

HKHS Energy Project Conclusion

Submitted by Jen Favalora, RSD 17 Board of Education

In 2016, the RSD 17 Board of Education brought to the residents of Haddam and Killingworth recommendations to address critical infrastructure needs at the High School. HKHS was a well maintained building, however the original 1974 roof and boilers had outlasted their expected lives and needed replacement. Additionally, the 45-year-old Auditorium was in dire need of upgrades to replace many broken or damaged seats, an unsafe stage, and provide ADA compliance for wheel chair access. Lastly, throughout the campus, energy conservation updates were needed. The lighting would be changed to LED, and Photovoltaic Panel Fields would be added to the roof in order to generate energy. The community voted in December 2016 to approve the projects mentioned.

In January 2017, a community-led Public Building Committee was formed by the BoE including Chairman, Tom Hogerty, and members Eric Couture, Joanne Nesti, Colleen Fitzpatrick, Karen Perry, Sue Williams, Bill Leahy, Robert Braren, Chip Frey, and Rob Albert. For nearly three years, the committee worked, often meeting weekly, with the Project Manager, Architects and Construction professionals to oversee the design, planned construction, installation and completion of the project.

The multi-faceted venture took place in stages with the roof renovated first, allowing time to identify and address potential problems such as leaks. A Firestone Rubber Roof was selected, and the project included raising all of the air handlers, adding penthouse flashing work, installing extra ladders and replacing the complete field house window wall. Silk Town Roofing was chosen as the lead contractor for the roof and completed the project on-time and under budget during the summer of 2017.

In the summer of 2018, work began on the rest of the proposal. Renovations to the auditorium included new seating, carpeting, epoxy flooring, and stage sound dampening. The space was brought up to code with ADA bridge access and a new wheelchair lift. The auditorium stage curtains were removed and replaced, and three existing tracks were upgraded with machines for motorized operation. A lighting control booth was added and the walls and ceilings were painted.

At the same time, the lead contractor, MJ Daly worked on removing the two large oil burners and replaced them with six smaller, more efficient dual-fuel burning boilers. The new Clever Brooks boilers can heat using either oil or natural gas, allowing for more cost saving options in the future. Circulation pumps, domestic hot water heaters and expansion tanks were also replaced and updates were made to the floor, drains, lighting and entrance to the facility.

Interior and exterior LED lighting upgrades took place throughout the campus. Energy efficient lights were placed in the media center, hallways, auditorium, main lobby, Field

House, and Central Office gymnasium. Outside, energy saving updates were made to the lighting in the bus barn, parking lots and walkways.

And finally, 1,478 Photovoltaic Panels were added to the roof and RSD17 was accepted into the Eversource Energy 15-year Zero Emissions Renewable Energy Credit (ZREC) Program. The energy generated through the panels is being used by the high school, and the district earns \$65 per ZREC, with a payout from Eversource of over \$16,000 to date. In six months, the system has generated 504 MWh, saving 780,236 lbs. of CO2 emissions, which is equivalent to planting 19,651 trees.

As of December 2019, the HKHS Energy Project is considered successfully completed. As is common in large scale projects like this, not everything goes as planned. Some projects, such as the roof, finished on time and as planned. While others, such as the boilers, took more time and money than anticipated. In the end, the Board did not spend the full amount that was approved by the towns in the 2016 referendum. This past summer, the BoE provided final funding for this project with \$7.27 million in ten-year bonds. With energy savings continuing to be measured, and debt paid off in ten years, realization of the benefits from these upgrades can be expected for decades.

Photo Credit: Doug Rogers, CREC



Photo Credit: Doug Rogers, CREC



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