

# CONTRACTOR<sup>®</sup>

THE NEWSMAGAZINE OF MECHANICAL CONTRACTING

## Students are cool at Villa Duchesne/Oak Hill

**BY BOB MIODONSKI**

OF CONTRACTOR'S STAFF  
ST. LOUIS — When the school year begins here in late August, the weather usually is still hot and muggy. Students and faculty in schools without air conditioning are more accustomed to sweat than sweatshirts.

Such was not the case this year, however, at Villa Duchesne/Oak Hill School, a coed Catholic grade school and girls high school.

"It was so unusual to see people wearing sweatshirts on the first day or two of school," said Mike Sawicki, the school's facilities manager. "Usually people are sweating at the start of the school year."

School administrators had talked about air conditioning the school's 1929 Main Building for more than a decade, Chief Financial Officer Janice Denigan told CONTRACTOR. The difference this year is the result of Murphy's Co. installation of an innovative hydronic heating-and-cooling system from International Environmental Corp.

Murphy Co.'s portion of the project amounted to \$2.25 million and was part of a much bigger renovation of the school that includes painting and carpeting classrooms; upgrading the electrical system; adding an electronic security and communications system, complete with security cameras, key cards



**Ann Murphy Hill (right) project estimator for Murphy Co., discusses plans with Head of School Dr. Sam Sciortino and CFO Janice Denigan.**

and pagers; and installing wireless computer technology in every classroom.

When the St. Louis-based mechanical contractor bid on the project earlier this year, the school expected the heating-and-cooling work to take 18 months to complete, said Mark Bengard, Murphy Co.'s senior vice president. Murphy Co. finished the job in less than five months so that students and staff could return to a cooler building when classes resumed.

"Our design team didn't see a reason not to do it by then," Bengard said. "We saw no reason to drag it out."

Although Murphy Co. had not installed IEC's SureFlow system previously, the contractor had studied the concept and thought it would work at Villa Duchesne,

which had been seeking to upgrade from radiators and ceiling fans. Murphy Co.'s HVAC design team first had seen the two-pipe SureFlow at a trade show.

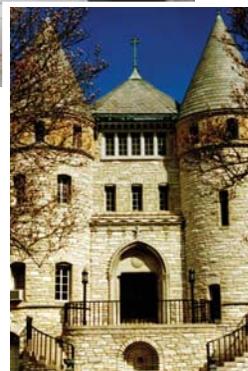
"When we took the project out to bid, we had several companies come in and tell us what they thought was the best system," Denigan said.

The school weighed such factors as price, time frame, the quality of work and the contractors' capacity to get

the job done, she said. When Murphy Co. presented this time frame, that was important too.

"Our decision was not based on the lowest cost estimate but on the best cost estimate," Denigan said.

SureFlow can replace all-air HVAC systems and more expensive four-pipe hydronic systems with a two-pipe system comprised of circulators and fan coil. SureFlow eliminates the need for most balancing valves and energy-consuming control valves by replacing them with small, energy-efficient circulators. SureFlow circulators direct



water to where it needs to go, as opposed to forcing the water through the system's piping loop. SureFlow achieves savings on money that otherwise would be spent on pipe and fittings.

"It acts like a four-pipe system, but it's a two-pipe," said John Robben, Murphy Co.'s project manager. "We were able to reduce a significant amount of pipe on this job."



**The SureFlow heating-and-cooling system uses circulators rather than control valves for enhanced efficiency and maintenance.**

Even so, the project required 2.3 miles of piping, 1.1 miles of ductwork and 12,000 man hours, according to school records. At the peak of work, Murphy Co. employed 15 sheet metal workers and 10 pipe fitters on the job.

The ambitious work schedule presented one of the contractor's biggest challenges. To meet the deadline, Murphy Co. crews had to start working last spring while classes were still in session and

coordinate their work with Ron Spurr and the rest of the design team, which was putting the finishing touches on their plans.

The work required a substantial amount of overtime, including late days and weekends, Robben said. The Murphy Co. crews also had to coordinate with other subcontractors working on their portions of the school's larger Preservation Project. As many as 100 to 150 workers were in the building at one time during the summer, said Denigan, who served as the school's project manager.

"Everyone worked very well together," Sawicki said. "If something happened, we didn't have the different contractors blaming each other. Instead their attitude was, 'How do we fix it?'"

The age of the 1929 Main Building presented another challenge, said Chris Hiemenz, business development director for Murphy Co.



**The two-pipe system reduces the amount of pipe and fittings needed to heat and cool the classrooms and offices.**

The school wanted the architectural integrity of the structure to remain in tact, even with the core drilling for piping installations.

"Everything is fancy in there, and we didn't disturb it," Hiemenz said. "They have 81 classrooms, and you won't see a single piece of pipe."

Villa Duchesne recently recognized representatives from the Murphy Co. in a school assembly for delivering the project on time and under budget.

"We were very demanding of Murphy Co.," Denigan said, "and Murphy stood up and took care of any concerns we had and was creative in what they came up with. They're members of the Villa family."



**The fan coil accommodates the circulators' relatively low pressure drop capability and results in higher than typical water flows.**

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