

ABBREVIATIONS		(ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)	
A	AMP, AMPERE	ID	INSIDE DIAMETER
ABV	ABOVE	IE	INVERT ELEVATION
AC	AIR CONDITIONER, AIR CONDITIONING	IN	INCH, INCHES
ACC	AIR COOLED CHILLER	IN WC	INCHES OF WATER COLUMN
ACCU	AIR COOLED CONDENSING UNIT	KVA	KILOVOLT-AMPS
ADJ	ADJUSTABLE	KW	KILOWATTS
AFC	ABOVE FINISHED CEILING	KWH	KILOWATT-HOUR
AFF	ABOVE FINISHED FLOOR	LAT	INTERNALLY LINED LEAVING AIR TEMPERATURE
AFG	ABOVE FINISHED GRADE	LBS #	POUNDS
AL	ACOUSTIC LINING	LD	LEAVING DRY BULB
ANSI	AMERICAN NAT'L STANDARDS INSTITUTE	LP	LOW PRESSURE
APD	AIR PRESSURE DROP	LRA	LOCKED ROTOR AMPS
ARCH	ARCHITECT, ARCHITECTURAL	LTO	LIGHTING
ARI	AIR CONDITIONING & REFRIG INSTITUTE	LWB	LEAVING WET BULB
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION & AC ENGINEERS	LWT	LEAVING WATER TEMPERATURE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGRS	MAX	MAXIMUM
ASSY	ASSEMBLY	MHR	1000 BTU PER HOUR
ASTM	AMERICAN SOCIETY OF TESTING & MATLS	MC	MECHANICAL CONTRACTOR
AUX	AUXILIARY	MCA	MINIMUM CIRCUIT AMPACITY
AWG	AMERICAN WIRE GAUGE	MCC	MOTOR CONTROL CENTER
AWW	AMERICAN WATER WORKS ASSOC.	MD	MOTORIZED DAMPER
AWWA	AMERICAN WATER WORKS ASSOC.	MCH	MECHANICAL
B/F	BELOW FLOOR	MFR	MANUFACTURER
BAS	BUILDING AUTOMATION SYSTEM	MH	MANHOLE, METAL HALIDE
BBD	BACKDRAFT DAMPER	MIN	MINIMUM
BFCV	BOILER FEED WATER	MOC	MOTORIZED OVER CURRENT PROTECTION
BLDG	BUILDING	MVA	MAKE-UP AIR
BMS	BUILDING MANAGEMENT SYSTEM	N/A	NOT APPLICABLE
BOD	BOTTOM OF DUCT	N/C	NORMALLY CLOSED
BOP	BOTTOM OF PIPE	NC	NORMALLY OPEN
BOS	BOTTOM OF STRUCTURE	NEC	NATIONAL ELECTRICAL CODE
BTU	BRITISH THERMAL UNIT	NEMA	NATIONAL ELECTRICAL MFR'S ASSOC.
CA	COMBUSTION AIR	NFPA	NATIONAL FIRE PROTECTION ASSOC.
CC	CONCRETE	NIC	NOT IN CONTRACT
CFH	CUBIC FEET PER HOUR	N.O.	NORMALLY OPEN
CFM	CUBIC FEET PER MINUTE	NTS	NOT TO SCALE
CHW/CHWS	CHILLED WATER RETURN/SUPPLY	O/H	OVERHEAD
CHRC	CIRCULATING CIRCUIT	OA	OUTSIDE AIR (VENTILATION AIR)
CL	CENTERLINE	OBD	OPPOSED BLADE DAMPER
CLG	CEILING	OC	ON CENTER
CO	CLEANOUT	OD	OVERFLOW DRAINAGE, OUTSIDE DIAMETER
CONN	CONNECT, CONNECTION	OPNG	OPENING
COP	CLEANOUT PLUG	OVER	OVERFLOW ROOF DRAIN
COL	COLUMN	OSBY	OUTSIDE STEM AND YOKER
COT	CONNECT TO EXISTING	OSHA	OCCUPATIONAL SAFETY & HEALTH ADMIN.
CW	DOMESTIC COLD WATER	PB	PUSH BUTTON
CW/CHWS	CONDENSING WATER RETURN/SUPPLY	PD	PRESSURE DROP
C	DEGREES CELSIUS	PH, Ø	PHASE
D	DEPTH	PV	POST INDICATOR VALVE
DB	DRY BULB	PLBG	PLUMBING
DB	DECIBEL	PSI	POUNDS PER SQUARE INCH
DDC	DIRECT DIGITAL CONTROL	PRV	PRESSURE RELIEF VALVE
DEG	DEGREES	RA	RETURN AIR
DN (OR Ø)	DIAMETER	RCP	REFLECTED CEILING PLAN
DN	DOWN	RD	ROOF DRAIN
DISC	DISCONNECT	REC	RECYCLE
DN	DOWN	RENF	REINFORCING, REINFORCED
DOM	DOMESTIC	REL	RELOCATED
DS	DOWNSPOUT	REQ	REQUIRED
DWG	DRAWING	REV	REVISION, REVISE
DX	DIRECT EXPANSION	REX	REMOVE EXISTING
EA	EACH	RH	RELATIVE HUMIDITY
EAT	ENTERING AIR TEMPERATURE	RHG	REFRIGERANT HOT GAS
EC	ELECTRICAL CONTRACTOR	RL	REFRIGERANT LIQUID
EDB	ENTERING DRY BULB	RPM	REVOLUTIONS PER MINUTE
ELEV	ELEVATION	RR	REMOVE AND RELOCATE
ELEC	ELECTRICAL	RS	REFRIGERANT SUCTION
ENCL	ENCLOSURE	RWC	RAIN WATER CONDUCTOR
EQUIP	EQUIPMENT	SA	SUPPLY AIR
ESP	EXTERNAL STATIC PRESSURE	SAN	SANITARY
ETR	EXISTING TO REMAIN	SD	SMOKE DETECTOR, STORM DRAIN
EWB	ENTERING WET BULB	SECT	SECTION
EWT	ENTERING WATER TEMPERATURE	SF	SQUARE FEET, SQUARE FOOT
EX	EXISTING	SHT	SHEET
FA	FIRE ALARM	SM	SHEET METAL
FACP	FIRE ALARM CONTROL PANEL	SMACNA	SHEET METAL & AC CONT NAT'L ASSOC.
FCD	FLOOR CLEANOUT	SP	STATIC PRESSURE
FD	FIRE DAMPER	SPEC	SPECIFICATION
FF	FINISHED FLOOR	SQ	SQUARE
FLA	FULL LOAD AMPS	ST	STORM WATER
FLEX	FLEXIBLE	STD	STANDARD
FP	FIRE PROTECTION	SURF	SURFACE
FBM	FEET PER MINUTE	SUSP	SUSPEND
FT	FOOT, FEET	TDH	TOTAL DYNAMIC HEAD
FW	FILTERED WATER	TE	TENANT EXHAUST (TOILET)
°F	DEGREES FAHRENHEIT	THRU	THROUGH
G	GAS	TP	TOTAL PRESSURE
GAL	GALLON	TSP	TOTAL STATIC PRESSURE
GALV	GALVANIZED	TSTAT	THERMOSTAT
GC	GENERAL CONTRACTOR	TWRTWS	TOWER WATER RETURN/SUPPLY
GFI, GFCI	GROUND FAULT INTERRUPTER	TYP	TYPICAL
GPD	GALLONS PER DAY	UF	UNDERFLOOR
GPM	GALLONS PER HOUR	UG	UNDERGROUND
GPM	GALLONS PER MINUTE	UIS	UNDERSLAB
GRD	GROUND	UL	UNDERWRITERS LABORATORIES, INC.
GW	GREASE WASTE	UN	UNLESS OTHERWISE NOTED
H	HEIGHT	V	VOLT, VENT
HD	HEAD, HUB DRAIN	VA	VOLT-AMPERE, VALVE
HHR/HHWS	HEATING HOT WATER RETURN/SUPPLY	VAC	VACUUM
HCA	HAND-OFF-AUTOMATIC	VAV	VARIABLE AIR VOLUME
HP	HORSEPOWER, HEAT PUMP	VD	VOLUME DAMPER
HSTAT	HUMIDISTAT	VTR	VENT THROUGH ROOF
HTG	HEATING	W	WATT, WIDTH
HTR	HEATER	W	WITH
HVAC	HEATING, VENTILATING & A/C	WO	WITHOUT
HW	DOMESTIC HOT WATER	WB	WET BULB
HWR	DOMESTIC RECIRCULATED HOT WATER	WC	WATER COLUMN
HYD	HYDRANT		
HZ	HERTZ		

HVAC SYMBOLS		(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)	
	SUPPLY AIR DIFFUSER - SHADING INDICATES PATTERN, NO PATTERN SHOWN EQUALS 4-WAY OR AS NOTED		RETURN OR EXHAUST AIR GRILLE
	ROUND DUCTWORK, DIAMETER IN INCHES		RECTANGULAR DUCTWORK, SIZE IN INCHES, FIRST NUMBER IS SIDE SHOWN
	INTERNALLY LINED DUCT		SUPPLY OR OUTSIDE AIR DUCT
	RETURN, RELIEF OR EXHAUST AIR DUCT		DIFFUSER/GRILLE LABEL: A - TYPE/DESIGNATION B - NECK SIZE (INCHES) C - AIRFLOW (CFM)
	90 DEGREE DUCTWORK ELBOW W/ TURNING VANES		TURNING VANES
	RADIUS DUCTWORK ELBOW - ROUND OR RECTANGULAR		RECTANGULAR DUCTWORK BRANCH TAKE-OFF WITH 45 DEGREE BRANCH INLET
	HIGH EFFICIENCY "BUCKLEY" TAP WITH DAMPER		DUCTWORK SIZE TRANSITION
	SUPPLY OR OUTSIDE AIR DUCT UP		SUPPLY OR OUTSIDE AIR DUCT DOWN
	RETURN OR EXHAUST AIR DUCT UP		RETURN OR EXHAUST AIR DUCT DOWN
	IN-LINE 90 DEGREE RISE IN DUCT		IN-LINE 90 DEGREE DROP IN DUCT
	INCLINED RISE IN DUCT		POINT OF CONNECTION - NEW TO EXISTING
	MANUAL VOLUME DAMPER		MOTORIZED DAMPER
	FIRE DAMPER		THERMOSTAT
	HUMIDISTAT		SENSOR
	CARBON DIOXIDE SENSOR		DUCT SMOKE DETECTOR
	DRAWING NOTE REFERENCE		ROUND
	OVAL OR FLAT OVAL		UNDERCUT DOOR 3/4" FOR AIRFLOW

- ### GENERAL SHEET NOTES
- EXISTING MECHANICAL INFORMATION IS BASED ON LIMITED EXISTING BUILDING DRAWINGS AND FIELD WORK. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDITIONS FOR ACCURACY. CONTRACTOR SHALL NOTIFY OWNER, ARCHITECT AND ENGINEER OF ANY SITUATIONS THAT MODIFY OR INCREASE THE SCOPE OF WORK FROM THAT IS DESCRIBED IN THE DOCUMENTS.
 - ANYTHING NOT NOTED AS EXISTING IS TO BE FURNISHED AND INSTALLED AS PART OF THIS PROJECT.
 - REFER TO DRAWINGS AND PROJECT SPECIFICATIONS OF OTHER DISCIPLINES FOR ADDITIONAL PROJECT INFORMATION AND REQUIREMENTS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THE INFORMATION PRESENTED AND FIELD CONDITIONS.
 - MECHANICAL SYSTEMS INSTALLATION MUST MAINTAIN INTEGRITY OF WALLS, PARTITIONS AND FLOORS DESIGNATED AS EITHER FIRE RATED OR "SMOKE TIGHT". SEAL AROUND ALL PENETRATIONS THROUGH RATED OR SMOKE TIGHT ASSEMBLIES. COORDINATE WITH ARCHITECTURAL PLANS AND GENERAL CONTRACTOR.
 - LIMITED ABOVE CEILING CLEARANCES EXIST. COORDINATE LOCATION AND ELEVATION OF MECHANICAL WORK WITH ALL DUCTWORK, SPRINKLERS, LIGHT FIXTURES, AND OTHER CEILING BUILT-IN FIXTURES. CONTACT ENGINEER OR ARCHITECT IMMEDIATELY SHOULD ANY CONFLICT ARISE.
 - NOTHING IS PERMITTED TO BE ATTACHED TO, SUSPENDED FROM, OR PENETRATE THE DECK. CONTRACTOR MAY ATTACH TO OR SUSPEND FROM THE TOP CHORD OF THE JOIST OR THE STRUCTURAL STEEL WHICH EXISTS ABOVE THE SPACE.
 - COORDINATE ALL THERMOSTAT AND SENSOR LOCATIONS WITH FURNITURE LAYOUT AND ARCHITECTURAL PLANS. DEVICES ARE TO BE INSTALLED AND WIRED BY THE HVAC CONTRACTOR, MOUNT PER ADA REQUIREMENTS.
 - ALL EXPOSED DUCTWORK TO BE PAINTED, REFER TO ARCHITECTURAL PLANS.
 - CHANGES IN DUCT SIZES SHALL BE MADE BY UNIFORM TAPER SECTION WITH A MAXIMUM INCLUDE ANGLE OF DIVERGENCE OF 15 DEGREE.
 - DUCT SIZES INDICATED REPRESENT EXTERNAL SHEET METAL DIMENSIONS AND INCLUDE ALLOWANCE FOR INTERNAL INSULATION.
 - ALL SUPPLY AND MAKE-UP AIR DUCTWORK NOT EXPOSED SHALL BE EXTERNALLY INSULATED.
 - BRANCH DUCTS SERVING DIFFUSERS SHALL BE SIZED TO MATCH DIFFUSER NECK SIZE INDICATED UNLESS NOTED OTHERWISE.
 - PROVIDE ACCESS HATCHES FOR ALL MECHANICAL EQUIPMENT LOCATED ABOVE A HARD CEILING. COORDINATE WITH ARCHITECTURAL CEILING PLANS.
 - COORDINATE EXACT MOUNTING REQUIREMENTS AND LOCATION OF HOOD WITH HOOD SHOP DRAWINGS AND OWNER REQUIREMENTS.
 - GREASE EXHAUST DUCT ACCESS PANEL, CLEANOUT OPENINGS SHALL BE EQUIPPED WITH TIGHT FITTING DOORS/ EQUAL TO THE THICKNESS OF THE DUCT AND SHALL HOLD TIGHTLY CLOSED.
 - CONTRACTOR MUST REPLACE ALL AIR FILTERS WITH NEW CLEAN FILTERS BEFORE AIR BALANCING AND PRIOR TO FINAL TURNOVER TO TENANT.
 - GENERAL CONTRACTOR TO LABEL ALL EQUIPMENT WITH TENANT NAME, SPACE NUMBER AND EQUIPMENT IDENTIFICATION (RTU-1, ETC.).
 - PROVIDE COMPLETE SHEET METAL SHOP DRAWINGS, DRAWN TO SCALE AND COORDINATED WITH OTHER TRADES. SHOP DRAWINGS SHALL INCLUDE ELEVATIONS, OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. SHOP DRAWINGS SHALL BE SUBMITTED AS DEFERRED SUBMITTAL AND SUBJECT TO REVIEW AND APPROVAL BY ENGINEER OF RECORD AND LOCAL BUILDING OFFICIAL.
 - FANS ARE TO BE UL LISTED FOR GREASE AND BE PROVIDED WITH A DRAIN THAT ALLOWS FOR SINGLE POINT DRAINAGE OF GREASE, WATER AND OTHER RESIDUES. THE DRAIN SHALL EMPTY INTO A WEATHERPROOF GREASE CONTAINMENT SYSTEM, EITHER A BAFFLED GREASE TRAP AS MANUFACTURED BY GREENHECK OR CONTAINING AN SPECIALLY ENGINEERED ABSORBENT MATERIAL SIMILAR TO GREASE TERMINATOR 2 AS MANUFACTURED BY THE LOREN COOK CO.
 - GREASE EXHAUST SYSTEMS, UNOBSTRUCTED ACCESS PANELS IN DUCTWORK ARE REQUIRED AT EACH CHANGE IN DIRECTION AND AS REQUIRED TO CLEAN THE ENTIRE LENGTH OF THE DUCTWORK. ACCESS PANEL LOCATIONS SHALL BE APPROVED LOCAL AUTHORITY.
 - GREASE EXHAUST SYSTEMS PROVIDE INSPECTIONS AND CLEANING PERFORMED QUARTERLY, OR MORE FREQUENTLY AS ESTABLISHED BY THE MAINTENANCE CONTRACTOR MONTHLY, OF THEIR GREASE EXHAUST DUCTWORK, FANS, FILTERS, AND ACCESSORIES AS REQUIRED TO MINIMIZE GREASE DISCHARGE TO THE ROOF.
 - ALL EXPOSED DUCTWORK TO BE APPROVED BY THE CONSTRUCTION MANAGER PRIOR TO INSTALL. ANY EXPOSED DUCTWORK NOT APPROVED BY THE CONSTRUCTION MANAGER, IS SUBJECT TO REMOVAL AT THE CONSTRUCTION MANAGERS DISCRETION. THE CONTRACTOR WILL COORDINATE A ROUGH IN MEETING WITH ALL MEP SUBS WITH THE CONSTRUCTION MANAGER TO LAYOUT ALL EXPOSED DUCTWORK.
 - THERMOSTATS & REMOTE SENSORS ARE TO BE LOCATED IN FIELD WITH OWNER.
 - ALL SUPPLY AND RETURN DIFFUSERS ARE TO BE PAINTED UNLESS NOTED OTHERWISE. VERIFY COLOR WITH OWNER.
 - ALL EXPOSED DUCTWORK AND ASSOCIATED DIFFUSERS SHALL RECEIVE A FACTORY PAINT GRIP FINISH. NO FIELD PAINTING REQUIRED.

ISSUES:	
SUBMITTED TO PRD TEAM	03.25.22
SUBMITTED FOR PERMIT	07.08.22
REVISION 1 - COR CORRECTIONS	12.21.22

DRAWING STATUS:	
EXISTING CONDITIONS	
PRELIMINARY	
NO DRAWINGS	
CONTRACT DRAWINGS	
PERMIT DRAWINGS	
NOT FOR CONSTRUCTION	
CONSTRUCTION DRAWINGS	

T/E/S
ENGINEERING

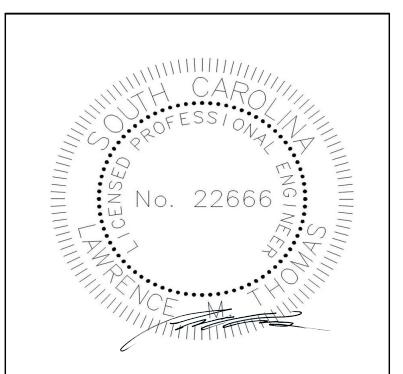
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TENANT INTERIOR FIT-OUT WITH MINOR EXTERIOR ALTERATIONS FOR:

BARTACO KING STREET, LLC.
304 KING STREET
CHARLESTON, SC 29401

MECHANICAL LEGEND AND NOTES

Design Professional's seal, registration or digital stamp is required to certify that the design complies with applicable laws, rules and regulations. The design professional is not responsible for the construction of the project. The design professional is not responsible for the construction of the project. The design professional is not responsible for the construction of the project.



