MECHANICAL NOTES

1. THESE DRAWINGS AND SPECIFICATIONS DESCRIBE THE SCOPE OF WORK REQUIRED FOR PROJECT MECHANICAL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED FOR COMPLETE, FULLY FUNCTIONING MECHANICAL SYSTEMS COMPLYING WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.

2. DRAWINGS ARE DIAGRAMMATIC AND MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED EQUIPMENT AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING HVAC SYSTEMS.

3. COMPLY WITH THE LATEST EDITIONS OF THE STATE MECHANICAL CODE AND LOCAL JURISDICTION REQUIREMENTS. INCLUDE ALL WORK TO COMPLY WITH CODES WHETHER INDICATED ON DRAWINGS OR NOT. NOTIFY ENGINEER OF DISCREPANCIES BETWEEN DRAWINGS AND CODES PRIOR TO BEGINNING WORK.

4. INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

5. COORDINATE MECHANICAL WORK WITH THE WORK OF OTHER TRADES. LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS SPECIFICALLY DIMENSIONED. LAYOUT MECHANICAL WORK SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. VERIFY ACTUAL BUILDING STRUCTURE PRIOR TO DUCT FABRICATION AND ADJUST ARRANGEMENT AS REQUIRED. INCLUDE ALL OFFSETS IN DUCTS, FITTINGS, PIPING, ETC. AS REQUIRED TO PROPERLY INSTALL EQUIPMENT.

6. DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT.

7. LOW VOLTAGE CONTROL WIRING FOR MECHANICAL SYSTEMS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR. PROGRAMMABLE THERMOSTATS SHALL CONTROL HEATING AND COOLING WITH SET POINT OVERLAP, DEADBAND OF AT LEAST 5°F. COORDINATE THERMOSTAT LOCATIONS WITH OWNER AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN INSTALLATION.

8. SUBMIT COPIES OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT AND HEAT TAPE, INCLUDING NECESSARY CUT SHEETS, CHARTS, WRITTEN INSTRUCTIONS, WIRING DIAGRAMS, FINAL AS-BUILT DRAWINGS WITH BALANCED AIRFLOWS INDICATED, ETC. BIND IN SUITABLE HARD BACK RING BINDERS, PROPERLY INDEXED, AND DELIVER TO THE OWNER PRIOR TO BUILDING OCCUPANCY. IN ADDITION, AFFIX A FOLDER WITH TYPICAL "OWNER'S INSTRUCTIONS" AND "MAINTENANCE INFORMATION" INSIDE THE MECHANICAL EQUIPMENT AS APPLICABLE. THE FOLDER SHALL ALSO INCLUDE A COMPLETE STARTUP LOG FOR THE EQUIPMENT.

9. DO NOT CUT ANY STRUCTURAL MEMBERS WITHOUT EXPRESS WRITTEN INSTRUCTIONS FROM ENGINEER. PROVIDE CUTTING AND PATCHING FOR EXISTING FINISHES AS REQUIRED.

10. EQUIPMENT MODELS AS SCHEDULED ON THE DRAWINGS. MANUFACTURERS INDICATED ARE INTENDED TO ESTABLISH THE QUALITY AND TYPE OF EQUIPMENT DESIRED. COMPARABLE EQUIPMENT APPROVED BY OWNER AND GENERAL CONTRACTOR MAY BE USED. COORDINATE ALL EQUIPMENT CHANGES WITH ELECTRICAL CONTRACTOR TO ENSURE PROPER CONDUCTOR SIZES AND OVERCURRENT PROTECTION WITH COMPARABLE EQUIPMENT PRIOR TO MECHANICAL ROUGH-IN INSTALLATION. INCLUDE ALL ACCESSORIES INDICATED OR AS RECOMMENDED BY THE MANUFACTURER FOR PROPER OPERATION.

