

DATE: 2022-06-03

REVISIONS:

NO.	DATE	DESCRIPTION	BY

CLIENT NAME:

TLC ENTERPRISES

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PROJECT NAME:



FOUNDED BY FIREMEN™
INTERIOR UP-FIT

RIVER OAKS DRIVE &
CAROLINA FOREST BLVD.
MYRTLE BEACH, SOUTH CAROLINA

SHEET TITLE:

MECHANICAL PLAN & DETAILS

PROJECT NUMBER 21-257

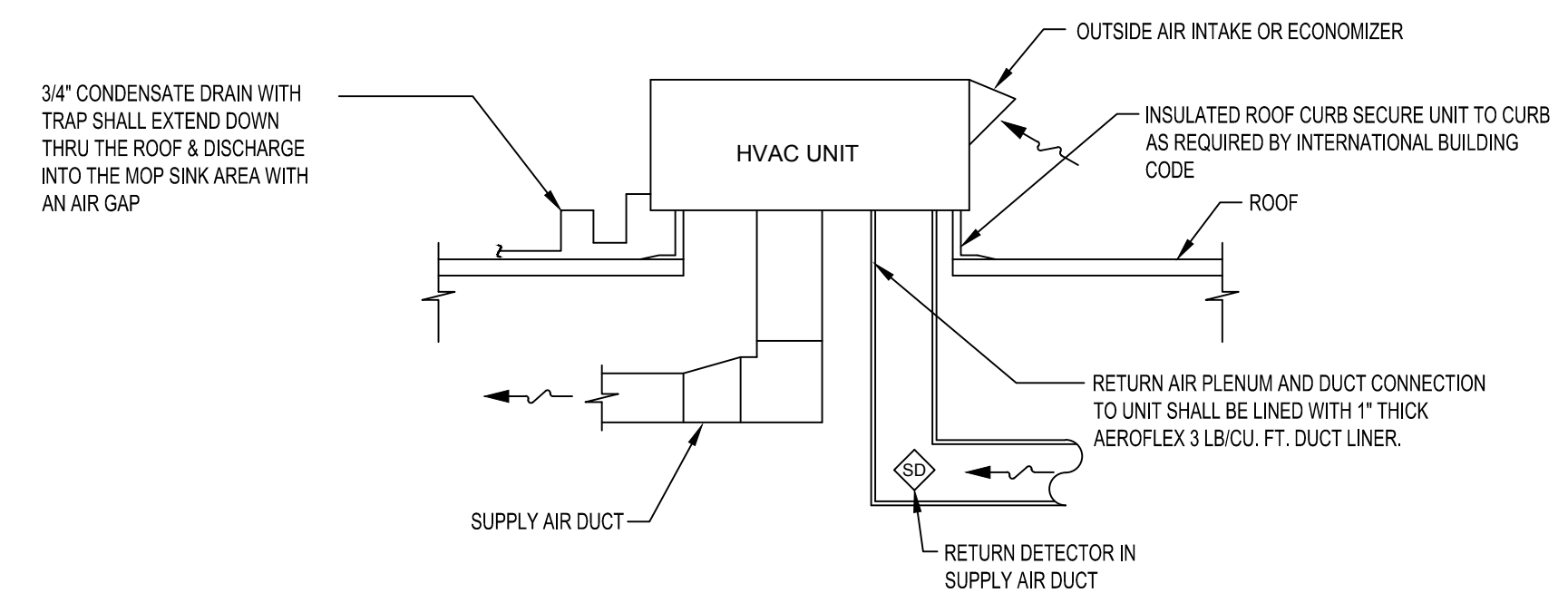
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SHEET NO.

