

How to build your own stormwater planter boxes in 9 easy steps

It is not difficult to build your own stormwater planter boxes, all it takes is some careful planning.

Follow these simple guidelines to create your own stormwater planter box

1 Choose a site for your stormwater planter box
Roof runoff must flow naturally (by gravity) through a downpipe into your planter box.
Avoid areas under large trees, sloping ground and land with retaining walls.

2 Assess the soil
Free-draining soils are needed.
We recommend you use readily available rain garden mixes.

3 Pipe runoff to your stormwater planter box
Runoff can only enter via a downpipe from a building's roof. Guttering may need to be regraded to capture runoff from the roof

4 Decide on your stormwater planter box and pond depth
A typical ponding depth of 100-200mm can include stones or gravel. The standard depth of a stormwater planter box is 450mm, depending on soil type

5 Size and shape of your stormwater planter box
The stormwater planter box should be 4-8 per cent of the roof area draining into it. It can be any shape as long as water flows evenly across the planter box, (with a minimum width of 500mm).

6 Construct
Line a timber container or planter box with a sheet of plastic to prevent water spreading through the timber joints. Lay gravel at the bottom below the drainage pipe and then fill up above the pipe. The drainage pipe should be laid so that it flows down to the lowest point in the container.

The next layer is a thin layer of sand. Fill the planter box up to the top of the growth medium (see figure) but leave enough room for a good layer of stones or gravel. An extra overflow pipe means that in a really heavy downpour, the excess water will go into the garden but won't flood it.

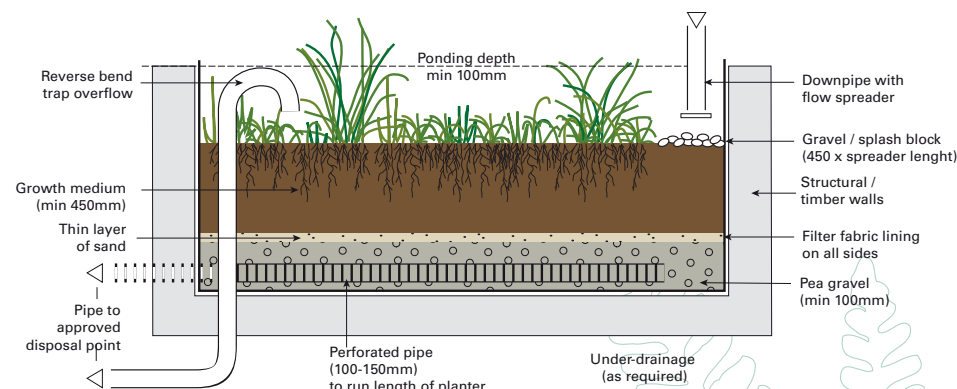
7 Select the plants
Optimum plants include dense groundcovers at least 200mm high that tolerate temporary ponding and dry periods. Refer to table on next page.

8 Plant
A fast plant cover needs 4 to 10 plants per square metre, depending on plant size.

9 Look after your planter box
Like other planter boxes, stormwater planter boxes need weeding and watering.
They also need checks of inflow and overflow areas to ensure free flow is maintained.

Kia ora ai te wai – 'Make the water well'

- A stormwater planter box can slow down and lower rainfall runoff.
- A stormwater planter box can play a role in decreasing zinc, copper and sediments entering estuaries and harbours.
- Zinc and copper enter the stormwater system from building materials and vehicles.
- Many animals such as shellfish and small invertebrates are affected by zinc and other contaminants. These animals are at the bottom of the food chain and if they are lost, other animals higher up the food chain, such as fish, may also suffer.
- Stormwater planter boxes can help decrease stream erosion.
- Stormwater planter boxes can help cool stormwater runoff, this is important for aquatic animals.
- Apart from looking great, a stormwater planter box can provide a habitat for small insects to live.



Section of a stormwater planter box

A stormwater planter box is a raised garden with drainage at the bottom. Roof water is directed to the garden, which then slowly moves through the soil and sand, where contaminants, such as zinc and copper, are trapped. Plant roots take up the water and contaminants, which can also help clean the water.

