Guaranteed Energy Savings Project
Buchanan Community Schools 2022

Addendum No. 2

The quoting documents are revised as follows:

Trade Specific Scope Changes & Clarifications:

BP 15.1 – Piping/Mechanical

1) OES-01
    a) Install added rawl valves for Air Cooled Condensing units furnished by manufacturer.

BP 15.3 – Sheet Metal

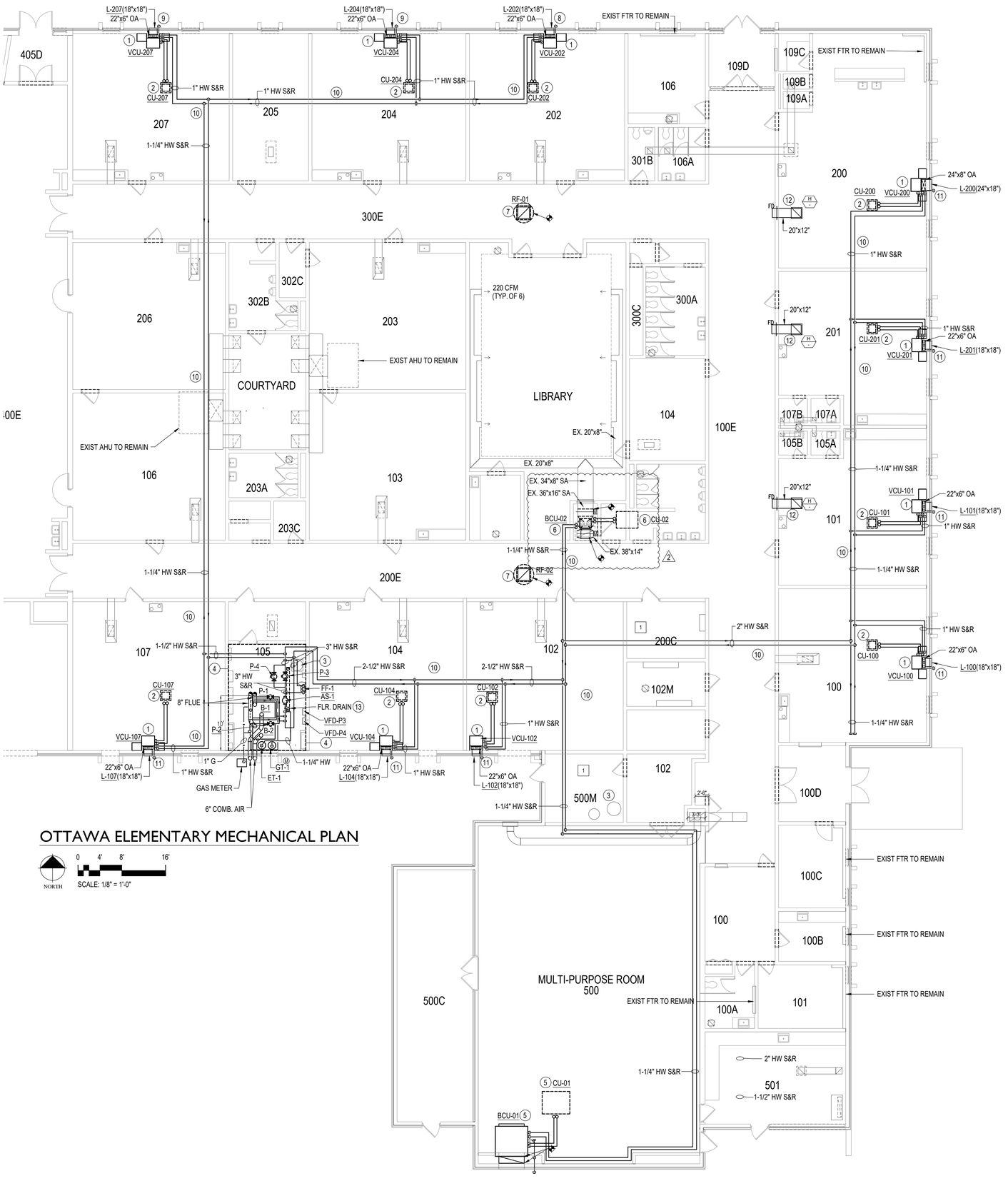
1) OES-01
    b) Provide added mixing box for BCU-02 and install PSI provided damper.

Drawing Changes:

Buchanan Middle School and Ottawa Elementary School Drawings

1) Sheet M-201
    a) See revised Mechanical Plan Note 6.
    b) See clouded area affected by Note 6.
    c) See added BCU-02 Diagram.
2) Sheet M-202
    a) See removed Mechanical Plan Note 3.
    b) See clouded area where Note 3 is removed.
3) Sheet M-501
    a) See revised Blower Coil Unit Schedule note 4.
    b) See revised Air Cooled Condensing Unit – Ottawa Elementary.
    c) See revised Variable Frequency Drive Schedule HP requirements.
    d) See added detail 1 AHU Coil 3-Way Valve Piping.

