

CASE STUDY



Milwaukee Public Library – Martin Luther King Branch

Restoring a Community Pillar for Larger Neighborhood Revitalization

BUILDING REVITALIZATION AND EXPANSION

Originally built in 1971, the Martin Luther King library has served the community for more than 50 years. When Milwaukee was looking to support a greater neighborhood revitalization plan alongside an existing city-wide project to update aging branch libraries, the project evolved into a mixed-use development including the addition of an apartment complex above the existing library space.

The new 17,400-square-foot library was funded using American Rescue Plan Act (ARPA) funds, the city of Milwaukee's ARPA-backed Housing Trust Fund, Tax Incremental Funding (TIF) support, private grants, and loans. With the latest renovations, the Martin Luther King Branch now serves as the third largest branch of the Milwaukee Public Library System.

COMMITMENT TO SUSTAINABILITY

"In 2023, Mayor Johnson signed into law our climate inequity plan," says the City of Milwaukee's Environmental Sustainability Director. "We are moving forward to try and increase the efficiency in all of the city's existing buildings at least by 20%, while also converting to renewable energy sources." This citywide effort led to many sustainable



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WELL
SYSTEM



480

MBH HEATING
DEMAND



46

TONS COOLING
DEMAND

"The traditional multi-bore system that we were looking at was over 30 individually drilled wells. Since we're surrounded by city streets, we were really limited. So, that's where the Darcy system actually became a benefit. To be able to just do a single well that was located in one area of the parking lot here, it also opened us up to additional contractors to perform the well drilling."

– Tom King, Senior Project Manager, IBC Engineering Services



solutions being utilized in the renovation, including electric vehicle (EV) charging stations, rooftop solar panels, and a green space on top of the roof of the library.

When looking for ways to reduce the facility's dependence on fossil fuels, geothermal seemed to be a reasonable next step to help update the building's heating and cooling needs – particularly when providing a safe space for the community to learn and congregate. However, traditional systems were not going to be practical in the space constraints of the building, as the library sits directly next to the Milwaukee Police Department and residential neighborhoods. Darcy's efficient heating and cooling solution meant that the entire building could operate under a single wellhead, located in the library parking lot, so the community would not be impacted by a loss of parking ability or facility space.

GEOLOGIC ADAPTATION

When drilling the well to support the library, it was essential that it was done correctly to prevent any future issues with maintenance or longevity. Part of Darcy's services include a free site geological survey, as well as continued support from our geology team throughout the construction process. "There was some geological voids, or openings, in the ground that were discovered while drilling, that made it a more complex drill," explains Andrew Ruzek, Sales Engineer at The Glacier Group. "But with Darcy's team it was nothing that they couldn't handle."

Working directly across geology, engineering, and drilling teams, Darcy was able to develop a custom solution to the site's geology, and install the system as intended. Once installed, the geothermal system was able to connect into the facility's HVAC system successfully. "Even though there were some challenges, I think the Darcy team has a great team of experts, and they were able to find solutions to what came up during the construction project," said Yves LaPierre, the Milwaukee Public Library System's Library Construction Project Manager. "We felt that we were in good hands with them."

COMFORT AND COMMUNITY

Since the library's grand opening on September 6, 2024, the facility has continued to thrive and provide essential services to the neighborhood. Featuring a large community room, makerspace, and updated features throughout the building – as well as the addition of 93 apartments above the library space – there has been a noticeable positive impact from this project. **Using Darcy Geothermal heating and cooling solutions, the building is now equipped to have a long system lifespan and low operating cost, allowing the library to continue to serve its neighbors for generations.**



"There's a lot of reasons to look at home grown, renewable energy like geothermal, and so we are doing our best to help this project lead by example for the community at large."

– Eric Shambarger, Environmental Sustainability Director, City of Milwaukee