

Builder's enviro guide

Preventing pollution from your building project

► Find out more: phone Auckland Council on 09 301 0101
or visit aucklandcouncil.govt.nz

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Why compliance matters

Auckland's appeal and value as a location to live and work depends upon the quality of its environment. Our clean beaches, bountiful marine habitats and native bush are at risk from construction activities that pollute and degrade our environment.

Check your consents

Ensure you have the right consents before starting work. Common activities that require consent include:

- erecting or extending a new building or structure
- subdividing land
- altering a building to accommodate one or more new households
- increasing the extent of impermeable surface cover on the site
- carrying out earthworks over an area of more than 150 square metres
- work on, under or near a protected tree
- plumbing/drainage-related works
- constructing a vehicle cross-over.

It takes more time to deal with an abatement notice than it does to ask council before works begin, so check with us about any consents you may require.

The stormwater system

The stormwater system is the network of pipes, streams, overland flowpaths and other infrastructure that takes rain water from the land to the sea, preventing routine flooding.

Stormwater is not treated, so what goes into the drain will go into the sea, sometimes within minutes.



If you see anything entering the stormwater drain that looks like it may contaminate our environment, call the Auckland Council Pollution Hotline on 09 307 3107.

The law and what it means for you

Any construction or development work that creates a nuisance to the public or causes unauthorised discharges to the environment is against the law.

This includes dust, noise, litter and any pollution entering the stormwater system, streams and the sea.

It does not matter if your project does not need a resource consent – it must comply with the district or regional plan rules, bylaws and the Resource Management Act 1991.

Ignorance is not an excuse.

Property owners, developers and contractors are ALL responsible for knowing what the requirements are and for ensuring that they are met.

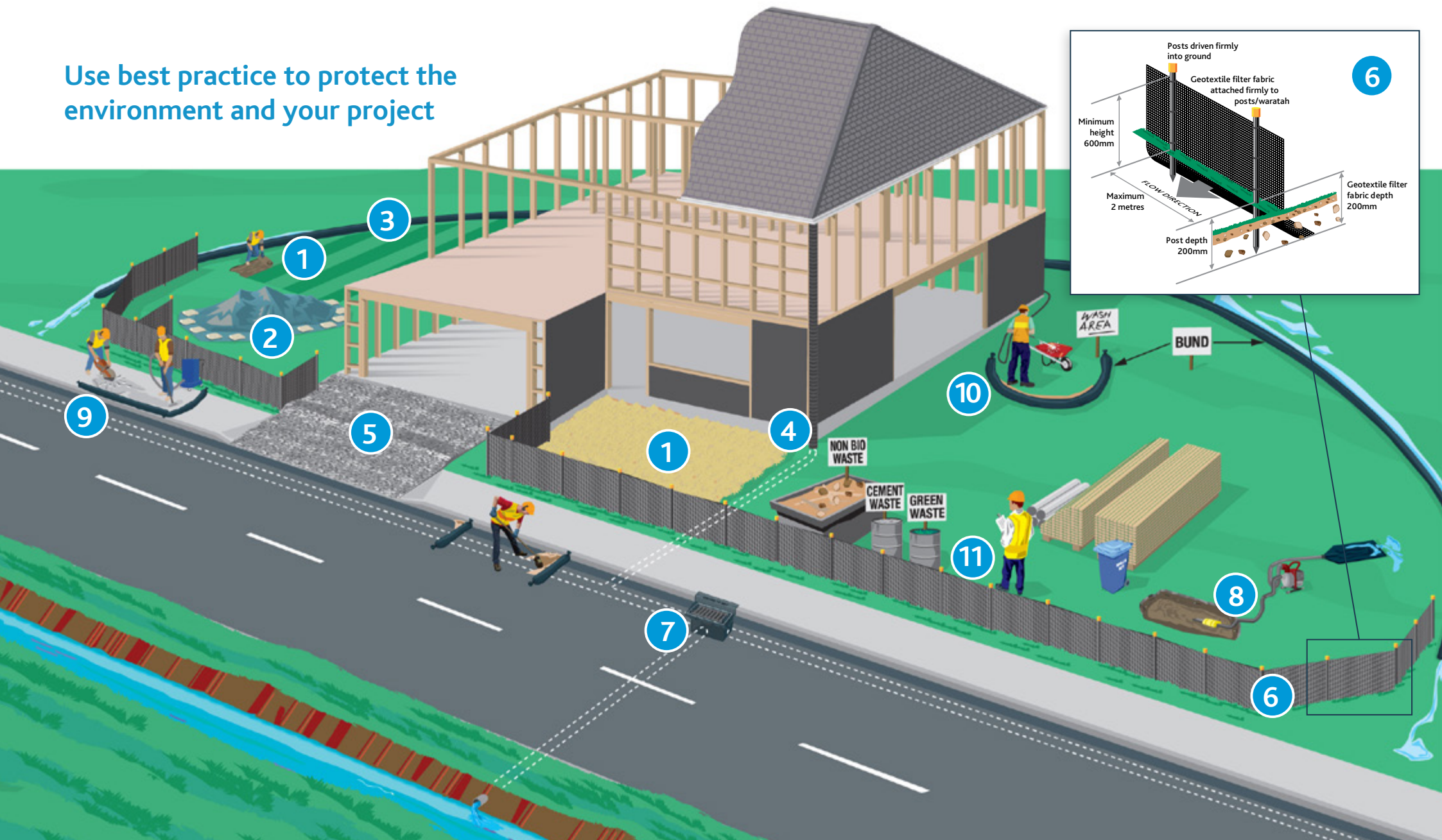
Failure to do so can result in:

