Wheaton School District CUSD 200

Improvement List

October 23, 2023

Scope Item	Improvement Summary	Total Cost	Estimated Rebate	Annual Energy Savings	Annual Maintenance Savings	Annual Operational Savings (Cost Avoidance)	Payback
Bower Elementary School							
BES-1	**Gym Cooling Addition**	**$528,329**	**$398**	**$189**	**$1,080**	**$52,833**	**9.8**
	This ECM upgrades the existing 2 heating only Gym RTUs , with new heating and cooling RTUs. Demand control ventilation controls will provide energy savings to ensure proper ventilation for improved indoor air quality. * Replace existing (3) RTUs serving Gym with new in same location. Existing roof curb to remain and curb cap to be modified as required for installation. * Reconnect to existing ductwork and modify as required to make new connection * Replace existing breakers in main electrical room with new 90A breaker and provide dedicated power to each unit. * Provide new controls to integrate to BAS. * $30,000 included for ODA						
Wiesbrook Elementary School							
WES-1	**Mechanical and Plumbing Infrastructure Upgrades**	**$4,114,607**	**$14,180**	**$10,224**	**$6,840**	**$411,461**	**9.6**
	This scope items replaces old boilers and increases their efficiency, allows the hydronic pumping system to modulate to match the building load and save energy, adds ducted vertical classroom units which improve comfort and air distribution, upgrades all of the old AHUs, replaces and aging chiller and replaces casework. This scope item also replaces ceilings and retrofits specialty lighting and replaces the lay-in lighting throughout the building. * Replace (3) existing 1.5 million BTU input boilers with (2) new 2.5 million input BTU high efficiency condensing boilers for N+1 redundancy. * Demolish (3) existing boiler primary pumps. Install (3) new boiler primary pumps. * Replace (2) existing secondary building pumps with (2) new secondary building pumps. Install (2) new variable frequency drives (VFDs) - one per pump. * Replace (1) existing chiller pump with (1) new chiller pump. Install (1) new variable frequency drive (VFDs) - one per pump. * Replace central plant hydronic accessories including side stream filter, chemical feeder, and air separator. * Replace old horizontal classroom unit ventilators with (21) new vertical ducted classroom unit ventilators. * Refurbish (1) air handling units (AHUs) including replacing fan motors, installing VFDs, replacing coil pumps, and replacing coils. Existing ductwork to remain. * Replace existing (8) fan coil units, finned tube radiation, convectors, and cabinet heaters with new. * Replace existing (22)roof-mounted exhaust fans and install new AHU relief fans. * HVAC system will remain a 2-pipe change-over system. * Install new direct digital controls on new mechanical equipment listed in scope item. * Install new Tridium web accessible energy management system to operate controls on noted scope in the school district. Include new scheduling, trending, alarms, and graphics for the HVAC systems. Install JACE panel in the * Replace old cabinetry along exterior walls in classrooms with new cabinetry * Replace existing 110 ton chiller with new chiller of approximately the same size. New chiller will be similar type and will be in the same location as existing with a remote condensing unit located outdoors. * Replace existing chiller primary pump with new chiller primary pump. * Replace (1) VAV heating water system pump * Replace (9) duct mounted heating coils with (9) new VAVs with hot water reheat * Replace (13) VAVs with hot water reheat * Repalce (3) cooling only RTUS * Replace (1) existing water heater and associated hot water recirculation pump * $70,000 included for ODA						
Wiesbrook Elementary School							
WES-2	**Wiesbrook Lighting Upgrades**	**$533,461**	**$11,260**	**$7,140**	**$4,680**	**$53,346**	**8.0**
	This scope items replaces old boilers and increases their efficiency, allows the hydronic pumping system to modulate to match the building load and save energy, adds ducted vertical classroom units which improve comfort and air distribution, upgrades all of the old AHUs, replaces and aging chiller and replaces casework. This scope item also replaces ceilings and retrofits specialty lighting and replaces the lay-in lighting throughout the building. * Replace existing 2x4 ceiling tiles with new 2x2 ceilings tiles and additional required T-bar and ceiling suspension. * Provide new occupancy sensors within classroom spaces. * Retrofit existing specialty lighting with new LED kits that utilize the existing housing while providing a visibly new finish in the space. * Replace existing lay-in 2x4 lighting with new 2x2 LED lighting providing a visibly new finish in the space.						
	Total for Wiesbrook Elemntary School						

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Hubble Middle School							
HMS-1	**Boiler Replacements**	**$477,248**	**$22,000**	**$736**	**$2,160**	**$50,092**	**8.6**
	This scope items replaces old boilers and increases their efficiency. * Remove three (3) existing boilers in the main boiler room. * Add DDC control valves on all three (3) boiler loops on existing valves and interlock to existing controls system and pumps. * Install three (3) new high efficiency boilers and connect into existing boiler primary loop, combustion air and boiler flue. * Commission boiler plant for three (3) new boilers to work with one (1) existing boiler. * Integrate three (3) new boilers to existing controls system.						
	TOTAL FOR ALL IMPROVEMENTS	**$5,653,645**	**$47,838**	**$18,290**	**$14,760**	**$567,732**	
Owner-Directed Allowance							
ODA-1	**Total Recommended Owner Allowance**	**$100,000**					
	* This Owner-Directed Allowance is recommended for the replacement of any failed or broken devices (i.e. sensors, valves, dampers, actuators, etc.) or equipment not included in this project as they are discovered in the field during construction. It is recommended for any other items that are discovered during construction that the district would like to address. This ODA is also in place in case Nicor requires any gas service or meter upgrades. * Owner has full control / authority to disperse these funds at its discretion * **This Owner-Directed Allowance is included in the project costs of the above scope items**						
	Total for ODA	**$100,000**					

NOTES:

1. Costs are inclusive of engineering, project management, commissioning, bond, and warranty.
2. Prices are valid for projects constructed in 2023. If construction occurs after 2023, prices are subject to change.
3. information is obtained.
4. PSI does not take responsibility for existing-to-remain piping. PSI is not responsible for the condition of existing equipment, piping, valves, or sheet metal ductwork not being replaced under this project.
5. Owner will be responsible for removal and replacement of loose furniture/equipment from rooms to allow installation of new systems.
6. Operational Savings are Cost Avoidance Savings which represent annual capital dollars that would need to be budgeted over 10 years to install the improvement item.
7. Annual Maintenance Savings represent estimated reduced maintenance costs as a result of replacing equipment & systems. Savings estimates are based on historical ASHRAE data.
8. Utility rebates/incentives are estimates based on the program currently available from the district's utility companies. These programs and thus the amount of the rebate/incentive are subject to change.
9. Utility savings are based upon the utility bills and cost rates (electricity and natural gas) given to PSI by the owner.
10. All maintenance and service shall be performed in strict accordance with the manufacturers recommendations. Owner will be responsible for maintaining water treatment after project completion.
11. The school district shall provide remote access to monitor/ program the school district BAS system. The school shall provide IT network access to access JACE panels and PSI software.
12. PSI assumes the customer's IP network has the capacity needed to accommodate the new control system. Costs are not included for additional patch panels, network switches, virtual server, or configuring remote access. These are presumed to be provided by the customer and coordinated with PSI's project
13. PSI's scope of work includes integrating the VRF controls at the Elementary Schools in the scope items above into the new Building Automation System (BAS). PSI is NOT responsible for any VRF equipment nor the operation of any VRF equipment, hardware, or controls. PSI's scope of work does NOT include fixing or

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