



FOUNDATION

CASE STUDY

2009 AWARDS OF EXCELLENCE

AFFORDABLE HOUSING BUILT RESPONSIBLY

PROJECT AT A GLANCE

Location: Yakima, WA

Project Type: New Construction

Ownership/Rental: Rental Housing

Project Completion Date: Jan. 2008

Size:

26 attached single-family homes

2.5 acres

10.1 units/acre

Affordability:

< 30% of AMI: 10 units

31-50% of AMI: 8 units

51-80% of AMI: 7 units

>80% AMI: 1 manager's unit

Retention of Affordability: 40 yrs.

Project Team:

Developer: Office of Rural & Farmworker Housing

Architect: Zeck Butler Architects

Contractor: Lundgren Construction

Landscape Design: Pomegranate Center

Owner: Next Step Housing

Development Cost (per unit):

Land cost: \$7,300

Hard costs: \$125,200

Soft costs: \$51,400

Total: \$183,900

Cost of Greening (per unit):

Total Cost of Greening: \$4,800

Rebates and Grants: \$4,100

Net Cost of Greening: \$700

Standards Used:

Enterprise Green Communities
(Granted)

Pear Tree Place

Office of Rural & Farmworker Housing



Pear Tree Place was created, as both a green project, and an Alcohol and Drug Free Community. The multi-bedroom townhomes and stacked flats provide families (some formerly homeless families, and some developmentally disabled people) with durable, beautiful homes. These homes are also energy and water efficient, in response to the desert environment.

With its central location, dense development, and on-site surface water management, this project serves as an outstanding example of green development in a rural area. The project team included community input in the process, both by addressing community concerns, and by involving a diversity of community members and organizations in design charrettes. To meet budget goals, the project benefited from a variety of funding sources. When costs required trimming, the team returned to priorities established in initial charrettes. The resulting project achieves a high level of green at low cost.

Primary Goals

- Create healthy, attractive housing where residents can live with dignity and sense of community.
- Build high quality, durable, energy efficient, and water efficient homes.
- Develop service-enriched, affordable housing to best serve families with special needs.
- Create new opportunities for public and private partnerships.

Measurable Performance Achievements (relative to code)

<i>Energy savings:</i>	32%
<i>Water savings:</i>	31%
<i>Construction waste reduction:</i>	25%
<i>On-site surface water capture:</i>	100%



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Green Features

Integrated Design Process. The project team encouraged as much community input in the design process as possible. The initial design charrette included 30 different organizations, including city officials, future residents, funders, neighbors, and the full project team. The group discussed various site plans, interior unit designs, and green building objectives. The results shaped the design, set project priorities, and streamlined the permitting process.

Location and Linkages. The site is a section of a former pear tree orchard. It sits near downtown Yakima and is close to many amenities, including a bus stop, ball field, school, and a family services provider. It is also along Yakima's "Greenway", and the project has on-site paths for walking and biking that link up to this larger trail network.

Site Design / Landscape Planning. The team developed the site to create a sense of community and a reduced environmental footprint. Homes are clustered as attached units and stacked flats. This preserves much of the site as green space, and "separates people from parking" (a charrette goal). Stacked flats have open patios, which promotes resident interaction. The site is decorated with sculptures made by local artists, including pieces that resident children helped create.

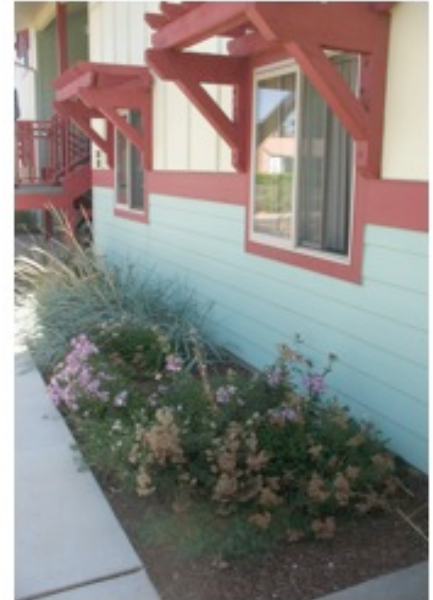
Stormwater is retained on site with bioswales that use local river rock to simulate a dry creekbed. Landscaping includes native plants and a "dry-land seed" (slow growing and drought-resistant) grass.

Architectural Design and Materials. To reduce maintenance costs, the project team selected durable materials, including a roof and siding with a 40-year, and 25-year warranty, respectively. Exteriors are painted pear colors: green, yellow, red, reflecting the remaining section of the original orchard across the street.

Energy Efficiency. Yakima reaches 100°F in summer, but has snow in winter. Consequently, the project team planted deciduous trees on the units' south and west sides, to allow solar gain in the winter, but reduce it in summer. They also carefully sealed the building envelope, and kept a low glazing area to floor area ratio (10%). Units include ENERGY STAR refrigerators, washers and dryers, fans, and other appliances. ENERGY STAR labeled water heaters are located close to end-use fixtures.

Water Efficiency. In addition to drought tolerant landscaping, homes include low-flow toilets and faucets, and water-efficient clothes washers and dishwashers.

