

KEYNOTE SCHEDULE	
#	KEYNOTE DESCRIPTION
M1	INSTALL MHP ON EXTERIOR WALL BRACKETS APPROX. 3 FEET ABOVE GRADE. INSULATE PIPING AND PROVIDE LINE-SET COVER FOR EXPOSED EXTERIOR PIPING.
M2	INSTALL MAHU HIGH ON WALL ABOVE DOOR, AND BELOW CEILING. INSTALL CONDENSATE LIFT PUMP AND ROUTE CONDENSATE LINE. FULL SIZE OF UNIT CONNECTION, ABOVE CEILING TO MOP SINK IN JANITOR'S CLOSET.

HVAC LEGEND			
SYM.	DESCRIPTION	SYM.	DESCRIPTION
A/100	AIR DISTRIBUTION MARK / CFM	MAHU	MINI-SPLIT AIR HANDLING UNIT
AC	AIR CONDITIONER	MAU	MAKE-UP AIR UNIT
AD	ACCESS DOOR	MEP	MECHANICAL EQUIP. PAD - RE: ARCH.
AFE	ABOVE FINISHED FLOOR	MHP	MINI-SPLIT HEAT PUMP
AHP	AIR HANDLING HEAT PUMP UNIT	MOD	MOTOR OPERATED DAMPER
AHU	AIR HANDLING UNIT	MVD	MANUAL VOLUME DAMPER
B	BOILER	OA	OUTSIDE AIR
BMC	BUILDING MANAGEMENT CONTROLLER	P	PUMP
BPD	BYPASS DAMPER	PIU	POWERED INDUCTION UNIT
CFM	CUBIC FEET PER MINUTE	PMHP	PAD MOUNTED HEAT PUMP UNIT
CH	CHILLER	PMU	PAD MOUNTED UNIT
CR	CONDENSER WATER RETURN	RA	RETURN AIR
CD	CEILING DIFFUSER	RTHP	ROOFTOP HEAT PUMP UNIT
CS	CONDENSER WATER SUPPLY	RTU	ROOF TOP UNIT
CT	COOLING TOWER	SA	SUPPLY AIR
CU	CONDENSING UNIT	S.D	SMOKE DAMPER
CWR	CHILLED WATER RETURN	S/DF	COMBO SMOKE/FIRE DAMPER
CWS	CHILLED WATER SUPPLY	So.a	OUTDOOR AIR SENSOR - ENTHALPY
D	DRAIN	S.P.	STATIC PRESSURE
DCS	DUST COLLECTION SYSTEM	TWHP	THROUGH THE WALL HEAT PUMP UNIT
DF	DUCT FURNACE	VAV	VARIABLE AIR VALVE
DG	DOOR GRILLE	VRFC	VARIABLE REFRIGERANT FAN COIL
DN	DOWN	VVT	VARIABLE VOL. VARIABLE TEMP. VALVE
EDH	ELECTRIC DUCT HEATER	WHP	WALL HUNG HEAT PUMP UNIT
EF	EXHAUST FAN	WHP	WALL HUNG HEAT PUMP UNIT
EH	ELECTRIC HEATER	WHP	WALL HUNG HEAT PUMP UNIT
ERV	ENERGY RECOVERY VENTILATOR	WHP	WALL HUNG HEAT PUMP UNIT
EUH	ELECTRIC UNIT HEATER	WHP	WALL HUNG HEAT PUMP UNIT
FD	FIRE DAMPER	WHP	WALL HUNG HEAT PUMP UNIT
FLDG	FUSIBLE LINK DOOR GRILLE	WHP	WALL HUNG HEAT PUMP UNIT
GF	GAS FURNACE UNIT	WHP	WALL HUNG HEAT PUMP UNIT
GIH	GRAVITY INTAKE HOOD	WHP	WALL HUNG HEAT PUMP UNIT
GRH	GRAVITY RELIEF HOOD	WHP	WALL HUNG HEAT PUMP UNIT
GWU	GAS WALL HUNG UNIT	WHP	WALL HUNG HEAT PUMP UNIT
GUH	GAS UNIT HEATER	WHP	WALL HUNG HEAT PUMP UNIT
HP	HEAT PUMP	WHP	WALL HUNG HEAT PUMP UNIT
HRF	HEAT RECOVERY FAN	WHP	WALL HUNG HEAT PUMP UNIT
HVS	HOODED VENTILATION SYSTEM	WHP	WALL HUNG HEAT PUMP UNIT
HWR	HEATING WATER RETURN	WHP	WALL HUNG HEAT PUMP UNIT
HWS	HEATING WATER SUPPLY	WHP	WALL HUNG HEAT PUMP UNIT
L	LOUVER	WHP	WALL HUNG HEAT PUMP UNIT
L/D	COMBO LOUVER / DAMPER	WHP	WALL HUNG HEAT PUMP UNIT
		WHP	WALL HUNG HEAT PUMP UNIT