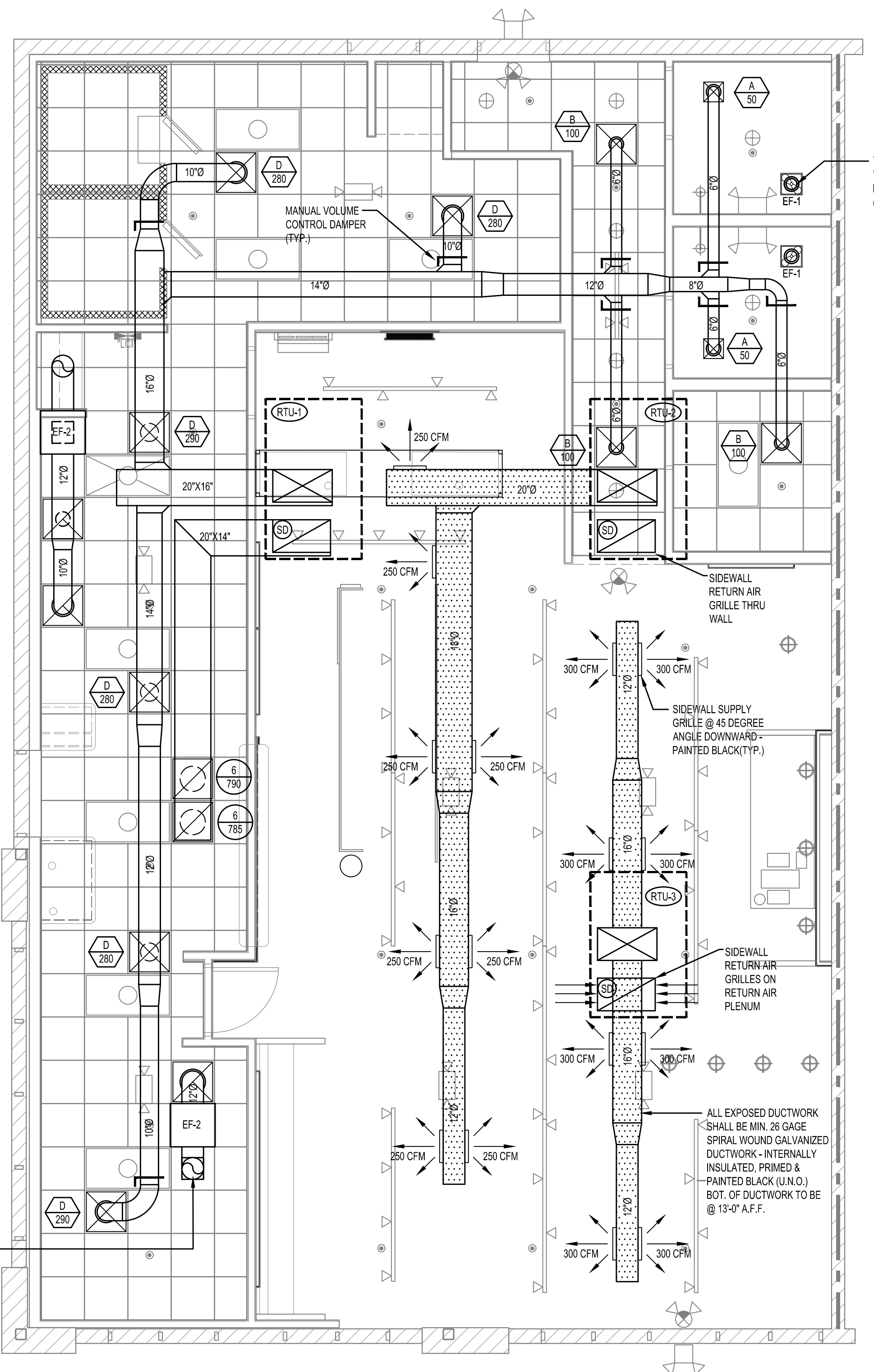
AM-1

SHEET 1 OF 3

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3 RTU DETAIL
NOT TO SCALE

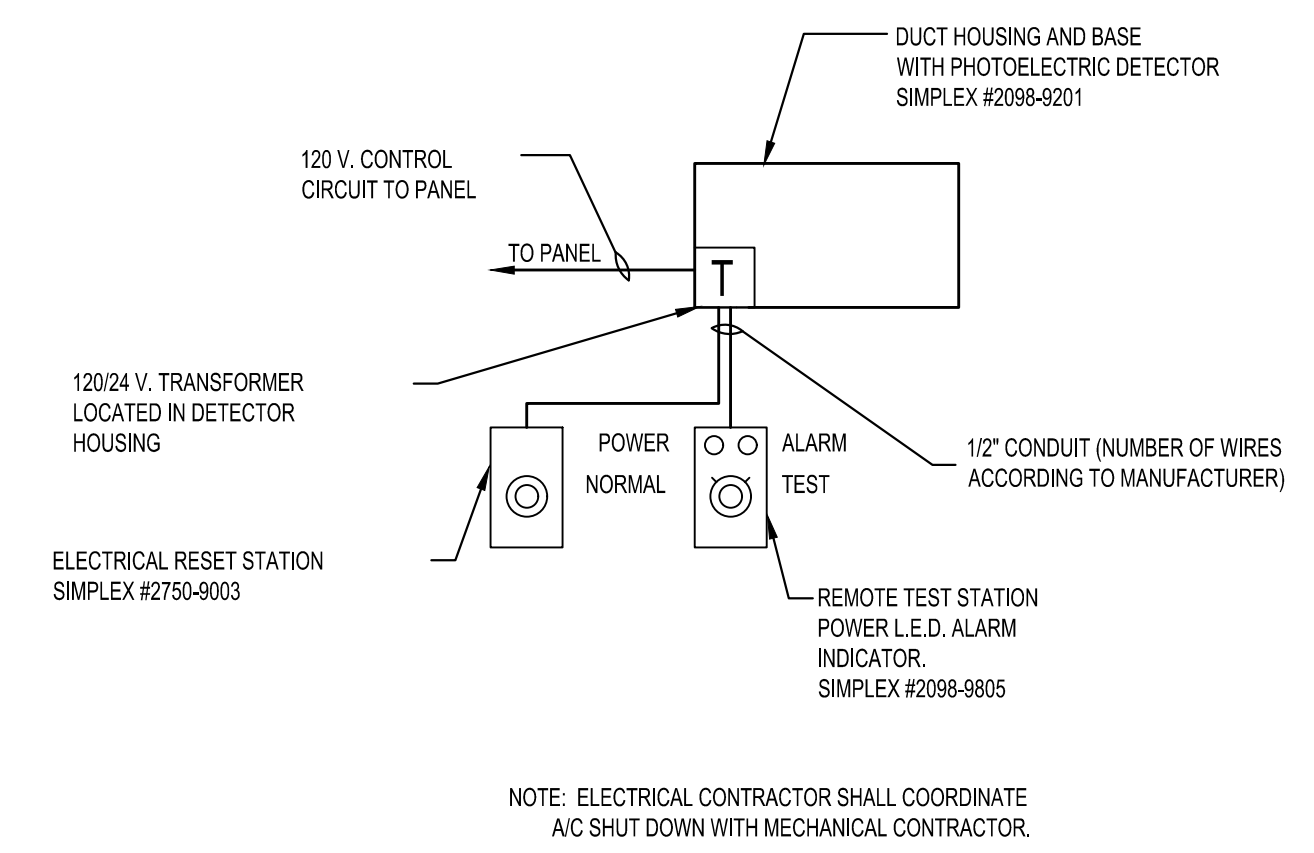


1 MECHANICAL PLAN
1/4" = 1'-0"

PROVIDE MINIMUM OF 36" CLEARANCE BETWEEN ROOF MOUNTED HVAC EQUIPMENT AND ANY OBSTRUCTION PER I.M.C. 306.1. THERE IS AN EXISTING PERMANENT MEANS OF ACCESS TO THE ROOF MOUNTED HVAC EQUIPMENT PER I.M.C. 306.1.

MAINTAIN 10'-0" MINIMUM CLEARANCE BETWEEN OUTSIDE AIR INTAKES ON RTUS AND ANY VENTS, EXHAUST DISCHARGES, ETC.

ALL ROOF PENETRATIONS ARE TO BE MADE BY THE ROOFING CONTRACTOR. CONTRACTOR IS TO INSTALL ROOF CRICKETS TO ENSURE PROPER DRAINAGE. ALL RTUS ARE TO BE MOUNTED ON CURBS SUPPLIED BY THE MANUFACTURER. ALL ROOF PENETRATIONS ARE TO BE SEALED AND FLASHED IN ACCORDANCE W/ MANUFACTURER'S RECOMMENDATIONS.



