

How to Build an Overflow Device for Your Tank



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Checklist:

Install overflow pipes to prevent tank foundation erosion!

1. Measure your tank and location, taking into account drainage needs.
2. Purchase 3" pipe and elbows.
3. Prime the assembly with water so that there is no air and the overflow will work properly.
4. Consider painting your overflow pipes to avoid sun damage.
5. Screen your top and exit holes to keep pests out.
6. Check your overflow pipes periodically to make sure that there are no blockages and that excess water can flow freely.

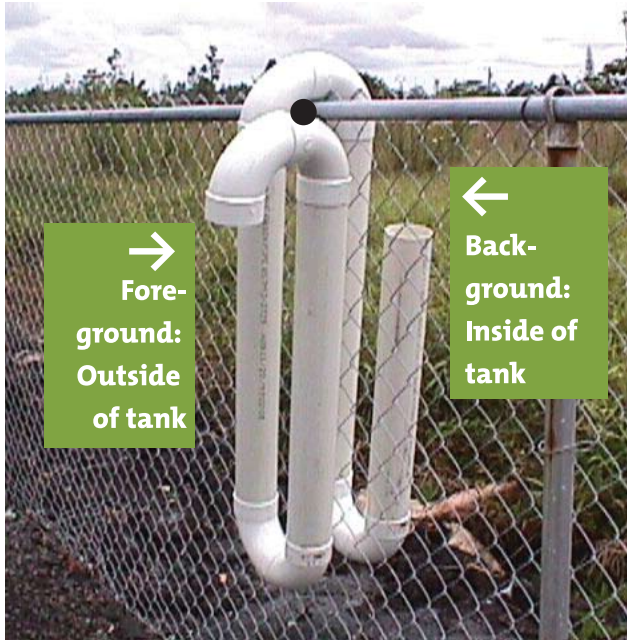
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The photo shows an overflow device over a fence. The final connections of pipes #5 & #6 to the ground are not shown and not necessary, if directing drainage is not a consideration. Some people use a T-Joint between pipes #4 & #5 instead of drilling a hole. The open end of the "T" points up.

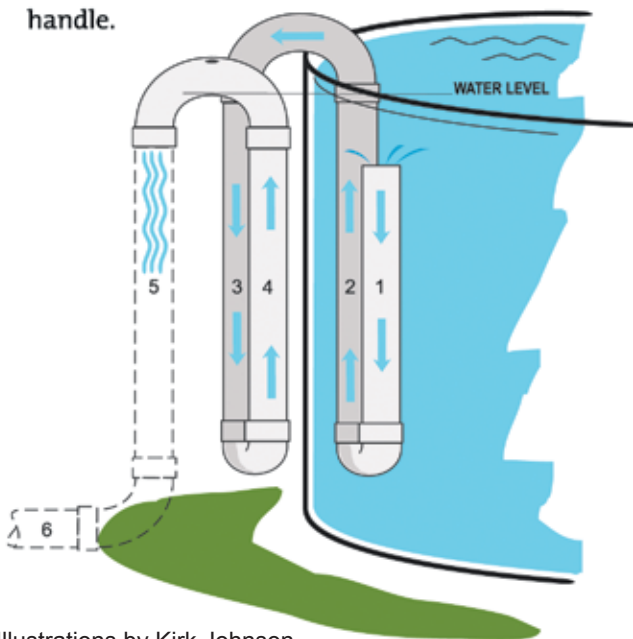
Why should I add an overflow to my catchment system?

An overflow device is useful for making sure that the water in your tank doesn't overflow the sides, which can undermine the tank's foundation and cause it to collapse.

An overflow can also be used to avoid flooding or water problems near your tank or house.

Some tanks simply have holes drilled through the sides of the tank. But for tanks with liners, putting a hole through a liner could cause the liner to rip, so using a pipe design like the one shown is a good alternative.

This simple overflow design will keep the water below the top, preventing overflowing. You can add more than one overflow if you have more water entering the tank than one unit can handle.



Illustrations by Kirk Johnson
Overflow design by WaterWorks, Hilo

How to build a simple overflow:

Measure out what you will need for your tank and location, including any considerations for drainage. Purchase that amount of 3" pipe and elbow joints.

Cut pieces as follows:

- #1: 24 1/2"
- #2: 31 1/2"
- #3: 31 1/2"
- #4: 28 1/2"

#5 & #6:

You don't need #5 or #6 unless you want to drain your excess water away from your tank or house.

Tip: You may want to use your excess water to irrigate plants, so measure out your drainage pipes to your plantings. Another option is to run your overflow pipes into another water tank just for garden irrigation. This is especially useful if you live in a dry area and are concerned about "losing" excess water.

Glue pipes #1-2-3-4 to elbow joints in the manner shown. Turn pipes #1 and #4 inward, but they should not press against the inner or outer walls of the tank.

Drill about a 1" hole in the top of the last upper loop (or use a T-joint). This allows air to enter the pipe for proper water flow.

After the glue dries, prime the assembled overflow by dunking it in the tank. Turn the unit in circles under the water until all of the air is out. This is easiest if the tank is full.

Carefully lift the outer half of the overflow straight up and over the tank wall without losing the prime. (It will be heavy because it is full of water.) If the water level in the tank is above the top joint of pipe #4, the water will begin to flow. Sometimes it is easier to prime the pipes if you place a temporary cap on one of the pipe ends. After the system is in place and primed, add pipes #5 and #6.

Priming the pipes with water is important because it removes any air that could break the siphon.

Leave #5 and #6 unglued so that you can re-prime the other pipes at another time if you need to.

You can paint the pipes outside the tank to protect them from damaging sunlight.

Screen the top and exit holes to keep unwanted pests out.

Check your overflow pipes periodically to make sure there are no obstructions, the prime is still good, and that excess water can flow freely.