



Will's Tarleton Journal

TinyHouseJournal.com

My Project

What I love about the Tumbleweed designs is the brilliant use of space and having only the amount of space that you need, no more. And I like the idea of owning a home but not being tied down to one place. It is a very utilitarian yet beautiful design and quite comfortable. What I liked about the Tarleton design is the full-sized shower and having a kitchen as a separate area instead of it being in the main room as in the Lusby design. I did deviate from the plans a bit in that I did not put a wall between the main room and the kitchen. Everything else is built according to Jay's plans except for making the ceiling 1.5 inches taller. I built the table so that it folds up against the wall and this gives enough space for doing yoga in the main room.

I wanted to build the house fairly quickly, at a reasonable price and with an emphasis on function over style. These goals led me, for example, to use a \$60 electric radiator heater instead of the Dickenson propane fireplace. The propane fireplace looks very nice but it is more difficult to install since it requires a hole through the roof and a propane hook-up. I could have saved more by using less expensive windows and doors but I really don't like the look of vinyl windows so decided to go with douglas fir windows. Recycled windows are commonly available at used building supply stores but getting the exact size was impossible and I did not want to change the wall framing to accommodate the different size windows.

Week 1

Bought a new 2008 Rainbow flat-deck trailer, 18 ft., base price CAD \$3,939. Trailer was delivered 16-Oct. Used a portable grinder to remove the front rail. Then removed about half the deck boards and stapled down aluminum flashing between the remaining deck boards. I did not remove trailer parts that extended off the side of the trailer (intended as tie-downs or holders for putting wood sides on the trailer. Because of not removing these side pieces, I had to use 2x4 lumber for the outside floor framing pieces rather than 2x6 specified on the plans. Also had to modify port and starboard wall framing plans to account for wheel wells not being in the same front to back location as the trailer shown in the plans. My exact trailer deck dimensions are 82" x 18' 1.5". Framing seems a bit wider than it should be, small gap exists between inside of framing members and edge of the trailer deck (both should be 82").

Took a day or so to complete the deck framing. Did this in three parts and put the parts together, worked well. Could not find 3" extruded polystyrene insulation at the Home Depot so used two layers of 1.5". This is not the same insulation shown in the Tumbleweed photos. It does not have

the "skin" and lists the R-value as R4 per inch. Think stuff Jay recommends is R5 per inch. Anyway, put in 3 inches of this insulation and filled gaps with spray foam insulation. When I ran out of this I used rock wool insulation stuffed in with a screw-driver. Next time will cut pieces to fit exactly so don't have to fill in gaps.

Next installed poly vapor barrier (staples and tuck tape on edges), then 3/4 inch T&G plywood over deck framing. Under-estimated the number of sheets needed to cover 16 ft floor because of the overlap in the T&G section. So, had to buy one more sheet and cut about 3 inches off.

Week 2

Moved the trailer to our gravel "parking lot" area so that I could have a drier place to work. This was the week for getting the wall framing done. Kind of hard trying to get the trailer deck leveled out so walls could be plumbed. Ended up using a Pythagorean theorem method to get walls perpendicular to the floor. One side wall came out a bit wrong (bottom longer than top). Had to remove several studs and cut sole plate shorter, then re-install studs. This may have caused window frames to not be plumb but they should be close. Note to self, check distance between end stud and newly placed studs at top and bottom as you go along.

Anyway, got everything pretty much squared up and put in the second cap plate (not in plans) in order to raise ceiling height to 6' 4.5". Made lumber for side wall cap plate a full 16' to overlap joint between side and front/back walls. Then put in 3/8" plywood sheathing to cover all walls. Secured sheathing with 2" screws. Then installed collars on top of walls where the sleeping and storage lofts will be. Original plan was to put rafters on top of wall also but from looking at the transverse section, the rafters should be placed 5" higher than the walls using another 2x4 placed on top of the collars. Anyway, this part was not really clear from the plans. Put blocks in between collars flush with outer edge of wall framing then put 16' 2x4 on top of these blocks and collars. Used this to support rafters. Cut rafters according to plan dimensions. Cut 2x6 ridge beam to 17' and put it in place temporarily using 2x4s attached to wall framing. Put first rafter even with outside of wall framing on back and front walls. Had slight problem with rafter angles not fitting ridge beam properly (could be that guide on chop saw is not true). Had to cut a bit sharper angle at upper end of rafters. After this they fit fine. Put two 3" screws to secure upper end of rafters to ridge beam. Then put 1-2 screws to secure rafters to the wall. Used 24" OC spacing for all but one set of rafters (last one will be 22.5" spacing). Put in hurricane clips for each rafter using 8 nails per clip. Took about 7 hours with me and John to cut and install rafters and ridge beam (and extra blocking and framing for rafters to sit on).

