1. PURPOSE

- To provide guidance to the development industry with regard to appropriate erosion and sedimentation controls
- To help maintain the health, ecological integrity and amenity of the Shoalhaven’s streams, rivers, estuaries and beaches

2. STATEMENT

Improved environmental management is needed from all sectors of the development industry to control soil erosion and consequent sediment pollution to land downstream and receiving waters.

Sediment and erosion controls consist of various sediment barriers installed along the lower side of the soil disturbance, including a stabilised construction entry/exit pad as detailed in Section 3. Appendix 1 to this document shows a typical plan for erosion and sediment control for a standard residential dwelling. Guidelines for various types of sediment controls are provided in Section 3.

3. PROVISIONS


3.1. Stabilised Entry Exit Point

Where possible, the entry/exit point of the site should be managed such that sediment is not tracked off the site. Where practicable, the entry/exit point should be restricted to one stabilised location, not necessarily at the location of the permanent driveway.
The recommended construction method for stabilising access points is an appropriately located 150–200 mm deep pad of minimum 40 mm crushed rock or recycled concrete. The access should be at least 2 metres wide and 5 metres long. Where practicable, the entry/exit pad should extend from the kerb to the slab. Geotextile filter fabric is generally not required under the aggregate pad.

Where the entry/exit pad slopes towards the road, a bund (hump) should be installed across the aggregate pad to deflect stormwater run-off to the side where it can be filtered by a sediment fence.

### 3.2. Sediment Fences

The most efficient sediment barrier for building sites is usually a specially manufactured geotextile sediment fence. The use of filter cloth or shade cloth is not recommended.

Sediment fences on building sites can be stapled to approximately 40 mm square hardwood posts or wire tied to steel posts. Wire tied sediment fences have the advantage of being readily unhooked from their support posts during working hours to allow the unloading of materials. This feature is useful on small frontage building sites where site access is limited.

In areas where it is either undesirable or impractical to bury the lower edge of the sediment fence, the lower 200 mm (min) portion of the fabric should be placed on the ground up-slope of the fence and buried under a 100 mm (min) layer of aggregate.
Sediment fences should be located down-slope of the disturbance, and ideally along a line of constant land level to prevent the concentration of stormwater run-off.
3.3. Aggregate Perimeter Banks

In flat, sandy areas where the run-off catchment consists only of the building lot, an aggregate perimeter bank may be used as an alternative to a sediment fence. An aggregate perimeter bank consists of a 300 mm high, 1000 mm wide perimeter bank formed with 40-75 mm clean aggregate.

The advantage of perimeter banks is that they allow unrestricted access and are difficult to damage. However, it is difficult to remove and recycle the clean aggregate.

3.4. Straw Bales

The use of straw bales instead of a sediment fence is usually not recommended. In most cases a sediment fence will be more effective for a greater period of time. Straw bales may be used down-slope of small stockpiles if they are appropriately secured with two stakes per bale and water is prevented from flowing under or around the bales.

3.5. Grassed Filter Strips

Grassed areas have generally not proven to be effective for the capture of sediment from building sites unless the grass is fenced-off to prevent traffic-induced damage. Grassed areas down-slope of sediment fences can be effective in collecting sediment that passes through a damaged section of fence.

At sites where there is significant areas of healthy grass down-slope of the soil disturbance, a sediment fence may not be required if stormwater run-off from the disturbance is allowed to flow evenly (not concentrated) over the grass.

- The width of the grass (in the direction of flow) should be at least 5 times the percentage slope of the grassed area. That is, 5 metres for a 1% slope and 50 metres for a 10% slope. Land with a 1% slope will fall 0.1 metres (i.e. 10 cm) every 10 metres.
3.6. Field Sediment Barriers

Sediment controls for stormwater inlets located within the property boundaries may consist of geotextile fabric covered timber frame.

Field inlet protection is necessary where inlets drain areas of bare and unprotected soil.

During storms, ponding should be allowed to occur around the stormwater inlet to assist in the settling-out of sediments. A structurally sound support frame is needed to withstand the weight of sediment-laden water.

i.e. Placed either directly over the grated inlet or around the inlet supported.

3.7. Roadside Gully Sediment Barriers

For reasons of safety and sediment control efficiency, sediment barriers generally should not be located outside property boundaries; this especially applies to sediment barriers placed on the road. Sediment barriers placed in front of roadside stormwater inlets are rarely effective and at best usually result in the sediment being washed down the street and into the nearest open gully inlet. They should only be used as a last resort.

If a roadside gully inlet barrier is to be installed, then it should not be allowed to fully block the inlet structure. On a hillside, sediment barriers may consist of a temporary dam constructed from sand or gravel bags placed at least 4 metres up-slope from the gully inlet.

- Not recommended, last resort, safety issues, permission must be obtained
- Fabric should not be placed across the grate or gully inlet
At road sag points, a sediment barrier may be constructed around the gully inlet, but should not block the inlet.

3.8. Maintenance of Control Measure

All sediment control measures need to be regularly checked and maintained in good working order. Best Practice includes anticipation of potential risks and being prepared for abnormal circumstances and emergencies. This should include stockpiling extra sediment fence on-site to facilitate emergency repairs.

The entry/exit pad will require reapplication of crushed rock if excessive sediment build-up occurs.

Sediment fences should be replaced if the fabric is ripped or otherwise damaged. The maintenance of sediment fences includes the removal of sediment deposited up-slope of the fence and re-trenching the fabric where necessary.
APPENDIX 1 – TYPICAL PLAN OF EROSION AND SEDIMENT CONTROL

1. All runoff and sediment control structures will be inspected each working day and maintained in a functional condition.

2. All vegetation outside the building envelope will be retained.

(Additional notes may be included on soil type, erosion control measures, installation sequence and maintenance of ESC measures.)