END OF ADDENDUM



OTTAWA ELEMENTARY MECHANICAL PLAN

NORTH

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

GENERAL NOTES

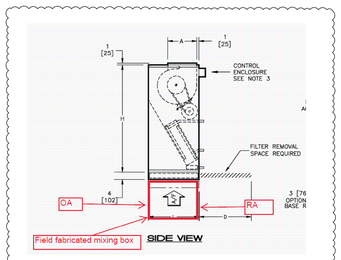
1. REMOVE AND RE-INSTALL CEILING IN GENERAL VICINITY OF MECHANICAL WORK. THIS INCLUDES ABOVE CEILING PIPING SHEET METAL, AND FANS.
2. ALL MATERIAL/EQUIPMENT REMOVED BY SUBCONTRACTORS SHALL BE DISPOSED OF OFF SITE. OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY EQUIPMENT/MATERIAL/PARTS REMOVED FROM PROJECT.
3. EXISTING DUCTWORK AND PIPING SIZES INDICATED ARE AS SHOWN ON ORIGINAL BUILDING PLANS. SUBCONTRACTORS ARE RESPONSIBLE FOR FIELD VERIFYING EXACT SIZES AND LOCATIONS AS REQUIRED TO COMPLETE THEIR WORK.

MECHANICAL PLAN NOTES (#)

1. INSTALL NEW VERTICAL CLASSROOM UNIT. CONNECT NEW HOT WATER HEATING PIPING TO NEW UNIT. INSTALL COIL PACK IN AN ACCESSIBLE LOCATION. INSTALL REFRIGERANT PIPING UP TO ACCU MOUNTED IN THE ROOF. ROUTE NEW CONDENSATE DRAIN THROUGH WALL. MODIFY CEILING GRID AROUND NEW VCU TOP PLENUM. INSTALL NEW LOUVER IN THE OUTSIDE WALL. EXPAND EXISTING WALL OPENING FOR OA DUCTWORK. PROVIDE ALL NECESSARY LENTILS. SEAL LOUVER WEATHER TIGHT. TRANSITION FROM LOUVER TO THE BACK OF VCU. SEAL AIR TIGHT. REFER TO M-401 FOR DETAILS. PSI TO FURNISH VCU.
2. INSTALL NEW AIR-COOLED CONDENSING UNIT ON EQUIPMENT RAILS ON ROOF. ROUTE NEW REFRIGERANT PIPING THROUGH ROOF. REFER TO MANUFACTURERS SPECIFICATIONS FOR REFRIGERANT PIPE SIZING. INSTALL AT LEAST 10' FROM BUILDING EDGE. REFER T0 M-401 FOR DETAILS. PSI TO FURNISH CU.
3. EXISTING WATER HEATER TO REMAIN.
4. INSTALL (2) NEW BOILERS, FLUES, COMBUSTION AIR INTAKES, CONDENSATE NEUTRALIZATION TANKS, (2) HOT WATER PUMPS, EXPANSION TANK, AIR / DIRT SEPARATOR, MAKE-UP WATER SYSTEM, CHEMICAL SHOT FEEDER, GAS PIPING, AND ALL REQUIRED REGULATORS. SEE FLOW DIAGRAM AND DETALS ON SHEET M401. PSI TO FURNISH BOILERS, AIR SEPARATOR, EXPANSION TANK, CHEMICAL FEEDER, GLYCOL TANK, AND PUMPS. PROVIDE 4" CONCRETE EQUIPMENT SUPPORT PAD FOR BOILERS, EXPANSION TANK AND GLYCOL SYSTEM. COMBUSTION AIR FLUES SHALL BE DOUBLE WALL STAINLESS STEEL UP THROUGH ROOF. INTAKE PIPE THROUGH WALL SHALL BE PVC. TURN DOWN 90° AND PROVIDE BIRDSCREEN. ROUTE BOILER CONDENSATE PIPING TO NEW FLOOR DRAIN. GLYCOL SYSTEM SHALL PROVIDE 30% ETHYLENE GLYCOL TO HW SYSTEM.
5. INSTALL NEW BCU-1 (MULTI-PURPOSE ROOM) IN SIMILAR LOCATION TO THE EXISTING AHU. INSTALL NEW ACCU ON ROOF ABOVE. PROVIDE AND INSTALL NEW REFRIGERANT PIPING AND SPECIALTIES FOR A FULLY FUNCTIONING SYSTEM. REFER TO M-401 FOR DETAILS. PSI TO FURNISH UNITS.
6. INSTALL NEW BCU-2 (MEDIA CENTER) IN SIMILAR LOCATION TO THE EXISTING AHU. PROVIDE MIXING BOX BELOW UNIT WITH FRONT RETURN AIR AND BACK OUTSIDE AIR CONNECTIONS. MOUNT MIXING DAMPERS FURNISHED BY PSI. INSTALL NEW ACCU ON ROOF ABOVE. PROVIDE AND INSTALL NEW REFRIGERANT PIPING AND SPECIALTIES FOR A FULLY FUNCTIONING SYSTEM. REFER TO M-401 FOR DETAILS. PSI TO FURNISH UNITS.
7. INSTALL NEW RELIEF FAN ON EXISTING CURB. SUBCONTRACTOR SHALL PROVIDE CURB ADAPTOR. VERIFY SIZE OF EXISTING 32"x32" CURB. REFER TO M-400 SHEETS FOR DETAILS. PSI TO FURNISH FAN.
8. PROVIDE 8"Ø FRENCH DRAIN DOWN TO GRADE THROUGH CONCRETE SIDEWALK. FILL WITH GRAVEL. ROUTE CONDENSATE DOWN TO DRAIN.
9. PROVIDE 3/4" CONDENSATE PIPING DOWN TO TERMINATE IN EXTERIOR DOWNSPOUT
10. PROVIDE NEW HEATING WATER PIPING IN CEILING PLENUM.
11. PROVIDE 3/4" CONDENSATE PIPING DOWN TO TERMINATE ON GRADE.
12. PROVIDE NEW RELIEF DUCTWORK TO CORRIDOR. PROVIDE FIRE DAMPER. REFER T0 M-401 FOR DETAILS.
13. PROVIDE NEW FLOOR DRAIN IN FLOOR SLAB FOR BOILERS.
14. PROVIDE PRESSURE REDUCING VALVE. REDUCE FROM 2PSI TO 14" WC TO EACH BOILER.

