

ATTACHMENT IX-B

ATTACHMENT IX-B: District HVAC Update

Potential motion: Approve the Upper Elementary Boilers be added to the scope of the HVAC work currently being done by Greg Stahler.

Recommended action: Approve the motion

Our maintenance department has been inspecting and repairing all boilers across the district as we get ready to go into winter. After inspection of the boiler at the Upper Elementary it was determined there are cracked heat exchangers and wear that has brought them to end of life. The boilers can be repaired to get us through the year and the short term, but the long-term solution is to replace the boilers. These boilers are original to the building.

**Capron Elementary School**

Description	Quantity	Unit Cost (2021)	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
<b>Existing / Replacement Equipment</b>										
Boilers (B-1, B-2)	2	---	---	50	24	---	---	---	---	---
Boilers (B-3)	1	---	---	50	24	---	---	---	---	---
Unit Heater	1	\$10,000	\$10,000	20	0	---	---	\$10,000	---	---
Classroom Unit Vents	22	\$10,000	\$220,000	20	0	\$220,000	---	---	---	---
Fan Coils	2	\$5,000	\$10,000	?	?	---	---	\$10,000	---	---
Controls (Existing units)	15	\$3,000	\$45,000	---	---	\$45,000	---	---	---	---
Electrical	1	\$30,000	\$30,000	---	---	\$30,000	---	---	---	---
<b>New Equipment / Systems</b>										
Relief Systems	24	\$5,000	\$120,000	---	---	\$120,000	---	---	---	---
Building Management System	1	\$30,000	\$30,000	---	---	---	---	\$30,000	---	---
Rooftop Units	2	\$150,000	\$300,000	---	---	---	\$300,000	---	---	---
VRF System (Office Areas)	1	\$40,000	\$40,000	---	---	---	---	\$40,000	---	---
Electrical	1	\$30,000	\$30,000	---	---	---	\$15,000	\$15,000	---	---
Window A/C Units				---	---	---	---	---	---	---
CUV Condenser Units	22	\$5,000	\$110,000	---	---	---	---	---	\$110,000	---
<b>Total</b>			<b>\$945,000</b>		---	<b>\$415,000</b>	<b>\$315,000</b>	<b>\$105,000</b>	<b>\$110,000</b>	<b>\$0</b>

**Manchester Elementary School**

Description	Quantity	Unit Cost (2021)	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
<b>Existing / Replacement Equipment</b>										
Boilers (B-1 / B-2)	2	---	---	50	24	---	---	---	---	---
Unit Heaters	2	\$15,000	\$30,000	20	0	---	---	---	\$30,000	---
AHU (Gymnasium)	1	\$60,000	\$60,000	40	0	---	---	\$60,000	---	---
Classroom Unit Vents (CUV-1, CUV-2)	9	\$10,000	\$90,000	20	0	\$90,000	---	---	---	---
Classroom Unit Vents (CUV-3)	1	\$10,000	\$10,000	20	7	---	---	---	\$10,000	---
Controls (Existing units)	18	\$3,000	\$54,000	---	---	\$54,000	---	---	---	---
Electrical	1	\$20,000	\$20,000	---	---	\$20,000	---	---	---	---
<b>New Equipment / Systems</b>										
Classroom Unit Vents (CUV)	4	\$15,000	\$60,000	---	---	---	\$60,000	---	---	---
Relief Systems	9	\$5,000	\$45,000	---	---	\$45,000	---	---	---	---
Building Management System	1	\$20,000	\$20,000	---	---	---	\$20,000	---	---	---
Office VRF system	1	\$40,000	\$40,000	---	---	---	---	\$40,000	---	---
Condensing Unit (Gymnasium)	1	\$40,000	\$40,000	---	---	---	---	---	\$40,000	---
Electrical	1	\$30,000	\$30,000	---	---	\$10,000	\$10,000	\$10,000	---	---
Window A/C Units										
CUV Condenser Units	13	\$5,000	\$65,000	---	---	---	---	---	\$65,000	---
<b>Total</b>			<b>\$564,000</b>		---	<b>\$219,000</b>	<b>\$90,000</b>	<b>\$110,000</b>	<b>\$145,000</b>	<b>\$0</b>
			(Rounded \$1,000)							

