



WILLIAM L. BUCK ELEMENTARY SCHOOL

Funding Entity	NYSERDA
Sector	P-12 Schools, Retrofit
Energy Conservation Measures Implemented	Geothermal/Ground Source Heat Pump, uses utility's water instead of wells for heat transfer
Annual Energy Savings; Annual Cost Savings	41,000 BTU/sq ft. Over \$40,000 in heating costs
Owner	William L. Buck Elementary School
Solution Provider	American Water, Image Engineering, Bancker Construction Corp.
Location	75 Horton Ave, Valley Stream, NY 11581
Square Footage	40,000 sq ft

Project Background and Highlights

The William L. Buck Elementary School's old oil-fired heating system was replaced with a geothermal heating and cooling system. The system is unique compared to traditional geothermal systems because it uses water from the utility's main distribution system to transfer heat, which eliminated the need to drill over a hundred boreholes. This alone procured \$600,000 in savings compared to traditional geothermal.

The utility water is sampled with an analyzer and diverted into a diffusion well to ensure that there is no change in water quality, leading to virtually zero water waste. Thanks to the geothermal system, for the first time ever, the school can be cooled during the summer. The savings to heat the building and the addition of air conditioning provided climate comfort and cost savings to the District. Two oil boilers remain in the school building as a backup for emergencies.

