

# A.G. GASTON BOYS & GIRLS CLUB

2900 S Park Dr. SW, Birmingham, AL 35211

## ENERGY & WATER EFFICIENCY PROGRAM OVERVIEW

September 2015



### Project Overview

The Kirkwood Balton Unit of the A.G. Gaston Boys & Girls Club in Birmingham has a heated indoor pool, which is a great asset, but can be expensive to maintain. The pool had been in operation for nearly 40 years, and had developed several leaks. These leaks, as well as irrigation system leaks were located and repaired. A pool blanket was purchased and installed on the pool surface whenever the pool is unoccupied to prevent evaporation losses, saving water, pool chemicals, and pool heating energy.

New Web-based thermostats with integral occupancy sensors were installed to improve control of facility HVAC systems.

Other improvements include new LED lighting in the natatorium and conference room, 0.5 GPM faucet aerators, 1.5-GPM showerheads, and a new tankless water-heating system to serve the boys' locker room.

### Site Details

- Average daily attendance of 181
- 27,877 square feet
- Constructed in 1977

### Energy & Water Benchmarks

- Over \$70,000 in baseline utilities cost
- 11 million Btu of energy per member per year
- 8,400 gallons of water per member per year

### Improvements

- Invested \$36,471, or \$1.29 per sq. ft.
- Predicted return on investment (ROI) of 45%
- Actual savings – after only 8 months – of over \$33,000, 39% energy savings, and 52% water savings

Projects Implemented	Predicted Annual Savings					Project Cost	Projected Return on Investment
	Water (CCF)	Costs	Million Btu (Site)	Million Btu (Source)	CO2 Emissions (tonnes)		
High-priority lighting efficiency upgrades & lighting controls	-	\$869	22	68	3.1	\$15,330	6%
Pool & irrigation system repairs	962	\$4,145	79	79	3.7	\$1,375	301%
Install a pool blanket when pool not in use	69	\$6,567	541	541	25.5	\$11,120	59%
Install Web-based programmable thermostats for five rooftop HVAC systems, and replace boys' locker room water-heating system with high-efficiency system	-	\$4,591	286	380	17.7	\$8,040	57%
<b>Projected Total Savings, Cost, &amp; ROI</b>	<b>27%</b>	<b>23%</b>	<b>27%</b>	<b>22%</b>	<b>22%</b>	<b>\$35,865</b>	<b>45%</b>



**About the Boys & Girls Clubs of America Energy & Water Efficiency Grant Program (BGCA EWEP):** The Southeast Region of BGCA was selected to participate in an important pilot program to demonstrate the economic and environmental benefits of high-impact energy and water efficiency improvements in club facilities. Funded by The JPB Foundation, the program's ultimate goals were to reduce club utility expenses by 20 percent annually and to improve conditions in existing facilities, so they may be better used in support of BGCA's mission.

## Project Highlights



**Figure 1: Pool Leakage Testing**

Leak detection specialists were able to locate and repair several leaks in the pool, saving water, pool chemicals, and water heating energy.



**Figure 4: Irrigation System Submeter**

Locating and monitoring the irrigation system submeter has enabled the club to monitor irrigation water use and minimize future irrigation system leaks.



**Figure 2: Setting up the Pool Blanket**

The new pool blanket (above and below) reduces evaporation losses of water and energy when the pool is unoccupied.



**Figure 5: Smart Web-based Thermostats**

All thermostats were replaced with smart Web-based thermostats with integral occupancy sensors. These include online monitoring capabilities of outside temperature, indoor temperature, indoor setpoint, occupancy status, and operating schedules.



**Figure 3: Pool Blanket after Installation**