EXHAUST FAN SCHEDULE

PLAN MARK	AREA SERVED	MANUFACTURER	MODEL	TYPE	CFM	ESP ("WC)	RPM	DRIVE	SONES	ELECTRICAL HP	VOLT	PH	HZ	FLA	OPER. WEIGHT (LBS)	NOTES
EF-1	WOMEN 107	COOK	GC-542	CMC	250	0.35	1309	DIRECT	3	0.12	120	1	60	2.0	42	1,2,3,4,5,6
EF-2	JANITOR 106	COOK	GC-186	CMC	160	0.35	901	DIRECT	3	0.09	120	1	60	2.0	19	1,2,3,4,5,7
EF-3	MEN 105	COOK	GC-186	CMC	150	0.35	865	DIRECT	3	0.09	115	1	60	2.0	16	1,2,3,4,5,6
EF-4	FAMILY TOILET 104	COOK	GC-148	CMC	50	0.35	729	DIRECT	0.9	0.04	120	1	60	2.0	18	1,2,3,4,5,6

NOTES:
1. UNIT MOUNTED DISCONNECT SWITCH
2. GRAVITY BACKDRAFT DAMPER
3. FAN SPEED CONTROLLER MOUNTED TO UNIT FOR BALANCING
4. VIBRATION ISOLATION KIT
5. ALUMINUM GRILLE
6. INTERLOCK FAN WITH AHU-1 THERMOSTAT
7. FAN TO RUN CONTINUOUSLY

ELECTRIC HEATER SCHEDULE

PLAN MARK	AREA SERVED	MANUFACTURER	MODEL	TYPE	CFM	KW	AIR TEMP RISE (°F)	NET HEATING CAP. (MBH)	ELECTRICAL VOLTS	PH	HZ	FLA	OPER. WEIGHT (LBS)	NOTES
EH-1	JANITOR 116	Q-MARK	EFF4007	CEILING MOUNTED	150	2	42.0	6.8	277	1	60	12.5	23	1,2,3,4

NOTES:
1. DOUBLE-POLE, SINGLE THROW DISCONNECT SWITCH
2. THERMAL OVERLOAD CUTOUT
3. SURFACE MOUNTING SLEEVE
4. PROVIDE REMOTE WALL-MOUNTED THERMOSTAT

H.V.A.C. DUCTWORK SCHEDULE (ASHRAE 90.1 CLIMATE ZONE 3A)

DUCT SYSTEM	FUNCTION	SHAPE	LOCATION	PRESSURE CLASS "wg	MATERIAL	GAGE	LINER TH	LINER TYPE	LINER D	INSULATION TH	INSULATION TYPE	INSULATION D	INSULATION JACKET	NOTES
AHU-1	SUPPLY	ALL	IN UNCONDITIONED ATTIC OR CHASE	2"	GS	*	-	-	-	1.5"	FGW	0.75	FFJ	
AHU-1	RETURN	ALL	IN UNCONDITIONED ATTIC OR CHASE	2"	GS	*	-	-	-	1.5"	FGW	0.75	FFJ	
AHU-1	OUTSIDE AIR	ALL	IN UNCONDITIONED ATTIC OR CHASE	2"	GS	*	-	-	-	1.5"	FGW	0.75	FFJ	
EF-1 THROUGH 4	GENERAL EXHAUST	ALL	IN UNCONDITIONED ATTIC	1"	GS	*	-	-	-	-	-	-	-	

SCHEDULE NOTES

1. NONE

GENERAL NOTES

1. ALL INTERIOR CONCEALED SUPPLY, RETURN OR OUTSIDE AIR DUCTWORK NOT SPECIFICALLY LISTED ABOVE SHALL BE INSULATED WITH 1.5" FIBERGLASS WRAP WITH A FOIL FACED JACKET.
2. ALL RECTANGULAR DUCTWORK SIZES INDICATED ON THE DRAWINGS REFLECT SHEET METAL DIMENSIONS. ALLOWANCE HAS BEEN MADE FOR 1" DUCTLINER WHERE AND IF REQUIRED.