Week 3

Installed 1/2" plywood roof sheathing. Installed framing on gable ends (4 studs across walls plus framing for the window opening). Finished with 3/8" sheathing on gable ends. Put down roofing felt with staples and put house-wrap, plastic and tarps to cover walls temporarily (rain expected).

Week 4

Finished installing fascia boards (1 x 6 cedar, unfinished). Attached with 1 1/2 in. coated screws to every rafter end. Attached at the gable ends to the rafter fascia and the ridge beam. Cut down the roof sheathing so that it just covers the gable end fascias. Installed fascias on rafter ends so that the outer edge of the fascia is in line with the roof sheathing. Installed drip edge at the eaves (sides of house) first with felt overlapping, then installed gable end drip edge on top of the felt. Had to bend the drip edge on the sides to get about a 45 degree angle so that edge would be flush with the fascia. Next, installed roof panels (Westform Metals, double ridge pattern). Purchased 14 6 ft. panels, cut them down to 70 in. in length. Put cut ends at top near the ridge and about two inches from the actual ridge. Put about a 1 in. overhang on the sides of the house and 2 in. at gable ends. Put screws on one side of ridges in sheathing, every 1 ft. apart vertically. Put screws on both sides of ridges at top and bottom of sheet. Installed ridge cap with 3 in. overhang of roofing.

Finished cutting out small gable windows with the jig saw. Took off all the plastic and tyvek and trimmed up plywood around all the windows. Used circular saw to cut gap horizontally between plywood sheets for expansion. Put extra screws through the plywood at diagonal bracing on end walls, around windows and door and in blocks between studs. Put new house wrap on outside. Put caulking between wheel wells and plywood sheathing.

Week 5

Put a few more missing roof screws in. Finished putting tyvek over gable ends and cutting out window and door openings in the tyvek. Put frieze blocks (2x3) in between the rafter ends. Started cutting and sanding cedar 2x6 boards for the porch area. Discovered some water had got in under the flashing (between flashing and treated 2x4 framing under the door area. Jacked up the front of the trailer so water would run out. Need to dry this out and somehow seal this off with staples and caulking.

Sanded outside of fascia boards (120 grit sand paper) and treated them with a coat of Thompson's Water Seal Advanced Cedar treatment. Also sanded and treated the cedar framing under the porch area and the 2x6 cedar deck boards. Put caulking along joints in the porch area (area at base of door wall). Also caulked the end of the aluminum flashing on the trailer deck and stapled it to the floor framing members where water was able to enter.

Finished attaching deck boards on porch. Did framing of inside walls for bath/kitchen and closets. Started on ladder construction. Installed R14 Roxul insulation between rafters.

Week 6

Bought 420 linear feet of cedar 1 x 8 bevel siding at Surrey Cedar on Saturday. Over the last few days have finished the ladder, put in pine sides for shelves and started on the outside siding installation. Made a little wood jig to hold up the new course of siding at the right spacing (just over 1 in. overlap between courses). Taking longer than I'd hoped to install the siding. Starboard side is within one course of the top. Am going to need a lot more siding to finish the other sides. Got about 2/3 what I need, maybe less. Alyson helped with sanding the fir T&G to be used for the sleeping loft floor. Picked up some oak hardwood flooring for \$50 at the ReStore, should be enough for the great room.

Week 7

Since last entry I have completed the cedar siding on 3 sides of the house (need to caulk still and fill in a few holes). Also put in some VG fir 1x4 boards for the storage loft floor. Installed reclaimed fir T&G for the sleeping loft floor. Installed vapor barrier plastic on the ceiling and put in 5/16 inch knotty pine paneling on the ceiling with trim boards along the side and covering the ridge beam. Bought shower enclosure (32 square by 72 high), 10 gal GE 120V electric water heater, sink and faucets for the sink and shower. Have to modify/add framing in order to screw in and support the shower.