GENERAL TRADES PLAN NOTES (#)

1. REPLACE PLASTER CEILING COMPLETE WITH 2X2 ACOUSTICAL LAY IN CEILING.



BCU-02 DIAGRAM

REVISIONS
NO. 1 9/30/2022
NO. 2 10/6/2022
NO.

JOB NO.: 70D-K21-2961
DATE: 9/9/2022
DRAWN BY: TPT
CHECKED BY: DRB

PROPOSAL/SCOPE DRAWINGS NOT FOR CONSTRUCTION

SIGNATURE

Renovations to
OTTAWA ELEMENTARY AND MIDDLE SCHOOL
BUCHANAN, MICHIGAN

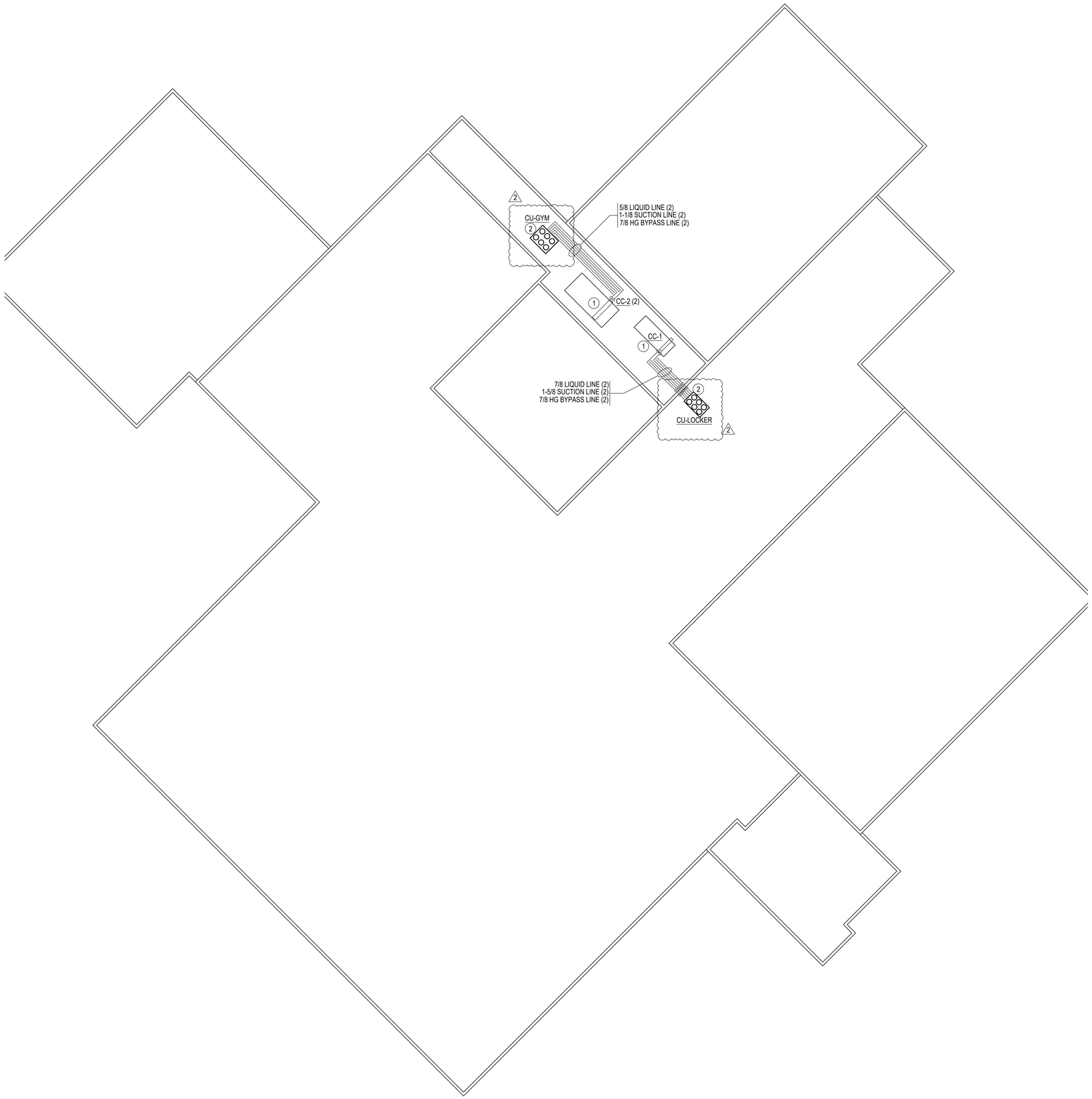
BUCHANAN COMMUNITY SCHOOL CORPORATION
Guaranteed Energy Savings Contract

