BANGOR TOWNSHIP SCHOOLS

MECHANICAL UPGRADES

3359 E. MIDLAND ROAD
BAY CITY, MICHIGAN

CENTRAL - SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
STRUCTURAL			
C-S0.0	STRUCTURAL GENERAL NOTES	X	
C-S3.1	FRAMING PLAN - UNIT A	X	
C-S6.0	FRAMING SECTIONS AND DETAILS	X	
MECHANICAL			
C-M1.0	UNIT 'A' MECHANICAL DEMOLITION PLAN	X	
C-M3.0	UNIT 'A' OVERHEAD MECHANICAL PLAN	X	
C-M3.1	UNIT 'B' OVERHEAD MECHANICAL PLAN	X	
C-M3.2	UNIT 'C' OVERHEAD MECHANICAL PLAN	X	
C-M3.3	BOILER ROOM PLAN - ENLARGED	X	X
C-M8.0	SCHEDULES, DETAILS, AND NOTES	X	X
ELECTRICAL			
C-E0.0	GENERAL NOTES	X	
C-E1.0	OVERALL DEMOLITION PLAN	X	
C-E4.0	OVERALL POWER PLAN	X	
C-E4.1	BOILER ROOM POWER & DEMOLITION PLAN	X	X
C-E6.0	ONE-LINE DIAGRAM	X	
C-E7.0	PANEL SCHEDULES	X	X

CHRISTA McAULIFFE - SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
MECHANICAL			
M-M1.0	OVERALL MECHANICAL PLAN - DEMOLITION	X	
M-M3.0	UNIT 'A' OVERHEAD MECHANICAL PLAN	X	
M-M3.1	UNIT 'B' OVERHEAD MECHANICAL PLAN	X	
M-M3.2	UNIT 'C' OVERHEAD MECHANICAL PLAN	X	
M-M3.3	UNIT 'D' OVERHEAD MECHANICAL PLAN	X	
M-M3.4	ENLARGED BOILER ROOM PLANS	X	
M-M8.0	MECHANICAL SCHEDULES	X	X
M-M8.1	MECHANICAL SCHEDULES	X	
ELECTRICAL			
M-E0.0	GENERAL NOTES	X	
M-E1.0	DEMOLITION DRAWINGS	X	
M-E4.0	UNIT 'A' POWER PLAN	X	
M-E4.1	UNIT 'B' POWER PLAN	X	X
M-E4.2	UNIT 'C' POWER PLAN	X	X
M-E4.3	UNIT 'D' POWER PLAN	X	
M-E4.4	BOILER ROOM DEMOLITION & POWER PLAN	X	
M-E6.0	ONE-LINE DIAGRAM	X	
M-E7.0	PANEL SCHEDULES	X	
M-E7.1	PANEL SCHEDULES	X	

EDISON - SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
MECHANICAL			
E-M1.0	OVERHEAD MECHANICAL PLAN - DEMO	X	
E-M3.0	OVERHEAD MECHANICAL PLAN	X	
E-M8.0	SCHEDULES & DETAILS	X	
ELECTRICAL			
E-E0.0	GENERAL NOTES	X	
E-E1.0	DEMOLITION PLAN	X	
E-E4.0	POWER PLAN	X	
E-E6.0	ONE-LINE DIAGRAM	X	

JOHN GLENN - SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
STRUCTURAL			
G-S0.0	STRUCTURAL GENERAL NOTES	X	
G-S3.1	ROOF FRAMING PLAN	X	
G-S4.0	FRAMING ELEVATIONS	X	
MECHANICAL			
G-M1.0	OVERHEAD MECHANICAL PLAN - DEMOLITION	X	
G-M1.1	OVERHEAD MECHANICAL PLAN - DEMOLITION	X	
G-M3.0	UNIT 'A' OVERHEAD MECHANICAL PLAN	X	
G-M3.1	UNIT 'B' & 'C' OVERHEAD MECHANICAL PLAN	X	
G-M3.2	UNIT 'D' & 'E' OVERHEAD MECHANICAL PLAN	X	
G-M3.3	UNIT 'F' OVERHEAD MECHANICAL PLAN	X	
G-M3.4	UNIT 'G' & 'H' OVERHEAD MECHANICAL PLAN	X	
G-M3.5	UNIT 'J' OVERHEAD MECHANICAL PLAN	X	
G-M3.6	UNIT 'K' WEST OVERHEAD MECHANICAL PLAN	X	
G-M3.7	UNIT 'K' EAST OVERHEAD MECHANICAL PLAN	X	
G-M3.8	UNIT 'A' AUDITORIUM OVERHEAD MECHANICAL	X	
G-M3.9	ENLARGED BOILER ROOM PLANS	X	
G-M8.0	MECHANICAL SCHEDULES AND NOTES	X	
G-M8.1	MECHANICAL DETAILS	X	
G-M8.2	PIPING SCHEMATICS	X	
G-M8.3	PIPING SCHEMATICS	X	
ELECTRICAL			
G-E0.0	GENERAL NOTES	X	
G-E1.0	DEMOLITION PLAN UNITS A - H	X	
G-E1.1	DEMOLITION PLAN UNITS J & K	X	
G-E4.0	UNIT 'A' POWER PLAN	X	
G-E4.1	UNIT 'B/C' POWER PLAN	X	
G-E4.2	UNIT 'D/E' POWER PLAN	X	
G-E4.3	UNIT 'F' POWER PLAN	X	
G-E4.4	UNIT 'G/H' POWER PLAN	X	
G-E4.5	UNIT 'J' POWER PLAN	X	
G-E4.6	UNIT K (WEST) POWER PLAN	X	
G-E4.7	UNIT K (EAST) POWER PLAN	X	
G-E4.8	UNIT 'L' (MEZZANINE) POWER PLAN	X	
G-E4.9	BOILER ROOM DEMOLITION & POWER PLAN	X	
G-E6.0	ONE-LINE DIAGRAM	X	
G-E7.0	PANEL SCHEDULES	X	
G-E7.1	PANEL SCHEDULES	X	
G-E7.3	PANEL SCHEDULES	X	

LINCOLN - SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
MECHANICAL			
L-M1.0	UNIT 'A' MECHANICAL PLAN - DEMO	X	
L-M1.1	UNIT 'B' MECHANICAL PLAN - DEMO	X	
L-M3.0	UNIT 'A' MECHANICAL PLAN	X	
L-M3.1	UNIT 'B' MECHANICAL PLAN	X	
L-M3.2	BOILER ROOM MECHANICAL PLAN	X	X
L-M8.0	SCHEDULES AND NOTES	X	X
ELECTRICAL			
L-E0.0	GENERAL NOTES	X	
L-E1.0	UNIT 'A' DEMOLITION PLAN	X	
L-E1.1	UNIT 'B' DEMOLITION PLAN	X	
L-E4.0	UNIT 'A' POWER PLAN	X	X
L-E4.1	UNIT 'B' POWER PLAN	X	
L-E4.2	BOILER ROOM POWER & DEMOLITION PLAN	X	X
L-E6.0	ONE-LINE DIAGRAM	X	

NORTH - SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
MECHANICAL			
N-M1.0	OVERHEAD MECHANICAL DEMOLITION PLAN	X	
N-M3.0	OVERHEAD MECHANICAL PLAN	X	
N-M8.0	SCHEDULES & DETAILS	X	
ELECTRICAL			
N-E0.0	GENERAL NOTES	X	
N-E1.0	DEMOLITION DRAWINGS	X	
N-E4.0	OVERALL POWER PLAN	X	
N-E6.0	ONE-LINE DIAGRAM	X	

WEST ELEMENTARY - SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
MECHANICAL			
W-M3.0	UNIT 'A' OVERHEAD MECHANICAL PLAN	X	
W-M3.1	UNIT 'B' OVERHEAD MECHANICAL PLAN	X	
W-M3.2	BOILER ROOM MECHANICAL PLAN	X	X
W-M8.0	SCHEDULES, DETAILS, AND NOTES	X	X
ELECTRICAL			
W-E0.0	GENERAL NOTES	X	
W-E4.0	UNIT 'B' POWER PLAN	X	
W-E4.1	BOILER ROOM POWER & DEMOLITION PLAN	X	X
W-E6.0	ONE-LINE DIAGRAM	X	

PROJECT INFORMATION

BUILDING CODE COMPLIANCE
- 2015 MICHIGAN BUILDING CODE (MBC)
- 2018 MICHIGAN PLUMBING CODE (MPC)
- 2015 MICHIGAN MECHANICAL CODE (MMC)
- 2017 NATIONAL ELECTRICAL CODE (NEC)
- 2018 INTERNATIONAL FIRE CODE (IFC)
- 2012 NFPA 101 LIFE SAFETY CODE (LSC)

USE AND OCCUPANCY CLASSIFICATION [CHAPTER 3]
- GROUP E - EDUCATIONAL GROUP

BUILDING HEIGHT AND NUMBER OF STORIES [TBL 504.3, 504.4]
- ALLOWED - 2
- ACTUAL - 1

BUILDING AREA [TBL 506.2]
- ALLOWABLE - 14,400 SFT/ FLR
- ACTUAL - REF. INDIVIDUAL COVER SHEET FOR SFT

CONSTRUCTION CLASSIFICATION [SEC 602, TBL 601]
- TYPE IIB, II(000)

FIRE RESISTANCE RATING [TBL 601]
- 0 - PRIMARY STRUCTURAL FRAME
- 0 - BEARING WALLS
- 0 - NON BEARING WALLS & PARTITIONS (INTERIOR)
- 0 - NON BEARING WALLS & PARTITIONS (EXTERIOR)
- 0 - FLOOR CONSTRUCTION
- 0 - ROOF CONSTRUCTION

FIRE PROTECTION SYSTEMS [CHAPTER 9]
- NO SPRINKLER SYSTEM

OCCUPANT LOAD [SEC 1004, TBL 1004.1.2]
- NO CHANGE

CORRIDORS [SEC 1020, TBL 1020.1]
- 1HR RATING

CONTACT INFORMATION

OWNER / CLIENT: BANGOR TOWNSHIP SCHOOLS
3359 E. MIDLAND RD
BAY CITY, MI 48706
(989) 684-8121

KURTIS PAKE
FINANCE DIRECTOR
PHONE: (989) 684-8121
EMAIL: pakek@bangorschools.org

ARCHITECT / ENGINEER: TYLER MIETZ, P.E.
PROJECT ENGINEER

PHONE: (989) 863-4034
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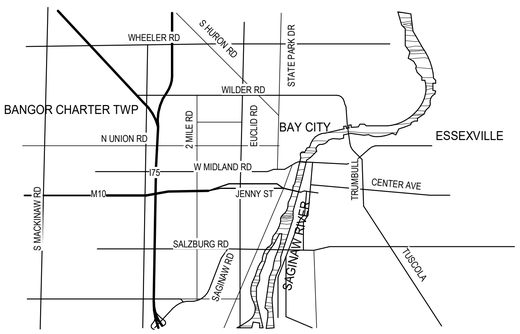
WEB: www.kibbe.com

CODE AUTHORITY: MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF CONSTRUCTION CODES/PLAN REVIEW DIVISION
PO BOX 30255
LANSING, MI 48909
(517) 241-9328

MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF FIRE SERVICES/PLAN REVIEW DIVISION
PO BOX 30700
LANSING, MI 48909
(517) 241-8847

Know what's **below.** **Call** before you dig.

LOCATION MAP



WILLIAM A. KIBBE & ASSOCIATES, INC.
ENGINEERS | ARCHITECTS | SURVEYORS

BANGOR TOWNSHIP SCHOOLS
MECHANICAL UPGRADES
BAY CITY, MICHIGAN

COVER SHEET

STATUS / REVISIONS	NO.	DATE
ISSUED FOR BIDS		03/30/2023
ADDENDUM #1		04/12/2023

CHCK'D BY: T. MIETZ
DES'D BY: R. MEYER
DRAWN BY: A. BERZLEY
PROJ #: 21-1719-0435

SHEET
CS

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BANGOR TOWNSHIP SCHOOLS

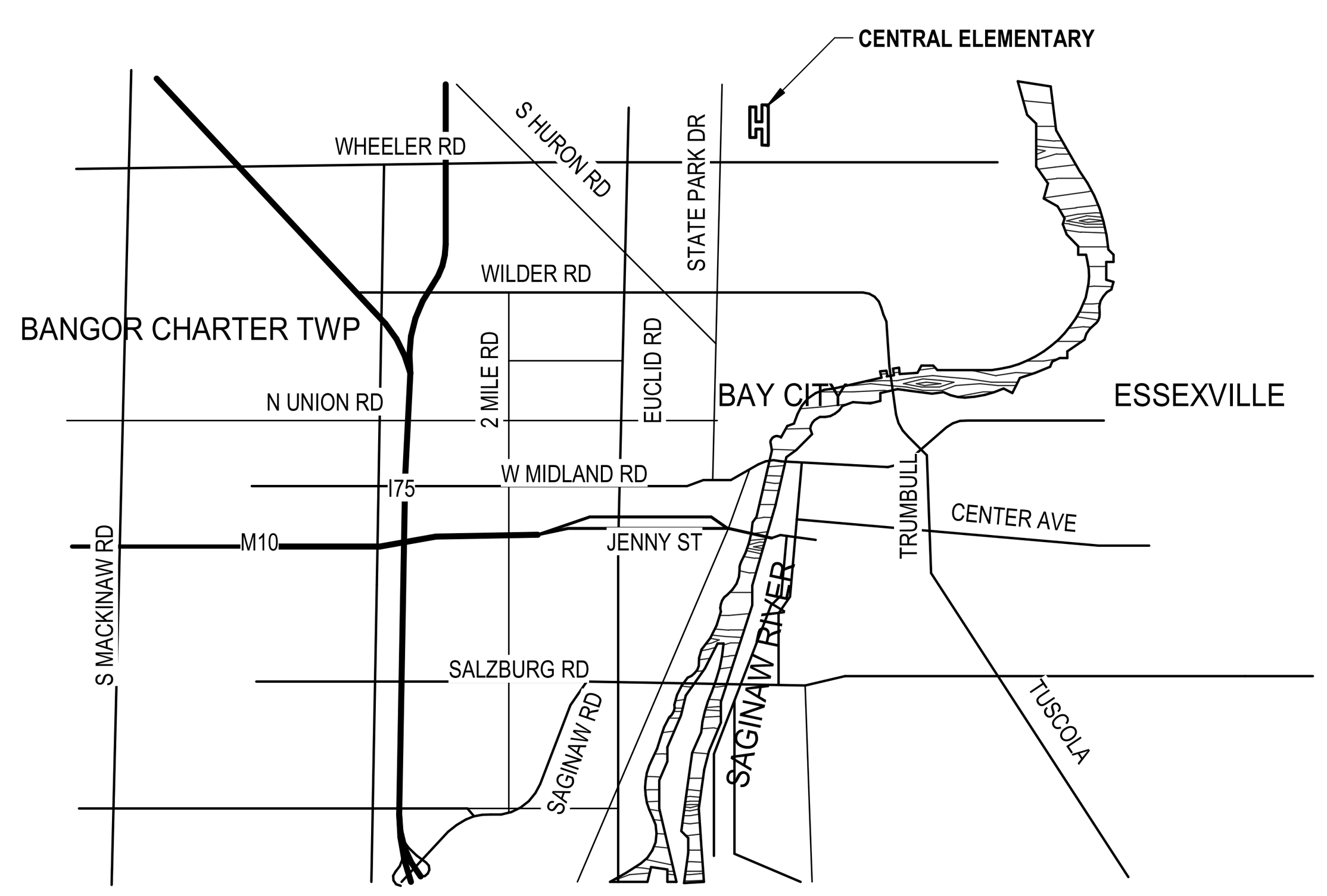
CENTRAL ELEMENTARY
MECHANICAL UPGRADES

208 STATE PARK DRIVE
BAY CITY, MICHIGAN

SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
STRUCTURAL			
C-S0.0	STRUCTURAL GENERAL NOTES	X	
C-S3.1	FRAMING PLAN - UNIT A	X	
C-S6.0	FRAMING SECTIONS AND DETAILS	X	
MECHANICAL			
C-M1.0	UNIT 'A' MECHANICAL DEMOLITION PLAN	X	
C-M3.0	UNIT 'A' OVERHEAD MECHANICAL PLAN	X	
C-M3.1	UNIT 'B' OVERHEAD MECHANICAL PLAN	X	
C-M3.2	UNIT 'C' OVERHEAD MECHANICAL PLAN	X	
C-M3.3	BOILER ROOM PLAN - ENLARGED	X	X
C-M8.0	SCHEDULES, DETAILS, AND NOTES	X	X
ELECTRICAL			
C-E0.0	GENERAL NOTES	X	
C-E1.0	OVERALL DEMOLITION PLAN	X	
C-E4.0	OVERALL POWER PLAN	X	
C-E4.1	BOILER ROOM POWER & DEMOLITION PLAN	X	X
C-E6.0	ONE-LINE DIAGRAM	X	
C-E7.0	PANEL SCHEDULES	X	X

LOCATION MAP



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811 Know what's **below.** **Call** before you dig.

