SHOWCASE PROJECT: TAMPA HOUSING AUTHORITY: J. L. YOUNG GARDENS

SOLUTION OVERVIEW

Tampa Housing Authority pays 100 percent of the utility costs at J. L. Young Gardens, and thus has substantial incentives to conserve on energy and water consumption. From 2010 to 2012, J. L. Young Gardens underwent a renovation to modernize the units and install some energy efficiency upgrades. However, in order to further reduce energy and water consumption, additional retrofits were required. For instance, there were 78 bathrooms that vented through the roof. These vents were powered by motors that operated at full capacity 24 hours per day, every day. In addition, the complex's interior hallway lights operated 24 hours per day and exterior lights operated at full power for 12 hours per day.

J. L. Young Gardens and Annex is a public housing apartment community, owned and operated by the Tampa Housing Authority, for individuals 55 years of age and older. The complex was built in 1970. It consists of 400 studio and one-bedroom units, and includes a community room, community theater, computer/business center, fitness center, community garden, arts and crafts room, and other amenities.

SECTOR TYPE

Multifamily

LOCATION

Tampa, Florida

PROJECT SIZE

204,000 Square Feet

FINANCIAL OVERVIEW

Project Cost: $1,295,000

SOLUTIONS

From December 2015 to December 2016, J. L. Young Gardens increased its energy and water efficiency through the following measures:

Item	Cost
Additional solar panels in carports	$428,000
New bathroom ventilation roof vents	$242,000
Upgraded air conditioning units from Seasonal Energy Efficiency Rating (SEER) 13 to 15	$367,000

LED lighting in the common areas of the property, with motion and daylight sensors	$258,000
Total Costs	$1,295,000

In addition, all of the property's toilets were replaced with water-efficient 1.2 gallon models.

Originally, Tampa Housing Authority had a 12-year energy performance contract (EPC) as of 2001. From 2010 to 2012, the Housing Authority self-implemented an EPC. In the meantime, the agency was able to have its original EPC extended to a 20-year term. The energy efficiency upgrades described above were financed through the extended EPC.

The new bathroom vents are powered by variable speed motors to reduce the energy load. The newly-installed vents use roughly 25 percent of the electricity of the previous ventilation system, and are not in operation 24 hours a day. The interior common area lighting is energy efficient and regulated by motion detectors. In addition, motion and daylight sensors were installed with all new exterior lighting. At night, when people are walking around the complex, the lights become brighter, while dimming when there is no foot traffic.

OTHER BENEFITS

While the improvements made have resulted in reduced energy and water consumption, and reduced costs to Tampa Housing Authority, they have benefited the residents as well. The new exterior lighting has improved security at the complex. Tampa Housing Authority educated J.L. Young Garden's residents about the benefits of energy and water conservation, and the residents are very proud of living in a green residence.

Annual Energy Use
(Source EUI)

Baseline(2014)
151 kBtu/sq.ft.

Actual(2017)
136 kBtu/sq.ft.

Energy Savings
10%

Annual Energy Cost

Baseline(2014)
$254,000

Actual(2017)
$235,000

Cost Savings
$19,000

J.L. Young Gardens

Solar Panels at J.L. Young Gardens