MITREPLAN PROJECT PLANNER

Install a water tank

- **An easy-to-follow guide to achieving a perfect result.**
- **Outlines all the tools you will need for the job.**
- **Includes a materials checklist.**

PLEASE NOTE:
Before starting this project or buying any materials, it is worth your time to read all steps thoroughly first to be sure you understand what is required.

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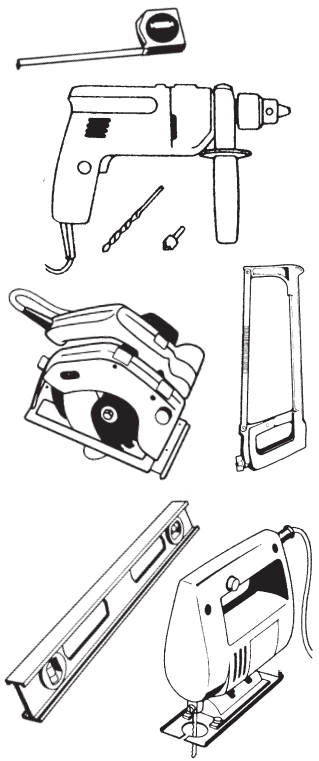
MIGHTY TOOLS FOR YOUR MITREPLAN



Tape measure
Spirit level
Cordless drill/driver and bits (including 25mm spade bit)
Holesaw or jigsaw
Hand saw or power saw
Hacksaw

✓ MIGHTY HELPFUL CHECKLIST

		ORDER
	H4 treated pine bearers and joists (check tank mfr's instructions)	
	60 x 19 hardwood or treated pine decking	
	Water tank, first-flush device, overflow fitting	
	Water pump, flexible connection, hose fittings	
	Sleeper spikes	
	Deck nails or screws	
	PVC stormwater pipe, spouts, elbows, transitions	
	Silicone sealant	
	Solvent-based PVC pipe cement and primer	
	Concrete flagstones, concrete mix, or sand	
	Garden hose and fittings	
	Irrigation pipe and fittings	

Verbal quotes are indicative only. Written quotes on materials are available upon request from your Mitre 10 store.

Harvesting rainwater at home is simple with help from Mitre 10

Reduce your water bills and your impact on the environment by collecting rainwater from your own roof. This water normally flows wastefully down gutters and drains.

Rainwater can be used for watering gardens, flushing toilets, and washing clothes.

Apart from doing your bit for the community and the ecology, when you have tank water on-tap you can use water in more flexible ways. You can even fill up the kids' super soaker guns and let them play without feeling guilty.

You can collect rainwater from your existing gutters and downpipes, and from your house, garage, carport and shed.

Just one warning – Don't use your rainwater tank for drinking water unless it has been treated by an approved water sanitation system. Water can harbor some nasty organisms and substances so don't take chances with your family's health.

Legal issues

Check with your local council and water authority before buying and installing a rainwater tank. Some tanks may require building approval.

You should hire a licensed/registered plumber to make connections, especially to items connected to your main water supply, such as toilets and washing machines.

Tank sites

While some authorities are mandating water tanks for new homes, the rest of us ponder where we can fit one to our existing home. The standard old-style cylindrical concrete or steel tanks are still a cost effective solution for homes with plenty of land around them, but what if you're a little tight for space? There are now some innovative water tanks that will slip into unused space around your home.

Great locations for them include: under a deck or patio; in a side passage; under an elevated house; behind a garage; or under a new swimming pool.

Collapsible water tanks (large water bags in a frame), are very easy to fit into tight spaces under houses or decks. They are assembled in place so there are no handling or access problems like there are with moving large awkward tanks in confined spaces. These collapsible tanks can also be used as temporary stormwater retention systems – helping to take the pressure off the local drainage system until the storm-front has passed.

