

PART 24

SILT AND SEDIMENT CONTROL

24.1 INTERPRETATION

24.1.1 In this Part of this bylaw unless inconsistent with the context:

“Development” in relation to any land or site means activities that alter surface water or stormwater runoff characteristics and includes earthworks, large scale landscaping, stormwater/drainage works, building work and subdivision works.

“Earthworks” has the same meaning as in Part M of the Porirua City District Plan: “Any alteration to the land contour or disturbance of land, including the deposition of cleanfill, and the excavation and backfilling or recompaction of existing natural ground, excluding the disturbance of earth for the purposes of cultivation which includes, but is not limited to, giant discing and ploughing. For the purposes of this definition, cleanfill is defined as materials such as clay, soil, rock, concrete, brick or demolition products that are free of combustible materials and are therefore not subject to biological or chemical breakdown.”

“**Guidance documents**” include Council’s publications and the Greater Wellington Regional Council publications: “Small Earthworks: Erosion and Sediment Control for Small Sites” and “Erosion and Sediment Control Guidelines for the Wellington Region”.

“**Owner**” includes:

The registered proprietor of the land.

The occupier of the land.

Any agent or person acting for or on behalf of the registered proprietor or occupier of the land.

“**Silt fence**” means a temporary barrier of filter cloth (woven geotextile fabric) used to intercept sediment laden runoff from small areas of soil disturbance. The filter cloth is anchored to the slope firmly by burying it or using large rocks to secure it. Plastic or wire mesh or similar can be

used to reinforce silt fence cloth. Shade cloth is not an acceptable filter cloth.

24.2 CONTROL OF EROSION, SEDIMENT AND SILT

24.2.1 The owner shall ensure that any development activity disturbing the soil is carried out in a way to prevent soil erosion and to stop silt and sediment from entering the stormwater system or watercourses as required under the Resource Management Act 1991 and the Building Act 2004 and their amendments.

24.2.2 No person shall carry out any development activity in relation to any land without first ensuring that:

- surface runoff from the site is isolated from other sites and roading systems; and
- surface runoff from the site containing silt and sediment is prevented from entering the stormwater system or watercourses; and
- silt and sediment control measures are installed, where necessary.

24.2.3 In accordance with the guidance documents the owner shall ensure one or more suitable methods of silt and sediment control are used to retain silt and sediment within the development site:

- (a) silt fences
- (b) hay bales
- (c) basecourse bunds
- (d) vegetation buffer strips
- (e) stabilised earth bunds
- (f) sediment ponds
- (g) cut off drains, contour drains
- (h) clean water/runoff diversion channel
- (i) revegetation and
- (j) any other approved silt and sediment control measures
- (k) stabilising construction access and loading areas with compacted basecourse.

A list of resources for silt and sediment control methods is contained in Annex 1.

24.2.4. In the absence of any other effective method of silt and sediment control, the owner shall install a silt fence around the downslope of exposed soil areas of the development site with the ends of the fence turned up-slope to prevent runoff around them.

24.2.5 The owner shall ensure that the installed silt and sediment control methods are actively monitored and maintained until re-vegetation or re-surfacing removes the risk of soil loss.

Note: silt fences may not be appropriate in all cases. Alternative methods of silt and sediment control may need to be considered on steep slopes or where there is or may be high velocity flows of surface runoff.

24.3

ENFORCEMENT

24.3.1 On request, an owner shall demonstrate to the Authorised Officer's satisfaction that adequate silt and sediment control measures are in place on the development site. Failure to comply with 24.3.1 is an offence against this bylaw.

ANNEX 1

EXPLANATORY NOTE

Stormwater is known to be one of the main causes of water pollution affecting water quality for aquatic and marine life. Silt and sediment entering a waterway from a development site can cause problems for several kilometres downstream. Silt can cause potential damage to aquatic ecosystems, smother aquatic life, affect fish feeding and breeding and cause loss of water quality and clarity. Increased sediment in Porirua Harbour and surrounding coastal areas is reducing water depth.

Development in Porirua is increasingly on small sites or sites with greater building coverage e.g. typically sites with areas of between 50 and 2,500 square metres. The cumulative impact from silt and sediment runoff from small sites e.g. new building lots or infill development can be considerable. Left unchecked, sediment build-up in harbour will affect environment quality, aquatic ecosystems, erosion/deposition processes and recreational/commercial activities.

