

## **Modifying The Squidget To Fit Other Trailer Chassis Sizes.**

I've been asked numerous times if the Squidget design can be modified to fit on other trailer chassis sizes, and yes, it can. I've worked up some design mod drawings for trailer frames that are 8' and 10' long by stretching or shortening the profile. I've also designed a layout mod for an 80"-84" wide cabin if you have a chassis that will support the load capacity. If the trailer chassis is not as wide as the floor width that you want, you can weld four extensions on each illustrate what you can do to make the Squidget fit these different sized trailer chassis'.

You must consider how adept you are at making design changes in the interior framing to fit a different chassis size. This is not very difficult, but, if you are using fenders that must attach to the walls, as do my Squidget fenders, you'll have to place the support framing inside the side walls at the points where the fenders will be attached. This requires careful planning and measurements of the axle location from the trailer chassis that you will be using. The actual end result for framing the cabin to fit your chassis is your responsibility, although I will offer help when I can.

### **Pros and cons of building on a shorter or longer chassis.**

#### 4'x 8' chassis:

Pros: Lighter weight. Lower cost. Easy-to-find chassis.

Cons: Less room inside. Less storage area. Need a chassis with at least 1000 load capacity.

Remarks: Harbor Freight Heavy Duty 4'x8' trailer with a load capacity of 1180 lbs. would work, but I do recommend welding the frame and tongue to make it rigid, not a folding chassis.

#### 5'x8' chassis:

Pros: Lighter weight. Lower cost.

Cons: Less storage area. Finding a plain chassis that size.

Remarks: A modified folding bed platform (redesigned for an 8' long chassis) gives this trailer almost as much standing room when bed is down and more standing room when in couch mode but at the sacrifice of some under-bed storage area. Using the original bed platform folding design results in less stand-up area and smaller galley counter and storage. A folding 5' x 8' trailer, Model SJ-8531, is sold at redtrailers.com. It has an 1187 lb load capacity and 12" tires. It's similar to the 4' x 8' folding trailer sold at Harbor Freight.

#### 5'x10' chassis:

Pros: More room inside. Allows for small closet to be built in.

Cons: Added towing weight. Finding plain chassis that size. Having to remove steel from landscaping trailers that are available.

Remarks: Five foot wide Landscaping trailers are readily available but the sides and ramps make them more costly and have to be removed. Load capacity should be at least 1300 lbs.

## **Making the cabin wider.**

If you have, or can find, a trailer chassis from 8-10' long, but at least 80" wide, you can use the profile mods for the sizes above to shorten or stretch the trailer cabin to the proper length and widen the cabin so that the bed sleeps across the cabin. This design mod provides a bed platform with a center section that is removed and placed on a pedestal or stand of some type to become the table with bench seats on either wall. The bench seats are also storage compartments.

Any of the 4' or 5' wide frames can have 4 side extensions welded on so as to provide floor supports, providing the widening of the cabin doesn't result in exceeding the load capacity of the trailer. The wider cabin would have the wheels and tires inside the cabin walls with built-in wheel wells, so that fenders are eliminated.

