

A New Chapter in Sustainability

Ground-Source Heating and Cooling at Henrietta Public Library



ENERGY COSTS

Old Library Annual/Monthly Energy Costs: (old building: 18,200 sq ft)
average RGE bill: **\$2,575**

New Library Annual/Monthly Energy Costs: (new building: 36,400 sq ft)
average RGE bill: **\$1,111**

PROJECT COSTS

Initial costs: **\$491,000** for ug piping, wells, manifolds, glycol (ug is underground)

Grants/Incentives: None received at time of construction

Final Cost: **\$491,000**

PROJECT SPECS

Geothermal system

54x200' deep geothermal vertical wells in the parking lot

36 variable heat pumps in the building, controlled from desktop or tablet

8 zones for radiant floor heating (2 exterior entrances, 6 interior)



“The public is trusting you...to build something that’s really gonna last.”

ADRIENNE PETTINELLI
Library Director

A Storied Tradition

“The average book on our shelf will circulate 100 times in its lifetime,” explains Henrietta Library Director, Adrienne Pettinelli. And this same sustainable thinking went into the new library itself, especially concerning its geothermal heating and cooling system. “The public is trusting you...to build something that’s really gonna last through generations. That’s just a core value of public libraries.”

A Comforting Decision

Saving money and using less resources is one thing, but the real test of success is how the citizens of Henrietta feel about the space. “Our foot traffic and our circulation have gone up astronomically because people feel really comfortable here,” Pettinelli says with a smile. A lot of this comfort is due to the versatility of the geothermal system, which accommodates for separate zones, ideal for large, multi-room buildings like a library. “You have a lot of closed off spaces, rooms,” says Henrietta Deputy Town Supervisor, Craig Eckert. “Geothermal can help to really balance all of that.” And the technology allows for constant control of the system if adjustments are needed. “Geothermal is all locked in with the building management system to create a really efficient, easy-to-use system,” adds library architect, Peter Wehner.

Project Highlights:



Energy costs cut in half for a space twice as large



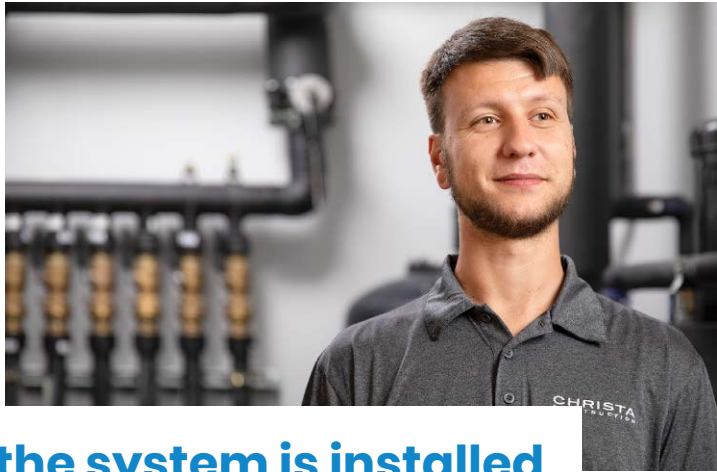
Increased library foot traffic



Decreased maintenance costs over time

Out with the Old

The low maintenance aspect of the new system comes in sharp contrast to the old library's HVAC system, which had its share of problems. "I haven't met a boiler you can forget about," laughs Pettinelli. "We had a ton of problems with the old system. This one has no boiler, which I feel is the best thing about it." Pettinelli continues, "The temperature in here is very consistent. It's something that we don't have to think about. Which, from a management standpoint, is wonderful."



“If the system is installed right and designed right, it just works.”

JASON KUBERKA
Project Manager, Christa Construction

"If the system is installed right and designed right, it just works," explains Jason Kuberka, Project Manager at Christa Construction, which was in charge of this project. "Once you cut those wells and you connect them to the system, it's buried, it's sealed. It's good for, in some cases, forever." This consistency is one of the boons of geothermal. "You're getting your source of heating and cooling from the ground, which is always readily available to you," Wehner adds. "The earth doesn't change its cost per kilowatt of energy. It's always there. It's always free except for the pumping."

A Public Decision

And it was the public that chose this building option through referendum. Option A was retrofitting the old library location, which was estimated to cost more than building an entirely new facility. Option B was a smaller, less-centralized site and Option C is the current library location. "This was what the community decided on as the best bang for the buck. It was an overwhelming win," says Eckert. "We're double the size of the old library but half the energy use," adds Eckert. This type of savings over time is ideal for a public customer like a government, explains Wehner. "The long-term costs are significantly affected and that is really what they look at: the greatest taxpayer benefit."

For more success stories and further information about sustainable projects in our area, go to AMPEDProject.org.