Performance Services

SHEET
M-201
OTTAWA ELEM. MECHANICAL PLAN

MECHANICAL PLAN NOTES (#)

1. INSTALL NEW COOLING COILS IN ROOFTOP AIR HANDLING UNIT.
2. INSTALL NEW CONDENSING UNIT AND REFRIGERANT CIRCUIT. REFER TO M-401 FOR DETAILS. PSI TO FURNISH CONDENSING UNIT.



BUCHANAN MIDDLE SCHOOL ROOF PLAN

NORTH

0 8' 16' 32'

SCALE: 1/16" = 1'-0"

PROPRIETARY AND CONFIDENTIAL

REVISIONS

NO. 1	9/30/2022
NO. 2	10/6/2022
NO.	

JOB NO.:	70D-K21-2961
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BUCHANAN, MICHIGAN

BUCHANAN COMMUNITY SCHOOL CORPORATION
Guaranteed Energy Savings Contract

Performance Services

SHEET

M-202

BUCHANAN MIDDLE SCHOOL ROOF PLAN PLAN

VERTICAL CLASSROOM UNIT SCHEDULE

TAG	SERVES	EQUAL TO TEMSPEC MODEL	AIRFLOW / MOTOR: MAX AIR FLOW (CFM)	OA (CFM)	ESP (Inches WC)	MOTOR HP	VOLT / PH	MCA	COILS: COOLING COIL / HEATING COIL	DX COOLING COIL: EDB / EWB °F	LDB / LWB °F	TOTAL CAPACITY BTUH	SENSIBLE CAPACITY BTUH	HEATING COIL (30% EG): EAT / LAT °F	EWT / LWT °F	FLOW RATE gpm	MAX WPD Ft. H2O	TOTAL CAPACITY BTUH	NOTES
VCU-100	Classrooms	VUD-1200D	700	300	0.3	1/2	115 / 1	11	4-Row / 2 Row	81 / 68	55 / 55	27,200	19,300	42 / 98	140 / 111	3.0	2.4	41,000	1-20
VCU-101	Classrooms	VUD-1200D	700	300	0.3	1/2	115 / 1	11	4-Row / 2 Row	81 / 68	55 / 55	27,200	19,300	42 / 98	140 / 111	3.0	2.4	41,000	1-20
VCU-102	Classrooms	VUD-1200D	650	300	0.3	1/2	115 / 1	11	4-Row / 2 Row	81 / 68	55 / 55	26,600	18,500	42 / 98	140 / 112	3.0	2.4	39,400	1-20
VCU-104	Classrooms	VUD-1200D	650	300	0.3	1/2	115 / 1	11	4-Row / 2 Row	81 / 68	55 / 55	26,600	18,500	42 / 98	140 / 112	3.0	2.4	39,400	1-20
VCU-107	Classrooms	VUD-1200D	650	300	0.3	1/2	115 / 1	11	4-Row / 2 Row	81 / 68	55 / 55	26,600	18,500	42 / 98	140 / 112	3.0	2.4	39,400	1-20
VCU-200	Classrooms	VUD-1200D	900	333	0.3	1/2	115 / 1	11	4-Row / 2 Row	80 / 67	55 / 55	32,400	24,100	46 / 98	140 / 117	4.5	4.8	48,000	1-20
VCU-201	Classrooms	VUD-1200D	700	300	0.3	1/2	115 / 1	11	4-Row / 2 Row	81 / 68	55 / 55	27,200	19,300	42 / 98	140 / 111	3.0	2.4	41,000	1-20
VCU-202	Classrooms	VUD-1200D	650	300	0.3	1/2	115 / 1	11	4-Row / 2 Row	81 / 68	55 / 55	26,600	18,500	42 / 98	140 / 112	3.0	2.4	39,400	1-20
VCU-204	Classrooms	VUD-1200D	650	300	0.3	1/2	115 / 1	11	4-Row / 2 Row	81 / 68	55 / 55	26,600	18,500	42 / 98	140 / 112	3.0	2.4	39,400	1-20
VCU-207	Classrooms	VUD-1200D	650	300	0.3	1/2	115 / 1	11	4-Row / 2 Row	81 / 68	55 / 55	26,600	18,500	42 / 98	140 / 112	3.0	2.4	39,400	1-20

