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Siemens helps Colorado State Veterans Center achieve LEED for Homes™ Platinum Certification

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Monte Vista, Colorado – For nearly 100 years, the Colorado State Veterans Center at Homelake has provided independent and assisted living for America's veterans. Today, Homelake is home to a 60-bed nursing facility, 48 domiciliary cottages, the Veterans History Center Museum, and other amenities to make the residents' lives more comfortable.

In 2006, the Colorado Department of Human Services, which owns and operates Homelake, partnered with Siemens Industry, Inc., to make significant improvements to the 48 domiciliary cottages and bring the historical homes into the 21st century in terms of energy efficiency and comfort. As part of a larger guaranteed performance-based solution, Siemens has helped Homelake achieve the LEED for Homes™ Platinum certification for all 48 residences.

Objectives

Homelake provides 24/7 skilled nursing and assisted care for America's elderly veterans, and has since 1914. Over the years, the residences at Homelake had

suffered from wear and tear; no air conditioning; and other infrastructure concerns, such as a lack of accessibility. In addition, Homelake had undergone very little renovation since its original construction. The Veterans Center wanted to make improvements that would allow the residences to be more comfortable and accessible for its residents, as well as energy efficient.

Through the partnership with Siemens and its dedicated multi-family housing group, Homelake established the following objectives for the domiciliary project:

- Create healthy, comfortable living environments for veterans who live at Homelake
- Renovate 24 historical domiciliary duplex cottages (48 residences) with current building technologies
- Improve the energy and resource efficiency of all cottages to reduce costs and environmental impact
- Achieve LEED Gold targets for municipal buildings in the state of Colorado

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“Homelake has benefitted from dramatically improved energy efficiency, and we’re consistently meeting or exceeding projections for energy savings. The residents are also benefiting from a nicer, more comfortable living environment.”

—Kevin Ross
 Manager of Projects and Construction
 Colorado Department of Human Services

“The residential sector contributes greatly to climate change and is responsible for 21% of U.S. carbon dioxide emissions. LEED certification is a realistic way to tackle the ever rising energy costs by cutting a home’s energy usage by as much as 60%, our case studies have shown.”

—Nate Kredich
 Vice President, Residential Market Development
 USGBC

Solution

Siemens multi-family housing group, which is dedicated to improving energy efficiency and sustainability in public housing markets, worked in conjunction with other partners as part of multi-phase Energy Performance Contract. The following solutions contributed to the LEED for Homes™ certification:

- Implementation of a closed-loop geothermal heat pump to coordinate both the heating and cooling cycles for the homes
 - This central utility plant upgrade takes advantage of the static temperature of the earth to produce efficient heating and cooling
- Installation of an 11-panel solar thermal system that provides preheated domestic hot water to the residences
- Building envelope improvements that increase the R-value of the homes and prevent heat loss, contributing to the homes’ energy efficiency
- Implementation of a high-efficiency irrigation system for the domiciliary landscaping
 - Moisture sensors control the irrigation system, instructing it when to replenish the greenspaces and preventing unnecessary, wasteful irrigation in times of ample precipitation

- Retrofitting of low-flow plumbing devices throughout the cottages’ sinks and showers, improving water conservation

Siemens has partnered with an independent third party to measure and verify the energy and water savings that result from the improvements, an important aspect of the LEED for Homes certification process.

Results

Today, the 48 Homelake residences have achieved the LEED for Homes Platinum Certification—a goal the Veterans Center had set out to achieve. This program is voluntary, and rewards homes that are designed to be resource-efficient and healthy for their occupants. LEED certified homes must complete a technically rigorous process, which often includes a home energy (HERS) rating and onsite inspections to verify the home is energy and water efficient, environmentally sound, and a healthy place to live. LEED Certified homes, like those at Homelake, produce lower utility bills and have a smaller environmental impact. The Homelake residences perform 50% more efficiently than comparable homes in the area.

The Colorado Department of Human Services is also realizing significant utility savings, in terms of electrical, water, and natural gas, thanks to the solutions Siemens implemented with the overall performance contract. In addition, the homes are more comfortable for residents—they now appreciate air conditioning, improvements in lighting, accessibility changes, and other improvements that addressed approximately 100 years of wear and tear.

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