

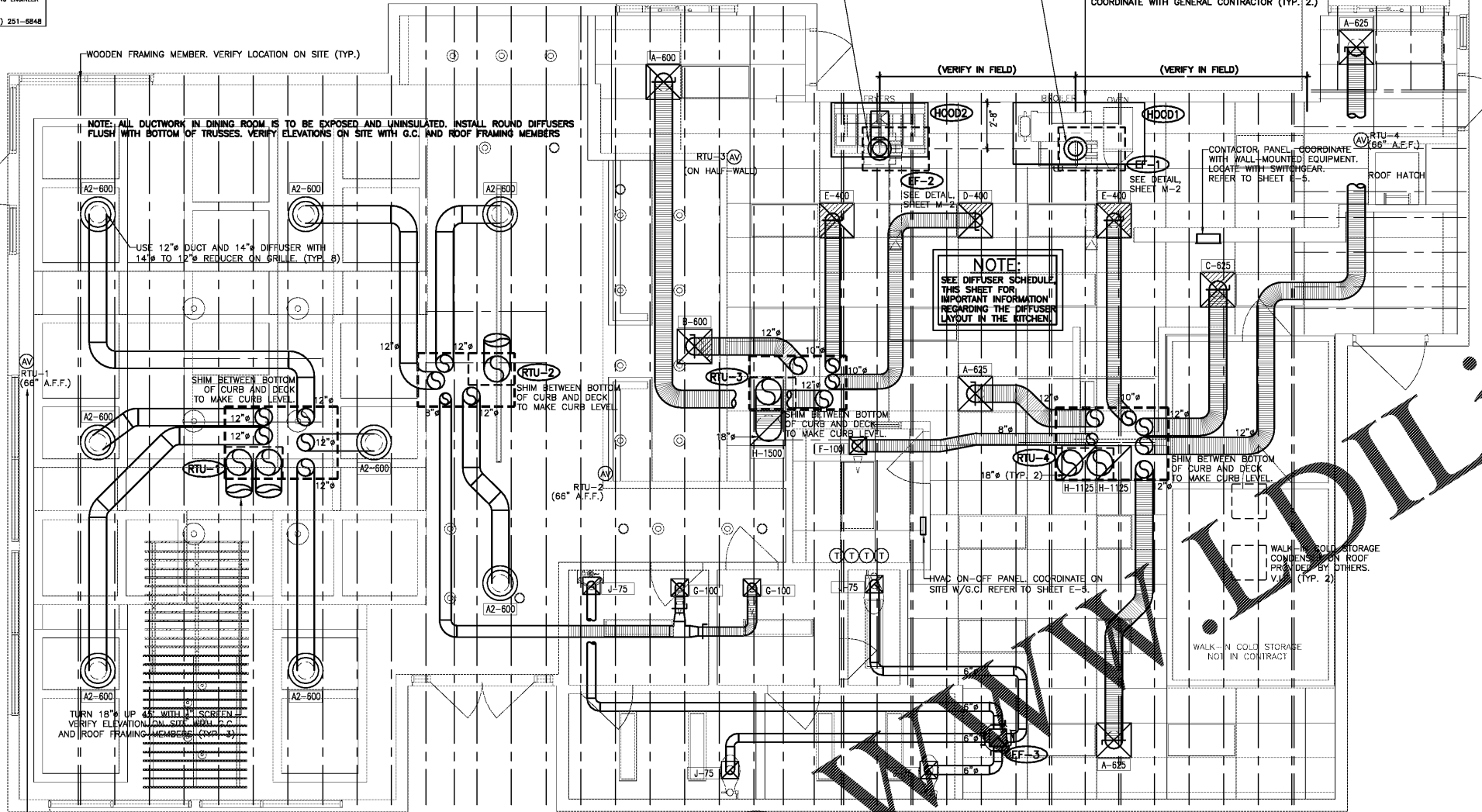
**Shane R. Hamilton P.E.**  
CONSULTING ENGINEER  
1717 N. HOWARD AVENUE  
TAMPA, FL 33607 (813) 251-8848

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 METALFAB DOUBLE-WALLED EXHAUST DUCT FOR FRYER HOOD AND BROILER/OVEN HODD ON HOOD TO FLANGE ON FAN 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).

