



SHOWCASE PROJECT: WILL COUNTY: SUNNY HILL NURSING HOME

SOLUTION OVERVIEW

Sunny Hill is a full service senior care/rehabilitation facility owned and operated by Will County, serving 24 townships. This 238 bed, 131,400 square foot skilled nursing facility provides services 24 hours per day, seven days per week to support the County's rapidly growing geriatric population. Comprehensive facility improvements were needed to modernize the facility while continuing to provide services to its residents. Projects were implemented in three phases from 2010 through 2016.

Sunny Hill Nursing Home occupies one and a half levels that are organized in six avenues with nursing stations around a core area that contains common space and administrative facilities. Common spaces include living rooms, a kitchen, dining room, recreation rooms, a library and a chapel.

SECTOR TYPE

Local Government

LOCATION

Joliet, Illinois

PROJECT SIZE

131,000 Square Feet

FINANCIAL OVERVIEW

Project Cost \$515,000

SOLUTIONS

Facility improvements, involving 45,703 sq. ft., were completed in Phase II during 2012 – 2014. Extensive kitchen remodeling included replacement of walls, ceilings, flooring, plumbing, and electric service. Insulation was added and all kitchen appliances and walk in cooling units were replaced with energy efficient models. Avenue 6 improvements included window replacements, LED installations, insulation and new roofing. Bi-level motion sensor controls were installed on stairway lighting and vending machine energy management systems were added.

Prior to Phase II projects, the building underwent a Phase I, which was completed from November

2010 through December 2012, included the installation of entrance doors and low-E glass windows. Elevator motor improvements, interior lighting upgrades, exterior lighting and parking lot lighting upgrades and the installation of domestic hot water tankless units were also completed. A portion of the roof was replaced with a cool roof and R22 insulation.

Phase II projects were completed from December 2012 through April 2014. These projects included a gut rehabilitation of the kitchen, lower level office space, residence rooms, common areas and therapy facilities. Lower level air handlers and the cold water chiller were also replaced.

Estimated Savings	
Energy Conservation Measure	Estimated Annual Savings
Lighting Upgrades	173,297 kWh
Increased Insulation	6,069 kWh and 2,256 therms
Vending Machine Management	9,672 kWh
Occupancy Sensors	7,969 kWh
Stairwell Lighting Controls	25,238 kWh
Cold Water Chiller	171,904 kWh
Upgraded equipment	30,101 kWh and 7373 therms
Electronic commutation motors (ECM) in Walk-In Coolers.	13,910 kWh

Phase III (Avenue 6) which involves a gut rehabilitation of the main area and patient rooms will include the following energy efficiency improvements: new insulation, windows, LED lighting with occupancy sensors, upgrades to HVAC systems, and roofing with a reflective coating.

Included in Phase III is the complete update of the residents dining area and common area called the Sunshine Room: The energy efficiency improvements slated dining and Sunshine rooms includes all existing lighting fixture replacement with LED lighting set to building controls. Phase III also included the completion of the main level common area with a new coffee room (which will be acting as the dining room when it is completed to facilitate the dining room improvements) and residents library. The library which is available to residents and staff will be the location of Sunny Hill's new building Operations System. Lucid Technologies Building OS was funded through a grant offered by Illinois Department of Commerce and Economic Opportunity. The Building OS will be featured on a 42" touch screen monitor that has a series of informational options: Opening page that give a description of the care facility, interval electric and natural gas usage, building green features and green tips for home and work. Building OS will be up and running by the end of July 2015 and will serve as a pilot, if this tool engages the staff and residents as we hope, Will County will install building operating systems in other high traffic buildings.

OTHER BENEFITS

This Will County project demonstrates that a full renovation can be completed in a facility without interrupting the business of providing care to its residents. Completing a major rehabilitation while maintaining operations provided an opportunity to educate staff in energy reduction practices. Staff learned about energy conservation measures and their impacts on reducing energy usage and cost.

Sunny Hill Staff also participate in Countywide recycling initiatives, lowering waste materials entering the County's landfill.

The completion of energy efficiency projects will decrease the energy use intensity of the facility and bring it in line with other similar uses in the region. One initial goal was to increase the ENERGY STAR[®] score in Portfolio Manager. Staff is confident that Sunny Hill will achieve a Portfolio Manager score over 70.

Annual Energy Use

(Source EUI)

Baseline(2012)
133.8 kBtu/sq.ft.

Expected(2017)
88.3 kBtu/sq.ft.

Actual()
Coming soon

Energy Savings

34%

Annual Energy Cost

Baseline(2012)
\$199,000

Expected(2017)
\$128,000

Actual()
Coming soon

Cost Savings

\$71,000



Sunny Hill exterior



Kitchen upgrades



Chiller replacement