Some swimming pool manufacturers now offer pools with an integrated water storage tank under the shallow end, or in the same excavation. So if you're considering a new pool, now's the time to look at water storage too (because pools require regular top ups). If you've had enough of looking after an old pool, rather than ripping it out or filling it in, have a lid made for it (say a large deck) that converts your pool into a water tank. An average in-ground pool holds 50,000 litres, making an old pool a very large water tank indeed.

With water storage size is everything. When the downpours finally arrive, a large tank will store more before the excess runs off to drains, streams and the sea. That means you have more to use until the next rain event.

Installing

Each tank has slightly different requirements for installation and you should carefully read the instructions to make sure you don't void the warranty, but these steps apply to most tanks.

Step 1: Position the tank and prepare the base

Carefully select the site for your tank. It should be close to a downpipe, accessible, not blocking access, and unobtrusive.

Water tanks are heavy when full – about the same as a small family car – so a solid, flat base is needed. They may be set on a bed of sand, concrete or a platform made from timber or steel. Over time a sand base may erode, and tree roots may invade and damage the tank bottom, so concrete and platform bases may be a better long-term option.

Platform bases allow the tank to be lifted high enough to fill buckets and watering cans direct from the outlet, and the extra height can make quite a difference to pressure at the hose nozzle.

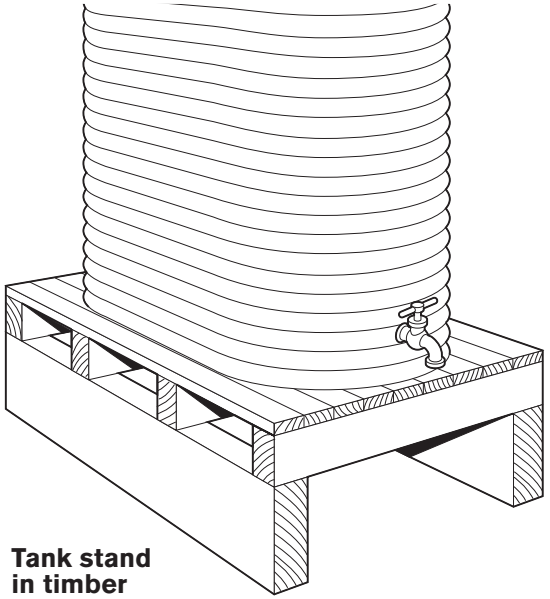
The tank supplier will specify the minimum requirements for the base – don't take shortcuts.

When the base is ready you will need help to get the tank into position. They are not that heavy, but they certainly are awkward. Some modular tanks may be connected in "banks" to provide large capacity in a compact space. Check the connection methods now before you make any other plumbing connections to the main tank. Make sure that the tank's outlet connections are accessible.

Step 2: Make the rainwater connections

Some tanks may require you to cut out the inlet and/or overflow holes in the positions that best suit your site. These may be cut with a holesaw, jigsaw, or keyhole saw, and should be cut accurately to avoid leaks.

Carefully check the manufacturer's instructions to make sure that the tank inlet and outlet fittings are installed correctly, because some parts will need to be permanently installed with a silicone sealer, while others must remain removable for cleaning and access.



Tank stand in timber

Remove your existing downpipe from the elbow and redirect it to the inlet screen of your tank. Do this by making new pipework with a combination of pipe and elbows of 45° and 90°.

It's a good idea to fit a water cleaning/filtering device at this point – such as a "first flush diverter". These devices divert the initial water from rain away from your tank, carrying away any dirt that's accumulated on the roof and gutters.

After that, it diverts clean water into your tank.

Install all of the parts without glue initially to make sure all of the parts fit properly, and that you can secure the pipe to a wall or the tank with brackets. Remember that water weighs 1kg per litre so when the pipes are full there's quite a lot of weight in them. Mark them with pencil to make sure they'll go back together exactly as before. After you have installed the outlet connections (in case you have to move the tank) disassemble the inlet pipe connections and reassemble using PVC pipe primer and adhesive.