DATE	DESCRIPTION	BY
03-08-19	FOR CONSTRUCTION	KM
04-03-19	UPDATED	KM

**NCA**  
CONSULTANTS / GROUP  
4585 140TH AVE. NORTH, SUITE #1001  
CLEARWATER, FLORIDA  
PHONE: (877) 530-0078  
CALL NCA MARKETING FOR PRICING  
NCA JOB# 19319



**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**

1. HVAC CONTRACTOR SHALL FURNISH AND INSTALL THE HVAC SYSTEM SHOWN IN THE NCA HVAC EQUIPMENT PACKAGE NOTE, THIS SHEET.
2. THE HVAC CONTRACTOR SHALL INSTALL THE EXHAUST HOODS REFER TO MOST RECENT KITCHEN PLANS ON SITE. INSTALL ALL EXHAUST DUCT PER MANUFACTURERS' INSTALLATION INSTRUCTIONS. SEE SHEET M-3. VERIFY LOCATION ON SITE WITH MOST RECENT KITCHEN EQUIPMENT PLAN.
3. ALL AIR CONDITIONING UNIT CURBS SHALL BE SUPPLIED BY NCA CONSULTANTS.
4. ALL AIR CONDITIONING UNIT CURBS SHALL BE SUPPORTED BY 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 FOLK-BACKED, R-6, U.L. LISTED, CLASSIFIED AS A CLASS 1 AIR DUCT, AND MEET ALL CODE REQUIREMENTS.
7. INCLUDING ALL EXPOSED DUCTWORK, ALL NON-FLEXIBLE DUCT AND ALL AIR DISTRIBUTION DEVICES SHALL BE INSULATED WITH 1/2" 2" X .75 DENSITY FOIL-BACKED INSULATION, WITH FIRE AND SMOKE RATING [2] [50].
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 EDITION).
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. 4)

**FLOOR PLAN - HVAC**  
SCALE: 1/4" = 1' - 0" WHEN PLOTTED 36" X 24" 19319

**PLENUMIZED CURB INSTALLATION NOTES**

1. CAREFULLY LOCATE AND MARK ROOF CURB LOCATIONS 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 DROP.
2. MARK THE EXACT LOCATION OF EACH CURB. LAY OUT ALL EQUIPMENT LOCATIONS IN ORDER TO MAINTAIN CLEARANCES FROM EXHAUST FANS AND VENTS AS WELL AS PROVIDE FOR PROPER SERVICE CLEARANCES.
3. GENERAL CONTRACTOR SHALL CUT OUT DECKING MATERIAL TAKING CARE TO AVOID CUTTING ANY STRUCTURAL COMPONENTS. GENERAL CONTRACTOR SHALL ALSO INSTALL ANY NECESSARY FRAMING OR BLOCKING AT OPENINGS.
4. WITH ROOF CURB UPSIDE DOWN (SEAL METAL 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 DUCT TAPS.
5. CUT ALL DUCT TAPS INTO THE BOTTOM PANEL OF THE ROOF CURB. BE CAREFUL NOT TO DAMAGE THE ROOFING SURFACE WHILE MAKING THESE TAPS.
6. INSTALL DUCT TAP FITTINGS AND MANUAL DAMPERS INTO THE OPENINGS PREVIOUSLY CUT. SEAL ALL CONNECTIONS ON BOTH THE BOTTOM AND THE TOP SURFACES OF THE TAPS.
7. FLATTEN TAB OF START COLLAR INSIDE CURB, TIGHT AGAINST INSULATION. 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.
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 ROOF 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.

**AIR DEVICE SCHEDULE**

SIZE	TYPE	DUCT SIZE	MODEL #	FINISH	BOOT SIZE	OPENING SIZE	QTY
12"	24X24 SUPPLY 4 WAY	12"	NCA12-1	WHITE	12"	T-BAR	4
A2**	25" SUPPLY ROUND	12"	NCA12	WHITE	12"	T-BAR	8
B*	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"	1
G	12X12 SUPPLY 1 WAY W/O.B.D.	8"	630	WHITE	12X12	SIZE + 1/4"	2
H	24X24 RETURN	18"	630TR	WHITE	22X22	T-BAR	3
J	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 PVCGR SLIDING-BLADE DAMPER  
\*\* NOTE: PROVIDE WITH EIGHT 24X24 LAY-IN FRAMES FOR INSTALLATION IN SHEETROCK CEILING  
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	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	---	---	---	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	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 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.