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JOB NO.:	81,7042
DATE:	03.29.22
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M001

MECHANICAL SPECIFICATIONS

I. GENERAL PROVISIONS

A. GENERAL CONDITIONS, CODES & STANDARDS

- 1. GENERAL CONDITIONS OF THE CONTRACT FOUND IN THE ARCHITECTURAL DRAWINGS, GENERAL AND SPECIAL CONDITIONS OF THE AMERICAN INSTITUTE OF ARCHITECTS (AIA) AND ANY OF THE OWNER'S GENERAL REQUIREMENTS SHALL APPLY UNLESS NOTED OTHERWISE.
2. REFER TO THE GENERAL CONDITIONS ON THE ARCHITECTURAL DOCUMENTS AND THE GENERAL AND SPECIAL CONDITIONS OF THE AIA FOR ADDITIONAL REQUIREMENTS REGARDING SAFETY, COORDINATION & COOPERATION, WORKMANSHIP, PROTECTION, CUTTING AND PATCHING, DAMAGE TO OTHER WORK, PRELIMINARY OPERATIONS, STORAGE, ADJUSTMENTS, CLEANING, ETC.
3. ALL WORK SHALL BE IN CONFORMANCE WITH ALL LOCALLY ENFORCED FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES INCLUDING ANY SPECIAL OWNER REQUIREMENTS IN ADDITION TO THOSE SPECIFIED.
4. CONTRACTOR SHALL PAY FOR AND OBTAIN ALL NECESSARY LICENSES, PERMITS AND INSPECTIONS REQUIRED TO PROCEED WITH THE WORK. THIS SHALL INCLUDE ALL REQUIRED COORDINATION WITH THE LOCAL UTILITY COMPANIES AND THEIR ASSOCIATED FEES OR COSTS.

B. SCOPE OF WORK

- 1. THIS CONTRACT SHALL INCLUDE THE FURNISHING, INSTALLING, CONNECTING, AND OPERATION OF ALL EQUIPMENT WHICH IS A PART OF THE MECHANICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY SIMILAR INSTALLATIONS. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK AND WHICH IS USUALLY INCLUDED IN WORK OF A SIMILAR CHARACTER SHALL BE FURNISHED AND INSTALLED UNDER THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER.
2. CAREFULLY READ SPECIFICATION FOR ALL PARTS OF THE WORK SO AS TO BECOME FAMILIAR WITH ALL TRADES' WORK SCOPE. CONSULT WITH OTHER TRADES TO INSURE PROPER COORDINATION AND AVOID INTERFERENCES. ANY CONFLICT SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE WORK IS COMMENCED.
3. CONTRACTORS SHALL BE HELD TO HAVE EXAMINED THE PREMISES AND SITE SO AS TO COMPARE THEM WITH THE DRAWINGS AND SPECIFICATIONS. NOTE THE EXISTING CONDITIONS AND OTHER WORK THAT WILL BE REQUIRED, AND THE NATURE OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. NO ALLOWANCE SHALL BE MADE TO THE CONTRACTOR BY REASON OF THIS FAILURE TO HAVE MADE SUCH EXAMINATION OR OF ANY ERROR ON HIS PART.
4. ALL EXISTING UTILITY AND MECHANICAL SERVICES SHALL BE FIELD VERIFIED. CORRECTIONS TO THE DESIGN AND INSTALLATION SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
5. PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF HVAC WORK. ALL CORE DRILLING OR CUTTING OF FIRE RATED FLOORS, SHAFTS, AND WALLS SHALL BE FIRE STOPPED PRIOR TO FINISH PATCHING. ALL PENETRATIONS SHALL BE FIRE SEALED TO MATCH THE FIRE RATINGS OF THE FLOORS, SHAFTS, AND WALLS PENETRATED. THIS CONTRACTOR IS RESPONSIBLE TO COORDINATE OPENINGS IN WALLS AND FLOORS WITH THE GENERAL TRADES CONTRACTOR. THE FINAL LOCATIONS AND SIZES OF ALL DUCT, PIPE AND LOUVER OPENINGS SHALL BE PROVIDED BY THIS CONTRACTOR.
6. THIS CONTRACT SHALL ALSO INCLUDE ALL LABOR, MATERIALS AND MISCELLANEOUS EXPENSES REQUIRED FOR AND INCLUDING DEMOLITION OF THE EXISTING AREAS BEING RENOVATED.
a. THE DEMOLITION SHALL CONSIST OF THE COMPLETE REMOVAL (PROPERLY DISPOSED OFF SITE UNLESS OTHERWISE NOTED) OF ALL MECHANICAL EQUIPMENT, PIPING, DUCTWORK, MATERIALS, ETC. NOT REQUIRED IN THE FINAL DESIGN AND INSTALLATION OF THE MECHANICAL HVAC SYSTEMS FOR THE NEW RENOVATED AREAS.
b. ALL UNUSED SERVICES SHALL BE REMOVED BACK TO THEIR RESPECTIVE MAIN AND CAPPED OR IF THE MAIN IS NOT REQUIRED, THE MAIN SHALL BE REMOVED IN ITS ENTIRETY.
c. COORDINATE ALL DEMOLITION WITH THE ARCHITECTURAL DOCUMENTS AND THE ARCHITECT AND THE OWNER'S REQUIREMENTS.
7. ALL WORK INCLUDING, BUT NOT LIMITED TO PARTS, MATERIAL, EQUIPMENT AND LABOR SHALL BE GUARANTEED FOR ONE YEAR AFTER ACCEPTANCE BY THE ENGINEER AND OWNER. WHERE AN EQUIPMENT MANUFACTURER HAS A WARRANTY THAT EXCEEDS ONE YEAR, THAT WARRANTY PERIOD SHALL APPLY TO THIS PROJECT.

C. DOCUMENTS

- 1. THE DRAWINGS ARE DIAGRAMMATIC, ALL WORK SHALL BE PERFORMED AS INDICATED ON THE DRAWINGS UNLESS EXISTING CONDITIONS OR COORDINATION ISSUES REQUIRE CHANGES. THESE CHANGES SHALL BE MADE WITH NO ADDITIONAL COST TO THE OWNER.
2. ANY INCIDENTAL ITEMS OR LABOR, ETC. NOT INCLUDED IN THE SPECIFICATIONS OR THE DRAWINGS BUT REASONABLY IMPLIED AS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL APPARATUS SHALL BE INCLUDED IN BID.
3. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED EVEN THOUGH NOT MENTIONED IN BOTH.
4. IF ERRORS ARE FOUND IN THE DRAWINGS OR SPECIFICATIONS OR DISCREPANCIES OCCUR BETWEEN THE SAME, OR BETWEEN THE FIGURES ON THE DRAWINGS, AND THE SCALE OF SAME OR BETWEEN THE LARGER AND SMALLER DRAWINGS, OR IN THE DESCRIPTIVE MATTER ON THE DRAWINGS SHALL BE REFERRED TO THE OWNER FOR REVIEW AND FINAL DECISION PRIOR TO THE BID DUE DATE.
5. THE BIDDING OF THIS WORK WILL CONTEMPLATE THE USE OF EQUIPMENT AND MATERIALS EXACTLY AS SPECIFIED HEREIN. WHERE MORE THAN ONE MANUFACTURER IS MENTIONED ANY ONE MAY BE UTILIZED. SUBSTITUTE MANUFACTURERS MAY BE OFFERED ONLY AS AN ALTERNATE TO THE SPECIFIED EQUIPMENT AND MATERIAL AND MUST BE SUBMITTED AS SPECIFIED IN THE ARCHITECTURAL DOCUMENTS.
6. MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THE SYSTEMS CAN BE OF ANY RECOGNIZED MANUFACTURE PROVIDED THESE ITEMS MEET MINIMUM STANDARDS AS SET IN THESE SPECIFICATIONS. REFER TO EACH SECTION FOR ANY SPECIFIC REQUIREMENTS.

D. COORDINATION

- 1. CONTRACTOR SHALL LOCATE, IDENTIFY AND PROTECT ANY EXISTING SERVICES WHICH ARE REQUIRED TO BE MAINTAINED OPERATIONAL AND SHALL EXERCISE EXTRA CAUTION IN THE PERFORMANCE OF ALL WORK TO AVOID DISTURBING SUCH FACILITIES. ALL COSTS FOR REPAIR OF DAMAGES TO SUCH SERVICES SHALL BE PAID BY THE CONTRACTOR CAUSING THE DAMAGE.
2. EACH CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGE TO OTHER WORK CAUSED BY HIS WORK OR THROUGH THE NEGLIGENCE OF HIS OR HIS SUBTRACTOR'S PERSONNEL. ALL PATCHING, REPAIRING, REPLACEMENT AND PAINTING, ETC. SHALL BE DONE AS DIRECTED BY THE OWNER BY THE CRAFTSMEN OF THE TRADES INVOLVED. THE COSTS OF SUCH WORK SHALL BE PAID BY THE CONTRACTOR CAUSING THE DAMAGE.

E. METHODS

- 1. EQUIPMENT, PIPING, DUCTWORK, ETC. SHALL NOT BE SUPPORTED FROM ANY CEILING, OTHER PIPING, CONDUIT OR DUCTWORK, ROOF DECK, OR JOIST BRIDGING. ITEMS SHALL BE SUPPORTED FROM ACCEPTABLE STRUCTURAL BUILDING COMPONENTS AS DETERMINED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
2. ALL ROOF PENETRATIONS, FLASHINGS AND COUNTER FLASHINGS SHALL BE PERFORMED BY THE OWNER'S ROOFING CONTRACTOR AT THE REQUESTING CONTRACTORS COSTS.

F. SUBMITTALS

- 1. SHOP DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT OF ALL EQUIPMENT AND ACCESSORIES PROVIDED FOR THE PROJECT WHETHER SPECIFIED HEREIN OR ON THE DRAWINGS. REVIEW OF THE SHOP DRAWINGS SHALL BE FOR GENERAL DESIGN CONCEPT AND ADHERENCE WITH THE SPECIFICATIONS. QUANTITY OF SHOP DRAWINGS SUBMITTED SHALL BE AS SPECIFIED BY THE ARCHITECT. SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR SHOWING LOCATIONS AND MEASUREMENTS FROM COLUMNS OF ALL CONCEALED AND EXPOSED PIPING, DUCTWORK, CONDUIT, EQUIPMENT, ACCESSORIES, ETC., AND SUBMITTED PRIOR TO INSTALLATION. THE OWNER MAY MAKE REPRODUCIBLE COPIES OF THEIR DRAWINGS AVAILABLE FOR USE IN PREPARATION OF SHOP DRAWINGS, HOWEVER THE OWNER SHALL NOT BE HELD RESPONSIBLE FOR NOT CONFIRMING ALL INFORMATION ON THE DRAWINGS PRIOR TO FABRICATION AND/OR INSTALLATION.
2. PROJECT RECORD DOCUMENTS - MAINTAIN AT THE JOBSITE ONE COPY OF ALL CONTRACT DOCUMENTS CLEARLY MARKED AS "PROJECT RECORD COPY". THESE DRAWINGS ARE TO BE MAINTAINED IN GOOD CONDITION, UPDATED DAILY FOR CHANGES ENCOUNTED AND AVAILABLE AT ALL TIMES FOR INSPECTION BY THE OWNER. DO NOT USE FOR FIELD CONSTRUCTION. PROJECT RECORD DOCUMENTS ARE TO BE KEPT CURRENT WITH EXACT DIMENSIONS OF ALL WORK, EQUIPMENT, PIPING, VALVES, DUCTWORK, ETC. MARK ALL INFORMATION IN RED LINES AND NOTES SO AS TO BE EASILY IDENTIFIED FROM THE BASE DRAWING. UPON COMPLETION OF THE WORK, ONE SET OF THESE DOCUMENTS SHALL BE TURNED OVER TO THE OWNER AS ONE QUALIFICATION FOR FINAL PAYMENT.
3. AFTER THE BALANCING AND ACCEPTANCE TESTS ARE COMPLETED AND ACCEPTED BY THE OWNER, THREE COMPLETE SETS OF AS-BUILT DOCUMENTATION SHALL BE PROVIDED. IT SHALL INCLUDE, BUT NOT BE LIMITED TO ACCURATE PLAN DRAWINGS, SYSTEM AND CONTROL SCHEMATICS, SEQUENCE OF OPERATION, WIRING DIAGRAMS AND OPERATION AND MAINTENANCE MANUALS.

II. INSULATION

A. GENERAL

- 1. INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS, AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES.
2. CLEAN AND DRY SURFACES PRIOR TO INSULATING.
3. EXTEND INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS, HANGERS AND SIMILAR PENETRATIONS.
4. INSULATION JACKET AND FITTING COVER MUST BE PLENUM RATED.
5. IT IS ESSENTIAL THAT THE INTEGRITY OF THE VAPOR-BARRIER BE MAINTAINED. SEAL ALL PENETRATIONS OF THE VAPOR BARRIER BY STRIPS, HANGERS OR WHERE OTHERWISE DAMAGED.
6. MAINTAIN ACCESS TO BALANCING DAMPERS AND VALVES.
7. INSULATION SHALL BE BY OWENS-CORNING, KNAUF, OR MANVILLE.

B. HVAC PIPING

- 1. PIPING SHALL BE INSULATED WITH FIBERGLASS PIPING INSULATION WITH AN ALL SERVICE JACKET AND SELF SEALING LAP (ASJ/SSL).
a. INTERIOR APPLICATION
i. CONDENSATE WATER PIPING - 1/2 INCH THICK

C. HVAC DUCTWORK

- 1. INTERNALLY INSULATE WITH 1 INCH THICK, 1-1/2 DENSITY ACOUSTICAL INSULATION (AIR SIDE BLACK COATED TO MEET NFPA) ALL DUCTWORK NOTED AS REQUIRING SUCH INTERNAL INSULATION SHALL BE INSTALLED PER THE REQUIREMENTS OF THE SMACNA GUIDE AND THE MANUFACTURER'S RECOMMENDATIONS. DUCT SIZES NOTED ON DRAWING ARE SHEET METAL DIMENSIONS.
2. ALL SUPPLY AND OUTSIDE AIR DUCTWORK SHALL BE WRAPPED WITH 1-1/2 INCH OF 0.75 LB/CU.FT. FIBERGLASS, FOL BACKED DUCT WRAPPING AND COMPLY WITH ENERGY CODE REQUIREMENTS.
3. ALL RETURN AIR DUCTWORK SHALL BE WRAPPED WITH 1-1/2 INCH OF 0.75 LB/CU.FT. FIBERGLASS, FOL BACKED DUCT WRAPPING AND COMPLY WITH ENERGY CODE REQUIREMENTS.
4. ALL DUCTWORK EXPOSED ON THE EXTERIOR OF THE BUILDING SHALL BE COMPLETELY INSULATED WITH 2 INCH THICK, 8# DENSITY, PLAIN FACED, RIGID FIBERGLASS BOARD INSULATION. INSULATION ON THE TOP OF THE DUCTS SHALL BE SLIGHTLY SLOPED TO ALLOW FOR WATER DRAINAGE. INSULATION AND DUCTWORK SHALL BE COMPLETELY COVERED WITH VENTURECLAD 1570W JACKETING SYSTEM "SKIN". THE EXTERIOR COLOR OF THE SKIN SHALL BE WHITE. TRANSVERSE JOINTS SHALL BE KEPT TO A MINIMUM. LONGITUDINAL JOINTS SHALL BE MADE ON THE BOTTOM OF THE DUCTWORK. INSTALLATION SHALL BE COMPLETELY WATER TIGHT.
5. ALL KITCHEN HOOD EXHAUST DUCTWORK SHALL BE INSULATED WITH ETS FLAME SHIELD FIRE STOP BLANKET OR 3M FIRE BARRIER BLANKET.

III. HVAC

A. GENERAL

- 1. THE PROJECT CONSISTS OF THE INSTALLATION OF NEW MECHANICAL EQUIPMENT AND AIR DISTRIBUTION. ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, ETC. MUST BE FIELD VERIFIED FOR EXACT LOCATION.

B. PIPING

- 1. INDOOR CONDENSATE PIPING SHALL BE TYPE "1" COPPER CONDENSATE DRAIN FOR THE INDOOR AIR HANDLING UNIT INSTALLED PER THE MANUFACTURER'S REQUIREMENTS AND DETAILS. DRAIN SHALL DISCHARGE INTO AN EXISTING FLOOR DRAIN.
2. REFRIGERATION PIPING SHALL BE COPPER TYPE ACR WITH SILVER BRAZED JOINTS OR INDUSTRY STANDARD "LINE SETS" SPECIFICALLY MANUFACTURED FOR THE APPLICATION. ROUTE PIPING THROUGH ROOF WITH PREFABRICATED PIPE CURBS, SEAL ROOF PENETRATIONS WEATHER TIGHT.
3. PIPE HANGERS SHALL BE ADJUSTABLE CLEVIS HANGERS WITH APPROPRIATE CLAMP (DEPENDENT ON STRUT TYPE). PROVIDE OVERSIZED HANGERS FOR PIPING SYSTEMS THAT ARE TO BE INSULATED, COORDINATE INSTALLATION WITH INSULATOR FOR RIGID INSULATION UNDER HANGERS.
4. ALL PIPING SHALL BE SUPPORTED ON A MAXIMUM OF 10' CENTERS EXCEPT COPPER PIPING 1-1/4" AND SMALLER SHALL BE SUPPORTED ON A MAXIMUM OF 6' CENTERS.

C. DUCTWORK AND AIR DISTRIBUTION

- 1. DUCTWORK (ROUND OR RECTANGULAR OR SPIRAL) SHALL BE OF GALVANIZED STEEL. CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE MANUAL AND THE FOLLOWING PRESSURE / SEAL SCHEDULE:
a. SUPPLY AIR DUCTWORK - 2" W.G. POSITIVE PRESSURE, SEAL CLASS B.
b. RETURN DUCTWORK - 2" W.G. NEGATIVE PRESSURE, SEAL CLASS B.
c. EXHAUST DUCTWORK - 2" W.G. NEGATIVE PRESSURE, SEAL CLASS A.
2. ROUND DUCT ELBOWS SHALL BE LONG SWEEP - 1/2 TIMES THE CENTERLINE RADIUS WITH CLEARANCE IS NOT AVAILABLE AT WHICH TIME MITERED ELBOWS WITH TURNING VANES SHALL BE UTILIZED.
3. SPIRAL DUCT AND FITTINGS SHALL BE MANUFACTURED FROM 40 GALVANIZED STEEL MEETING ASTM A654 AND A453 REQUIREMENTS.
CONSTRUCTION
(1) BRANCH CONNECTIONS SHALL BE MADE WITH 90 CONICAL AND 45 STRAIGHT TAPS AS SHOWN ON THE DRAWINGS. BRANCH CONNECTIONS SHALL BE MADE AS A SEPARATE FITTING. FACTORY FIELD INSTALLATION OF TAPS INTO SPIRAL DUCT SHALL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
(2) ELBOWS SHALL BE FABRICATED WITH A CENTERLINE RADIUS OF 1.5 TIMES THE DIAMETER. 90 AND 45 ELBOWS DIAMETERS 3 INCH ROUND THROUGH 12 INCH ROUND SHALL BE STAMPED OR PLEATED ELBOWS. OTHER ELBOWS SHALL BE OF THE GOREE TYPE. CIRCUMFERENTIAL AND LONGITUDINAL SEAMS OF ALL FITTINGS SHALL BE A CONTINUOUS WELD OR SPOT WELDED AND SEALED WITH MASTIC. ALL WELDS SHALL BE PAINTED TO PREVENT CORROSION.
(3) FIELD JOINTS FOR ROUND DUCTS UP TO AND INCLUDING 36 INCH DIAMETER AND OVAL DUCTS UP TO AND INCLUDING 41 INCH MAJOR AXIS SHALL BE MADE WITH A 2 INCH SLIP FIT OR SLIP COUPLING. FLANGED CONNECTIONS MAY ALSO BE USED IN LIEU OF SLIP CONNECTIONS ON SMALLER SIZES. ACCESS DOORS SHALL BE SUPPLIED BY THE DUCT MANUFACTURER AT ALL FIRE AND/OR SMOKE DAMPERS ALL FLANGES AND ACCESS DOORS SHALL BE FACTORY INSTALLED. SHIPMENTS OF LOOSE FLANGES, ACCESS DOORS, OR TAPS FOR FIELD INSTALLATION INTO SPIRAL DUCT SHALL NOT BE ALLOWED.