Step 3: Make the outlet connections

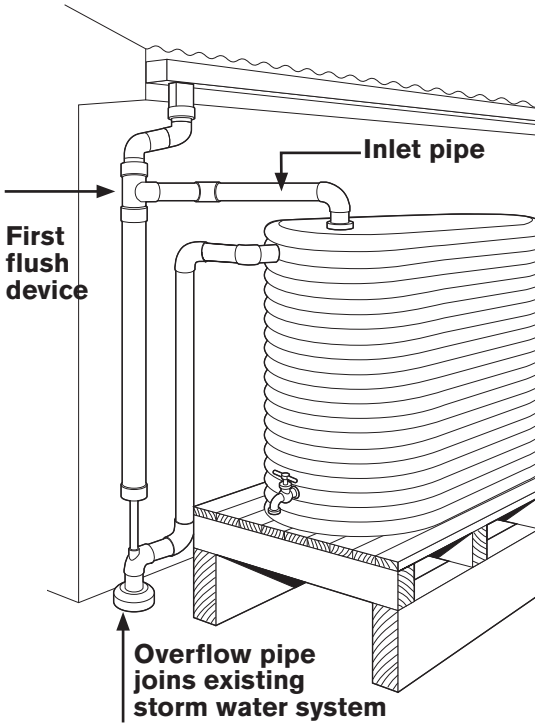
The outlet holes are blanked-off, so you'll have to drill out the one you want to use. Carefully drill out the blank with a 25mm spade bit – making sure that you don't damage the thread where the tap or hose fitting will screw into the tank.

Reduce the likelihood of leaks by wrapping Teflon tape around the thread prior to screwing it in.

If you're using a pump, install a flexible hose between the pump and the tap. This will absorb vibration and shock from the pump, reducing the likelihood of parts cracking and leaking.

Pumps

Gravity can provide enough pressure if you can position your tank high enough, but you'll probably need a pressure pump. These are reasonably priced (around $300) and they make it possible to use a hose or irrigation system to distribute your tank water with practically the same performance as mains water.



Some tank manufacturers supply tanks with an internal pump. These are quiet and take up no extra space.

If you want to use a pump for fire fighting you'll need a petrol or diesel powered pump because power is often cut off in a bushfire emergency.

Discuss your needs with the supplier before selecting a pump that's right for you.

Maintenance

Water tanks are fairly low-maintenance installations, but you will need to pay regular attention to gutters to make sure they are clean and clear. If not, the tank water will be tainted and rainwater may be wasted if gutters block. Clear and clean any strainers and filters regularly.

Changing a worn tap washer on a tank is a problem because you can't really shut off the water pressure while you do the job. For this reason it's wise to install a ball-valve on tanks instead of a standard tap with a "jumper valve". If the tank is ever near-empty change the tap washer then – even if it's not leaking. You might even consider flushing out any sludge that's accumulated on the tank bottom while it's empty. Washers only cost a dollar or two, and tanks may not empty out for years. If you must change a leaking washer with a full tank you can do it with the water gushing, because the pressure isn't that high (usually). Although some water will be wasted, the worn washer was wasting it anyway.

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MIGHTY HELPFUL HINTS TO MAKE THE JOB EASIER

- When your tank fills for the first time, check the inlet and overflow screens for shreds of plastic from installation. Check and clean them regularly to make sure they don't block.
- Do not collect rainwater from surfaces made from asbestos; (includes roof sheeting, guttering or downpipes.)
- Water in the morning to minimise evaporation. Watering at night promotes fungus and rot problems.
- Connect the tank overflow to a subsoil watering system.
- Backflow prevention devices will help to protect your water supply from contamination.
- Tank water can be used to flush toilets and for a clothes washing machine. Ask your local licensed plumber for advice.
- Tank water isn't considered safe for drinking without further treatment, such as sanitation and filtration.
- Keep gutters clear of leaves and other debris, and as clean as you can.
- Protect your eyes and ears when you use power tools. Protect your helpers too.
- Some Mitre 10 stores can refer you to trustworthy local tradespeople.

Your local MITRE 10 Store is: