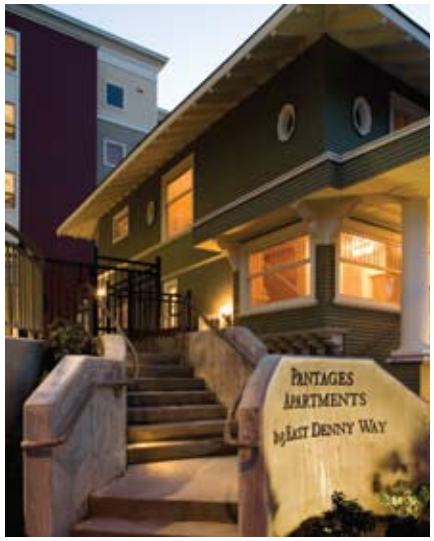
Pantages Apartments

Strategies for sustainable design and construction at Pantages Apartments were successfully integrated with the overall goals of adding to the supply of affordable housing, preserving a historic landmark residence and creating a pedestrian-friendly environment.

Green Home Case Study

Healthy homes for a healthy environment



Photos: Left & right by William P. Wright, middle by Lara Swimmer

About the project

Name: Pantages Apartments
Type: Remodel and new, multifamily construction
Square Feet: 48,377
Location: Capitol Hill neighborhood
Completed: December 2005

Seattle's Pantages Apartments combines a rehabilitated, 2-story 1907 residence, a City of Seattle landmark, with a newly constructed, 5-story new apartment building. It provides 49 units of affordable housing, including three studios, 26 one-bedroom, 15 two-bedroom, and 5 three-bedroom apartments. The apartments are reserved for households earning 30 percent to 50 percent of area median income.

Sustainable design strategies for the project hinge on the reuse of Pantages House, with its exterior restored and interior reconfigured to accommodate four residential units, a library and meeting area. A large cistern stores rainwater to use for on-site irrigation, and serves as a focal courtyard feature.

Average occupancy is 94 full-time residents, all of whom frequent the common spaces to relax, read or socialize. In addition, there is a full-time manager, a full-time assistant manager and occasional visitors in most common areas.

Goals/Challenges:

Land use and community

Anchoring the street corner at the center of the project is a rehabilitated 2-story 1907 house, a neighborhood landmark. It was designated a landmark just before construction began on the Pantages Apartments, and it now provides continuity and reference to the past in the rapidly developing neighborhood on Capitol Hill. The shell of the historic house has been restored and the interior redesigned to accommodate four residential units and common areas, including a library and meeting area.

Modifications to the Pantages House exterior were reviewed by the Seattle Landmarks Board. In addition to retrofitting with double-glazed windows,

Ratings & Awards

Built Green™ 3-Star Certified Project (364 points)

SeaGreen, City of Seattle Office of Housing

Built Smart™ Certified for Resource Efficiency

2006 American Institute of Architects "Show You're Green" Award

2006 Affordable Housing Finance Magazine Reader's Choice Award for Best Urban Project

Built Green™ "Green Hammer" Award

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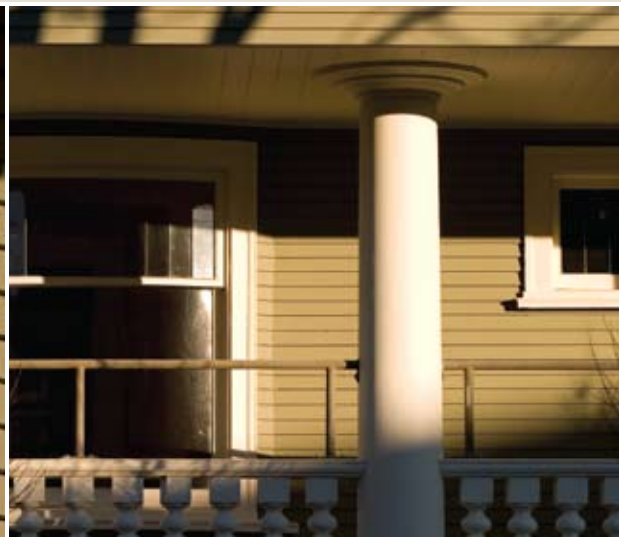

Photos by William P. Wright

changes to the exterior include removal of a second story deck that was not original. The new exterior color was chosen after examining layers of paint from the last century. Cedar siding was kept in place, and the wrap around porch roof was rebuilt.

