Houseboat for a Sheltered Bay

1. How, Where and Why

In the summer of 1971, when my cousin Paul was 17, he built a houseboat out of scrap material that he salvaged from building sites and the town dump. It floated on styrofoam-filled plywood pontoons, and he moored it in front of my grandmother's stately waterfront home on Duxbury Bay, in Massachusetts. It was ugly, and she hated it. We loved it. For most of that summer, the houseboat usually had a half dozen teenagers on it. We swam off the back porch, jumped off the roof, and lounged on a couple of bunks inside. There were sometimes parties at night, about which I will admit nothing. One day Paul brought aboard a few days' provisions, cast off the mooring, and with no engine, drifted the two miles to the other side of the bay. There he anchored, spent a couple of relaxing days, and then, when the wind was just right, drifted back to the mooring.

Houseboat Version I - 1974

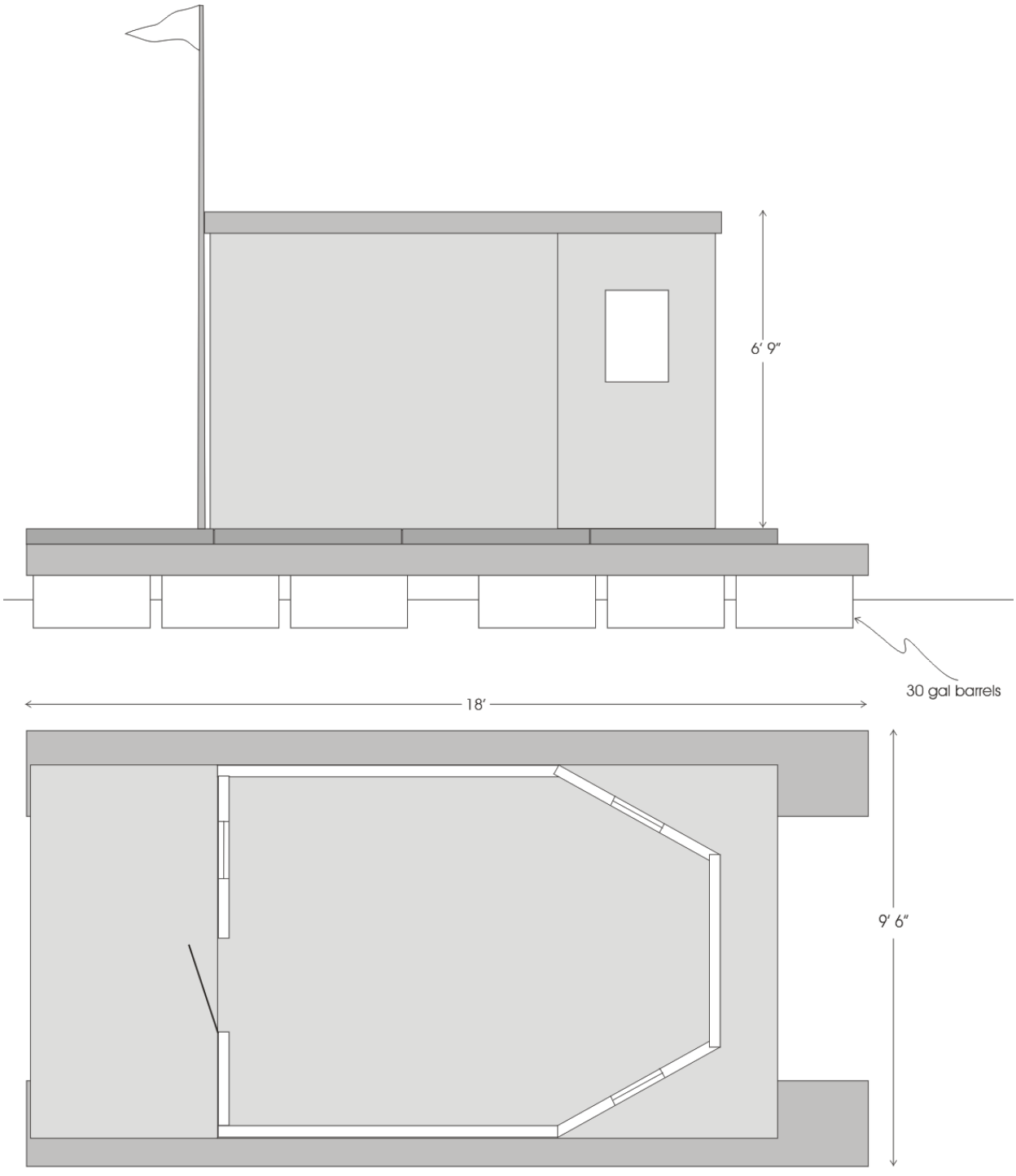
But teenagers grow up and move away, and within a summer or two the houseboat was hauled and trailered to his backyard. Eventually a friend took it to be a playhouse for his kids.