D. DOUBLE WALL DUCT

- a. WHERE INDICATED ON THE DRAWINGS, DOUBLE WALL ACOUSTICALLY INSULATED ROUND DUCT SHALL BE SUPPLIED. DOUBLE WALL DUCT SHALL BE CONSTRUCTED OF AN OUTER SHELL, A 1 INCH THICK LAYER OF FIBERGLASS INSULATION, AND AN INNER METAL LINER. INSULATION SHALL HAVE A THERMAL CONDUCTIVITY "K" FACTOR OF .26 BTU/HR/SQ. FT. / OR LESS. THE INNER METAL LINER FOR ALL SPIRAL AND LONGITUDINAL SEAM DUCT SHALL BE PERFORATED METAL. ALL FITTINGS FROM FAN DISCHARGE TO A POINT WHERE 35 LINEAL FEET OF SPIRAL DUCT HAS BEEN USED SHALL HAVE A PERFORATED METAL LINER. ALL OTHER FITTINGS SHALL HAVE A SOLID METAL LINER WHICH MAY BE ONE EVEN GAUGE LIGHTER THAN THAT SHOWN FOR PERFORATED LINERS.
RECTANGULAR ELBOWS SHALL BE FURNISHED WITH DOUBLE THICKNESS TURNING VANES. TURNING VANES SHALL BE FASTENED WITH A DOUBLE ROW OF SCREWS.
6. FLEXIBLE CONNECTIONS AT THE INLET AND OUTLET OF RUSKIN AND CENTRIFUGAL FANS. INSTALL FLEXIBLE CONNECTIONS WITH 3" WIDE DOUBLE NEOPRENE COATED FLAME RETARDANT, NFPA 90A APPROVED, FIBERGLASS FLEXIBLE CONNECTION. FLEXIBLE CONNECTION TO HAVE A MINIMUM OF 4" GAUGE, 3" WIDE SHEET METAL COLLARS PERMANENTLY ATTACHED TO EACH SIDE.
7. MITERED OFFSETS GREATER THAN 30 DEGREES IN EITHER DIRECTION SHALL NOT BE PERMITTED.
8. CHANGES IN DUCT SIZES SHALL BE MADE BY UNIFORM TAPER SECTION WITH A MAXIMUM INCLUDE ANGLE OF DIVERGENCE OF 10 DEGREES.
9. RECTANGULAR BALANCING DAMPERS - RUSKIN MD25 SHALL BE SINGLE BLADE UP TO 6" IN HEIGHT AND 28" IN WIDTH, AND RUSKIN MD25 MULTIBLADE FOR LARGER SIZES. ALL ROUND BALANCING DAMPERS SHALL BE COMMERCIAL GRADE SINGLE BLADE UP TO 16" IN DIAMETER SHALL INCORPORATE LOOKING TYPE INDICATING ADJUSTMENT. BALANCING DAMPERS SHALL BE INSTALLED IN ALL BRANCH DUCTS OFF MAIN AND ON ALL TAPS OFF DUCTS TO DIFFUSERS UNLESS OTHERWISE NOTED ON DRAWINGS.
10. FINAL CONNECTIONS TO DIFFUSERS MAY BE MADE WITH FLEXIBLE AIR DUCTWORK BUT ITS USE IS LIMITED TO STRAIGHT HORIZONTAL OR VERTICAL RUNS. ALL CHANGES OF DIRECTION IN A DUCT SYSTEM (GALVANIZED OR FLEXIBLE) SHALL BE MADE WITH AN APPROPRIATE GALVANIZED ELBOW. MAXIMUM LENGTH OF ANY FLEXIBLE AIR DUCT IS 5'-0".
11. FLEXIBLE AIR DUCTS TO DIFFUSERS SHALL BE ATCO RUBBER PRODUCTS, INC. MODEL UPEC-1000 (R-10) U.L. 95 RATED ANGLE CLASS "A" AIR CONNECTOR. MAXIMUM LENGTH OF FLEXIBLE AIR DUCT TO DIFFUSERS TO BE 5'-0".
12. CONTROL DAMPERS SHALL BE RUSKIN OR GREENKOW. LOW LEAKAGE CONTROL DAMPER WITH CONCEALED LINKAGE AND SEALS AT BLADE EDGE AND JAMB. DAMPER SHALL HAVE MAX 10CFM/SQ FT LEAKAGE AT 4" WC. PROVIDE WITH ACTUATOR AND CONTROLS OPERATION PER PLANS.
13. PROVIDE 3"X11/4" ANGLE FRAMING AROUND THE ROOF OPENINGS FOR THE SUPPLY AND RETURN AIR DUCTWORK.
14. SUPPORT ALL SHEET METAL AND EQUIPMENT FROM ANGLE IRON CONNECTED TO STRUCTURAL STEEL. DO NOT SUSPEND DUCT OR EQUIPMENT FROM METAL DECK OR JOIST BRIDGING.
a. GRILLES, REGISTERS AND DIFFUSERS
a. SEE SCHEDULE ON DRAWINGS

D. KITCHEN SYSTEMS

- 1. THE ENTIRE KITCHEN HOOD INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS WITHIN THE LOCAL STATE BUILDING MECHANICAL CODE OR AS MODIFIED BY LOCAL CODES.
a. ALL KITCHEN HOOD EXHAUST DUCTWORK SHALL BE WELDED 16 GAUGE STEEL DUCT WITH LIQUID TIGHT JOINTS.
b. SLOPE ALL DUCTWORK BACK TO THE HOOD.
c. PROVIDE ACCESS DOORS IN SIDE OF DUCTS AT EACH CHANGE OF DIRECTION AND AT 20 FOOT INTERVALS FOR INSPECTION AND CLEANING.
d. SUPPORT DUCT PER CODE AND SMACNA.
2. THIS CONTRACT SHALL INCLUDE THE FURNISHING AND INSTALLATION OF A COMPLETE AUTOMATIC FIRE SUPPRESSION SYSTEM FOR THE KITCHEN HOOD, EXHAUST DUCTS, COOKING APPLIANCES, ETC. EQUIPMENT SHALL BE AS MANUFACTURED BY ANSL CORP MODEL R-102. SYSTEM SHALL BE ARRANGED TO SHUT-OFF ALL SOURCES OF COOKING HEAT AUTOMATICALLY UPON SYSTEM OPERATION. THE SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE LOCAL BUILDING CODE, U.L. LISTING NFPA 96 AND ALL OTHER LOCAL, STATE AND NATIONAL FIRE CODES. AGENT CYLINDERS SHALL BE MANUFACTURED, TESTED AND MARKED IN ACCORDANCE WITH DOT SPECIFICATION 4826. CYLINDER VALVES SHALL BE HEAVY DUTY FORGED BRASS AND SHALL BE OF A DESIGN INCORPORATING THE FOLLOWING FEATURES: PRESSURE GAUGE, PRESSURING AIR VALVE ASSEMBLY, RING NUT FOR CYLINDER CONNECTION AND SEPARATE ACTUATING CONTROL HEAD. SYSTEM SHALL BE PROVIDED WITH ALL REQUIRED ACCESSORIES INCLUDING BUT NOT LIMITED TO AUTOMATIC GAS SHUTOFF VALVE, REMOTE PULL STATION, ETC.
3. THIS CONTRACTOR SHALL COORDINATE WITH THE FIRE SUPPRESSION SYSTEM SUPPLIER, THE ELECTRICAL CONTRACTOR AND THE ARCHITECT TO PROVIDE A COMPLETE OPERATION AND CONTROL SYSTEM. UPON ACTIVATION OF THE FIRE SUPPRESSION SYSTEM, EXHAUST AND SUPPLY FAN OPERATION SHALL BE PER THE REQUIREMENTS OF THE LOCAL CODE AND AUTHORITY. PROVIDE ALL LABOR AND MATERIAL TO INSTALL THE REMOTE CONTROL PANEL IN THE LOCATION SHOWN ON THE DRAWINGS. INSTALLATION SHALL CONFORM TO THE ELECTRICAL SPECIFICATIONS.
4. KITCHEN EXHAUST HOOD -
a. SCHEDULED ON THE DRAWINGS WITH ALL STANDARD FEATURES AND THE FOLLOWING OPTIONS: U.L. CLASSIFIED AND U.L. LISTED VAPORPROOF NONDESTRUCTIBLE LIGHTS THIS HOOD IS U.L. CLASSIFIED AND HAS BEEN LABELED AND TESTED IN ACCORDANCE WITH U.L. 710.

IV. HVAC EQUIPMENT

A. GENERAL

- 1. INSTALLATION OF ALL EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S INSTALLATION INFORMATION AND INSTRUCTIONS, REQUIREMENTS AND ANY ADDITIONAL GUIDELINES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL REQUIRED ACCESSORIES REQUIRED TO COMPLETE THE INSTALLATIONS.
2. HVAC EQUIPMENT SHALL BE "STARTED UP" BY A FACTORY TRAINED AND AUTHORIZED SERVICE TECHNICIAN.
3. ALL FACTORY STARTUP FORMS SHALL BE COMPLETED AND TURNED OVER TO THE OWNER WITH ALL COMPLETED WARRANTY CARDS PRIOR TO FINAL APPROVAL.

B. PACKAGE ROOFTOP HEATING AND AIR-CONDITIONING UNITS

1. SEE DRAWING FOR INDIVIDUAL UNIT PERFORMANCE REQUIREMENTS.

C. FANS

- 1. CEILING FANS
a. SEE DRAWING FOR INDIVIDUAL UNIT PERFORMANCE.
2. KITCHEN FANS
a. SEE DRAWING FOR INDIVIDUAL UNIT PERFORMANCE.

VI. CONTROLS

- A. CONTROL WIRING SHALL BE PLENUM RATED CABLE WITH COLOR CODED 18 AWG WIRES (MINIMUM).
B. CONTRACTOR SHALL PROVIDE ALL WIRING BETWEEN THERMOSTAT AND EQUIPMENT (AIR HANDLER, ROOFTOP UNIT, CONDENSING UNIT, ETC.).

C. THERMOSTATS

- 1. FURNISH AND INSTALL A HVAC UNIT MANUFACTURER'S RECOMMENDED 7 DAY PROGRAMMABLE HEATING/COOLING THERMOSTAT AND CLEAR LOCKABLE COVER WITH APPROPRIATE CONTROL WIRING BETWEEN THERMOSTAT AND EQUIPMENT AS REQUIRED TO PROVIDE A COMPLETE OPERATING SYSTEM. WIRING SHALL BE MINIMUM 18 AWG.
2. THERMOSTATS SHALL BE MOUNTED WHERE INDICATED ON THE DOCUMENTS.
3. CONTRACTOR SHALL PROGRAM THERMOSTAT PER THE OWNER'S REQUIREMENTS AND TRAIN OWNERS PERSONNEL IN THE OPERATION AND PROGRAMMING OF THE THERMOSTAT AND SYSTEM.

D. TEMPERATURE SENSORS

- 1. FURNISH AND INSTALL THE TEMPERATURE SENSORS WITH APPROPRIATE CONTROL WIRING BETWEEN THERMOSTAT, SENSOR AND EQUIPMENT AS REQUIRED TO PROVIDE A COMPLETE OPERATING SYSTEM. WIRING SHALL BE MINIMUM 18 AWG.
2. TEMPERATURE SENSORS SHALL BE MOUNTED WHERE INDICATED ON THE DOCUMENTS.

VII. TESTING AND BALANCING

- A. TESTING AND BALANCING SHALL NOT BEGIN UNTIL THE SYSTEM HAS BEEN COMPLETED, IS IN FULL WORKING ORDER AND ALL EQUIPMENT START-UP HAS BEEN COMPLETED. ALL HVAC SYSTEMS AND EQUIPMENT SHALL BE PUT INTO FULL OPERATION AND THE OPERATION OF SAME CONTINUED DURING EACH WORKING DAY OF THE TESTING AND BALANCING.

B. AN INDEPENDENT "AABC" OR "NEBB" CERTIFIED AIR AND WATER BALANCE CONTRACTOR SHALL TEST AND BALANCE THE SYSTEM AND REPORT RESULTS TO THE ENGINEER AND THE OWNER.

- 1. ALL WORK SHALL BE DONE UNDER DIRECT SUPERVISION OF THE CERTIFIED BALANCING ENGINEER AND BY QUALIFIED BALANCING TECHNICIANS.
2. METHODS AND FORMS SHALL BE IN ACCORDANCE WITH THE CERTIFICATION AGENCIES RECOMMENDATIONS AND REQUIREMENTS.
3. COMPLY WITH ASHRAE RECOMMENDATIONS PERTAINING TO MEASUREMENTS, INSTRUMENTS, TESTING, ADJUSTING AND BALANCING.
4. ALL QUANTITIES SHALL BE WITHIN 1% OF THE DESIGN VALUES.
5. CONTRACTOR SHALL PROVIDE ANY SPECIAL CHARGES REQUIRED ON THE HVAC UNIT.

C. PERFORMANCE TEST

- 1. AFTER ALL HVAC EQUIPMENT IS INSTALLED, TESTED AND BALANCED AS SPECIFIED HEREIN THEY SHALL BE OPERATED AND PLACED UNDER SURVEILLANCE FOR A PERIOD OF AT LEAST ONE (1) DAY. THIS MAY INCLUDE THE DAY OF STARTUP, TO VERIFY THAT ALL EQUIPMENT IS PRODUCING THE REQUIRED CAPACITY. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR THE OPERATION OF THE EQUIPMENT DURING THE ENTIRE PERIOD.
2. TEST SHALL BE PERFORMED WITH ALL CONTROLS IN THE AUTOMATIC POSITION AND BUILDING LIGHTS, DAMPERS, ETC. POSITIONED TO SIMULATE NORMAL OPERATION OF THE HVAC SYSTEM.
3. DURING THE TEST, CONTROL SETTINGS MAY REQUIRE ADDITIONAL ADJUSTMENTS TO PRODUCE THE BEST BALANCED SYSTEM OPERATION. THEIR FINAL SETTINGS OF EACH OPERATING AND SAFETY CONTROL SHALL BE RECORDED, THEY SHALL INCLUDE, BUT NOT LIMITED TO, THERMOSTATS, LIMIT CONTROLS, AND OTHER SIMILAR ITEMS.
4. SHOULD COMPLETION OF THE INSTALLATION OCCUR AT SUCH TIME THAT THE REQUIRED PERFORMANCE TEST MUST BE CONDUCTED DURING A SEASON WHEN THE FULL OPERATION OF EITHER THE HEATING OR COOLING SYSTEM CAN NOT BE CHECKED, THE CONTRACTOR SHALL PERFORM THE TEST AND RECORD ALL SUCH DATA AS IS AVAILABLE WITH SYSTEM OPERATING AUTOMATICALLY UNDER THE PREVAILING WEATHER CONDITIONS. THAT PART OF THE SYSTEM WHICH CAN NOT BE TESTED SHALL BE DELAYED UNTIL THE WEATHER IS APPROPRIATE AT WHICH TIME THE REQUIRED PART OF THE REQUIRED TESTS SHALL BE CONDUCTED AND DATA RECORDED ACCORDINGLY.

D. ACCEPTANCE AND CHECK-OUT - CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL, AT NO ADDITIONAL COST TO THE OWNER, AS MAY BE REQUIRED BY THE ENGINEER FOR THE PURPOSE OF VERIFYING PROPER OPERATION AND INSTALLATION OF THEIR WORK OR THE TIME OF REQUEST FOR ACCEPTANCE.

VIII. SEQUENCE OF OPERATION

A. ROOFTOP UNIT

- 1. WALL MOUNTED THERMOSTAT FURNISHED AS ACCESSORY TO UNIT SHALL SEQUENCE HEATING AND COOLING. PROVIDE WITH SUB-BASE TO MANUALLY SELECT HEATING, COOLING, FAN ON-OFF, AUTO OPERATION.
2. UNIT SHALL OPERATE IN OCCUPIED OR UNOCCUPIED MODES BASED UPON TIME CLOCK SEQUENCE AS DETERMINED BY OWNER.
3. UNOCCUPIED MODE - THE SUPPLY FAN WILL BE OFF. THE OUTDOOR AIR DAMPER WILL GO TO 100% CLOSED POSITION AND UNIT WILL CYCLE ON WITH CALL FOR HEATING OR COOLING.
4. OCCUPIED MODE - THE SUPPLY FAN SHALL RUN CONTINUOUSLY. THE OUTDOOR AIR DAMPER WILL OPEN TO THE MINIMUM AIR POSITION AND THE UNIT WILL GO INTO THE HEATING OR COOLING MODE, BASED UPON ROOM THERMOSTAT SETPOINT TEMPERATURE. UPON A CALL FOR COOLING, AND THE OUTDOOR AIR TEMPERATURE IS 55 DEGREES F (ADJUSTABLE) OR COOLER, THE UNIT SHALL GO INTO ECONOMIZER MODE. IF THE OUTDOOR AIR TEMPERATURE IS GREATER THAN 55 DEGREES F (ADJUSTABLE), THE OUTSIDE AIR DAMPER SHALL GO TO MINIMUM POSITION, AND THE COMPRESSORS WILL BE ENERGIZED.
5. UPON A CALL FOR HEATING, THE ELECTRIC HEATGAS BURNER SHALL STAGE.
6. A LOW TEMPERATURE THERMOSTAT WILL DE-ENERGIZE THE SUPPLY FAN AND CLOSE THE OUTSIDE AIR DAMPER IF THE MIXED AIR TEMPERATURE IS SENSED AT 40 DEGREES F OR COLDER.
8. DUCT MOUNTED SMOKE DETECTOR SHALL SHUT DOWN THE UNIT, CLOSE THE OUTSIDE AIR DAMPER AND SEND A SIGNAL TO THE FIRE ALARM PANEL WHEN ACTIVATED. BOTH SAFETIES WILL REQUIRE MANUAL RESET, AND WILL ACTIVATE AN ALARM AT THE LOCAL CONTROL PANEL.

B. HOT GAS REHEAT

- 1. THE SPACE RELATIVE HUMIDITY (RH) SENSOR THROUGH A DDC CONTROLLER OUTPUT SIGNAL, THE UNIT WILL GO INTO THE DEHUMIDIFICATION MODE ONLY WHEN THERE NO SENSIBLE COOLING DEMAND. UPON A RISE IN SPACE RH ABOVE SETPOINT (80% ADJUSTABLE), EACH UNIT HOT GAS REHEAT COIL, ENERGIZED THROUGH A HOT GAS SOLENOID VALVE, SHALL REHEAT THE SUPPLY AIR TO A NEARLY NEUTRAL TEMPERATURE WHEN IN THE DEHUMIDIFICATION MODE. SHOULD THE SPACE TEMPERATURE DROP EVEN FURTHER BELOW THE HEATING SETPOINT, THE DEHUMIDIFICATION MODE SHALL BE DE-ENERGIZED AND THE HOT GAS REHEAT COIL SHALL CYCLE ON AS NEEEDED TO SATISFY THE SPACE HEATING SETPOINT AFTER THE COMPRESSOR IS CYCLED OFF.

IX. LABELING

A. SUMMARY

- 1. SECTION INCLUDES NAMEPLATES, TAGS, STENCILS AND PIPE MARKERS.

