

Fine Homebuilding

G R E A T H O U S E S

More Small Houses



Comfort and Delight on a Low Mortgage

How one couple got the house they wanted
for less than \$100,000

by Ross Chapin





Bill Walton and Rita Lloyd faced a challenge. Unlike many of their peers, neither had bought a house in the early 1980s before prices shot up. Both had been single until they married in their early 40s, and neither had children. Their lives focused around bicycling and outdoor sports, and being renters gave them freedom for their lifestyle. But as newlyweds, Bill and Rita found the dream of owning a home irresistible.

Adding zest to a potentially dull facade. A band of red-cedar siding topped with painted MDO plywood squares enlivens the west wall. At the rear of the house, the shed roof over the window seat in the living room extends into a gable that shelters a hot tub. Photo taken at A on floor plan.

Bookcases and a window seat embrace the living room. A concrete-block fireplace surround finished with stucco frames the woodstove and acts as a heatsink to store the fire's warmth. A small door to the left of the woodstove is a pass-through for restocking the firewood supply. Photo taken at B on floor plan.

They began their search by looking at older homes within their price range. Problem was, these houses needed so much work that Bill and Rita would likely never see the road over a pair of handlebars again. They both wanted to center their lives around bicycling rather than house projects and thought that a new small house, designed and built on a budget, would be perfect. This type of house has been one of my passions, and that's how they came to me.

Keep it to \$150,000—If they took advantage of Bill's Veterans Administration loan program, they could purchase a house and land for up to \$150,000. Backing out the costs for the site, power, telephone, septic system, driveway, and design and finance costs left a construction budget of \$94,000 for the house and a small garage.

Custom construction on this budget is tough to accomplish. For it to work, Bill and Rita had to take a hard look at their true needs and priorities. They met their goal in part because they were able to come to clear decisions. We started by considering the basic shape of the house.

Bill and Rita were most attracted to a 1½-story bungalow, with upstairs spaces tucked into the

roof structure. Its stick-by-stick construction and less efficient use of space, however, costs roughly 15% to 25% more than a two-story house with 8-ft. walls and a roof supported by simple 2x4 trusses. A single-story house is also more expensive because it takes more roof and foundation to enclose the same amount of floor space.

General square-foot costs are just that: too general to mean much of anything. That's because the more costly support spaces such as kitchens and bathrooms, and the inescapable expenses such as septic systems, electric hookups and driveways remain roughly similar regardless of the size of the house. So to gain a clearer picture of where the money goes, I divide the house into parts and study them separately.

Basic living space, for example, may cost \$50 to \$70 per sq. ft. On the other hand, kitchens and bathrooms may cost \$200 or more per sq. ft. because of their plumbing, cabinets and special materials. Stairways, decks and garages have different factors as well. And of course, material selections and details also play a major part in the cost picture.

I can get pretty close to calculating the cost of a house using these variable square-foot prices—

within 20% or so. But for a budget this tight, that isn't close enough. I think it's always a good idea to get the builder involved in cost evaluations as soon as possible. Builders are rich sources of cost-saving advice, if you ask early enough. In this case, Bill and Rita had chosen Richard Epstein while we were still developing the plan and details of the house. Richard had several cost-saving suggestions, such as including a pantry to take some of the function of more expensive cabinets. He also suggested that Bill and Rita provide sweat equity where they could: durational and pre-move-in cleanup (\$1,500 savings), custom second-color painting (\$1,000 savings), and garage finish (electrical, insulation, drywall and paint for a \$4,000 savings). One suggestion that saved Bill and Rita several hundred dollars was to purchase freight-damaged and discontinued appliances at a factory warehouse.

By the way, if the builder hasn't been selected yet, I hire a professional estimator to itemize the costs of a project before we get into working

drawings. At this stage of the game, we've decided on the basic shape and program of the house, and what the primary finishes might be. Even with rudimentary information such as this, a good estimator can get within 10% of the cost of the house. With this breakdown, clients can see how various materials, features and details affect the final price. It lets the client weigh the pros and cons of the details without getting too emotionally (or financially) involved. For a small house, this service typically costs about \$400 in my neighborhood.

The conclusion after our examination was obvious. To meet basic needs while still having some room for quality materials and a few special design features, the construction systems had to be close to production-builder standards. Around here, that means slab-on-grade foundation, minimal corners, truss roof, composite siding, vinyl windows and minimal trim work—that is, a box. My design challenge was to make a small box look beautiful and feel spacious.