## **Using a 4' x 8' or 5' x 8' Trailer Chassis**

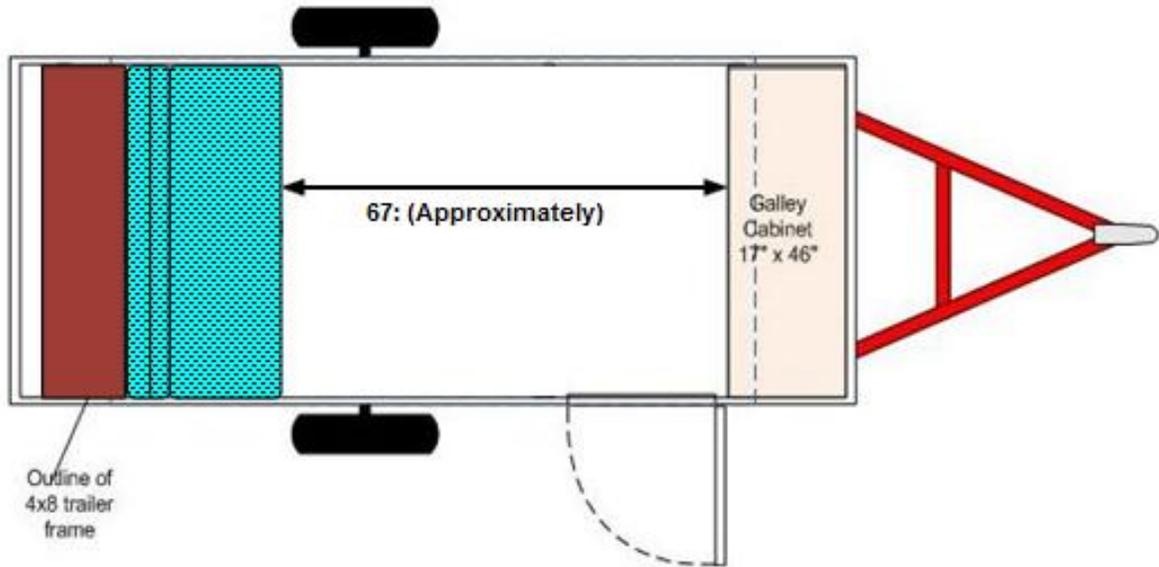
I've given a lot of thought to building a smaller version of the Squidget on the Harbor Freight heavy duty 4'x8' folding trailer or on the Red Trailers 5' x 8' folding trailer. Both have 12" wheels and a load capacity of around 1180 lbs. The Squidget's cabin could be shortened by 12" to 11' long overall for both trailers and narrowed to 4' wide so that it will fit on the 4x8 trailer frame with the wheels outside the cabin, just like the original Squidget.

As you can see in the drawing below, the bed is at bit cramped, at only 46" wide, 8" narrower than a full size, but about the same size as those on a small Coleman popup camper that I once had. I designed the bed at 76" long, nearly the same length as my Squidget bed (I hate standard bed length of 74" as my toes hang over the end). Even with the profile shortened by a foot, you can still build in a galley counter with some storage space beneath it. The counter would have to be only 17" - 18" deep, 6" less depth than in the original Squidget. You are left with a standing area of about 26" x 46" when the bed is extended. The original plans have a standing area of about 30" x 43". I didn't include the potty cabinet as that would take up about 16" of your standing room, leaving not enough room for two people to stand comfortably at the same time.

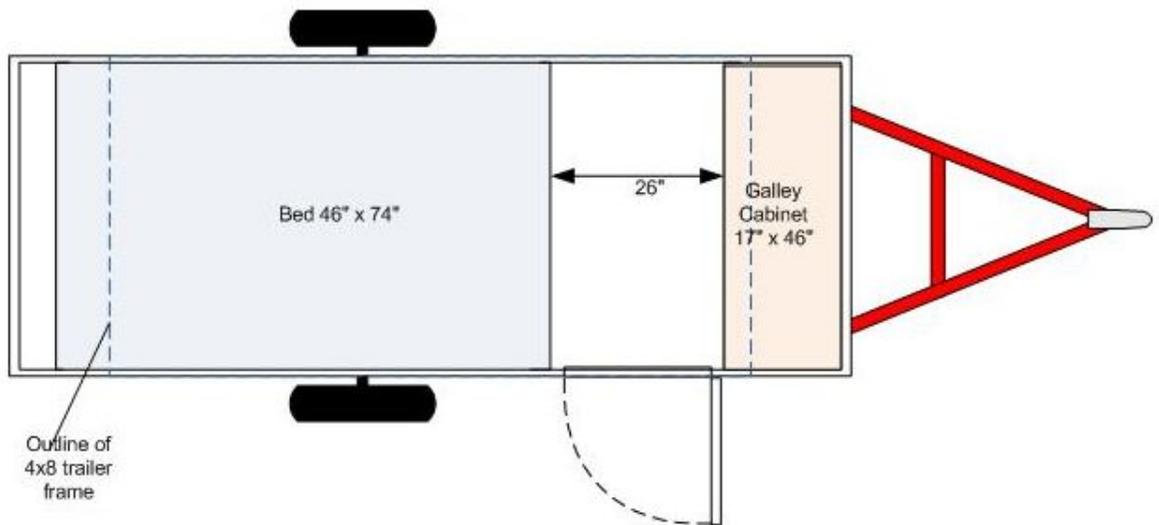
One of the ways I made this work was to shorten the space behind the seat back when in couch mode and still leave a place to store the two extra seat cushions used as the mattress. This necessitated combining the two under-bed storage compartments into one compartment with only inside access doors. There are trade-offs to making the trailer work on the 4'x8' frame, but not drastic ones.

