



Lakota School District

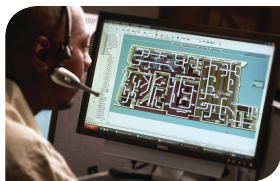
Performance contract to save district over \$900,000 per year • Liberty Township, Ohio

Lakota Schools and Trane have entered into a three-phase multi-million dollar facilities upgrade project that will save the school district \$667,000 in annual energy costs and more than \$260,000 in annual operating costs. As a result of energy efficient facilities upgrades, Lakota Schools will receive an additional \$382,000 in rebates from the utility company, Duke Energy.

Lakota Schools has been awarded the Trane Energy Efficiency Leader in Education Award, recognizing the district for their commitment to energy efficiency and environmental responsibility.



Located in southwestern Ohio, Lakota is the seventh largest school district in the state, and the largest school district in Butler County. With two high schools, two freshman schools, four junior schools, ten elementary schools and four early childhood schools, Lakota has grown in the last twenty years from a rural district to a suburban district with more than 18,000 students.



Trane Tracer ES™ monitors and controls building systems throughout Lakota Schools.

Systems & services

- Energy audit
- Building assessment
- Three-phase performance contract
- New chillers, rooftop units, air handlers, cooling towers, boilers, unit ventilators and heat pumps
- Mechanical systems commissioning/recommissioning
- Trane Tracer ES™ and DDC controls
- Trane VFDs
- Interior/exterior lighting controls
- Water conservation upgrades

Challenge

Lakota Schools comprises twenty-five buildings including fourteen elementary schools, four junior high schools, two freshmen schools and two high schools, the Options Academy and the central office/service building. The buildings range in age from two to eighty-two years with many requiring new mechanical systems, upgraded lighting, windows and other improvements. The school district wanted to explore ways to upgrade building systems for better comfort, reliability, maintainability and efficiency while improving the learning and teaching environment.

Solution

Lakota Schools partnered with Trane for a comprehensive solution. LEED-accredited Trane energy engineers performed energy audits and building assessments, analyzed the findings and provided Lakota Schools with cost-justified, ROI-based actionable recommendations. Trane account managers accompanied the building maintenance superintendent in presenting the project proposal to the school board. The projects are being funded by the energy and operating savings generated by the upgrades in a performance contract that is guaranteed by the Ohio School Facilities Commission.

Projects include:

- Mechanical and control system improvements in nine schools. Upgrades will be completed per the district's long range capital plan in the next five years.

- Thirteen buildings will get plumbing retrofits for reduced water consumption. All schools will get lighting upgrades, from minimal gym lighting improvements to complete lighting retrofits. Other electrical improvements range from installing vending misers in all schools to installing Trane TR Series variable frequency drives (VFDs) on motors at nine buildings where major HVAC improvements are under way.
- Improvements at the five newest schools include advanced scheduling and re-commissioning of HVAC controls, installation of vending misers, lighting control upgrades and exterior lighting retrofits.
- A Tracer ES™ building automation system provides monitoring and control of all facilities from one computer. Old pneumatic control systems were converted to new DDC systems. Other significant projects include installation of high efficiency chillers and boilers, and cooling tower retrofits.

Results

Phase One results have already exceeded savings projections by 15 percent, equal to \$35,000 in savings over the original projections. Overall energy and operating cost savings are expected to be \$927,000 per year. Mike Taylor, Lakota Schools Superintendent, said, "It's great in these tight budgetary times that we are able to improve the teaching and learning environment while generating energy and operational savings. Because we are able to pay for the improvements through these savings, we can focus our capital budget on other needs in the district."



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