ASHRAE 90.1 DUCT SEALING REQUIREMENTS

DUCT TYPE & PRESSURE CLASS	SMQCNA DUCT SEALING CLASS/LEVEL: OUTDOOR DUCT	UNCONDITIONED SPACE*	CONDITIONED SPACE**
SUPPLY 2"w.g. AND BELOW	A	B	C
SUPPLY GREATER THAN 2" w.g.	A	A	B
EXHAUST 2"w.g. AND BELOW	C	C	B
EXHAUST GREATER THAN 2" w.g.	A	B	C

* UNCONDITIONED SPACE: INTERIOR SPACE NOT DIRECTLY OR INDIRECTLY HEATED AND/OR COOLED. MECHANICAL ROOF PENTHOUSES ARE UNCONDITIONED SPACES.
** CONDITIONED SPACE = INTERIOR SPACES THAT ARE DIRECTLY OR INDIRECTLY HEATED AND/OR COOLED. THESE SPACES INCLUDE RETURN AIR PLENUMS.

DUCT SEALING NOTES:

1. SEAL CLASS A: TRAVERSE AND LONGITUDINAL JOINTS AND DUCT WALL PENETRATIONS TO BE SEALED
2. SEAL CLASS B: TRAVERSE AND LONGITUDINAL JOINTS TO BE SEALED
3. SEAL CLASS C: TRAVERSE JOINTS ONLY TO BE SEALED
4. ALL DUCTWORK CARRYING HAZARDOUS FUMES (CLASS 3 OR 4 AIR), NOT REQUIRING LIQUID TIGHT JOINTS AND SEAMS, REGARDLESS OF PRESSURE CLASS OR LOCATION SHALL BE SMACNA SEAL CLASS A.
5. ALL DUCTWORK SERVING COMMERCIAL KITCHEN HOODS/DISHWASHERS, OR WHERE SPECIFIED, SHALL HAVE WELDED, LIQUID TIGHT JOINTS AND SEAMS USE APPROPRIATE GASKETS AND SEALANTS WHERE WELDING IS NOT POSSIBLE

*** 20 GAGE MINIMUM, OTHERWISE SMACNA STANDARD FOR PRESSURE CLASS INDICATED
** 22 GAGE MINIMUM, OTHERWISE SMACNA STANDARD FOR PRESSURE CLASS INDICATED
* PER SMACNA STANDARD FOR PRESSURE CLASS INDICATED

DUCT SCHEDULE LEGEND

AIFD	- ACCOUSTICAL INSULATED FLEXIBLE DUCT	FFJ	- FOIL FACED JACKET	PGGS	- PAINT GRIP GALVANIZED STEEL
ALUM	- ALUMINUM	FGW	- FIBERGLASS WRAP	PVCGS	- PVC COATED GALVANIZED STEEL
ASJ	- ADHESIVE BACKED ALUMINUM	FPW	- FIRE-PROOF WRAP	RECT	- RECTANGULAR
CS	- ALL SERVICE JACKET	GS	- GALVANIZED STEEL	RND	- ROUND
D	- CARBON STEEL	GSSP	- GALVANIZED STEEL SPIRAL PIPE	SS	- STAINLESS STEEL
ETPS	- DENSITY	IFD	- INSULATED FLEXIBLE DUCT	TH	- THICKNESS
FB	- EXTRUDED POLYSTYRENE	MFF	- MATT FACED FIBERGLASS	UFD	- UNINSULATED FLEXIBLE DUCT
	- FIBERGLASS BOARD	PFL	- PREFORMED LINER		