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- GROUP E - EDUCATIONAL GROUP

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- ACTUAL - 1

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- ALLOWABLE - 14,400 SFT/ FLR
- ACTUAL - 39,600 SFT

CONSTRUCTION CLASSIFICATION [SEC 602, TBL 601]
- TYPE IIB, II(000)

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- 0 - PRIMARY STRUCTURAL FRAME
- 0 - BEARING WALLS
- 0 - NON BEARING WALLS & PARTITIONS (INTERIOR)
- 0 - NON BEARING WALLS & PARTITIONS (EXTERIOR)
- 0 - FLOOR CONSTRUCTION
- 0 - ROOF CONSTRUCTION

FIRE PROTECTION SYSTEMS [CHAPTER 9]
- NO SPRINKLER SYSTEM

OCCUPANT LOAD [SEC 1004, TBL 1004.1.2]
- NO CHANGE

CORRIDORS [SEC 1020, TBL 1020.1]
- 1HR RATING

WILLIAM A. KIBBE & ASSOCIATES, INC.
ENGINEERS | ARCHITECTS | SURVEYORS

BANGOR TOWNSHIP SCHOOLS
CENTRAL ELEMENTARY
MECHANICAL UPGRADES
BAY CITY, MICHIGAN

COVER SHEET

NO.	STATUS / REVISIONS	DATE
	ISSUED FOR BIDS	03/30/2023
	ADDENDUM #1	04/12/2023

CHCK'D BY: T. MIETZ
DES'D BY: R. MEYER
DRAWN BY: A. BERZLEY
PROJ #: 21-1719-0435

SHEET
CS

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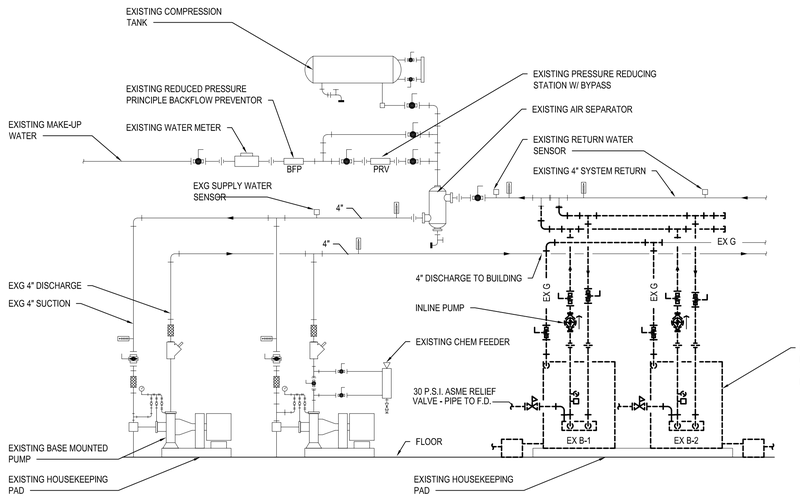
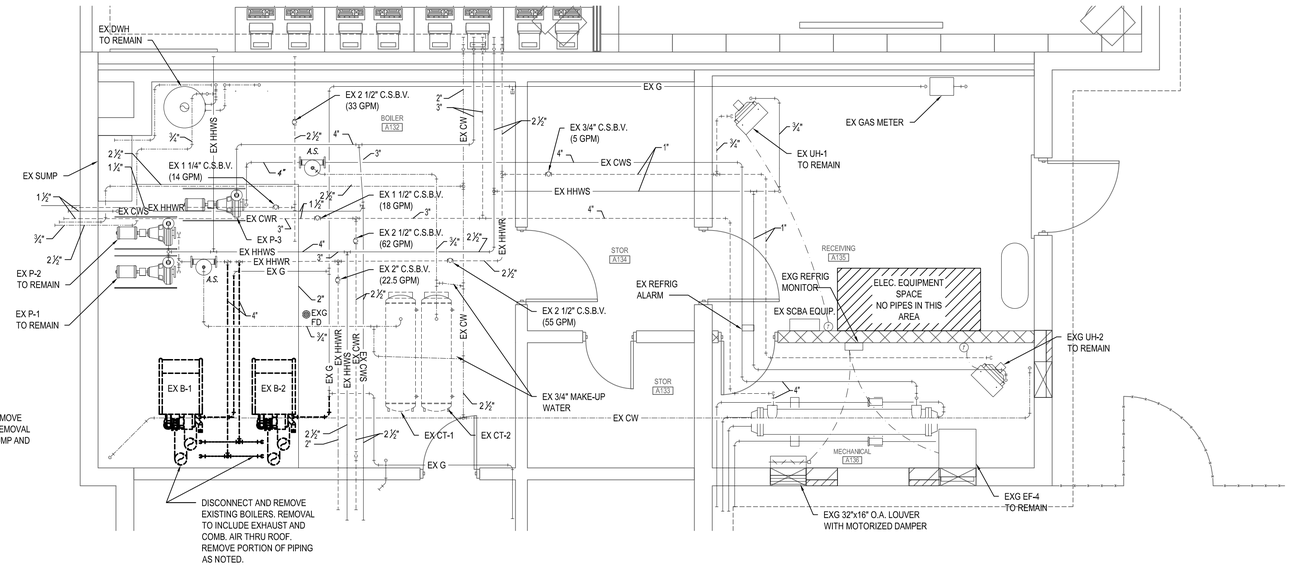


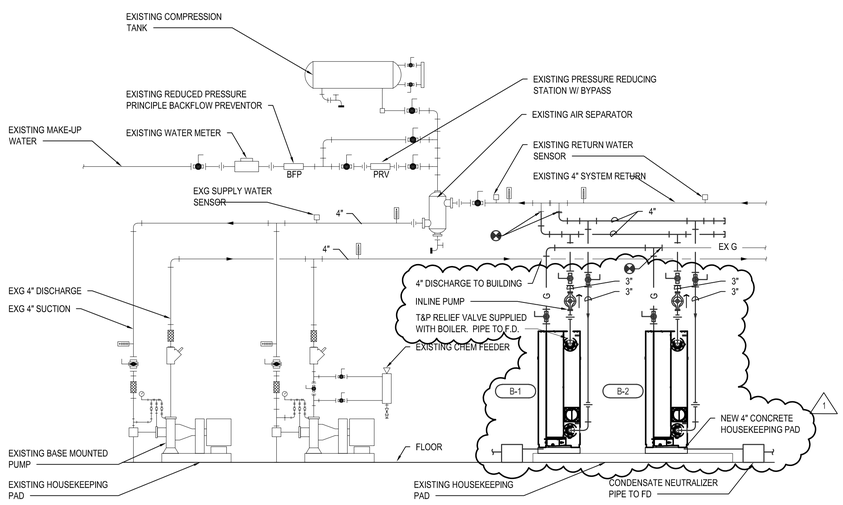
1 C-M3.3 BOILER PIPING SCHEMATIC - DEMOLITION

NO SCALE



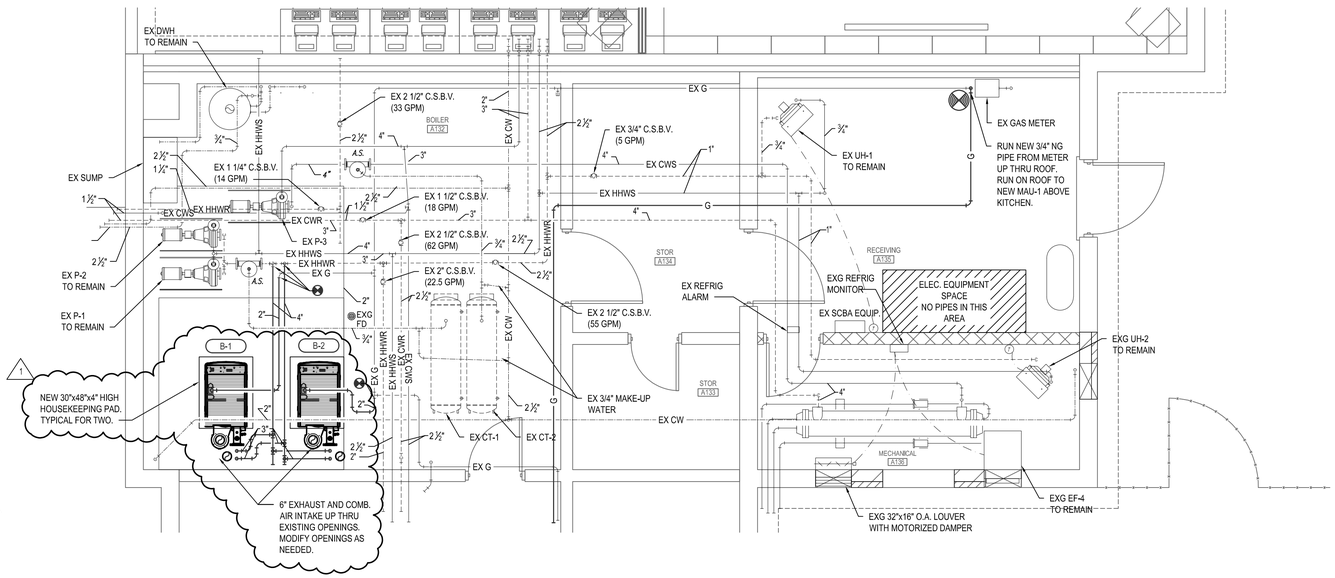
N BOILER ROOM MECHANICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"



2 C-M3.3 BOILER PIPING SCHEMATIC - REVISIONS

NO SCALE



N BOILER ROOM MECHANICAL RENOVATION PLAN

SCALE: 1/4" = 1'-0"

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BANGOR SCHOOLS MECHANICAL UPGRADES

CENTRAL

BAY CITY, MICHIGAN

BOILER ROOM PLAN - ENLARGED

NO.	STATUS / REVISIONS	DATE
	50% OWNER REVIEW	01/31/2023
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

CHK'D BY: J. WHEELER

DES'D BY: R. MEYER

DRAWN BY: A. BERZLEY

PROJ #: 21-1719-0435

SHEET

C-M3.3

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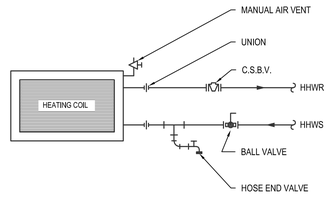


1 C-M8.0 CABINET UNIT HEATER PIPING SCHEMATIC
NO SCALE

CABINET UNIT HEATER SCHEDULE

180°E.W.T.
60°E.A.T.

SEE 1 C-M8.0

MARK	TYPE	AREA	CFM	MBH	GPM	FT.P.D.	H.P.	V/Ø	MODEL	REMARKS
CUH-1	HORIZ. RECESSED	ENTRANCE	531	35	1.5	3.2	1/14	115/1	FFBE060	
CUH-2	HORIZ. RECESSED	ENTRANCE	342	26.4	2.5	7.1	1/20	115/1	FFBE040	
CUH-3	WALL MOUNTED	ENTRANCE	133	11.9	1.5	9.9	1/30	115/1	FFBE020	

BASED ON TRANE "FORCE-FLO"

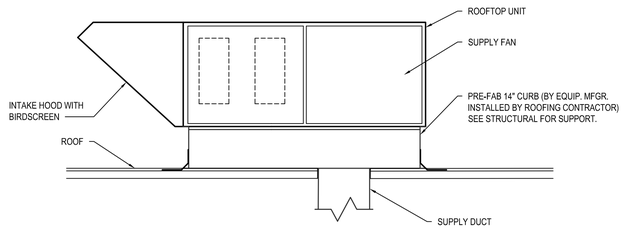
1

BOILER SCHEDULE

SEE 2 C-M3.3

MARK	TYPE	MBH		VENT DIA "	AIR INLET DIA "	GAS TRAIN ASSEMBLY	V/Ø	AMPS	MODEL	REMARKS
		INPUT	OUTPUT							
B-1 & 2	CONDENSING	1500	1440	6"	6"	I.R.I.	115/1	19.3	BMK-1500	

BASED ON AERCO BENCHMARK WITH FACTORY MOUNTED AND WIRED CIRC PUMP AND NEUTRALIZATION KIT.



2 C-M8.0 TYPICAL MAKE-UP AIR UNIT DETAIL
NO SCALE

MAKE-UP AIR UNIT SCHEDULE

DESIGN TEMPERATURES SUMMER : OUTDOOR = 87°/72° LAT = 68°
WINTER : OUTDOOR = 0°

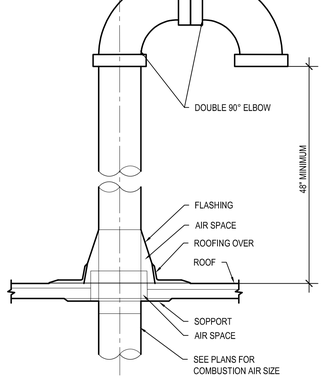
SEE 1 C-M8.0

MARK	AREA	LOCATION	TSP (IN WC)	CFM	HEATING		MIN. O.A. CFM	ARRANGEMENT		H.P.	V/Ø	DISCONNECT BY	MODEL	REMARKS
					MBH IN	MBH OUT		INLET	DISCHARGE					
MAU-1	KITCHEN	ROOF	1.2	1200	95.8	88.1	1200	FRONT	BOTTOM	1/2	208/3	EC	DGX-P109-H12-MF	

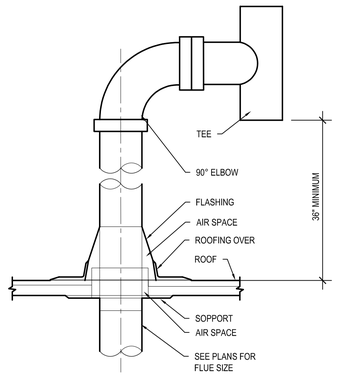
BASED ON GREENHECK
PROVIDE INLET DAMPER, BIRDSCREEN AND WASHABLE FILTER.

GRILLES, REGISTERS & DIFFUSERS SCHEDULE

MARK	MANUFACTURER	MODEL	DESCRIPTION	NECK SIZE	FACE SIZE	FRAME	FINISH	MATERIAL	REMARKS
CD-1	PRICE INDUSTRIES	SCDA	SUPPLY DIFFUSER	12"Ø	24"x24"	3	WHITE	STEEL	



3 C-M8.0 COMBUSTION AIR INTAKE TERMINATION
NO SCALE



4 C-M8.0 FLUE VENT TERMINATION
NO SCALE

MECHANICAL SYMBOLS LIST

SYMBOL	DESCRIPTION
AFF	ABOVE FINISH FLOOR
AGA	AMERICAN GAS ASSOCIATION
AHU	AIR HANDLING UNIT
ASME	AMERICAN SOCIETY OF MECH. ENGINEERS
BTUH	BRITISH THERMAL UNITS PER HOUR
CA	COMBUSTION AIR
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
COND	CONDENSATE
C.S.B.V.	CIRCUIT SETTER BALANCE VALVE
CUH	CABINET UNIT HEATER
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
EAR	EXHAUST AIR REGISTER
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRIC CONTRACTOR
EF	EXHAUST FAN
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FPF	FINS PER FOOT
FT.P.D.	FEET OF PRESSURE DROP
FTR	FIN-TUBE RADIATION
G	GAS
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HHWR	HEATING HOT WATER RETURN
HHWS	HEATING HOT WATER SUPPLY
HP	HORSE POWER
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MC	MECHANICAL CONTRACTOR
OA	OUTSIDE AIR

SYMBOL	DESCRIPTION
RA	RETURN AIR
RAR	RETURN AIR REGISTER
SA	SUPPLY AIR
SAR	SUPPLY AIR REGISTER
S.C.C.V.	SELF CONTAINED CONTROL VALVE
S.P.	STATIC PRESSURE
TCC	TEMPERATURE CONTROL CONTRACTOR
UH	UNIT HEATER
U.L.	UNDERWRITERS LABORATORIES
U.N.O.	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
WH	WATER HEATER
WM	WATER METER
WTD	WATER TEMPERATURE DROP
WTR	WATER TEMPERATURE RISE
	CHECK VALVE
	BALANCE VALVE (CIRCUIT SETTER)
	CONTROL VALVE
	PRESSURE AND TEMPERATURE RELIEF VALVE
	THREE-WAY VALVE
	HOSE END VALVE
	BALL VALVE
	BUTTERFLY VALVE
PRV	PRESSURE REDUCING VALVE
BFP	BACKFLOW PREVENTOR
	UNION
	STRAINER
	MANUAL AIR VENT
FS	FLOW SWITCH
	GAUGE
	THERMOMETER
	CONNECT TO EXISTING
H	HUMIDISTAT
T	THERMOSTAT
	PUMP (INLINE)

MECHANICAL GENERAL NOTES

1. ALL WORK TO COMPLY WITH ALL APPLICABLE STATE, FEDERAL, AND LOCAL CODES AND ORDINANCES
2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDDING.
3. SEAL ALL DUCT JOINTS.
4. PROVIDE ACCESS PANELS TO ALL VALVES, DAMPERS, TRAPS, FILTERS, EQUIPMENT, ETC.
5. COORDINATE LOCATION OF ALL CEILING DIFFUSERS, REGISTERS, AND CEILING MOUNTED EQUIPMENT WITH THE REFLECTED CEILING PLAN.
6. DUCT SIZES NOTED REPRESENT NET FREE INTERIOR DIMENSIONS.
7. PROVIDE BALANCE DAMPERS IN EACH SUPPLY AND EXHAUST DUCT BRANCH.
8. ALL ROUND DUCTWORK TO BE SPIRAL TYPE UNLESS NOTED OTHERWISE.
9. HEATING PIPING TO BE MINIMUM 3/4" DIAMETER.
10. VERIFY MOUNTING HEIGHTS OF WALL CAPS AND LOUVERS WITH ARCHITECTURAL DRAWINGS.
11. ALL VALVES SHOWN ON FLOOR PLANS ARE IN ADDITION TO ALL VALVES SHOWN ON PIPING SCHEMATICS.
12. REFER TO PIPING SCHEMATIC DETAILS FOR UNIONS, VALVES, AIR VENTS, THERMOMETERS, ETC. REQUIRED AT SPECIFIC PIECES OF EQUIPMENT.
13. ALL ROOF CURBS FOR MECHANICAL EQUIPMENT TO BE MINIMUM 16" ABOVE FINISHED ROOF SURFACE.
14. EQUIPMENT, DUCTS, PIPING, ETC. TO BE SUPPORTED FROM PANEL POINTS OF STRUCTURAL MEMBERS. NO MECHANICAL ITEMS TO BE SUPPORTED FROM DECKING. CONCENTRATED MECHANICAL LOADS TO BE DISTRIBUTED OVER TWO OR MORE JOISTS. CONCENTRATED LOADING ON A SINGLE STRUCTURAL MEMBER IS TO BE AVOIDED.
15. SUPPLY AIR DIFFUSERS MAY BE CONNECTED WITH A MAXIMUM 5 FEET OF INSULATED FLEXIBLE DUCT WHEN DUCT IS CONCEALED. ALL RETURN AIR REGISTERS AND EXHAUST AIR REGISTERS TO BE DUCTED WITH SHEET METAL.
16. NEW THERMOSTATS TO BE LOCATED AT OLD THERMOSTATS' LOCATIONS WHERE POSSIBLE. IF NEW T'STATS ARE NOT IN OLD LOCATIONS, THEN OLD LOCATION IS TO BE REMOVED AND WALL PATCHED TO MATCH EXISTING.
17. MECHANICAL CONTRACTOR TO COORDINATE WITH GENERAL ON REMOVAL, REINSTALLATION, AND PATCHING OF EXISTING CEILINGS WHERE ACCESS IS NEEDED FOR INSTALLATION OF NEW EQUIPMENT, PIPING, ETC.
18. MECHANICAL CONTRACTOR TO COORDINATE WITH OWNER FOR ALL NEW ROOFING WORK TO MAINTAIN EXISTING ROOFING WARRANTY.

