

Old school building brought into 21st century in Craftsbury

Craftsbury Population: 1,206
Orleans County

The big picture

In 2011, Craftsbury school district completed an award-winning renovation to a poorly insulated 1863 school building. Before the renovation, heating in the building was so uneven that faculty sometimes brought electric space heaters into their classrooms, against school policy. Through better insulation, window improvements, a new wood pellet boiler, and electrical improvements, savings in the first year after the project was completed were over \$45,000 – not to mention the benefits of a more comfortable building and a better learning environment.

In addition to energy, the renovation focused on safety issues and on historic preservation. Non-energy work included state-mandated improvements involving elevators, sprinklers, and other issues. The total cost of the renovation was \$3.325 million.

In 2012, the project won the Efficiency Vermont Better Buildings by Design Award for Commercial Major Renovation.

The nitty-gritty

The Craftsbury Academy building was “an antique,” according to Facilities Manager Dylan Laflam. The roofs over the north and south wings had no insulation while the main roof had only 3 ½ inches of fiberglass. The building had single-pane windows. In 2009, state safety inspectors came in with a list of needs that needed to be addressed, including elevators and sprinklers. The school district decided to address energy efficiency at the same time as safety needs.

The oil heat system was replaced with a wood pellet system. Dense pack insulation was added to roofs, ceilings, and walls, and the basement had plastic sheathing with taped joints and then 6 inches of closed cell foam applied. The windows were refurbished with new weather stripping, storm windows were applied, and insulated shades were added to the interior.

Lights were replaced with more efficient lights, along with motion sensors, and high and low switching. The number of fixtures per room was reduced.

In addition to lighting improvements, other electricity-saving measures included reducing the amount of refrigeration in the kitchen, reducing use of microwaves, and adding variable speed drives to all motors within the mechanical system.

The numbers

Costs for heating fuel in 2011-2012 were \$39,783 less than in 2009-2010, a savings of 64%.

Electrical costs declined by \$16,000/yr.

The total budget was \$3,325,000.00. \$3 million came from a zero-interest Qualified School Construction Bond loan. The remaining money came from grants. Specifically, 50,000.00 came from the Preservation Trust, 137,500.00 came from the state of Vermont in the form of a Downtown Improvement Grant, and 137,500.00 was donated by the Craftsbury Academy Trustees.

Efficiency Vermont provided a \$5,000 incentive for the lighting upgrades.

Tax rates in town only went up 2 cents per hundred as a result of the project, because school utility bills went down so much.

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