H.V.A.C. SYSTEM PIPING AND INSULATION SCHEDULE

PIPING SYSTEM	LOCATION	PIPE MATERIAL AND TYPE ≤ SIZE	MAT.	T/S	≥SIZE	MAT.	T/S	FITTING TYPE AND MATERIALS ≤ SIZE	TYPE/MAT	CL/SCH	≥SIZE	TYPE/MAT	CL/SCH	PIPE JOINTING METHOD ≤ SIZE	METHOD	≥SIZE	METHOD	PIPE AND FITTING INSULATION ≤ SIZE	TH	TYPE	≥SIZE	TH	TYPE	PIPE JKT MAT	VB	FTG JKTS MAT	VB	NOTES
AC CONDENSATE DRAIN	JANITOR'S CLOSET/OUTDOORS	3"	CU	L	-	-	-	3"	WCU	-	-	-	-	SW, THRD	-	-	-	-	-	-	-	-	-	-	-	-	-	
AC CONDENSATE DRAIN	CONCEALED/EXPOSED	3"	CU	L	-	-	-	3"	WCU	-	-	-	-	SW, SOLDER	-	-	-	3"	.5"	UC	4"	1"	UC	-	-	-	-	
REFRIGERATION SUCTION	INDOORS	3"	ACR	-	-	-	-	3"	WCU, PS	-	-	-	-	3"	BR, PS	-	-	.75"	.5"	UC	1"	1"	UC	-	-	-	-	
REFRIGERATION SUCTION	OUTDOORS	3"	ACR	-	-	-	-	3"	WCU, PS	-	-	-	-	3"	BR, PS	-	-	.75"	.5"	UC	1"	1"	UC	-	-	-	-	1
REFRIGERATION LIQUID	ALL	3"	ACR	-	-	-	-	3"	WCU, PS	-	-	-	-	3"	BR, PS	-	-	-	-	-	-	-	-	-	-	-	-	

SCHEDULE NOTES:

1. PROVIDE A PROTECTIVE COATING OVER INSULATION AS RECOMMENDED BY THE MANUFACTURER ON ALL PIPE INSULATION INSTALLED OUTDOORS.

GENERAL NOTES:

1. ALL COLD WATER PIPING SYSTEMS AND COMPONENTS THAT HAVE THE POTENTIAL TO CONDENSE MOISTURE UNDER NORMAL OPERATING CONDITIONS SHALL BE INSULATED WHETHER OR NOT SPECIFICALLY LISTED ABOVE.

PIPE SYSTEM COLOR SCHEDULE

ACR	ACR COPPER	FLGD	FLANGED	PE	POLYETHYLENE	T/S	TYPE OR SCHEDULE
ASJ	ALL SERVICE JACKET	FMG	FOAM GLASS	PI	POLYISOCYANURATE FOAM	UC	FLEXIBLE ELASTOMERIC UNICELLULAR
AL-C	CORRUGATED ALUMINUM	FS	FORGED STEEL	PRESS	PRESSURE	VB	VAPOR BARRIER
AL-E	EMBOSSED ALUMINUM	GS	GALVANIZED STEEL	PP	POLYPROPYLENE	WCU	WROUGHT COPPER
BND	BONDED	GR	GROOVED	PU	POLYURETHANE FOAM	WLD	WELDED
BR	BRAZED	HF	HEAT FUSION	PVC	POLYVINYL CHLORIDE	Y	YES
CCP	CALCIUM SILICATE POWDER	HDPE	HIGH DENSITY POLYETHYLENE	PVDC	POLYVINYLIDENE CHLORIDE	N	NO
CI	CAST IRON	MAT	MATERIAL	SS	STAINLESS STEEL		
CPVC	CHLORINATED PVC	MF	MECHANICAL FITTING OR JOINT	SW	SWEAT CONNECTION	**	SEE SPECIFICATION
CS	CARBON STEEL	MI	MALLEABLE IRON	SWLD	SOLVENT WELD	≥	GREATER THAN OR EQUAL TO
CU	COPPER	MLWA	UNDERGROUND MULTI-LAYER WRAP	TH	THICKNESS	≤	LESS THAN OR EQUAL TO
FG	FIBERGLASS	MLWU	ABOVEGROUND MULTI-LAYER WRAP	THRD	THREADED		

OUTDOOR HEAT PUMP UNIT SCHEDULE

PLAN MARK	SERVES	MANUFACTURER	MODEL	TOTAL CLG MBH	OA TEMP (°F) SUMMER AMBIENT DB	OA TEMP (°F) WINTER AMBIENT DB	REFRIG. PIPE SIZE SUCTION	REFRIG. PIPE SIZE LIQUID	*HTG. COP	INPUT KW COOLING	INPUT KW HEATING	EFFICIENCY EER	EFFICIENCY SEER	REFRIG. TYPE	ELECTRICAL VOLTS	PH	HZ	MCA	MOCP	OPER. WEIGHT (LBS)	NOTES
HP-1	AHU-1	TRANE	4TWA4048A4	46	93.9	19.0	7/8"	3/8"	3.4	3.82	5.58	12	14	R-410A	480	3	60	8.0	15.0	261	1,2,3,4,5