NOTE: EQUIPMENT LISTED IN SCHEDULES IS NOT TO BE USED FOR THE SOLE PURPOSE OF OBTAINING QUANTITIES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES UTILIZING THESE SCHEDULES AND CAREFUL REVIEW OF LAYOUT DRAWINGS.

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BANGOR SCHOOLS MECHANICAL UPGRADES

CENTRAL
BAY CITY, MICHIGAN

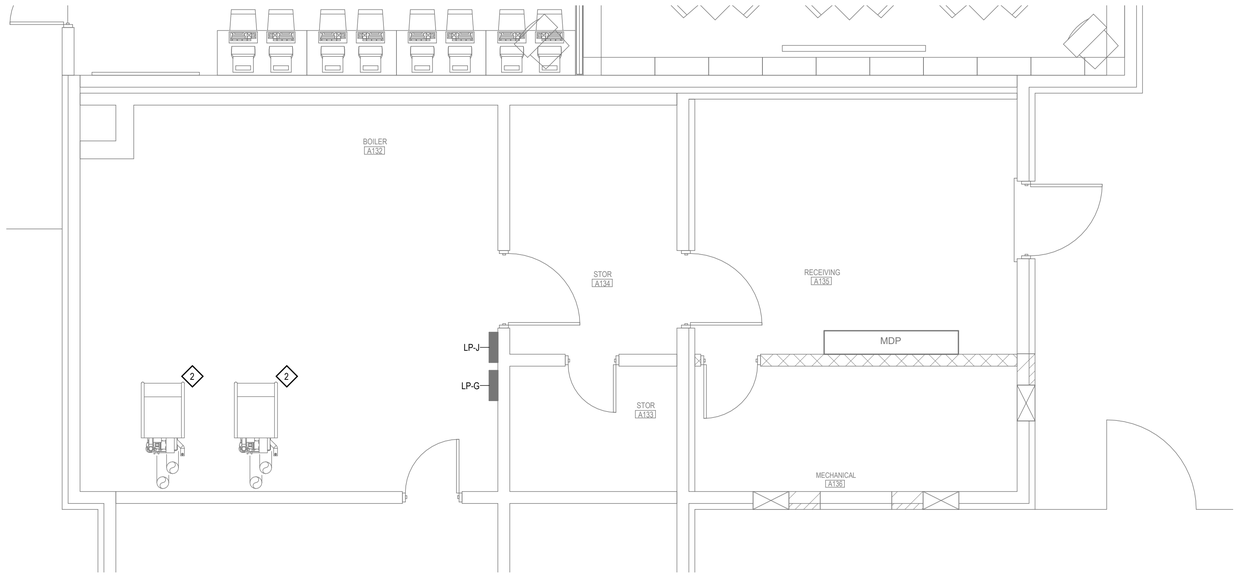
SCHEDULES, DETAILS, AND NOTES

NO.	STATUS / REVISIONS	DATE
	50% OWNER REVIEW	01/31/2023
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

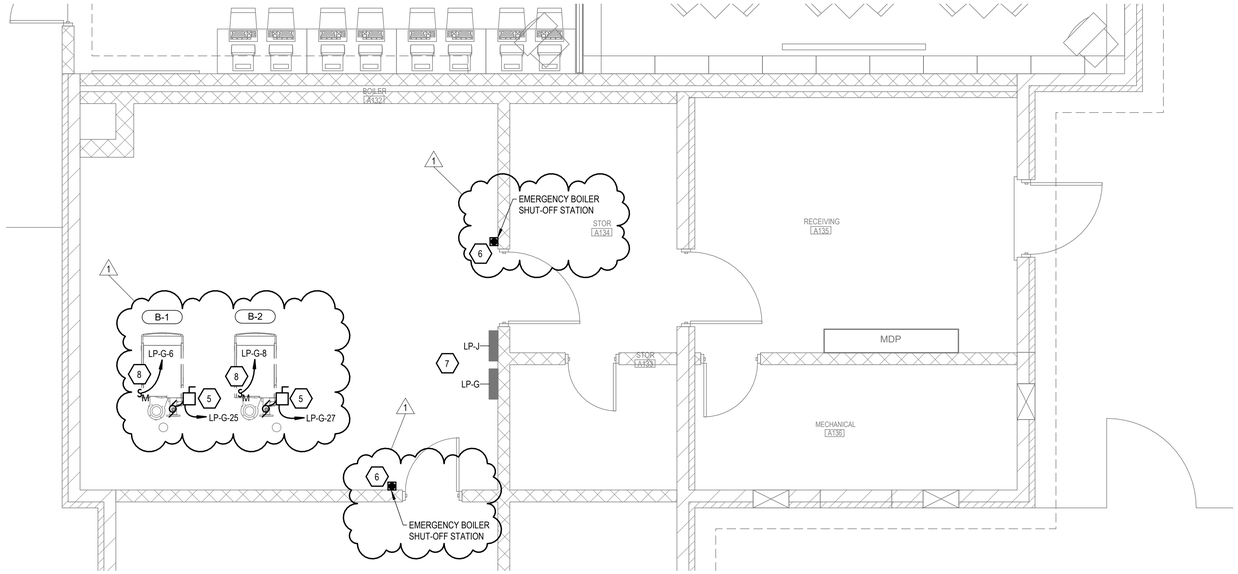
CHCK'D BY: J. WHEELER
DES'D BY: R. MEYER
DRAWN BY: A. BERZLEY
PROJ #: 21-1719-0435

SHEET
C-M8.0

PRINTED: 4/12/2023 1:46:52 PM



BOILER ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



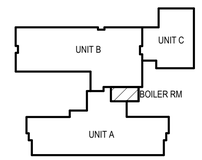
BOILER ROOM POWER PLAN
SCALE: 1/4" = 1'-0"

KEYED DEMOLITION NOTES

SYMBOL	DESCRIPTION
◇	*NOT ALL NOTES APPEAR ON EVERY SHEET*
1	DISCONNECT EXISTING UNIT HEATER. SALVAGE CIRCUIT TO BE USED WITH NEW UNIT HEATER.
2	DISCONNECT EXISTING BOILER CIRCUITS BACK TO PANEL.

KEYED CONSTRUCTION NOTES

SYMBOL	DESCRIPTION
⬡	*NOT ALL NOTES APPEAR ON EVERY SHEET*
1	RECONNECT NEW UNIT HEATER TO EXISTING POWER CIRCUIT. DISCONNECT SWITCH PROVIDED WITH UNIT. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
2	PROVIDE COMBINATION MOTOR STARTER DISCONNECT FOR NEW MAKE UP AIR UNIT. UNIT SHALL BE INTERLOCKED WITH HOOD CONTROLS FOR SIMULTANEOUS OPERATION. COORDINATE INSTALLATION WITH MECHANICAL AND CONTROLS CONTRACTOR.
3	PROVIDE NEW 15A/3P CIRCUIT BREAKER FOR EXISTING LP-G FOR POWER TO NEW KITCHEN MAU-1. EXISTING PANEL IS SQUARE-D NQOD PANELBOARD.
4	UTILIZE EXISTING CIRCUIT IN PANEL LP-E1 TO POWER NEW EQUIPMENT.
5	PROVIDE LOCAL 30A DISCONNECT SWITCH FOR NEW BOILER CIRC PUMPS. PROVIDE #10AWG CONDUCTORS AND #10G FOR CIRCUITING. FIELD VERIFY LOCATION AND COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
6	PROVIDE EMERGENCY SHUTDOWN SWITCH FOR NEW BOILERS. E-STOP SHALL BE WIRED TO BOILER CONTROL CIRCUIT TO SHUTDOWN ALL BOILERS UPON ACTIVATION. E-STOPS SHALL BE PILLA PART NO. BSD120 WITH PILCLHCOV1 COVER OR EQUAL. COORDINATE FINAL LOCATION WITH AHJ PRIOR TO INSTALLATION.
7	PROVIDE 30A/1P BREAKERS FOR POWER TO NEW BOILERS B-1 & B-2. EXISTING PANEL LP-G IS SQUARE-D NQOD PANELBOARD. UTILIZE SPACES IN PANEL FROM EXISTING BOILERS BEING REMOVED.
8	PROVIDE LOCAL DISCONNECT SWITCH WITH LOCKOUT HASP FOR NEW BOILERS. FIELD VERIFY LOCATION AND COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.



KEY PLAN
NOT TO SCALE

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MECHANICAL UPGRADES
BAY CITY, MICHIGAN

BOILER ROOM POWER & DEMOLITION PLAN

NO.	STATUS / REVISIONS	DATE
1	ISSUED FOR BIDS ADDENDUM #1	03/30/2023 04/12/2023

CHCK'D BY: E. MARTER
DES'D BY: B.KUSHION
DRAWN BY: B. KUSHION
PROJ #: 21-1719-0435

SHEET
C-E4.1

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BRANCH PANEL: LP-G

LOCATION: BOILER A132
SUPPLY FROM: MDP
MOUNTING: Recessed
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

A.I.C. RATING:
MAINS TYPE: MLO
MAINS RATING: 225 A

NOTES:
EXISTING PANEL IS SQUARE-D NQOD PANELBOARD

CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	POLE LTS	20 A	1	180	355					1	20 A	UH-1 & UH-2	2
3	RECEIVING - REC	20 A	1			360	830			1	20 A	MECH A136 - EF-4	4
5	MECH A136/EXT - REC	20 A	1					540	1920	**1**	**20 A**	**BOILER A132 B-1**	**6**
7	BOILER A132 P-1	20 A	3	900	1920					**1**	**20 A**	**BOILER A132 B-2**	**8**
9	--	--	--			900	3038			3	50 A	BOILER A132 P-3	10
11	--	--	--					900	3038	--	--	--	12
13	BOILER A132 P-2	20 A	3	900	3038					--	--	--	14
15	--	--	--			900	600			1	20 A	HEAT TAPE (CHILLER)	16
17	--	--	--					900	600	1	20 A	TRANE CONTROL PANEL	18
19	**MAU-1**	**20 A**	**3**	420	500					1	20 A	FREEZER LIGHT	20
21	--	--	--			420	500			1	20 A	FREEZER PLUG	22
23	--	--	--					420	1200	3	20 A	FREEZER	24
25	**B-1 PUMP**	**30 A**	**1**	1920	1200					--	--	--	26
27	**B-2 PUMP**	**30 A**	**1**			1920	1200			--	--	--	28
29	Space	--	1					--	--	1	--	Space	30
		Total Load:		11335.3 VA		10668.3 VA		9518.3 VA					
		Total Amps:		96 A		90 A		79 A					

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
HVAC	1260.9 VA	100.00%	1260.9 VA		
Power	7680.0 VA	100.00%	7680.0 VA	**TOTAL CONN LOAD:**	31519.9 VA
				TOTAL EST DEMAND:	31519.9 VA
				TOTAL CONN CURRENT:	87 A
				TOTAL EST DEMAND CURRENT:	87 A

NOTES:

BRANCH PANEL: LP-E1

LOCATION: JC A105
SUPPLY FROM: LP-E
MOUNTING: Recessed
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

A.I.C. RATING:
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
EXISTING PANEL IS SQUARE-D NQOD PANELBOARD

CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	CLRM A108 UV-3	20 A	1	1600	1600					1	20 A	CLRM A111 UV-3	2
3	CLRM A107 UV-3	20 A	1			1600	1600			1	20 A	CLRM A112 UV-2	4
5	LOUNGE UV-5 (ALT UV-6)	20 A	1					1130	1600	1	20 A	CLRM A113 UV-2	6
7	CLRM A111 - REC	20 A	1	360	265					**1**	**20 A**	**TLTS A104, A106/ENTRANCE CUH 1**	**8**
9	COMP PLUG SMALL CLASS BY OFFICE	20 A	1			540	540			1	20 A	CLRM A107, A108 - REC	10
11	OFFICE A102 IDF REC	20 A	1					360	1340	1	20 A	EF-6, EF-7	12
13	RESTROOMS	20 A	1	600	1080					1	20 A	LOUNGE OFFICE ALT-REC	14
15	EX FAN	20 A	1			676	1080			1	20 A	SECRETARY OFFICE - REC	16
17	LIGHTS RM 8	20 A	1					600	1080	1	20 A	SECRETARY OFFICE - REC	18
19	Space	--	1	--	--					1	--	Space	20
21	Space	--	1			--	--			1	--	Space	22
23	Space	--	1					--	--	1	--	Space	24
25	Space	--	1	--	--					1	--	Space	26
27	Space	--	1			--	--			1	--	Space	28
29	Space	--	1					--	--	1	--	Space	30
		Total Load:		5505.0 VA		6036.0 VA		6110.0 VA					
		Total Amps:		46 A		51 A		52 A					

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
				TOTAL CONN LOAD:	17651.0 VA
				TOTAL EST DEMAND:	17651.0 VA
				TOTAL CONN CURRENT:	49 A
				TOTAL EST DEMAND CURRENT:	49 A

NOTES:

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MECHANICAL UPGRADES
BAY CITY, MICHIGAN

PANEL SCHEDULES

NO.	STATUS / REVISIONS	DATE
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

CHCK'D BY: E. MARTER
DES'D BY: B.KUSHION
DRAWN BY: B. KUSHION
PROJ #: 21-1719-0435

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BANGOR TOWNSHIP SCHOOLS

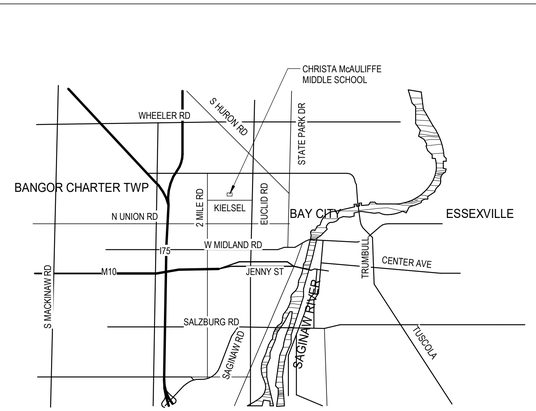
CHRISTA McAULIFFE MIDDLE SCHOOL
MECHANICAL UPGRADES

3281 KIESEL ROAD
BAY CITY MICHIGAN

SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
MECHANICAL			
M-M1.0	OVERALL MECHANICAL PLAN - DEMOLITION	X	
M-M3.0	UNIT 'A' OVERHEAD MECHANICAL PLAN	X	
M-M3.1	UNIT 'B' OVERHEAD MECHANICAL PLAN	X	
M-M3.2	UNIT 'C' OVERHEAD MECHANICAL PLAN	X	
M-M3.3	UNIT 'D' OVERHEAD MECHANICAL PLAN	X	
M-M3.4	ENLARGED BOILER ROOM PLANS	X	
M-M8.0	MECHANICAL SCHEDULES	X	X
M-M8.1	MECHANICAL SCHEDULES	X	
ELECTRICAL			
M-E0.0	GENERAL NOTES	X	
M-E1.0	DEMOLITION DRAWINGS	X	
M-E4.0	UNIT 'A' POWER PLAN	X	
M-E4.1	UNIT 'B' POWER PLAN	X	X
M-E4.2	UNIT 'C' POWER PLAN	X	X
M-E4.3	UNIT 'D' POWER PLAN	X	
M-E4.4	BOILER ROOM DEMOLITION & POWER PLAN	X	
M-E6.0	ONE-LINE DIAGRAM	X	
M-E7.0	PANEL SCHEDULES	X	
M-E7.1	PANEL SCHEDULES	X	

LOCATION MAP



CONTACT INFORMATION

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BAY CITY, MI 48706
(989) 684-8121

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ARCHITECT / ENGINEER:
TYLER MIETZ, P.E.
PROJECT ENGINEER

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CODE AUTHORITY:
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF CONSTRUCTION CODES/PLAN REVIEW DIVISION
PO BOX 30255
LANSING, MI 48909
(517) 241-9328

MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF FIRE SERVICES/PLAN REVIEW DIVISION
PO BOX 30700
LANSING, MI 48909
(517) 241-8847

Know what's **below.**
Call before you dig.