- infringement fines up to \$1,000
- abatement notices
- prosecution with fines of up to \$600,000.

The following pages will help you comply with the law and protect our precious environment.



Use best practice to protect the environment and your project



Key to site diagram

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| <ul style="list-style-type: none"> 1. Minimise exposed areas 2. Cover stockpiles 3. Clean water diversion | <ul style="list-style-type: none"> 4. Connect to the stormwater system as soon as the roof is complete 5. Stabilise construction entranceway 6. Silt fences 7. Drain/catchpit protection | <ul style="list-style-type: none"> 8. Dewatering 9. Keep concrete cutting away from drains & water courses 10. Stop concrete, paint and other chemical waste from entering drains or streams. Isolate it on site 11. Maintenance and inspections |
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Control mud and sediment

The combined effect of all the sediment and soil washed off from Auckland's many construction and earthworks sites has a devastating impact on our environment by degrading marine habitats.

Allowing soil disturbed during site development to be washed away by rain is an offence.

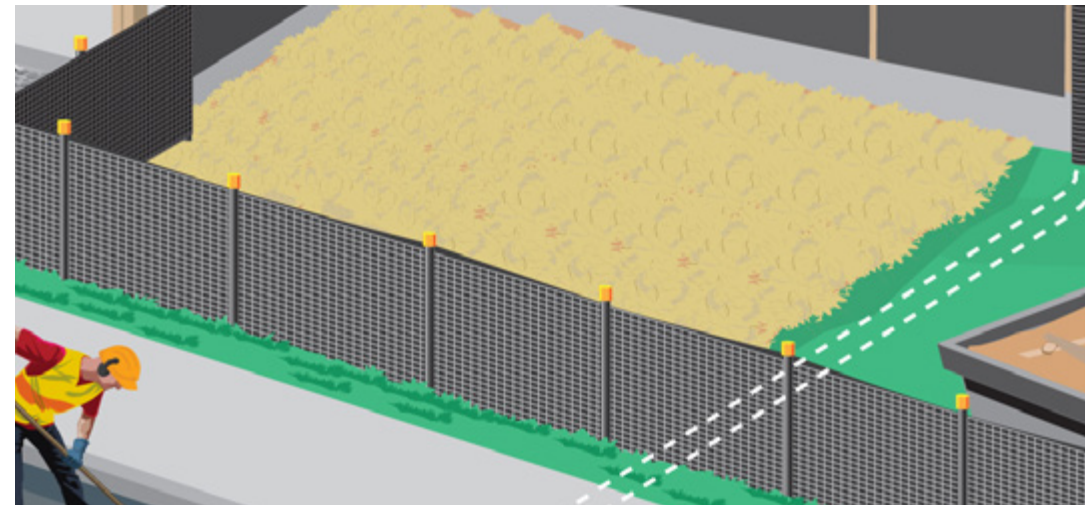
Plan in advance to contain and control the sediment; it also means that your site will be better drained and recover after heavy rain.



How?

1. Minimise exposed areas

- The less soil that is exposed, the less soil can be washed away.
- Keep as much vegetation as possible and do your work in stages.
- Use mulch, hay, pea straw or other materials to cover exposed areas.
- Sow seed as soon as you have finished stages of work.
- Keep a berm of grass around the outside of the site to keep hold of water and prevent it washing exposed soil away.