11. GALVANIZED STEEL CONSTRUCTED, BRACED, SUPPORTED AND INSTALLED ACCORDING TO SMACNA HVAC DUCT CONSTRUCTION STANDARDS, 1" PRESSURE CLASS, SEAL CLASS A. SEAL USING APPROVED TYPE DUCT SEALING MASTIC OR TAPE DIPPED IN OR BRUSHED WITH ADHESIVE ("HARDCAST" DT-TAPE W/FTA-20 ADHESIVE OR "UNITED MCGILL" MTD TAPE W/MTD-20 ADHESIVE). "DUCT TAPE" IS UNACCEPTABLE FOR DUCT SEALING.

12. DUCT SIZES INDICATED ARE INSIDE FREE AREA DIMENSIONS. DUCT DIMENSIONS SHALL BE ADJUSTED TO SUIT FIELD CONDITIONS USING EQUIVALENT SIZE PER ASHRAE STANDARD. RECTANGULAR OR ROUND DUCTWORK MAY BE USED AT CONTRACTOR OPTION PROVIDED EQUIVALENT SIZE PER ASHRAE STANDARD IS USED.

13. PROVIDE MANUFACTURED TAKE-OFF FITTINGS (SPIN-IN FITTINGS) WITH EXTRACTOR AND VOLUME DAMPER WITH LOCKING QUADRANT OPERATOR AND INSULATION GUARD, GENERAL ENVIRONMENT CORPORATION OR EQUAL, FOR ALL BRANCH RUNOUTS TO SUPPLY REGISTERS AND DIFFUSERS. UNLESS OTHERWISE NOTED, MATCH SUPPLY BRANCH DUCT SIZE TO DIFFUSER SIZE.

14. ALL SQUARE BENDS OR ELBOW FITTINGS SHALL BE FITTED WITH APPROVED TYPE DOUBLE THICKNESS TURNING VANES.

15. PROVIDE SUITABLY LISTED FIRE DAMPERS IN DUCTS PENETRATING FIRE RATED CONSTRUCTION WHERE REQUIRED BY CODE. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED CONSTRUCTION.

16. PROVIDE REMOVABLE ACCESS PANELS IN CEILINGS AND ACCESS DOORS (WITH AIR TIGHT GASKETS) IN DUCTWORK AS REQUIRED FOR ACCESS TO DAMPERS OR OTHER DUCT MOUNTED EQUIPMENT.

17. DUCT INSULATION: R-6 MINIMUM, 2" FIBERGLASS BLANKET INSULATION, ASTM C553, TYPE II, 0.75 PCF CLASS F-1, ASTM 84E FLAME SPREAD/SMOKE DEVELOPED RATING LESS THAN 25/50. PROVIDE WITH FACTORY APPLIED ALL-PURPOSE, LAMINATED GLASS-FIBER-REINFORCED, FLAME-RETARDANT KRAFT PAPER AND ALUMINUM FOIL JACKET. INSTALL ON ALL CONCEALED HVAC SUPPLY, RETURN, MAKE-UP AIR DUCTS AND PLENUMS.

18. HEAT PUMP TEMPERATURE CONTROLS: AUTOMATIC CHANGEOVER PROGRAMMABLE SETBACK HEAT/COOL THERMOSTATS. PROVIDE INTERLOCK TO OPEN O/A DAMPER ON COMPRESSOR START.

19. HANGERS, SUPPORTS, AND ANCHORS: SUPPORT AND FASTEN ALL DUCTWORK, PIPING, EQUIPMENT, ETC., SECURELY IN PLACE USING APPROVED STEEL HANGERS AND FASTENERS. CHAIN, STRAP, PERFORATED STRAP, WIRE HANGERS, OR WOOD PLUGS ARE PROHIBITED.

20. INSTALL ALL MECHANICAL WORK IN ACCORDANCE WITH CODE, MANUFACTURER'S RECOMMENDATIONS AND GOOD INDUSTRY PRACTICE. ARRANGE WORK TO ALLOW EASY ACCESS TO EQUIPMENT FOR SERVICE AND MAINTENANCE.