PROJECT INFORMATION

BUILDING CODE COMPLIANCE
- 2015 MICHIGAN BUILDING CODE (MBC)
- 2018 MICHIGAN PLUMBING CODE (MPC)
- 2015 MICHIGAN MECHANICAL CODE (MMC)
- 2017 NATIONAL ELECTRICAL CODE (NEC)
- 2018 INTERNATIONAL FIRE CODE (IFC)
- 2012 NFPA 101 LIFE SAFETY CODE (LSC)

USE AND OCCUPANCY CLASSIFICATION [CHAPTER 3]
- GROUP E - EDUCATIONAL GROUP

BUILDING HEIGHT AND NUMBER OF STORIES [TBL 504.3, 504.4]
- ALLOWED - 2
- ACTUAL - 1

BUILDING AREA [TBL 506.2]
- ALLOWABLE - 14,400 SFT/ FLR
- ACTUAL - 73,250 SFT

CONSTRUCTION CLASSIFICATION [SEC 602, TBL 601]
- TYPE IIB, II(000)

FIRE RESISTANCE RATING [TBL 601]
- 0 - PRIMARY STRUCTURAL FRAME
- 0 - BEARING WALLS
- 0 - NON BEARING WALLS & PARTITIONS (INTERIOR)
- 0 - NON BEARING WALLS & PARTITIONS (EXTERIOR)
- 0 - FLOOR CONSTRUCTION
- 0 - ROOF CONSTRUCTION

FIRE PROTECTION SYSTEMS [CHAPTER 9]
- NO SPRINKLER SYSTEM

OCCUPANT LOAD [SEC 1004, TBL 1004.1.2]
- NO CHANGE

CORRIDORS [SEC 1020, TBL 1020.1]
- 1HR RATING

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MECHANICAL UPGRADES
BAY CITY MICHIGAN

COVER SHEET

NO.	STATUS / REVISIONS	DATE
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

CHCK'D BY: T. MIETZ
DES'D BY: R. MEYER
DRAWN BY: A. BERZLEY
PROJ #: 21-1719-0435

SHEET
CS

PRINTED: 4/12/2023 1:43:15 PM

PACKAGED ROOFTOP UNIT SCHEDULE (ALT #M1)

DESIGN TEMPERATURES — SUMMER : OUTDOOR = 87°/72° ROOM = 74°/50% — WINTER : OUTDOOR = 0° ROOM = 70° — SEE 3/M8.0

MARK	TYPE	AREA	CFM	HEATING		COOLING	FLA	MCA	VIØ	SUPPLY FAN		TOTAL	MIN. O.A.	WEIGHT	MODEL	REMARKS
				MBH INPUT	MBH OUTPUT	MBH				H.P.	RPM	S.P.	(CFM)	(LBS.)		
RTU-1	GAS FIRED	MEDIA CENTER	4000	200	160	116.3	7.3	49	208/3	2.75	1750	0.75	750	1384	YSC120	
RTU-2A, 2B	GAS FIRED	CAFETERIA	4000	200	160	116.3	7.3	49	208/3	2.75	1750	0.75	750	1384	YSC120	
RTU-3	GAS FIRED	ADMINISTRATION	960	80	64	35.6	5.7	20	208/3	0.75	1075	0.75	150	747	YSC036	
RTU-4	GAS FIRED	ADMINISTRATION	1600	100	81	48.8	6.9	26	208/3	1.0	1040	0.75	150	767	YSC048	
RTU-5	GAS FIRED	TEACHERS LOUNGE	1200	80	64	37	5.7	20	208/3	0.75	1400	0.75	225	747	YSC036	
RTU-6	GAS FIRED	MUSIC ROOM	2400	120	96	75	7.3	35	208/3	1.0	1750	0.75	375	1045	YSC072	

BASED ON TRANE :
OPTION:
1. ROOF CURB ADAPTOR AS REQUIRED.
2. BAROMETRIC RELIEF.
3. ECONOMIZER.
4. CONVENIENCE OUTLET.
5. FACTORY DISCONNECT/SINGLE POINT CONNECTION.
6. CONSTANT SPEED FAN.
7. RA/SA SMOKE DETECTOR PROVIDED BY EC. REFER TO ELECTRICAL FOR ADDITIONAL INFORMATION.

1

CHILLER SCHEDULE

45° LWT 58° EWT — SEE 1/M-M8.0

TYPE	TYPE	NOMINAL TONS	WEIGHT (LBS.)	MCA	MOP	KW	VIØ	REFRIGERANT CIRCUITS	MODEL
CH-1	AIR COOLED LIQUID	150	14400	632	800	149.7	208/3	2	ACRB1505AUA

BASED ON TRANE

PUMP SCHEDULE

SEE 3/M-M8.1 3/M-M8.1

MARK	TYPE	SYSTEM	GPM	FT.P.D.	SUCTION "	DISCHARGE "	VIØ	H.P.	RPM	MODEL	REMARKS
P-1	BASE-MOUNTED	CHILLED WATER	265	59	3"	2 1/2"	208/3	7.5	1750	E1510-2.5BB	
P-2 & 3	BASE-MOUNTED	HEATING HOT WATER	88	47	2"	1 1/2"	208/3	2	1750	E1510-1.5AD	

BASED ON B & G

UNIT VENTILATOR SCHEDULE

DESIGN TEMPERATURES — SUMMER : OUTDOOR = 87°/72° ROOM = 74°/50% 45° EWT — WINTER : OUTDOOR = 0° ROOM = 70° 180° EWT — SEE 3/M-M8.1

MARK	TYPE	AREA	CFM	HEATING			COOLING			H.P.	VIØ	MIN. O.A. CFM	ARRANGEMENT		MODEL
				MBH	GPM	FT.P.D.	MBH	GPM	FT.P.D.				INLET	DISCHARGE	
UV-1	HORIZONTAL	CLASSROOM	944	54.2	1.5	0.22	29.9	5.2	4.41	1	115/1	375	H	5	HUVC100
UV-2	HORIZONTAL	CLASSROOM	1381	65.9	1.5	0.27	40.7	6	2.86	1	115/1	375	H	5	HUVC150
UV-3	HORIZONTAL	CLASSROOM	1381	65.9	1.5	0.27	40.7	6	2.86	1	115/1	375	H	5	HUVC150
UV-4	HORIZONTAL	CLASSROOM	1535	67.5	1.5	0.27	53.3	8.7	5.58	1	115/1	375	H	5	HUVC200
UV-5	HORIZONTAL	CLASSROOM	944	40.2	1	0.10	29.9	5.2	4.41	1	115/1	375	H	5	HUVC100
UV-6	HORIZONTAL	TECH. ED.	1535	82.7.	2	0.45	43.7	5.8	2.68	1	115/1	375	H	5	HUVC200

BASED ON TRANE

CABINET UNIT HEATER SCHEDULE

180° E.W.T. 60° E.A.T. — SEE 7/M-M8.0

MARK	TYPE	AREA	CFM	MBH	GPM	FT.P.D.	H.P.	VIØ	MODEL	REMARKS
CUH-1	HORIZ. RECESSED	VESTIBULE	600	44.1	4	5.65	0.089	115/1	FFEB060	
CUH-2	FLOOR CABINET	CAFETERIA	600	35.25	3	10.0	0.084	115/1	FFBB060	

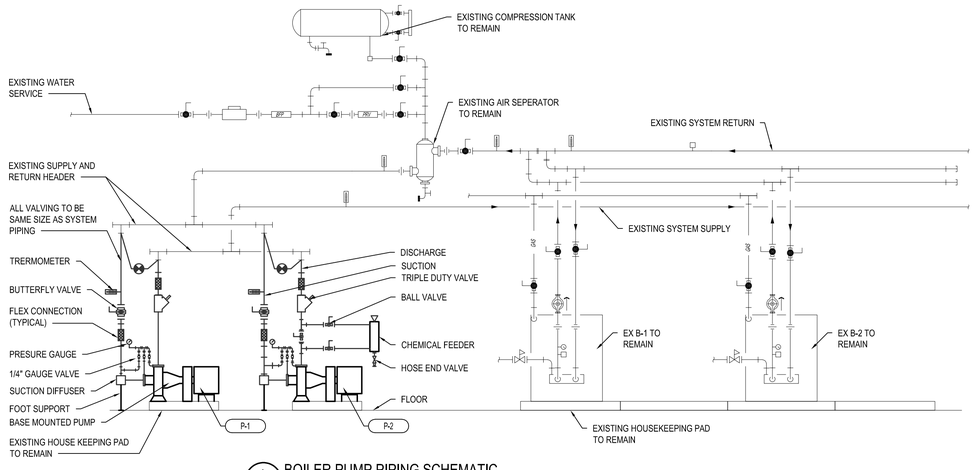
BASED ON TRANE "FORCE-FLO"

MECHANICAL SYMBOLS LIST

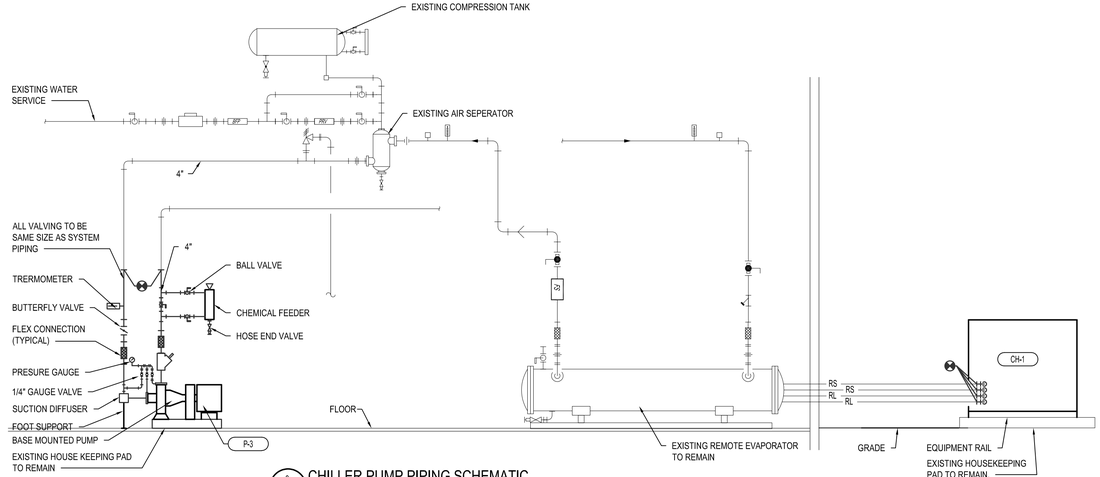
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AFF	ABOVE FINISH FLOOR	RA	RETURN AIR
AGA	AMERICAN GAS ASSOCIATION	RAR	RETURN AIR REGISTER
AHU	AIR HANDLING UNIT	SA	SUPPLY AIR
ASME	AMERICAN SOCIETY OF MECH. ENGINEERS	SAR	SUPPLY AIR REGISTER
BTUH	BRITISH THERMAL UNITS PER HOUR	S.C.C.V.	SELF CONTAINED CONTROL VALVE
CA	COMBUSTION AIR	S.P.	STATIC PRESSURE
CD	CEILING DIFFUSER	TCC	TEMPERATURE CONTROL CONTRACTOR
CFM	CUBIC FEET PER MINUTE	UH	UNIT HEATER
COND	CONDENSATE	U.L.	UNDERWRITERS LABORATORIES
C.S.B.V.	CIRCUIT SETTER BALANCE VALVE	U.N.O.	UNLESS NOTED OTHERWISE
CUH	CABINET UNIT HEATER	UV	UNIT VENTILATOR
CWS	CHILLED WATER SUPPLY	WH	WATER HEATER
CWR	CHILLED WATER RETURN	WM	WATER METER
EAR	EXHAUST AIR REGISTER	WTD	WATER TEMPERATURE DROP
EAT	ENTERING AIR TEMPERATURE	WTR	WATER TEMPERATURE RISE
EC	ELECTRIC CONTRACTOR		CHECK VALVE
EF	EXHAUST FAN		BALANCE VALVE (CIRCUIT SETTER)
EWT	ENTERING WATER TEMPERATURE		CONTROL VALVE
EX	EXISTING		PRESSURE AND TEMPERATURE RELIEF VALVE
FD	FLOOR DRAIN		THREE-WAY VALVE
FFE	FINISHED FLOOR ELEVATION		HOSE END VALVE
FPF	FINS PER FOOT		BALL VALVE
FT.P.D.	FEET OF PRESSURE DROP		BUTTERFLY VALVE
FTR	FIN-TUBE RADIATION	PRV	PRESSURE REDUCING VALVE
G	GAS	BFP	BACKFLOW PREVENTOR
GC	GENERAL CONTRACTOR		UNION
GPM	GALLONS PER MINUTE		STRAINER
HHWR	HEATING HOT WATER RETURN		MANUAL AIR VENT
HHWS	HEATING HOT WATER SUPPLY	FS	FLOW SWITCH
HP	HORSE POWER		GAUGE
LAT	LEAVING AIR TEMPERATURE		THERMOMETER
LWT	LEAVING WATER TEMPERATURE		CONNECT TO EXISTING
MC	MECHANICAL CONTRACTOR	H	HUMIDISTAT
OA	OUTSIDE AIR	T	THERMOSTAT
		P	PUMP (INLINE)

MECHANICAL GENERAL NOTES

1. ALL WORK TO COMPLY WITH ALL APPLICABLE STATE, FEDERAL, AND LOCAL CODES AND ORDINANCES
2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDDING.
3. SEAL ALL DUCT JOINTS.
4. PROVIDE ACCESS PANELS TO ALL VALVES, DAMPERS, TRAPS, FILTERS, EQUIPMENT, ETC.
5. COORDINATE LOCATION OF ALL CEILING DIFFUSERS, REGISTERS, AND CEILING MOUNTED EQUIPMENT WITH THE REFLECTED CEILING PLAN.
6. DUCT SIZES NOTED REPRESENT NET FREE INTERIOR DIMENSIONS.
7. PROVIDE BALANCE DAMPERS IN EACH SUPPLY AND EXHAUST DUCT BRANCH.
8. ALL ROUND DUCTWORK TO BE SPIRAL TYPE UNLESS NOTED OTHERWISE.
9. HEATING PIPING TO BE MINIMUM 3/4" DIAMETER.
10. VERIFY MOUNTING HEIGHTS OF WALL CAPS AND LOUVERS WITH ARCHITECTURAL DRAWINGS.
11. ALL VALVES SHOWN ON FLOOR PLANS ARE IN ADDITION TO ALL VALVES SHOWN ON PIPING SCHEMATICS.
12. REFER TO PIPING SCHEMATIC DETAILS FOR UNIONS, VALVES, AIR VENTS, THERMOMETERS, ETC. REQUIRED AT SPECIFIC PIECES OF EQUIPMENT.
13. ALL ROOF CURBS FOR MECHANICAL EQUIPMENT TO BE MINIMUM 16" ABOVE FINISHED ROOF SURFACE.
14. EQUIPMENT, DUCTS, PIPING, ETC. TO BE SUPPORTED FROM PANEL POINTS OF STRUCTURAL MEMBERS. NO MECHANICAL ITEMS TO BE SUPPORTED FROM DECKING. CONCENTRATED MECHANICAL LOADS TO BE DISTRIBUTED OVER TWO OR MORE JOISTS. CONCENTRATED LOADING ON A SINGLE STRUCTURAL MEMBER IS TO BE AVOIDED.
15. SUPPLY AIR DIFFUSERS MAY BE CONNECTED WITH A MAXIMUM 5 FEET OF INSULATED FLEXIBLE DUCT WHEN DUCT IS CONCEALED. ALL RETURN AIR REGISTERS AND EXHAUST AIR REGISTERS TO BE DUCTED WITH SHEET METAL.
16. NEW THERMOSTATS TO BE LOCATED AT OLD THERMOSTATS' LOCATIONS WHERE POSSIBLE. IF NEW T'STATS ARE NOT IN OLD LOCATIONS, THEN OLD LOCATION IS TO BE REMOVED AND WALL PATCHED TO MATCH EXISTING.
17. MECHANICAL CONTRACTOR TO COORDINATE WITH GENERAL ON REMOVAL, REINSTALLATION, AND PATCHING OF EXISTING CEILINGS WHERE ACCESS IS NEEDED FOR INSTALLATION OF NEW EQUIPMENT, PIPING, ETC.
18. MECHANICAL CONTRACTOR TO COORDINATE WITH OWNER FOR ALL NEW ROOFING WORK TO MAINTAIN EXISTING ROOFING WARRANTY.



