL AIR DISTRIBUTION DEVICES SHALL BE INSULATED WITH 1.5" X .75 DENSITY FOIL-BACKED INSULATION, WITH FIRE AND SMOKE RATING [25].
8. ALL DUCTWORK SHALL BE INDEPENDENTLY HUNG FROM STRUCTURAL MEMBERS.
9. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED PER SMACNA LOW-VELOCITY DUCT MANUAL (LATEST ISSUE).
10. UNLESS OTHERWISE NOTED, EVERY SUPPLY TAP COLLAR SHALL HAVE A LOCKING MANUAL VOLUME DAMPER.
11. THE HVAC CONTRACTOR SHALL COORDINATE DIFFUSER LOCATIONS ON SITE WITH THE MOST RECENT REFLECTED CEILING PLAN.
12. 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.
13. 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, CERTIFIED 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.
14. ALL FANS SHALL BE U.L. LISTED.
15. 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.
16. 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, CONTROL PANEL, AND CONTROL PANEL.

COORDINATE LOCATION OF AUDIO-VISUAL ANNUNCIATOR ON SITE WITH WALL-MOUNTED EQUIPMENT. REFER TO DETAILS ON SHEET E-5, THIS SET FOR WIRING DIAGRAM. AUDIO-VISUAL ANNUNCIATOR TIED INTO SMOKE DETECTOR. NOTE: INSTALL REMOTE SENSORS IN THE RETURN DUCTS OR RETURN GRILLE CANS OF EACH RTU (TYP.)

Shane R.  
Hamilton PE  
CONSULTING ENGINEER  
1717 N. HOWARD AVENUE  
TAMPA, FL 33607 (813) 251-6848

FAN SCHEDULE				
TAG	MANUFACTURER	EF-1	EF-2	EF-3
COOK	COOK	COOK	COOK	COOK
MODEL	100 CPS-BK	100 CPS-BK	100C10DH	
LOCATION	ROOF	ROOF	ROOF	
AREA SERVED	BROILER	FRYERS	RESTROOM	
CFM	1200*	885*	300	
STATIC PRESSURE, "WG	0.75*	(VERIFY)	1/25	
FAN HORSEPOWER	(VERIFY)	(VERIFY)	983	
FAN RPM	(VERIFY)	(VERIFY)	DIRECT	
DRIVE	BELT	BELT	DIRECT	
ELECTRICAL REQ. 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

PACKAGE ROOFTOP UNIT SCHEDULE (RTU-1,2,3,4)			
TAG	MANUFACTURER	RTU-1,4	RTU-2,3
MODEL	CARRIER	48HCED08 (7.5 TON)	48HCED08 (5 TON)
LOCATION, CURB DIMENSIONS		ROOF, 78" X 50"	ROOF, 67" X 37"
TYPE OF HEAT		NATURAL GAS	NATURAL GAS
TOTAL COOLING CAPACITY, MBTU/HR		95.2	61.9
SENSIBLE COOLING CAPACITY, MBTU/HR		71.0	47.7
ENTERING AIR CONDITIONS, DB/F W/F		80/67	80/67
AMBIENT AIR DB TEMPERATURE, °F		95	95
SUPPLY AIR, CFM		3000	2000
OUTSIDE AIR, CFM		SEE SCHEDULE	SEE SCHEDULE
EXTERNAL STATIC PRESSURE, "WG		0.75	0.75
RHP - MEDIUM STATIC MOTOR		2.4	0.24
F.E.R./S.E.F.R.		12.0	15.2 (S.E.F.R.)
GAS INPUT MBTU/HR		120/180	82/115
GAS OUTPUT MBTU/HR		98/148	68/93
UNIT WEIGHT, LBS.		1100	750
ELECTRICAL REQUIREMENT, V/PHASE/Hz		208-230/3/60	208-230/3/60
MINIMUM CIRCUIT AMPERAGE		58.8	28.5
MAXIMUM OVER CURRENT PROTECTION		60	40

ACCESSORIES:  
1. 100% ECONOMISER WITH BAROMETRIC RELIEF  
2. NCA PLENUMIZED CURB TO ORDER CALL TOLL-FREE (877) 530-0078.  
3. 1 YEAR COMPLETE PARTS & LABOR WARRANTY + ADDITIONAL 4 YEAR PARTS WARRANTY ON COMPRESSORS  
4. SMOKE DETECTOR TO SHUT DOWN RESPECTIVE FAN AND SEND A SIGNAL TO THE AV ALARM (SEE SHEET M-2)  
5. 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 DEVICE SCHEDULE							
TAG	TYPE	DUCT SIZE	MODEL #	FINISH	BOOT SIZE	OPENING SIZE	QTY
A1	24X24 SUPPLY 4 WAY	12"	NCA12	WHITE	12"	T-BAR	5
A2*	24X24 SUPPLY 4 WAY **	12"	NCA12	SLATE	12"	T-BAR	8
A3	24X24 SUPPLY 3 WAY	12"	NCA12-3	WHITE	12"	T-BAR	1
C*	24X24 SUPPLY 2 WAY (PARALLEL)	12"	NCA12-2P	WHITE	12"	T-BAR	1
D*	24X24 SUPPLY 3 WAY	10"	NCA10-3	WHITE	10"	T-BAR	1
E*	24X24 SUPPLY 2 WAY (CORNER)	10"	NCA10-2C	WHITE	10"	T-BAR	2
F	12X12 SUPPLY 1 WAY W/O.B.D.	8"	630	WHITE	12X12	SIZE + 1/4"	3
G	24X24 RETURN	18"	630TB	WHITE	22X22	T-BAR	3
H	24X24 RETURN **	18"	630TB	SLATE	22X22	T-BAR	3
H	12X12 EXHAUST	8"	630	WHITE	12X12	SIZE + 1/4"	4

