

## SECTION 17 EROSION AND SEDIMENT CONTROL

### 17.1 INTRODUCTION

The potential for soil erosion occurs when vegetation cover is removed during the demolition or construction of buildings and structures, or where it is proposed to recontour the existing landform. As a result, sediment can enter the natural and stormwater drainage systems, and can potentially block their flow, reduce their capacity and eventually be deposited in receiving waters. Sediment reduces water depth, causes turbidity, reduces recreational amenity and damages aquatic systems. Sediment can also have a destructive impact on the quality of urban bushland.

Sedimentation represents a considerable cost to the community in cleaning and maintenance of stormwater infrastructure. Costs arise from increased flooding due to reduced capacity of drainage systems, cleaning of drains and dredging of receiving waters. Efficient sediment control techniques have benefits to the builder as well as the community, in improved access and site conditions and less time lost due to water logged sites.

#### 17.1.1 General Objectives

The general objectives of this Section of the DCP are to:

- O1 To provide a consistent approach to erosion and sediment control, with a view to achieving best practice.
- O2 Establish principles for the control and management of erosion and sediment risks.
- O3 To ensure that the Sydney and Middle Harbours water catchments are clean, productive and healthy.
- O4 To minimise soil erosion and siltation resulting from building and excavation works.
- O5 To ensure applicants submit sufficient information on proposed erosion and sediment control measures with development applications such that Council can make an informed decision.
- O6 To ensure that consent conditions and *Erosion and Sediment Control Plans* are fully implemented through monitoring and maintenance protocols.

#### 17.1.2 When does this section of the DCP apply?

This section of the DCP applies to all development applications that involve:

- (a) the removal of vegetation from a site;
- (b) excavation, such that the land form of the site is altered; and
- (c) placement of any type of fill material on a site.

#### 17.1.3 Relationships to Other Sections

Where relevant, this section of the DCP should be read in conjunction with the following Sections of the DCP:

- (a) Part A: Section 3 – Submitting an Application;
- (b) Part B: Section 1 – Residential development;
- (c) Part B: Section 2 – Commercial and Mixed Use Development;
- (d) Part B: Section 13 – Heritage and Conservation;
- (e) Part B: Section 15 – Bushland;
- (f) Part B: Section 16 – Tree and Vegetation Management;



- (g) Part B: Section 18 – Stormwater Drainage; and
- (h) Part B: Section 20 – Public Infrastructure.

#### **17.1.4 Further Information**

For more information about erosion and sediment control, consult with Council and refer to:

- (a) North Sydney Council *Performance Guide*;
- (b) North Sydney Council *Infrastructure Specification Manual*;
- (c) NSW Department of Housing *Managing Urban Stormwater Soils and Construction* (4th edition, 2004);
- (d) Selected techniques described in pamphlets available from the Council Customer Service Centre;
- (e) Department of Land and Water Conservation pamphlet *Preparing an Erosion and Sediment Control Plan* (1997); and
- (f) Hawkesbury-Nepean Catchment Management Trust 2001 *Guidelines for Erosion and Sediment Control on Building Sites* (2001).

### **17.2 REQUIREMENTS**

#### **17.2.1 Objectives**

- O1 Identify all areas likely to cause pollution of waterways from the transport of stormwater run-off containing sediment and silt and implement appropriate devices to stop the risk of pollution.

#### **17.2.2 Provisions**

- P1 Divert clean water around the construction site to prevent contamination.
- P2 Retain as much natural vegetation as possible and limit site disturbance to minimise the risk of pollution.
- P3 Control stormwater that enters the construction site from upstream.
- P4 Divert stormwater from undisturbed upper slopes onto stable areas.
- P5 Retain and stockpile all excavated topsoil on site for future landscaping where feasible.
- P6 Prevent sediment/silt from entering adjoining public or private property (especially drains) by installing sediment control devices at the low side of sites and wash down areas.
- P7 Provide a single, stabilised entry/exit point to the site. Sediment or building materials should be prevented from reaching the road or Council's stormwater system. Sediment shall be removed by sweeping, shovelling or sponging. Under no circumstances shall sediment be hosed.
- P8 Where a *work zone permit* over public property is applicable, ensure that appropriate debris control devices are implemented to prevent spillage of building materials into stormwater drains.
- P9 Compact all drainage lines when backfilling.
- P10 Revegetate all disturbed areas, after on-site works are completed, in order to stabilise surface.
- P11 Maintain all sediment control devices during construction and earthworks to standards acceptable to Council.

## 17.3 MAINTENANCE AND MONITORING

### 17.3.1 Objectives

- O1 To ensure that erosion and sediment impacts are minimised during the entire construction period of the development.

### 17.3.2 Provisions

- P1 The consent holder, property owner, contractor, builder and all persons on site during construction are responsible for controlling soil erosion and preventing the discharge of sediments from the building site entering into Councils stormwater system.
- P2 A condition may be imposed on a development consent requiring the payment of an environmental bond/security to cover the costs of making good any damage from pollution that a proposed development has the potential of causing.
- P3 Erosion and sediment control measures will be inspected in the course of Council site inspections following issue of a construction certificate.
- P4 Where non-compliance with the DCP occurs, Council may charge a reinspection fee, claim the environmental bond, issue a Clean Up Notice, Prevention Notice or Penalty Infringement Notice if a pollution incident has occurred or has the potential to occur.
- P5 In more serious cases, legal action may be considered under legislation dealing with environmental protection.
- P6 [Protection of the Environment Operations Act 1997](#) constitutes an act of pollution as being a criminal offence.