The drawings below illustrate building on the 4' x 8' frame, but would be the same, except a foot wider, for a 5' x 8' frame. The cabin could be widened to 5' on the 4' x 8' frame without exceeding the load capacity. That would entail making wheel wells and the tires and wheels would be partially inside the trailer, but extending outside just a little. I'm not sure that the cabin could be widened to 80" as with the larger chassis' without exceeding the load capacity (discussed in detail further down), and I don't recommend trying to do that.

The following four drawings provide views from top and side first with the couch made up, and then with the bed extended:

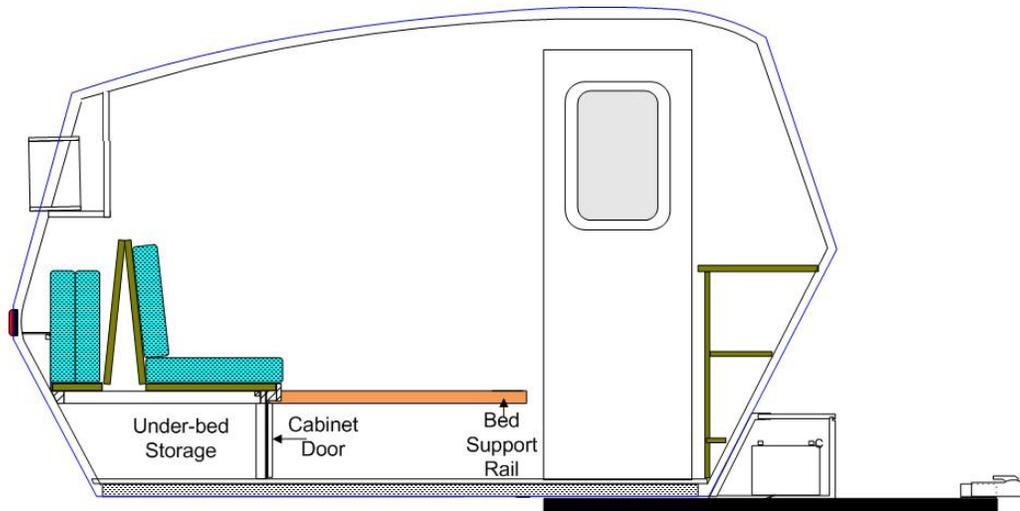


**With couch made up, there is approximately 46" x 48" of stand-up floor area.**

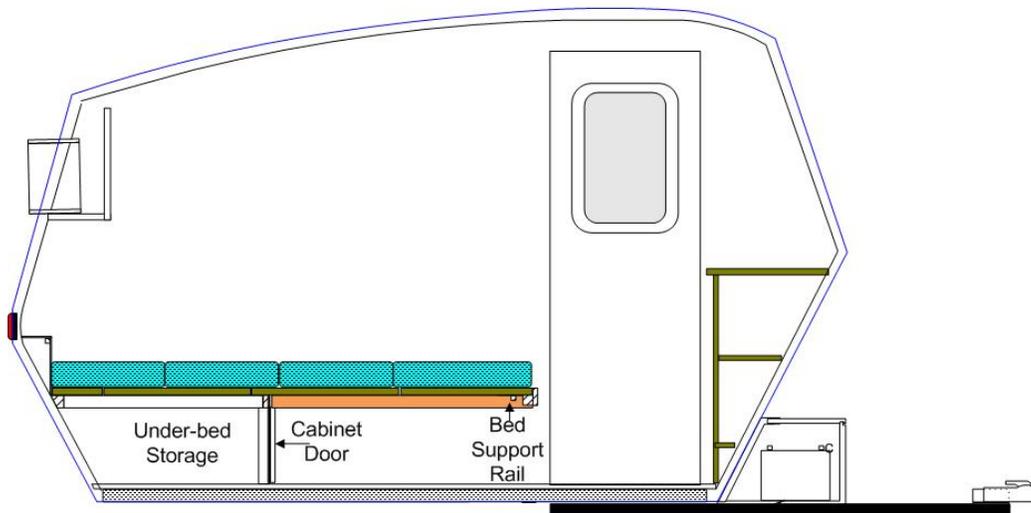


**With the bed extended, there is approximately 26" x 48" of stand-up floor area.**

With a 5' x 8' trailer frame, the porta-potty cabinet could be built in, just like in the original Squidget design. Putting the porta-potti cabinet in the cabin on a 4' x 8' frame would reduce the stand-up area to provide room for only one person at a time.