Mark came out and we installed the water heater and shower. Cut holes through the floor for the shower and sink drains and one for the water supply line. Put silicone caulk between two sections of shower stall, put in shower "strainer". Put insulation and vapor barrier in shower alcove and put in extra 2x2 to attach shower flange. Also added 2 1/2 in. blocks along outside wall to attach shower stall (32 inch shower, 34 inch opening). Mark installed valves to shut off main supply, one to shut off supply to water heater and valves for hot and cold sink supply. Also installed to shower control and shower head. Put an extra block in the interior wall to attach the shower control. Water heater still needs to be secured and maybe a catch pan installed underneath.

Week 8

Been busy but don't seem to be getting too much done on the house. Monday shopped around for counter top, bought a propane 2 burner stove. Tuesday went to Nanaimo and picked up windows. Put in windows Wednesday and Thursday. Used cedar shingle pieces for shims around the windows. Put blueskin/bituthane flashing at base of window opening and on top of the nailing flanges. Found some info on the internet about installing windows. Put caulking on inside of flanges around sides and top (leave out at bottom for drainage). Nailed windows in using 8d nails around sides and bottom (none put in at top to allow for expansion).

Weeks 9 - 11

Was on holiday for a week then came back and got to work. Used spray foam and insulation batting stuffed in to insulate the gaps around windows. Installed temporary sliding plywood door. Had electrician out to do wiring. Put in all insulation, vapor barrier plastic and pine paneling on the inside of the exterior walls, paneled interior bathroom/kitchen walls and walls in lofts. Used 3/8 plywood as paneling under where the kitchen counter will go. Completed shelves beside closets with 5/16 paneling on the back, then 1 in pine for sides and shelves (11 in deep on one side, 8 in on the other). Ordered light fixtures for kitchen, bathroom, loft, great room and porch (take 3 weeks to get all of them). Ordered countertop to install myself (take 2 weeks to get this).

Weeks 12-14

In the last three weeks have got quite a bit done. Did lots of work with trim and paneling to cover wiring areas. Installed trim around windows, around shower. Put in 1x12 pine shelving in kitchen area. Put 3/8 plywood lining closet areas, put in clothes hanger rod. Finished pine trim in storage loft. Installed shower door and trim around shower. Used 5/16 paneling cut into 1 in. strips for interior trim around windows. Built roof over porch using 2 4x4 cedar posts and 2x4 cedar supports covered by 1/2 in plywood sheathing. Put tar paper over plywood and metal flashing at porch roof/wall junction. Ordered custom pre-hung door from Weatherguard on Jan 21 (2-3 week production time). Moved the house to it's final spot and ran 1/2 in plastic water line from near the old camper. Also picked up the countertop and supported it temporarily with 2x2 framing and brackets to the rear. Put sink, faucet and propane stove into the countertop.

Weeks 15-18

Had our trip to California Feb 1 to 11. Did not get a lot done for first few days after the trip, then last couple days have been pretty productive. Put aluminum flashing for the porch roof and put roofing screws on top and bent it around the plywood roof sheathing and used stainless staples to attach it on the underside edges of the plywood.

The electrician came back and installed my light fixtures, receptacles and switches. Bought brass tone cover plates and installed them.

Build bare bones cabinets using 3/4 in. plywood with a good wood grain. Put supporting 1.5 in by 3/4 in plywood strips at the front and back of the countertop to support it all along. Supported these strips with four plywood cabinet "walls". Nailed the plywood strips to the particle board (part of countertop) using 2 in. finish nails and the brad nailer. Used screws and L-brackets to attach the cabinet walls to the support strips and to the plywood floor. Whole thing seems very strong. Put a few extra screws through the cabinet into the studs to hold it in place.

Hooked up the water supply and turned on the breaker for the water heater. Then had the 1/2 in. supply line come apart at a junction and all the water drained out of the water heater and fried the element. Bought and installed a new element. Because it was leaking around the element, also put a plastic pan under the water heater. Also attached a drain tube for the water heater release valve and ran it outside through the floor. Strapped the water heater to the wall to keep it in place.