21. LAYOUT DUCTWORK TO AVOID INTERFERENCES AND MAXIMIZE USABLE SPACE IN THE BUILDING.

22. INSTALL BLANKET INSULATION TIGHT AND SMOOTH. OVERLAP JOINTS 3 INCHES. SEAL JOINTS, BREAKS, AND PUNCTURES WITH VAPOR BARRIER COMPOUND.

23. SPIRAL DUCT SHALL BE DOUBLE WALL INSULATED DUCT WITH DOUBLE WALL MANUFACTURED FITTINGS.

24. INSULATION EXPOSED TO WEATHER WITH MANUFACTURE APPROVED WEATHERPROOF COATING.

25. INSTALL AND WIRE ALL CONTROLS COMPLETE TO OBTAIN INTENDED SEQUENCE OF OPERATION.

26. LABEL ALL EQUIPMENT AND DEVICES WITH BAKELITE ENGRAVED PLATES SCREWED IN PLACE. "TAPEWRITER" AND ADHESIVE LABELS ARE UNACCEPTABLE.

27. VERIFY INSTALLATION IS COMPLETE AND READY FOR START-UP. START-UP ALL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS USING FACTORY CERTIFIED MECHANICS. AFTER START-UP, VERIFY AND DOCUMENT THAT EQUIPMENT IS OPERATING PROPERLY WITHIN MANUFACTURER'S SPECIFIED TOLERANCES.

28. BALANCE AIR FLOWS TO OBTAIN AIR QUANTITIES SHOWN ON DRAWINGS. ADJUST DAMPERS FOR ALL AIR OUTLETS AND RECORD VELOMETER READINGS WHICH CORRESPOND TO DESIGN FLOW RATES AT EACH OUTLET. RECORD DESIGN AND FINAL READINGS ON APPROVED FORMS. SUBMIT TWO COPIES FOR REVIEW AND APPROVAL BY ENGINEER. UPON COMPLETION OF ALL BALANCING AND TESTING, SCHEDULE A TIME FOR ENGINEER TO PERFORM RANDOM CHECKING OF TYPICAL OUTLETS. CONTRACTOR SHALL PROVIDE TECHNICIANS AND MEASURING DEVICES FOR THIS TESTING.

29. MECHANICAL UNITS TO HAVE FILTER RACK. PACKAGE UNITS TO HAVE WASHABLE FILTERS ON OUTSIDE AIR INTAKE.

30. RESTROOM EXHAUST FANS SHALL BE FURNISHED, INSTALLED AND DUCTED BY THE MECHANICAL CONTRACTOR. FANS SHALL BE WIRED BY THE ELECTRICAL CONTRACTOR.

31. SMOKE DETECTORS SHALL BE PROVIDED IN RETURN AIR DUCT OF EACH UNIT AHEAD OF MAKE-UP AIR CONNECTIONS.
DETECTOR ACTUATION SHALL ACTIVATE AN AUDIBLE/VISUAL NOTIFICATION DEVICE LOCATED IN AN APPROVED LOCATION.

32. EXHAUST FAN DISCHARGE TO BE MINIMUM 10'-0" DISTANCE FROM MECHANICAL UNIT OR SUPPLY FAN FRESH AIR IN-TAKE.

33. GAS PIPING BASED ON (0.5 PSI) GAS PRESSURE. VERIFY ALL GAS LINES SIZES WITH GAS COMPANY.

34. ALL GAS PIPING TO BE BLACK STEEL PIPING WITH PROTECTIVE PAINT.

35. SEALED COMBUSTION GAS WATER HEATERS ARE TO BE EQUIPPED WITH A CONCENTRIC PVC VENT. VENT TO BE SIZED PER MANUFACTURERS SPECIFICATIONS.

36. CONDENSATE PIPING AND FLUE PIPE FOR SEALED COMBUSTION GAS FURNACES TO BE INSULATED. COORDINATE REQUIREMENTS WITH MANUFACTURERS SPECIFICATIONS.