2 SMOKE DETECTOR WIRING DIAGRAM
NOT TO SCALE

SUPPLY DIFFUSER SCHEDULE				
A 100	DESIGNATES LABEL FOR DIFFUSER TYPE	ALL DIFFUSERS ARE TO BE PROVIDED WITH OPPOSED BLADE DAMPERS UNLESS OTHERWISE SPECIFIED ON PLANS.		
	DESIGNATES CFM QUANTITY FOR DIFFUSER			
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
A	HART & COOLEY RZ-2153	6"	0 - 125	12X12 REZZIN 4-WAY LOUVERED
B	HART & COOLEY RZ-2153	6"	0 - 125	24X24 REZZIN 4-WAY LOUVERED
C	HART & COOLEY RZ-2153	8"	130 - 200	24X24 REZZIN 4-WAY LOUVERED
D	HART & COOLEY RZ-2153	10"	205 - 355	24X24 REZZIN 4-WAY LOUVERED
E	HART & COOLEY RZ-2153	12"	360 - 550	24X24 REZZIN 4-WAY LOUVERED

RETURN GRILLE SCHEDULE				
1 100	DESIGNATES LABEL FOR DIFFUSER TYPE	ALL DIFFUSERS ARE TO BE PROVIDED WITH OPPOSED BLADE DAMPERS UNLESS OTHERWISE SPECIFIED ON PLANS.		
	DESIGNATES CFM QUANTITY FOR DIFFUSER			
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	HART & COOLEY RHF45T	6"	0 - 125	12X12 ALUMINUM CURVED BLADE
2	HART & COOLEY RHF45T	6"	0 - 125	24X24 ALUMINUM CURVED BLADE
3	HART & COOLEY RHF45T	8"	130 - 220	24X24 ALUMINUM CURVED BLADE
4	HART & COOLEY RHF45T	10"	225 - 360	24X24 ALUMINUM CURVED BLADE
5	HART & COOLEY RHF45T	12"	365 - 600	24X24 ALUMINUM CURVED BLADE
6	HART & COOLEY RHF45T	14"	605 - 850	24X24 ALUMINUM CURVED BLADE
7	HART & COOLEY RHF45T	16"	855 - 1395	24X24 ALUMINUM CURVED BLADE
8	HART & COOLEY RHF45T	16"X16"	1400 - 2000	24X24 ALUMINUM CURVED BLADE

EXHAUST FAN SCHEDULE									
NO.	SERVICE	LOCATION	TYPE	CFM	SP IN WG	AMPS	WATTS	REMARKS	
EF-1	TOILET / KITCHEN EXHAUST	CEILING	CABINET INLINE	75	0.5	1.14	80	GREENHECK SP-B NOTES: 1,4,7,10,11	
EF-2	STEAMER EXHAUST	ABOVE CEILING	INLINE	600	0.5	1/6 HP	149	COOK 100SQN12D NOTES: 1,3,4,10,11	

NOTES: 1) BIRDSCREENS, 2) PREFAB CURB, 3) DIRECT DRIVE, 4) DISCONNECT, 5) BACKDRAFT DAMPER, 6) MOTORIZED DAMPER, 7) INLET GRILLE 8) SOLID STATE VARIABLE SPEED SWITCH, 9) THERMOSTAT CONTROLLED, 10) CONTROLLED W/ LIGHT SWITCH, 11) ROOF VENT CAP (GREENHECK RDSP) 12) INTERLOCKED W/ RTU'S 13) WALL DISCHARGE LOUVER

