

# Moving Water in Camp

Every year we've been getting better and better at figuring out how to easily move water, clean and dirty, around in the camp.

## Fresh Water Well Pumps

We have two [Harbor Freight 1HP Well Pumps](#). ([Manual](#)) - the main one keeps the fresh water system in the Gayflower pressurized, and there is also a backup if something happens to that one. When we rent a fresh water tank from Sierra Site Services they also provide this exact same pump.

These pumps seem to work really well, and they have their own bladder so that the pump doesn't have to flip on and off frequently. Basically, they will maintain pressure in a pressurized water system, like the water supply in the Gayflower or the Kitchen Fort, or even when attached to a hose.



**Pro Tip:** When delivered, our pump was not primed. To prime it, you have to open a little nut and pour in some water until it overflows. We did this using a plastic bag with the corner cut off.

**Pro Tip:** Do not run this kind of pump dry for more than 10 seconds.

**Pro Tip:** The tank must be pressurized to 23 psi which can be done with a bicycle pump.

NEVER use this tank for anything other than potable water.

# Sewer Pumps

[Arbor Freight 3/4 HP Submersible Sump Pumps \(Manual\)](#)



These were intended to move grey water around camp quickly, say, from

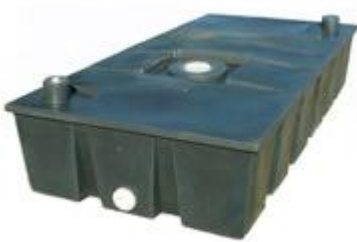
the kitchen to the davflower. They pump water into a thick red 2" hose that looks like this:



We have about 50' of this hose.

There are two problems with this method of pumping grey water. The first is that the sump pump is meant to sit in a bucket that fills up with grey water causing the ball to float which turns on the pump. That means it never pumps the bottom  $n$  inches of water which can be a lot depending on the size of the bucket you put it in. The second is that those 2" hoses fill up with grey water and once the bucket is empty, they stay filled up with grey water... there is no way to cause the pump to push out the remaining contents all the way to wherever you're going. This means there is a manual step, after pumping grey water, involving walking the red hose from the source to the destination to gravity-force out all the water.

Designed by Sierra is low-slung and looks like this:



With this tank, it's not a big problem to hand-caress the grey water from

the hose into the tank. However, if you are trying to move grey water up to the Gayflower, where the tanks are probably 5' off the ground, it's not so easy.

For the last mile, we have these little Water Bug Style Pumps:



That can be completely submersed in water and it will suck up virtually everything and pump it up through a narrow hose, which gets the last little bits of water up and out. It's slow, though, compared to the big sewer pumps.

**IN SHORT** we still don't have a great way to move grey water from the Kitchen Fort to either the Gayflower or a Sierra Grey Water Tank. It's just a bit of a manual messy process. This is something we will continue to work on for 2025.

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