**GENERAL CONSTRUCTION NOTES:**

THESE DRAWINGS ARE SCHEMATIC IN NATURE AND NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE DISCIPLINES TO VERIFY ALL DIMENSIONS AND METHODS OF CONSTRUCTION.

ALL DUCTWORK SHALL BE FABRICATED AND ERRECTED PER SMACNA STANDARDS. SEE SPECIFICATION FOR PRESSURE CLASS. ALL DUCT SIZES SHOWN ARE NET FREE AREA. WHERE INTERNAL LINER IS INDICATED THE DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR THE LINER.

ALL SQUARE TO ROUND DUCT TRANSITIONS SHALL BE SMOOTH SQUARE TO ROUND TRANSITIONS.

PORTIONS OF DUCTWORK VISIBLE THROUGH GRILLES AND REGISTERS IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.

REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES. IF A DEVICE IS NOT SHOWN ON THE REFLECTED CEILING PLAN, A SHOP DRAWING SHALL BE SUBMITTED FOR ARCHITECTS/ENGINEERS APPROVAL.

THE CONTRACTOR SHALL COORDINATE ALL FLOOR AND SLAB PENETRATIONS WITH THE ARCHITECT. TRANSITION ALL DUCTWORK ON THE BOTTOM AND SIDES UNLESS OTHERWISE INDICATED. MAINTAIN DUCTWORK AS HIGH AS POSSIBLE.

COORDINATE VOLTAGE AND PHASE OF EACH PIECE OF MECHANICAL EQUIPMENT WITH DIVISION 26 CONTRACTOR PRIOR TO SUBMITTING AND/OR PURCHASING THE EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR EQUIPMENT DELIVERED TO THE JOB SITE WITH THE WRONG ELECTRICAL CHARACTERISTICS.

ALL REFRIGERANT PIPING SHALL BE SIZED BY THE EQUIPMENT MANUFACTURER BASED ON LENGTH OF RUN AND AMOUNT OF CHARGE REQUIRED TO PROVIDE CAPACITIES SCHEDULED.

AT ALL DUCT MOUNTED ELECTRIC RESISTANCE AND/OR FUEL BURNING HEATERS WHERE INTERNAL DUCT LINER IS SHOWN, THE LINING SHALL BE INTERRUPTED FOR A MINIMUM OF 6 INCHES UPSTREAM AND 6 INCHES DOWNSTREAM OF THESE DEVICES. WHERE DUCT LINER HAS BEEN INTERRUPTED, WRAP WITH BLANKET TYPE DUCT INSULATION AND IN CONFORMANCE WITH SPECIFICATION SECTION 230713.

SEAL ALL DUCT PENETRATIONS OF SMOKE RESISTIVE ASSEMBLIES.

LOCATE ALL THERMOSTATS, INTERVAL TIMERS, NIGHT SETBACKS, WALL SWITCHES, SENSORS, AND ANY OTHER HVAC CONTROL DEVICES SUCH THAT THEY DO NOT INTERFERE WITH CHALKBOARDS, TACKBOARDS, TEACHER'S CABINETS, DOORSWINGS, MILLWORK, ETC.

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ELECTRIC HEATER SCHEDULE			
NUMBER	MOUNTING TYPE	KW	MANUFACTURER
EH-F04	CEILING	4	QMARK CDF500
EH-F05	CEILING	4	QMARK CDF500
EH-F06	CEILING	4	QMARK CDF500
EH-F07	CEILING	4	QMARK CDF500

MINI-SPLIT OUTDOOR UNIT SCHEDULE						
NUMBER	TOTAL COOLING CAPACITY (BTU/HR)	O.A. CONDENSER CAPACITY (BTU/HR)	TOTAL HEATING CAPACITY (BTU/HR)	O.A. CONDENSER CAPACITY (BTU/HR)	MANUFACTURER	ASSOCIATED INDOOR UNIT
MHP-F02	12000	12000	12000	12000	CARRIER 38MA0B12	MAHU-F02