**This is a profile view with the couch made up. There is sufficient floor area for two people to stand and move around inside.**



**This is a view with the bed extended for sleeping. Two people can still stand up at the end of the bed .**

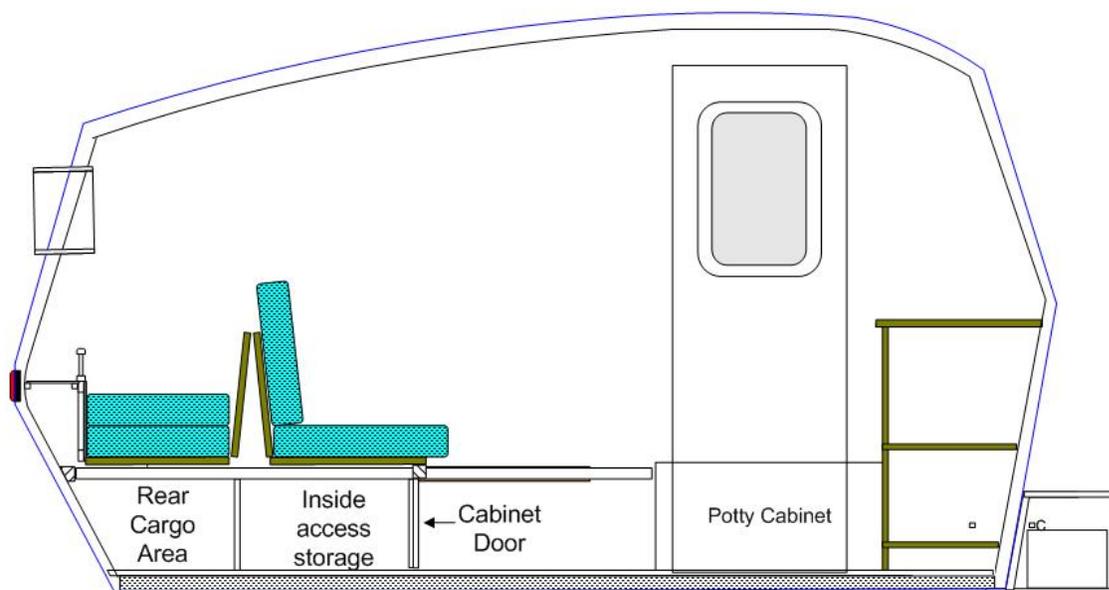
It would be pretty easy to modify the Squidget's profile to fit this trailer. I estimate that the overall weight of the cabin would be between 130 and 190 lbs less than if it were regular size, depending on whether it is built for the 4' or 5' wide frame, and the materials used to build it. The Harbor Freight 4' x 8' trailer frame should weigh about 260 lbs and the Red Trailer 5' x 8' frame just slightly more. My 5'x9' frame weighed about 350 lbs as I used tubular steel that was quite a bit heavier than the angle steel used in the folding trailers, so my finished cabin with mattress and AC probably weighed about 1050 lbs. Given that the smaller trailer cabin would weigh, say, 150 less than the original, the finished trailer shouldn't weigh more than 1200 lbs with the cabin being

about 900 lbs of that overall weight for the 4' wide model and a little more for the 5' wide model. Those weights fit well within the load capacities of the two folding trailers described here.

If you decide to use either folding trailer, I'd recommend that you have the tongue welded to the frame and some reinforcement welded where it folds to make it a rigid frame, not a folding one. That wouldn't add any significant amount of weight affecting load capacities. I would not recommend trying to widen either trailer cabin to more than 5' wide as in the discussion below for wider cabins on stronger chassis'.