2. Manage stockpiles

- Soils and other materials should be stockpiled away from kerbs and areas where run-off is likely to enter the stormwater system or drains.
- Cover stockpiles with mulch, straw, plastic sheets or tarpaulins as soon as possible to prevent erosion and run-off.
- Install a silt fence around the stockpile, or on the downhill side of the stockpile, to contain sediment.

3. Keep dirty and clean water separate

- Keep dirty water that has picked up soil away from clean water, it will reduce the effort required to prevent sediment run-off.
- Divert clean rainwater away from your exposed worksite to prevent it from dislodging any sediment.
- Ensure diverted water does not become a nuisance to adjacent properties or the public.

Earth bunds retain mud and run-off

- Construct earth bunds or embankments around the outer edges of your site.
- This will divert clean rainwater away from your site and provide a barrier to retain dirty water on site and allows sediment to settle out.
- Construct bunds by compacting clay or topsoil and cover them with geotextile cloth or hydroseed.



4. Install private drainage at the earliest opportunity

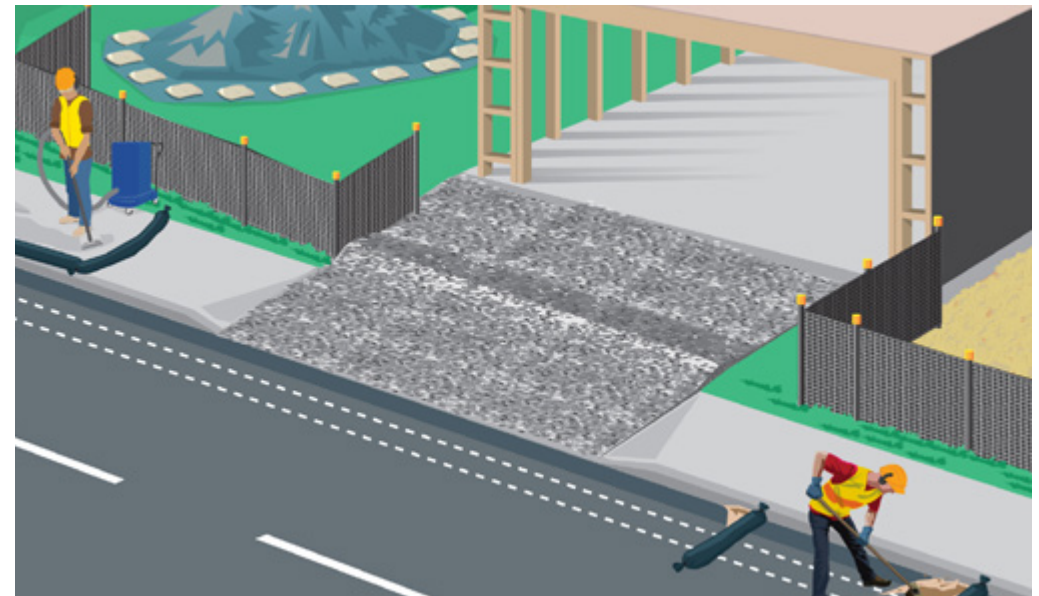
- Install the drainage system at the earliest opportunity to make the best use of existing infrastructure.
- Connect to the stormwater system as soon as the roof is complete.
- Ensure only clear water is discharged to the stormwater system.
- Hydrocoil can be used as a temporary downpipe before cladding is fitted.

5. Stabilise entranceways

- Stabilising entranceways can prevent or limit the tracking of dirt onto the road, and for the best results it should be concrete.
- The minimum set up should be 2m wide with a geotextile base and a 150mm thick layer of 50-75mm sized aggregate.

Mud on the road

- Mud and contaminants must not be tracked onto the road as it can be a danger to motorists. It is also washed into the stormwater system by the rain and can create a dust nuisance.
- It is your responsibility to ensure that the road is clean of mud and sediment, failure to do so can result in legal consequences.
- Mud should be swept back onto site, or if there is a large quantity, a sweeper truck should be arranged to clean the road.
- Never wash mud on the road into the stormwater drains.



