

Champaign CUSD #4

703 S New St.
Champaign, IL

Contact:

John Ayers, Direct of Operations
and Maintenance

DESCRIPTION Eight Campus / Three Phase Geothermal and Energy Retrofit Project

CREATIVE PROJECT Leveraging of Additional Savings

TYPE Guaranteed Performance Contract

TOTAL SAVINGS-3 PHASES \$23,318,689 in Energy, Operations & Maintenance



Geothermal Well Drilling

"The District has implemented multiple phases of Performance Contracting to renovate our facilities. In recent years we have been courted by various ESCOs. Of all the ESCOs we have worked with or that responded to our RFPs, **CTS Group has stood head and shoulders above the rest.** Their responsiveness and attentiveness to our needs, grant support and documentation, and willingness to engage local contractors has been exceptional... The District values CTS' integrity and willingness to work jointly with our administration, staff and architects to maximize our District funds to provide exceptional classrooms for our students. This claim is reinforced by the District's recent decision to award a second phase of Performance Contracting to CTS to replace windows at the four elementary schools."

Gene Logas, Chief Financial Officer

Background

The Champaign CUSD #4 is located in east central Illinois with two high schools, two middle schools and eleven elementary schools serving over 9,200 students. The District has embarked on a journey to make needed district-wide improvements through the use of County Sales Tax funding, and is committed to financial stewardship and a conscientious approach to timing of planned building renovations.

Solution

CTS Group was selected to analyze, design and install energy saving modifications to Robeson, Bottenfield, Westview and Kenwood Elementary Schools. The schools included in the project were built from 1956 to 1967. Two of the schools had steam heating systems while the other two had hot water heating. All of the HVAC systems were original and although had been well maintained, they were well past their useful life. Additionally, the systems were highly inefficient and occupancy comfort was a problem.

Phase I

CTS Group conducted complete facility assessments to accurately identify energy usage levels at Robeson, Bottenfield and Westview Elementary Schools. Once established, numerous HVAC systems were analyzed for efficiency and life-cycle costing. By utilizing a geothermal heating and cooling system, the District is able to reduce their annual utility costs by nearly \$36,000 in the first year alone.

Phase II

CTS Group's in-depth cost analysis approach to HVAC needs at Kenwood Elementary allowed the District to select a package boilers with air-cooled chillers retrofit rather than a hybrid geothermal system. The initial capital savings of roughly \$240,000 were then able to be used for energy efficient window replacements at the schools. Further savings were recognized by coordinating the window retrofits while each school had project management staff on site for heat pump installations in the classrooms.

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Well Field



New Electrical Panel



New Windows / Heat Pump Louvers

Geothermal System Results

- / The annual energy and maintenance cost savings with the geothermal systems is \$87,000
- / Incremental payback for geothermal is 5.87 years
- / If secured geothermal grants are included (ARRA \$317,373 and DCEO \$88,355), the return on investment is just over 1 year

Phase III

The district-wide master plan implementation continued in 2012 with the Phase 3 project with the following improvements taking place at the Franklin, Jefferson and Edison Middle School campuses, and at Central High School:

- / Geothermal HVAC system installations
- / HVAC system upgrades and modifications
- / Temperature control building automation systems
- / Energy efficient lighting improvements
- / Window and blind replacements
- / The annual energy savings alone are nearly \$85,000 for the Phase III improvements