

Family Housing by the Sea

An affordable housing project in Santa Cruz, California, prompted the developer to establish in-house green building standards for future projects.

WITH ITS BRIGHT CITRUS COLORS, whimsical shapes and angles, and differentiated masses, ranging from two to four stories and topped by arrays of photovoltaic solar energy panels, Nueva Vista Family Housing in Santa Cruz, California, stands out next to the city's boardwalk. Located on a prime 1.3-acre (0.5-ha) site near the oceanfront, the urban infill project for low- and very-low-income residents replaced several dilapidated, overcrowded, and crime-plagued buildings, providing 48 apartments, a community center, and a child care center.

The \$10 million project, designed by Van Meter Williams Pollack (VMWP) of San Francisco and Denver and completed in 2003, stands out in other important ways. Built with extensive support from the city and the nonprofit organization Global Green USA, Nueva Vista serves as a model of building green on a limited budget. It helped establish green building standards for developer Mercy Housing California and standards for environmentally sustainable low-income housing in California.

The 65,000-square-foot (6,000-sq-m) project encompasses two buildings. The larger, spanning a city block, is arranged around a secure central courtyard. The smaller triangular building, located across the street next to a city pocket park, houses a 5,000-square-foot (465-sq-m) community center and a 2,700-square-foot (250-sq-m) child care center. Together, the buildings provide 48 two- and three-bedroom apartments.

Although an eyesore before it was redeveloped, the site for Nueva Vista Family Housing could not have been more appropriate for infill affordable housing: it is located downtown, next to boardwalk jobs and other employment, and linked to bus transit, with a medical clinic and other services within blocks.

However, the project faced numerous challenges. The area, known as Beach Flats, was packed with substandard and overcrowded privately owned housing, some made up of two-story motels and apartments where as many as ten people per unit slept in shifts. Beach Flats was rife with crime such as drug dealing. The site also was in the floodplain of the nearby San Lorenzo River. A double-wide trailer on an adjacent lot served inadequately as a community center.

The site residents, most of them families and many of them Spanish-

speaking workers in the local agricultural and tourist industries, needed high-quality, affordable child care. Residents lived here because it was the only housing they could afford in Santa Cruz, one of the Bay Area's most affluent communities. From 1996 to 2002, house prices in the city doubled, and apartment rents increased 57 percent, from an average of \$879 to \$1,384 for a two-bedroom unit.

A progressive and socially conscious city, Santa Cruz was committed to providing housing for a diverse population, including very-low-income residents. City policies also supported sustainable development. In 1997, the city adopted a comprehensive area plan for the physical, economic, and social improvement of the beach area.

The Santa Cruz Redevelopment Agency acquired two properties and contracted with the Santa Cruz Community Housing Corporation, a local nonprofit housing organization, to manage them. The housing corporation's longtime commitment to provide affordable housing in the Beach Flats area became a reality when it merged with Mercy Housing California. Affiliated with Mercy Housing, one of the largest nonprofit affordable housing developers in the United States, Mercy Housing California has 11,500 units that are home to 31,500 residents and has 800 units under construction.

In 1998, Mercy Housing California asked VMWP to design environmentally sustainable, affordable housing on the Beach Flats site and to show how green standards could be used to develop other affordable housing projects. The firm previously had designed two San Francisco projects for the developer—Notre Dame Plaza, an adaptive use of the historic Notre Dame High School as affordable housing for seniors,



NBS CHECKING

Located on a 1.3-acre (0.5-ha) urban infill site in the Beach Flats area next to the boardwalk, Nueva Vista Family Housing in Santa Cruz, California (foreground at left), replaced several dilapidated, overcrowded, and crime-plagued buildings. Developed by Mercy Housing California, the project provides 48 new apartments, a community center, and a child care center for low- and very-low-income residents.



Located next to a city pocket park, the project includes a community center and child care center, paid for by the city, which also provided a 60-year land lease. Residents of the two- and three-bedroom apartments enjoy living environments filled with light, fresh air, and healthier interior finishes.

and John King Senior Community, a mixed-use development with housing, a seniors' center, and a child care facility. Although the firm had incorporated green principles in previous projects, Nueva Vista represented its first opportunity to pull together multiple green design and technology ideas.

Although the community welcomed the project, the proposed density was an issue. Mercy Housing California needed greater density on the site to make the project financially viable, but some community members objected to the number of units proposed. The architects held a series of community meetings to work with area residents and ensure that the new buildings fit well with their neighborhood. The project was one of the densest in Santa Cruz when it was completed in 2003, but the community was pleased with the massing, which makes the project look like an urban village with a variety of small and larger buildings.

In 2001, relatively late in the planning process, Global Green USA joined the project as a facilitator for

green building. Global Green USA, based in Santa Monica, California, began a greening affordable housing initiative in the late 1990s. Nueva Vista was the first of its projects in the urbanized counties of northern California, and has been a featured Global Green case study since 2003. By the time Global Green joined the team, VMWP had identified many relevant green issues and elements. The firm had two roles in the development process—as advocates for green building and as cost-conscious architects. One indication of how much green building has evolved is that these roles no longer are perceived as conflicting.

