



## Olmsted County: Building a Sustainable Hub for Training & Emergency Readiness



1

WELL SYSTEM



444

MBH HEATING DEMAND



34

TONS COOLING DEMAND

### BUILDING HISTORY & USE

Olmsted County's Public Safety building has evolved from a modest training site into a modern, high-performance facility supporting critical county operations. The original structure, located on 3rd Avenue, was built in 1950 and served for decades as a space for emergency management training. In 1999, the County invested \$6.2 million in bonding for project improvements, and by 2012, the upgraded facility opened.

As county needs grew, the facility's limitations became clear. Staff lacked office and meeting spaces, and the building couldn't accommodate modern training programs or administrative operations. In 2019, the County Board approved plans for a new building, and by 2022, funding was secured to construct a next-generation facility that would bring all public safety and emergency management functions under one roof.

The site selection process prioritized proximity to the Regional Public Safety Center and operational convenience within a secure perimeter. However, the location required extended utility services, including new water and sewer connections. By November 2024, the County officially moved into the new space — a fully functional, energy-efficient headquarters designed to support emergency management, law enforcement training, and community engagement.

Today, the building houses about 10 full-time staff and includes classrooms, offices, a storm shelter, a matted gym for defense tactics, subdividable meeting rooms, and dedicated storage for sensitive materials like chemicals, ammunition, and official documents, requiring precise climate control.



## WHY GEOTHERMAL?

The County's decision to pursue a new HVAC system was grounded in both functionality and sustainability. With the original facility lacking occupiable space and modern systems, county leaders saw an opportunity to align the project with Olmsted's broader Climate Action and Energy Plan, which calls for electrifying buildings, improving energy efficiency, and reducing carbon emissions.

As part of the planning process, engineers evaluated multiple mechanical systems — including conventional boilers and chillers — before concluding that a geothermal system best supported long-term sustainability and cost-effectiveness goals. The Inflation Reduction Act (IRA) provided significant financial incentives, helping make the geothermal system a practical choice for taxpayers.

Partnering with Darcy Solutions ensured the county adopted an advanced geothermal approach with a small footprint and minimal site disruption, critical given the facility's secure, high-traffic environment.

## DESIGN & CONSTRUCTION

The design team collaborated across departments to create a building that balanced training requirements, office functionality, and system efficiency. The new geothermal solution offered consistent temperature and humidity control — vital for the facility's diverse uses, from physical training spaces to climate-sensitive storage.

While the overall construction process ran smoothly, there were some early control and mechanical challenges. "A few valves were installed backward, and we had some humidity inconsistencies early on," Jonathan Jacobson, Director of Emergency Management said. "But once the engineers and system technicians understood the unique demands of our storage spaces, everything started performing as intended."

The Darcy Solutions team worked closely with Johnson Controls and local engineers to fine-tune the system, ultimately delivering stable climate conditions that protect sensitive materials and ensure comfort for staff and trainees alike.



## LESSONS LEARNED

- ▶ **Understand user needs early.** Initial humidity issues highlighted the importance of aligning mechanical design with building use, especially for climate-sensitive areas.
- ▶ **Communication is key.** Clear coordination between engineers, installers, and system operators ensures a smoother startup.
- ▶ **Training matters.** System operators benefited from hands-on time with Darcy's team to understand geothermal controls and performance.
- ▶ **Plan for redundancy.** For mission-critical facilities like this, built-in backup systems provide peace of mind during peak demand or extreme weather.

Today, the system operates as designed — efficient, quiet, and consistent. The facility has become a model of how public-sector infrastructure can blend sustainability with practical operations.

## A MODEL FOR THE FUTURE

With this successful installation complete, Olmsted County is already moving forward with additional geothermal projects, leveraging lessons learned and IRA incentives.

The new Public Safety building represents a modern approach to government infrastructure — one where efficiency, reliability, and climate responsibility coexist.

"This project shows what happens when you combine smart design with long-term vision," Jacobson said. "We'd make the same choice again."