### Using A 5'x10' trailer chassis'

Using a 5'x10' chassis', the overall profile length can be lengthened to 13', or left at 12' with only the bottom angles changed at the front end as shown in the drawing below. This version provides the same overall length of the cabin with an enlarged storage area beneath the galley cabinet. Personally, I think that keeping the original overall length has sufficient room inside, but increasing the overall length to 13' would give you more stand-up room area and provide space to build in an 11" wide closet at the end of the porta-potti cabinet with a little more overall weight as a result.

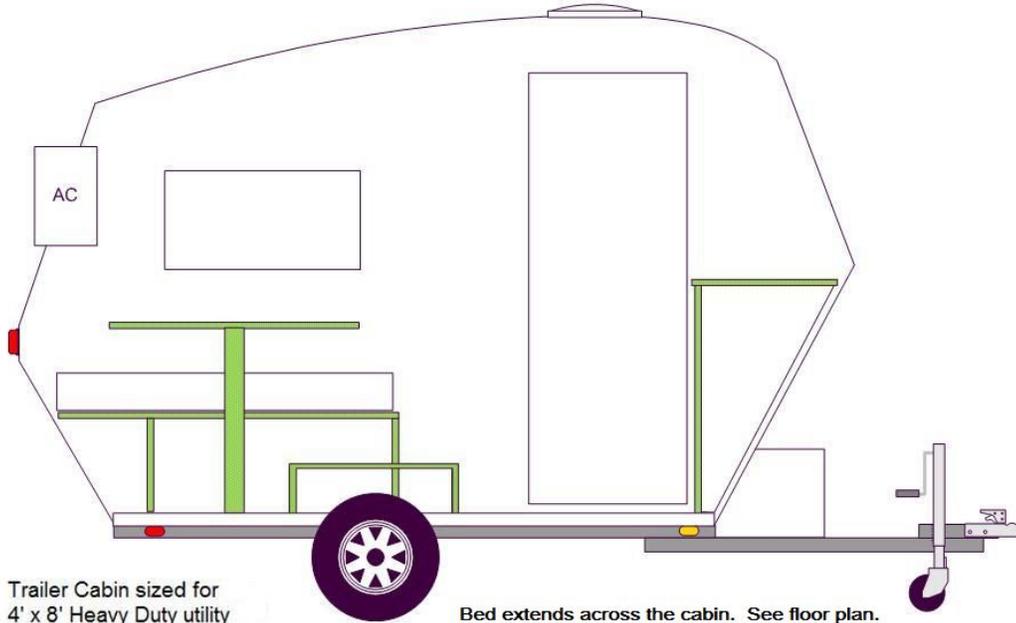


**Profile view, keeping overall 12' cabin length provides same floor area with added storage space in the galley cabinet. There is now enough to place a sealed battery inside the cabin and eliminate the tongue box if desired, or to use the tongue box for a additional storage space.**

### Widening the cabin to 80" on a 5'x8', 5'x9' or 5'x10' chassis

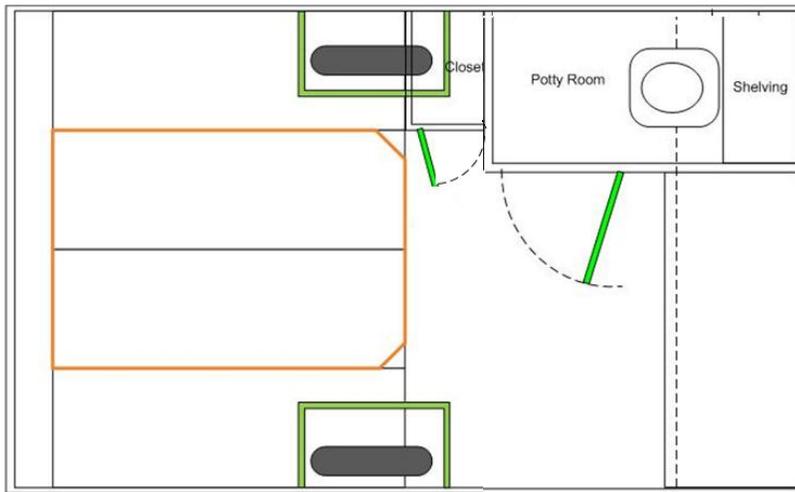
With a trailer chassis with the load capacity to support the extra cabin weight, the cabin could be widened to 80" or more with the bed running across the cabin rather than lengthwise. With a cabin of this size, I believe that we're looking for a trailer chassis with a load capacity of at least 1600 lbs and I don't believe that the folding trailers will