AIR BALANCE CALCULATIONS									
ITEM	DESCRIPTION	MFG.	SUPPLY AIR (CFM)	RETURN AIR (CFM)	RELIEF AIR (CFM)	OUTSIDE AIR (CFM)	MAKE-UP AIR (CFM)	EXHAUST AIR (CFM)	REMARKS
RTU-1	ROOF TOP UNIT	TRANE	2,000	1,575	0	425	400		NOTE 1
RTU-2	ROOF TOP UNIT	TRANE	2,000	1,575	0	425	400		NOTE 1
RTU-3	ROOF TOP UNIT	TRANE	2,400	1,900	0	500	500		
EF-1	TOILET EXH. FAN	GREENHECK						2 @ 75	NOTE 2
EF-2	STEAMER EXH. FAN	COOK						2 @ 800	NOTE 2
TOTAL			6,400	5,050	0	1,350	1,350	1,250	

NET PRESSURE SUPPLIED TO FIREHOUSE SPACE = 1350 (O.A.) - 1250 (EXH) = +100 CFM (POSITIVE)

- NOTES:
1. MAKE-UP AIR FROM OA TO EXHAUST SYSTEMS
2. EXHAUST AIR REQUIRING MAKE-UP THRU ROOF TOP UNITS

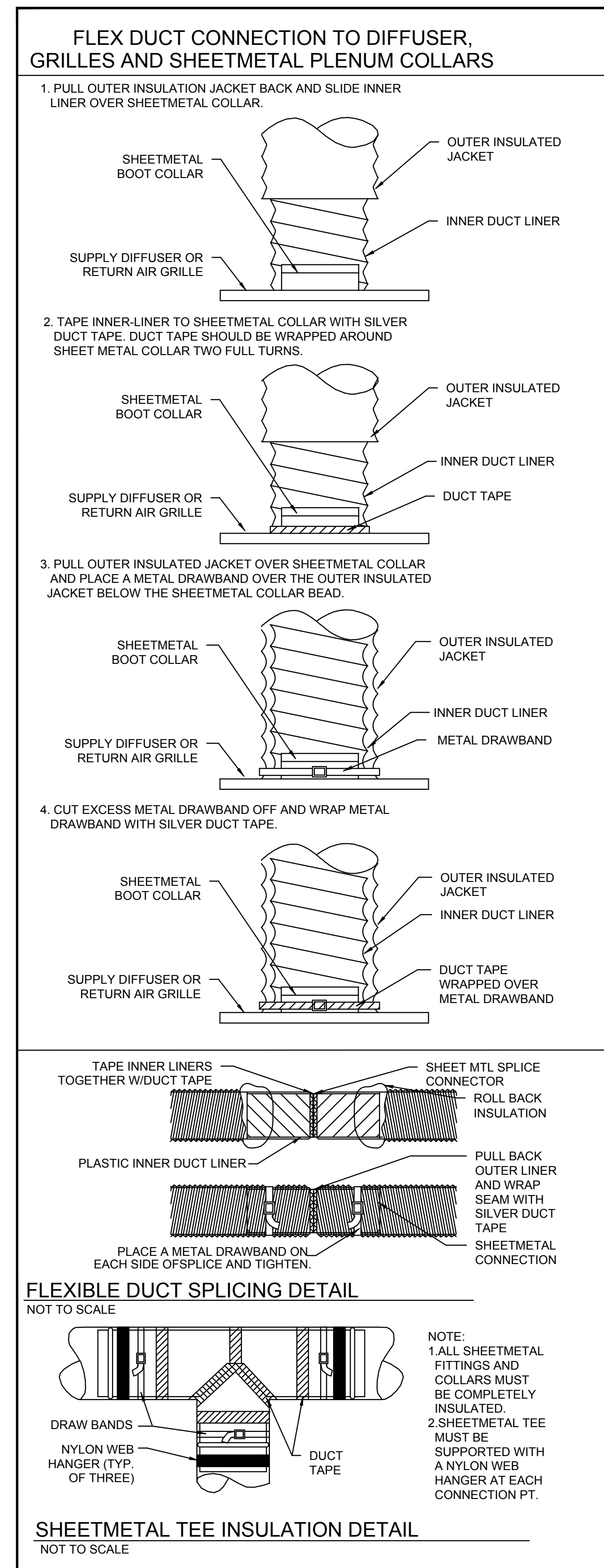
PACKAGED HVAC UNIT SCHEDULE - ELEC HEAT															
MARK	TRANE MODEL NO.	COOLING DATA				HEATING DATA		INDOOR FAN DATA			UNIT ELECTRICAL DATA			ACCESSORIES	
		TOTAL CAP. BTU/HR	ARI NET COOLING BTU/HR	COIL EAT DBWB	SEER/EER RATING	INTEGRATED HEATING CAP.	AUX. HEAT	SUPPLY AIR FLOW CFM	MIN. OUTSIDE AIR	EXT. S.P. IWG	MOTOR FAN HP	MINIMUM CIRCUIT AMPACITY	MAX. CIRCUIT BRKR.		VOLTAGE VPH/PHZ
RTU-1	WSC069W3	63,400	62,000	80 / 67	13.0	58,500 Btu/h	18.0 KW	2,000	SEE SCHED	0.75	1.0	90.2	100	208/3/60	1,2,3,5,6,7,11,12,13,14,15,16,17
RTU-2	WSC069W3	63,400	62,000	80 / 67	13.0	58,500 Btu/h	18.0 KW	2,000	SEE SCHED	0.75	1.0	90.2	100	208/3/60	1,2,3,5,6,7,11,12,13,14,15,16,17
RTU-3	WSC072W3	78,000	75,000	80 / 67	13.0	92 BTU/H1000	18.0 KW	2,400	SEE SCHED	0.75	1.0	90.4	100	208/3/60	1,2,3,5,6,7,11,12,13,14,15,16,17