As green housing authorities, Global Green helped the development team figure out which practices were most relevant, and helped establish an integrated design process. The program included a six-hour charrette in which the project team discussed major issues such as site planning, structural design, the energy system, exterior cladding, and interior finishes. The team looked at specifics—green technologies and materials, how they might be used,

and the implications for the construction process and budget. This integrated design process continued through progressive stages of design and construction.

One major challenge was working with a contractor that was not accustomed to building environmentally friendly buildings and assumed that green practices would not be affordable. VMWP created a green building materials list and worked with the contractor to establish design criteria and determine real cost implications for building a sustainable project. The budget included a parallel sustainable materials and technology bid that helped the team determine which green elements the project could afford. This helped immensely in supporting the notion that going green would not break the budget; although there were additional costs associated with some green elements or features, they were not a large percentage of the construction budget.

Public assistance for the project included \$7.9 million in low-income housing tax credits, a \$1.2 million

Rural Community Assistance loan, and a \$728,000 Section 108 loan. The project was awarded credits for exceeding the state's Title 24 energy-efficiency standards by 15 percent and for installing energy-efficient appliances, fluorescent lighting, and water-conserving landscaping.

Of the project's total \$18.6 million cost, the city's redevelopment agency spent \$3.4 million to acquire the land, \$3.2 million for a loan to Mercy Housing, and another \$2 million on demolition, relocation, administrative and legal fees, permit fee waivers, storm drain improvement, and other items. The agency also provided a 60-year land lease, and the city paid for construction of the community center and child care center. The project's \$211,000 solar-powered photovoltaic system, then a rare feature for affordable housing projects, was financed through funds available for renewable energy systems. Before construction, the U.S. Army Corps of Engineers completed a levee system to mitigate the area's flood hazard.

Green Features

Among the project's energy-efficient and sustainable design features are the following:

- ▷ a site orientation that maximizes sunlight for daylighting and exposure to ocean breezes for natural ventilation;
- ▷ no mechanical cooling;
- ▷ use of water heaters in the space-heating system;
- ▷ a 10-kilowatt solar electric system with 140 roof-mounted solar panels that generate about 35,000 kilowatt-hours per year of electricity for common areas;
- ▷ individual electric and natural-gas meters to promote energy conservation;
- ▷ hard-coat, low-emissivity window glazing that allows heat gain during cold winter months but reflects harmful ultraviolet rays;
- ▷ sustainably harvested plywood;
- ▷ natural linoleum flooring in kitchens and bathrooms;
- ▷ recycled and recyclable carpet;
- ▷ nontoxic interior finishes such as low-volatile-organic-compound (VOC) paint; and
- ▷ reduced parking space and ample bike storage.

Nueva Vista prompted Mercy Housing California to develop an in-house system to evaluate the sustainability of projects and to apply green building principles to projects as they progressed. Since Nueva Vista, the organization has included as many green technologies and products in projects as they can afford, says Mercy Housing California president Jane Graf. The next step, she says, is analyzing all the organization's green projects to determine which technologies and approaches are most effective, and creating a set of green standards for the national organization.

"Nueva Vista has inspired and had a huge ripple effect in helping make green building standard practice in affordable housing development in California," says Walker Wells, Global Green's director of green building and the organization's project director for Nueva Vista. With elements such as natural ventilation and daylight from the courtyard, he says, "the fundamental design concept still has integrity from a green perspective, regardless of how technology has evolved. What we still talk about today is the commonsense approach of using off-the-shelf technology and materials and simple ideas."

He points to the hydronic heating system, which uses the heat from each unit's water heater, circulated by a fan, to heat the interior spaces, eliminating the need for a furnace and furnace vents. Global Green made Nueva Vista a case study, says Wells, "because it is an exemplary project that shows what's possible in terms of green affordable housing, but also what's replicable."

Nueva Vista also has influenced the criteria for low-income housing tax credits in California. Federal low-income housing tax credits are allocated by states depending on numerous criteria, such as the number of units provided, income level of the residents, and location. The credits are exchanged for

upfront financing from development partners. Through the efforts of Mercy Housing, Global Green, the Non-Profit Housing Association of Northern California, the Southern California Association of Nonprofit Housing, and others, the state in 2001 rewrote regulations to give points for including energy efficiency and green building technologies and approaches.

The result is a policy-driven financial incentive to build green, says Wells. “The affordable housing developers are many steps ahead of market-rate developers in building green because they’ve needed to respond to the green points to have leverage in financing projects.”

Most of the residents who lived on the site before redevelopment returned to new apartments that provided adequate kitchens, bedrooms, outdoor spaces, and community services. Their living environment is healthier because of interior finishes such as paints, carpeting, and cabinetry that do not give off toxic fumes. In a review of the lessons of Nueva Vista, one that stands out is that it first takes a committed developer, then a committed project team, to push through the green building agenda for affordable housing. **UL**

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