The objectives of the silt and sediment control bylaw are to:

- Encourage silt and sediment control on small-scale developments, that are being undertaken as permitted activities under the Porirua City District Plan or the Wellington Regional Plan, Regional Soil Plan or Regional Freshwater Plan, or are associated with building works.
- Minimise silt and sediment discharge to any stormwater drain or any other receiving environment.
- Reduce the nuisance effects and cumulative adverse effects from development and infill development on watercourses, the Porirua Harbour and coastal areas.
- Support the use of low-cost and practical methods for silt and sediment control.
- Raise awareness of the importance of minimising sediment and pollutants into the stormwater system.
- Support and complement other regulatory controls for minimising effects from land disturbance.

Under this part of the bylaw owners are required to ensure that any development activity disturbing soils is carried out in a way to prevent soil erosion and to stop silt and sediment entering the stormwater system or watercourses. Development includes building, earthworks or landscaping works that temporarily or permanently alter the way surface water flows through the site. However, it is not intended that 'development' includes cultivating a vegetable garden.

The bylaw references the guidance document “Small Earthworks: Erosion and Sediment Control for Small Sites” published by Greater Wellington Regional Council as a best practice standard for silt and sediment control on small development sites. The bylaw requires the owner to demonstrate that wherever there is the risk of silt and sediment entering the stormwater system or watercourse, adequate measures for erosion and sediment control are in place.

This part of the Bylaw is in addition to other controls imposed under the Resource Management Act 1991 by either Greater Wellington Regional Council or Porirua City Council, including those contained in the Operative Porirua City District Plan. Complying with this part of the Bylaw does not remove the need to obtain any consent required under the Resource Management Act 1991, the Building Act 2004, or any other Act, regulation or bylaw and their amendments.

GUIDANCE

Advice on the installation and use of silt and sediment control measures is available from Council offices or via the Council’s official website: www.pcc.govt.nz. Copies of the Greater Wellington Regional Council guidance documents provide further advice and are available on request.

Regardless of the size of the development or land disturbance activities the land owner is required to take the appropriate measures to prevent soil loss and erosion as required under the Resource Management Act 1991 and the Building Act 2004 and their amendments.

The land owner is responsible for making sure that any development activity disturbing the soil is carried out in a way to prevent soil erosion and to stop silt and sediment entering the stormwater system or watercourses.

Methods to prevent silt and sediment loss:

1. Prevent silt and sediment run off by employing erosion control measures:
 - expose only as much ground as needed at any one time
 - provide runoff diversion drains/channels, contour drains or earth bunds to divert clean water away from the site onto stable ground (grassed or sealed).
2. Topsoil and regrass / revegetate exposed ground, or cover with a mulch as soon as possible.

3. Use one or more of the following silt and sediment control methods:

(a) Silt Fences

A silt fence is a temporary barrier of filter cloth (woven geotextile fabric) used to intercept sediment laden runoff from small areas of soil disturbance. The filter cloth is anchored to the slope firmly by burying it or using large rocks to secure it. Plastic or wire mesh or similar can be used to reinforce silt fence cloth. Shade cloth is not an acceptable filter cloth.

- For small disturbed areas or low slope angles.
- Install along a contour downslope of exposed soil areas with the end of the fence turned up-slope to prevent water running around them.
- More than one fence line should be used on steeply sloping sites.
- Stretch filter cloth between posts at a maximum spacing of 2 metres. Note that shade cloth is not acceptable.
- Decrease spacing between fences with increasing site slope.

(b) Hay Bales

Hay bales can be used for small sites and short term control. They should be dug into the ground, tied together and anchored by stakes. Regular inspection and maintenance is essential.

(c) Vegetation Buffer Strips

Vegetation buffer strips are used to filter sediment from overland flow where runoff rates are low and not concentrated. On steep slopes more than one buffer strip should be used. When the slope increases then suitably decrease buffer strip spacing. Vegetation buffer strips should always be provided along watercourses.

(d) Earth Bunds

Earth bunds are installed near the edge of a site, along a contour downslope of soil areas to control and detain runoff. Topsoil from the site can be used to create the

bund. However, the surface of the bund must be stabilised e.g. through mulching or sowing with grass.

(e) Runoff Diversion Channels

Runoff diversion channels are used to protect work areas from up-slope runoff. Water from a channel can be discharged to areas of vegetation. They can be used to divert water to other sediment retention devices. The diversion channel has shallow grades, e.g. 1% to 2%, to prevent scouring. The compacted embankment of earth used may need to be stabilised against erosion by regrassing.

(f) Contour Drains

Contour drains are used across an area of disturbed ground to break up a slope and reduce the velocity of surface runoff. On steep slopes, more than one drain may be needed. Water can be discharged to vegetation or other control measures.

(g) Access and loading stabilising during construction.

Sites are required to have access and loading areas stabilised. Forming these areas with a 100-150mm cap of compacted base course will minimise likelihood of clay tracking to road surfaces and then to the stormwater system.