Bought a 20 lb propane tank, a regulator and about 8 ft. of supply hose. Drilled a hold in the floor and hooked up the hose from the tank to the stove. Tank just sits outside beside the house near

where the stove is. Tested for leaks using soapy water, didn't find any and the stove works fine (Stove is a Vitco RV stove, 2 burners).

Bought a fridge and installed it (Danby, 18" wide). Left 2 in between fridge sides and cabinet walls. Manual says to leave 5 in behind the fridge open, I have maybe 3 in, hope it works OK.

Installed sheet vinyl flooring in kitchen and bathroom yesterday. Sanded down the plywood a bit and filled in screw and knot holes with leveling compound. Let this dry then cut out patterns in the vinyl flooring and glued it down. Took quite a while to cut it out correctly, then when gluing it down, edges needed to be pressed down several times. Pretty happy with results though.

Started putting trim around outside windows (finished 3 of the 8 windows still to be trimmed). Used cedar 1x4 boards, ripped them down to about 2.5 in wide. Had to use some shims to make trim boards flush because of the thickness of the window nailing fins. Used same casing nails that I had used for the cedar siding to attach the trim boards.

Weeks 19-20

Since last writing in here I got the door installed and put the lockset on it. Installed vinyl flooring in the entry and closets and built transition ramps going from the oak flooring to the vinyl. Finished up the trim in the sleeping loft area. Put 1x4 pine trim around the inside of the door, 1x4 cedar around the outside of the door. Also finished up the cedar siding on the door end of the house. Had to cut around the electrical outlet and the porch light, then chisel out a place for the outdoor cover for the receptacle on the porch.

Putting in the door was quite a pain. The opening was not exactly square or plumb front-to-back. Had to do quite a bit of chisel work at the base of the rough opening in order to move the base of the door far enough to the left. Then put in cedar shingle shims all around the door and put 2.5 in finish nails through the jamb and shims into the trimmer studs. Also used some 2 in brad nails to secure the shims in place. Used spray foam to insulate and put in some of the roxul rock wool in places where the spray nozzle would not fit. Then the trim on both sides and installing the lockset. Also had to shave down the top of the door as it was too tight fitting against the jamb. Used the angle grinder with a round piece of sand paper because it was a tight fit. Then used a rasp to take off the high bits, probably took off 1/16 in from the top of the door to make it fit. Closes and seals nicely now.

Also built a new ladder to get into the lofts, used 1x4 for side rails instead of the old (heavier) 2x4 lumber. Also made it at a steeper angle and put rubber feet on so it would not slip. Works quite well and looks nice.

Last few days have been working on the shelving and cabinets. Built a cabinet door from 1x4 T&G pine and put this under the sink area. Put in two pine shelves under the stove and a 2 in lip on the over-counter shelf. Sanded and put varathane on all the shelves (3 coats varathane).

Finishing up

Painted all the interior paneling with linseed oil. Used wood filler to fill in some knot holes in the inside paneling. Then sanded the filled holes and put a coat of linseed oil on the shelves, paneling, ceiling. Put a coat of white paint on the sleeping loft floor. Put a couple of shelves in one of the closets and put on doors for the closets. I bought a 36 inch louvered pine door and used each half as a closet door as each opening is just about 18 inches. Had a bit of a problem with location of the light switches right where the closet door had to go. Cut out part of the door to access the light switches. Then put linseed oil on the closet doors. Bought a 60 x 75 piece of 4 inch foam from an upholstery shop to use as the bed. It is very comfortable and cozy up there.

Made a table that folds up against the wall using a 22 x 43 x 1 piece of laminated pine. Ordered some window blinds online and got those installed. Still need to caulk the outside siding when the weather is dry and finish up a few other things.

Did lots of work cleaning up debris at the house site (it had lots of trash from a previous demolition). Put in a grey water system using "big O" perforated pipe buried about 18 inches and surrounded by drain rock, then covered with soil. The combined drain from the shower and sink runs into a 1 1/2 in ABS pipe and this runs into the grey water system. Dug a 6 inch trench and buried the water supply line. Bought a used 1999 dodge 2500 pick-up truck to be able to tow the house to our new farm. Bought some other stuff to outfit the house: a Cuisinart convection toaster oven, some baskets, cutting board, etc.