Indoor Air Quality. The flooring is comprised of Carpet & Rug Institute Green Label Plus carpet to reduce VOC emissions, and hard, laminate flooring to reduce particle concentrations. Laminate flooring was a green product selected for its pleasing, organic feel. Low VOC paint, adhesives, and sealants were also used.



GREEN HIGHLIGHTS

- Infill site
- Insulation: R-24 walls, R-50 roof
- 14 SEER heat pumps
- ENERGY STAR lighting indoors, exterior lighting controlled by photocells
- Operable windows located to allow for cross-ventilation
- Hardiplank, cement-fiberboard siding
- Recycled-content sheathing, floor joists, roof trusses
- Construction waste minimization and recycling plan implanted
- Impervious surface minimized and drained to infiltration features
- 3rd party testing and verification of energy measures

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Project Significance

Pear Tree Place was created in response to a need identified by Next Step Housing in interviews with future residents. Parents in the alcohol or drug rehabilitation process would complete treatment, followed by transitional housing, and then search for long-term, affordable housing. Because many were reconnecting with their families, they also needed larger homes. Most housing that met these criteria was in areas where drug and alcohol use was prevalent. Thus, at the request of the residents, the project team created the first Alcohol and Drug Free Community for families in Washington. Building green homes was a natural fit, because low utility bills make the units even more affordable.

Partnerships & Collaboration

Eight organizations in all collaborated to create the project. The project team worked with Enterprise Green Communities to adjust a few requirements (density, utility criteria), because of the rural location. Police gave suggestions on site layout and exterior lighting to ensure security. Service providers like Enterprise Progress in the Community (EPIC) also provided input. Many of these partnerships continue now that Pear Tree Place is operating. For example, Triumph Treatment Services, housed with EPIC across the street from Pear Tree Place, provides support for residents in addiction recovery.

Community Engagement

In response to original neighborhood opposition, Office of Rural & Farmworker Housing (ORFH) held two community meetings. They invited some future residents and shared the vision of Pear Tree Place. After meeting their new neighbors, learning that residents must have one year of sobriety prior to moving in, and seeing renderings of the beautiful project, neighbors became far more supportive.

Financial Strategies

Pear Tree Place is a remarkable example of creative financing, with 11 different funding sources, including:

- The Washington State Housing Finance Commission,
- The Washington State Housing Trust Fund,
- The City of Yakima Office of Neighborhood Development Services,
- Yakima County Community Services,
- The Washington Community Reinvestment Association (WCRA),
- Impact Capital,
- The Home Depot Foundation,
- Enterprise Green Communities,
- The National Endowment for the Arts

The general contractor and others involved in early design meetings also suggested strategies for reducing costs. Because of integrated design, there were only minor change orders during construction.



Project Financing Funding Sources

Lenders

WA State Housing Trust Fund:	\$ 1.6 M
Home Funds:	\$ 0.2 M
WA Community Reinvestment Association:	\$ 0.1 M
Total:	\$ 1.9 M

Grants / Incentives

LIHTC Equity:	\$ 2.6 M
Yakima County:	\$ 0.2 M
Other:	\$ 0.1 M
Total:	\$ 2.9 M

Project Costs

Development Costs

Land Cost:	\$ 190,000
Building Cost:	\$ 3,254,000
Soft Costs:	\$ 1,338,000
Total Costs:	\$ 4,782,000
Grants / Incentives:	\$ 2,900,000
Net Costs:	\$ 1,900,000

Cost of Greening Project

Total Costs:	\$ 124,000
Rebates / Incentives:	\$ 107,000
Net Cost:	\$ 17,000



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“It’s so important that this is an Alcohol and Drug Free Community. We all lean on each other. And that the homes are green gives everyone a sense of pride.”

- Diana McClaskey, resident and site manager

“It never fails, some of the best input comes from somebody that you’d least expect it.”

- Architect Rod Butler, who encourages as much participation as possible in design charrettes.

“This is a great response to community needs, and to the local climate.”

- Awards of Excellence Committee Member

“This is a beautiful project. It’s inspiring people in their lives.” for the region and beyond.”

- Member, Awards Advisory Committee

Contacts

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Looking Ahead

Challenges and Lessons Learned

To meet its goal of providing resident services, the design initially included a large community space. However, because of city requirements to extend infrastructure beyond the project, the plan had to be scaled back to stay within the budget. Using priorities established in the design charrettes, the team made the difficult compromise to shrink the community space so that high quality construction materials and green elements could be retained. The smaller on-site community center is still able to accommodate morning AA meetings. EPIC’s larger community center nearby is also sometimes used. While the native plants and bioswales have been successful, the dry-land seed grass will not be used again: Residents complain that children cannot play on it, and that it does not blend in with landscape. The project team will also install temporary irrigation for establishment with future projects in this arid climate, even for drought tolerant species.

Education and Outreach

Residents receive a homeowner’s manual written by the project team and a new-resident orientation. Maintenance personnel also received a manual, and they were involved in early project meetings. The interaction between architects and maintenance staff has identified maintenance issues that have informed design decisions for future projects. As the first affordable housing project to earn Green Communities certification in central Washington, the project has served as an education piece for the larger community. ORFH has shown the projects to other housing providers in the area. ORFH has also showcased the project in an asset management conference for Oregon and Washington that it co-hosts. Specifically, they use the project to illustrate sustainable design, as well as maintenance and operation to keep systems functioning efficiently.