B. REFERENCES

- 1. ASME A13.1 (AMERICAN SOCIETY OF MECHANICAL ENGINEERS) - SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS.

C. NAMEPLATES

- 1. PRODUCT DESCRIPTION: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED BLACK LETTERS ON LIGHT CONTRASTING BACKGROUND COLOR.

D. TAGS

- 1. METAL TAGS
a. BRASS WITH STAMPED LETTERS, TAG SIZE MINIMUM 1-1/2 INCHES DIAMETER.
2. INFORMATION TAGS
a. CLEAR PLASTIC WITH PRINTED "DANGER," "CAUTION," OR "WARNING" AND MESSAGE. SIZE 3-1/4 X 5-5/8 INCHES WITH BROWNET AND SELF-LOCKING NYLON TIES.
3. TAG CHART: TYPEWRITTEN LETTER SIZE LIST OF APPLIED TAGS AND LOCATION IN ANODIZED ALUMINUM FRAME.

E. STENCILS

- 1. STENCILS, WITH CLEAN OUT SYMBOLS AND LETTERS OF FOLLOWING SIZE:
a. DUCTWORK 1-3/4 INCHES HIGH LETTERS.
2. STENCIL PAINT: SEMI-GLOSS ENAMEL, COLORS AND LETTERING SIZE CONFORMING TO ASME A13.1.

F. PIPE MARKERS

- 1. COLOR AND LETTERING: CONFORM TO ASME A13.1.
2. PLASTIC PIPE MARKERS:
a. FACTORY FABRICATED, FLEXIBLE, SEMI-RIGID PLASTIC, PREFORMED TO FIT AROUND PIPE OR PIPE COVERING. LARGER SIZES MAY HAVE MAXIMUM SHEET SIZE WITH SPRING FASTENER.

G. LABELS

- 1. DESCRIPTION: POLYESTER OR LAMINATED MYLAR, SIZE 1.9 X 0.75 INCHES, ADHESIVE BACKED WITH PRINTED IDENTIFICATION.
2. CONTRACTOR TO PROVIDE LABELS AT EACH ENTRANCE DOOR TO CHILLER ROOM - "DO NOT ENTER ROOM WHEN BEACON IS FLASHING"

H. PREPARATION

- 1. DEGREASE AND CLEAN SURFACES TO RECEIVE ADHESIVE FOR IDENTIFICATION MATERIALS.

I. INSTALLATION

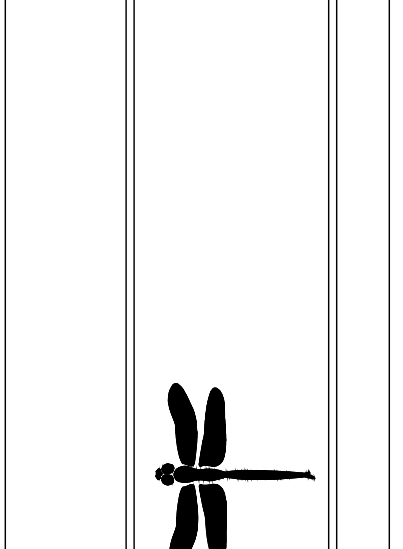
- 1. INSTALL IDENTIFYING DEVICES AFTER COMPLETION OF COVERINGS AND PAINTING.
2. INSTALL PLASTIC NAMEPLATES WITH CORROSIVE-RESISTANT MECHANICAL FASTENERS, OR ADHESIVE.
3. INSTALL LABELS WITH SUFFICIENT ADHESIVE TO ENSURE PERMANENT ADHESION AND SEAL WITH CLEAR LACQUER, FOR UNFINISHED CANVAS COVERING, APPLY PAINT PRIMER BEFORE APPLYING LABELS.
4. INSTALL TAGS USING CORROSION RESISTANT CHAIN. NUMBER TAGS CONSECUTIVELY BY LOCATION.
5. IDENTIFY EQUIPMENT WITH PLASTIC NAMEPLATES.
6. IDENTIFY CONTROL PANELS AND MAJOR CONTROL COMPONENTS OUTSIDE PANELS WITH PLASTIC NAMEPLATES.
7. IDENTIFY VALVES IN MAIN AND BRANCH PIPING WITH TAGS.
8. TAG AUTOMATIC CONTROLS, INSTRUMENTS, AND RELAYS. KEY TO CONTROL SCHEMATIC.
9. IDENTIFY PIPING, CONCEALED OR EXPOSED, WITH PLASTIC PIPE MARKERS, PLASTIC TAPE OR LABELS. IDENTIFY CONTROL WIRING BETWEEN THERMOSTAT AND EQUIPMENT AS REQUIRED TO PROVIDE A COMPLETE OPERATING SYSTEM. WIRING SHALL BE MINIMUM 18 AWG. IDENTIFICATION NOT TO EXCEED 20 FEET ON STRAIGHT RUNS INCLUDING RISERS AND DROPS, ADJACENT TO EACH VALVE AND TEE. AT EACH SIDE OF PENETRATION OF STRUCTURE OR ENCLOSURE, AND AT EACH OBSTRUCTION.

ISSUES:
SUBMITTED FOR REVIEW 06.25.22
SUBMITTED FOR PERMIT 07.08.22
REVISION / DESCR COMMENTS 12.21.22

DRAWING STATUS:
EXISTING CONDITIONS
PRELIMINARY
NO DRAWINGS
CONTRACT DRAWINGS
PERMIT DRAWINGS
NOT FOR CONSTRUCTION
CONSTRUCTION DRAWINGS

T/E/S ENGINEERING
26769 First Street
Cleveland, OH 44145
P 440.871.2410
F 440.871.7954
tesengineering.com

TENANT INTERIOR FIT-OUT WITH MINOR EXTERIOR ALTERATIONS FOR:
BARTACO KING STREET, LLC.
304 KING STREET
CHARLESTON, SC 29401



MECHANICAL SPECIFICATIONS

Professional Engineer Seal for Bartaco King Street, LLC. No. 22666, State of South Carolina.

DRAWING: FPN
CHECKED: NDC
JOB NO.: BT-7042
DATE: 03.29.22
Sheet

M002

ISSUES:	
SUBMITTED TO PRD TEAM	05.25.22
SUBMITTED FOR PERMIT	07.08.22
REVISION 1 - DCB COMMENTS	12.21.22

DRAWING STATUS:	
PRELIMINARY	
NO DRAWINGS	
CONTRACT DRAWINGS	
PERMIT DRAWINGS	
NOT FOR CONSTRUCTION	
CONSTRUCTION DRAWINGS	

T/E/S
ENGINEERING

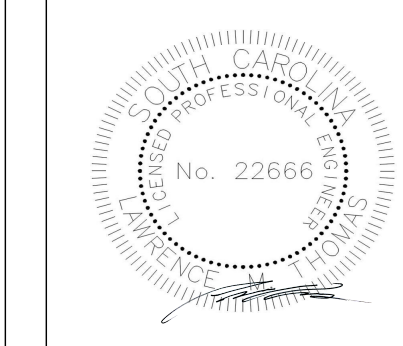
25769 First Street
Cleveland, OH 44145
P 440.871.2410
F 440.871.7954
tesengineering.com

MECHANICAL DETAILS

TENANT INTERIOR FIT-OUT WITH MINOR EXTERIOR ALTERATIONS FOR:

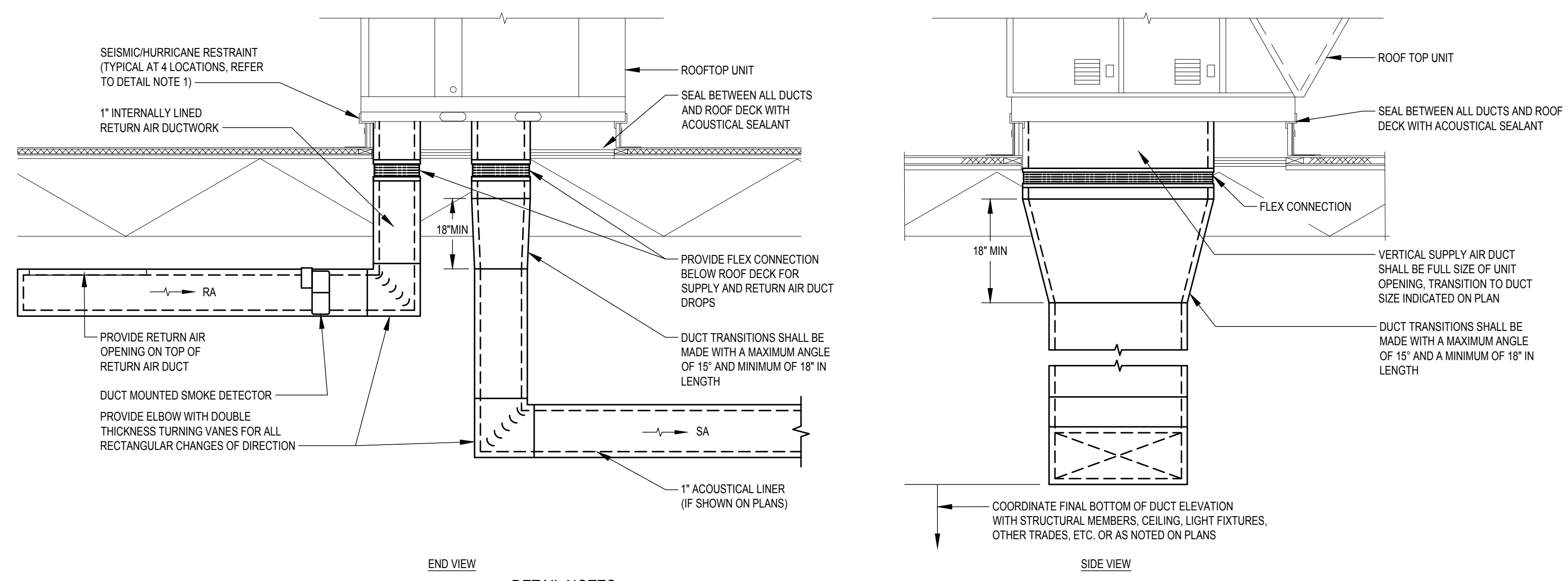
BARTACO KING STREET, LLC.
304 KING STREET
CHARLESTON, SC 29401

Design Professionals' seal, registration or digital stamp is a prerequisite to the issuance of a permit. The seal, registration or digital stamp shall be placed on the drawing in the location specified in the applicable code. The seal, registration or digital stamp shall be placed on the drawing in the location specified in the applicable code. The seal, registration or digital stamp shall be placed on the drawing in the location specified in the applicable code.



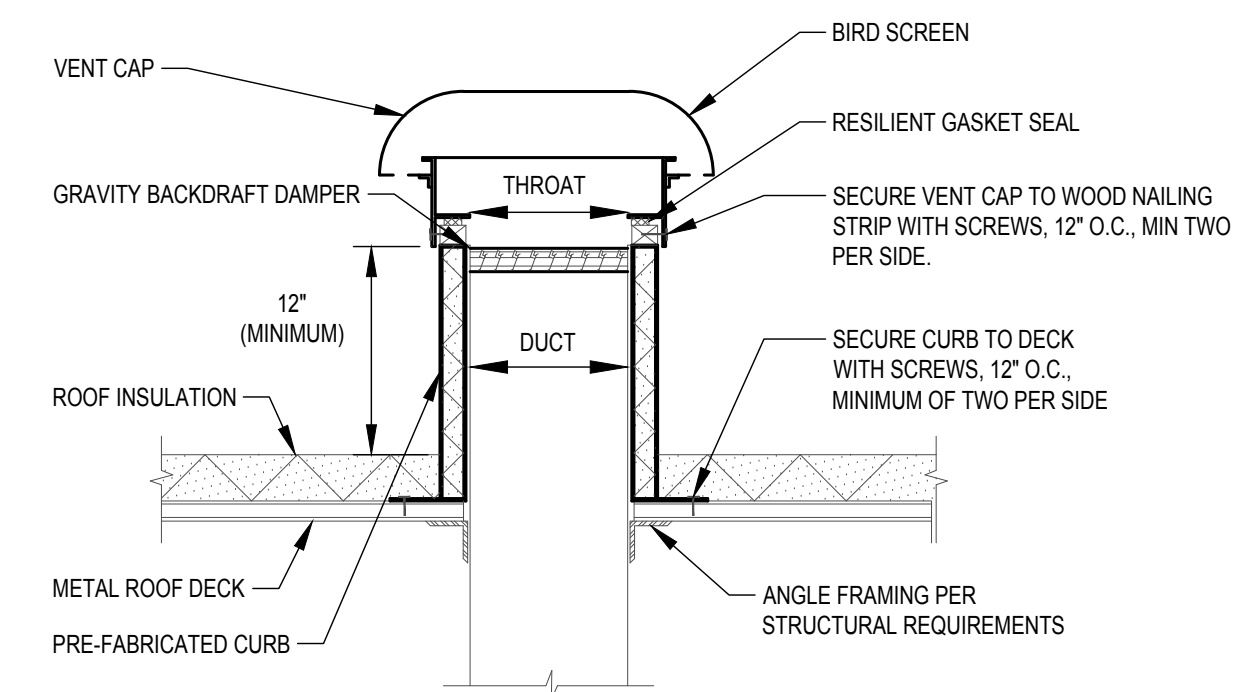
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JOB NO.:	81.7042
DATE:	03.29.22
Sheet	2

M501



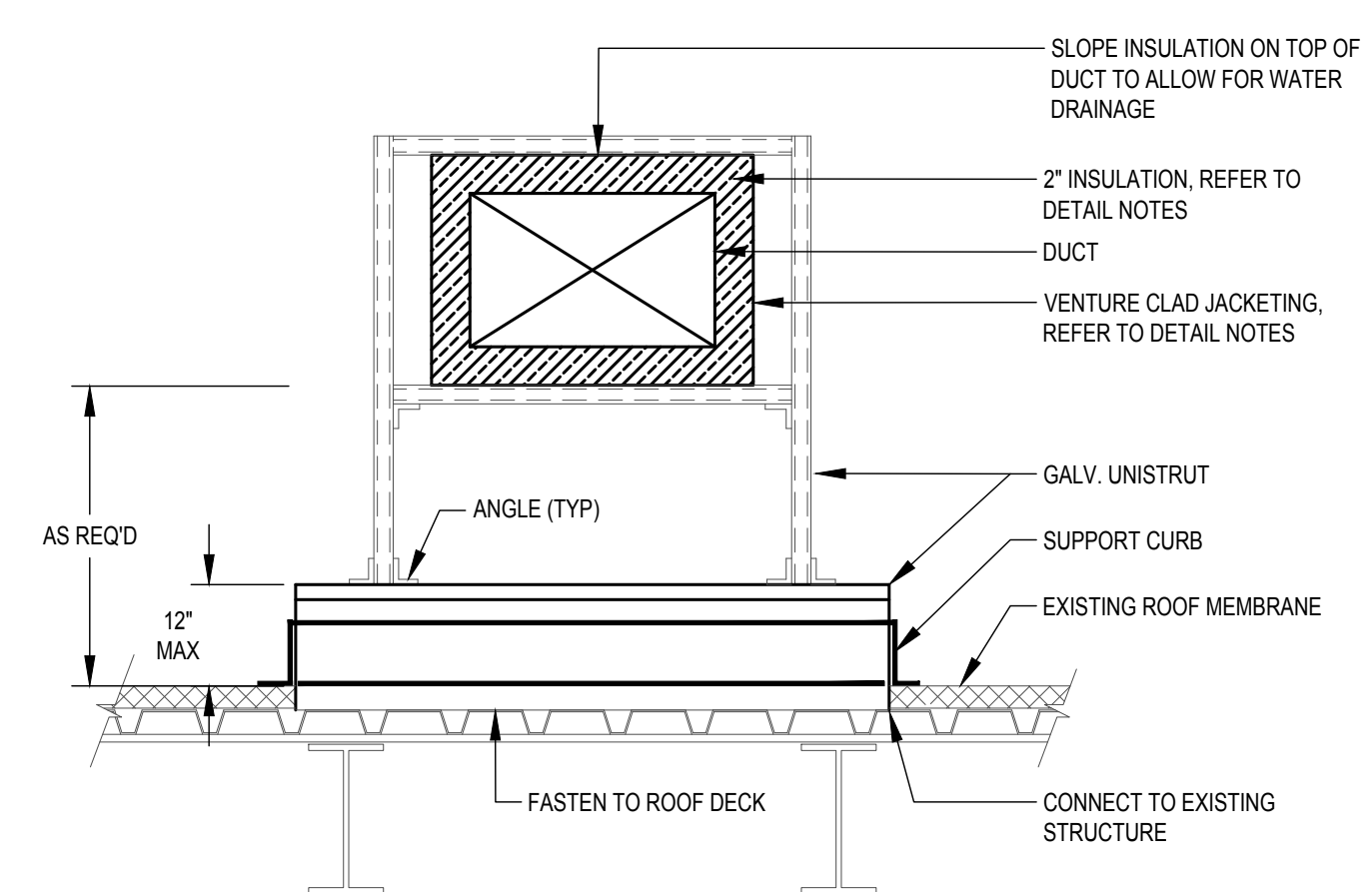
- DETAIL NOTES**
- PROVIDE SEISMIC/HURRICANE RESTRAINTS WHEN REQUIRED BY CODE. SEISMIC/HURRICANE RESTRAINTS SHALL BE FURNISHED BY ROOFTOP UNIT MANUFACTURER AND INSTALLED BY CONTRACTOR. RESTRAINTS SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO EACH CORNER OF ROOF CURB.
 - ROOF CURBS ARE PROVIDED AND INSTALLED BY THE LANDLORD. ANY DERIVATION FROM EQUIPMENT SPECIFICATIONS MUST BE REVIEW AND APPROVED BY THE ARCHITECT AND ENGINEER. NO CURB ADAPTERS ALLOWED.

