

Boys & Girls Clubs of Central Minnesota: Southside Unit

1205 6th Avenue South, St. Cloud, MN 56301

PROJECT OVERVIEW

The Southside Club's heating and air conditioning systems (HVAC) were designed for peak occupancy, but normal occupancy is often lower than peak. This resulted in ventilation systems that were oversized for most daily attendance levels.

Southface worked with the facility's mechanical and controls contractors to install variable-speed motor drives in the gym, CO2 sensors, and upgrade programming of the building automation system to allow the fan systems to slow down when practical. The CO2 sensors control fresh air supply, delivering the right amount of air based on the number of occupants present. Additionally, the computer-based building automation controls were upgraded to provide online access to optimize scheduling of HVAC to minimize operation during unoccupied periods.

Other improvements include LED lighting and motion-based lighting controls throughout, motion-based vending machine controls, and smart online irrigation controls.



SITE DETAILS

Average daily attendance of **150**

32,162 square feet

Constructed in **2001**

BASELINE UTILITIES BENCHMARKS

\$46,232 in baseline utilities cost

41 million Btu of energy per member per year

2,255 gallons of water per member per year

IMPROVEMENTS

Invested **\$81,069**, or **\$2.52 per sq. ft.**, including **\$24,508** in utility rebates

Actual annual cost savings to date of **\$7,846**

Predicted ROI on total project cost of **16%**

Actual annual savings to date: **34% energy savings** (weather-normalized source) and **34% avoided GHG emissions**

Through partnerships with national nonprofits including the Salvation Army, Boys & Girls Clubs of America, and Feeding America, the Nonprofit Energy and Water Efficiency (NEWE) Initiative delivers cost savings through energy and water reduction resulting in additional funds that can be reallocated toward each nonprofit's mission.

Learn more at southface.org/NEWE.

Project Highlights



FIG. 1

The club director has taken an active role in optimizing the performance of the club through careful management of HVAC system schedules and setpoints using online tools while ensuring that comfort conditions are maintained.



FIG. 2

Staff training in the use of the automatic controls (above) has enhanced the results of efficiency upgrades, yielding electricity savings of about 50%.

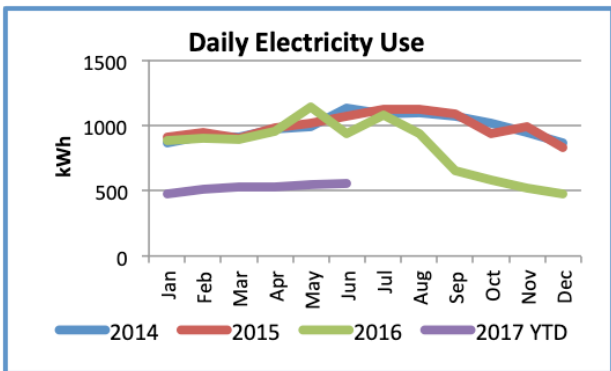


FIG. 3

Electricity Savings



FIG. 4

All interior fluorescent lighting was replaced with LED under motion sensor control. Outdoor fixtures were converted from metal halide to LED, and were equipped with bi-level controls to dim the lighting to minimum levels when no one is nearby, and photocells to turn the lights off during the daytime.

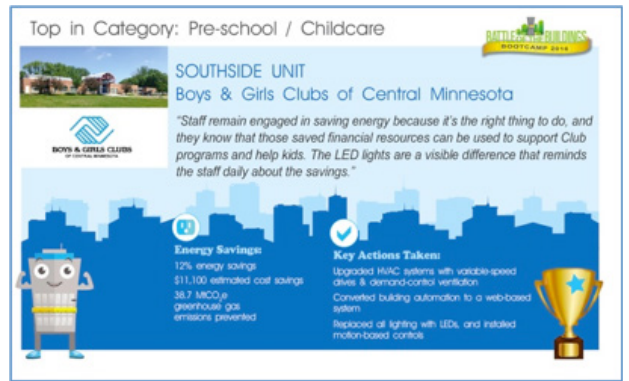


FIG. 5

The Southside Club came in 1st place in energy savings in category in the 2016 National Building Competition!



FIG. 6

Savings from the energy and water efficiency program enable the Southside club to direct more funds to its mission of serving its club members.