ALL DIFFUSERS SHALL BE MANUFACTURED BY METALAIR OR EQUIVALENT AND 100% ALUMINUM CONSTRUCTION  
\*\* PROVIDE WITH PVCERS SLIDING-BLADE DAMPER  
\*\*\* NOTE: PROVIDE DINING/SERVICE AREA WITH AIR DEVICES PAINTED "P-86 SLATE BROWN" BY PPG  
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.

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
RTU-2	2000 CFM	500 CFM	1500 CFM	---	+ 500 CFM
RTU-3	2000 CFM	500 CFM	1500 CFM	---	+ 500 CFM
RTU-4	3000 CFM	750 CFM	2250 CFM	---	+ 750 CFM
EF-1	---	---	---	1200 CFM**	- 1200 CFM
EF-2	---	---	---	885 CFM**	- 885 CFM
EF-3	---	---	---	300 CFM	- 300 CFM
TOTAL*	10000 CFM	2500 CFM	7500 CFM	2385 CFM	+ 115 CFM

\* 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 LED 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**

1. 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 DUCT DROPS.
2. MARK THE EXACT LOCATION OF EACH ROOF CURB. MARK THE LOCATION OF EQUIPMENT LOCATIONS IN ORDER TO MAINTAIN CLEARANCES FROM EXHAUST FANS AND VENTS AS WELL AS PROVIDING CLEARANCES FOR SERVICE CLEARANCES.
3. GENERAL CONTRACTOR SHALL CUT ROOF DECKING MATERIAL TAKING CARE TO AVOID CUTTING ANY STRUCTURAL COMPONENTS. GENERAL CONTRACTOR SHALL ALSO PROVIDE ANY NECESSARY FRAMING OR BRACING AT OPENINGS.
4. WITH ROOF CURB INSIDE DOWN (SOLID END BOTTOM UP) MEASURE AND MARK THE LOCATION OF ANY JOISTS OR ROOF FRAMING MEMBERS THAT MUST BE AVOIDED. MEASURE AND MARK THE LOCATION OF ALL THE DUCT TAPS.
5. ON ALL DUCT TAPS AND THE BOTTOM PANEL OF THE ROOF CURB, BE CAREFUL NOT TO DAMAGE THE ROOFING SURFACE WHILE MAKING THESE CUTS.
6. INSTALL DUCT TAP FITTINGS AND MANUAL DAMPERS INTO THE OPENINGS PREVIOUSLY CUT. SEAL ALL CONNECTIONS ON BOTH THE BOTTOM AND THE TOP SIDES OF THE TAPS.
7. FLASH TAB OF START COLLAR INSIDE CURB, TIGHT AGAINST INSULATION. SEAL INSULATION TO BOTTOM OF COLLAR AND TABS TO INSULATION USING MASTIC DUCT SEALER. ALLOW SEALER TO DRY PRIOR TO PROCEEDING.
8. APPLY DUCT SEALER TO OPEN END OF COLLAR. SLIDE INNER CORE OF FLEXIBLE DUCT ONTO COLLAR, AND CONNECT PANDUIT STRAP PER MANUFACTURERS INSTRUCTIONS.
9. 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. SQUEEGEE OUT ALL AIR BUBBLES FOR PROPER ADHESION.
10. TURN CURB RIGHT SIDE UP. LEVEL CURB BETWEEN BOTTOM OF CURB AND DECK. INSTALL IN ROOF OPENING. SECURE CURB TO ROOF FRAMING AS REQUIRED.
11. GENERAL CONTRACTOR OR ROOFING CONTRACTOR SHALL FLASH AND NAIL IN THE CURB AS DETAILED ON THE DRAWINGS.
12. 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.
13. NOTE: IF NECESSARY, FLEX DROPS MAY BE CONNECTED TO TAPS AFTER CURB HAS BEEN INSTALLED. REFER TO STEPS #8 AND #9.

Order Plans.com

DATE: 05/22/18  
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REVISIONS:  
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DATE: 05/22/18  
NO. 05/22/18

PREMIER KNICES, INC.  
5529 CARMICHAEL ROAD  
MONTGOMERY, ALABAMA 36117  
PHONE: (205) 833-1111  
WWW.PKIC.COM

2126 Morris Avenue  
Birmingham, AL 35203  
Phone: (205) 322-1751  
Fax: (205) 322-1778  
Email: info@shanehamilton.com  
www.shanehamilton.com

Shane R. Hamilton PE  
CONSULTING ENGINEER  
1717 N. HOWARD AVENUE  
TAMPA, FL 33607 (813) 251-6848

James M. Hockett  
architect AIA  
architecture • planning • interior design

SHANE R. HAMILTON PE  
1717 N. HOWARD AVENUE, TAMPA, FL  
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Burger King Restaurant  
U.S. Hwy 278  
Conley, GA  
HVAC FLOOR PLANS, NOTES, AND SCHEDULES

M-1

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