1 M-M8.0 BOILER PUMP PIPING SCHEMATIC
NO SCALE



2 M-M8.0 CHILLER PUMP PIPING SCHEMATIC
NO SCALE

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BANGOR SCHOOLS
MECHANICAL UPGRAGES
CHRISTA MCAULIFFE
BAY CITY, MICHIGAN

MECHANICAL SCHEDULES

NO.	STATUS / REVISIONS	DATE
	50% OWNER REVIEW	01/31/2023
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

CHCK'D BY: J. WHEELER
DES'D BY: R. MEYER
DRAWN BY: R. MEYER
PROJ #: 21-1719-0435

SHEET
M-M8.0

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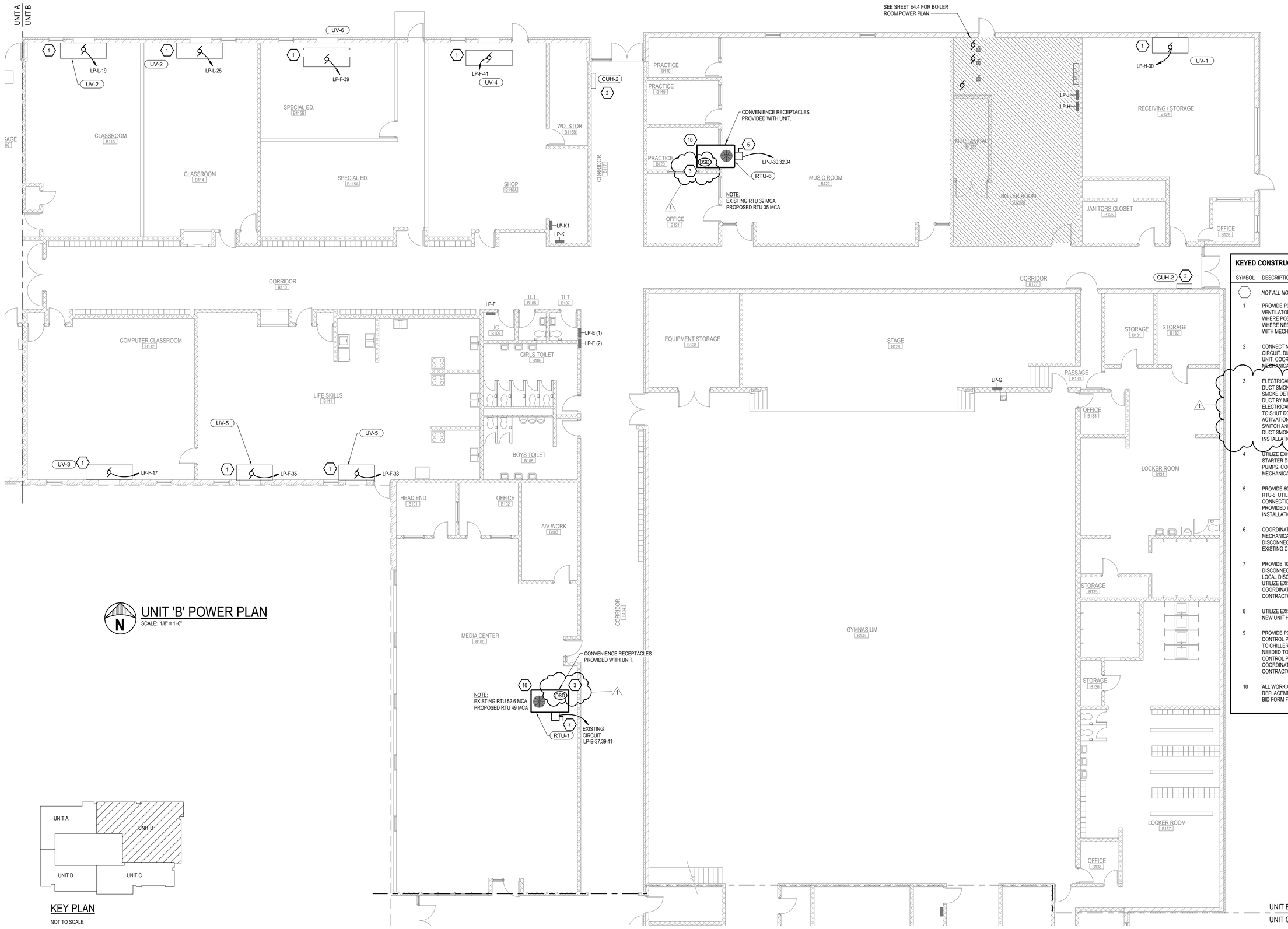
UNIT A
UNIT B



UNIT 'B' POWER PLAN
SCALE: 1/8" = 1'-0"

KEY PLAN
NOT TO SCALE

KEYED CONSTRUCTION NOTES

SYMBOL	DESCRIPTION
⬡	*NOT ALL NOTES APPEAR ON EVERY SHEET*
1	PROVIDE POWER CONNECTION TO NEW UNIT VENTILATOR. UTILIZE EXISTING CONDUITS WHERE POSSIBLE. PROVIDE NEW CIRCUITS WHERE NEEDED. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
2	CONNECT NEW UNIT HEATER TO EXISTING CIRCUIT. DISCONNECT SWITCH PROVIDED WITH UNIT. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
3	ELECTRICAL CONTRACTOR TO PROVIDE NEW DUCT SMOKE DETECTOR BY SIMPLEX. DUCT SMOKE DETECTOR SHALL BE INSTALLED IN DUCT BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO WIRE DETECTOR TO SHUT DOWN ASSOCIATED UNIT UPON ACTIVATION. UTILIZE EXISTING REMOTE TEST SWITCH AND FIRE ALARM CIRCUIT FOR NEW DUCT SMOKE DETECTOR. COORDINATE INSTALLATION WITH OTHER TRADES.
4	UTILIZE EXISTING COMBINATION MOTOR STARTER DISCONNECT FOR POWER TO NEW PUMPS. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
5	PROVIDE 50A/3P BREAKER FOR POWER TO NEW RTU-6. UTILIZE EXISTING CONDUCTORS FOR CONNECTION TO NEW UNIT. LOCAL DISCONNECT PROVIDED WITH UNIT. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
6	COORDINATE INSTALLATION OF NEW RTU WITH MECHANICAL CONTRACTOR. LOCAL DISCONNECT PROVIDED WITH UNIT. UTILIZE EXISTING CIRCUIT FOR POWER CONNECTION.
7	PROVIDE 100A NEMA 3R/12 FUSIBLE DISCONNECT SWITCH WITH 60A FUSES FOR LOCAL DISCONNECTING MEANS TO NEW RTU. UTILIZE EXISTING CIRCUIT FOR NEW UNIT. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
8	UTILIZE EXISTING 20A SPARE IN PANEL LP-L FOR NEW UNIT HEATER.
9	PROVIDE POWER CONNECTION TO CHILLER CONTROL PANEL. UTILIZE EXISTING CIRCUIT OUT TO CHILLER. PROVIDE JUNCTION BOX AS NEEDED TO EXTEND CONDUCTORS TO NEW CONTROL PANEL LOCATION. FIELD VERIFY AND COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
10	ALL WORK ASSOCIATED WITH THE RTU REPLACEMENT SHALL BE ALTERNATE #M1. SEE BID FORM FOR DETAILS.

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CHRISTA McAULIFFE MIDDLE SCHOOL
MECHANICAL UPGRADES
BAY CITY MICHIGAN

UNIT 'B' POWER PLAN

NO.	STATUS / REVISIONS	DATE
1	ISSUED FOR BID'S	03/30/2023
	ADDENDUM #1	04/12/2023

CHCK'D BY: E. MARTER
DES'D BY: B. KUSHION
DRAWN BY: B.KUSHION
PROJ #: 21-1719-0435

SHEET
M-E4.1

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KEYED CONSTRUCTION NOTES

SYMBOL	DESCRIPTION
⬡	*NOT ALL NOTES APPEAR ON EVERY SHEET*
1	PROVIDE POWER CONNECTION TO NEW UNIT VENTILATOR. UTILIZE EXISTING CONDUITS WHERE POSSIBLE. PROVIDE NEW CIRCUITS WHERE NEEDED. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
2	CONNECT NEW UNIT HEATER TO EXISTING CIRCUIT. DISCONNECT SWITCH PROVIDED WITH UNIT. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
3	ELECTRICAL CONTRACTOR TO PROVIDE NEW DUCT SMOKE DETECTOR BY SIMPLEX. DUCT SMOKE DETECTOR SHALL BE INSTALLED IN DUCT BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO WIRE DETECTOR TO SHUT DOWN ASSOCIATED UNIT UPON ACTIVATION. UTILIZE EXISTING REMOTE TEST SWITCH AND FIRE ALARM CIRCUIT FOR NEW DUCT SMOKE DETECTOR. COORDINATE INSTALLATION WITH OTHER TRADES.
4	UTILIZE EXISTING COMBINATION MOTOR STARTER DISCONNECT FOR POWER TO NEW PUMPS. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.

KEYED CONSTRUCTION NOTES

SYMBOL	DESCRIPTION
⬡	*NOT ALL NOTES APPEAR ON EVERY SHEET*
5	PROVIDE 50A/3P BREAKER FOR POWER TO NEW RTU-6. UTILIZE EXISTING CONDUCTORS FOR CONNECTION TO NEW UNIT. LOCAL DISCONNECT PROVIDED WITH UNIT. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
6	COORDINATE INSTALLATION OF NEW RTU WITH MECHANICAL CONTRACTOR. LOCAL DISCONNECT PROVIDED WITH UNIT. UTILIZE EXISTING CIRCUIT FOR POWER CONNECTION.
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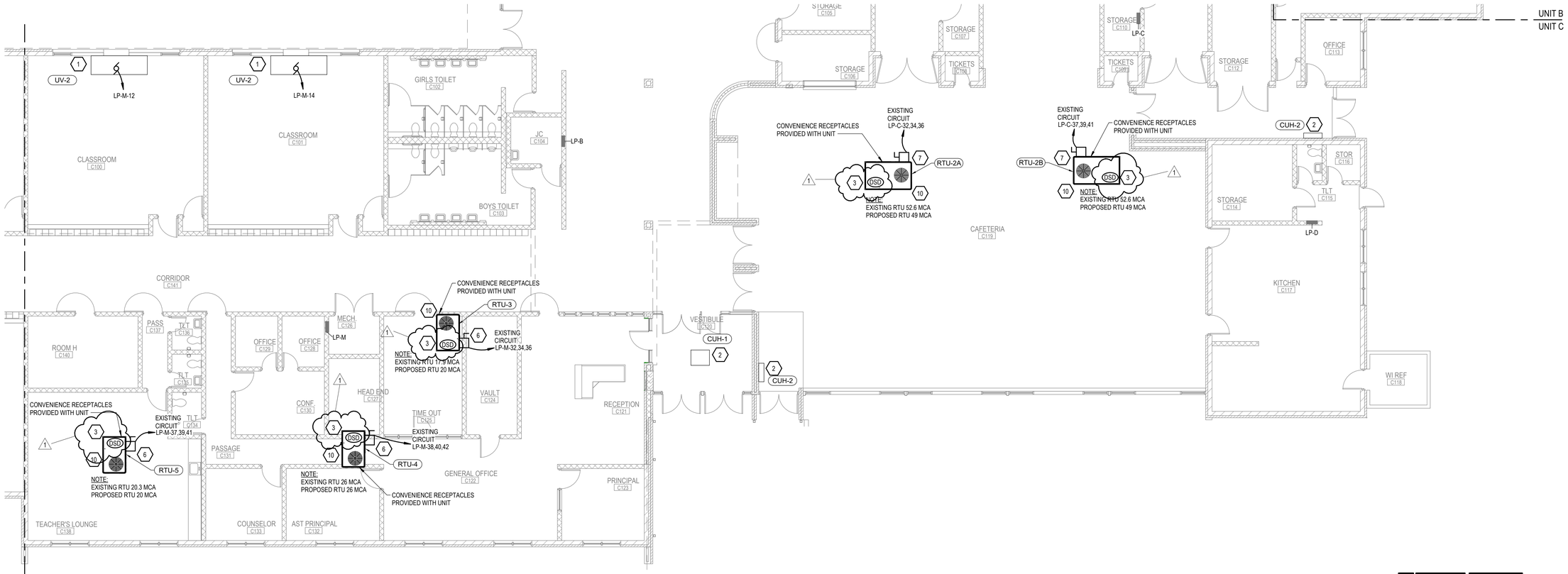
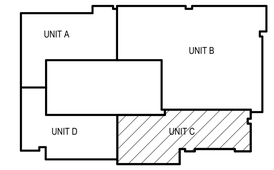


UNIT 'C' POWER PLAN

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



KEY PLAN

NOT TO SCALE

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MECHANICAL UPGRADES
BAY CITY MICHIGAN

UNIT 'C' POWER PLAN

NO.	STATUS / REVISIONS	DATE
1	ISSUED FOR BIDS	03/30/2023
	ADDENDUM #1	04/12/2023

CHCK'D BY: E. MARTER
DES'D BY: B. KUSHION
DRAWN BY: B.KUSHION
PROJ #: 21-1719-0435

SHEET
M-E4.2

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BANGOR TOWNSHIP SCHOOLS

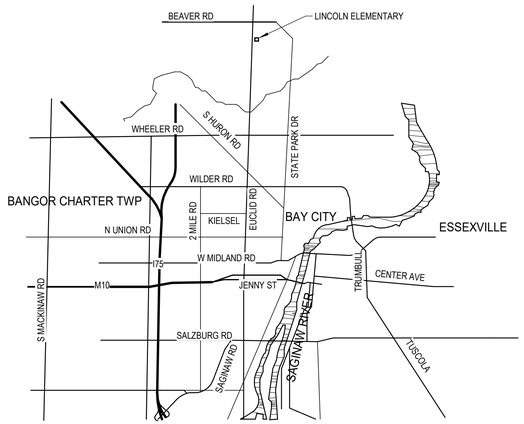
LINCOLN ELEMENTARY
MECHANICAL UPGRADES

2771 NORTH EUCLID AVE
BAY CITY, MICHIGAN

SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
MECHANICAL			
L-M1.0	UNIT 'A' MECHANICAL PLAN - DEMO	X	
L-M1.1	UNIT 'B' MECHANICAL PLAN - DEMO	X	
L-M3.0	UNIT 'A' MECHANICAL PLAN	X	
L-M3.1	UNIT 'B' MECHANICAL PLAN	X	
L-M3.2	BOILER ROOM MECHANICAL PLAN	X	X
L-M8.0	SCHEDULES AND NOTES	X	X
ELECTRICAL			
L-E0.0	GENERAL NOTES	X	
L-E1.0	UNIT 'A' DEMOLITION PLAN	X	
L-E1.1	UNIT 'B' DEMOLITION PLAN	X	
L-E4.0	UNIT 'A' POWER PLAN	X	X
L-E4.1	UNIT 'B' POWER PLAN	X	
L-E4.2	BOILER ROOM POWER & DEMOLITION PLAN	X	X
L-E6.0	ONE-LINE DIAGRAM	X	

LOCATION MAP



CONTACT INFORMATION

OWNER / CLIENT:
BANGOR TOWNSHIP SCHOOLS
3359 E. MIDLAND RD
BAY CITY, MI 48706
(989) 684-8121

KURTIS PAKE
FINANCE DIRECTOR
PHONE: (989) 684-8121
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ARCHITECT / ENGINEER:
TYLER MIETZ, P.E.
PROJECT ENGINEER

PHONE: (989) 863-4034
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WEB: www.kibbe.com

CODE AUTHORITY:
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF CONSTRUCTION CODES/PLAN REVIEW DIVISION
PO BOX 30255
LANSING, MI 48909
(517) 241-9328

MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF FIRE SERVICES/PLAN REVIEW DIVISION
PO BOX 30700
LANSING, MI 48909
(517) 241-8847

Know what's **below.** **Call** before you dig.

PROJECT INFORMATION

BUILDING CODE COMPLIANCE
- 2015 MICHIGAN BUILDING CODE (MBC)
- 2018 MICHIGAN PLUMBING CODE (MPC)
- 2015 MICHIGAN MECHANICAL CODE (MMC)
- 2017 NATIONAL ELECTRICAL CODE (NEC)
- 2018 INTERNATIONAL FIRE CODE (IFC)
- 2012 NFPA 101 LIFE SAFETY CODE (LSC)

USE AND OCCUPANCY CLASSIFICATION [CHAPTER 3]
- GROUP E - EDUCATIONAL GROUP

BUILDING HEIGHT AND NUMBER OF STORIES [TBL 504.3, 504.4]
- ALLOWED - 2
- ACTUAL - 1

BUILDING AREA [TBL 506.2]
- ALLOWABLE - 14,400 SFT/ FLR
- ACTUAL - 35,242 SFT

CONSTRUCTION CLASSIFICATION [SEC 602, TBL 601]
- TYPE IIB, II(000)

FIRE RESISTANCE RATING [TBL 601]
- 0 - PRIMARY STRUCTURAL FRAME
- 0 - BEARING WALLS
- 0 - NON BEARING WALLS & PARTITIONS (INTERIOR)
- 0 - NON BEARING WALLS & PARTITIONS (EXTERIOR)
- 0 - FLOOR CONSTRUCTION
- 0 - ROOF CONSTRUCTION