have enough load capacity. My torsion axle was rated for 2000 lbs. With this wider cabin, the additional length and width allows room for a closet and potty room to be built in. This bed converts into a dinette with seat benches on either side. A center portion of the bed platform is raised and supported by a pedestal or stand to become a table, so the stand-up area in the cabin remains the same with the table up or as a bed. To widen the cabin on a 5' wide chassis requires 4 or 5 steel frame extensions welded on each side of the chassis on to support the floor of the cabin. Below is a drawing to illustrate how this works in a 5'x8' chassis. A potty room and tiny closet has been added to this design.



Trailer Cabin sized for 4' x 8' Heavy Duty utility Trailer chassis. Side View

Bed extends across the cabin. See floor plan.



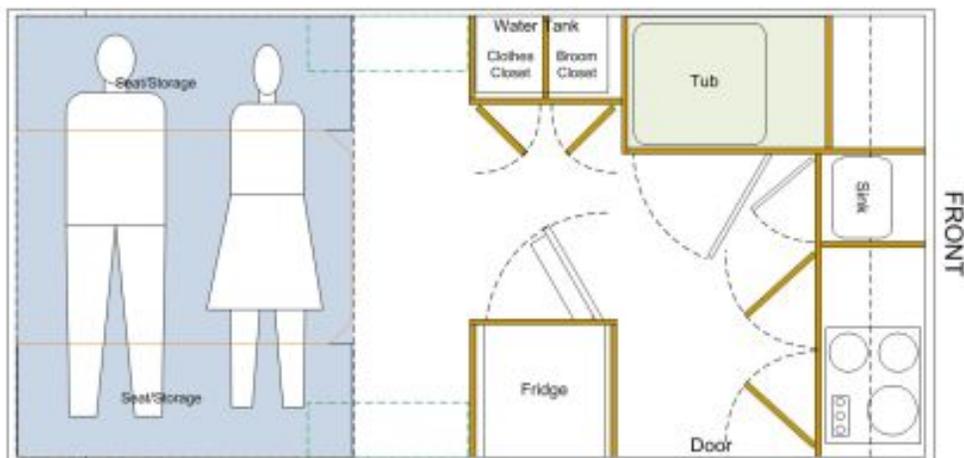
Widening the cabin on a 9' or 10' long chassis would provide even more stand-up area and larger closet and/or potty room and with the 10' long chassis, a deeper galley cabinet for more storage space.

I've omitted any plumbing in these trailer designs, but that doesn't mean that you couldn't put in a galley sink, a flush toilet unit or even a shower in the wider version. In Florida, where I live, having plumbing requires inspections and approval before the trailer can be tagged and I wanted to avoid that hassle. Having a sink would require either a water tank or direct hose hookup to a water supply, depending on where you'll do most of your camping and the availability of a pressurized water supply (i.e. faucet). The other alternative is just using water from a portable container. The plumbing outlet for a flush toilet would have to be to a sewage hookup for sanitary reasons. There just isn't room in these small trailers for a self-contained sewage tank. For a sink, I would install a PVC drain pipe that runs from the sink outlet down and out through the floor. I would place a wheeled container beneath the drain pipe to catch the water and to transport it to a dump point.