NOTES FOR ALL UNITS:
* COOLING CAPACITY BASED ON 95 DEGREE F AMBIENT TEMPERATURE
* EXTERNAL STATIC PRESSURE INCLUDES DUCTWORK, DIFFUSERS AND DAMPERS ONLY
* UNITS SHALL MEET REQUIREMENTS OF THE FBCEC (6TH EDITION) & SHALL INCLUDE OUTDOOR T-STATS
* UNITS SHALL BE RATED IN ACCORDANCE WITH ARI 210/240
* UNITS SHALL BE CERTIFIED BY THE AMERICAN GAS ASSOCIATION
* PROVIDE PROGRAMMABLE TSTAT WITH WINTER AND SUMMER SETPOINTS AND HEAT/COOL/AUTO SWITCH WITH LOCK BOX.

THE FOLLOWING ACCESSORIES WILL BE FURNISHED WITH UNITS AS INDICATED ABOVE:
1. SELF FLASHING INSULATED ROOF CURB
2. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR
3. UNIT MOUNTED 120/160 VOLT MAINTENANCE PLUG OUTLET
4. HIGH EFFICIENCY MOTORS
5. 2" THICK FILTER FRAME AND THROWAWAY FILTERS
6. HINGED ACCESS DOORS

7. 7 DAY PROGRAMMABLE ELECTRONIC HEATING AND COOLING THERMOSTAT
8. MOTORIZED DAMPER TO SHUT-OFF OUTSIDE AIR WHEN NOT IN USE
9. CONTROL VOLTAGE TRANSFORMERS (24 VAC)
10. LOW LEVEL HEATING CAPACITY AND THROUGH THE BASE GAS PIPING
11. EMERGENCY SHUT-OFF SWITCH MOUNT NEXT TO THERMOSTAT AND LABEL
12. SMOKE DETECTOR SUPPLIED AND MOUNTED BY MECHANICAL CONTRACTOR IN THE SUPPLY AND RETURN AIR CONNECTIONS TO THE UNIT W/ GLOBAL SHUT-DOWN
13. CONDENSER COIL GUARDS
14. ECONOMIZER W/ BAROMETRIC RELIEF
15. LOW AMBIENT CONTROLS
16. REFRIGERANT METERING DEVICE (APR VALVE); DEVICE SHALL BE EQUAL TO RAWAL PRODUCTS. APR VALVE SHALL BE SIZED AT 2.5 TONS.
17. A WATER-LEVEL MONITORING DEVICE WILL BE INSTALLED IN DOWNFLOW UNIT IN ACCORDANCE TO SECTION 307.2.3.1 OF FBCEC IF SUCH UNIT DOES NOT HAVE SECONDARY DRAIN OR PROVISION TO INSTALL SECONDARY/AUXILIARY DRAIN PAN.