Thoughtful plan, straightforward construction—Regardless of its price, a house should relate well to its surroundings. I laid out the driveway around a large maple tree, with a walkway from the garage to the house through a grove of trees (photo p. 151). The entry to the house is from the northeast, away from the prevailing winter winds. The plan puts the kitchen, main bedroom and bathroom to the east, the living room and guest room to the south and west, and the utility room and stairway to the north (floor plans, facing page).

Many houses have an inefficient circulation layout. In this design, we placed the entry at the center of the house. The upper stair also lands at the center, minimizing the area for hallways. The walk-in closet on the second floor is separated from the bedroom, allowing one partner to sleep in while the other dresses. This layout also leaves the bedroom uncluttered with clothes. The angled interior (nonstructural) walls are a surprise, giving each room a unique shape.



Lots of windows, lots of counter space. By eliminating the overhead cabinets, the south and east walls of the kitchen were free to let in light. A walk-in pantry to the left of the stove makes up for the lack of cabinet storage space. Photo taken at C on floor plan.

Getting the most from the storage opportunities. On the left, a recessed shelf in the kitchen accommodates the dishware. On the right, a cabinet door behind the dining table leads to the space at the inside corner of the kitchen counters. Above the counter, the kitchen ceiling drops to distinguish the kitchen from the living room. Photo taken at D on floor plan.



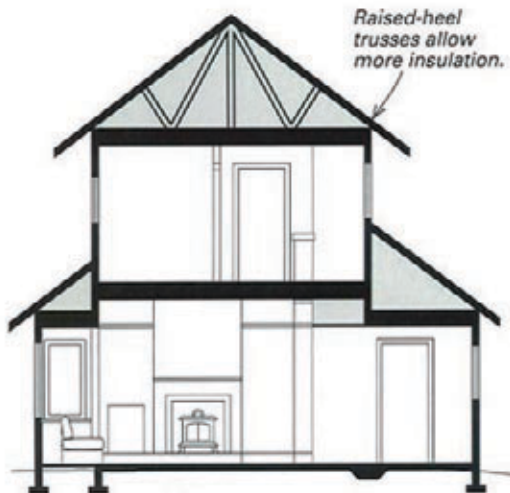
The house is only 16 ft. wide, an economical 4-ft. increment allowing for a span using 9½-in. I-joists. Subtracting the width of the stairway and the 12-in. deep bookcase wall between the stair and the living room leaves a room that is only 11 ft. wide (photo p. 146). But the living room doesn't feel cramped because there are plenty of windows along the south wall, an alcove to the left of the fireplace stretches the space a bit, and at 9 ft. 5 in. the ceiling is about 2 ft. higher than any other ceiling in the house.

The frame is standard 2x6 stud construction at 24 in. o. c., with blown-in fiberglass insulation. This insulation system, by Ark-Seal (800-525-8992), added about \$350 to the cost but provides significantly more heat-transfer resistance and will save money in the long run.

The roof is framed with trusses that have raised heels, which allow full-depth insulation where the trusses meet the walls (top drawing, right). We could have used attic trusses or a stick-frame roof system to create some storage space in the

The bump-outs make it work

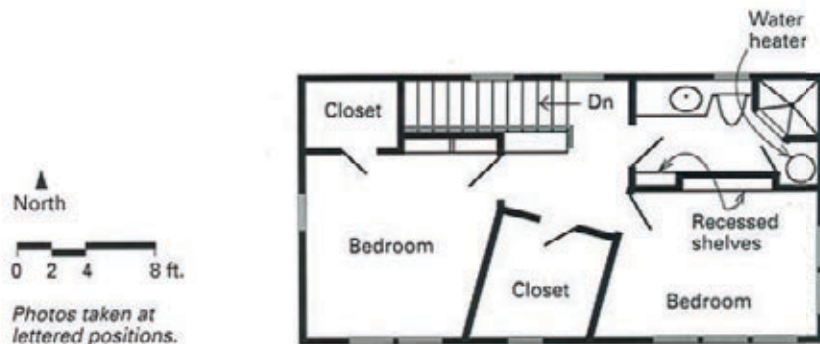
Rectangular projections on the north and south walls make space for the laundry room/entry and a window seat in the living room. On the second floor, a big closet off the master bedroom doubles as a dressing room.