6. Silt fences

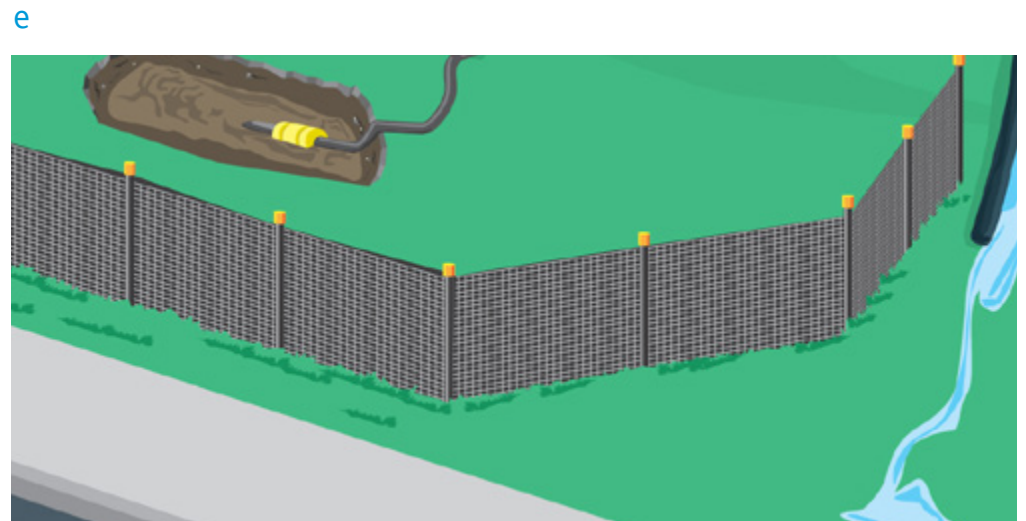
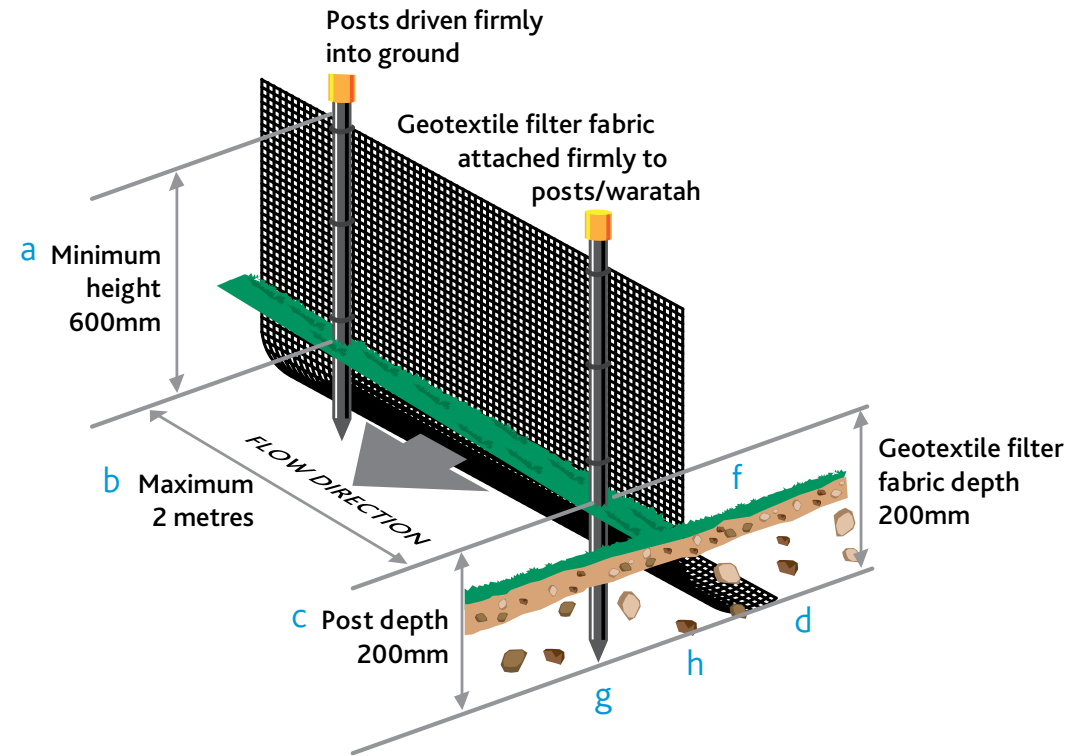
A silt fence is a temporary barrier of woven 100 micron geotextile cloth which is used to intercept dirty water and retain sediment.

Silt fences are good for small, disturbed areas or around stock-piles or around small work sites. For steep slopes it is best to use more than one silt fence.

Proper silt fence installation is critical to its performance. They need to be:

- a. at least 600mm high
- b. supported by posts on the downhill side no more than 2m apart
- c. installed with a trench – 200mm deep by 200mm wide
- d. composed of 400mm of cloth below ground, 200mm along the side of the trench and 200mm lining the bottom
- e. each end of the fence should return up the slope roughly 2m to prevent water going around the edges
- f. back-filled over the cloth
- g. hammer staked at least 400mm deep on the downhill side of the fabric
- h. anchored using the above options of trenching, or applying aggregate.

Note – haybales are not considered an appropriate form of sediment control as they are ineffective.



7. Drain/catchpit protection

Catchpit protection is only the second line of defence and should be installed before works start to support primary controls such as bunds or silt fences. It should not be used to replace other controls.

When installing catchpit protection:

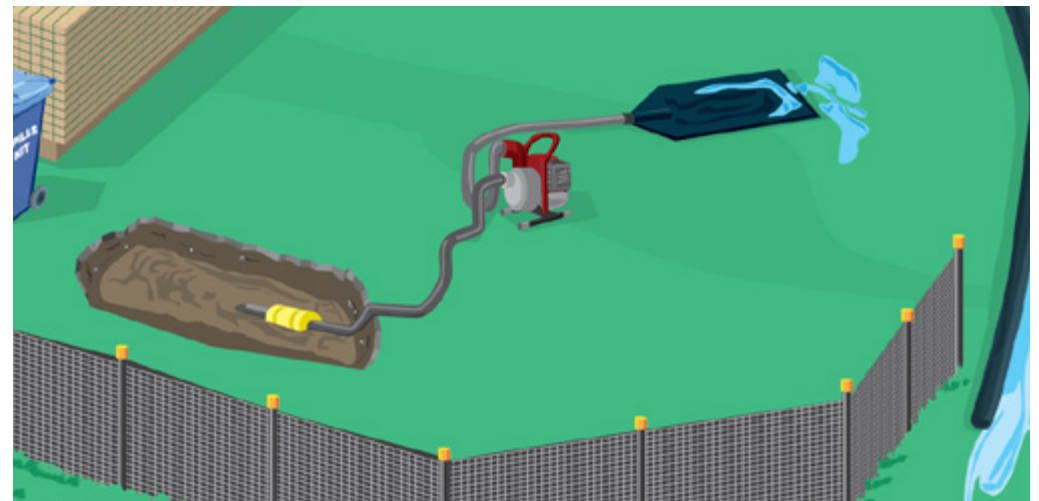
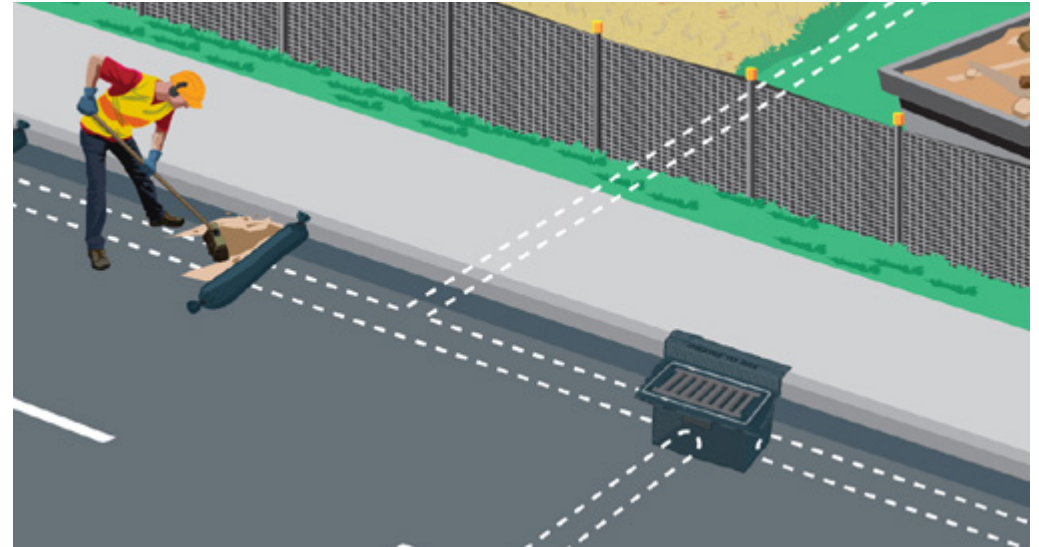
- ensure filter cloth fully covers the grate and the inlet at the back
- install a series of sand socks in the kerb and channel – this will slow the flow of the water allowing more sediment to drop out of the water
- ensure that your catchpit protection remains effective by checking it once a week and after large rain events.