- ### GENERAL MECHANICAL NOTES
- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS. THE APPLICABLE BUILDING CODE AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST EDITION OF THE FOLLOWING PUBLICATIONS: SMACNA, ASHRAE, NFPA 90A, 90B, 91 & ANSI B-9.1 MECHANICAL REFRIGERATION. ALL DUCTWORK SHALL BE FABRICATED, INSTALLED AND SUPPORTED AS PER SMACNA STANDARDS.
 - THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
 - THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES. TO INSURE AN ORDERLY PROGRESS OF THIS WORK.
 - THE CONTRACTOR SHALL SUPPLY THE ARCHITECT WITH "AS-BUILT" DRAWINGS UPON COMPLETION OF THIS PROJECT.
 - CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE (5) COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT.
 - ALL MATERIAL SHALL BE NEW OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED WORKMAN.
 - ALL SUPPLY AND RETURN AIR (TRUNKLINES) DUCTWORK SHALL BE EXTERNALLY INSULATED GALVANIZED SHEET STEEL OR FIBER DUCT (THIS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION). INSULATION SHALL BE A MINIMUM OF 2" THICK PROVIDING A R-6 VALUE OR HIGHER.
 - ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS.
 - DUCT SIZES SHOWN ARE INSIDE DIMENSIONS. (FREE AREA) THE CONTRACTOR MAY, AT HIS OPTION USE ROUND DUCT OF EQUIVALENT SIZE (FREE AREA) WITH CONSTRUCTION OF SAME PER LATEST S.M.A.C.N.A. DUCT CONSTRUCTION STANDARDS. ALL FLEXIBLE DUCT SHALL BE LIMITED TO 10 FEET IN LENGTH AND USED ONLY FOR RUNOUTS TO DIFFUSERS. FLEX DUCT SHALL BE U.L. 181 LISTED.
 - ALL AIR DEVICES (DIFFUSERS, REGISTERS AND GRILLES) SHALL BE AS SPECIFIED. PROVIDE OPPOSED BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS. DIFFUSERS, REGISTERS AND GRILLES LOCATED IN FIRE RATED WALLS AND OR CEILING SHALL BE STEEL CONSTRUCTION.
 - THERMOSTAT SHALL BE 7 DAY PROGRAMMABLE TYPE, WITH SYSTEM "COOL-AUTO-HEAT-OFF" AND FAN "ON-AUTO" SELECTOR SWITCHES. PROVIDE HONEYWELL OR EQUAL.
 - ALL BRANCH TAKE-OFFS TO BE PROVIDED W/MANUAL VOLUME DAMPERS. ALL ELBOWS AND TEES MUST BE FURNISHED W/TURNING VANES. PROVIDE 45 BRANCH TAKE-OFF ASP PER BRANCH DUCT TAKE-OFF DETAIL.
 - PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE STARTING THEM. REPLACE THEM PRIOR TO FINAL ACCEPTANCE BY OWNER.
 - PROVIDE SMOKE DETECTORS WITH ACCESS DOORS IN ALL RETURN AIR DUCTS FOR FANS AND AHUS SERVING A COMMON PLENUM OF 2000 CFM OR ABOVE. ALL SMOKE DETECTORS SHALL BE BY ONE MANUFACTURER. COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT AND ALL AIR MOVING EQUIPMENT SERVING THAT COMMON PLENUM.
 - PROVIDE TYPE "B" FIRE DAMPERS IN ALL DUCTS OR OPENINGS PENETRATING FIRE RATED WALLS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, TENANT SEPARATION, PARTITIONS, FLOOR OR ROOF SLABS AND AT OIA INTAKES. PROVIDE RADIATION DAMPERS IN RATED CEILING FOR ALL CEILING OPENINGS, CEILING FANS, DIFFUSERS OR GRILLES RATED FOR USE IN THE CEILING ASSEMBLY.
