MOST INNOVATIVE

SECOND PLACE

TAMAQUA AREA SCHOOL DISTRICT

Tamaqua, Pa. • McClure Co.

Each building throughout the district was retrofitted with new lighting technology, and pneumatic controls were replaced with DDC systems. The all-electric high school was converted to geothermal; the entire building is served by a central variable-speed water-to-water heat pump unit. Annual energy savings are estimated at 40%, with a 10% reduction in water use. The project has been submitted for ENERGY STAR certification.

THIRD PLACE

U.S. DEPT. OF THE ARMY

Louisville, Ky. • Harrington Engineering Inc.

New buildings on this campus, shared by the Armed Forces Reserve and the New York Army National Guard, feature radiant floor systems, condensing boilers, high-SEER air conditioners, indirect water heaters, energy-saving controls, and room motion sensors. The SPiRit Gold-certified facility, which meets LEED Gold standards, includes a 75,000-sq.ft. training facility and a 15,000-sq.ft. maintenance building. The buildings will achieve a 30% reduction in energy over a baseline ASHRAE 90.1 building, and also produce 40% in water savings.

BEST COMMERCIAL

SECOND PLACE

HARRIS COUNTY DEPT. OF EDUCATION

Houston, Tex. • Linc Services

Linc Services performed energy savings conservation measures on nine buildings, including solar water heating, solar photovoltaic energy, water-saving devices on toilets and faucets, high-SEER air conditioners, new centralized energy management control systems, variable speed drives on air handling units, and new lighting retrofits of older T12 systems. Harris County expects to save more than $456,049 in energy and operating expenses per year. ENERGY STAR certification is under way.

THIRD PLACE

GROGAN'S SUDS-N-DUDS

Ronan, Mont. • Montana Radiant

The retrofit of this 5,000-sq.ft., four-bay car wash and laundromat will save 50% in annual energy costs. A high-efficiency condensing boiler replaced an old, atmospheric-fired copper-tube boiler that was used to melt ice off the floors of the car wash bays. Three modulating tankless water heaters replaced another larger atmospheric-fired boiler that was used to heat water for the car wash and laundromat. A solar thermal system heats the water whenever solar energy is available.

BEST RESIDENTIAL

SECOND PLACE

JARRELL RESIDENCE

West Tisbury, Mass. • Nelson Mechanical Design, Inc.

The use of a 5 kW wind turbine makes this residence/yoga studio a net zero project. Technologies applied include geothermal, a radiant floor system, indirect water heaters, and energy-saving controls. A horizontal, six-ton direct exchange geothermal field was selected to serve radiant space heating loads through a buffer tank. Domestic hot water is preheated using the geothermal heat pump through a flat plate heat exchanger with final heat provided by a plastic electric water heater.

THIRD PLACE

COLLIN RESIDENCE

Southampton, Mass. • Orchard Valley Heating & Cooling

This renovated home features a five-ton horizontal geothermal loop field with two split geothermal heat pumps connected to two variable speed air handlers, each with several zones of conditioned air control. Each air system features an air exchanger. Second-stage heat is provided by a modulating condensing boiler that serves a 60-gal. indirect water heater, both air handlers, and two zones of radiant floor heat. A solar thermal system augments the domestic hot water demands. ♻

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