

A Tiny House Blog Publication

# TINY HOUSE

FOR MICRO, TINY, SMALL, AND UNCONVENTIONAL HOUSE ENTHUSIASTS

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# 3 questions to ask a designer

with Johanna Elsner of Perch & Nest



**Disclaimer:** Due to the nature of a letters advice column, any advice given can only be general in nature and as such no liability is taken or implied by the advice given here or the use or misuse of any techniques described. It is strongly recommended that you seek advice through contract before you build or repair any tiny house on wheels. Submission of a problem to 'Ask A Designer' indicates acceptance of this disclaimer.

**Q: I am planning to go tiny this year and my builder gave me the option of adding a holding tank for fresh water inside my home. I initially plan to park at an RV park where I will have access to a water hookup so I can't really see a reason to give up space inside the home for this. Am I missing something?**

**A:** Of course, you have to consider space allocation in all your tiny design decisions (and cost!) but there are several benefits to having a fresh water holding tank installed even if you do not need it initially. These types of tanks are used in traditional RVs as they are moving and essentially off-grid more often than tiny homes on wheels but being able to fill a tank and disconnect from your water supply can also be beneficial when you are stationary and “on-grid” for a couple colder climate related reasons. 1) External water filters cannot be used on a constant water supply in low temps since they can freeze but you can use this type of filter for the short time it takes to fill your tank and disconnect. 2) Stored water inside your home means you have “room temperature” water supplied to your fixtures no matter the outdoor temp. This means you won't have the expense of a heated hose or an over worked tankless water heater keeping up with cooler incoming water. Ultimately, if you can allocate the space and cost, a small fresh water tank is a great back up feature to add to your design.

**Q: I built my own tiny house on wheels and have lived in it for a year with no problems. Now my windows seem to have water sitting inside the frames. I purchased what I thought were quality windows but it seems like they are all slowly starting to collect water inside after a year. Even worse, now that it's cold, some of that water is freezing. What gives?**

**A:** The good news is you're not alone! The even better news is you probably do have a good

quality window if you haven't had any issues in your first year. There *are* installation and leveling issues that can attribute to leaky windows but because this is your first time noticing water on the inside and the issue seems to be attacking all of your windows at once, I suspect your problem and solution are both very simple. Your windows have “weep holes” in them to allow water to flow through. These drainage holes require cleaning every so often as they can become blocked with interior and exterior debris and prevent water from draining through the frames as needed. This can be needed more often in tiny homes that have little roof overhang, no gutters, or are parked under trees as debris can collect more quickly inside the window frames. Check your manufacturers maintenance documents for specifics on how to clean your weep holes and sashes seasonally but you can also find a variety of how-to videos online on this very topic.

**Q: I live in a tiny house on wheels in a region where snow accumulates. My house is well insulated so with my wood stove, it stays really cozy. I also added corrugated metal as skirting around my home in the Spring which seems to be keeping things warmer this year. After reading posts online about condensation and other issues that can occur with tiny homes in the Winter, do you think this is the best way to keep my house warm?**

**A:** That does sound cozy! There is certainly no harm in heating your home with a wood stove but you touched on an important, and often overlooked aspect of setting up a home on wheels-skirting. Skirting is a great way to increase floor temperatures in wheeled homes by reducing the “cross breeze” under the trailer and of course, can add to the curb appeal of a tiny home. It sounds like you are already feeling some of the benefits of this exterior surround. However, improper skirting can contribute to condensation issues especially inside homes in colder climates.



Although periodic condensation is not completely uncommon on the lower portion of windows in cold weather, it can be catastrophic if left unattended or is present on a larger scale. This type of interior water can contribute to mold growth, floor swelling, and more much like a leaking pipe left un-repaired inside your home.

Proper skirting is rather simple to achieve and has only three major requirements to keep in mind. Venting, drainage, and moisture protection. This is really no different than a traditional foundation or even mobile home but is much easier to achieve on a tiny home scale. (Like most aspects of being a homeowner, right?!)

We advise consulting with your builder regarding set up specifics for your own tiny home but if you are a DIY'er or just want to dig into this topic more, HUD has a great publication about moisture in manufactured homes that includes set-up info that is completely tiny house applicable! [You can locate that resource here.](#)

But if you're not ready to nerd-out on government documents just yet, we have included some basic skirting tips below along with tiny specific tricks for these recommendations.

**V e n t i n g   R e c o m m e n d a t i o n :** *At a minimum, skirting must be vented in all four corners. A good rule of thumb is at least one square foot of open vent area per 150 square foot of floor area. Keep in mind that vents with insect screens, louvers etc reduce the effective open area of the vent by 30-50%.*

**Tiny Home Take:** Because tiny homes on wheels are usually not much more than 300 sq ft at their base level does not mean that this recommendation doesn't apply. Think air flow. You can easily achieve "venting" while

maintaining the benefits of skirting by leaving your wheel base and/or your hitch area open. You can also install more traditional vents within your skirting if pests are a concern keeping in mind the reduced effectiveness noted above.

### **Drainage Recommendation:**

*A home site should be properly graded to shed water before a home is delivered. It is difficult to determine the quality of a good grading job by visual inspection, but a bad job is always obvious. If it looks as though rain will drain along the skirting or actually run under a home, it probably will. The ground under a home need not be level as long as runoff water is routed around the home.*

**Tiny Home Take:** This one is a little more difficult for us THOW owners who are always trying to achieve that sweet spot in leveling and often do not have gutters or water collection installed on our homes. This is not as much of a concern for tiny dwellers who are parked on a concrete pad but if you are on gravel or dirt, ensuring water does not become trapped within your skirting is important. This may take a little trial and error and creative problem solving. Adding a gutter to your roof edging when parked is the easiest way to divert water away from your home. If you are not connected to a septic or sewer, diverting non-toxic run off (ie grey water) into a gravel pit under the home is best. This will reduce the chances of your own waste water becoming standing water under the home.

### **Moisture Protection Recommendation:**

*Cover 100% of the ground with a 6-mil (thick) polyethylene or other vapor retarder, as specified by the manufacturer. It is not necessary to seal joints in the ground cover; overlapping the ground cover material by 12 inches at joints will provide satisfactory performance. It is easiest to install a ground cover before the skirting goes up.*

**Tiny Home Take:** This recommendation applies to various types of structures and is easy enough to achieve. The goal is to keep moisture at the ground level and prevent pooling. And if you already have skirting in place, this task can still be completed in an afternoon by accessing enough of an opening to the underneath of your trailer. Be mindful of areas that may need to be made level to prevent pooling on top of your ground cover and overlap the material as recommended to prevent ground exposure later.



*Johanna designs, builds, and owns tiny homes on wheels along with her husband, Tom, in the Foothills of North Carolina. From winterizing stored tinys in the Fall to keeping insects at bay in the Summer, they experience all*

*the benefits as well as all of the challenges of tiny living throughout the year in this four season climate. See more of the Elsner's and their Southern based operation at [perchandnest.com](http://perchandnest.com).*



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