Neighborhood residents actively participated in community meetings in the early design phase. These meetings reinforced the goal of preserving the house as a neighborhood asset. Sustainable strategies for design, construction and occupancy were also addressed at these meetings, to enhance support for the project and encourage the participation of future residents in sustainability goals.

The new 45,181 square-foot, 5-story building is set back from the sidewalk, rising behind the landmark on two sides. Detailing and materials reflect the character of the historic structure. The new building's L-shape defines the common courtyard space, which is in back of the original building.

The treatment of the street perimeter, including ornamental metal fencing and substantial concrete steps, emphasizes the integrity of the street and makes a clear connection with the sidewalk. Concrete steps leading to the new courtyard and to the historic porch on the corner anchor the buildings to the sidewalk and support the pedestrian environment.

The grand corner staircase of the 1907 Pantages house, rebuilt to meet code, is a popular perch for residents and visitors. This, along with a new stairway connecting the sidewalk to the courtyard and the entrance to the new building, anchors the Pantages Apartments to the street.

The landscaped central courtyard is a community meeting place for residents and an extension of the street, reinforcing the pedestrian-friendly design. Fiberglass sculptures in the courtyard recall the vaudeville background of the historic house's original owner, expressing continuity in the history and character of the neighborhood. The quality and durability of the artwork reinforces the courtyard's connection to the public realm.

Many existing plantings from the site have been salvaged, conserved or restored. Landscaping with draught-tolerant and native plants helps to set a new standard of sustainability for the surrounding urban blocks. Hardy plantings include Mexican orange rosemary, Oregon grape, Japanese blood grass, and lavender.

On site parking is code minimum, at 24 spaces, and there is also storage for 14 bikes in the below grade parking garage. Nearby connections to transit make daily life without cars a practical reality for residents. A light rail station will be located two blocks away, and there are nine bus routes within a half mile of the site. The dense Capitol Hill neighborhood is home to Seattle Central Community College, medical centers, and many nearby stores and restaurants.

Water

Storm runoff is captured in a 1,175-gallon cistern prominently situated in the courtyard, and then used to irrigate plantings on the site through a high-efficiency drip irrigation system. Management staff is encouraged to use cistern water for plantings inside and outside. Native or drought-tolerant plants throughout the landscape will need little or no irrigation once well established.

Energy

Rigid insulation is placed above the post-tensioned concrete deck that is between the underground parking garage and the first floor. This reduces the thermal "bridging" or heat transfer that occurs through the slab edge with conventional placement of insulation below the deck. A gypcrete topping slab installed over the rigid insulation acts as the subfloor.

Apartments have electric baseboard heat, with each unit individually metered ensuring that tenants account for their electric use. A central hot water boiler provides domestic hot water to each unit.

"For us, sustainability is value-driven as well as an economic proposition. The lesson here is about taking the time to understand the market in which you work. Visible elements like the cistern tell you that this is not business as usual. And the preservation of the historic house is soul-protecting. It's less about 'Alexander Pantages slept here' and more about what makes community." Chuck Weinstock, Executive Director, Capitol Hill Housing

Photos by Lara Swimmer

The elevator is a 10 horsepower traction type instead of conventional 40 horsepower hydraulic type, for a projected reduction of energy consumption of over 50 percent.

The City of Seattle's Built Smart program acted as a third party agency to inspect the project and make sure that insulation, energy-efficient lighting, thermostats and other energy saving measures were properly installed and working as planned. A specialized balancing contractor verified that mechanical systems were installed and operating correctly. In addition to the standard operations and maintenance manuals for all systems, the general contractor provided the owner with videotaped training for the building manager and staff.

Materials and resources

All elements of the Pantages Apartments project were designed and built with durability as a high priority, with a design life of 50-plus years. Much of the exterior is clad with brick veneer with stainless steel flashing or fiber-cement board plank or panels. Interior cabinetry has solid plywood boxes with solid wood doors.

Local sources were sought for all materials and building parts. Locally produced building materials include: wood studs, engineered wood I-joists, plywood sheathing, fiber-cement board and brick veneer siding, asphalt shingle roofing and concrete. Materials with high recycled content were selected wherever practical. They include interior gypsum wallboard, fiberglass insulation, and commercial grade nylon carpet and pad.

Material recycling began with adaptive reuse of the historic residence on site, which kept tons of debris out of landfills. In addition, 92 percent of waste generated during construction of the project was recycled. As part of this effort, local salvage businesses were contacted before construction began so that they could secure light fixtures, radiators, chimney bricks and other parts of the existing house that were not reused in the renovation.