8. Dewatering

Removing dirty water from ponds and trenches on your site can cause pollution and should be carried out with care.

- Never dewater trenches or pits directly to the kerb and channel or stormwater system.
- Wait until sediment has settled out from the water, and pump from the surface and in the middle of the water. NEVER pump from the bottom as that will be full of sediment.
- Pump water into a tank to allow for sediment to settle out further, or pump through filtration devices such as dewatering bags, turkey's nest (a large ring of sandsocks or silt fence) or through a series of sand socks lining the kerb and channel.

- Always set these devices up on unsealed ground where soakage will remove further sediment.
- If filtration devices are unavailable, use a vacuum truck to remove water from your construction site.



Working with concrete and other similar products

Concrete and cement products are extremely toxic due to their lime content. Lime reacts chemically with water and the result is a high pH substance that will burn and kill wildlife.

As little as 10 litres of concrete run off can have lethal effects – to neutralise that amount of run off requires 100,000 litres of fresh water!

It is also important to ensure that additives are managed carefully.

Concrete wastewater's high pH levels cannot be filtered out like sediment.

9. Manage concrete

- Proper management during the delivery and pumping of concrete will reduce the risk of discharges to the stormwater system.
- Install controls before works start.
- Where possible ensure delivery and pumping is kept on site on an unsealed surface and away from stormwater drains.
- If pumping occurs on the street use bins or mats to collect spills.
- Block off stormwater drains.
- When wet cutting, minimise the amount of water to reduce the amount of run-off.
- Wash all equipment on-site on unsealed ground, away from stormwater.

If there is a spill:

- act immediately to clean up the spill
- do not wash the spill into a drain

- in the event of a spill you can divert run-off onto grassed areas or other unsealed surfaces to soak into the soil, though avoid tree roots
- use sandbags, soil or other materials to redirect the run-off
- use a wet vac or vacuum truck to clean up all the run-off
- if the spill is large, use an expert contractor (the appointment of an emergency contractor should be considered before works begin).

Exposing aggregate

Like all concrete run-off, waste water from exposing aggregate is very toxic with elevated pH levels.

- Ensure controls are in place prior to exposing, for example redirecting wastewater to unsealed ground to soak in, or removing it with collection units such as a wet vac, sucker truck or pumps.
- Do not divert acid or chemical wash wastewater to unsealed ground.



The price of a wet vac is very close to a standard RMA infringement fine – and if you get penalised you still have to pay to clean up the mess, so it makes financial sense to invest in the right equipment.

10a. Designated wash-down area

Establish a designated wash-down area on the works site away from stormwater drains. This will enable your team to wash down equipment and vehicles without contaminating the stormwater system.

- Plan ahead and ensure that the area is accessible and well signposted.
- A small pit will hold water and prevent surface flow run-off.
- Use high pressure, low-volume water spray.
- Scrape excess material off equipment before washing.
- If the wash-down area begins to overflow, notify the site manager and arrange for the contents to be removed.



10b. Clean painting equipment properly

Like cement, paint is extremely harmful when discharged into the natural environment.

- Never wash brushes and other equipment near a stormwater drain or stream.
- Do not discharge excess paint into the wastewater system.
- Wash water or acrylic based paints onto an unsealed surface where it can soak into the ground (away from vegetation). If in doubt seek the manufacturer's advice.
- Allocate a wash-out area for painters well away from stormwater drains and streams.
- If using oil-based paints, contain and collect the wastewater for disposal via an approved handler.



Site administration

11. Maintenance and inspections

- Regularly and systematically carry out audits and inspections to maintain standards.
- Be ready to alter controls as your site or conditions change.
- Create a site environmental checklist to ensure that all the appropriate measures are taken throughout the project works.
- Continuing to educate staff and share ideas or information on any incidents that may happen, or possibly could occur on site.
- Work as a team to get it right and take pride in doing your part in protecting our environment and region.



Remember: Outside drains only drain rain

Pollution Response: HOTLINE 09 377 3107

Find out more:

For more information on building consents, building requirements, environmental controls and bylaws call the Auckland Council on 09 301 0101. If you require assistance with a pollution issue call the Pollution Hotline on the above number. Alternatively visit aucklandcouncil.govt.nz for more information and factsheets.

Notes:

A series of 15 horizontal dotted lines spanning the width of the page, providing a template for handwritten notes.