37. GAS REGULATORS FOR HVAC EQUIPMENT TO BE PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.

38. SUPPORTS FOR BLACK IRON PIPING ON ROOF MUST MEET THE REQUIREMENTS OF MSS SP-58 AS SPECIFIED IN NC GAS CODE SECTION 407.2 (TREATED WOOD BLOCKS ARE NOT ACCEPTABLE).

39. KITCHEN EXHAUST HOOD DUCTWORK TO BE 16 GAUGE STEEL MINIMUM. ALL JOINTS AND SEAMS ARE TO BE WELDED LIQUID TIGHT. AN APPROVED CLEAN-OUT DOOR TO BE PROVIDED AT EVERY CHANGE IN DIRECTION. DUCTWORK TO BE SLOPED AT 1" PER FOOT MINIMUM.

40. ANSUL HOOD SYSTEMS TO BE WIRED TO SHUT DOWN ALL COOKING EQUIPMENT UNDER IT IN CASE OF FIRE.

41. PRESSURE REGULATORS FOR GAS KITCHEN EQUIPMENT TO BE PROVIDED BY AND INSTALLED BY CONTRACTOR INSTALLING THE GAS PIPING.

42. FLEXIBLE GAS PIPING SHALL BE INSTALLED USING EROUPRAN DESIGN.

43. DUCTING FOR HOOD EXHAUST AIR SHALL BE WRAPPED WITH TWO HOUR FIRE WRAP WHERE 18" OF CLEARANCE TO COMBUSTIBLES CANNOT BE MAINTAINED. DUCT INSULATION SHALL BE (FYREWRAP MAX 2.0 DUCT INSULATION, 2" DUCT WRAP - 0" CLEARANCE) OR EQUAL.

44. ROOF TOP UNITS SHALL BE EQUIPPED WITH A WATER DETECTION DEVICE FOR UNIT SHUT DOWN.

45. COOLER AND FREEZER REFRIGERANT PIPING LINE SETS TO BE NITROGEN PRESSURE TESTED WITH INSPECTOR PRESENT.

PLANS ARE FOR DESIGN BUILD AND SOME ITEMS MAY NOT BE DETAILED. CONTACT ENGINEER WITH ANY DISCREPANCIES

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
T	THERMOSTAT (HONEYWELL VISION PRO 8000) WITH HONEYWELL KEY LOCKING GUARD COVER
TS	THERMOSTAT REMOTE SENSOR (HONEYWELL C7189U)
HS	HONEYWELL HUMIDITY SENSOR
A/V	AUDIBLE/VISUAL SIGNALING APPLIANCE, CONNECT TO DUCT MOUNTED SMOKE DETECTOR
	CEILING SUPPLY DIFFUSER
	CEILING RETURN GRILLE
	SPIRAL DUCT SUPPLY DIFFUSER
	SIDEWALL RETURN GRILLE
MARK, CFM	DIFFUSER TYPE AND AIRFLOW LABEL
	SUPPLY DUCT SECTION
	RETURN DUCT SECTION
-- X --	RECTANGULAR METAL DUCT
X"Ø	ROUND METAL / SPIRAL DUCT
	FLEX DUCT
	A-COLLAR TAKE-OFF W/MANUAL VOLUME DAMPER
	A-COLLAR TAKE-OFF WO/MANUAL VOLUME DAMPER
SD	DUCT SMOKE DETECTOR
	MANUAL VOLUME DAMPER
	GAS PIPING
	GAS COCK SHUT-OFF VALVE
	PRESSURE REDUCING VALVE
	UNION
	GAS PIPING DIRT LEG
CFM	CUBIC FEET PER MINUTE
O.A.	OUTSIDE AIR
A.F.F.	ABOVE FINISHED FLOOR
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR

SINGLE PACKAGE GAS-FIRED/AIR CONDITIONER SCHEDULE

UNIT	DESIGN BASIS MFR	MODEL	TONS	ELECTRICAL			INDOOR FAN SECTION			COOLING CAP. 80/67/95			HEATING CAP.				WEIGHT	NOTES
				VOLTAGE (V/PH/HZ)	MCA (AMPS)	MOCP (AMPS)	SA (CFM)	OA (CFM)	ESP	TOTAL (MBH)	SENS (MBH)	MIN SEER EER	FUEL	INPUT (BTUH)	OUTPUT (BTUH)	AFUE (%)	(LBS)	
RTU01	TRANE	YHC 072 E 3 R3 L3 D3 C3 B-A	6	208/3/60	32.3	50	2400	240	0.5	77.4	66.8	14.5	NG	120,000	96,000	80.0	822	1, 2, 3, 4
RTU02	TRANE	YHC 072 E 3 R3 L3 D3 C3 B-A	6	208/3/60	32.3	50	2400	240	0.5	77.4	66.8	14.5	NG	120,000	96,000	80.0	822	1, 2, 3, 4
RTU03	TRANE	YHC 072 E 3 R3 L3 D3 C3 B-A	6	208/3/60	32.3	50	2400	300	0.5	77.4	66.8	14.5	NG	120,000	96,000	80.0	822	1, 2, 3, 4
RTU04	TRANE	YHC 072 E 3 R3 L3 D3 C3 B-A	6	208/3/60	32.3	50	2400	300	0.5	77.4	66.8	14.5	NG	120,000	96,000	80.0	822	1, 2, 3, 4

NOTES:
1. PROVIDE ENTHALPY CONTROL ECONOMIZER WITH BAROMETRIC RELIEF, ROOF MOUNTING CURB, CONDENSER COIL GUARDS.
2. PROVIDE HONEYWELL AUTOCHANGEOVER HEAT-COOL PROGRAMMABLE THERMOSTAT AND CORRESPONDING HONEYWELL HUMIDITY SENSOR.
3. PROVIDE HONEYWELL REMOTE THERMOSTAT SENSOR.
4. PROVIDE WITH DUCT SMOKE DETECTOR, EMERGENCY STOP SWITCH AND AUDIBLE/VISUAL SIGNALING APPLIANCE.
* - TRANE UNITS SPECIFIED WITH BAROMETRIC RELIEF, HINGED SERVICE ACCESS PANELS AND DEHUMIDIFICATION-HOT GAS REHEAT.

FAN SCHEDULE

MARK	DESIGN BASIS MANUFACTURE	MODEL	CFM	ESP	MOTOR HP	SONES	VOLTAGE (V/PH/HZ)	MCA (AMPS)	FAN TYPE	FAN CONTROL	WEIGHT (LBS)	NOTES
F1	GREENHECK	SP-A190	150	0.125	FHP	2.9	115/1/60	1.0	CEILING EXHAUST	WALL SWITCH	17	1
F2	GREENHECK	SP-A90	75	0.125	FHP	1.4	115/1/60	[illegible]	CEILING EXHAUST	WALL SWITCH	12	1
EHF1	DELHI	HRE-20	3900	1.0	3.0	20	208/3/60	8.8	EXHAUST HOOD FAN	HOOD CONTROLS	312	2
MUA1	CAPTIVEAIRE	A1-D.250-G10	3200	0.450	2.0	26	208/3/60	6.2	SUPPLY MAKE-UP AIR FAN	HOOD CONTROLS	599	2

NOTES:
1. PROVIDED WITH BACKDRAFT DAMPER
2. COORDINATE LINE VOLTAGE AND CONTROL WIRING TERMINATIONS WITH ELECTRICAL CONTRACTOR PRIOR TO ROUGH-IN INSTALLATION

