Small Home Suits

This compact, panelized home takes its design inspiration from the vast Oregon landscape and local building traditions

Playa is a retreat center in Eastern Oregon that offers residency to artists, writers, and scientists. The small campus is set on the shore of Summer Lake between the Fremont-Winema Forest and the Great Basin. Following steady growth and popularity, Playa's Board of Directors committed in 2014 to building a new home for the incoming executive director. Playa's co-founder, Bill Roach, a master designer with four decades of experience building custom homes, asked us to join the design team.

We had collaborated before, in 2008, when Roger Ota, my lead designer, and I partnered with Bill to upgrade Playa's site and infrastructure and reinvent its common building. Since then, the three of us have continued to explore new architectural frontiers. In addition to ongoing conversations via phone and email, we've met periodically over the years to huddle over sketch pads and pints of Oregon craft beer to share design concepts, discuss construction technology, and debate the merits of prefabrication.

The need for a new home at Playa provided us with a perfect opportunity to test our theories and creativity. Bill launched the endeavor with elegantly hand-drawn plans, sections, and eleva-

Inset photos: Roger Ota, courtesy of the author

Its Site

BY NIR PEARLSON

SPECS

Bedrooms: 2

Bathrooms: 1

Size: 884 sq. ft.

Completed: 2016

Location: Summer Lake, Ore.

Design team: Bill Roach; Nir Pearlson; Roger Ota

Structural engineer: Johnson Broderick Engineering, Eugene, Ore.

Foundation and panel-framing contractor: Markus-Thompson, Springfield, Ore.

General contractor: Sweeney Building Company, Lakeview, Ore.

A PLACE FOR PANELS

The house was designed to be a prefab, but it was too expensive to build full modules at the time of construction. Instead, the walls were built in a factory—a cost-effective alternative to framing on site that ensures material efficiency and minimizes waste. The entire panelized shell was transported to the site on a single flatbed trailer.

tions of a two-bedroom cottage. Over the next two years, Bill, Roger, and I methodically honed in on a design scheme that put a high priority on the landscape, modular construction, and sustainability. Construction began in 2016.

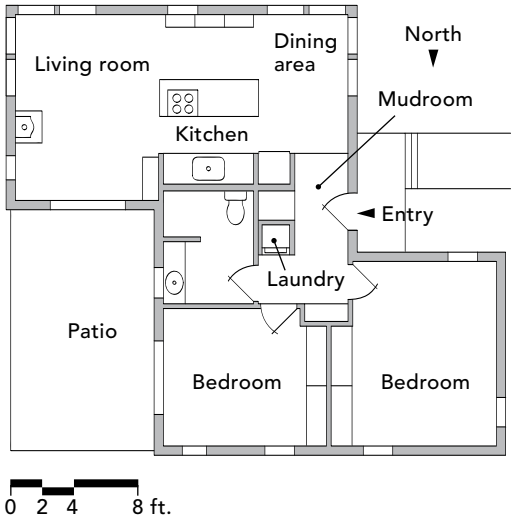
The setting

Playa is surrounded by powerful geography. The steep basalt slopes of Winter Rim rising to the west and south instill a sense of safety and stability at the site. To the east, flat terrain stretches far beyond the alkaline lake bed to a distant horizon. Overhead, ever-changing drama unfolds in the big sky: rolling cloud formations, fluctuating color gradients, and the movements of the sun, moon, and stars. This unique setting became a key determinant of the building's form, orientation, and organization.

The shed roof resembles the gentle rise of the hills that wrap around the lake's southern end, and offers a protective element against the prevailing winter winds that rush down the slopes from the southwest. The west-facing main entry under the low end of the roof creates a natural sequence of movement through gradually rising interior spaces. Tall walls shelter a patio on the northeast side of the house. Within this form, the rooms are arrayed to take full advantage of the varied vistas, usher-

BIG VIEWS IN A SMALL HOME

Under the shed roof, the interior spaces gradually lift from the bedrooms and dining area to the living room, which has tall windows and views in three directions overlooking the surrounding prairie. The interior materials include Oregon-oak, black-walnut, and Douglas-fir cabinets, doors, and trim, as well as porcelain-tile flooring. The Z-shaped plan creates a sheltered patio at the back of the house.



Floor-plan drawing: Patrick Welsh

ing in the changing light as the sun arcs across the sky.

The build

Early on, we decided to gear the design toward prefabrication, which we believe is the future of affordable and sustainable housing. Each part of the home is defined by appropriately proportioned shapes. Overlaid on a four-foot grid, the spaces—living room, kitchen/dining room, bedrooms, bathroom/laundry, and entry and circulation hall—can be repeated, rotated, mirrored, and nestled together into other patterns. In other words, this plan can be easily customized to suit the needs of a variety of homeowners using the same basic shapes and spaces, and if it were offered as a prefab home, the same modules.

The plan includes a utility core where the major mechanical, plumbing, and electrical systems are consolidated into a centrally-located module, and a wet wall that houses all of the plumbing for the kitchen, bathroom, and laundry area.

Our strategy turned out to be a bit ahead of our time. We were able to find only one regional manufacturer interested in building the modules we needed for the home, but the quote was cost-prohibitive. Still, in order to reduce the amount of material transported to the remote location, we had the walls panelized in Eugene, Oregon.

The temperatures in Summer Lake frequently swing 30° to 40° within a day, regularly dipping below freezing in the winter and hovering around 100°F in the summer. We carefully detailed the home's envelope with rigid mineral wool outside of the wall sheathing and spray foam under the roof decking, in addition to full-cavity batt insulation. The house is heated with a high-efficiency minisplit system and a wood-burning stove and ventilated with a heat-recovery ventilator. The metal siding and roof are maintenance-free, and the big windows, glazed doors, and a skylight bring in abundant daylight.

The most sustainable feature of the house is its size, which is "among the most important determinants of environmental impact," according to a 2010 report from the Oregon Department of Environmental Quality. Despite its 960-sq.-ft. footprint, the house's tall ceilings, interlinked spaces, and long vistas make this compact home feel expansive. □

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CHARMING AND DURABLE DETAILS

The exterior materials, colors, and textures are steeped in rural Oregon style. The industrial-grade corrugated-steel siding and red metal roof reflect the region's agricultural heritage. Rusted steel posts and beams support an entry porch canopy framed with Douglas-fir rafters, and the galvanized-metal walls give way to warm, knotty cedar boards around the doorways. An insulated, laminated cedar front door echoes the cabin entry doors found throughout the region.

See more photos of this house at FineHomebuilding.com/magazine.

$300 per sq. ft. goes a long way in a small house

Building small allowed the owners to spend more on high-quality and long-lasting systems and materials. If the house were much bigger, including details like these would have blown the budget:

NO-MAINTENANCE EXTERIOR
The siding and the window and door claddings are made with factory-finished sheet metal. The only exterior areas requiring maintenance are sheltered by the roof, or are within standing height where they make the most visual impact and are easy to maintain.

ENCLOSED CRAWLSPACE
Tall concrete stemwalls, a solid concrete rat-slab, and a groundwater-diversion system keeps the crawlspace dry, even when the water table rises and saturates the ground during the winter months.

CABINETS AS PARTITIONS
The designers intentionally minimized wall construction between the bedrooms and around the laundry area. Instead they used custom cabinets to divide the interior spaces and for added convenience in the small house.

HIGH-END INTERIORS
As with the exterior, the interior finishes and wood trim are precision-crafted and built to last. The plumbing, HVAC, electrical fixtures, and appliances are all heavy-duty, high-efficiency products.