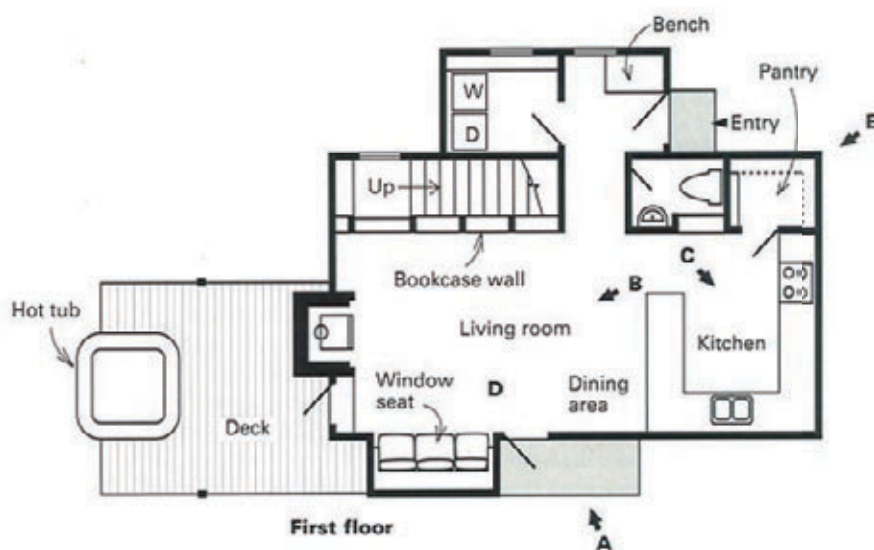
Section

SPECS

Bedrooms: 2
Bathrooms: 1½
Heating system: Wood with electric backup
Size: 1,072 sq. ft.
Cost: \$88 per sq. ft.
Completed: 1995
Location: Whidbey Island, Washington



Second floor



First floor

Glazed garage doors were a thoughtful upgrade. Adding glass to the garage doors raised their cost by about \$400, but the view and the daylight they allow are well worth the extra money.



attic, but either of those options would have raised the price of the house (about \$1,000 and \$1,900, respectively).

The house is built atop a slab-on-grade finished with paver tiles. We considered a basement but the high groundwater table made that option unfeasible. A basement will normally cost approximately \$10 to \$15 per sq. ft. in sandy soil, making it cost-effective space.

We considered putting a radiant-heating system in the slab, but the \$4,000 bid would have precluded the woodstove and the hearth. Had we to do it again, I would have more closely examined the cost of a single-zone radiant system, with second-floor auxiliary electric heaters.

Softening the box—Without some detail to capture the eye, an unrelieved, two-story wall stands out like a blank billboard. Shed roofs are a good way to bring a tall wall back to earth. I used them on both sides of Bill and Rita's house. One shelters the entry; the other shelters the window seat in the living room. On the south side, the shed roof grows into a gable that covers the deck off the west end (photo p. 147).

Simple ornamentation and a variety of materials enliven a house at little cost. We used painted squares of medium-density overlay plywood to add a band of color above the kitchen windows, along with red-cedar board-and-batten siding to contrast painted composition siding.

Every room needs a focus. The focus of the main room in this house is the fireplace and surrounding hearth (photo p. 146). It brings a strong sense of order and symmetry. The stairway landing in the main room is part of the sitting circle.

Expanding the views—Window placement is key in expanding perception of space. In this house, we put windows along the sight lines at the entry hall and stairway landings. Most of the windows in the main room are placed along the long wall, visually widening the space.

In the kitchen, we did everything we could to maximize window area and to fill the room with natural light (photo left, p. 148). An adjacent



pantry and recessed dishware shelf (photo right, p. 148) serve much of the function of upper cabinets, making way for large windows. We put the refrigerator under the counter, freeing wall space for windows. I have found that for a small household, a 6-cu. ft. refrigerator and a separate half- or full-size freezer meets most needs.

The garage is the other living room—Bill and Rita's garage was never intended to be a place for their car. It may serve that purpose for a future owner, but for Bill and Rita, it is a hang-out space, a place to work on their bicycles, to listen to music, to exercise, to play darts and to read. Complete with a workbench, an old sofa, a

refrigerator and a sound system, it is a getaway from the house (photos above, facing page).

The garage was a priority, and a number of other choices were given up to hold it in the budget. With the windows on the south and west walls and the glazed garage door (a \$400 upgrade), it became a light-filled workspace.

Last year, Bill and Rita had 15 guests for Thanksgiving dinner. On that warm day, they set up a long sawhorse dinner table in the workshop and opened the overhead door. Cleanup was as easy as hosing down the floor. □

Architect Ross Chapin lives on Whidbey Island, Washington. Photos by Charles Miller.

Separate buildings make a mini-compound. A winding driveway leads to what appears to be a garage, but is actually a bike shop/exercise room. Note how the roof extends on the right to shelter the lawnmower, ladders and a kayak. In the background, the front door enters the house in a shed-roofed bump-out that also contains the laundry room. Photo taken at E on floor plan.