NOTES:
1. REFRIGERANT LINE SET. INSTALL PER MANUFACTURER'S REQUIREMENTS
2. LIQUID FILTER DRIER
3. HIGH/LOW PRESSURE DWITCHES
4. E.C. TO PROVIDE DISCONNECT SWITCH
5. TIME DELAY RELAY AND TXV VALVE

* COP AT 47°F

AIR HANDLING UNIT SCHEDULE

PLAN MARK	AREA SERVED	MANUFACTURER	MODEL	OUTDOOR AIR CFM	OUTDOOR AIR DB	OUTDOOR AIR WB	FAN NOM. CFM	FAN ESP "WC	SENS. MBH	COOLING CAPACITIES TOTAL MBH	EAT DB	EAT WB	REFRIG. TYPE	HEATING CAPACITIES EAT	@47°F	@17°F	UNIT WEIGHT (LBS)	ELECTRICAL HP	FLA	VOLT	PH	HZ	NOTES
AHU-1	SOCCER COMPLEX	TRANE	TEM4A0C48S21SA	350	93.9	74.7	1500	0.75	34	46	80.0	66.0	R-410A	57.5	46	29	145	0.75	4.20	208	1	60	1,2,3,4,5

NOTES:
1. PROVIDE AHU WITH SINGLE POINT POWER CONNECTION
2. EC TO PROVIDE DISCONNECT SWITCH
3. ELECTRONIC PROGRAMMABLE THERMOSTAT
4. FILTER RACK WITH PLEATED, MERV 7 FILTERS
5. PROVIDE 10.8 KW, 208V ELECTRIC HEATER (INCLUDED IN TOTAL FLA)

AHU CONTROL SEQUENCE:
1. THE AHU SHALL OPERATE DURING OCCUPIED HOURS. THE RESPECTIVE HEAT PUMP UNIT SHALL CYCLE ON/OFF BY A PROGRAMMABLE THERMOSTAT TO MAINTAIN ROOM TEMPERATURE SETPOINT (COOLING) 75 °F. (HEATING) 70 °F.
2. DURING UNOCCUPIED TIMES, THE AHU MAY BE OVERRIDDEN THROUGH THE PROGRAMMABLE THERMOSTAT.
3. THE AHU FAN SHALL OPERATE CONTINUOUSLY DURING OCCUPIED HOURS AND CYCLE ON/OFF TO MEET SPACE TEMPERATURE SETPOINT DURING UNOCCUPIED HOURS.
4. EF-1, 3, AND 4 SHALL BE INTERLOCKED WITH AHU-1 THERMOSTAT TO OPERATE DURING OCCUPIED HOURS.

NOTE: ALL EQUIPMENT LISTED IS BASIS OF DESIGN OR APPROVED EQUAL.

AIR DEVICE SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	NECK SIZE	FUNCTION	LOCATION	THROW	MATERIAL	SLOTS LENGTH	SLOTS QTY	NOTES
A	TITUS	TDC-AA	12X12 - 6"Ø	SUPPLY	CEILING	4-WAY	ALUMINUM	-	-	1,2,3,5,6
B	TITUS	TDC-AA	12X12 - 8"Ø	SUPPLY	CEILING	4-WAY	ALUMINUM	-	-	1,2,3,5,6
C	TITUS	TDC-AA	12X12 - 10"Ø	SUPPLY	CEILING	4-WAY	ALUMINUM	-	-	1,2,3,5,6
D	TITUS	PAR	20X20 - 8"Ø	RETURN	CEILING	-	STEEL	-	-	1,2,4,5,6
E	TITUS	PAR	20X20 - 12"Ø	RETURN	CEILING	-	STEEL	-	-	1,2,4,5,6
F	TITUS	PAR	20X20 - 14"Ø	RETURN	CEILING	-	STEEL	-	-	1,2,4,5,6