NOTES:
1.) All vertical units shall have insulated, double wall, 16 gauge panels and be ducted from the top. 3/4" closed cell insulation is acceptable as substitute for double wall.
2.) Piping subc. shall route condensate through wall to terminate on grade. Refer to drawings.
3.) Unit colors and louver colors shall be selected by the owner/Performance Services
4.) All capacities are shown for high fan speed. Provide ECM fan motors, 115 / 60 / 1 and unit mounted disconnects.
5.) All heating coil capacities are based on 30% ethylene glycol solution.
6.) Electrical note - disconnect existing unit and reconnect new unit with same circuit, verify that all existing wiring, raceways, overcurrent protection, panel size, etc., are suitable for the new load. Make all necessary modifications.
7.) Provide all units with heating coil in the reheat position.
8.) Duct outdoor air to all new units as indicated on drawings. Install new painted, galvanized steel louver (provided by unit mfg.) and lintel where indicated.
9.) Provide all units with an INSULATED, painted, sheet metal 3 direction supply fitting on the top of unit.
10.) All above equipment will be supplied by Performance Services.
11.) Units shall have 2 sets of 2" pleated filters, all dampers equal to Ruskin CD-60 & internal pipe routing from above or below as shown on drawings.
12.) Unit manufacturer to factory mount all control items as furnished by Performance Services. Control box to be furnished by unit mfg.
13.) Internal wiring shall include unfused disconnect switch, fan relay, door micro-switch and 40VA control transformer.
14.) Access panels shall be hinged and supplied with tamperproof fasteners
15.) Provide externally insulated drain pans made from stainless steel and double sloped to drain connection.
16.) All actuators for dampers shall be furnished by unit mfg. and installed (equal to Belimo) (OA, and RA)
17.) Provide optional 84" units as indicated on schedule / drawings.
18.) Outdoor air openings in rear or side (see drawings) and outdoor air dampers to be the same physical size as the return air dampers.
19.) Manufacturer to furnish one spare fan motor and control board for each size motor on the project.
20.) Refer to schedule on this sheet for information on rooftop air cooled condensing unit.

BLOWER COIL UNIT SCHEDULE

TAG	SERVES	JOHNSON MODEL	UNIT ARRANGEMENT	VOLTAGE	MCA	MOP	NUMBER OF FANS	VFD	ESP	HP (EA)	AIRFLOW	DX COOLING COIL: COIL TYPE	EAT °F DB / °F WB	LAT °F DB / °F WB	TOTAL CAPACITY BTUH	SENSIBLE CAPACITY BTUH	HEATING 30% ETHYLENE GLYCOL: EAT °F	LAT °F	EWT / LWT °F / °F	FLOW GPM	WPD Ft H2O	CAPACITY BTUH	NOTES
BCU-01	Multi Purpose Room	AHD-40	Horizontal Direct Drive	208 / 3	8.3	15	2	NO	0.50	1	3,000	DX	78 / 66	56 / 55	99,100	73,200	53	93	140 / 120	14.0	7.0	129,300	1,2,3,5
BCU-02	Media Center	ACB-12	Vertical Belt Drive	208 / 1	10.4	15	1	YES	0.55	1	1,100	DX	80 / 67	56 / 54	42,800	29,600	45	93	140 / 125	8.1	4.0	57,000	1,2,3,4,6

NOTES:
1.) BCU Coil Unit colors by owner / Performance Services
2.) Provide factory mounted three speed switch and 2 sets of MERV 8 filters.
3.) Provide closed cell insulation and insulated drain pan on each unit.
4.) Unit arrangement shall be top ducted discharge and bottom mixed air conections.
5.) Manufacturer to provide ECM motor with built in controller for ECM speed. Provide a wiring diagram with submittal of equipment.
6.) Manufacturer to provide VFD motor control with unit. Manufacturer to provide VFD and mount on unit.