9 RTU SECTION DETAIL
M501 SCALE: NONE



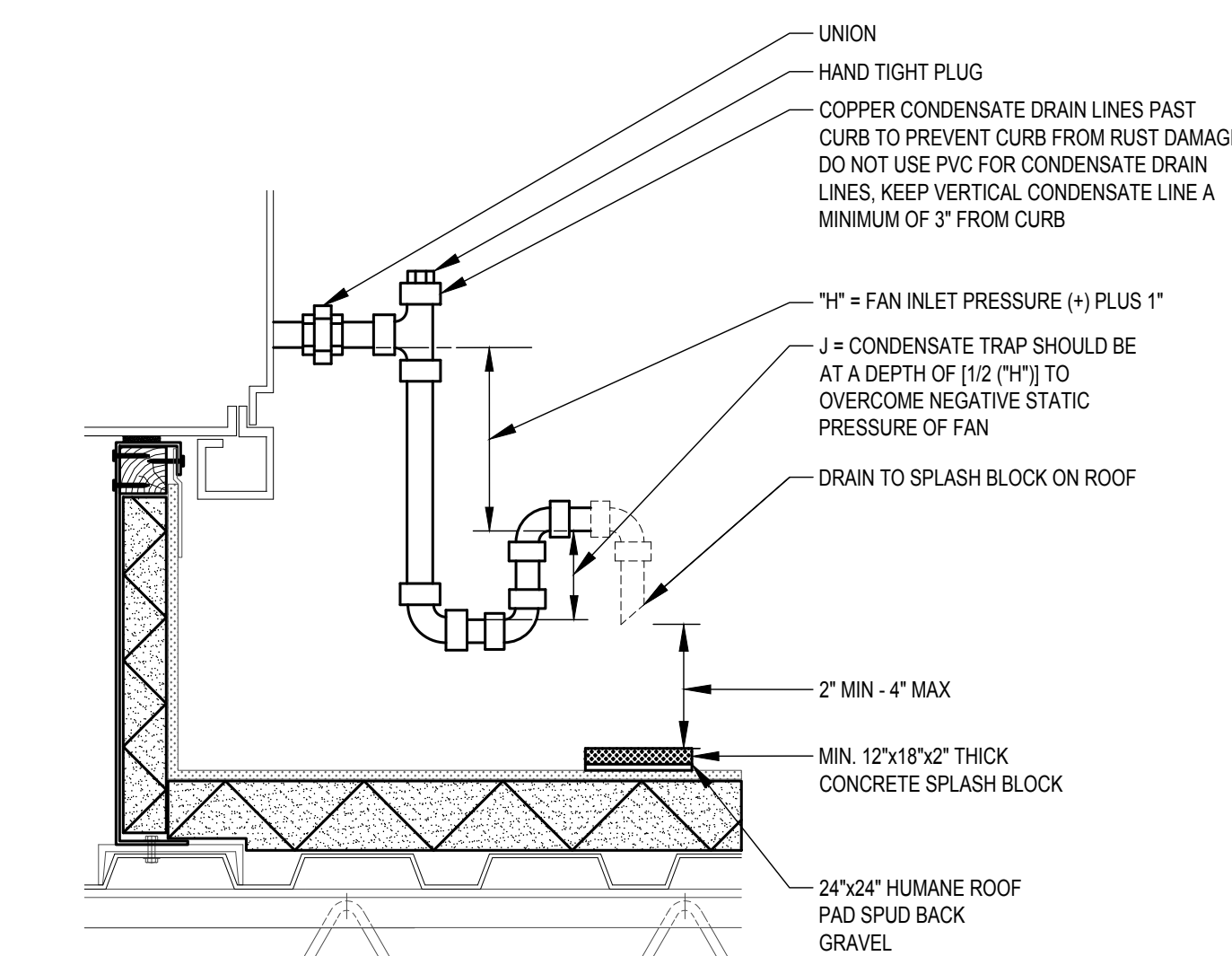
- DETAIL NOTES**
- HVAC CONTRACTOR TO COORDINATE INSTALLATION WITH LANDLORD APPROVED ROOFING CONTRACTOR FOR PROPER SEQUENCE TO PERMIT FLASHING AND COUNTERFLASHING INSTALLATION.
 - GOOSENECK TERMINATION NOT PERMITTED.

8 EXHAUST AIR VENT CAP DETAIL
M501 SCALE: NONE

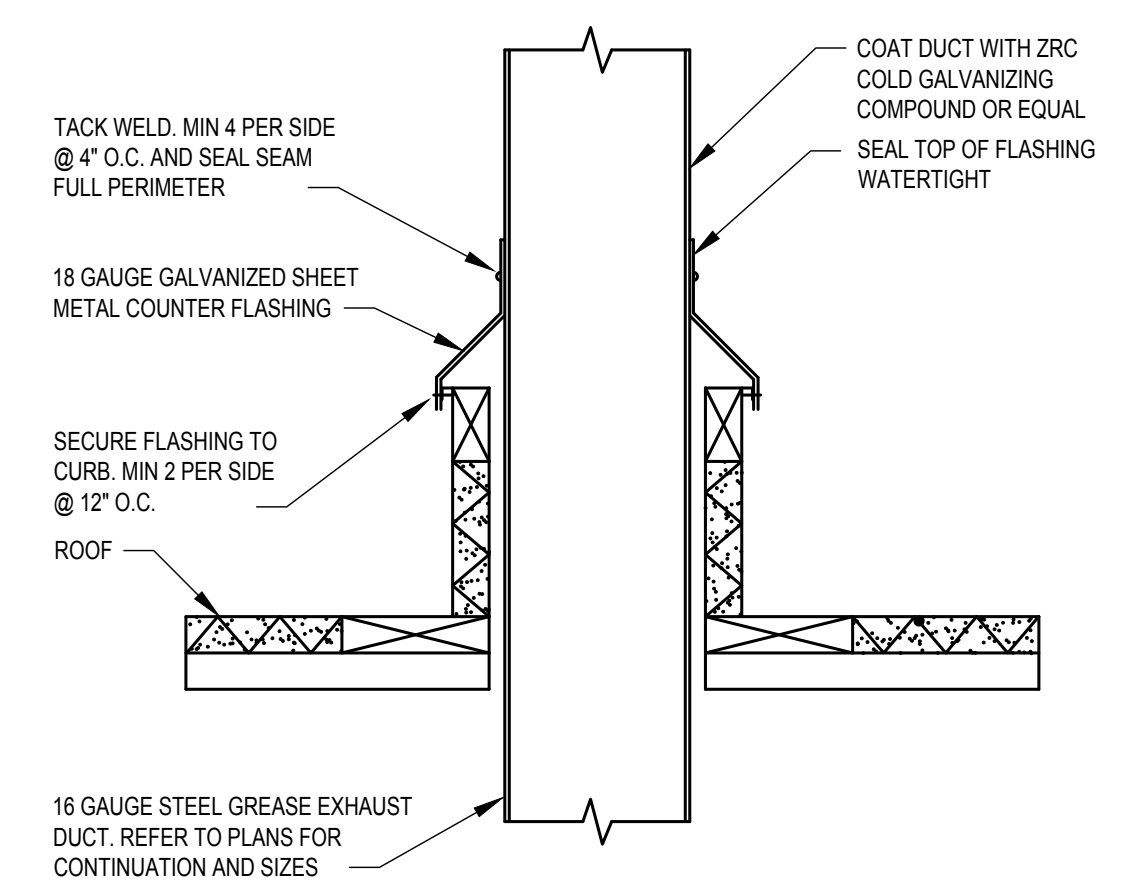


- DETAIL NOTES**
- SUPPORT TO BE WELDED CONSTRUCTION
 - PAINT ALL UNGALVANIZED WORK WITH (2) COATS OF RUST RESISTANT PAINT AFTER WELDING
 - INSULATE DUCT WITH 2" THICK, 6# DENSITY, PLAIN FACED, RIGID FIBERGLASS BOARD INSULATION. INSULATION ON THE TOP OF THE DUCTS SHALL BE SLIGHTLY SLOPED TO ALLOW FOR WATER DRAINAGE. INSULATION AND DUCTWORK SHALL BE COMPLETELY COVERED WITH VENTURECLAD 157C/W JACKETING SYSTEM "SKIN". TRANSVERSE JOINTS SHALL BE KEPT TO A MINIMUM. LONGITUDINAL JOINTS SHALL BE MADE ON THE BOTTOM OF THE DUCTWORK. ALL JOINTS SEAMS, ETC. SHALL BE SEALED WEATHERPROOF. INSTALLATION SHALL BE COMPLETELY WATER TIGHT.

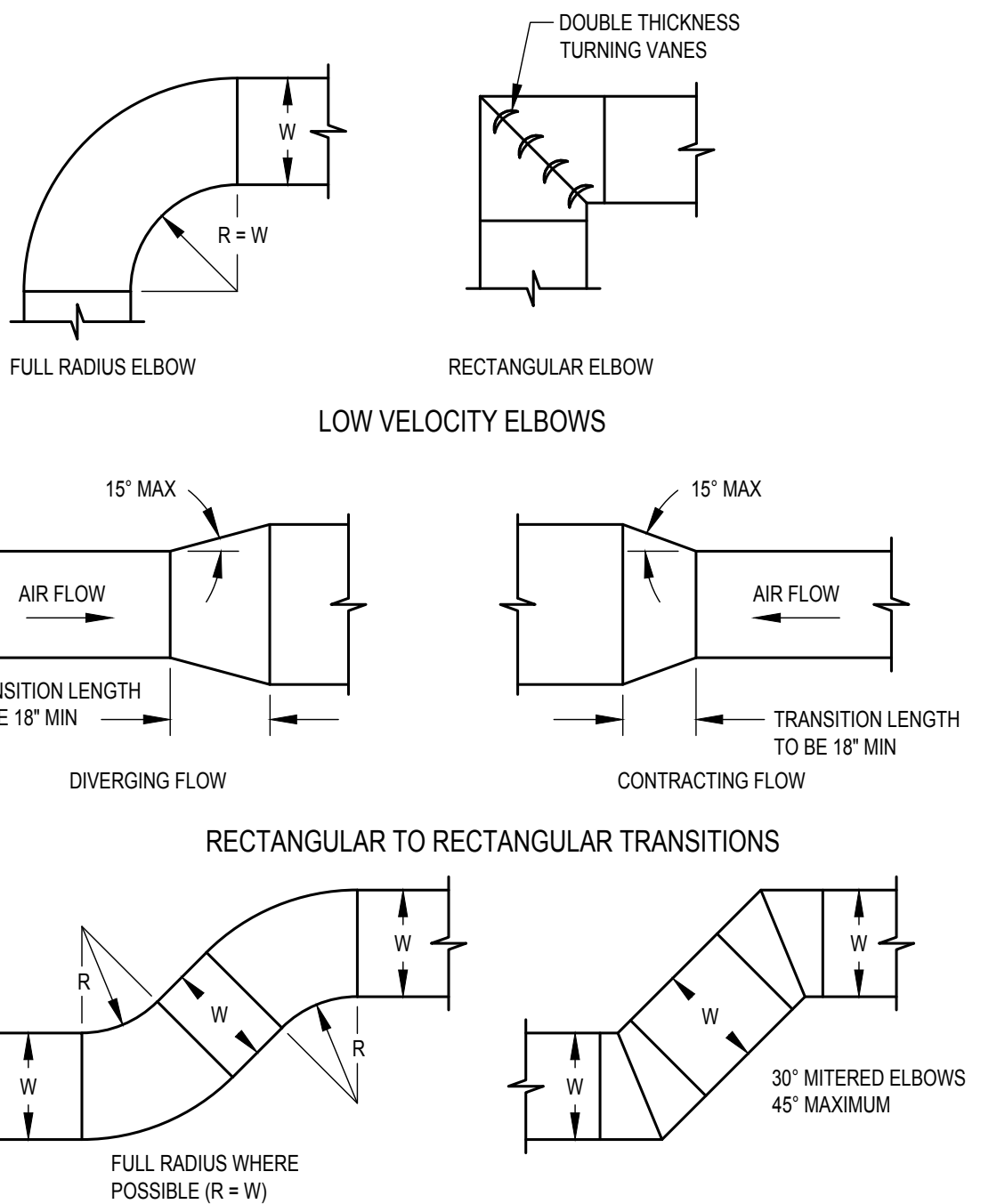
7 DUCT ON ROOF SUPPORT, INSULATE, AND WRAP
M501 SCALE: NONE



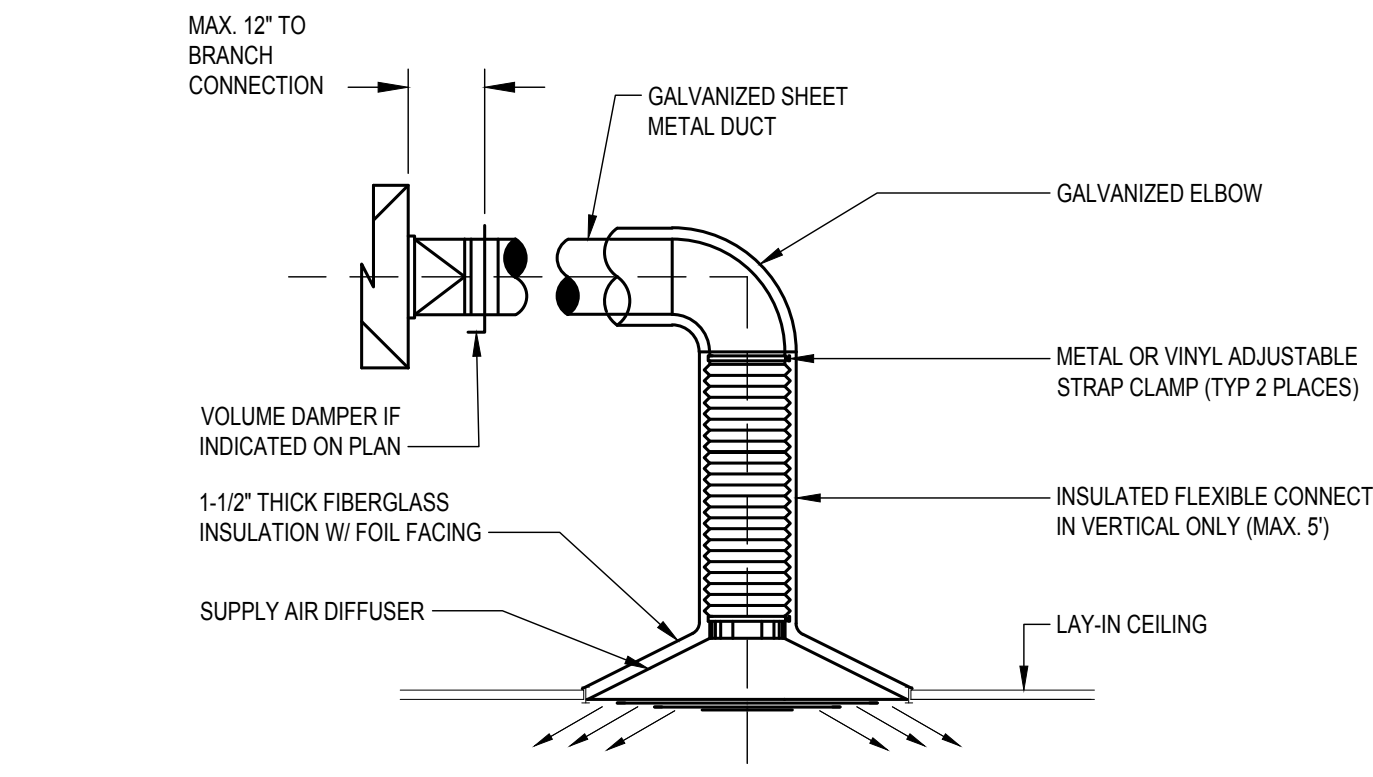
6 RTU CONDENSATE DETAIL
M501 SCALE: NONE



5 GREASE EXHAUST DUCT THRU ROOF DETAIL
M501 SCALE: NONE

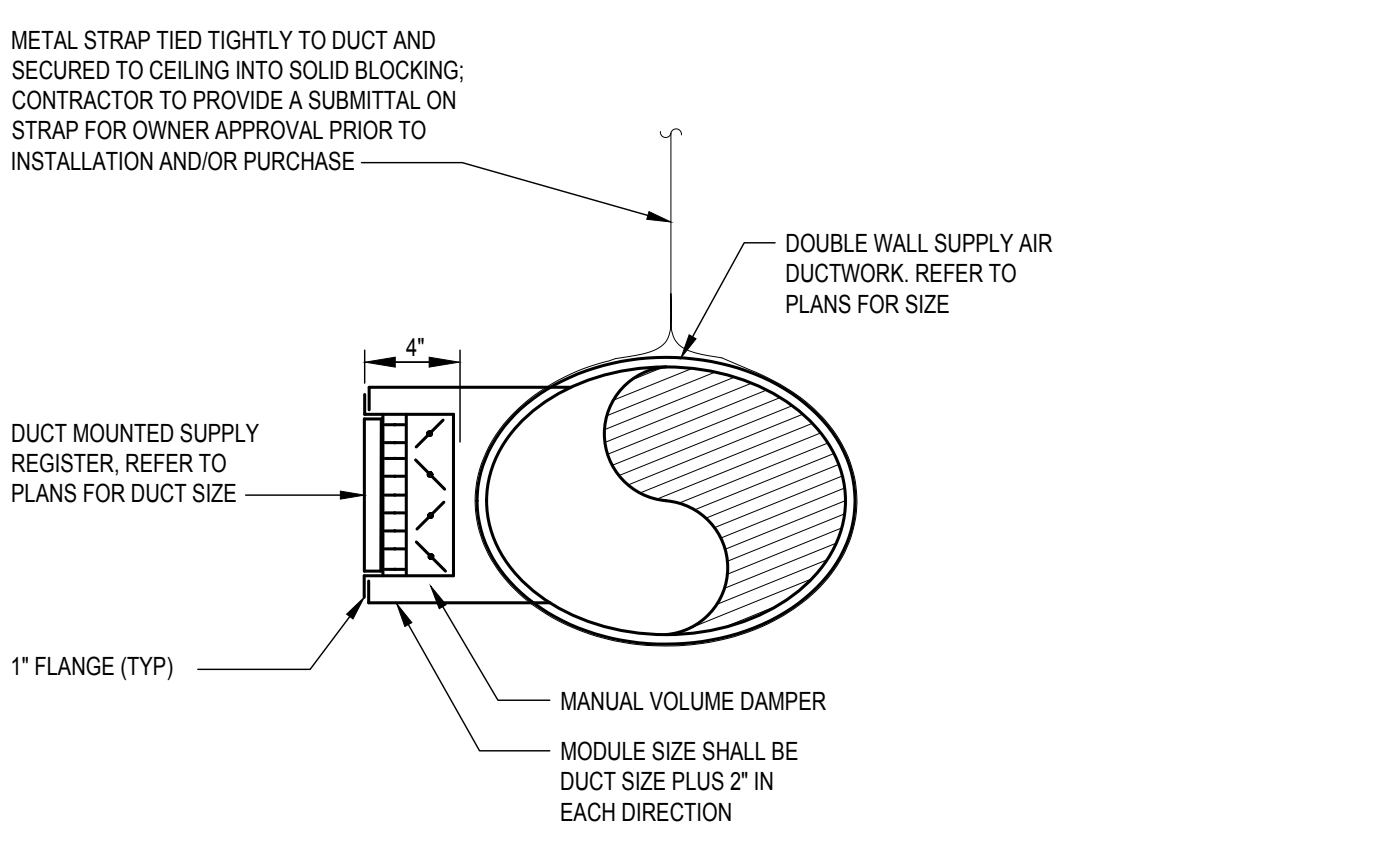


4 LOW VELOCITY TRANSITIONS AND OFFSETS
M501 SCALE: NONE

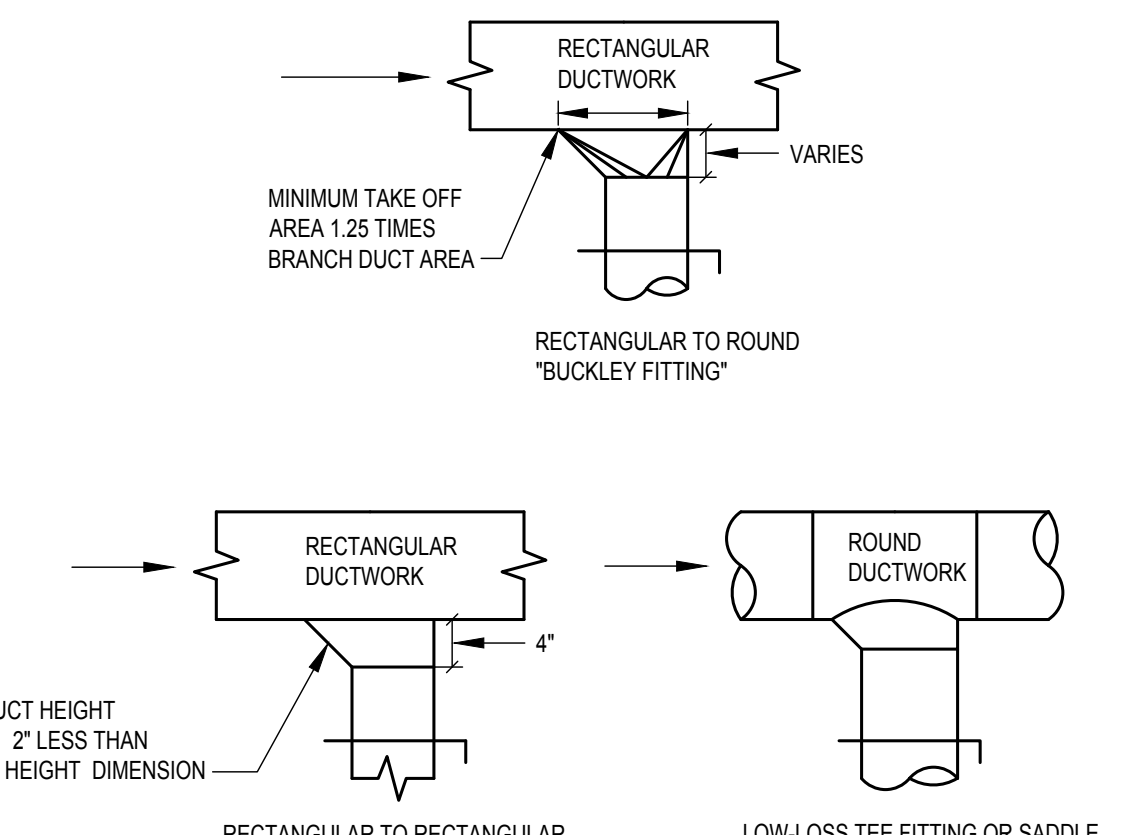


- DETAIL NOTES**
- DO NOT LOCATE DAMPERS ABOVE DRYWALL/INACCESSIBLE CEILING LOCATIONS.