DIFFUSER AND GRILLE SCHEDULE

MARK	DESIGN BASIS MANUFACTURE	MODEL	CFM RANGE	SIZE	BRANCH CONN. SIZE	SERVICE	STYLE	CONSTRUCTION	MOUNTING	FINISH	NOTES
S1	HART & COOLEY	RZMCDST W	0-100	2'x2'	SEE PLAN	SUPPLY	LOUVER DIFFUSER, 4-WAY	POLYMER	LAY-IN	WHITE	1
S2	HART & COOLEY	RZMCDST W	100-175	2'x2'	SEE PLAN	SUPPLY	LOUVER DIFFUSER, 4-WAY	POLYMER	LAY-IN	WHITE	1
S3	HART & COOLEY	RZMCDST W	[illegible]-275	2'x2'	SEE PLAN	SUPPLY	LOUVER DIFFUSER, 4-WAY	POLYMER	LAY-IN	WHITE	1
S4	HART & COOLEY	RZMCDST W	275-400	2'x2'	SEE PLAN	SUPPLY	LOUVER DIFFUSER, 4-WAY	POLYMER	LAY-IN	WHITE	1
S5	HART & COOLEY	RZMCDST W	400-535	2'x2'	SEE PLAN	SUPPLY	LOUVER DIFFUSER, 4-WAY	POLYMER	LAY-IN	WHITE	1
[illegible]	PRICE	SDG AL	0-150	14"x4"	DUCT SIZE 8"-12"	SUPPLY	SPIRAL DUCT LOUVER GRILLE	ALUMINUM	DUCT	WHITE	2
S7	PRICE	SDG AL	275-400	22"x6"	DUCT SIZE 14"-21"	SUPPLY	SPIRAL DUCT LOUVER GRILLE	ALUMINUM	DUCT	WHITE	2
S8	PRICE	SDG AL	400-525	34"x6"	DUCT SIZE 14"-21"	SUPPLY	SPIRAL DUCT LOUVER GRILLE	ALUMINUM	DUCT	WHITE	2
R1	PRICE	630	0-1600	2'x2'	SEE PLAN	RETURN	GRILLE, 45° DEFL.	ALUMINUM	LAY-IN	WHITE	3
R2	PRICE	630	0-1425	24"x18"	SEE PLAN	RETURN	GRILLE, 45° DEFL.	ALUMINUM	FLUSH	WHITE	3

NOTES:
1. INSTALLED MANUAL VOLUME DAMPER AT DUCT COLLAR TAKE-OFF
2. EQUIP DIFFUSER/REGISTER WITH MANUAL VOLUME DAMPER
3. RETURN GRILLE NOT EQUIPPED WITH FILTER, RETURN FILTER RACK AT MECHANICAL UNIT

OUTSIDE AIR / VENTILATION CALCULATIONS

OCCUPANCY CLASSIFICATION	GROSS SQUARE FOOTAGE	NET SQUARE FOOTAGE	OCCUPANT DENSITY PER 1000 SF	CALCULATED NUMBER OF PEOPLE	OUTSIDE AIR REQ'D PER PERSON (CFM)	TOTAL CFM O.A. FOR PEOPLE	OUTSIDE AIR REQ'D PER S.F. (CFM)	TOTAL CFM O.A. PER S.F.	MIN. O.A. REQ'D CFM PER PERSON AND S.F. COMBINED	ZONE AIR DISTRIBUTION EFFECTIVENESS (0.8 Ez) PER TABLE 403.3.1.2	OUTSIDE AIR PROVIDED (CFM)	MINIMUM VENTILATION REQ'D PER S.F.	MINIMUM VENTILATION REQ'D (CFM)	VENTILATION PROVIDED (CFM)
DINING ROOM	912	821	100	82	3.75	308	0.18	148	456	569	570			
ORDER & PICK-UP	395	356		0		0	0.06	21	21	27	30			
HALL	45	41		0		0	0.06	2	2	3	5			
MEN'S RESTROOM	108	97		0		0		0	0	0	0		150	150
WOMEN'S RESTROOM	141	127		0		0		0	0	0	0		150	150
KITCHEN	788	709		0		0		0	0	0	435			
STORAGE	325	293		0		0	0.12	35	35	44	45			
UNISEX RESTROOM	63	57		0		0		0	0	0	0		150	150
TOTAL OUTSIDE AIR AND VENTILATION REQ'D									514		1085		450	450