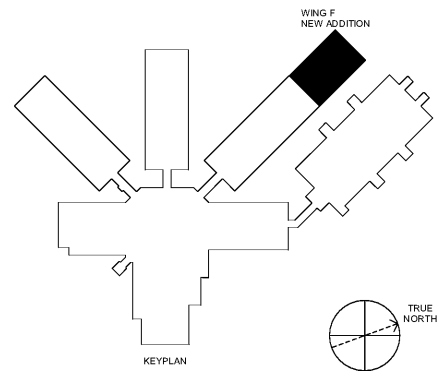
MINI-SPLIT INDOOR UNIT SCHEDULE					
NUMBER	TOTAL AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	COIL CONDITIONS (EAT D.B. (F) / EAT W.B. (F))	MANUFACTURER	ASSOCIATED OUTDOOR UNIT
MAHU-F02	360	0	80.0 / 67.0	CARRIER 40MAC12B	MHP-F02

EXHAUST/SUPPLY FAN SCHEDULE						
NUMBER	FAN AIRFLOW (CFM)	E.S.P. (IN. W.C.)	MAX. SOUND LEVEL (SONES)	DRIVE TYPE	BHP	MODEL
EF-F10	300	0.15	6.5	DIRECT		Interlock with lights in TOILET 629 and TOILET 630
EF-F11	750	0.20	9.7	DIRECT		Interlock with lights in GIRLS 632 and BOYS 633
EF-F12	250	0.10	6.5	DIRECT		Thermostat

THRU WALL HEAT PUMP SCHEDULE							
NUMBER	TOTAL AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	TOTAL COOLING CAPACITY (BTU/HR)	O.A. CONDENSER CAPACITY (BTU/HR)	HEATING OUTPUT CAPACITY (BTU/HR)	O.A. CONDENSER CAPACITY (BTU/HR)	MANUFACTURER
TWHP-F02	420	70	15100	95.0	13400	47.0	LG LP153HDCU

WALL HUNG UNIT W/ ELECTRIC HEATING SCHEDULE											
NUMBER	TOTAL AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	E.S.P. (IN. W.C.)	MIN. FAN MOTOR H.P.	TOTAL COOLING CAPACITY (BTU/HR)	TOTAL HEATING CAPACITY (BTU/HR)	EAT D.B. (F)	EAT W.B. (F)	O.A. CONDENSER CAPACITY (BTU/HR)	HEATING OUTPUT CAPACITY (BTU/HR)	O.A. CONDENSER CAPACITY (BTU/HR)
WHP-F12	1100	150	0.15	0.33	33800	26200	80.0	67.0	95.0	33000	47.0
WHP-F13	1100	150	0.15	0.33	33800	26200	80.0	67.0	95.0	33000	47.0
WHP-F14	1100	150	0.15	0.33	33800	26200	80.0	67.0	95.0	33000	47.0
WHP-F15	1100	150	0.15	0.33	33800	26200	80.0	67.0	95.0	33000	47.0
WHP-F16	1100	150	0.15	0.33	33800	26200	80.0	67.0	95.0	33000	47.0
WHP-F17	1100	150	0.15	0.33	33800	26200	80.0	67.0	95.0	33000	47.0

AIR DISTRIBUTION SCHEDULE							
SYMBOL	MAX CFM	FACE SIZE	NECK SIZE	THROW	FUNCTION	MANUFACTURER	DESCRIPTION
E1	750	24"x12"	22" X 10"	--	E-RAG	PRICE 80	W/ SHEET METAL PLENUM, FULL SIZE OF GRILLE FACE
E2	1600	24"x24"	22" X 22"	--	E-RAG	PRICE 80	W/ SHEET METAL PLENUM, FULL SIZE OF GRILLE FACE



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 BID PACKAGE: BP-1  
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FACILITY CODE NUMBER: 672-0109  
 (6) CLASSROOM ADDITION TO:  
**CREEKSIDE MIDDLE SCHOOL**  
 CATAULA, GEORGIA

**HARRIS COUNTY BOARD OF EDUCATION**  
 HAMILTON, GEORGIA

MECHANICAL HVAC PLAN AND SCHEDULES

DRAWING NUMBER: M101