3 CEILING DIFFUSER MOUNTING DETAIL
M501 SCALE: NONE



2 DUCT MOUNTED SUPPLY REGISTER DETAIL
M501 SCALE: NONE



1 DUCT BRANCH TAKEOFF DETAIL
M501 SCALE: NONE

ROOFTOP HVAC UNIT SCHEDULE (PROVIDED AND INSTALLED BY LANDLORD)																										
TAG	SERVICE	MFR	MODEL No.	NOMINAL TONS	EER	MIN OA (CFM)	SUPPLY FAN DATA				DX COOLING DATA				GAS HEATING DATA				UNIT CHARACTERISTICS				NOTES/ACCESSORIES			
							AIR FLOW (CFM)	ESP (IN WC)	MOTOR (HP)	FAN (RPM)	EAT 'DB'/'WB' (°F)	LAT 'DB'/'WB' (°F)	SENSIBLE (MBH)	TOTAL (MBH)	COOLING STAGES	EAT/LAT (°F)	INPUT (MBH)	OUTPUT (MBH)	HEATING STAGES	VOLTAGE (V-φ-Hz)	UNIT MCA	UNIT MOCP		OPERATING WEIGHT (LBS)	SUPPLY / RETURN DUCT ORIENTATION	
RTU-1	DINING	AAON	RN-013	13	12.1	1290	3150	2.0	3.0	1441	81.6694	52.7952.69	95.6	156.4	MOD	51.587.3	195.0	156.0	MOD	208-3-60	74	90	1914	DOWN/DOWN	1-17	
RTU-2	MEZZANINE	AAON	RN-009	9	13.8	840	2450	2.0	2.0	1760	81.969.7	55.4255.26	68.7	108.1	MOD	54.3113.2	195.0	156.0	MOD	208-3-60	47	60	1773	SIDE/SIDE	1-4, 6-18	

- NOTES/ACCESSORIES
- 10' CONDENSING TEMPERATURE
 - REFRIGERANT - R410A
 - REFERENCE ENTHALPY ECONOMIZER
 - POWERED RELIEF
 - 14" INSULATED ROOF CURB
 - UNIT MOUNTED NON FUSED DISCONNECT
 - UNPOWERED GFCI RECEPTACLE
 - DIRECT DRIVE FAN, VAV SINGLE ZONE
 - THROUGH THE BASE ELECTRICAL
 - HAIL GUARD - WITH TOOL LESS REMOVAL
 - PROGRAMMABLE SEVEN DAY AUTO CHANGE OVER THERMOSTAT WITH REMOTE TEMPERATURE SENSORS
 - HOT GAS REHEAT DEHUMIDIFICATION CONTROL WITH DUCT MOUNTED HUMIDITY SENSOR
 - HINGED ACCESS DOORS
 - 2" MERV 8 FILTERS
 - MICRO-PROCESSOR CONTROLS
 - 5 YEAR PARTS AND LABOR COMPRESSOR WARRANTY
 - APPROVED ALTERNATES: CARRIER, DAIKIN, YORK/JOHNSON CONTROLS, AND LENNOX
 - HORIZONTAL ROOF CURB AND DISCHARGE THROUGH CURB

DEDICATED OUTSIDE AIR UNIT SCHEDULE																											
TAG	SERVICE	MFR	MODEL No.	NOMINAL TONS	IEER	MINIMUM AIR FLOW (CFM)	SUPPLY FAN DATA				DX COOLING DATA				REHEAT DATA		GAS HEATING DATA				UNIT CHARACTERISTICS				NOTES/ACCESSORIES		
							MAXIMUM AIR FLOW (CFM)	ESP (IN WC)	MOTOR (HP)	EAT 'DB'/'WB' (°F)	LAT 'DB'/'WB' (°F)	SENSIBLE (MBH)	TOTAL (MBH)	COOLING STAGES	COIL ROWS	DISCHARGE 'DB'/'WB' (°F)	TOTAL (MBH)	EAT/LAT (°F)	TEMP RISE	GAS INPUT (CFH)	GAS OUTPUT (CFH)	HEATING STAGES	VOLTAGE (V-φ-Hz)	UNIT MCA		UNIT MOCP	OPERATING WEIGHT (LBS)
DOAS-1	KITCHEN	ADVANCED HOOD	AHRTU41-400-24-30T-DOAS	30	17.8	0	4600	1.0	5.0	84.179.9	58.756.5	125.8	384.0	MOD	6	70.063.9	260.0	-/-	45.0°F	301.7	241.3	MOD	208-3-60	140.6	150.0	4702	1

- NOTES/ACCESSORIES
- REFER TO ADVANCED HOOD SYSTEM DRAWINGS FOR REQUIREMENTS. CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT. EQUIPMENT SHALL BE PURCHASED FROM: SCOTT TOWNER. PHONE #: 919-227-5974. EMAIL: SCOTT@ADVANCEDHOODSYSTEMS.COM

EXHAUST FAN SCHEDULE											
TAG	SERVICE	MFR	MODEL No.	AIRFLOW (CFM)	ESP (IN WC)	MOTOR (W)	SONES	VOLTAGE (V-φ-Hz)	OPERATING WEIGHT (LBS)	NOTES/ACCESSORIES	
EF-1	RESTROOM.1	GREENHECK	SP-A390-VG	100	0.50	24	3.50	120-1-60	24	1-8	
EF-2	RESTROOM.2	GREENHECK	SP-A90-130-VG	100	0.50	24	3.50	120-1-60	24	1-8	
EF-3	RESTROOM.3	GREENHECK	SP-A90-130-VG	100	0.36	12	1.50	120-1-60	13	1-8	
EF-4	RESTROOM.4	GREENHECK	SP-A90-130-VG	100	0.36	12	1.50	120-1-60	13	1-8	

- NOTES/ACCESSORIES
- AMCA SEAL & U.L. LISTED
 - DISCONNECT SWITCH - NEMA 1 - FACTORY MOUNTED & WIRED
 - FAN SPEED CONTROLLER - FACTORY MOUNTED & WIRED
 - CONTROLLED WITH LIGHT SWITCH
 - 14" HIGH ROOF CURB WITH EXHAUST CAP (2 TOTAL)
 - BACKDRAFT DAMPER - GRAVITY
 - BIRD SCREEN - GALVANIZED
 - GRILL - DECORATIVE

KITCHEN EXHAUST FAN SCHEDULE											
TAG	SERVICE	MFR	MODEL No.	AIRFLOW (CFM)	ESP (IN WC)	MOTOR (HP)	SONES	VOLTAGE (V-φ-Hz)	OPERATING WEIGHT (LBS)	NOTES/ACCESSORIES	
KEF-1	KITCHEN HOOD	ADVANCED HOODS	AH-USB20DD	3940	1.75"	3.0	24.0	208-3-60	444	1	
KEF-2	KITCHEN HOOD	ADVANCED HOODS	AH-USB20DD	2996	1.75"	3.0	23.0	208-3-60	444	1	
KEF-3	DISHES	ADVANCED HOODS	AH-DU30HFA	350	0.5"	0.25	1.8	115-1-60	65	1	

- NOTES/ACCESSORIES
- FURNISHED BY KITCHEN VENDOR FOR REFERENCE ONLY. REFER TO KITCHEN HOOD DRAWINGS FOR ADDITIONAL INFORMATION.

AIR BALANCE SCHEDULE							
EQUIPMENT TAG	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	RETURN AIR (CFM)	EXHAUST AIR (CFM)	RELIEF AIR (CFM)	PRESSURE (CFM)	
RTU-1	3150	1290	1860	0	0	1290	
RTU-2	2450	840	1610	0	0	840	
EF-1	0	0	0	100	0	-100	
EF-2	0	0	0	100	0	-100	
EF-3	0	0	0	100	0	-100	
EF-4	0	0	0	100	0	-100	
KEF-1	0	0	0	3040	0	-3040	
KEF-2	0	0	0	2908	0	-2908	
KEF-3	0	0	0	350	0	-350	
DOAS-1	0	4600	0	0	0	4600	
TOTAL BUILDING PRESSURIZATION						+34	

AIR DISTRIBUTION SCHEDULE									
TAG	SERVICE	MOUNTING	MFR	MODEL No.	MODULE/ DIFFUSER SIZE	FRAME/BORDER	DAMPER	NOTES/ACCESSORIES	
S1	SUPPLY	CEILING	TITUS	OMNI	24" X 24"	LAY IN	-	1.2	
S2	SUPPLY	CEILING	TITUS	OMNI	24" X 24"	LAY IN	D-75	1.3	
S3	SUPPLY	DUCT	TITUS	300RL	NECK SIZE + 2"	SURFACE	AG-15	1	
S4	SUPPLY	WALL	TITUS	300RL	NECK SIZE + 2"	SURFACE	AG-15	1	
S5	SUPPLY	CEILING	TITUS	PAS	24" X 24"	LAY IN	-	1.2	
S6	SUPPLY	DUCT	TITUS	TMR	SEE PLAN	SURFACE	-	1	
R1	RETURN	CEILING	TITUS	350RL	32" X 32"	LAY IN	-	1.3	
R2	RETURN	WALL	TITUS	350RL	NECK SIZE + 2"	SURFACE	-	1	
T1	TRANSFER	WALL	TITUS	350RL	NECK SIZE + 2"	SURFACE	-	1	
T2	TRANSFER	CEILING	TITUS	350RL	NECK SIZE + 2"	SURFACE	-	1	

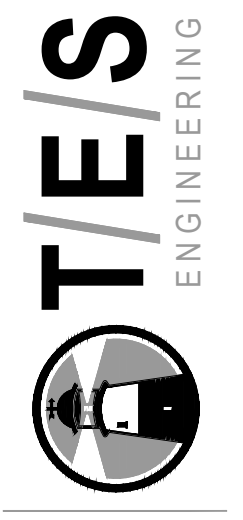
- NOTES/ACCESSORIES
- FINISH - WHITE POWDER COAT
 - SECTORIZING BAFFLE (SB) AS REQUIRED BY DIRECTIONAL ARROWS ON PLAN, OTHERWISE FOUR (4) WAY BLOW
 - RAPID MOUNT FRAME

OUTSIDE AIR SCHEDULE													
ZONE DATA										SYSTEM DATA			
ZONE NAME	FLOOR AREA (SF)	REQUIRED OUTSIDE AIR (CFM/SF)	OCCUPANCY	REQUIRED OUTSIDE AIR (CFM/PERSON)	BREATHING ZONE OUTSIDE AIR (CFM)	ZONE AIR DISTRIBUTION EFFECTIVENESS	REQUIRED OUTSIDE AIR (CFM)	SUPPLY AIR (CFM)	OUTDOOR AIR FRACTION	SYSTEM NAME	SYSTEM VENTILATION EFFICIENCY	REQUIRED OUTSIDE AIR (CFM)	DELIVERED OUTSIDE AIR (CFM)
MAIN DINING AND BAR	1791	0.18	85	7.5	959.5	0.8	1200	3000	0.400	RTU-1	0.750	1290	1290
RESTROOM.1	50	0	0	0	0	0.8	0	50	0.000				
RESTROOM.2	53	0	0	0	0	0.8	0	50	0.000				
HALL	120	0.06	0	0	7	0.8	9	50	0.180				
MEZZ DINING	1100	0.18	45	7.5	535.5	0.8	670	1300	0.515				
GENERAL STORAGE-1	168	0.12	0	0	20	0.8	25	150	0.167				
GENERAL STORAGE-2	320	0.12	0	0	38	0.8	48	200	0.240				
HALL 3	75	0.06	0	0	5	0.8	7	200	0.035				
RESTROOM.3	45	0	0	0	0	0.8	0	50	0.000				
RESTROOM.4	45	0	0	0	0	0.8	0	50	0.000				
LIQUOR STORAGE	91	0.12	0	0	11	0.8	14	100	0.140				
OFFICE	66	0.06	1	5	9	0.8	12	150	0.080				
STAIRWELL	134	0.06	0	0	8	0.8	10	250	0.040				

- NOTES
- SPACE OUTSIDE AIR REQUIREMENTS BASED ON UAC 2012

ISSUES:	
SUBMITTED TO PRD TEAM	05.25.22
SUBMITTED FOR PERMIT	07.06.22
REVISION 1 - COR COMMENTS	12.21.22

DRAWING STATUS:	
EXISTING CONDITIONS	
PRELIMINARY	
NO DRAWINGS	
CONTRACT DRAWINGS	
PERMIT DRAWINGS	
NOT FOR CONSTRUCTION	
CONSTRUCTION DRAWINGS	



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TENANT INTERIOR FIT-OUT WITH MINOR EXTERIOR ALTERATIONS FOR:
BARTACO KING STREET, LLC.
 304 KING STREET
 CHARLESTON, SC 29401
 MECHANICAL SCHEDULES

Design Professional's seal, which shall be applied to all drawings and specifications, shall be a condition of the contract. The design professional shall be responsible for the accuracy of the information provided to the design professional. The design professional shall not be responsible for the accuracy of the information provided to the design professional. The design professional shall not be responsible for the accuracy of the information provided to the design professional.



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CHECKED: NDC
JOB NO: 81.7042
DATE: 03.29.22
Sheet

M601



COMcheck Software Version 4.1.5.3 Mechanical Compliance Certificate

Section 1: Project Information

Energy Code: 2009 IECC
 Project Title: BARTACO KING STREET, LLC.
 Project Type: Alteration

Construction Site: 304 KING STREET, CHARLESTON, SC 29401
 Owner/Agent:
 Designer/Contractor: ELI G. CORDOVA, TES ENGINEERING, 25760 1ST STREET, CLEVELAND, OH 44145, 440-871-0200, ECORDOVA@TESENGINEERING.COM

Section 2: General Information

Building Location (for weather data): Charleston, South Carolina
 Climate Zone: 3a

Section 3: Mechanical Systems List

- Quantity System Type & Description
- RTU-1 (Single Zone) :
 Heating: 1 each - Central Furnace, Gas, Capacity = 156 kBtu/h
 Proposed Efficiency = 90.00% EER, Required Efficiency: 80.00 % EER (or 78% AFUE)
 Cooling: 1 each - Single Package DX Unit, Capacity = 156 kBtu/h, Air-Cooled Condenser, Air Economizer
 Proposed Efficiency = 12.10 EER, Required Efficiency: 10.80 EER
 Fan System: FAN SYSTEM 1 - Compliance (Motor nameplate HP method) : Passes
 Fans:
 FAN 1 Supply, Constant Volume, 3150 CFM, 3.0 motor nameplate hp
 - RTU-2 (Single Zone) :
 Heating: 1 each - Central Furnace, Gas, Capacity = 156 kBtu/h
 Proposed Efficiency = 90.00% EER, Required Efficiency: 80.00 % EER (or 78% AFUE)
 Cooling: 1 each - Single Package DX Unit, Capacity = 108 kBtu/h, Air-Cooled Condenser, Air Economizer
 Proposed Efficiency = 13.80 EER, Required Efficiency: 11.00 EER
 Fan System: FAN SYSTEM 2 - Compliance (Motor nameplate HP method) : Passes
 Fans:
 FAN 2 Supply, Constant Volume, 2450 CFM, 2.0 motor nameplate hp
 - DOAS-1 (Single Zone) :
 Heating: 1 each - Central Furnace, Gas, Capacity = 241 kBtu/h
 Proposed Efficiency = 90.00% EER, Required Efficiency: 80.00 % EER
 Cooling: 1 each - Single Package DX Unit, Capacity = 364 kBtu/h, Air-Cooled Condenser, Air Economizer
 Proposed Efficiency = 12.50 EER, Required Efficiency: 9.80 EER + 8.5 IPLV
 Fan System: FAN SYSTEM 3 - Compliance (Motor nameplate HP method) : Passes
 Fans:
 FAN 3 Supply, Constant Volume, 4600 CFM, 5.0 motor nameplate hp

Section 4: Requirements Checklist

- Requirements Specific To: RTU-1 :
- Equipment minimum efficiency: Central Furnace (Gas): 80.00 % EER (or 78% AFUE)
 - Equipment minimum efficiency: Single Package Unit: 10.80 EER

Project Title: BARTACO KING STREET, LLC. Report date: 07/06/22
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- Integrated economizer is required for this location and system.
- Cooling system provides a means to relieve excess outdoor air during economizer operation.
- Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
- Hot gas bypass limited to 50% of total cooling capacity

- Requirements Specific To: RTU-2 :
- Equipment minimum efficiency: Central Furnace (Gas): 80.00 % EER (or 78% AFUE)
 - Equipment minimum efficiency: Single Package Unit: 11.00 EER
 - Integrated economizer is required for this location and system.
 - Cooling system provides a means to relieve excess outdoor air during economizer operation.
 - Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
 - Hot gas bypass limited to 50% of total cooling capacity

- Requirements Specific To: DOAS-1 :
- Equipment minimum efficiency: Central Furnace (Gas): 80.00 % Ec
 - Equipment minimum efficiency: Single Package Unit: 9.80 EER + 9.5 IPLV
 - Integrated economizer is required for this location and system.
 - Cooling system provides a means to relieve excess outdoor air during economizer operation.
 - Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
 - Hot gas bypass limited to 25% of total cooling capacity

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- Plant equipment and system capacity no greater than needed to meet loads
 Exception(s):
 Standby equipment automatically off when primary system is operating
 Multiple units controlled to sequence operation as a function of load
- Minimum one temperature control device per system
- Minimum one humidity control device per installed humidification/dehumidification system
- Load calculation per ASHRAE/ACCA Standard 15S
- Automatic Controls: Setback to 55°F (heat) and 88°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
 Exception(s):
 Continuously operating zones
- Outside-air source for ventilation; system capable of reducing OSA to required minimum
- R-5 supply and return air duct insulation in unconditioned spaces
- R-8 supply and return air duct insulation outside the building
- R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
 Exception(s):
 Ducts located within equipment
 Ducts with interior and exterior temperature difference not exceeding 15°F
- Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts, UL 181A or 181B tapes and mastics
- Hot water pipe insulation: 1.5 in. for pipes <= 1.5 in. and 2 in. for pipes > 1.5 in.
 Chilled water/retrograde/return pipe insulation: 1.5 in. for pipes <= 1.5 in. and 1.5 in. for pipes > 1.5 in.
 Steam pipe insulation: 1.5 in. for pipes <= 1.5 in. and 3 in. for pipes > 1.5 in.
 Exception(s):
 Piping within HVAC equipment.
 Fluid temperatures between 55 and 105°F.
 Fluid not heated or cooled with renewable energy.
- Piping within room fan-coil (with AHR1440 rating) and unit ventilators (with AHR1840 rating).
- Runcuts < 4 ft in length
- Operation and maintenance manual provided to building owner
- Thermostatic controls have 5°F deadband
 Exception(s):
 Thermostats requiring manual changeover between heating and cooling
 Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
- Balancing devices provided in accordance with IMC 603.17
- Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft2 in spaces >500 ft2) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.

