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AFFORDABLE
CASE STUDY

Sandpoint, Idaho

$90 per square foot

# Hidden Density

**These multifamily units look like single-family homes, yet offer green living to renters of modest means.**

We took a look at several of architect Bruce Millard's sustainable projects and settled on this one. As affordable housing goes, it's a stellar example of what's both possible and realistic.

Millard, owner of the Studio for Sustainable Design, worked with property owners Steve Lockwood and Molly O'Reilly to create a small cluster of affordable homes that would be easy to maintain and heat or cool.

"What we did was basically took 16 units of traditional rental housing and divided it up into four buildings," Millard says. "So you feel like you're living in a community. Each one looks like a 1,500-square-foot house, but has several separate units. So effectively we created houses that are about 500 square feet each."

Steve Lockwood acted as general contractor on the job.

"The intent was to show that green, affordable housing is not out of reach," he notes.

To keep costs down, Lockwood asked the town for a reduced parking requirement, so each occupant has only one parking space. That decision has proven a good one—about a third of the tenants walk or bike to work. The builder included bike racks in the design as well.

Materials are low-maintenance throughout. Stained concrete floors with hydronic heat, and natural plaster finishes on both interior and exterior.

Millard says the planning process began with siting—where is the sun? "That costs nothing, and saves electricity on heating," he says. "Then we looked at cooling. We added elements to catch cross breezes. You have to understand what the natural climate is doing."

But the most important cost savings, he says, came from reducing unit size. "Build less. That's what this premise is based on. Assume that the children of the people who live here will pay $5 to $10 a gallon for fuel. Then look at the mortgage plus the utility costs as what the house costs—not just the mortgage. You also have to roll in transportation. How many cars will this occupant need to get around?"

Towns tend to get the density equation all wrong, he says, by looking only at units per acre. "Their premise is wrong," he explains. "It doesn't relate to the sun, to natural cooling, to long-term energy paybacks, total cost of housing, energy, maintenance transportation."

Unfortunately, Millard adds, bankers and appraisers tend to lack a grasp of green housing economics.

Few understand that a more efficient home means reduced risk—with owners less likely to default on loans.

"It's a little better each year, but the bankers are scared. All they do is read regulations," he says. "We don't have time to rewrite the regulations. We need to tear down the walls and get to work." GB

Built to look like traditional single-family homes, Park Cottages offers low-cost rentals in super-efficient green buildings, with no lawns to water.

## NOTABLE GREEN FEATURES

- **Envelope:** 12" Rastra block walls
- **Size/Density:** 450–800 square-foot living areas, 16 units
- **Landscaping:** No lawns; indigenous plants
- **Ventilation/Daylighting:** Operable dormer windows
- **Durability:** Pella "Impervia" fiberglass frame windows
- **Interior Finish:** USG "Structo-Lite" Plaster
- **Siting:** Oriented for best solar gain and daylighting
- **Heating:** Radiant in slab concrete
- **Transportation:** Reduced parking
- **Siding:** HardiPlank

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