2

HOT WATER BOILER SCHEDULE

TAG	DESCRIPTION	LOCATION	AREA SERVED	MANUFACTURER REFERENCE	INPUT CAPACITY BTUH	OUTPUT CAPACITY BTUH	REQUIRED POWER	NOTES
B-1	High Efficiency Hot Water Condensing Boiler	Boiler Room	Entire Building	Cleaver Brooks CFC-1000	1,000,000	880,000	20 amp circuit - 115 / 1	1 - 9
B-2	High Efficiency Hot Water Condensing Boiler	Boiler Room	Entire Building	Cleaver Brooks CFC-1000	1,000,000	880,000	20 amp circuit - 115 / 1	1 - 9

NOTES:
1.) Required gas pressure is 7" W.C. minimum to 14" maximum.
2.) Install on new 4" concrete pad. 8" flue connection, 6" combustion air connection.1" NPT gas connection, 2-1/2" flanged water connection.
3.) Manufacturer to provide startup service and first year labor warranty with diagnostics
4.) Manufacturer to submit equipment sheets with quote including capacity, efficiency, MCA, length, width, height and weight.
5.) Manufacturer to provide inputs to Temperature Control System for Enable / Disable, Status, Alarm, Setpoint Adjustment and Firing Rate for each boiler.
6.) The temperature control electrician is responsible for wiring all sensors as required between boiler control panel and sensor wells. This includes but is not limited to (inlet/outlet sensors, header sensors, etc.)
7.) Manufacturer to provide flue/exhaust vent pipe (double wall, stainless steel, AL-294C)
8.) Piping subcontractor shall route condensate to nearest floor drain.
9.) Manufacturer to provide condensate neutralization kit.

MISCELLANEOUS EQUIPMENT SCHEDULE

TAG	DESCRIPTION	LOCATION	AREA SERVED	B&G REFERENCE	SIZE / CAPACITY DATA	NOTES
AS-1	Heating Water. coalescing air / dirt separator	Boiler Room	Heating Water System	CRS-3F-HV	3" inlet / outlet, 6.6"Φ, 26"h, 1" wpd, 140 gpm, 10"lbs dry weight.	1, 2, 5
FF-1	Combination Filter / Feeder	Boiler Room	Heating Water System	Neptune FTF-5DB	5 gal. tank / 20 micron filter bags, 10" dia.	1, 4, 5
GT-1	Glycol feed tank	Boiler room	Heating water system	Wessels GMP 13050	50 Gallon, 34" diameter 1/3HP, 120V/1P	1, 5
ET-1	Full Acceptance Bladder Expansion Tank	Boiler Room	Heating Water System	B-200	53 Gallons, 24"Φ, 43h, 210lbs shipping weight	1, 3, 5

NOTES:
1.) Equipment furnished by PSI, installed by Mechanical Piping Subcontractor.
2.) ASME construction, drain valve, integral air vent and removable cover, 125 psi deisgn pressure.
3.) ASME construction, replacable heavy-duty bladder, 125 psi max working pressure; provide with sight glass.
4.) Provide stainless steel basket to hold filter bag; 20 micron filter bags (furnish 2 bags per filter feeder); support legs with anchor bolt holes.
5.) Water composition to be 30% Ethylene Glycol.

LOUVER SCHEDULE

MARK NO.	GREENHECK REFERENCE	AIR FLOW (CFM)	WIDTH (IN.)	HEIGHT (IN.)	FREE AREA FT²	FREE AREA VEL. FPM	A.P.D.	FRAME CONSTRUCTION	CONSTRUCTION	TYPE	NOTES
L-100	ESD-435	700	18	18	0.88	795	0.10	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4
L-101	ESD-435	700	18	18	0.88	795	0.10	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4
L-102	ESD-435	650	18	18	0.88	739	0.09	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4
L-104	ESD-435	650	18	18	0.88	739	0.09	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4
L-107	ESD-435	650	18	18	0.88	739	0.09	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4
L-200	ESD-435	900	24	18	1.23	732	0.085	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4
L-201	ESD-435	700	18	18	0.88	795	0.10	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4
L-202	ESD-435	650	18	18	0.88	739	0.09	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4
L-204	ESD-435	650	18	18	0.88	739	0.09	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4
L-207	ESD-435	650	18	18	0.88	739	0.09	Integral Flange	Extruded Aluminum 0.081"	Stationary Drainable Blade	1 - 4