In large storms, the garden will pond for a short period of time. Ponding lowers the volume of water that enters our streams, and consequently can help reduce flooding and stream erosion.

Plant list – plants used in the kia ora ai te wai garden

Botanical Name	common name	Plant Type
<i>Apodasmia similis</i>	oioi	rush
<i>Astelia grandis</i>	swamp astelia, mauri	shrub
<i>Baumea complanata</i>	-	sedge
<i>Baumea rubignosa</i>	orange nut sedge	sedge
<i>Baumea tenax</i>	bumblebee nut sedge	sedge
<i>Baumea teretifolia</i>	pakihi rush	sedge
<i>Carex secta</i>	purei, makura	sedge
<i>Carex tenuiculmus</i>	thin culm red sedge	sedge
<i>Coprosma propinqua</i>	mingmingi	shrub
<i>Coprosma tenuicaulis</i>	swamp coprosma, hukihuki	shrub
<i>Cortaderia fulvida</i>	toetoe	grass
<i>Isolepis prolifer</i>	clubrush	sedge
<i>Juncus pallidus</i>	giant rush, wiwi.	rush
<i>Juncus sarophorus</i>	wiwi	rush
<i>Leptinella tenella</i>	-	groundcover
<i>Machaerina sinclairii</i>	tuhara	sedge
<i>Myriophyllum propinquum</i>	water milfoil	herb
<i>Phormium tenax</i>	flax, harakeke	flax
<i>Selliera radicans</i>	-	groundcover

Recommended native plant species.
All are suitable for use in stormwater planter boxes.

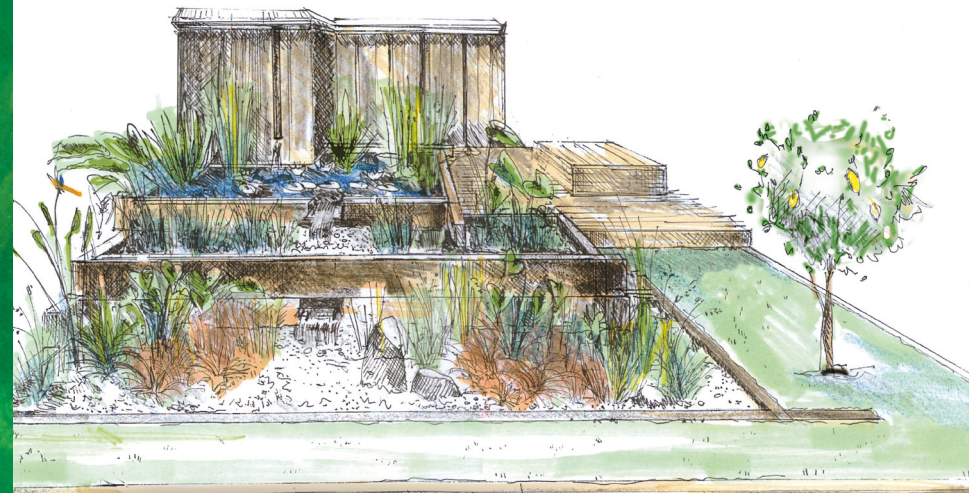


Contact Details

Designer: Kirsten Sach
Email: ksach@xtra.co.nz
www.kirstensachlandscapes.com
Ph: 021 755 967

How to build your own Stormwater planter boxes

Rain can be collected from a roof and directed into stormwater planter boxes. This lowers the volume of rain rushing into stormwater pipes reducing litter, engine oil and heavy metals being swept into our waterways and harbours, destroying important ecosystems.



Stormwater planter boxes are an attractive and economical way to include this sustainable practice within your own slice of backyard, and helps to alleviate the pressure on our storm water systems during heavy rainstorms.

In a storm, the planter box is designed to pond in heavy downpours of rain. Some rainwater trickles to the garden below, where subsoil drainage takes away the remaining water.

Water is purified by the use of special soil media and plants, before it is released into our storm water system.

For more information about stormwater planter boxes and raingardens, visit
www.arc.govt.nz