Summary of materials used:

2x4 SPF for framing (about 10% free/recycled)
2x6 SPF for ridge beam
Simpson rafter ties
2x4 treated for floor framing
2x4 cedar for porch joists and porch roof supports
2x6 cedar deck boards for porch
3/4 in. T&G plywood for floor decking
1.5 in EPS foam for floor insulation
Roxul R14 flexibatt insulation for walls and roof
Tyvek house wrap over wall sheathing
Poly vapor barrier plastic over insulation inside walls
Spray foam insulation for filling gaps
Galvanized metal roofing, drip edge, ridge cap
Tar paper and roofing screws
1x8 cedar bevel siding (8, 10 and 12 ft lengths)
1x2 and 1x4 cedar for siding trim and window and door trim
1x6 cedar for fascia boards
1x4 fir for storage loft floor
1x3 T&G fir for sleeping loft floor (free, recycled)
Pine moulding
5/16 in T&G pine paneling
1x4 T&G pine for cabinet door
1x8, 1x12, 1x16, 1x22 pine shelving
Custom douglas fir windows and door from Weatherguard Windows
Schlage lockset and dead-bolt
3/4 in plywood for kitchen cabinets
Custom laminate countertop
Moen sink faucet
Delta shower fixture
Elkay stainless steel sink
Maax 32 in 2 piece shower stall with matching door
GE 10 gal 120v hot water heater
PEX, copper and ABS water pipe
Misc. plumbing fittings, valves, vents
Electrical supplies: switches, receptacles, romex, boxes, light fixtures, cover plates
Vitco 2 burner RV range, gas line, propane tank
3/8 in and 1/2 in plywood for wall and roof sheathing
Screws, nails, finishing nails, misc. connectors, hangers, etc.
3/4 in solid oak pre-finished flooring
Vinyl/linoleum type flooring (free, recycled)
Flooring nails, leveling compound, glue

Following is a breakdown of costs in Canadian dollars:

| Category | Cost (CAD) | Notes |
|--|-------------|---|
| Cedar exterior siding, trim, decking | \$834.08 | Used 1x6 cedar bevel siding (clapboard), 2x6 deck boards for porch, 1x4 for window and door trim |
| Custom douglas fir door & 9 windows | \$4,452.46 | From Weatherguard windows and doors in Nanaimo, includes additional cost for lockset |
| Custom laminate kitchen countertop | \$513.51 | Ordered from home Depot |
| Electrical supplies and labor | \$1,348.34 | Hired an electrician who provided most supplies, bought the light fixtures myself |
| Exterior sheathing (3/8" and 1/2" plywood) | \$405.20 | Use exterior grade CDX plywood |
| Fasteners | \$419.56 | Screws, nails, misc. connectors, hangers, etc. |
| Flat deck trailer (18 ft. 10,000 lb cap.) | \$4,439.33 | |
| Flooring and supplies | \$297.62 | Got some flooring from HFH Re-store, bought some, installed it myself |
| Framing lumber | \$425.68 | Got some recycled 2x4s for free |
| Insulation | \$376.52 | Used Roxul Flexbatt R14 for walls and roof, 3" EPS foam for floor. |
| Interior pine panelling, shelving and trim | \$807.37 | Used 5/16 knotty pine T&G panelling, lots of laminated and solid pine 1x8, 1x12 and larger for shelving |
| Other materials | \$637.47 | Includes aluminum flashing, tyvek, vapor barrier plastic, tape, etc. |
| Plumbing supplies | \$1,021.32 | This includes pipes, water heater, sink, faucet, shower fixture |
| Plywood decking (3/4" plywood) | \$140.54 | Put this plywood as a sub-floor over floor framing |
| Propane stove, tank, gas line | \$339.67 | Bought most of this at an RV supply store |
| Refrigerator | \$223.97 | |
| Roofing materials | \$477.61 | |
| Shower stall & door | \$777.28 | Installed a Maax 32" fiberglass 2-piece shower stall from Home Depot with matching door |
| Tools | \$288.22 | Had most tools already available |
| | \$18,225.74 | CAD values include 12 percent sales tax |

TinyHouseJournal.com