NOTES:
1. SEE ARCHITECTURAL DRAWINGS FOR CEILING TYPE
2. STANDARD WHITE FINISH
3. LOUVERED FACE
4. PERFORATED FACE
5. MANUFACTURER'S STANDARD R-6 INSULATION BLANKET ON BACK PAN OF DIFFUSER. IF NOT AVAILABLE, THE CONTRACTOR SHALL FIELD INSULATE.
6. OPPOSED BLADE DAMPER

AIR-COOLED CONDENSING UNIT SCHEDULE

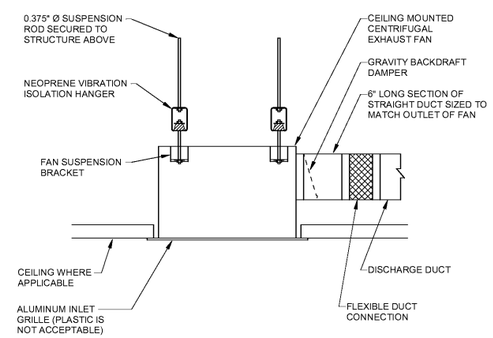
PLAN MARK	SERVING	MANUFACTURER	MODEL	COOLING CAP. MBH	COOLING MIN. CAP. MBH	OA TEMP (°F) DES. AMB.	OA TEMP (°F) MIN. AMB.	REFRIG. PIPE SIZE SUCTION	REFRIG. PIPE SIZE LIQUID	HTG COP	INPUT WATTS CLG	INPUT WATTS HTG	EFFICIENCY EER	EFFICIENCY SEER	REFRIG. TYPE	ELECTRICAL VOLTS	PH	HZ	MCA	MOCP	OPER. WEIGHT (LBS)	NOTES
AC-1	MITSUBISHI	MITSUBISHI	PUZ-A12NKA7	12	5.8	95.0	0.0	1/2"	1/4"	4.31	1000	1600	12	20.8	R410A	208	1	60	11.0	30.0	93	1,2,3,4,5

NOTES:
1. REFRIGERANT LINE SET. INSTALL PER MANUFACTURER'S INSTRUCTIONS
2. LIQUID FILTER DRIER
3. HIGH, LOW PRESSURE SWITCHES
4. FRONT WIND BAFFLE
5. HAIL GUARD

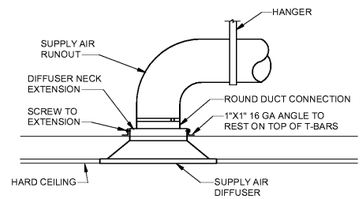
WALL MOUNTED DUCTLESS SPLIT SYSTEM SCHEDULE

PLAN MARK	AREA SERVED	MANUFACTURER	MODEL	FAN AIRFLOW (WET) LOW CFM	FAN AIRFLOW (WET) MED CFM	FAN AIRFLOW (WET) HIGH CFM	COOLING CAPACITIES CLG MBH	EAT (°F) DB	EAT (°F) WB	AMB. (°F) DB	AMB. (°F) WB	HEATING CAPACITIES HTG MBH	HSPF	EAT (°F) DB	EAT (°F) WB	AMB. (°F) DB	AMB. (°F) WB	ELECTRICAL VOLTS	PH	HZ	MCA	OPER. WEIGHT (LBS)	NOTES
AC-1	TELECOM 102	MITSUBISHI	PKA-A12HA7	290	335	380	12	80.0	67.0	95.0	75.0	18	10.2	70.0	60.0	47.0	43.0	208	1	60	1.0	29	1,2

NOTES:
1. WALL MOUNTED PROGRAMMABLE THERMOSTAT
2. INSTALL BOTH INDOOR AND OUTDOOR UNITS PER MANUFACTURER'S REQUIREMENTS



1 M-601 CEILING MOUNTED FAN DETAIL
NOT TO SCALE



2 M-601 DIFFUSER INSTALLATION DETAIL
NTS

ISSUED FOR BID - 2021.02.04

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SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 38197 MICHELLE BEHRMANN
11/20/20

Lancaster County, South Carolina
Heath Springs Soccer Complex
200 Boyd Faile Road
Heath Springs, SC 29058

Revisions:
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MECHANICAL SCHEDULES & DETAILS

M-601