NGBS GREEN CASE STUDY

Cargill Falls Mill

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About the Project

Project Type: Multifamily Remodeling

Project Size: 6 interconnected buildings; 125 units; Approximately 105,863 sq. ft.

Unit Size: 1,275 sq. ft. (average)

Location: Putnam, CT

Performance: NGBS Green Certification – Emerald Level

Website: Cargill Falls Mill

Project Team:

Developer: Housing Enterprises, Inc.

Verifier: Karla Butterfield, Steven Winter Associates

Architect: Ganek Architects, Inc.

Green Features/Practices

- Construction within pre-existing building footprint
- Reuse of driveway and parking area to avoid additional disturbance to existing slope
- Best practices for stormwater management implemented during construction
- Regional materials used for both major and minor building components
- Construction waste recycling management
- No fireplaces, wood stoves, pellet stoves or masonry heaters installed
- Maintenance checklist developed for management and residents in order to maintain each home's high-performance features

Overview

Located on the Quinebaug River, the historic Cargill Falls Mill in Putnam, Connecticut, has been transformed into over nine acres of residential space. A once successful cotton mill in the early 1800s, Cargill Falls Mill is now a unique apartment enclave in a thriving, sought-after community. Cargill Falls Mill includes a mix of studio, one-, and two-bedroom apartment homes with off-street parking, a courtyard, on-site management and maintenance, a 24-hour fitness center, and outdoor community amenity areas.

Exposed brick or stone walls, natural wood beams, and original wood flooring provide the homes with rustic charm and a connection to the building's rich history. Each unit is well-equipped with urban kitchens and large windows that provide ample natural lighting and scenic river views. The city of Putnam has undergone a renaissance and the unique amenities within walking distance of Cargill Falls Mill include convenient public transportation, wonderful restaurants, bakeries, antique galleries, a Riverwalk, parks, and more.

The developers of the Lofts at Cargill Falls Mills are proud to have embraced the green practices within the NGBS to provide residents with "A Key to the Past, Unlocking the Future!"

Energy & Water Efficiency

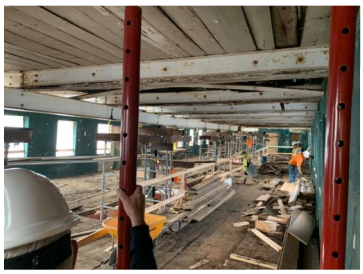
The NGBS Green Renovation compliance path is largely based on demonstrated energy and water savings over the existing conditions. As the Cargill Falls Mill buildings were converted from industrial to residential use, establishing a justifiable baseline for prior energy and water was challenging.

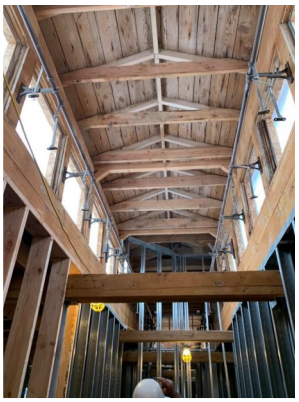
For water, the NGBS Green Verifier researched plumbing fixture efficiencies that were typical in the 1980s to establish a conservative baseline.

For energy, the efficiency of the variable refrigerant flow and heat pump water heater were compared with typical installations in the 1980s. The energy recovery ventilation units are modeled against a typical exhaust-only strategy with a very efficient fan. A conservative approach was applied when accounting for the hydroelectricity because much of the electric load will be on the commercial and retail spaces as well. Each unit was equipped with a 1.6 kW (avg rated capacity) PV system, which translates to annual savings of about 2600 kWh of energy (or $550).

Historic preservation requirements presented additional challenges for the project, as less-efficient historic windows were retained, and the team was limited in the number of penetrations that could be made for insulation and air sealing improvements. Nevertheless, the project team observed a demonstrated improvement in air infiltration from prior conditions.

During Construction





The Verifier Voice

"The NGBS remodeling tool was perfectly suited for the Cargill Falls Mill residential and mixed-use development. As a historically registered landmark, the complex was under strict renovation requirements. The NGBS remodeling program was the only residential tool that allowed the project to quantify the energy and water savings while addressing the great efforts made by the project team to reduce material and resource consumption, improve indoor air quality, address sustainable site strategies, and promote health and well-being for residents."

– Karla Butterfield, NGBS Green Master Verifier, Steven Winter Associates