### Even Larger TTT

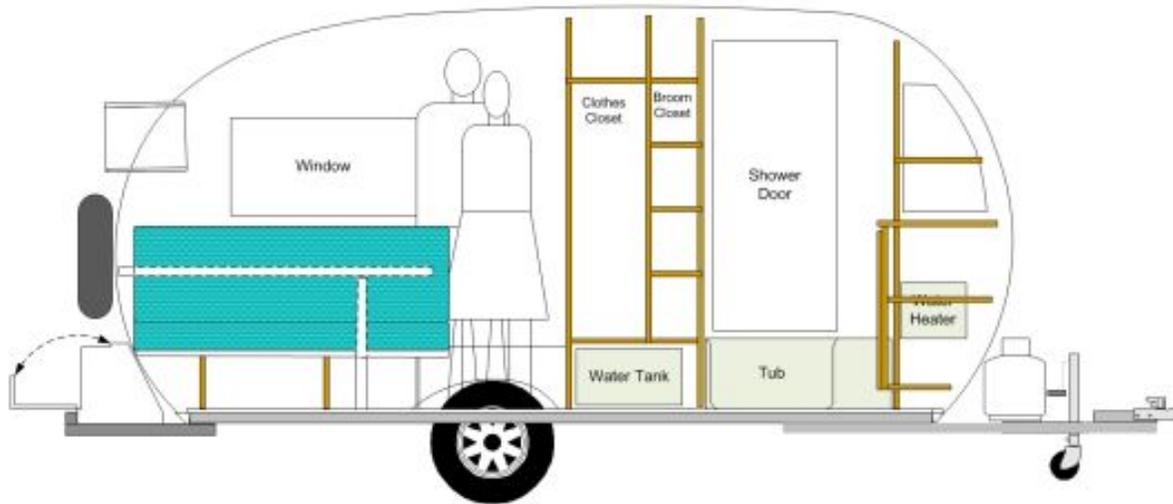
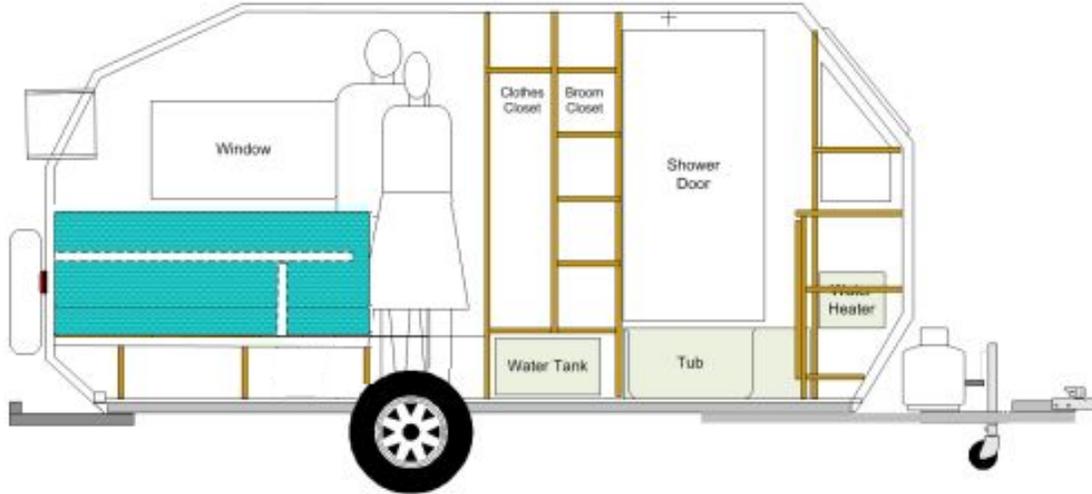
A few of my plans customers have purchased old camping trailers of various sizes and stripped the cabins off to use the frame and chassis to build on. Using my Squidget plans as a guide, the cabin can be stretched to fit other frame sizes. As an example, I designed my "Dream TTT" a year or so ago, but will probably not get around to building it. This one shows the possibilities of a larger cabin. This design is similar to some of the above drawings but has more built-ins. It features an enclosed bathroom with a tub, hand held shower and (not seen) a porta potty that is positioned so that one stands in the tub to sit down on the potty to use it. Or, one can sit on the potty lid to take a sit-down shower. The cabin also features a full-height closet and a built-in fridge or ice box (which is what I used in my Pop Top trailer).

These drawings are sized to fit on a trailer frame 12' long and 80" wide, that I would construct myself. I would have to consider a heavier capacity torsion axle than I used on the Squidget, or possibly use two axles as I expect the dry weight alone to reach 2000 lbs. I designed a curved shape with a cool retro canned ham look, and an easier-to-build multiple flat panel exterior as I did with my Pop Top trailer.



Rear dinette table drops down to convert to bed for sleeping

In the drawing above, the closet and ice box cabinet could be put on opposite sides.



I hope this information will help you decide on whether or not you want to build a Squidget, and help you build or choose the right size frame that you will use. For additional questions, email me and I'll try to help with answers and I can make suggestions as to how you can make your ideas work.