A large cedar removed from the site was donated to a local sculptor, who used it to carve totem pole art. In turn, the artist donated a piece for installation in the entry lobby of the new building.

Interior environment

Along with the integrated goals of long project life and low maintenance, interior air quality is promoted through several means. Pantages Apartments incorporates the latest construction methods and materials to prevent moisture accumulation in interior air and walls. The project's rain-screen system creates an air space between the exterior wall and the siding to allow any moisture that gets behind the siding to dry to the exterior. A vapor retarding membrane, which changes permeability with ambient moisture conditions, is positioned behind the drywall at all exterior walls to prevent moisture from entering the wall cavity.

Constant running whole-house fans ensure adequate ventilation. For comfort and additional ventilation, 95 percent of windows are operable. Interior air quality is further protected through the use of low-volatile organic compound emitting carpeting, paint, and linoleum flooring.

Mood-supporting daylight penetrates deeply into the first floor plan in the new building through transom windows underneath the high ceilings.

Lessons Learned

Respecting community

The sustainable development goals of recycling and reuse can be well served through strategic preservation. In turn, preservation can satisfy the goals and desires of neighborhood residents for respect, sensitivity and continuity in development. The adaptive reuse of the historic residence in the Pantages Apartments advanced all of these goals. Its presence as a local landmark was enhanced through new connections to the street, contributing to a pedestrian-friendly environment.

The Team

Owner/Developer

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General Contractor

Walsh Construction
206.547.4008
www.walshconstructionco.com

Natural Drainage Systems

Details on Seattle projects:
Seattle Public Utilities
www.seattle.gov/util/services/
(Click on "About SPU")

For More Info

Built Green™– a residential green building program/rating system developed by the Master Builders Association of King and Snohomish Counties in partnership with the City of Seattle.
www.builtgreen.net

SeaGreen – an affordable housing guide developed to promote energy conservation, operational savings and sustainable building practices in affordable multifamily housing projects.
www.seattle.gov/housing/SeaGreen

King County Construction Works – provides free assistance and recognition to builders who recycle, reduce waste and use recycled-content building materials.
www.greentools.us

Seattle City Green Building – provides guidelines, incentives, and assistance to increase the environmental performance of buildings in Seattle.
www.seattle.gov/dpd/GreenBuilding

Seattle Built Smart Program – certifies apartments and condominiums designed and built to conserve resources while providing a healthy, comfortable living environment.
www.seattle.gov/light/conserve

city green building

City of Seattle
Department of Planning & Development
www.seattle.gov/dpd/greenbuilding

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Photos: Left by Lara Swimmer, photos middle and right by William P. Wright

New sustainable systems can become a part of community character. The cistern, prominently positioned in the courtyard of Pantages Apartments, is a landscape feature as well as a key part of the water conservation strategy for the project. Each use reaffirms commitment to sustainability goals and membership in the community.

It's in the details

Careful tracking to ensure that green requirements are being met throughout the design and construction process is critical. While the project team specified energy-efficient windows, the U-Values of the different window types (such as casements versus double hungs) used in the building vary. To determine the average U-Value for the project's windows, a thorough accounting of all of the windows and their respective U-Values is necessary. Unfortunately for this project, that accounting came too late in the process. Hoping for a rebate from Seattle City Light, the average U-Value was calculated. It was calculated at .33, the maximum average U-Value for the rebate was .32.

Whole house ventilation needs careful balance. Ventilation for the residential units incorporated air inlets at all windows coupled with constantly running low sone bath fans. Diligent oversight of the subcontractor was necessary to ensure that they did, in fact, install air inlets in each window, instead of only in the bedrooms which was their standard practice. The fans that were installed are extremely quiet, so quiet you can't tell if it's on just by listening. The utility inspector and the commissioning agent used testing and balancing equipment to ensure the fans were on and operating as intended.

Public Art

Capitol Hill Housing commissioned three public art works for Pantages Apartments.

A wood sculpture created by local artist Steve Jenson was made from a tree originally located in the center of the property. It now stands as the centerpiece of the residential lobby.

Local artist Claudia Fitch made a series of fiberglass statues named "Pantime" to represent the performers who inhabited Pantages House, and they now welcome residents and visitors to the courtyard. It was commissioned through a competitive process guided by Artist Trust.

"Pantages House," a whimsical portrait of the house as it appeared in the decades before its transformation, is the focal point of the communal library in front of the house. It is by local painter Grego Rachko.

Printed with soy-based ink on totally chlorine-free paper made with 100% post-consumer fiber.