FIRE PROTECTION SYSTEMS [CHAPTER 9]
- NO SPRINKLER SYSTEM

OCCUPANT LOAD [SEC 1004, TBL 1004.1.2]
- NO CHANGE

CORRIDORS [SEC 1020, TBL 1020.1]
- 1HR RATING

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BAY CITY, MICHIGAN

COVER SHEET

NO.	STATUS / REVISIONS	DATE
	ISSUED FOR BIDS	03/30/2023
	ADDENDUM #1	04/12/2023

CHCK'D BY: T. MIETZ
DES'D BY: R. MEYER
DRAWN BY: A. BERZLEY
PROJ #: 21-1719-0435

SHEET
CS

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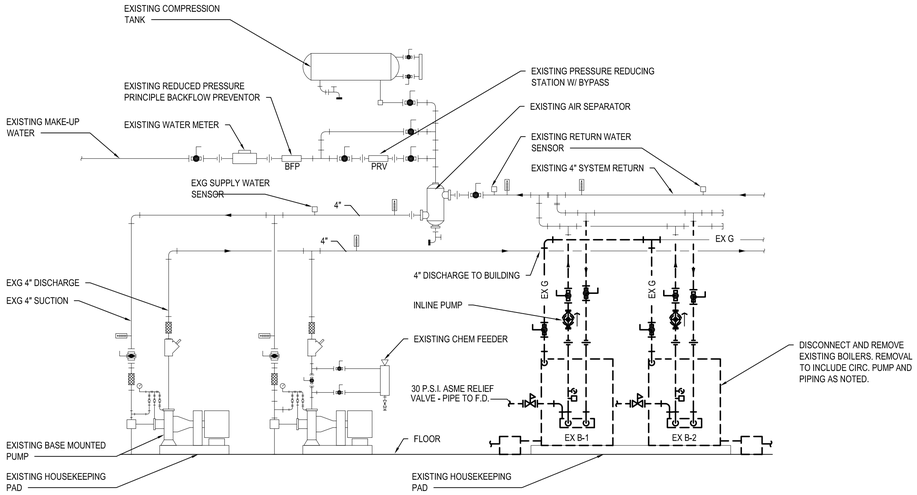
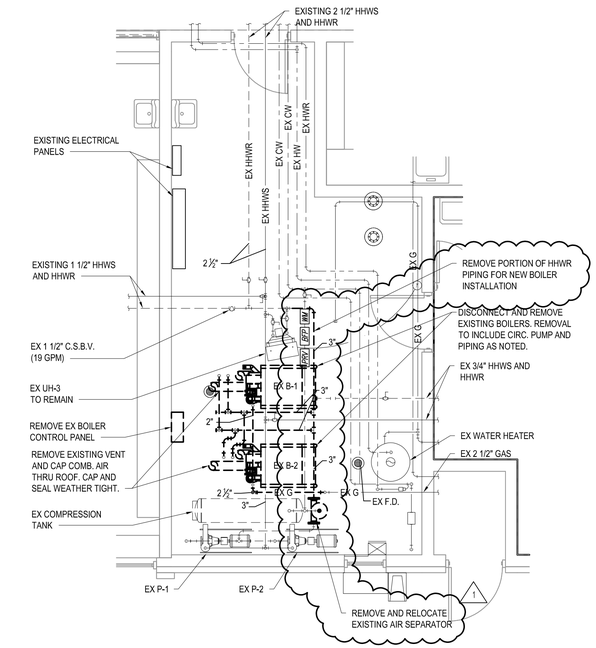
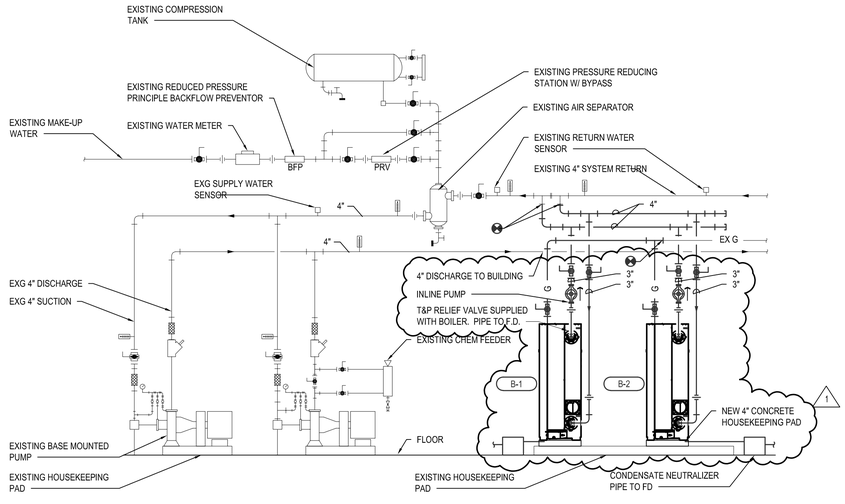


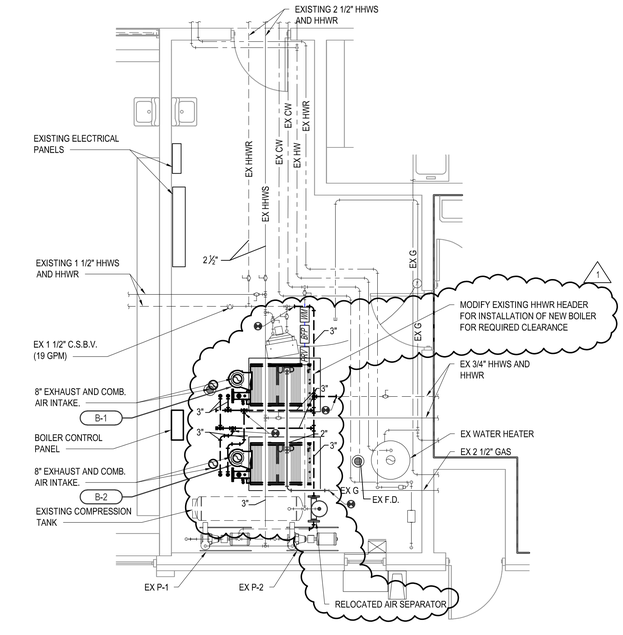
1 L-M3.2 **BOILER PIPING SCHEMATIC - DEMOLITION**
NO SCALE



N **ENLARGED BOILER ROOM MECHANICAL PLAN - DEMO**
SCALE: 1/4" = 1'-0"



2 C-M3.3 **BOILER PIPING SCHEMATIC - REVISIONS**
NO SCALE



N **ENLARGED BOILER ROOM MECHANICAL PLAN**
SCALE: 1/4" = 1'-0"

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BOILER ROOM MECHANICAL PLAN

NO.	DATE	STATUS / REVISIONS
	01/31/2023	50% DESIGN REVIEW
	03/15/2023	ISSUED FOR BIDS
1	04/12/2023	ADDENDUM #1

CHCK'D BY: J. WHEELER
DES'D BY: R. MEYER
DRAWN BY: A. BERZLEY
PROJ #: 21-1719-0435

SHEET
L-M3.2

PRINTED: 4/12/2023 1:51:45 PM

ROOFTOP AIR HANDLING UNIT SCHEDULE (ALT #L1)

SEE -/-

MARK	AREA	SUPPLY FAN			MIN. O.A. CFM	HEATING				COOLING							ELECTRICAL				MODEL
		CFM	E.S.P.	HP		MBH IN	MBH OUT	EAT	LAT	TONS	MBH	AMB. T	EAT D.B.	EAT W.B.	LAT D.B.	LAT W.B.	V/Ø	MCA	FLA	MOP	
RTU-1	MULTI - PURPOSE	5000	0.4	3.0	1500	250	200	62.5	99.3	12.5	148	95°	80°	67°	59°	58°	208/3	60	10.8	80.0	YSH150G3RH

BASED ON TRANE
OPTIONS:
1. NON-FUSED DISCONNECT.
2. BACNET CONTROLS.
3. HINGED ACCESS DOORS WITH LOCKABLE HANDLES.
4. ECONOMIZER.
5. SINGLE POINT POWER CONNECTION.

1

BOILER SCHEDULE

SEE 1/L-M3.2

MARK	TYPE	MBH		VENT DIA "	AIR INLET DIA "	GAS TRAIN ASSEMBLY	V/Ø	FLA	MODEL	REMARKS
		INPUT	OUTPUT							
B-1 & 2	CONDENSING	1500	1440	6"	6"	I.R.I.	115/1	16	BMK-1500	

BASED ON AERCO BENCHMARK WITH FACTORY MOUNTED AND WIRED CIRC PUMP AND NEUTRALIZATION KIT.

SPLIT-SYSTEM OUTDOOR UNIT SCHEDULE

SEE 1/L-M3.1

MARK	AREA	MBH	MCA "	V/Ø	WEIGHT (LBS.)	MODEL	DISCONNECT BY	REMARKS
SS-1	I.T. ROOM	12	11	208/1	103	PUY-A12NKA7	EC	LOW AMBIENT OPERATION

BASED ON MITSUBISHI W/ LOW AMBIENT OPERATION, WALL MOUNTED CONTROLS

SPLIT-SYSTEM INDOOR UNIT SCHEDULE

SEE 1/L-M3.1

MARK	TYPE	AREA	CFM	MBH		INDOOR UNIT		OUTDOOR UNIT			UNIT SIZE		MODEL
				COOLING	HEATING	V/Ø	AMPS	V/Ø	AMPS	MAX FUSE	INDOOR	OUTDOOR	
SS-1	WALL MOUNTED	I.T. ROOM	385	12	N/A	N/A	N/A	208/1	11	15	36" x 9" x 12"	32" x 12" x 25"	PKA-A12LA

BASED ON MITSUBISHI W/ LOW AMBIENT OPERATION, WALL MOUNTED CONTROLS

GRILLES, REGISTERS & DIFFUSERS SCHEDULE

SEE 1/L-M3.1

MARK	MANUFACTURER	MODEL	DESCRIPTION	NECK SIZE	FACE SIZE	FRAME	FINISH	MATERIAL	REMARKS
RR-1	PRICE INDUSTRIES	80 SERIES	EGG CRATE FACE	24"x24"	24"x24"	NF	WHITE	ALUMINUM	
RR-2	PRICE INDUSTRIES	80 SERIES	EGG CRATE FACE	48"x24"	48"x24"	NF	WHITE	ALUMINUM	
TG-1	PRICE INDUSTRIES	20 SERIES	AIRFOIL	30"x16"	32"x18"	NF	WHITE	ALUMINUM	

MECHANICAL SYMBOLS LIST

SYMBOL	DESCRIPTION
AFF	ABOVE FINISH FLOOR
AGA	AMERICAN GAS ASSOCIATION
AHU	AIR HANDLING UNIT
ASME	AMERICAN SOCIETY OF MECH. ENGINEERS
BTUH	BRITISH THERMAL UNITS PER HOUR
CA	COMBUSTION AIR
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
COND	CONDENSATE
C.S.B.V.	CIRCUIT SETTER BALANCE VALVE
CUH	CABINET UNIT HEATER
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
EAR	EXHAUST AIR REGISTER
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRIC CONTRACTOR
EF	EXHAUST FAN
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FPF	FINS PER FOOT
FT.P.D.	FEET OF PRESSURE DROP
FTR	FIN-TUBE RADIATION
G	GAS
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
HP	HORSE POWER
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MC	MECHANICAL CONTRACTOR
OA	OUTSIDE AIR

SYMBOL	DESCRIPTION
RA	RETURN AIR
RAR	RETURN AIR REGISTER
SA	SUPPLY AIR
SAR	SUPPLY AIR REGISTER
S.C.C.V.	SELF CONTAINED CONTROL VALVE
S.P.	STATIC PRESSURE
TCC	TEMPERATURE CONTROL CONTRACTOR
UH	UNIT HEATER
U.L.	UNDERWRITERS LABORATORIES
U.N.O.	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
WH	WATER HEATER
WM	WATER METER
WTD	WATER TEMPERATURE DROP
WTR	WATER TEMPERATURE RISE
	CHECK VALVE
	BALANCE VALVE (CIRCUIT SETTER)
	CONTROL VALVE
	PRESSURE AND TEMPERATURE RELIEF VALVE
	THREE-WAY VALVE
	HOSE END VALVE
	BALL VALVE
	BUTTERFLY VALVE
PRV	PRESSURE REDUCING VALVE
BFP	BACKFLOW PREVENTOR
	UNION
	STRAINER
	MANUAL AIR VENT
FS	FLOW SWITCH
	GAUGE
	THERMOMETER
	CONNECT TO EXISTING
H	HUMIDISTAT
T	THERMOSTAT
	PUMP (INLINE)

MECHANICAL GENERAL NOTES

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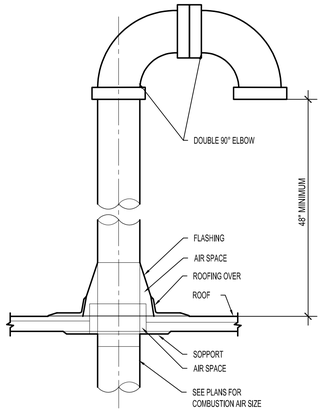
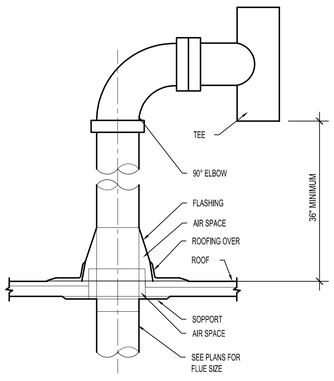
13. ALL ROOF CURBS FOR MECHANICAL EQUIPMENT TO BE MINIMUM 16" ABOVE FINISHED ROOF SURFACE.
14. EQUIPMENT, DUCTS, PIPING, ETC. TO BE SUPPORTED FROM PANEL POINTS OF STRUCTURAL MEMBERS. NO MECHANICAL ITEMS TO BE SUPPORTED FROM DECKING. CONCENTRATED MECHANICAL LOADS TO BE DISTRIBUTED OVER TWO OR MORE JOISTS. CONCENTRATED LOADING ON A SINGLE STRUCTURAL MEMBER IS TO BE AVOIDED.
15. SUPPLY AIR DIFFUSERS MAY BE CONNECTED WITH A MAXIMUM 5 FEET OF INSULATED FLEXIBLE DUCT WHEN DUCT IS CONCEALED. ALL RETURN AIR REGISTERS AND EXHAUST AIR REGISTERS TO BE DUCTED WITH SHEET METAL.
16. NEW THERMOSTATS TO BE LOCATED AT OLD THERMOSTATS' LOCATIONS WHERE POSSIBLE. IF NEW T'STATS ARE NOT IN OLD LOCATIONS, THEN OLD LOCATION IS TO BE REMOVED AND WALL PATCHED TO MATCH EXISTING.
17. MECHANICAL CONTRACTOR TO COORDINATE WITH GENERAL ON REMOVAL, REINSTALLATION, AND PATCHING OF EXISTING CEILINGS WHERE ACCESS IS NEEDED FOR INSTALLATION OF NEW EQUIPMENT, PIPING, ETC.
18. MECHANICAL CONTRACTOR TO COORDINATE WITH OWNER FOR ALL NEW ROOFING WORK TO MAINTAIN EXISTING ROOFING WARRANTY.



1 L-M8.0 COMBUSTION AIR INTAKE TERMINATION
NO SCALE



2 L-M8.0 FLUE VENT TERMINATION
NO SCALE

NOTE: EQUIPMENT LISTED IN SCHEDULES IS NOT TO BE USED FOR THE SOLE PURPOSE OF OBTAINING QUANTITIES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES UTILIZING THESE SCHEDULES AND CAREFUL REVIEW OF LAYOUT DRAWINGS.

WILLIAM A. KIBBE & ASSOCIATES, INC.
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BANGOR SCHOOLS
MECHANICAL UPGRADES
LINCOLN
BAY CITY, MICHIGAN

SCHEDULES AND NOTES

NO.	STATUS / REVISIONS	DATE
	50% OWNER REVIEW	01/31/2023
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

CHCK'D BY: J. WHEELER
DES'D BY: R. MEYER
DRAWN BY: R. MEYER
PROJ #: 21-1719-0435

SHEET
L-M8.0

PRINTED: 4/12/2023 1:52:19 PM

CONTRUCTION KEYNOTES:

SYMBOL	DESCRIPTION
1	PROVIDE 100A NEMA 3R/12 FUSIBLE DISCONNECT SWITCH WITH 80A FUSES FOR LOCAL DISCONNECTING MEANS TO NEW RTU-1. UTILIZE EXISTING CIRCUIT FOR NEW UNIT. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
2	ELECTRICAL CONTRACTOR TO PROVIDE NEW DUCT SMOKE DETECTOR BY SIMPLEX. DUCT SMOKE DETECTOR SHALL BE INSTALLED IN DUCT BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO WIRE DETECTOR TO SHUT DOWN ASSOCIATED UNIT UPON ACTIVATION. UTILIZE EXISTING REMOTE TEST SWITCH AND FIRE ALARM CIRCUIT FOR NEW DUCT SMOKE DETECTOR. COORDINATE INSTALLATION WITH OTHER TRADES.
3	INDOOR UNIT POWERED FROM OUTDOOR UNIT.
4	PROVIDE NEMA 3R/12 LOCAL DISCONNECT FOR NEW OUTDOOR UNIT. UTILIZE EXISTING CIRCUIT FOR POWER CONNECTION. COORDINATE INSTALLATION WITH OTHER TRADES.
5	SALVAGE AND RE-INSTALL EXISTING MAINTENANCE RECEPTACLE AT NEW SPLIT SYSTEM UNIT.
6	ALL WORK ASSOCIATED WITH THE RTU REPLACEMENT SHALL BE ALTERNATE #L1. SEE BID FORM FOR DETAILS.

