



Fargo, North Dakota

THE RETREAT AT URBAN PLAINS



CHALLENGE

Finding an HVAC system to keep high-end apartments warm in even the coldest of temperatures

SOLUTION

Zoned Comfort Solutions™ from Mitsubishi Electric

RESULT

A competitive edge in the marketplace for the developer and year-round comfort for tenants

Enclave Development (Enclave), Fargo, North Dakota, envisioned The Retreat at Urban Plains as a robust Fargo community with apartments, offices, a sports complex, retail businesses, a strip mall and restaurants. When it came to the apartments, attracting renters was key. That meant finding an HVAC system that would satisfy users without breaking the bank. This challenge was complicated by North Dakota's extreme temperatures. The answer: Zoned Comfort Solutions™ from Mitsubishi Electric. The creative part: installing the outdoor units in a heated garage.

Michael Gullickson, project manager, Enclave, said, "When we learned that a hospital was going to open nearby, we anticipated a need for housing." Enclave planned to build at least five apartment buildings, completing one at a time. The first would be four stories – at-grade, heated parking and three stories of apartments.

There would be 75 apartments (efficiency apartments to three-bedrooms) across 83,700 square feet.

Rick Olson, president, Home Heating, Plumbing, & Air Conditioning, Inc., Fargo, said the selected HVAC system had to meet needs such as "energy efficiency, zone control, initial cost, low operational noise and appearance." For Gullickson, efficiency and aesthetics were most important. "Rather than window units or PTACs, we wanted central air – something that provides even cooling and heating, and that's more high-end so you get a home feel versus an apartment feel."

He continued, "We were also looking at system efficiency compared to what we had been doing – boiler heat with wall a/c units. Enclave plans to own most of its buildings long-term. That means efficiency is important, so even if a system has a higher up-front cost, what's



more important is the system's lifetime cost. We thought a lot about operational cost and financial advantages like an edge in the marketplace." The project team weighed options. Olson said, "Geothermal was uneconomical and gas heating just doesn't look good." Attention turned to zoned technology, "but we needed to get creative because it gets really cold here. Our design temperature is minus 25, and it can get a lot colder than that. Then in the summer, our design temperature is 92. That's a big swing." Olson worked with distributor Auer Steel & Heating Supply Co., Milwaukee, on the plan: zoned technology with a little boost from natural gas. The project team would locate the outdoor units in the parking garage. The garage was already going to be there, so by conditioning it with natural gas, Enclave could create an HVAC setup that would keep costs down. Zoned

technology outdoor units would absorb the ambient heat and transfer it upstairs to the apartments.

Ben Meland, Enclave's president and co-founder, liked the idea. "My concern is always how we sell something to the tenant. With this setup, we'd provide natural gas heat. The zoned systems would then bring that heat up to the apartments, and the tenant would just pay for the electricity used to transfer the heat upstairs."

Gullickson was also impressed. "By using the heat pump system instead of a conventional wall a/c or PTAC system, we were able to eliminate 85 wall penetrations that would have caused air infiltration and weather issues. And heat pumps were a big square footage saver – letting us maximize our space. They really checked all our boxes." Why Mitsubishi Electric? Olson said,

"I wanted something of higher quality because Enclave was going for a higher-end apartment. They also wanted to offer tenants more value, so you can't do bottom-of-the-line baseboard heating. Plus Mitsubishi Electric is more reliable and includes Auer Steel's support. They've been around for a long time and are very, very knowledgeable. And they're always here if we need parts, which is a big thing."

Gullickson described the installation process as "cleaner than I'm used to with other systems. We didn't have to account for an extra opening in the exterior wall for an a/c unit. Since installation, the Mitsubishi Electric system has been reliable. It's an easy, straightforward system to work with."

Olson added, "It's just a better system. Residents have central air instead of window units. That's big

because the Mitsubishi Electric system filters the air, plus it's not noisy like window units." For Gullickson, having satisfied residents is also a matter of silence – in the sense of no complaints. He said, "I take no complaints as good news. In our industry, if people are not complaining, they like something. So we're happy."

Tenant Deb Wald is among the happy residents. She said, "The system is awesome. I don't know how we ever lived without it. It's very quiet!"

Meanwhile, Meland's original goal of creating market-competitive apartments has come true. "This approach of just having the tenant pay for the electricity to transfer heat upstairs has been really positive. We're beating our competition because of our ability to say heat will essentially be paid for."

He continued, "The system has far exceeded our expectations. This building is actually out-performing every property we own from a cost-per-unit perspective." Olson explained: "Around here, heating an apartment in a typical building costs about \$22 per month. With this Mitsubishi Electric setup, the cost is less than

\$10 per month – so, less than half the cost."

An additional financial incentive: The building qualified for 45L tax credits last year. This credit rewards the building of energy-efficient properties – especially as pertains to HVAC systems. Enclave received \$2,000 per apartment, or \$150,000.

The Retreat at Urban Plains is currently on track to have five apartment buildings. Enclave's original plan was to see how Mitsubishi Electric zoned technology fared in the first building; if all went well, the same products would be used in the second, and so on. Indeed, with the first building's success, the second building received Mitsubishi Electric zoned systems. Now, the third building is being designed with the same creative, successful setup. The hope is that all future tenants feel just like current tenant Tyler Schultz does – confident about comfort and not worried about utility bills: "The system is very quiet and efficient. It's absolutely amazing."

“The heat pumps don't take up any square footage in the garage, and we didn't lose parking spaces. And without needing a bulky furnace to condition common spaces, we have a larger utility closet. In the apartments, themselves, we hid the indoor units in a false ceiling so they're accessible but don't take up rentable square footage.”

— **Michael Gullickson,**
project manager,
Enclave Development

PROJECT TEAM

Developer:

Enclave Development, Fargo, North Dakota

Mechanical Contractor:

Home Heating, Plumbing, & Air Conditioning, Inc.,
Fargo, North Dakota

Distributor:

Auer Steel & Heating Supply Co., Milwaukee, Wisconsin

EQUIPMENT

- ▶ (3) MXZ M-Series Outdoor Units
- ▶ (73) SUZ M-Series Outdoor Units
- ▶ (6) MSZ Wall-mounted Indoor Units
- ▶ (2) PEAD Ceiling-concealed Ducted Indoor Units
- ▶ (73) SEZ Horizontal-ducted Indoor Units
- ▶ (81) MHK1 Wireless Wall-mounted Thermostats