Project Title: BARTACO KING STREET, LLC. Report date: 07/06/22
 Data filename: G:\RD Studio\Bartaco Charleston, SC\Engineering\Mechanical5 - COMCHECK\BARTACO CHARLESTON, SC.ck Page 2 of 3

- Exception(s):
- Systems with heat recovery.
 - Multiple-zone systems without DDC of individual zones communicating with a central control panel.
 - Systems with a design outdoor airflow less than 1200 cfm.
 - Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.
15. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
 Exception(s):
 Gravity dampers acceptable in buildings < 3 stories
16. Automatic controls for freeze protection systems present
17. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted
 Exception(s):
 Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
 Systems serving spaces that are heated and not cooled to less than 60°F.
 Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
 Heating systems in climates with less than 3600 HDD.
 Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
 Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
 Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements: a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical alteration project has been designed to meet the 2009 IECC, Chapter 6, requirements in COMcheck Version 4.1.5.3 and to comply with the mandatory requirements in the Requirements Checklist.

Eli Cordova - Mechanical Engineer 07/01/2022
 Name - Title Signature Date

Section 6: Post Construction Compliance Statement

- HVAC record drawings of the actual installation, system capacities, calibration information, and performance data for each equipment provided to the owner.
 - HVAC O&M documents for all mechanical equipment and system provided to the owner by the mechanical contractor.
 - Written HVAC balancing and operations report provided to the owner.
- The above post construction requirements have been completed.

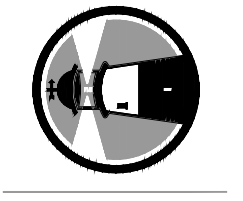
Principal Mechanical Designer-Name Signature Date

Project Title: BARTACO KING STREET, LLC. Report date: 07/06/22
 Data filename: G:\RD Studio\Bartaco Charleston, SC\Engineering\Mechanical5 - COMCHECK\BARTACO CHARLESTON, SC.ck Page 3 of 3

ISSUES:	
SUBMITTED TO PRD TEAM	05.25.22
SUBMITTED FOR PERMIT	07.06.22
REVISION 1 - DCR COMMENTS	12.21.22

DRAWING STATUS:	
EXISTING CONDITIONS	
PRELIMINARY	
NO DRAWINGS	
CONTRACT DRAWINGS	
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CONSTRUCTION DRAWINGS	

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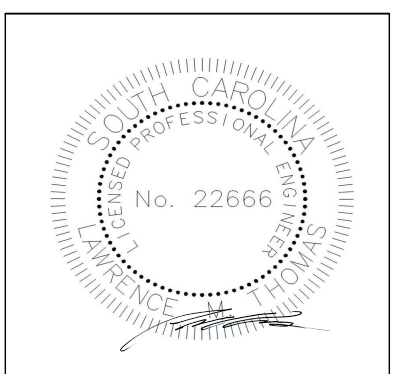
TENANT INTERIOR FIT-OUT WITH MINOR EXTERIOR ALTERATIONS FOR:

BARTACO KING STREET, LLC.
 304 KING STREET
 CHARLESTON, SC 29401




MECHANICAL COMPLIANCE

Design Professionals' seal, which shall be placed on all drawings in accordance with the provisions of the State Board of Professional Engineers, Architects and Surveyors, shall be required for all drawings submitted for permit. The design professional shall be responsible for the accuracy of the information provided and shall be held liable for any errors or omissions. The design professional shall be responsible for the accuracy of the information provided and shall be held liable for any errors or omissions. The design professional shall be responsible for the accuracy of the information provided and shall be held liable for any errors or omissions.



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DATE:	03.29.22
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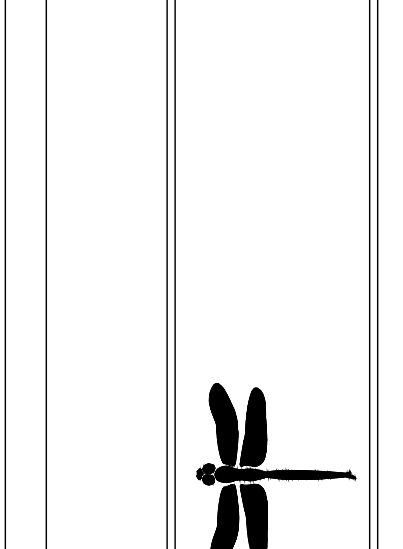
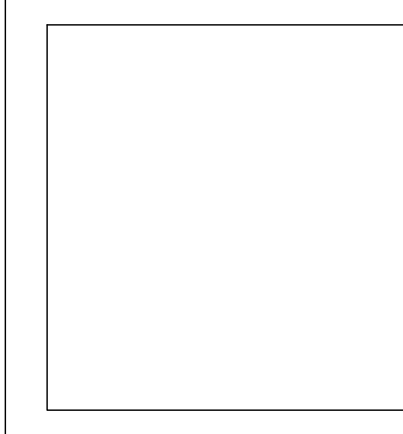
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ISSUES:	
SUBMITTED TO FRO TEAM	05.25.22
SUBMITTED FOR PERMIT	07.06.22
REVISION 1 - COR COMMENTS	12.21.22

DRAWING STATUS:	
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CONSTRUCTION DRAWINGS	

T/E/S
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TENANT INTERIOR FIT-OUT WITH MINOR
EXTERIOR ALTERATIONS FOR:
BARTACO KING STREET, LLC.
304 KING STREET
CHARLESTON, SC 29401

BARTACO King Street
CHARLESTON, SC, 29401

DATE:	07/08/22
DWG.#:	0100007
DRAWN BY:	BT
SCALE:	1/4" = 1'-0"
MASTER DRAWING	

DRAWN: FPN
CHECKED: NDC
JOB NO: 817042
DATE: 03.29.22
Sheet

M801

HOOD INFORMATION - JOB#5488967																		
HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLANCE BUTY	DESIGN DEPART	EXHAUST PLENUM (DUCTS)				HOOD CONSTRUCTION	HOOD CONFIG				
									WIDTH	LENG	HEIGHT	AREA		CFM	VEL	SP	END TO	BDW
1		5424 AH-NB-D	ADVANCED HOOD	16' 0"	450 DEG	I	MEDIUM	190	3840	12"	22"	4"	3840	1658	-0.842"	430 SS WHERE EXPOSED	ALDNE	ALDNE
2		5424 AH-NB-D	ADVANCED HOOD	18' 11"	600 DEG	I	HEAVY	225	2906	12"	22"	4"	2906	1365	-0.857"	430 SS WHERE EXPOSED	ALDNE	ALDNE
3		4024 AH-NB-D	ADVANCED HOOD	3' 6"	700 DEG	II	N/A	100	350	4"	10"	350	645	-0.031"	430 SS 100%	ALDNE	ALDNE	

HOOD INFORMATION (FILTERS)																		
HOOD NO	TAG	TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY # 7	MESHES	QTY	LIGHTS		UTILITY CABINET(S)							
									TYPE	LOCATION	SIZE	FIRE SYSTEM	ELECTRICAL	SWITCHES	FIRE SYSTEM	WEIGHT		
1		CAPTRATE SOLD FILTER	12	20"	16"	85%	SEE FILTER SPEC	8	LSS SERIES E26	NO	LEFT	12"x14"x24"	ANGUL R=100	30/30/30	SC-30010MA	1 LIGHT	YES	943 LBS
2		CAPTRATE SOLD FILTER	9	20"	16"	85%	SEE FILTER SPEC	6	LSS SERIES E26	NO							YES	581 LBS
3								0									NO	161 LBS

PLAN VIEW - HOOD #1
12' 0.00" LONG 5424AH-ND-2
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.

PLAN VIEW - HOOD #2
12' 0.00" LONG 5424AH-ND-2
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.

SECTION VIEW - HOOD #1

SECTION VIEW - HOOD #2

FRONT VIEW - HOOD #1

FRONT VIEW - HOOD #2

BACK VIEW - HOOD #1

BACK VIEW - HOOD #2

HOOD #1 LIGHTING LAYOUT

HOOD #2 LIGHTING LAYOUT

1" LAYER OF INSULATION FACTORY INSTALLED IN 100% END STANDBY WEIR & REQUIREMENTS CLEARANCE TO COMBUSTIBLE SURFACES.

ALL LISTED LSS SERIES CANOPY LIGHT FIXTURES - HIGH TEMP ASSEMBLY INCLUDES CLEAR THERMAL AND SHOCK RESISTANT GLASS (LSS FEATURE).

IT IS THE RESPONSIBILITY OF THE APPLICATOR TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS.

100% SERIES CANOPY LIGHT FIXTURE - HIGH TEMP ASSEMBLY INCLUDES CLEAR THERMAL AND SHOCK RESISTANT GLASS (LSS FEATURE). SEE HOOD OPTIONS TABLE.

GREASE TRAP WITH REMOVABLE COP.

DISCHARGE 100% HIGH W/ EXHAUST LINE.

GAS CHASE OUTLET FOR GAS AND POWER LINE WITH ADJUSTABLE LEVER.

EXHAUST RISER HANGING ANGLE.

20" CAPTRATE SOLID FILTER WITH HOOD.

3" INTERNAL STANDBY.

ADVANCEES HOOD SYSTEMS, LLC
Advanced Hood Systems, LLC
P.O. BOX 1000, CHARLESTON, SC 29405
TEL: (803) 727-6424 FAX: (803) 727-6424

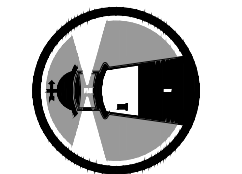
FOR QUESTIONS, CALL THE
Advances Hood Systems, LLC
REGION 245
PHONE: 803-269-8803
EMAIL: SC011@advanceshoodsystems.com

SHEET NO. 1

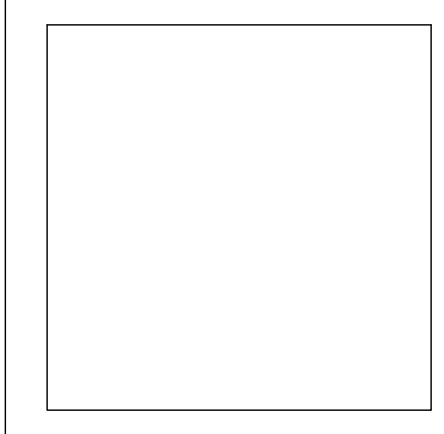
ISSUES:	
SUBMITTED TO FRO TEAM	05.25.22
SUBMITTED FOR PERMIT	07.06.22
REVISION 1 - DOB COMMENTS	12.21.22

DRAWING STATUS:	
EXISTING CONDITIONS	
PRELIMINARY	
NO DRAWINGS	
CONTRACT DRAWINGS	
PERMIT DRAWINGS	
NOT FOR CONSTRUCTION	
CONSTRUCTION DRAWINGS	

T/E/S
ENGINEERING



25760 First Street
Cleveland, OH 44145
P 440.877.2410
F 440.877.7954
tesengineering.com



ADVANCED HOOD SYSTEMS
Advanced Hood Systems, LLC
11111 E. 12th Street, Suite 100
Denver, CO 80231
Tel: 303.752.2222
www.ahsystems.com

TENANT INTERIOR FIT-OUT WITH MINOR
EXTERIOR ALTERATIONS FOR:
BARTACO KING STREET, LLC.
304 KING STREET
CHARLESTON, SC 29401



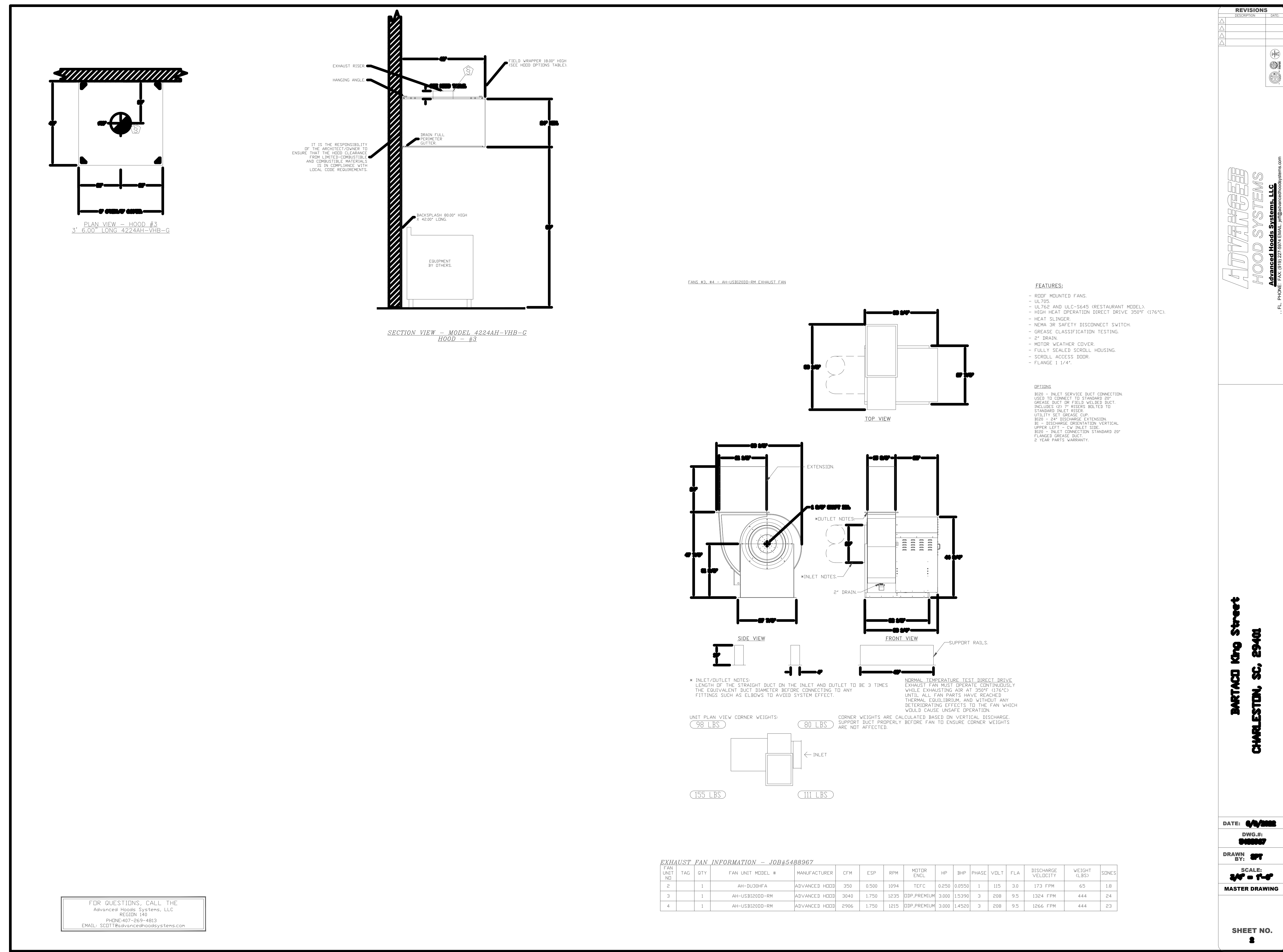

MECHANICAL KITCHEN HOOD

BARTACO King Street
CHARLESTON, SC, 29401

DATE:	03/29/22
DWG NO:	048867
DRAWN BY:	SP
SCALE:	AS SHOWN
MASTER DRAWING:	

DRAWN:	SP
CHECKED:	NDC
JOB NO:	817042
DATE:	03/29/22
Sheet:	2

M802

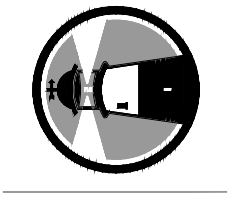


FOR QUESTIONS, CALL THE
ADVANCED HOOD SYSTEMS, LLC
REGION 149
PH: 407-308-4833
EMAIL: SCOTT@advancedhoodsystems.com

ISSUES:	
SUBMITTED TO PRO TEAM	05.25.22
SUBMITTED FOR PERMIT	07.08.22
REVISION 1 - DCR COMMENTS	12.21.22

DRAWING STATUS:	
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NOT FOR CONSTRUCTION	
CONSTRUCTION DRAWINGS	

T/E/S
ENGINEERING



25760 First Street
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P 440.877.2410
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tesengineering.com

REVISIONS	

ADVANCED HOOD SYSTEMS
HOOD SYSTEMS, LLC
FL PERMIT # BK 1871227-0011-DUAL, #28-00000000000000000000

TENANT INTERIOR FIT-OUT WITH MINOR
EXTERIOR ALTERATIONS FOR:
BARTACO KING STREET, LLC.
304 KING STREET
CHARLESTON, SC 29401