**FAN SCHEDULE**

TAG	EF-1	EF-2	EF-3
MANUFACTURER	CARRIER	COOK	COOK
MODEL	100 CPS-BK	100 CPS-BK	100C10DH
LOCATION	ROOF	ROOF	ROOF
AREA SERVED	BROILER	FRYERS	RESTROOM
CFM	1200*	885*	500
STATIC PRESSURE, "WG	0.75*	0.6*	0.6*
FAN HORSEPOWER	(VERIFY)	(VERIFY)	1/25
FAN RPM	(VERIFY)	(VERIFY)	983
DRIVE	BELT	BELT	DIRECT
ELECTRICAL REQ. V/Ø/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	RTU-1,4	RTU-2,3
MANUFACTURER	CARRIER	CARRIER
MODEL	50GCD08 (7.5 TON)	50GCA08 (5 TON)
LOCATION, CURB DIMENSIONS	ROOF, 78" X 50"	ROOF, 67" X 37"
TYPE OF HEAT	ELECTRIC STRIP	ELECTRIC STRIP
TOTAL COOLING CAPACITY, MBTU/HR	95.2	63.0
SENSIBLE COOLING CAPACITY, MBTU/HR	71.0	48.3
ENTERING AIR CONDITIONS, DB/F/WB/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
BHP - MEDIUM STATIC MOTOR	2.4	1.4
E.E.R./S.E.E.R.	12.2	16.0 (S.E.E.R.)
HEAT, KW	12.0/16.0	12.0/16.0
UNIT WEIGHT, LBS.	1000	700
ELECTRICAL REQUIREMENT, V/PHASE/HZ	208-230/3/60	208-230/3/60
MINIMUM CIRCUIT AMPERAGE	51.0/57.0	53.0/59.0
MAXIMUM OVER CURRENT PROTECTION	60/60	60/60

- 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 A2-3180E MOISTURE SENSOR FOR PRIMARY PAN
- NOTE: COORDINATE RTU PLACEMENT ON SITE PRIOR TO SETTING EQUIPMENT. IF ADJUSTMENT IS NECESSARY, MAINTAIN FRESH AIR INTAKE CLEARANCES.

UPON COMMENCEMENT OF ROUGH-IN AS SCHEDULED BY NCA CONSULTANTS, THE AIR CONDITIONING CONTRACTOR IS TO REMAIN ON THE JOB SITE FULL TIME UNTIL THE ROUGH-IN IS 100% COMPLETE. THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT WILL VERIFY.  
UPON COMMENCEMENT OF TRIM-OUT AS SCHEDULED BY NCA CONSULTANTS, THE AIR CONDITIONING CONTRACTOR IS TO REMAIN ON THE JOB SITE FULL TIME UNTIL THE TRIM-OUT IS 100% COMPLETE. THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT WILL VERIFY.

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DATE: 03.26.19  
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NO. DATE: 03.26.19  
REVISION: RELEASED FOR CONSTRUCTION

PREMIER KINGS, INC.  
5529 CARIBBEAN ROAD  
MONTGOMERY, ALABAMA 36117  
PHONE: (205) 322-1751  
FAX: (205) 322-1778  
EMAIL: info@premierkings.com  
WWW.PREMIERKINGS.COM

2126 Morris Avenue  
Birmingham, AL 35203  
Phone: (205) 322-1751  
Fax: (205) 322-1778  
Email: info@hendonhuckeslein.com  
WWW.HENDONHUCKESLEIN.COM

hendonhuckeslein architects, PC  
architecture • planning • interior design

SHANE HAMILTON, P.E.  
1717 N. HOWARD AVE., TAMPA, FL  
GEORGIA LICENSE #PE041331

PROJECT #: 18026.24  
RCC-60 TALL 20/20 IMAGE: NOVEMBER 2018 DESIGN RELEASE  
BURGER KING RESTAURANT  
NEAR CORNER OF HWY 82 & JACKSON ST.  
NAHANTA, GA

HVAC FLOOR PLANS, NOTES, AND SCHEDULES

M-1