

Homemade downpipe diverter

With a whole house between his downpipe and rainwater tank and no room for another tank, Grant Nicholson came up with a simple diverter to solve the problem

Here's my problem. I had a downpipe on one side of my house, but my rainwater tank was on the other side. No problem you say! Put in another tank. But I couldn't, because that side of the house is mostly windows, with a small strip of brickwork against which the down pipe is attached. There simply wasn't enough room to install a tank without it being a major eyesore.

As this downpipe probably drained about 20% of the roof area, an appreciable amount of water was being lost.

The solution was to divert the downpipe to the other tank. Unfortunately gravity alone could not do the trick, no matter where I ran the pipes, as the top of the tank was at a similar height to the downpipe in question.

Thankfully I already had a sump with a pump that pumped rainwater into the tank from the other side of the house. This was necessary because the fall direction of most of the roof went opposite to the only practical place to site the tank. Most of the downpipes on that side of the house lead into the sump, with only one small downpipe leading directly into the tank.

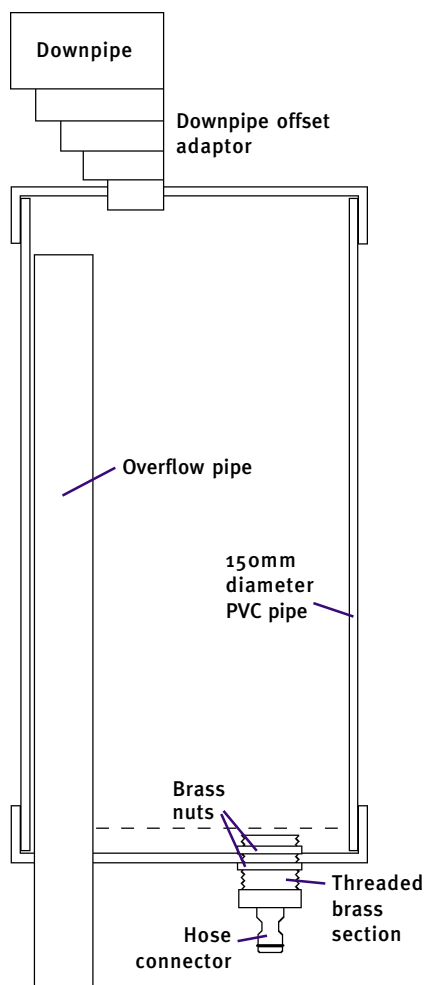
All I needed to do was send the water from one side of the house to the sump on the other. Re-engineering the subterranean storm water pipes would not work as the top of the sump tank is close to ground level, and I was not keen on adding another pump.

There are commercially available downpipe diverters, but their capacity seemed quite limited to me. Judging by their size, they couldn't hold more than two litres of water, and at times of heavy rainfall, most of the water would be lost through the overflow.

My solution was to make my own diverter with sufficient size to handle a decent surge of rain and then run a hose under the house and into the sump. Thankfully I didn't have a concrete slab, but I can tell you it wasn't fun crawling under the house to run the hose.

How to make it?

I made the body of the diverter out of 150mm PVC pipe. I only needed a short half-metre piece with two end caps.



Cross section of the diverter, showing how it all fits together.



The end caps were the most expensive part of the project at \$13 each.

Attached to the bottom end cap is a standard click-on connector for the hose pipe. I chose to use 19mm fittings and hose to allow for a greater flow. The commercial diverters I had seen all used standard 13mm fittings.

I cut two holes in the bottom end cap, one just large enough for the 19mm brass hose connector and the other a snug fit for the 40mm overflow pipe. A drill with a woodworking hole cutter did the job nicely. I placed a small length of double threaded brass pipe through the smaller hole, fixing it with two plastic washers and two brass nuts. On the protruding end of this I attached the hose connector.

Inside the 150mm pipe I glued a similar length of 40mm pipe, set down about 60mm, as the overflow. This passed through the bottom end cap and



The lower end cap has two holes cut into it. One is fitted with a hose connection, while the overflow pipe is glued into the other.



The overflow pipe is placed inside the diverter, the bottom end cap is slipped over it, and the two are glued together.

allows any excess water to go down the original downpipe.

At the top end of the diverter I had to offset the incoming water so that it would not go directly down the overflow pipe. I used a PVC reducer fitting that is really designed to join different diameters of pipe, but due to its asymmetrical design, allowed me to offset the incoming water just enough to (mostly) miss the overflow.

I used PVC glue to join everything together, leaving the top end cap free for maintenance purposes. I placed a

circular strainer, cut-out of plastic gutter guard, inside at the bottom in case leaves find their way into the diverter, which has happened despite the gutter guard in the gutter above. It is easier to tip the leaves out of the diverter than trying to flush the hose if they get wedged inside it.

I then cut out a section of my downpipe and inserted the diverter. I relied upon the protruding overflow pipe at the bottom of the diverter to nest inside the original downpipe, and the reducer at the top to hold the whole diverter in

place against the wall. It is a snug fit and holds quite well, with no need for straps or other fixings to the wall.

The diverter holds eight litres of water which drain at a rate of 24 litres per minute. I will have to wait and see how well it will handle a major downpour (wishful thinking perhaps!).

All up the diverter cost me approximately \$70, with all the parts purchased at my local hardware store. It can easily be taken off for cleaning purposes and with a coat of paint it looks quite at home on the wall. ✨



These are all of the components of the diverter—not a great deal to it!



Before and after: the diverter simply fits into the downpipe.