UNIT B
UNIT A

UNIT B
UNIT A

6
RTU-1
DSD
2
1
1

MDP

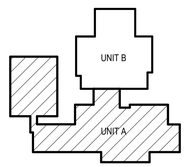
MDP

SM
SM

SEE SHEET L-E4.3 FOR
BOILER ROOM PLANS

UNIT 'A' POWER PLAN

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



KEY PLAN
NOT TO SCALE

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UNIT 'A' POWER PLAN

STATUS / REVISIONS	DATE
ISSUED FOR BIDS	03/30/2023
ADDENDUM #1	04/12/2023

NO.
1

CHCK'D BY: E. MARTER
DES'D BY: B. KUSHION
DRAWN BY: A. FISCHHABER
PROJ #: 21-1719-0435

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L-E4.0

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BRANCH PANEL: LP-E

LOCATION: BOILER ROOM
SUPPLY FROM: MDP
MOUNTING: Recessed
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

A.I.C. RATING:
MAINS TYPE: MLO
MAINS RATING: 100 A

NOTES:
EXISTING PANEL IS SQUARE-D NQOD PANELBOARD

CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	COMP, MOTOR & TIME CLOCK	15 A	1	1080	1920					1	**20 A**	**B-1 BOILER RM A116**	**2**
3	Spare	20 A	1			0	1920			1	**20 A**	**B-2 BOILER RM A116**	**4**
5	Spare	20 A	1					0	0	1	20 A	Spare	6
7	Spare	20 A	1	0	0					1	20 A	Spare	8
9	Spare	20 A	1			0	0			1	20 A	Spare	10
11	HORNS STOP	20 A	1					1080	1340	1	20 A	(2) UV-1 CLRMS 114,115	12
13	Spare	20 A	1	0	540					1	20 A	REC - CLRM 115	14
15	Spare	20 A	1			0	540			1	20 A	REC - CLRM 114	16
17	Spare	20 A	1					0	360	1	20 A	REC - BOILER A116	18
19	Spare	20 A	1	0	180					1	20 A	BOILER CONTROL PANEL	20
21	Spare	20 A	1			0	--			1	--	Space	22
23	TIMECLOCK / PARKING LOT LIGHTS	20 A	2					0	--	1	--	Space	24
25	--	--	--	0	0					1	20 A	Spare	26
27	Space	--	1			--	0			1	20 A	PHONES	28
29	Space	--	1					--	0	1	20 A	A - MAC PANEL	30
31	Space	--	1	--	115					1	20 A	UV - 3 BOILER RM A116	32
33	Space	--	1			--	1920			1	**30 A**	**B-1 BOILER PUMP**	**34**
35	Space	--	1					--	1920	1	**30 A**	**B-2 BOILER PUMP**	**36**
37	P-2 BOILER RM A116 2HP	20 A	3	900	900					1	20 A	P-1 BOILER RM A116	38
39	--	--	--			900	900			--	--	--	40
41	--	--	--					900	900	--	--	--	42
		Total Load:		5635.0 VA		6180.0 VA		6500.0 VA					
		Total Amps:		47 A		52 A		55 A					

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Motor	0.0 VA	0.00%	0.0 VA		
Power	7680.0 VA	100.00%	7680.0 VA	**TOTAL CONN LOAD:**	18315.0 VA
				TOTAL EST DEMAND:	18315.0 VA
				TOTAL CONN CURRENT:	51 A
				TOTAL EST DEMAND CURRENT:	51 A

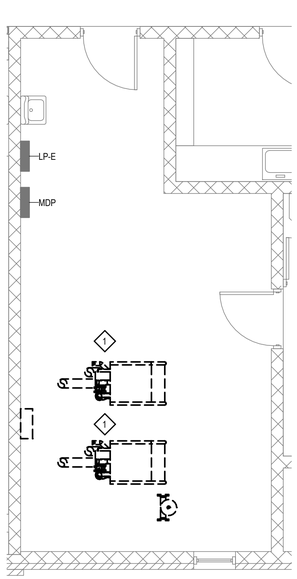
NOTES:

DEMO KEYNOTES:

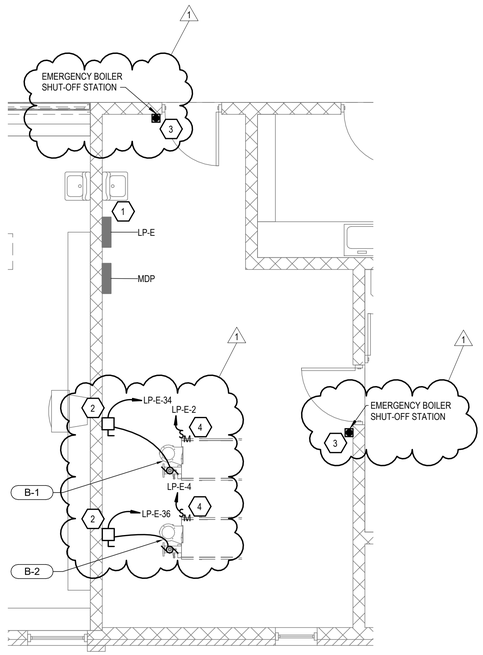
SYMBOL	DESCRIPTION
1	DISCONNECT POWER FROM EXISTING BOILERS. REMOVE ALL CONDUITS AND CONDUCTORS BACK TO SOURCE. COORDINATE DEMOLITION WORK WITH MECHANICAL CONTRACTOR.

CONSTRUCTION KEYNOTES:

SYMBOL	DESCRIPTION
1	PROVIDE 30A/1P BREAKERS FOR POWER TO NEW BOILERS B-1 & B-2. EXISTING PANEL LP-B IS SQUARE-D NQOD PANELBOARD. UTILIZE SPACES IN PANEL FROM EXISTING BOILERS BEING REMOVED.
2	PROVIDE 30A LOCAL DISCONNECT FOR NEW BOILER CIRC. PUMPS B-1 & B-2. PROVIDE #10 AWG CONDUCTORS & #10G FOR CIRCUITING. FIELD VERIFY LOCATION AND COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
3	PROVIDE 30A/1P BREAKERS FOR POWER TO NEW BOILERS B-1 & B-2. EXISTING PANEL LP-B IS SQUARE-D NQOD PANELBOARD. UTILIZE SPACES IN PANEL FROM EXISTING BOILERS BEING REMOVED.
4	PROVIDE LOCAL DISCONNECT SWITCH WITH LOCKOUT HASP FOR NEW BOILERS B-1 & B-2.FIELD VERIFY LOCATION AND COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.



BOILER ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



BOILER ROOM POWER PLAN
SCALE: 1/4" = 1'-0"

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BOILER ROOM POWER & DEMOLITION PLAN

NO.	STATUS / REVISIONS	DATE
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

CHCK'D BY: E. MARTER
DES'D BY: B. KUSHION
DRAWN BY: A. FISCHHABER
PROJ #: 21-1719-0435

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BANGOR TOWNSHIP SCHOOLS

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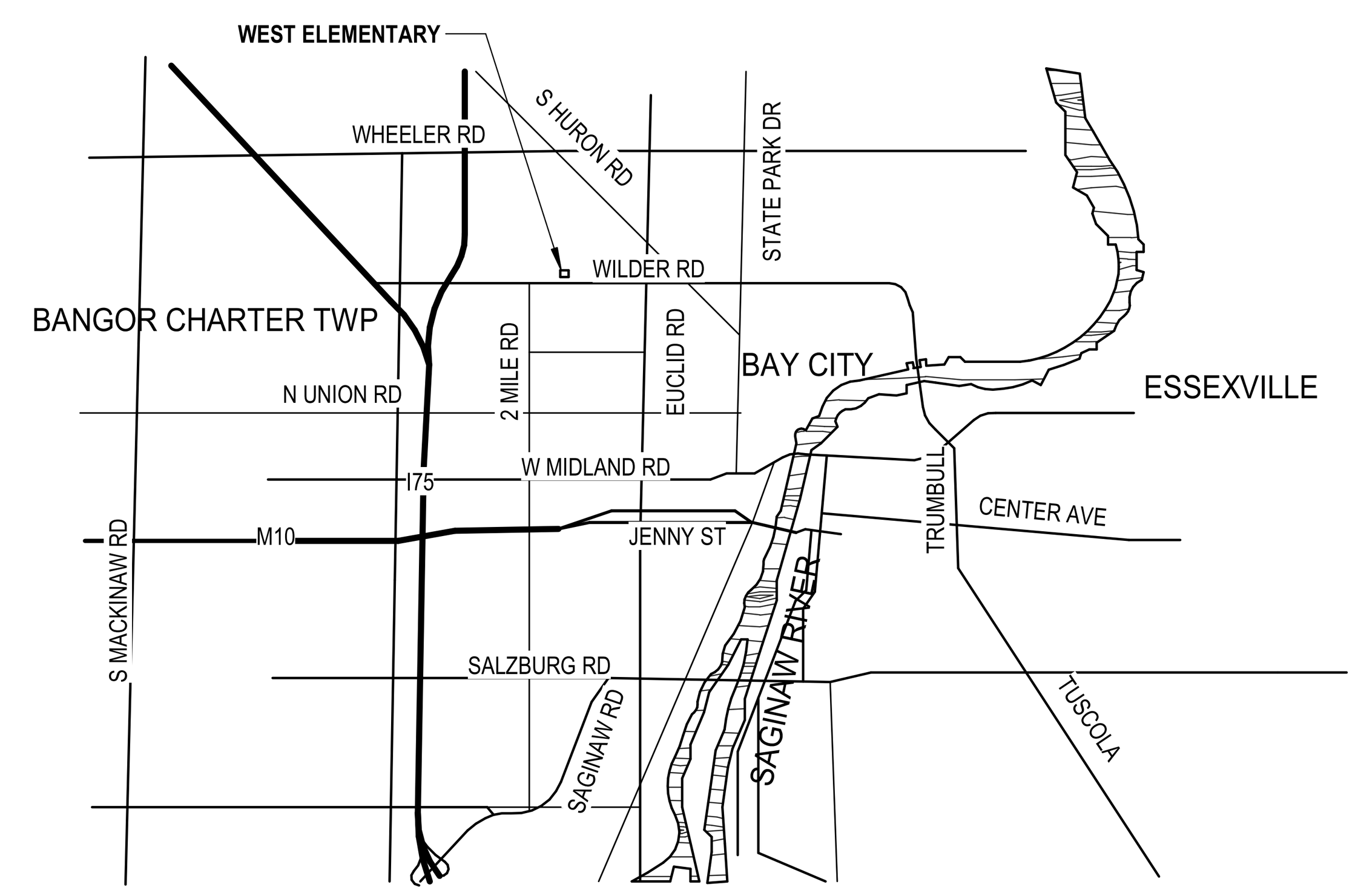
MECHANICAL UPGRADES

3175 E. WILDER ROAD
BAY CITY, MICHIGAN

SHEET INDEX

NUMBER	TITLE	03-30-23 ISSUED FOR BIDS	04-12-23 ADDENDUM #1
GENERAL			
CS	COVER SHEET	X	X
MECHANICAL			
W-M3.0	UNIT 'A' OVERHEAD MECHANICAL PLAN	X	
W-M3.1	UNIT 'B' OVERHEAD MECHANICAL PLAN	X	
W-M3.2	BOILER ROOM MECHANICAL PLAN	X	X
W-M8.0	SCHEDULES, DETAILS, AND NOTES	X	X
ELECTRICAL			
W-E0.0	GENERAL NOTES	X	
W-E4.0	UNIT 'B' POWER PLAN	X	
W-E4.1	BOILER ROOM POWER & DEMOLITION PLAN	X	X
W-E6.0	ONE-LINE DIAGRAM	X	

LOCATION MAP



CONTACT INFORMATION

OWNER / CLIENT:
BANGOR TOWNSHIP SCHOOLS
3359 E. MIDLAND RD
BAY CITY, MI 48706
(989) 684-8121

KURTIS PAKE
FINANCE DIRECTOR
PHONE: (989) 684-8121
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ARCHITECT / ENGINEER:
TYLER MIETZ, P.E.
PROJECT ENGINEER

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WEB: www.kibbe.com

CODE AUTHORITY:
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF CONSTRUCTION CODES/PLAN REVIEW DIVISION
PO BOX 30255
LANSING, MI 48909
(517) 241-9328

MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF FIRE SERVICES/PLAN REVIEW DIVISION
PO BOX 30700
LANSING, MI 48909
(517) 241-8847

811 Know what's **below.** **Call** before you dig.

PROJECT INFORMATION

BUILDING CODE COMPLIANCE
- 2015 MICHIGAN BUILDING CODE (MBC)
- 2018 MICHIGAN PLUMBING CODE (MPC)
- 2015 MICHIGAN MECHANICAL CODE (MMC)
- 2017 NATIONAL ELECTRICAL CODE (NEC)
- 2018 INTERNATIONAL FIRE CODE (IFC)
- 2012 NFPA 101 LIFE SAFETY CODE (LSC)

USE AND OCCUPANCY CLASSIFICATION [CHAPTER 3]
- GROUP E - EDUCATIONAL GROUP

BUILDING HEIGHT AND NUMBER OF STORIES [TBL 504.3, 504.4]
- ALLOWED - 2
- ACTUAL - 1

BUILDING AREA [TBL 506.2]
- ALLOWABLE - 14,400 SFT/ FLR
- ACTUAL - 32,371 SFT

CONSTRUCTION CLASSIFICATION [SEC 602, TBL 601]
- TYPE IIB, II(000)

FIRE RESISTANCE RATING [TBL 601]
- 0 - PRIMARY STRUCTURAL FRAME
- 0 - BEARING WALLS
- 0 - NON BEARING WALLS & PARTITIONS (INTERIOR)
- 0 - NON BEARING WALLS & PARTITIONS (EXTERIOR)
- 0 - FLOOR CONSTRUCTION
- 0 - ROOF CONSTRUCTION

FIRE PROTECTION SYSTEMS [CHAPTER 9]
- NO SPRINKLER SYSTEM

OCCUPANT LOAD [SEC 1004, TBL 1004.1.2]
- NO CHANGE

CORRIDORS [SEC 1020, TBL 1020.1]
- 1HR RATING

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BAY CITY, MICHIGAN

COVER SHEET

NO.	STATUS / REVISIONS	DATE
	ISSUED FOR BIDS	03/30/2023
	ADDENDUM #1	04/12/2023

CHCK'D BY: T. MIETZ
DES'D BY: R. MEYER
DRAWN BY: A. BERZLEY
PROJ #: 21-1719-0435

SHEET
CS

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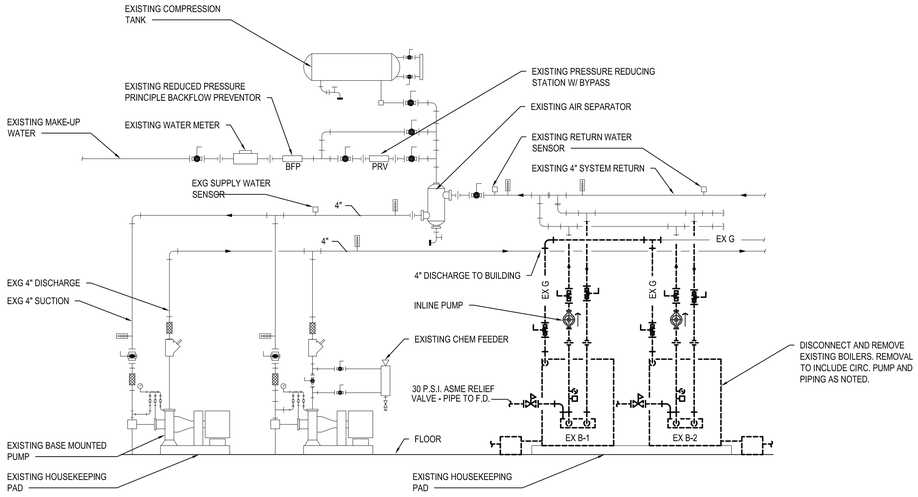
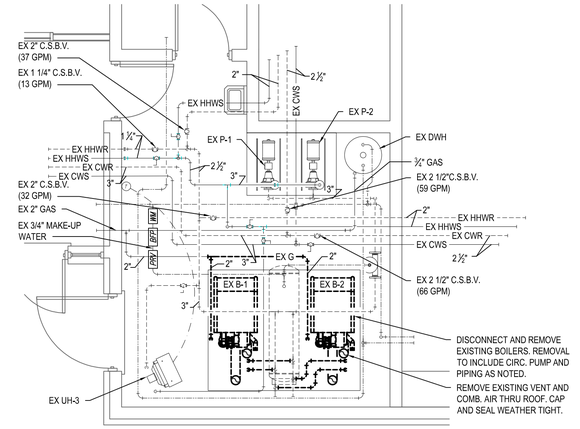


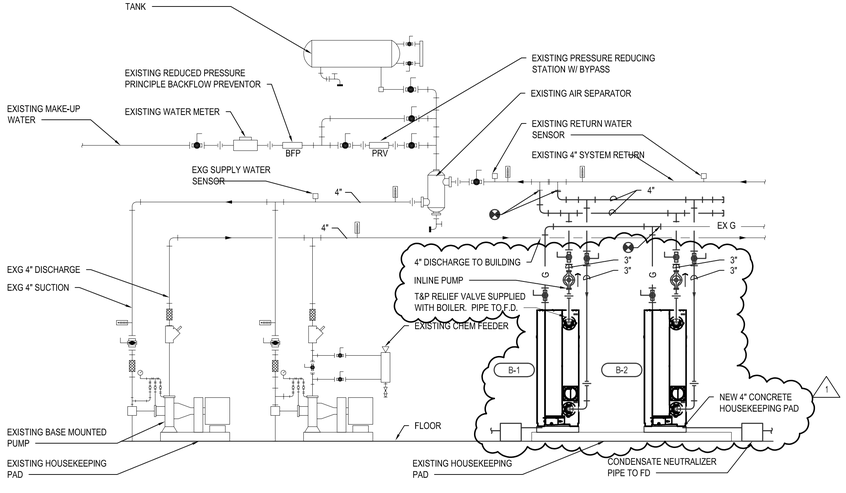
1 W-M3.2 BOILER PIPING SCHEMATIC - DEMOLITION

NO SCALE



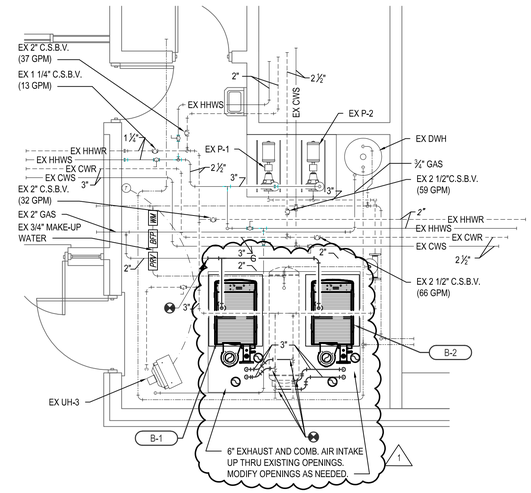
N EXISTING BOILER ROOM B122 MECHANICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"