## 17.4 PROCEDURES

### 17.4.1 Objectives

- O1 To outline the requirements and procedures for addressing soil erosion and sediment control.

### 17.4.2 Provisions

- P1 A *Statement of Intent* must be supplied with all development applications. The Statement must outline the sedimentation and erosion control measures to be utilised and a simple erosion control site diagram demonstrating how the proposal will achieve the general objectives of the DCP.
- P2 An *Erosion/Sediment Control Plan* may also be required to be submitted with the Development Application for a development involving excavation or that is likely to pose a significant environmental risk. The plan should include diagrams showing the erosion and sediment control measures, their location and type. A detailed *Erosion/Sediment Control Plan* may also be required to obtain a Construction Certificate.
- P3 Erosion and sediment control site signs must be displayed on the site during building works, and provide advice to protect the environment from sedimentation and erosion from building sites. These signs are available from the Council Customer Service Centre.
- P4 Work must not be carried out in a public road or footpath unless a permit has been granted by Council (or other relevant roads authority) under s.138 of the [Roads Act 1993](#), and/or s.68 of the [Local Government Act 1993](#). These are separate approvals to development consent or a Complying Development Certificate. Consult with Council to determine if a permit is required.



## **17.5 STANDARDS FOR EROSION AND SEDIMENT CONTROL PLANS**

An Erosion and Sediment Control Plan can vary from a simple statement for minor proposals to complex engineering plans and associated documentation for major proposals, including all details of erosion and sediment control measures to be utilised.

### **17.5.1 Objectives**

O1 To ensure that soil erosion and sedimentation is considered at the design stage of the development.

### **17.5.2 Provisions**

P1 *Erosion and Sediment Control Plans* should:

- (a) Consider a range of erosion and sediment control measures, including (where relevant) runoff diversion techniques, sediment trapping devices, construction of exits and entrances, revegetation techniques, site management, and controls for stormwater removal and pump-out.
- (b) Be part of a soil and water management plan that addresses erosion and sediment control and additional water quality and/or water quantity issues during both the construction and operational stages. This can include identifying concrete delivery locations, service trenches, waste management and chemical storage.
- (c) Demonstrate that appropriate controls have been planned, and that when implemented will minimise erosion and sedimentation. The Erosion and Sediment Control Plan should also demonstrate that its design life exceeds the anticipated life of the project or stage for which it has been designed, to allow for unforeseen delays or contingencies.
- (d) Adequately cover the contingency of, and change or delays to the project, activity or scope of works.

## **17.6 EROSION AND SEDIMENT CONTROL MATRIX**

Table B-17.1 comprises an Erosion and Sediment Control Matrix which describes the process, pre-requisites, references for addressing soil erosion and sediment control.



TABLE B-17.1: Erosion and Sediment Control Matrix

This is About	Main activities	The Process	Pre-requisite	Compliance with	References	Comments
Preventing pollution of waterways & bushland from the effects of erosion and sediment	<ul style="list-style-type: none"> <li>Any work that is likely to cause pollution from erosion and sediment</li> <li>Maintaining erosion and sediment control devices as part of development activities</li> </ul>	<ol style="list-style-type: none"> <li>Lodge a Development Application</li> <li>Obtain development consent</li> <li>Lodge a Construction Certificate Application</li> <li>Obtain a Construction Certificate</li> <li>Start Construction</li> <li>Apply for Occupation Certificate</li> </ol>	<ul style="list-style-type: none"> <li>Survey details</li> <li>Statement of Environmental Impact</li> <li>Erosion Control Plan showing how to minimise impact of pollution</li> <li>Council assesses development application based on the risk of pollution and the merit of information presented.</li> <li>Detailed construction drawings must include Erosion Control Plan Section 138 Permit</li> <li>Pay all fees and bonds</li> <li>PCA assesses docs for compliance with development consent</li> <li>Install erosion and sedimentation control measures</li> <li>Give Council Notice</li> <li>As built drawings</li> <li>Video of drain pipes</li> <li>Certifications as required</li> <li>Council approval</li> </ul>	<ul style="list-style-type: none"> <li>This section of the DCP Development Application Guides</li> <li>EP&amp;A Act 1979</li> <li>This section of the DCP Development consent s.138 of Roads Act 1993 (if Applicable)</li> <li>Development Consent</li> <li>This section of the DCP Construction Certificate</li> <li>BCA</li> <li>This section of the DCP Construction Certificate</li> </ul>	<ul style="list-style-type: none"> <li>NSC Performance Guide</li> <li>NSC Infrastructure Specification Manual</li> <li>NSC Performance Guide</li> <li>NSC Infrastructure Specification Manual</li> <li>NSC Performance Guide</li> <li>NSC Infrastructure Specification Manual</li> </ul>	<ul style="list-style-type: none"> <li>Provide enough information to allow Council to assess the merit of the proposal</li> <li>The Statement of Environmental Impact must address the issues raised in the checklist within the EP&amp;A Act</li> <li>In order to minimise delay the applicant should ensure that the information provided in the application is relevant, accurate and fit-for-purpose</li> <li>Provide enough detailed design information to show that work can be built as per development consent conditions</li> <li>No work is permitted on public property without a s.138 Permit</li> <li>Bonds are a security against damage to Council Infrastructure</li> <li>Principal Certifying Authority issues Construction Certificate</li> <li>A Construction Certificate must be obtained before construction may commence.</li> </ul>



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