INSTRUCTION SHEET

Rainwater tank diversion

healthy waterways
Raingardens

What is a rainwater tank diversion?

A rainwater tank diversion is a great way to keep your garden green, help the environment and keep our rivers, creeks and bays healthy.

The hard surfaces created by urban development have significantly increased stormwater run-off and reduced the volume of water able to infiltrate back into the ground. These urban flows eventually end up in our waterways causing damage through erosion and pollution.

Heavy storm events often result in rainwater tanks filling to capacity at which point excess water runs through the overflow and into the stormwater system. By diverting the rainwater tank overflow directly on to your garden you are allowing water to infiltrate naturally back into the ground and create a new water source for your existing garden. You are also helping to reduce the amount of stormwater that flows into our waterways.

Easily fitted to an existing rainwater tank, a rainwater tank diversion is just one of the many things you can do around your home to help better manage stormwater. You may even consider building a raingarden or swale.

Handy hint – A rainwater tank diversion is most effective when water from the hose flows over a garden or grassed area and is allowed to infiltrate back into the soil. If the area around the house is primarily paved or concrete, then a rainwater tank diversion is not ideal.

Please note: A licenced plumber must be used for stormwater connections and modifications.

State Government Victoria

Melbourne Water

Rainwater tank diversion

Step 1 – getting started

The first thing to do is determine whether or not a diversion from your tank is appropriate. A diversion is most effective when the water can flow over a garden bed or grassed area and infiltrate back into the soil. If the area around the tank is paved, then a rainwater tank diversion is not ideal.

Step 2 – identifying the right location

The following points need to be considered before diverting a rainwater tank overflow:

A) If the rainwater tank is located where the surrounding ground slopes towards the house then it should not be diverted.

B) A rainwater tank diversion should not discharge water directly over impervious surfaces (surfaces that can't absorb water) .

C) A rainwater tank diversion is most effective when the water can flow over the garden or grass and penetrate into the soil. Soil types also need to be considered before diverting an overflow. See next page *soil types* for more information.

Step 3 – rainwater tank diversion arrangement

Any modifications to stormwater or a downpipe must be carried out by a licensed plumber.

When full of water, the overflow from your rainwater tank is designed to prevent the tank overflowing in an uncontrolled manner. It is important that the overflow not be entirely disconnected from the stormwater system. Instead, a bypass mechanism should be installed to manage the risk of flooding.

A rainwater tank diversion is fitted into the existing overflow and includes the diverter and hose positioned 1000mm above the surrounding ground level. The hose attached to the diverter should be no more than 13mm in diameter and a length of between 1 metres and 5 metres – depending on the property's soil types. See next page *soil types* for further information.

The 90mm diameter bypass mechanism is connected into the overflow 500mm above and 500mm below the diverter hose, and is positioned to reconnect with the stormwater downpipe. See diagram (next page). A rainwater tank diversion of this type will redirect approximately 90% of all rainfall onto your garden and away from our precious waterways.

A

B

C

Step 4 – operating the rainwater tank diversion

When the lever on the rainwater tank diverter is pushed closed, water overflowing from the rainwater tank will flow through the hose and onto the garden or grassed area. When opened, overflow water will flow into the stormwater system. To maximise the benefits of the diversion, the lever should remain closed.

Step 5 – setback requirements

When determining if the diversion is appropriate for your rainwater tank, consider the location of the tank in relation to your house and other buildings on the property, as well as those on neighbouring properties. Check the likely path that the water will travel from the diversion.

For all diversions, a minimum distance from any building to the point of discharge (i.e. end of the hose) is required.

Table 1 provides a guide to these minimum setbacks depending on soil types.

