



BUILDING A TINY HOUSE ON WHEELS

Using Abundaculture principles. See abundaculture.org.

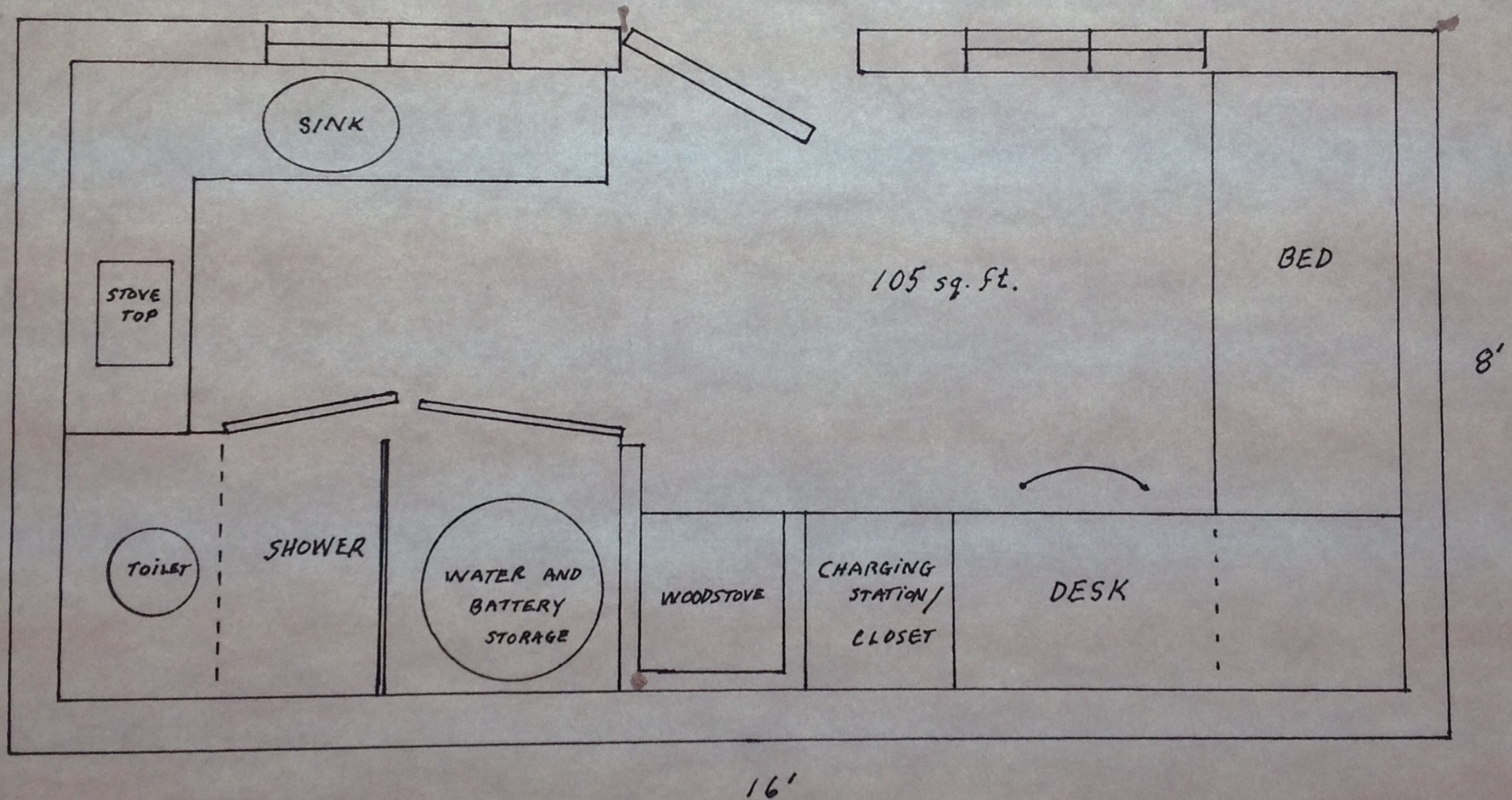
CRITERIA FOR OUR TINY HOUSE

- To build a house on wheels that was easily constructed with simple hand tools.
 - To build a house on wheels using re-used and repurposed materials whenever possible.
 - To build a house on wheels that was safe, comfortable, sanitary and beautiful.
 - To build a house on wheels that was off-the-grid.
 - TO BUILD A HOUSE ON WHEELS THAT WAS AFFORDABLE TO A PERSON MAKING \$8 AN HOUR!
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COST OF OUR TINY HOUSE

- Items purchased - approximately \$5000
 - Labor - approximately \$500
 - Note: I'm an old scavenger with lots of junk that people have given me. For example, all of the 2x6 lumber was a gift. My friend, Toby, gave me lots of paint. I had the temporary solar setup. If you had to pay retail for everything that we put into the Tiny House, your costs would be considerably higher, perhaps as much as \$2000.
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TINY HOUSE ON WHEELS FLOOR PLAN



SOLAR POWERED - RAINWATER CATCHMENT - PASSIVE SOLAR



THE FOUNDATION

We started with a used trailer that could carry 10,000 pounds. This trailer would have cost \$4000 new. We purchased it for \$700, in excellent condition.



SECURITY MEASURE

Before beginning construction I removed two wheels, making stealing the trailer very difficult.

BUILDING THE FLOOR



- The trailer bed is covered with tar paper to protect the floor from moisture coming from below. The tar paper will "breathe." Note the metal brackets which attach the floor frame to the trailer. They are bolted in place. The nuts are superglued to make sure that the brackets won't loosen. Once the floor is in place there will be no way to access the metal brackets.
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INSULATING THE FLOOR



- One of the important aspects of ABUNDACULTURE shelter is super-insulation. The floor is made with 2x6 lumber (used). We used whatever insulating material that we had on hand - old styrofoam blocks, plastic bags, rigid foam, etc. The sawdust is used to fill in small voids left by styrofoam blocks.



THE WALLS GO UP

With the floor completed, the framed walls are glued and screwed and nailed into position. Screws can tend to shear off. Nails tend not to shear. Glue makes an almost unbreakable bond.





DIAGONAL BRACES HELP SQUARE THE STRUCTURE

Braces are glued, screwed and nailed into place. Three braces were used on this tiny structure.



SINK
DRAIN



TOP PLATE - SOUTH

Notice that there are three 2x6s. On the north side there will be only two 2x6s, thus creating a slight slope so that water will run off.



METAL BRACKETS, OFTEN CALLED HURRICANE CLIPS, HOLD THE ROOF JOISTS IN PLACE.



ROOF JOISTS AND ROOF SHEATHING IN PLACE



FOIL INSULATION



- Aluminum foil (from Walmart) is used on sunny surfaces (ceiling, south and west walls). The foil is stapled, shiny side out, to the inside of the siding. The sun's heat is reflected. The radiant heat from the woodstove is retained.

SUPER INSULATION



- We started with six inch walls. Insulation is done very carefully. Every nook and cranny is filled. We use many recycled materials: plastic bottles, old styrofoam blocks that were thrown away, and thousands of plastic bags. Fiberglass is used where electric wires are run. It is less likely to burn.



SECURITY LAMP



GALVANIZED ROOF IS IN PLACE

This roof allows us to harvest potable rainwater.



INTERIOR DESIGNS

Bed/couch and desk.

DESK AND 12VDC LIGHTING



- Wall surfaces are painted OSB board - inexpensive and easy to use.
- Bed/couch slides away from the wall for easy bed-making.

Stove was originally used in a caboose. The pavers protect the walls from heat and serve as a heat sink.

WOOD- BURNING STOVE



THE SOLAR ELECTRIC SYSTEM



- This is a small temporary system with a 10 watt photovoltaic panel that will be replaced with a 100+ watt panel.
- The battery will be replaced with two golf cart batteries.
- The fuses are ATC type, available at automobile parts stores.
- This is a 12vdc system. An inverter can provide 110 ac.

This is a 55 gallon, food grade container. 12vdc pumps provide pressure.

WATER STORAGE



HOT WATER SHOWER SYSTEM



- A small, submersible pump sits at the bottom of the 4" PVC pipe. The pipe holds 3-4 gallons.
 - The water is heated to the desired temperature on the stove or on a rocket stove. Then the water is poured into the pipe.
 - The switch above the pipe turns on the pump. This can only be done with 12vdc. 110vac could easily electrocute the bather.
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SAWDUST COMPOSTING TOILET AND SHOWER



- Toilet contents are placed in an outdoor compost bin.
 - This is one of the safest ways to deal with waste.
 - Compost can be used for safe fertilizer after sitting for one year.
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THE SHOWER PUMP



To keep construction simple and inexpensive, shelves were built that hold plastic bins.

THE KITCHEN





IF YOU'D LIKE TO KNOW MORE, PLEASE
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