 - HVAC CONTRACTOR SHALL PROVIDE A TEST AND BALANCE REPORT, FOR ALL MECHANICAL EQUIPMENT, AIR DEVICES, DAMPERS, AHUS AND FANS. THE T & B SHALL BE IN ACCORDANCE WITH THE AIR BALANCE COUNCIL STANDARDS, AND SHALL INCLUDE AIR QUANTITIES FOR ALL SUPPLY GRILLS, RETURN GRILLS, AND EXHAUST GRILLS, AND THE LEAVING AND ENTERING AIR TEMPERATURE (°F) FROM SUPPLY GRILLS AND EVAPORATORS.
 - THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER AND ARCHITECT BEFORE INSTALLATION.
 - ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
 - MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCH. PLUMBING, ELECTRICAL AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
 - NO COMBUSTIBLE MATERIALS ARE ALLOWED IN RETURN AIR PLENUMS OR ABOVE CEILING USED AS RETURN AIR PLENUM. IF SPACE WITH RETURN AIR PLENUM HAS ANY DECK TO DECK PARTITIONS, AIR TRANSFER DUCTS MUST BE INSTALLED.
 - REFER TO PLUMBING PLANS FOR ALL CONDENSATE PIPING.
 - CONTRACTOR SHALL INSTALL ALL OUTDOOR EQUIPMENT TO WITHSTAND SUSTAINED WIND LOADING FORCES AS REQUIRED BY LOCAL CODES.
 - PROVIDE ALL NECESSARY CONTRACTORS, RELAYS, ETC. FOR A COMPLETE OPERATING A/C UNIT.
 - THROUGHOUT THE COURSE OF THE WORK, MINOR CHANGES AND ADJUSTMENTS TO THE PLANS AND SPECIFICATIONS MAY BE REQUESTED BY THE TENANT. THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS WITHOUT ADDITIONAL COST TO THE TENANT, WHERE SUCH ADJUSTMENTS ARE NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE SYSTEMS, AND WITHIN THE INTENT OF THE CONTRACT DOCUMENTS.
 - IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO FORM A GUIDE FOR A COMPLETE INSTALLATION. EVERYTHING NECESSARY FOR THE COMPLETION AND SUCCESSFUL OPERATION OF THE WORK, WHETHER OR NOT HEREBIN DEFINITELY SPECIFIED OR INDICATED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED AS WELL AND AS FAITHFULLY AS IF SO SPECIFIED OR INDICATED WITHOUT ADDITIONAL COST TO THE TENANT. THE MECHANICAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LENGTHS PRIOR TO INSTALLATION.
 - NOTWITHSTANDING ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR BEARS ULTIMATE RESPONSIBILITY FOR COMPLIANCE OF THE INSTALLATION WITH THE REQUIREMENTS OF THE LANDLORD AND OF THE LOCAL AUTHORITY HAVING JURISDICTION.
 - IF ANY ERRORS, DISCREPANCIES OR OMISSIONS APPEAR IN THE DRAWINGS, SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF SUCH ERROR OR OMISSION. IN THE EVENT OF THE CONTRACTOR FAILING TO GIVE SUCH NOTICE BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK, HE WILL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY SUCH ERRORS, DISCREPANCIES OR OMISSIONS AND THE COST OF RECTIFYING SAME.
 - IF ANY NEW ROOF TOP EQUIPMENT IS TO BE INSTALLED THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ANY NEW UNITS WITH THE LANDLORD'S REP. AND CONTRACTOR SHALL PROVIDE ANY STRUCTURAL ENGINEERING & BRACING REQUIRED BY THE ADDITIONAL LOADS FROM THE NEW HVAC EQUIPMENT.



architecture inc.

S.C. FIRM REGISTRATION NO. 03033

GERALD P. NOE ARCHITECT

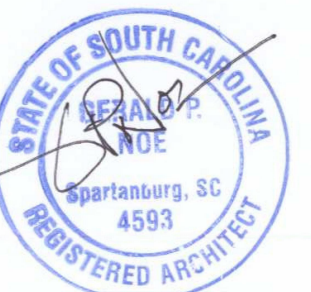
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