Thirty years later, in the summer of 2004, we were telling our own teenagers the legend of the houseboat. As the stories of adventure, freedom and indiscretion tumbled out, my kids and all their cousins decided that they, too, needed a houseboat. They would build one, together. As they dove into the design and building process, they learned to calculate loads and flotation, to draw plans, to figure material costs, and to use all sorts of saws, drills, drivers and nailers. They learned the hard work needed to complete a big project. And they did it.

For most of a decade, it was a fun thing that brought the cousins together. Now they, too, have grown up and moved on, and the houseboat sits under a tarp, waiting for another generation to revive it.

2. Drawings, Specs & Requirements

Houseboat Version II was modeled on the 1974 version, with only a few changes for strength and stability. Living on a mooring on a sheltered bay, the houseboat did not need to handle any seas, and needed no propulsion. It needed to accommodate up to a dozen children or adults without sinking or tipping over. It needed bunks for two and operable windows for air and light. A ladder to the roof was important, plus a flagpole for spirit. It needed relatively low windage and a stout mooring, so that it didn't break loose and careen through the harbor on a strong southeasterly, taking out 40-footers as it went. Importantly, it had to come apart for winter storage, so everything—pontoons, platform, walls, roof and accommodations—had to be modular. Except for the pontoons, nothing is bigger than 4x8 feet.



Houseboat Version II - 2004

We decided on a roughly 8x11 box for the cabin, sitting on an 8x16 platform. The box has angled corners in the front, to reduce windage. The platform was made of four 4x8 plywood-skinned torsion boxes; they lag-bolt to the 2x18 foot pontoons. This allowed a 4x8 back porch and a ledge to walk all the way around. Ropes on the cabin sides provide security. The pontoons each carry six 30-gallon barrels (free from the local car wash) which give 3000 pounds of buoyancy. In our shallow bay, the houseboat would rest on the mud at low tide with danger of rocks puncturing the barrels, but a puncture would be on the bottom, trapping air, and in any case a few leaky barrels wouldn't sink the whole thing. The pontoons are made of 2x8 lumber, with seven cross beams to create six barrel bays. The barrels are tied in with rope so they don't come out in steep waves. Most of the modules are 2x3 or 2x4 lumber with 3/8 marine plywood sheathing. Deck and roof are ½" plywood. There are four platform boxes, nine wall modules for the cabin, and three roof modules. Although we ran gaskets between the roof modules, they sometimes leaked in rain and I would build them a little differently next time. Window sash pulls out for storage but the door remains with its module. A salvaged ladder goes to the roof, and an old windsurfer mast became the flagpole. For mooring, a 5/8" rope bridle attaches between the two pontoons and is chained to a 200-lb mushroom.

We spent weekends for a good part of the first summer building all the modules, and the driveway became a construction site. The kids learned a lot about layout and marking, using a chop saw and circular saw, and drivers and nailers. I have enduring memories of my 13-year-old niece using a big Milwaukee drill to drive 3" stainless screws into the 2x lumber, or draped with a trash bag to keep paint off her clothes. I hope she does too.

For assembly, the platform is bolted to the pontoons with long lag bolts going into the pontoon cross beams. The walls and roof are bolted together with 1/4x4" hex bolts and screwed to the platform. We had a family party at the beginning and end of each summer to assemble and disassemble the houseboat. Barrels were arranged on the sand with an incoming tide and tied into the pontoons, then the platform bolted on, and then the cabin. When our timing was good, the roof panels would be bolted on just as the tide would be lifting the houseboat off the sand. With 8 or 10 people carrying modules and wielding wrenches, we got assembly down to a couple hours.

The rest of the day was party, with three generations of family. At the beginning of the summer, it would usually involve towing the houseboat to its mooring and then swimming or rowing everyone back and forth. It would only be moments between arrival at the houseboat and climbing up to the roof to jump into the water.

Much effort was made by the kids to decorate the inside, to make the space their own. It wasn't exactly off limits to the adults—I spent some peaceful nights on the houseboat with my wife, waking to sun spilling over the back porch—but it definitely belonged to the builders.

At the end of the summer, we had another party to take the houseboat apart. The order was reversed, and the whole set of pontoons, platform, cabin panels and barrels was stacked and covered with a tarp. Although there was work to do, it was a good excuse to bring the family together. At those parties, the barrels provided fun, with stacking contests or barrel jousting.



This houseboat will not win any prizes. It is not beautiful, nor exquisitely built. It won't go anywhere on its own, and it tows terribly. But that was not its mission. It was meant to be a big project that the kids could do with limited guidance, an object that they would create by working together with their hands. It had to be simple to build and simple to assemble and disassemble. It was meant to provide fun on the water in all the crazy ways that kids think up, but also to provide lessons in responsibly managing boats. It was meant to bring these cousins together, and their parents. In all these, it succeeded wonderfully.