NOTES:
1.) Blades to be horzontal configuration, with ± 37° blade angle.
2.) Color by owner
3.) Horizonatl drainable blades with vertical downspouts in jambs.
4.) Provide bird screen

AIR COOLED CONDENSING UNIT - OTTAWA ELEMENTARY

TAG	SERVES	MODEL NUMBER	DIMENSIONS (LxWxH)	WEIGHT LBS.	NOM. TONS	Capacity MBH	AMBIENT °F	SST °F	COMPRESSORS	CIRCUITS	REF. TYPE	VOLTS / PH	MCA	MOP	NOTES
CU-01	Media Center	Guardian TCD36B32S	40"x31"x31"	160	3	34.3	95	45	1	1	R-410a	208 / 3	14.3	20	1 - 5
CU-02	Multi-Purpose Room 500	Johnson J07YEC00A	59"x32"x45"	386	7.5	84.6	95	45	1	1	R-410a	208 / 3	36.9	50	1 - 5
CU-100	Classroom 100	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5
CU-101	Classroom 101	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5
CU-102	Classroom 102	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5
CU-104	Classroom 104	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5
CU-107	Classroom 107	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5
CU-200	Classroom 200	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5
CU-201	Classroom 201	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5
CU-202	Classroom 202	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5
CU-204	Classroom 204	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5
CU-207	Classroom 207	Guardian RAC14L24B	31"x31"x34"	135	2	22.3	95	45	1	1	R-410a	208 / 3	14.8	25	1 - 5

NOTE
1.) Installing contractor to provide all refrigerant pipe accessories shown on detail 1/M-401
2.) Manufacturer to provide hail guard.
3.) Manufacturer to provide 1 year parts and labor warranty for unit and 5 year parts warranty for the compressors.
4.) Unit to include single point power connection with fused disconnect.
5.) Manufacturer shall provide rawl apr valve for capacity control. Valve shall be field installed by subc.

2

RELIEF FAN SCHEDULE

TAG	LOCATION	COOK MODEL	TYPE	CFM	STATIC PRESSURE	HP	VOLT / PH	MOTOR RPM	FAN RPM	MAX SONES	NOTES
RF-1	North Classroom Corridor Relief	210C17D	Direct Drive Downblast	3,200	0.40	3/4	115 / 1	1725	700	8.4	1 - 5
RF-2	North Classroom Corridor Relief	210C17D	Direct Drive Downblast	3,200	0.40	3/4	115 / 1	1725	700	8.4	1 - 5

NOTES:
1) All exhaust fans shall be direct drive with ECM motors unless indicated otherwise.
2) When reconnecting new exhaust fans to existing electrical branch circuits, verify that all existing wiring, raceways, overcurrent protection, panel size, etc., are suitable for the new load. Make all necessary modifications.
3) Units shall be provided with back draft dampers and high efficiency motors.
4) Manufacturer shall provide non-fuse disconnect switch.
5) Subcontractor shall provide curb adapter. Existing relief duct through roof is 32"x32". Subc.shall be responsible for verifying dimensions of existing hood.

VARIABLE FREQUENCY DRIVE SCHEDULE

TAG	SYSTEM SERVED	HP	VOLTS	PHASE	UNIT TYPE	DESCRIPTION
VFD-1	Heating water P-3	1-1/2	208	3	New	VFD w/ integral disconnect
VFD-2	Heating water P-4	1-1/2	208	3	New	VFD w/ integral disconnect

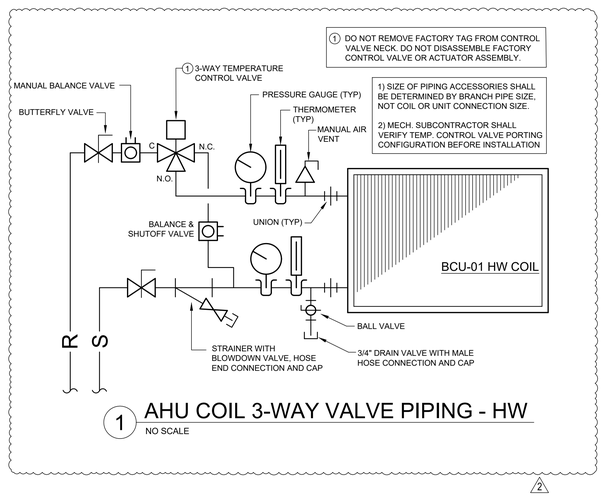
NOTES:
1.) Mfg./rep to furnish startup service, two year parts and labor and diagnostic warranty will all drives.
2.) Disconnect to be fused type.