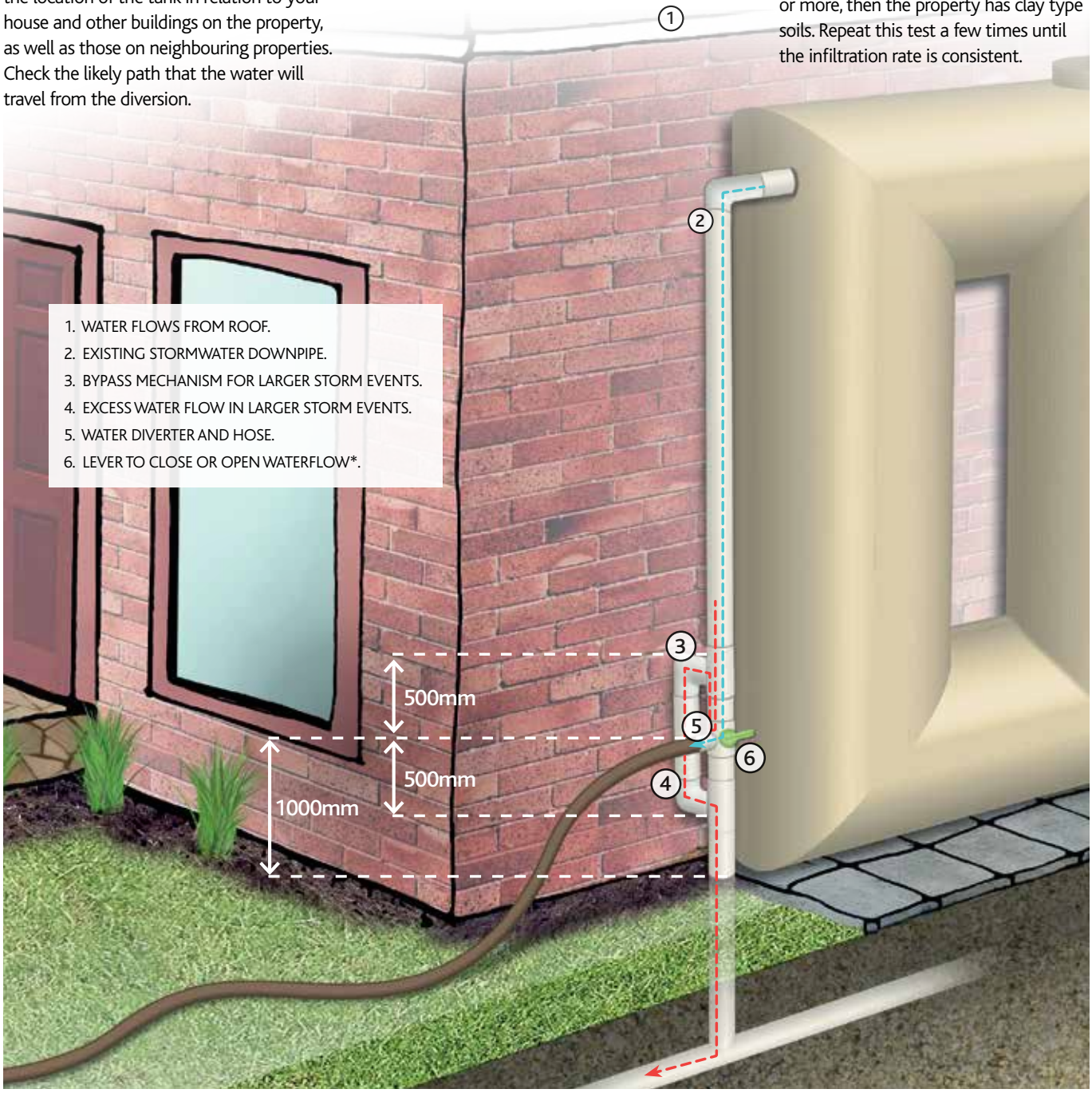
Table 1: Setback requirements – footing distance from hose end.

SOIL TYPE	MINIMUM DISTANCE FROM FOOTINGS (M)
SAND	1
LOAM	2
MEDIUM SAND	4
REACTIVE CLAY	5

Soil types

If you are unsure of the soil types on the property, your local council may be able to help. Alternatively, you can conduct this following test:

1. Dig a hole – 100mm diameter x 350mm deep.
2. Place 90mm diameter PVC pipe of at least 300mm long into the hole.
3. Pour 1.3 litres of water into the pipe.
4. Observe how quickly the water infiltrates the soil. If the water disappears in less than 1 minute, then the soil type is most likely sandy. If the water takes 3 minutes or more, then the property has clay type soils. Repeat this test a few times until the infiltration rate is consistent.



* Diverter most effective when lever pushed closed

If you are still unsure of the soil types on your property, the diverter hose should be set to discharge water 5 metres away from any building or foundation on the property.

Handy hint – Water infiltration into the soil near permanent structures can cause the ground to sink or swell which can cause cracking, subsidence or foundation failure. It is important to ensure that the discharge point from the rainwater tank diversion meets the setback requirements outlined in Table 1.

Step 6 – monitoring the diversion

Monitoring the rainwater tank diversion will ensure that there is no flooding of the property and neighbouring properties, and that water flow is not causing erosion to surrounding areas.

Need help?
If you have any questions about rainwater tank diversions, downpipe diversion or building a raingarden, your landscape gardener or local plumber may be able to help. For more information visit melbourne.water.com.au/raingardens

Materials List – what you need for a rainwater tank diversion

Table 2: Details the materials required for a rainwater tank diversion.

You can purchase the materials yourself, or a licensed plumber will be able to supply them when fitting the diversion to the rainwater tank. While prices may vary depending on the materials selected, one rainwater tank overflow diversion is likely to cost $120 (plus the cost of a plumber). A basic diversion is likely to take your plumber 1 hour.

QUANTITY	MATERIAL
1 No.	90mm diameter water diverter with on/off lever and 13mm diameter outlet
2 No.	uPVC 90mm diameter tee
2 No.	uPVC 90mm diameter 90 degree bend (preferably with inspection cap)
2 l/m	90mm diameter pipe
6 l/m	13mm diameter nylon hose

mm= millimetres l/m = lineal metres dia. = diameter

Note: Lengths are subject to change depending on your downpipe arrangements. The above quantities are based on the downpipes being 90mm diameter.

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