2 C-M3.3 BOILER PIPING SCHEMATIC - REVISIONS

NO SCALE



N EXISTING BOILER ROOM B122 MECHANICAL RENOVATION PLAN

SCALE: 1/4" = 1'-0"

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BOILER ROOM PLAN - ENLARGED

NO.	STATUS / REVISIONS	DATE
	50% OWNER REVIEW	01/31/2023
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

CHCK'D BY: J. WHEELER
DES'D BY: R. MEYER
DRAWN BY: A. BERZLEY
PROJ #: 21-1719-0435

SHEET
W-M3.2

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BOILER SCHEDULE

SEE 1/LM3.3

MARK	TYPE	MBH INPUT	MBH OUTPUT	VENT DIA "	AIR INLET DIA "	GAS TRAIN ASSEMBLY	V/Ø	FLA	MODEL	REMARKS
B-1 & 2	CONDENSING	1500	1440	6"	6"	I.R.I.	115/1	16	BMK-1500	

1 BASED ON AERCO BENCHMARK WITH FACTORY MOUNTED AND WIRED CIRC PUMP AND NEUTRALIZATION KIT.

GRILLES, REGISTERS & DIFFUSERS SCHEDULE

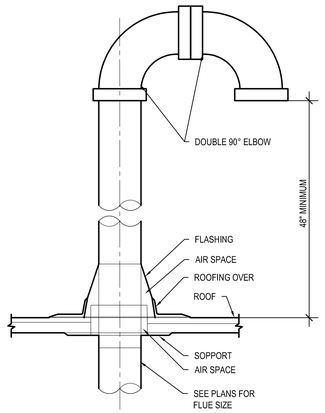
SEE 1/LM3.1

MARK	MANUFACTURER	MODEL	DESCRIPTION	NECK SIZE	FACE SIZE	FRAME	FINISH	MATERIAL	REMARKS
RR-1	PRICE INDUSTRIES	80 SERIES	EGG CRATE FACE	24"x24"	24"x24"	NF	WHITE	ALUMINUM	
RR-2	PRICE INDUSTRIES	80 SERIES	EGG CRATE FACE	48"x24"	48"x24"	NF	WHITE	ALUMINUM	

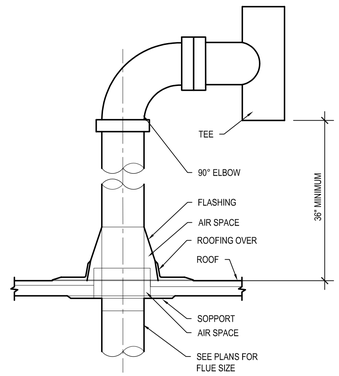
INTAKE HOOD SCHEDULE

SEE 1/LM3.1

MARK	MANUFACTURER	MODEL	SERVING	OA CFM	ESP	THROAT VELOCITY	CURB	REMARKS
IH-1	GREENHECK	GRSI-10	LAB	400	0.05	702 FPM	14"	



1 W-M8.0 COMBUSTION AIR INTAKE TERMINATION
NO SCALE



2 W-M8.0 FLUE VENT TERMINATION
NO SCALE

MECHANICAL SYMBOLS LIST

SYMBOL	DESCRIPTION
AFF	ABOVE FINISH FLOOR
AGA	AMERICAN GAS ASSOCIATION
AHU	AIR HANDLING UNIT
ASME	AMERICAN SOCIETY OF MECH. ENGINEERS
BTUH	BRITISH THERMAL UNITS PER HOUR
CA	COMBUSTION AIR
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
COND	CONDENSATE
C.S.B.V.	CIRCUIT SETTER BALANCE VALVE
CUH	CABINET UNIT HEATER
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
EAR	EXHAUST AIR REGISTER
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRIC CONTRACTOR
EF	EXHAUST FAN
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FPF	FINS PER FOOT
FT.P.D.	FEET OF PRESSURE DROP
FTR	FIN-TUBE RADIATION
G	GAS
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HHWR	HEATING HOT WATER RETURN
HHWS	HEATING HOT WATER SUPPLY
HP	HORSE POWER
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MC	MECHANICAL CONTRACTOR
OA	OUTSIDE AIR

SYMBOL	DESCRIPTION
RA	RETURN AIR
RAR	RETURN AIR REGISTER
SA	SUPPLY AIR
SAR	SUPPLY AIR REGISTER
S.C.C.V.	SELF CONTAINED CONTROL VALVE
S.P.	STATIC PRESSURE
TCC	TEMPERATURE CONTROL CONTRACTOR
UH	UNIT HEATER
U.L.	UNDERWRITERS LABORATORIES
U.N.O.	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
WH	WATER HEATER
WM	WATER METER
WTD	WATER TEMPERATURE DROP
WTR	WATER TEMPERATURE RISE
	CHECK VALVE
	BALANCE VALVE (CIRCUIT SETTER)
	CONTROL VALVE
	PRESSURE AND TEMPERATURE RELIEF VALVE
	THREE-WAY VALVE
	HOSE END VALVE
	BALL VALVE
	BUTTERFLY VALVE
PRV	PRESSURE REDUCING VALVE
BFP	BACKFLOW PREVENTOR
	UNION
	STRAINER
	MANUAL AIR VENT
FS	FLOW SWITCH
	GAUGE
	THERMOMETER
	CONNECT TO EXISTING
H	HUMIDISTAT
T	THERMOSTAT
	PUMP (INLINE)

MECHANICAL GENERAL NOTES

1. ALL WORK TO COMPLY WITH ALL APPLICABLE STATE, FEDERAL, AND LOCAL CODES AND ORDINANCES
2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDDING.
3. SEAL ALL DUCT JOINTS.
4. PROVIDE ACCESS PANELS TO ALL VALVES, DAMPERS, TRAPS, FILTERS, EQUIPMENT, ETC.
5. COORDINATE LOCATION OF ALL CEILING DIFFUSERS, REGISTERS, AND CEILING MOUNTED EQUIPMENT WITH THE REFLECTED CEILING PLAN.
6. DUCT SIZES NOTED REPRESENT NET FREE INTERIOR DIMENSIONS.
7. PROVIDE BALANCE DAMPERS IN EACH SUPPLY AND EXHAUST DUCT BRANCH.
8. ALL ROUND DUCTWORK TO BE SPIRAL TYPE UNLESS NOTED OTHERWISE.
9. HEATING PIPING TO BE MINIMUM 3/4" DIAMETER.
10. VERIFY MOUNTING HEIGHTS OF WALL CAPS AND LOUVERS WITH ARCHITECTURAL DRAWINGS.
11. ALL VALVES SHOWN ON FLOOR PLANS ARE IN ADDITION TO ALL VALVES SHOWN ON PIPING SCHEMATICS.
12. REFER TO PIPING SCHEMATIC DETAILS FOR UNIONS, VALVES, AIR VENTS, THERMOMETERS, ETC. REQUIRED AT SPECIFIC PIECES OF EQUIPMENT.
13. ALL ROOF CURBS FOR MECHANICAL EQUIPMENT TO BE MINIMUM 16" ABOVE FINISHED ROOF SURFACE.
14. EQUIPMENT, DUCTS, PIPING, ETC. TO BE SUPPORTED FROM PANEL POINTS OF STRUCTURAL MEMBERS. NO MECHANICAL ITEMS TO BE SUPPORTED FROM DECKING. CONCENTRATED MECHANICAL LOADS TO BE DISTRIBUTED OVER TWO OR MORE JOISTS. CONCENTRATED LOADING ON A SINGLE STRUCTURAL MEMBER IS TO BE AVOIDED.
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BANGOR SCHOOLS MECHANICAL UPGRADES

WEST
BAY CITY, MICHIGAN

SCHEDULES, DETAILS, AND NOTES

NO.	STATUS / REVISIONS	DATE
	50% OWNER REVIEW	01/31/2023
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

CHCK'D BY: J. WHEELER
DES'D BY: R. MEYER
DRAWN BY: A. BERZLEY
PROJ #: 21-1719-0435

SHEET
W-M8.0

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BRANCH PANEL: LP-B

LOCATION: BOILER ROOM
SUPPLY FROM: MDP
MOUNTING: Recessed
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

A.I.C. RATING:
MAINS TYPE: MLO
MAINS RATING: 225 A

NOTES:
EXISTING PANEL - SQUARE D NQOD PANELBOARD

CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	BOILER ROOF REC	20 A	1	540	0					1	20 A	SPARE	2
3	Spare	20 A	1			0	1920			1	20 A	**B-1 BOILER**	4
5	UH-3 BOILER ROOM	20 A	1					180	1920	1	20 A	**B-2 BOILER**	6
7	B-3 BLOW COIL TEACH LOUNGE	20 A	1	828	1272					3	20 A	P-1 HOT WTR CIRC PUMP 3.0H.P.	8
9	SS-1 EVAP UNIT STOR / HEAD END	20 A	1			115	1272			--	--	--	10
11	SS-1 COND UNIT STORE / HEAD END	20 A	2					1144	1272	--	--	--	12
13	--	--	--	1144	1272					3	20 A	P-2 HOT WTR CIRC PUMP 3.0H.P	14
15	ROOFTOP REC BY SS-1	20 A	1			180	1272			--	--	--	16
17	UNIT VENT SPEC. ED & CLRM B118	20 A	1					1334	1272	--	--	--	18
19	UNIT VENT CLRM 116 & 117	20 A	1	1334	1300					3	20 A	RTU-2A ADMINISTRATION 13.0MCA	20
21	Spare	20 A	1			0	1300			--	--	--	22
23	BOILER ROOM REC	20 A	1					180	1300	--	--	--	24
25	SPARE	20 A	1	0	7300					3	80 A	RTU-1 GYM ROOF TOP	26
27	**B-1 BOILER PUMP**	**30 A**	**1**			1920	7300			--	--	--	28
29	**B-2 BOILER PUMP**	**30 A**	**1**					1920	7300	--	--	--	30
31	Space	--	1	--	--					1	--	Space	32
33	Space	--	1			--	--			1	--	Space	34
35	Space	--	1					--	--	1	--	Space	36
37	Space	--	1	--	--					1	--	Space	38
39	Space	--	1			--	--			1	--	Space	40
41	Space	--	1					--	--	1	--	Space	42
		Total Load:		14990.0 VA		15279.0 VA		17822.0 VA					
		Total Amps:		125 A		128 A		149 A					

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Motor	0.0 VA	0.00%	0.0 VA		
Power	7680.0 VA	100.00%	7680.0 VA	**TOTAL CONN LOAD:**	48091.0 VA
				TOTAL EST DEMAND:	48091.0 VA
				TOTAL CONN CURRENT:	133 A
				TOTAL EST DEMAND CURRENT:	133 A

NOTES:

GENERAL DEMOLITION NOTES

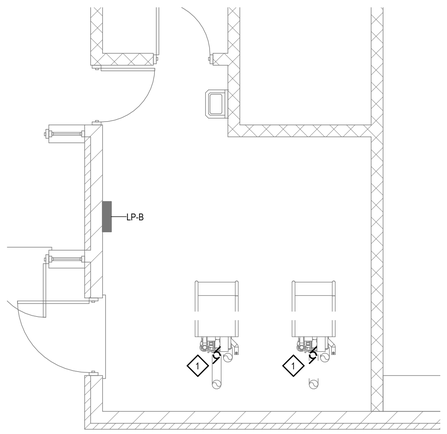
1. NOTES AND GRAPHIC REPRESENTATION SHALL NOTE LIMIT THE EXTENT OF DEMOLITION REQUIRED. ELECTRICAL CONTRACTOR TO PERFORM ALL DEMOLITION REQUIRED TO ACHIEVE THE FINAL DESIGN INTENT AS REQUIRED BY THE CONTRACT DOCUMENTS. EXTENT OF DEMOLITION WORK SHALL INCLUDE, BUT NOT LIMITED TO, REMOVAL OF LIGHT FIXTURES, WIRING DEVICES, CONNECTIONS TO EQUIPMENT, DISTRIBUTION PANELS, AND ALL ASSOCIATED RACEWAY AND WIRING. EXTENT OF DEMOLITION SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.
2. EQUIPMENT AND WIRING TO BE REMOVED SHALL BE DE-ENERGIZED PRIOR TO ANY DEMOLITION WORK.
3. ALL WORK REQUIRED TO REMAIN IN SERVICE, BUT INTERFERES WITH RENOVATIONS, SHALL BE RELOCATED AND RECONNECTED USING MATERIALS AND STANDARDS OF THIS CONTRACT.
4. ELECTRICAL CONTRACTOR SHALL TRACE AND RELOCATE ALL EXISTING FEEDERS AND BRANCH CIRCUITS PASSING THROUGH THE DEMOLITION AREA THAT SERVE EXISTING SPACES TO REMAIN.
5. ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF CIRCUITS FOR EXISTING EQUIPMENT AND DEVICES THAT ARE TO REMAIN. WHEN DEVICES ARE REMOVED AND NOT THE CIRCUIT DEAD END, EXTEND CIRCUIT AS REQUIRED TO MAINTAIN INTEGRITY OF ORIGINAL CIRCUIT.
6. ELECTRICAL EQUIPMENT INDICATED TO BE REMOVED SHALL GET FIRST REFUSAL FROM OWNER AND IS THEN RESPONSIBILITY OF ELECTRICAL CONTRACTOR FOR PROPER DISPOSAL. EQUIPMENT TO BE RE-INSTALLED OR TURNED OVER TO OWNER SHALL BE PLACED IN A MUTUALLY ACCEPTABLE LOCATION.
7. FEEDERS AND BRANCH CIRCUITS TO BE REMOVED: CONDUIT AND SUPPORTS SHALL BE REMOVED TO THE PANEL OF ORIGIN. WIRING SHALL BE REMOVED TO THE PANEL OF ORIGIN. WHERE EMPTY CONDUITS REMAIN, INSTALL PULLSTRING AND IDENTIFY BOTH ENDS.
8. FEEDERS AND BRANCH CIRCUITS TO BE RE-USED: REMOVE CONDUIT AND WIRING TO LOCATIONS WHICH AVOID CONFLICT WITH NEW WORK. INSTALL JUNCTIONS BOX, TAPE OFF CONDUCTORS AND IDENTIFY WITH PANEL AND CIRCUIT NUMBER.
9. PROVIDE BLANK COVER PLATES AT OPEN BOXES WHERE EXISTING RECEPTACLES OR ELECTRICAL DEVICES ARE REMOVED AND NOT INDICATED TO BE REPLACED.
10. UPDATE ALL PANEL SCHEDULES TO REFLECT EQUIPMENT AND CIRCUIT CHANGES OR REMOVALS.
11. FIRE ALARM SYSTEM SHALL REMAIN IN OPERATION DURING BOTH DEMOLITION AND CONSTRUCTION STAGES OF THIS PROJECT.

KEYED DEMOLITION NOTES:

SYMBOL	DESCRIPTION
1	DISCONNET POWER FROM EXISTING BOILERS. REMOVE ALL CONDUITS AND CONDUCTORS BACK TO SOURCE. COORDINATE DEMOLITION WORK WITH MECHANICAL CONTRACTOR.

KEYED CONSTRUCTION NOTES:

SYMBOL	DESCRIPTION
1	PROVIDE 30A/1P BREAKERS FOR POWER TO NEW BOILERS B-1 & B-2. EXISTING PANEL LP-B IS SQUARE-D NQOD PANELBOARD. UTILIZE SPACES IN PANEL FROM EXISTING BOILERS BEING REMOVED.
2	PROVIDE 30A LOCAL DISCONNECT FOR NEW BOILER CIRC PUMPS B-1 & B-2. PROVIDE #10 AWG CONDUCTORS & #10G FOR CIRCUITING. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
3	PROVIDE EMERGENCY SHUTDOWN SWITCH FOR NEW BOILERS. E-STOP SHALL BE WIRED TO BOILER CONTROL CIRCUIT TO SHUTDOWN ALL BOILERS UPON ACTIVATION. E-STOPS SHALL BE PILLA PART NO. BSD120 WITH PILCLHCOV1 COVER OR EQUAL. COORDINATE FINAL LOCATION WITH AHJ PRIOR TO INSTALLATION.
4	PROVIDE LOCAL DISCONNECT SWITCH WITH LOCKOUT HASP FOR NEW BOILERS B-1 & B-2. FIELD VERIFY LOCATION AND COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.



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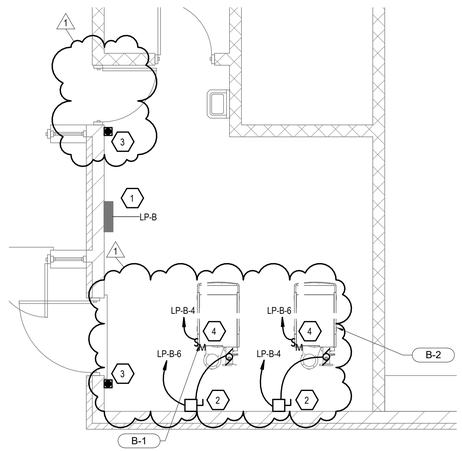
BOILER ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



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BOILER ROOM POWER PLAN
SCALE: 1/4" = 1'-0"

UMA
WILLIAM A. KIBBE & ASSOCIATES, INC.
ENGINEERS | ARCHITECTS | SURVEYORS

BANGOR TOWNSHIP SCHOOLS
WEST ELEMENTARY
MECHANICAL UPGRADES
BAY CITY, MICHIGAN

BOILER ROOM POWER & DEMOLITION PLAN

NO.	STATUS / REVISIONS	DATE
	ISSUED FOR BIDS	03/30/2023
1	ADDENDUM #1	04/12/2023

CHCK'D BY: E. MARTER
DES'D BY: B. KUSHION
DRAWN BY: A. FISCHHABER
PROJ #: 21-1719-0435

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