**North Boone Middle School**

Description	Quantity	Unit Cost 2021	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
<b>Existing / Replacement Equipment</b>										
Boilers (B-1 / B-2)	2	---	---	50	24	---	---	---	---	---
Unit Heaters	2	\$10,000	\$20,000	20	0	---	---	\$20,000	---	---
AHU (Gymnasium)	2	\$60,000	\$120,000	40	15	---	---	---	---	\$120,000
AHU (Tech Room)	1	\$60,000	\$60,000	20	8	---	---	\$60,000	---	---
Condensing Unit (CU-1)	1	\$40,000	\$40,000	20	8	---	---	---	---	\$40,000
Classroom Unit Vents (CUV-1)	26	\$10,000	\$260,000	20	5	\$260,000	---	---	---	---
Classroom Unit Vents (CUV-2) Science	2	\$15,000	\$30,000	25	12	---	---	---	---	\$30,000
Electrical	1	\$30,000	\$30,000	---	---	\$30,000	---	---	---	---
<b>New Equipment / Systems</b>										
Relief Systems	26	\$5,000	\$130,000	---	---	\$130,000	---	---	---	---
Building Management System	1	\$30,000	\$30,000	---	---	---	---	---	\$30,000	---
Office VRF system	1	\$40,000	\$40,000	---	---	---	---	\$40,000	---	---
Rooftop Units (Gymnasium)	2	\$160,000	\$320,000	---	---	---	---	---	\$320,000	---
Controls	1	\$30,000	\$30,000	---	---	---	\$30,000	---	---	---
Electrical	1	\$40,000	\$40,000	---	---	---	\$40,000	---	---	---
Window A/C Units										
CUV Condenser Units	28	\$5,000	\$140,000	---	---	---	---	---	\$140,000	---
<b>Total</b>			<b>\$1,290,000</b>			<b>\$420,000</b>	<b>\$70,000</b>	<b>\$120,000</b>	<b>\$490,000</b>	<b>\$190,000</b>

**Poplar Grove Elementary School**

Description	Quantity	Unit Cost 2021	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
<b>Existing / Replacement Equipment</b>										
Boilers (B-1)	1	---	---	50	25	---	---	---	---	---
Boilers (B-2)	1	\$90,000	\$90,000	20	8	---	---	---	---	\$90,000
Boilers (B-3)	1	---	---	40	40	---	---	---	---	---
Classroom Unit Vents (CUV-1)	8	\$10,000	\$80,000	20	0	\$80,000	---	---	---	---
Classroom Unit Vents (CUV-2)	4	\$10,000	\$40,000	20	8	---	---	---	\$40,000	---
RTU's	7	\$20,000	\$140,000	20	8	---	---	---	\$140,000	---
AHU's (Gymnasium)	2	\$70,000	\$140,000	40	0	---	---	\$140,000	---	---
Condensing Units (CU)	3	\$5,000	\$15,000	20	8	---	---	---	\$15,000	---
Building Controls (Existing units)	15	\$2,000	\$30,000	---	---	\$30,000	---	---	---	---
Electrical	1	\$10,000	\$10,000	---	---	\$10,000	---	---	---	---
<b>New Equipment / Systems</b>										
Relief Systems	8	\$5,000	\$40,000	---	---	\$40,000	---	---	---	---
Condensing Unit (Gymnasium)	2	\$20,000	\$40,000	---	---	---	---	\$40,000	---	---
Electrical	1	\$10,000	\$10,000	---	---	\$10,000	---	---	---	---
Window A/C Units										
CUV Condenser Units	8	\$5,000	\$40,000	---	---	---	---	---	\$40,000	---
<b>Total</b>			<b>\$675,000</b>			<b>\$170,000</b>	<b>\$0</b>	<b>\$180,000</b>	<b>\$235,000</b>	<b>\$90,000</b>

**Upper Elementary School**

Description	Quantity	Unit Cost 2021	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
<b>Existing / Replacement Equipment</b>										
Boilers (B-1 / B-2)	2	\$125,000	\$250,000	40	15	---	---	---	---	\$250,000
AHU (Art Rooms) AHU-1	1	\$15,000	\$15,000	40	15	---	---	---	---	\$15,000
AHU (Gymnasium) (AHU-2)	1	\$140,000	\$140,000	40	15	---	---	---	---	\$140,000
AHU (Classroom Addition) (AHU-4)	1	\$100,000	\$100,000	40	15	---	---	---	---	\$100,000
AHU (Offices) (AHU-5)	1	\$65,000	\$65,000	40	15	---	---	---	---	\$65,000
RTU (Classroom Addition) RTU-1	1	\$75,000	\$75,000	20	5	---	---	---	\$75,000	---
Condensing Units (Art Rooms) (CU-1)	1	\$10,000	\$10,000	20	0	---	---	\$10,000	---	---
Condensing Units (Offices) (CU-2)	1	\$80,000	\$80,000	20	0	---	---	\$80,000	---	---
<b>New Equipment / Systems</b>										
Building Management System	1	\$240,000	\$240,000	---	---	---	---	---	\$240,000	---
<i>Window A/C Units</i>										
RTU	1	\$170,000	\$170,000	---	---	---	---	---	\$170,000	---
Chiller	1	\$330,000	\$330,000	---	---	---	---	---	\$330,000	---
Coils (4) / Pumps (1) / Piping	1	\$120,000	\$120,000	---	---	---	---	---	\$120,000	---
Electrical	1	\$30,000	\$30,000	---	---	---	---	---	\$30,000	---
<b>Total</b>			<b>\$1,625,000</b>			<b>\$0</b>	<b>\$0</b>	<b>\$90,000</b>	<b>\$965,000</b>	<b>\$570,000</b>