2

PUMP SCHEDULE

TAG	B&G REFERENCE	Type	SERVES	GPM	FLUID	SYSTEM HEAD	MAX HP	VOLTS / PHASE	RPM	VARIABLE SPEED	NOTES
P-1	e-60 15x1.5x5.25	Inline	Boiler B-1	90	30% Ethylene	10	3/4	120 / 1	1800	NO	3, 4, 5, 6
P-2	e-60 15x1.5x5.25	Inline	Boiler B-2	90	30% Ethylene	10	3/4	120 / 1	1800	NO	3, 4, 5, 6
P-3	e-90 2AB	Inline	HW System	55	30% Ethylene	40	1-1/2	120 / 1	1800	YES	1, 2, 4, 6
P-4	e-90 2AB	Inline	HW System	55	30% Ethylene	40	1-1/2	120 / 1	1800	YES	1, 2, 4, 6

NOTES:
1.) Furnish premium efficiency, VFD compatible motors with each pump
2.) Electrical subcontractor to provide new dedicated branch circuits for each pump/drive and shall mount and connect new drives.
3.) Electrical subcontractor to connect units on a new dedicated branch circuit and provide a new combination motor stater disconnect with H.O.A switch.
4.) Manufacturer to include pump alignment as required.
5.) The temperature control electrician is responsible for interlock wiring between primary pumps and the boiler control panel (if required).
6.) Pumps shall have a Pump Energy Index (PEI) ≤ 1.0. Pumps with a PEI > 1.0 will NOT be accepted.



1 AHU COIL 3-WAY VALVE PIPING - HW
NO SCALE

2

AIR COOLED CONDENSING UNIT - MIDDLE SCHOOL

TAG	SERVES	MODEL NUMBER	DIMENSIONS (LxWxH)	WEIGHT LBS.	TOTAL UNIT POWER	Capacity MBH	AMBIENT °F	SST °F	COMPRESSORS	CIRCUITS	HOT GAS BYPASS	REF. TYPE	VOLTS / PH	MCA	MOP	NOTES
CU-LOCKER	Middle School Locker	Daikin RCS015D	58"x99"x96"	1821	15.2	185,962	95	45	2	2	YES	R-410a	460 / 3	32.3	40	1 - 11
CU-GYM	Middle School Gym	Daikin RCS062D	80"x90"x73"	2578	59.2	646,426	95	45	4	2	YES	R-410a	460 / 3	112	125	1 - 11

NOTE:
1.) Installing contractor to provide all refrigerant pipe accessories shown on detail 1/M-401
2.) Manufacturer to provide hail guard.
3.) Manufacturer to provide 1 year parts and labor warranty for unit and 5 year parts warranty for the compressors.
4.) Unit to include single point power connection with fused disconnect.
5.) Manufacturer shall provide rawl apr valve for capacity control. Valve shall be field installed by subc.
6.) Manufacturer shall provide compressor sound blankets shipped loose. Installed by subc.
7.) Manufacturer shall provide with GFI receptacle.
8.) Manufacturer shall provide low ambient control to 0 degrees F
9.) Manufacturer shall provide digital scroll compressor on circuit #2.
10.) Manufacturer shall provide spring isolation kit.
11.) Manufacturer shall provide hot gas bypass kit.

DX AHU COOLING COIL SCHEDULE - MIDDLE SCHOOL

TAG	SERVES	DAIKIN	QTY	DIMENSIONS L x H x D	WEIGHT LBS	CONSTRUCTION	FLUID TYPE	EAT °F_DB / °F_WB	LAT °F_DB / °F_WB	CAPACITY TOTAL BTUH	CAPACITY SENSIBLE BTUH	AIR FLOW CFM	Rows	MAX FV FPM	MAX APD IN H_2O
CC-1	Middle School Locker Room AHU	5EJ0808A	1	49 x 24 x 12.5	173	5EJ - Interlaced	R-410a	85 / 72	55 / 54	142,235	79,085	2,450	8	431	0.41
CC-2	Middle School Gym AHU	5EJ0608A	2	99 x 30 x 12.5	420	5EJ - Interlaced	R-410a	81 / 67	55 / 53	303,141	204,832	7,250	8	435	0.65

NOTES
1.) Duct coil section shall include acess door and integrated drain pan.
2.) Refer to layout views on this sheet.
3.) Tube diameter shall be 5/8" diameter .020" copper wall thickness.

REVISIONS
NO. 1 9/30/2022
NO. 2 10/6/2022
NO.

JOB NO.: 70D-K21-2961
DATE: 9/9/2022
DRAWN BY: TPT
CHECKED BY: DRB

PROPOSAL/SCOPE DRAWINGS NOT FOR CONSTRUCTION

SIGNATURE

Renovations to
OTTAWA ELEMENTARY AND MIDDLE SCHOOL
BUCHANAN, MICHIGAN

BUCHANAN COMMUNITY SCHOOL CORPORATION
Guaranteed Energy Savings Contract

Performance Services

SHEET
M-501
MECHANICAL SCHEDULES