BARTACO King Street
CHARLESTON, SC, 29401

DATE:	03/29/22
DWG.#:	M803
DRAWN BY:	SP
SCALE:	3/4" = 1'-0"
MASTER DRAWING	

DRAWN:	FDN
CHECKED:	NDC
JOB NO.:	817042
DATE:	03.29.22
Sheet	

M803

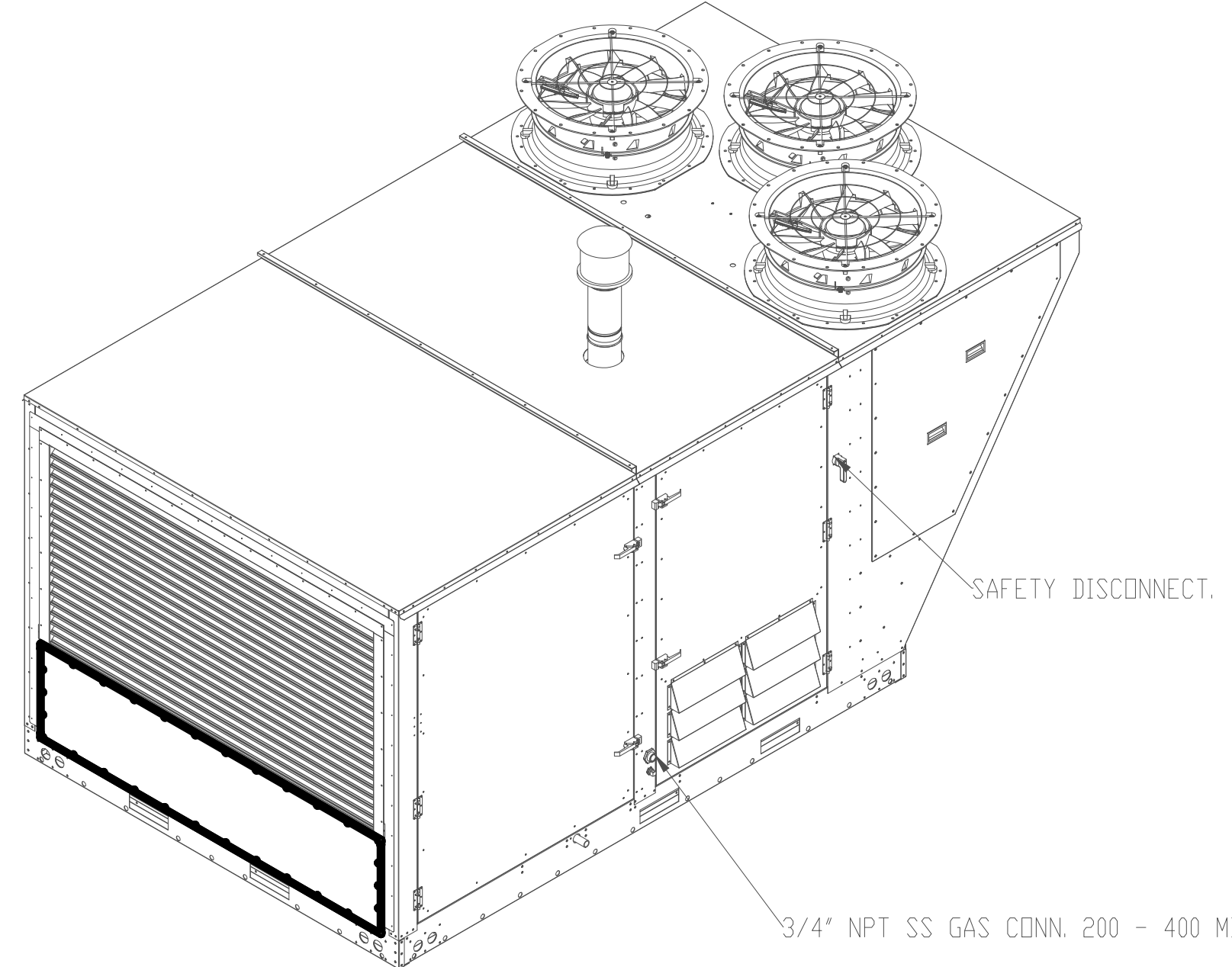
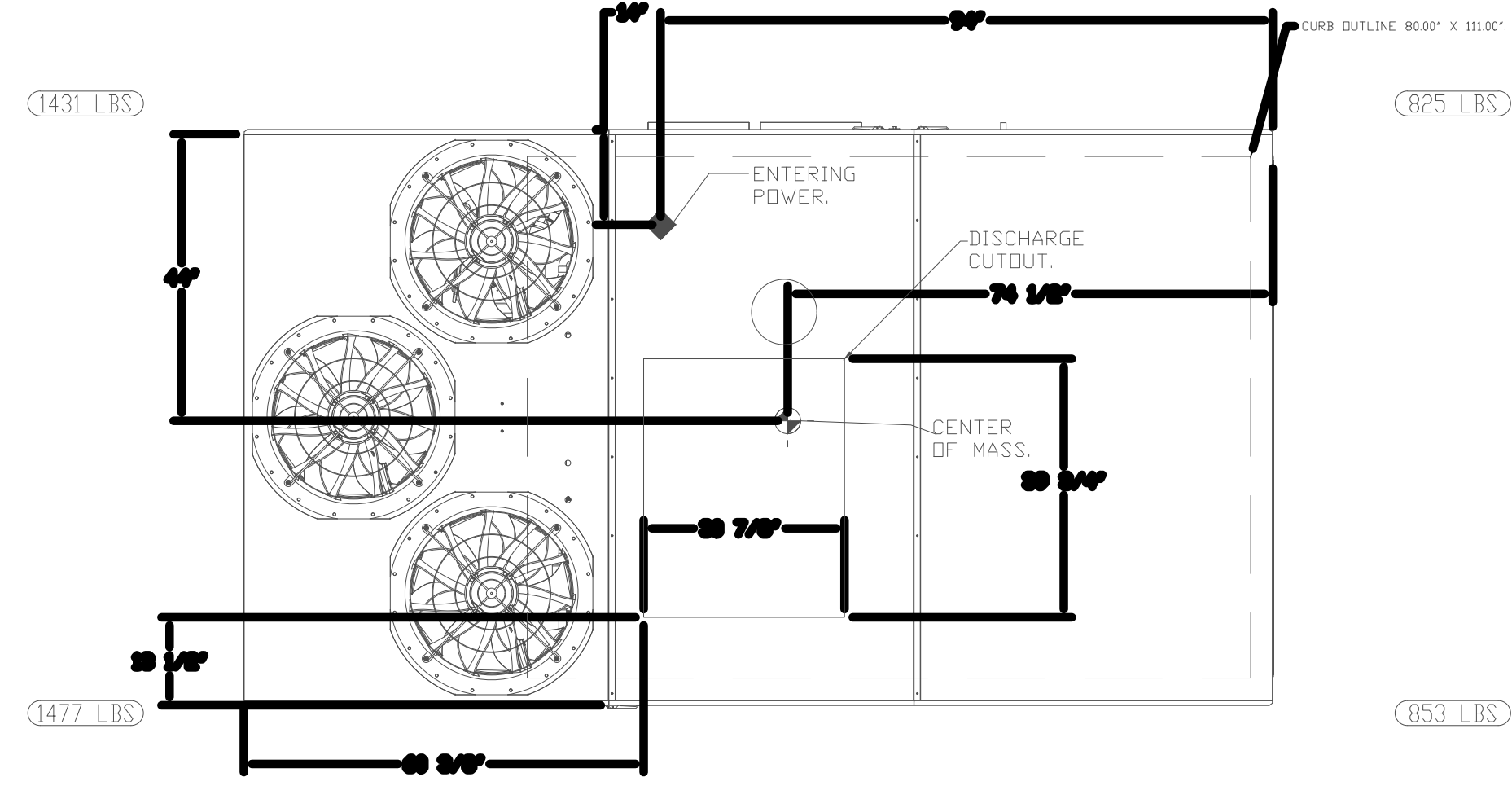
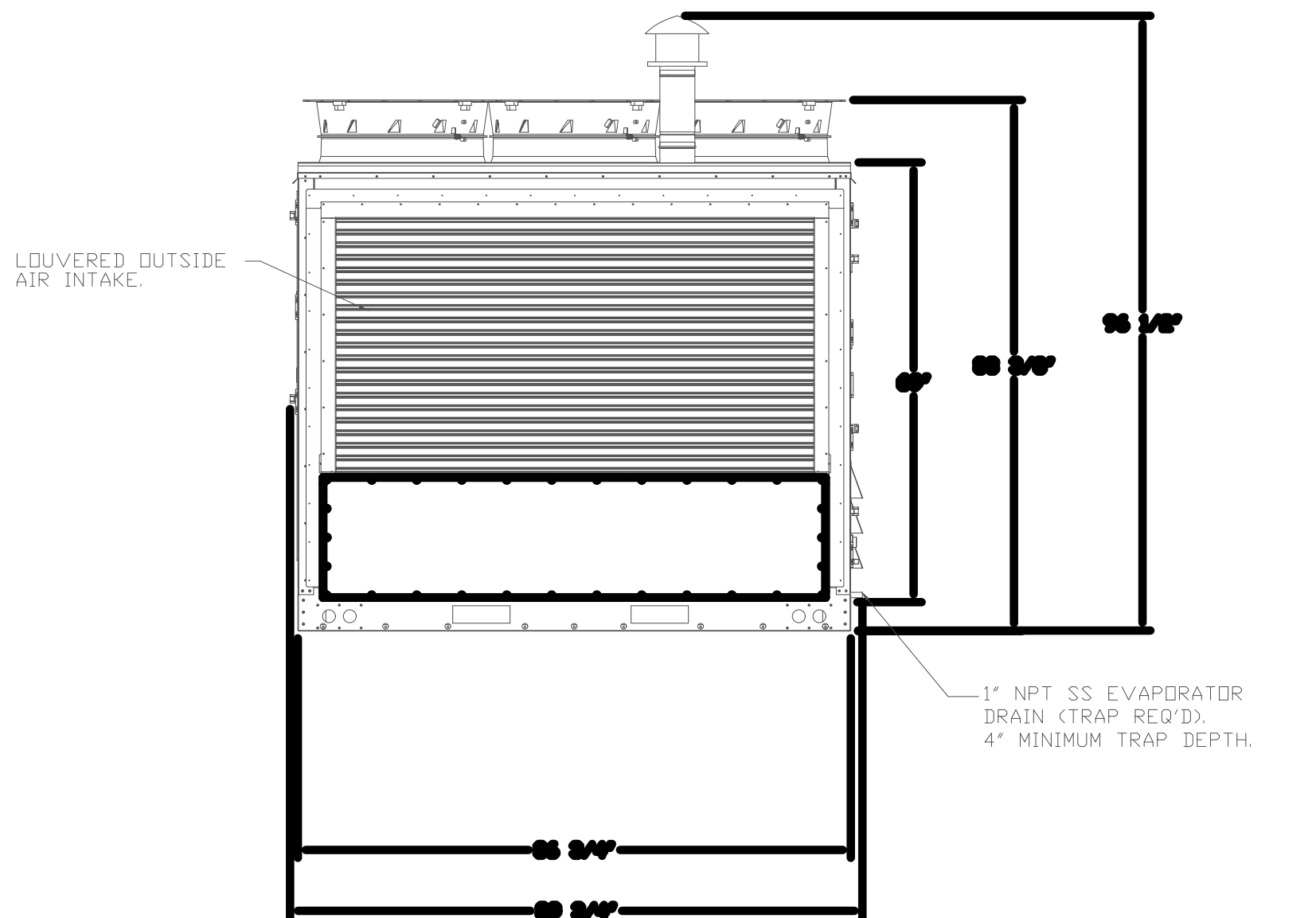
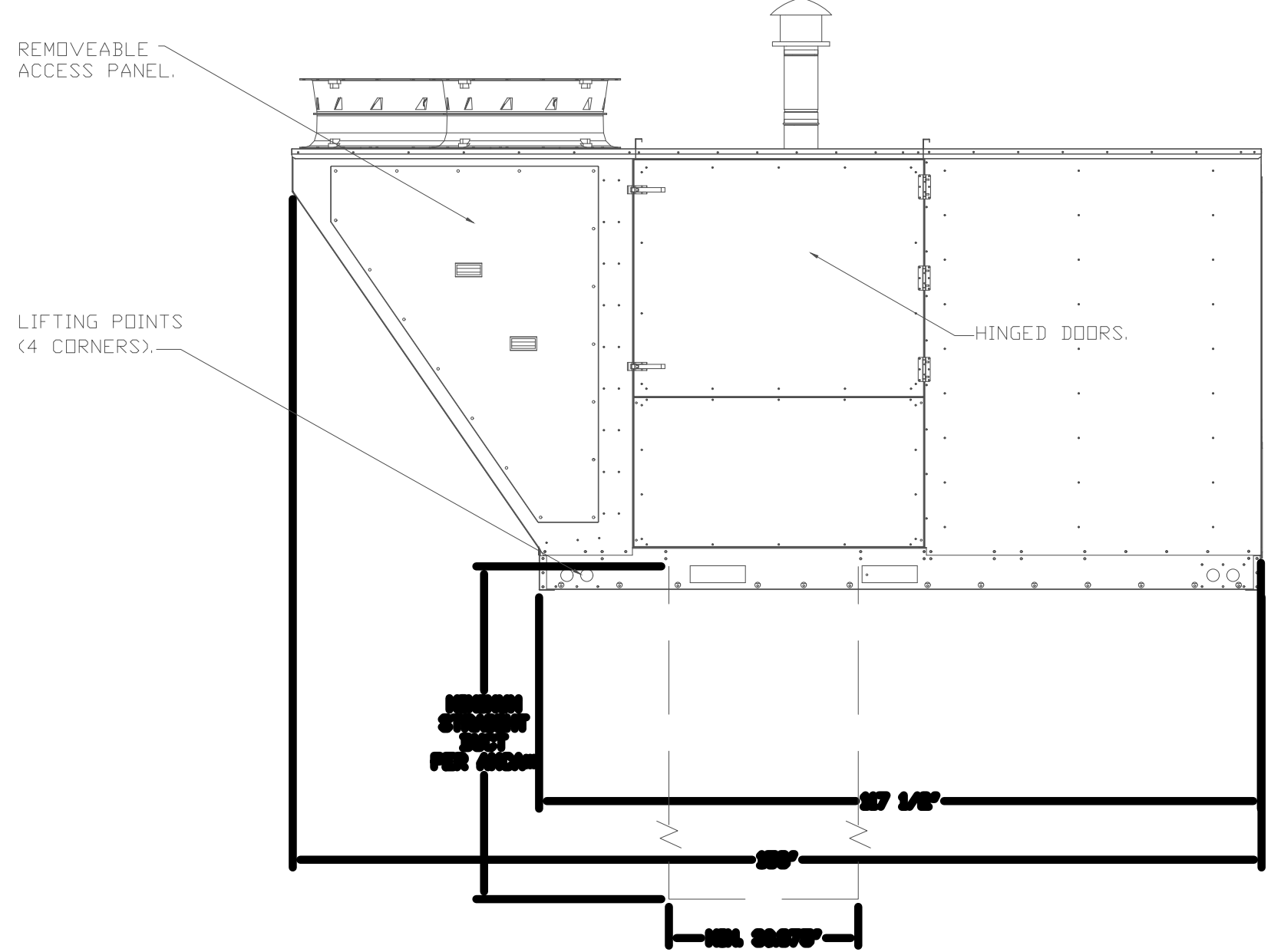
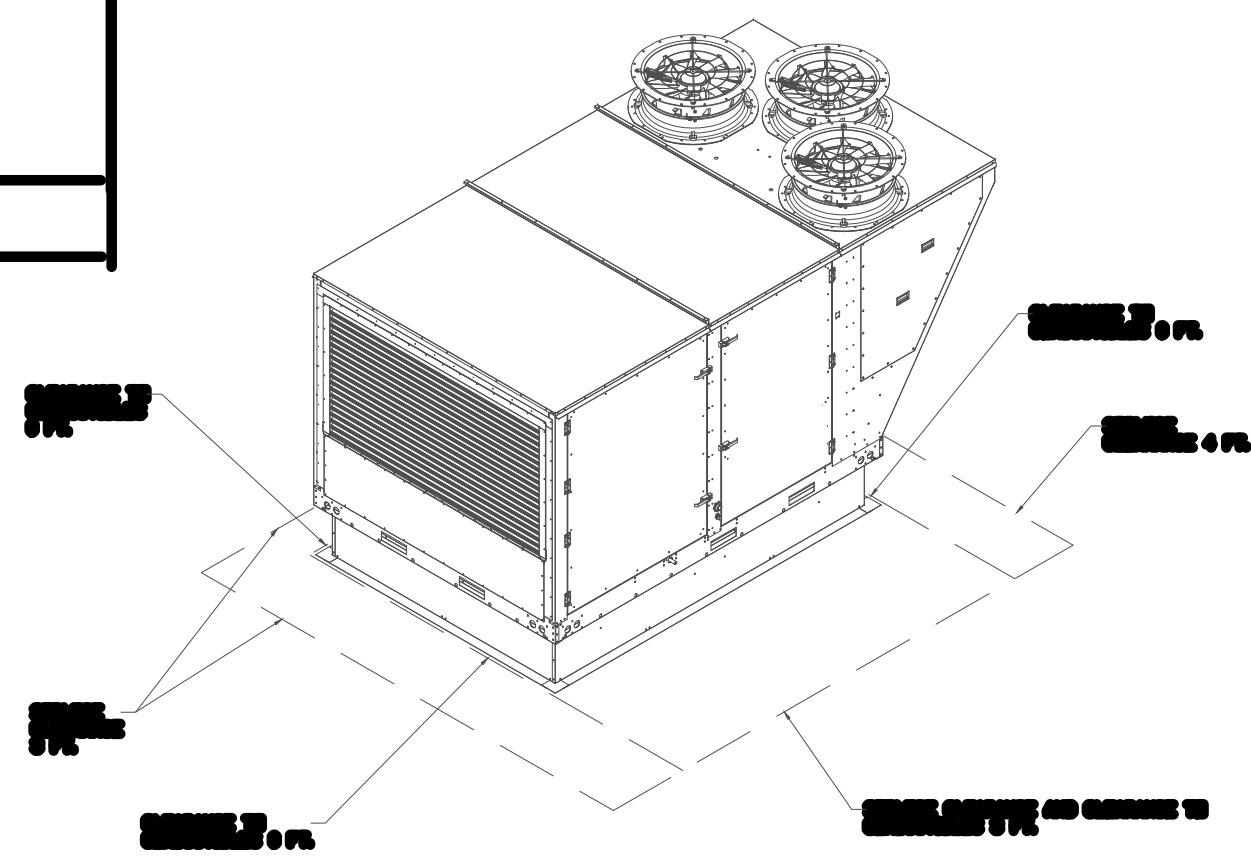
FAN #3 AHRTU4-I.400-24-30T-DDAS - HEATER

FOR QUESTIONS, CALL THE
Advanced Hood Systems, LLC
85008145
PHONE 437-269-4813
EMAIL: SCOTT@advancedhoodsystems.com

NOTES:

- DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
- DENOTES CORNER WEIGHT.

*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRAMATICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 30.875" x 39.75".

SAFETY DISCONNECT.
3/4" NPT SS GAS CONN. 200 - 400 MBH
LOUVERED OUTSIDE AIR INTAKE.
1" NPT SS EVAPORATOR DRAIN (TRAP REQ'D). 4" MINIMUM TRAP DEPTH.
REMOVEABLE ACCESS PANEL.
LIFTING POINTS (4 CORNERS).
HINGED DOORS.
ENTERING POWER.
DISCHARGE CUTOFF.
CENTER OF MASS.
DUOB OUTLINE 80.0" X 110.0"
1431 LBS
1477 LBS
825 LBS
853 LBS

FAN INFORMATION										ELECTRICAL INFORMATION										COIL AND CAPACITY INFORMATION										REHEAT INFORMATION										GAS HEAT INFORMATION										NOTES
FAN UNIT NO.	TAG	QTY	DDAS/RTU MODEL #	MANUFACTURER	BLOWER RETURN AIR CFM	MAX. AIR FLOW PER CFM	TOTAL CFM	WEIGHT (LBS)	ESP	HP	VOLT	MCA	MCCP	DB	WB	DB	WB	DP	TOTAL	SENS.	BEER	ISMRE	DISCHARGE	CAPACITY	MOISTURE REMOVAL RATE	GAS TYPE	INPUT	OUTPUT	TEMP	RISE																				
3	1	1	AHRTU4-I.400-24-30T-DDAS	ADVANCED HOOD	24P-4	0	4600	4600	4586	0.000	5.00	3	208	1406A	150A	84.1F	79.9F	58.7F	56.9F	55.1F	384.0 MBH	125.8 MBH	17.8	4.8	700F	63.9F	57.9 MBH	260 MBH	2321 LBS/HR	NATURAL	301706	241365	45F	1,2,3,4,5,6,7,8,9,10,11,12,13,14																

DDAS/RTU_FAN_SCHEDULE - JOB#6488967

NOTES:

- INVERTED SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL.
- DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE.
- INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER.
- REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE.
- ICE MOTOR CONDENSING FAN.
- ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE.
- FACTORY CONDENSING WITH 4 PARTS WARRANTY ON YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER.
- FACTORY CONDENSING WITH 4 PARTS WARRANTY ON YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER.
- AVOIDING INFLATE EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT).
- EXTERIOR SOLAR WALL LONG RADIANT HEAT EXCHANGER WITH 4 PARTS WARRANTY ON YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER.
- BOS EFFICIENT FURNACE WITH MODULATING INJECTOR TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP.
- SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE.
- FULLY INSULATING HOT GAS REHEAT.
- DOWN DISCHARGE/NO RETURN.