* - DINING OUTSIDE AIR REQUIRED PER PERSON HAS BEEN REDUCED BY HALF DUE TO THE THREE HOUR DURATION PEAK OCCUPANCY PROVISIONS OF ASHRAE 62

AIR BALANCE SCHEDULE

UNIT/FAN	MAKE-UP AIR CFM	EXHAUST AIR CFM	REMARKS
RTU01	240	-	GAS PACKAGE UNIT
RTU02	240	-	GAS PACKAGE UNIT
RTU03	300	-	GAS PACKAGE UNIT
RTU04	300	-	GAS PACKAGE UNIT
EHF1	-	3900	EXHAUST HOOD FAN
MUA1	3200	-	MAKE-UP AIR FAN
MEN RESTROOM	-	150	EXHAUST FAN
WOMEN RESTROOM	-	150	EXHAUST FAN
UNISEX RESTROOM	-	150	EXHAUST FAN
JANITOR CLOSET	-	75	EXHAUST FAN
TOTAL CFM	4280	4425	
TOTAL CFM DIFFERENCE		-145 CFM	

NOTE: UPON COMPLETION, HVAC SYSTEM SHALL BE FULLY OPERATIONAL WITH SYSTEM AIR BALANCE TESTED BY A LICENSED PROFESSIONAL CONTRACTOR. AIR BALANCE TEST RESULTS SHALL BE SUBMITTED TO OWNER OR OWNER'S REPRESENTATIVE.

FIRE SUPPRESSION SYSTEMS

PER SECTION 509.4 OF THE INTERNATIONAL MECHANICAL CODE
509.4 SYSTEM ACTUATION
EACH AUTOMATIC FIRE SUPPRESSION SYSTEM SHALL HAVE BOTH AUTOMATIC AND MANUAL ACTUATION MEANS. A MANUAL ACTUATION DEVICE SHALL BE LOCATED AT OR NEAR A MEANS OF EGRESS FROM THE COOKING AREA, A MINIMUM OF 10 FEET AND A MAXIMUM OF 20 FEET FROM THE KITCHEN EXHAUST SYSTEM. THE MANUAL ACTUATION DEVICE SHALL BE LOCATED A MINIMUM OF 4.5 FEET AND A MAXIMUM OF 5 FEET ABOVE THE FLOOR. THE MANUAL ACTUATION SHALL REQUIRE A MAXIMUM FORCE OF 40 POUNDS AND A MAXIMUM MOVEMENT OF 14 INCHES TO ACTUATE THE FIRE SUPPRESSION SYSTEM.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE

PRESCRIPTIVE ■ ENERGY COST BUDGET □

THERMAL ZONE 3A

EXTERIOR DESIGN CONDITIONS
WINTER DRY BULB 15 °F
SUMMER DRY BULB 90 °F

INTERIOR DESIGN CONDITIONS
WINTER DRY BULB 68 °F
SUMMER DRY BULB 78 °F
RELATIVE HUMIDITY 50 %

BUILDING HEATING LOAD 79,850 BTU/HR

BUILDING COOLING LOAD 15.97 TONS

MECHANICAL SPACING CONDITIONING SYSTEM
UNITARY
DESCRIPTION OF UNIT PACKAGE GAS UNITS

HEATING EFFICIENCY 80%
COOLING EFFICIENCY 14.5 SEER
HEATING OUTPUT OF UNITS 384,000 BTU/HR
COOLING OUTPUT OF UNITS 24.0 TONS

LIST EQUIPMENT EFFICIENCIES

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEM)
MOTOR HORSEPOWER ______ HP
NUMBER OF PHASES ______ Ø
MINIMUM EFFICIENCY ______ %
MOTOR TYPE ______
#OF POLES ______

DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT REQUIREMENTS OF NORTH CAROLINA STATE BUILDING CODES.

