

Erosion and Sediment Control: Construction Sites and Waterway Health in south-east Queensland

The South East Queensland Healthy Waterways Strategy 2007–2012 identified land development as a major contributor of sediment and other pollutants to Queensland's waterways.

Sediment is a contaminant that can seriously degrade water quality and starve marine life of oxygen, leading to fish kills and damage to aquatic ecosystems.

There are many potential causes of water contamination; however, in some catchments the highest recorded concentrations of pollutants in stormwater are of sediment from land development sites.

Rapid urban and infrastructure development in south-east Queensland is predicted to cause a 60 per cent increase in sediment loads to waterways within the next 20 years if a business-as-usual approach is maintained.

More than 85 per cent of sediment that leaves an urban development site does so during the construction phase.

Improving the management of stormwater during the construction phase of development and infrastructure projects will:

- conserve topsoil – a valuable asset
- protect downstream waterways from the harmful impacts of turbid stormwater
- reduce the likelihood of impacts to construction timeframes and costs from wet weather or enforcement action.

Everyone involved in construction and development needs to take responsibility for erosion and sediment control.

Erosion and sediment control compliance

The Erosion and Sediment Control Compliance Project (ESCCP) is part of the Department of Environment and Resource Management's (DERM) Annual Compliance Plan (ACP) 2010–2011¹.

The aim of the ESCCP is to protect environmental values of waters and water quality objectives in south-east Queensland waterways by focussing on erosion and sediment control during the construction phase of urban land developments and infrastructure projects.

Department of Environment and Resource Management (DERM) regional service delivery officers, in partnership with local government officers, will be conducting inspections of selected sites. This approach is designed to ensure there is consistency across both levels of government who share responsibility for regulating these activities.

The regulatory framework

The key regulator of a site will be determined on a case-by-case basis but generally speaking, state government and local government controlled sites will be regulated by DERM using s440ZG of the *Environmental Protection Act 1994* (EP Act). Under the EP Act, it is an offence to unlawfully² deposit 'prescribed water contaminants' in waters, roadside gutters and stormwater drainage. It is also unlawful to deposit a contaminant where it might flow into such places.

Prescribed water contaminants (a full list of which can be found in Schedule 9 of the Environmental Protection Regulation 2008) include:

- clay, gravel, sediment (including from building activities), stones and similar organic and inorganic matter
- earth, which the EP Act defines as sand, soil, silt or mud.

Private development sites will be regulated by local government through a development permit issued under the *Sustainable Planning Act 2009* (SPA) as well as s440ZG of the EP Act.

Therefore, incidents involving water contamination within a local government's jurisdiction will be deemed a breach of the development consent (under SPA) as well as a breach of s440ZG of the EP Act.

The general environmental duty (GED) as defined in s319 (1) of the EP Act also applies. It states that a person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm.

¹The Annual Compliance Plan 2010–2011 is publicly available online at <www.derm.qld.gov.au>.

² Refer to s493A under the EP Act for the definition of unlawful acts.

These sections of the EP Act will apply to all sites whether they are owned and controlled by private developers or state, commonwealth or local governments. This is reinforced in s22 of the EP Act.³

A number of Queensland Government plans and policies assist in framing the regulatory approach for erosion and sediment control on development sites. These include:

- The South East Queensland Regional Plan 2009–2031:
 - Desired regional outcome 11 – Policy 4.1: 'Ensure that development is planned, designed, constructed and operated in accordance with best practice environmental management to protect environmental values and meet the water quality objectives of all regional surface waters, groundwaters, wetlands and coastal waters'.
- Environmental Protection (Water) Policy 2009:
 - Schedule 1 – Environmental Values and Water Quality Objectives for waters.
- State Planning Policy – Healthy Waters 2010:
 - The State Planning Policy (SPP) will ensure that development for urban purposes under the *Sustainable Planning Act 2009*, including community infrastructure, is planned, designed, constructed and operated to manage stormwater and waste water in ways that protect the environmental values prescribed in the *Environmental Protection (Water) Policy 2009*.

What must be done to control erosion and sediment in construction runoff?

Planning and design, along with good erosion and sediment controls and monitoring systems, are the keys to preventing environmental harm as well as reducing the likelihood of:

- storm repair costs on site, for example, clearing filled drains or replacing topsoil
- repair, administrative and/or legal costs to off-site properties, such as flooding or damage to water supply dams
- enforcement action and associated costs.

When assessing sites for compliance with regulatory requirements, DERM and local government officers will be referring to the 'Standard Work Method for the Assessment of the Lawfulness of Erosion and Sediment Control Practices'⁴. They will be assessing compliance with the conditions of a development approval, if one exists for the site, and the general environmental duty.

³ This Act binds all persons, including the State, and as far as the legislative power of the Parliament permits, the Commonwealth and the other states.

⁴ Available from 2011.

This should encompass the following:

- thorough and ongoing site assessments
- consideration of, and adaptation for, site specific erosion risk factors, including topography, soil type, climate and season
- incorporation in the design, installation, operation, management, maintenance and monitoring of control measures, which are consistent with the measures set out in the Standard Work Method.

The following are some of the key measures that can be used to ensure erosion and sediment are controlled on a site:

- stage the development to only clear areas immediately prior to earthworks
- cover stockpiles
- stabilise disturbed soil with cover
- rapidly stabilise completed areas
- divert clean stormwater around or through the site without causing increased turbidity or erosion
- divert sediment-laden stormwater to sediment ponds
- treat and release clean water from sediment ponds as soon as practicable after a rain event.

What are the penalties for non-compliance?

DERM or local government officers will look to investigate and take appropriate compliance action against activities that cause an adverse effect, or have the potential to cause an adverse effect, on an environmental value.

Penalties for offences under s440ZG of the EP Act can be up to a maximum of \$417 500.

December 2010
CP9

For general enquiries contact the
Queensland Government call centre 13 74 68 (13 QGOV)
or visit www.derm.qld.gov.au