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HYDRONICS

# School Relies on Laars Boiler System for Winter Safety

A small footprint boiler helps deliver redundancy as well as high efficiency.

JUL 27, 2021

ROCHESTER, NH — McClelland Elementary School was built in 1957, with a major addition completed in 1988. The 83,800-square-foot building provides learning space for

378 students and 29 teachers as well as dozens of assistants, para-professionals, resource teachers, therapists and other staff members. An efficient, reliable boiler system with redundancy features was needed to ensure the building's continued safe operation.

## Challenge

Because the school is adjacent to the local middle school's sports fields, powerful prevailing winds present possible safety issues and mechanical failures to McClelland's heating system under certain conditions, according to Dave Totty, director of facilities for the Rochester School District. Additionally, McClelland is served by a single boiler, which increases the risk of catastrophic failure during cold and windy winter weather.

When strong wind pressure overrides the dampers on McClelland's uninvent heaters, cold air is forced onto the heating coil and could lead to boiler failure. Under such conditions, temperatures inside the building could quickly drop below freezing, endangering students and staff. Redundancy in the heating plant and increasing efficiency from approximately 70% was seen as critical.

## Solution


A view of the three new OmniTherm units in the school's mechanical room.

Laars

The McClelland administration and WV Engineering Associates (WVA) recognized the need to upgrade and install additional boilers in McClelland's heating system. The school and WVA partnered with Alliance Mechanical in Bow, New Hampshire, to complete the project.

Alliance Mechanical has been in business since 2010, serving New Hampshire, Vermont and parts of New York State. The company prides itself on service, with a special emphasis on communication between their customers and their technicians.

The challenge, according to Alliance Mechanical's service sales engineer, Rich Sivigny, was fitting three new boilers into the small mechanical room housing the existing boiler system while keeping that existing system intact and operational as a backup. The challenging installation would require reworking the hydronic piping, adding new control valves, installing new venting and air intake piping, and configuring new gas piping in tight locations.

The small footprint and big efficiency of the Laars OmniTherm made it the clear solution for McClelland. Three units were chosen to meet the specific needs of the school, and venting changes combined with the

Flexible venting options made for easy installation. High efficiency circulators improved overall system performance.

Laars

## OmniTherm boiler's robust self-adjusting electric fuel-to-

air ratio control helped tame the harsh winter conditions. The units are able to maintain ideal gas and oxygen levels for increased combustion stability and up to 7:1 turndown ratio.

Another driving force behind the decision was the fact that Laars is based in Rochester, offering accessible support and service for the new system.

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