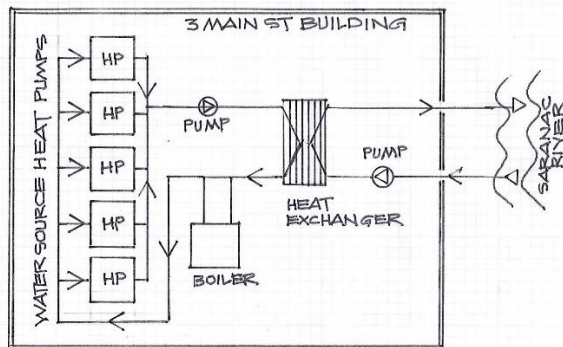


PE 3 Action: HVAC Upgrades – 3 Main Street

The Village of Saranac Lake installed a high efficiency heating and cooling system in the government building located at 3 Main Street, which houses village government offices and the Police Department. The heating and cooling system draws water from the adjacent Saranac River as a source for heating the building and as a sink for cooling the building.



System Description



The system pumps water from the Saranac River through a heat exchanger, which connects to the water loop serving the heat pumps. During the heating season, the river water is much warmer than the outside air, which makes the heat pumps operate efficiently. If there is not enough heat from the river water, an oil-fired boiler provides additional heat. During the cooling season, the heat pumps extract heat from the building and reject it to the river water through the heat exchanger.

- The total square footage across the Village of Saranac Lake's entire building portfolio is 64,330 square feet. The upgraded HVAC system serves the entire building at 3 Main Street, which is 10,790 square feet. This is 16.8 percent of the total portfolio.
- The HVAC upgrade to the 3 Main Street building was completed in July 2012.
- The water source heat pumps installed are Enfinity Series units manufactured by Daikin. Based on the Daikin manufacturers performance data, the heating COP is 3.1. The comparable ASHRAE required COP is 2.8. The Daikin heat pumps cooling EER is 15.2. The comparable ASHRAE required EER is 14.2. The Daikin heat pumps exceed both the heating and cooling performance requirements of ASHRAE 90.1 by more than three percent.
- The HVAC upgrade earns 2 points in the Climate Smart Community program.