FIRE CODE REQUIREMENT NOTES

904.11 COMMERCIAL COOKING SYSTEMS
THE AUTOMATIC FIRE EXTINGUISHING SYSTEM FOR COMMERCIAL COOKING SYSTEMS SHALL BE OF A TYPE RECOGNIZED FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT AND EXHAUST SYSTEMS OF THE TYPE AND ARRANGEMENT PROTECTED. PRE-ENGINEERED AUTOMATIC DRY AND WET CHEMICAL EXTINGUISHING SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH UL 300 AND LISTED AND LABELED FOR THE INTENDED APPLICATION. OTHER TYPES OF AUTOMATIC FIRE-EXTINGUISHING SYSTEMS SHALL BE LISTED AND LABELED FOR SPECIFIC USE AS PROTECTION FOR COMMERCIAL COOKING OPERATIONS. THE SYSTEM SHALL BE INSTALLED IN IN ACCORDANCE WITH THIS CODE, ITS LISTING AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. AUTOMATIC FIRE-EXTINGUISHER SYSTEMS OF THE FOLLOWING TYPES SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 96 AND THE REFERENCED STANDARD INDICATED, AS FOLLOWS:
1. WET-CHEMICAL EXTINGUISHING SYSTEMS. NFPA 17A

904.11.5 COMMERCIAL COOKING EQUIPMENT
PORTABLE FIRE EXTINGUISHERS SHALL BE PROVIDED WITHIN A 30-FOOT TRAVEL DISTANCE OF COMMERCIAL TYPE COOKING EQUIPMENT. COOKING EQUIPMENT INVOLVING VEGETABLE OR ANIMAL OILS AND FATS SHALL BE PROTECTED BY A CLASS K RATED PORTABLE EXTINGUISHER.

105.7.1 AUTOMATIC FIRE-EXTINGUISHING SYSTEMS
MANDATORY PERMIT. A CONSTRUCTION PERMIT IS REQUIRED FOR INSTALLATION OF OR MODIFICATION TO AN AUTOMATIC FIRE-EXTINGUISHING SYSTEM. MAINTENANCE PERFORMED IN ACCORDANCE WITH THIS CODE IS NOT CONSIDERED A MODIFICATION AND DOES NOT REQUIRE A PERMIT.

901.2 CONSTRUCTION DOCUMENTS
THE CODE OFFICIAL SHALL HAVE THE AUTHORITY TO REQUIRE CONSTRUCTION DOCUMENTS AND CALCULATIONS FOR ALL FIRE PROTECTION SYSTEMS AND TO REQUIRE PERMITS BE ISSUED FOR THE INSTALLATION, REHABILATATION OR MODIFICATION OF ANY FIRE PROTECTION SYSTEM. CONSTRUCTION DOCUMENTS FOR THE FIRE PROTECTION SYSTEMS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO SYSTEM INSTALLATION.

505.1 ADDRESS NUMBERS
NEW AND EXISTING BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS, OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION TO BE PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. ADDRESS NUMBERS SHALL BE ARABIC NUMERALS OR ALPHABET LETTERS. NUMBERS SHALL BE A MINIMUM OF 4 INCHES HIGH WITH A MINIMUM STROKE WIDTH OF 0.5 INCH.

NORTH CAROLINA PROFESSIONAL SEAL 26447 ENGINEER H. MACK SUMMEY, JR.

SEA

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WINTERVILLE, NORTH CAROLINA

No.	Date:	Description:	By:

MECHANICAL SCHEDULES AND NOTES

COOK-OUT RESTAURANTS

4145 S. MEMORIAL DRIVE
PITT COUNTY - WINTERVILLE TOWNSHIP - NORTH CAROLINA

Scale: AS NOTED
Date: APRIL 2019
Drawn By: ECB
Checked By: HMSJ
Job No.: E-5450

Sheet No. M-1
1 of 9

P:\E-5450 Cook-Out - Winterville, NC\DWG\PME\PME 4.4.19\Mechanical 2018-03-24.dwg, 4/4/2019 5:28:18 PM, Foxit PhantomPDF Printer

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