

# Sediment and Erosion Management



May 2018

## Sediment and Erosion Management

### Subdivision and Development – Information Sheet

With the coming introduction of the *Shire of Augusta Margaret River Site Erosion and Sand Drift Law 2018*, developers and contractors are required to actively prevent erosion and sedimentation resulting from activities on their development. The Shire has experienced ongoing erosion associated with region's clay soils. Preventing erosion and downstream sedimentation not only improves environmental habitats and the function of natural waterways, but also reduces the risk of flooding (from clogging of drainage infrastructure); reduces costs associated with supplying sand; and improves the streetscape for the community by removing sand and waste from roads and verges.

This fact sheet provides guidance on the sediment control measures that should be used during subdivision and development works.

This fact sheet has been prepared acknowledging that a one-size-fits-all approach may lead to unnecessary development costs. Landowners and occupiers (including developers and contractors) should undertake a site assessment and apply the appropriate controls for their site risk. Note that if your site meets any of the criteria in the higher risk categories, that is the risk level to apply.

If you are unsure of how to assess your site, please contact the Shire's Environmental Officer on 08 9780 5255.

Shire staff will regularly inspect development sites within the region and have the ability to issue fines for non-compliance with the *Shire of Augusta Margaret River Site Erosion and Sand Drift Law 2018*.



Shire of Augusta-Margaret River

### Site Assessment

#### Low Risk

- Soils comprised of coarse sand
- Undisturbed vegetation onsite
- Property and surrounding slopes <1:10
- No waterways (creeks, rivers, streams) within the development boundary or within 250m downstream

#### Medium Risk

- Soils comprised of mainly sandy clays or silt
- Property and surrounding slopes between 1:10 and 1:4
- No waterways (creeks, rivers, streams) within the property boundary or within 100m downstream
- No downstream drainage infrastructure (roadside entry pits, grates and pipes)

#### High Risk

- Soils comprised mainly of clay and silt material
- Presence of dispersive clay soils onsite and downstream
- Property and surrounding slopes >1:4
- Downstream waterways (creeks, rivers, streams) within 100m of property boundary (including any waterways within the property)
- Waterways (creeks, rivers, streams) within the property boundary and/or within 250m downstream

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## Site Management Plan

In certain circumstances, the Shire of Augusta Margaret River may require preparation of an Erosion and Sediment Management Plan as a condition of subdivision or development. This plan will be submitted to the Shire and approved prior to the commencement of works on the site. The plan will outline the sediment control measures to be implemented across the site, including identification of risk areas and sketches showing the location of control measures. Site inspections by Shire staff will focus on the implementation of the Erosion and Sediment Management Plan, as well as the items listed in this information sheet.



### Low Risk Sites

The following sediment controls represent the minimum requirements for all construction sites within the Shire.

- Maintain a clean site, including sweeping up loose material and prevent sedimentation of constructed drainage features;
- Controlled site access, with defined access points stabilised using crushed rock (150-200mm deep pad of minimum 40mm crushed rock);
- Exposed soils should be covered as soon as possible following earthworks using topsoil, binders or vegetation;
- Stockpiles must be located at least 5m away from all areas of concentrated flow and hardstand areas; and,
- Long-term stockpiles covered with plastic sheeting or other material.

Contractors should plan ahead and check the weather forecast to ensure clean sites ahead of any wet weather. This should also include inspection and repair of any sediment control measures.

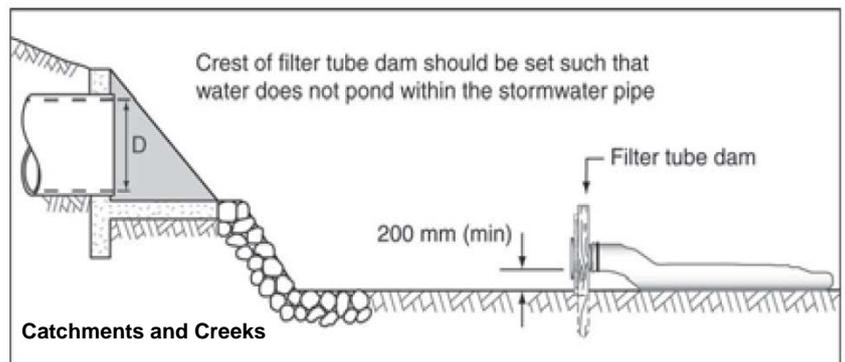
### Medium Risk Sites

These sites must implement the basic controls outlined above for low risk sites. As the risk of erosion is increased, additional measures are required and should include temporary sediment controls as outlined below:

- Runoff from an upstream catchments should be directed away from exposed soils, including the use of cut-off drains or flow diversion banks (with their own protection measures);
- Installation of sediment control fences (see over);
- Controlled dewatering disposal from the site, avoiding areas of exposed soil. Install sediment-trapping devices where necessary;

- Regular removal of sediment from behind sediment fences and sediment trapping devices; and
- Installation of temporary sediment-trapping devices (sediment basins) for catchments larger than 0.5ha, installed at the outlets of drainage systems or key points of concentrated flows (where sediment is observed in flows). The sketch below shows that sediment traps/basins should have an invert lower than the outlet to allow for retention of water. These systems must be designed to prevent flows bypassing them.

Note that sediment-trapping devices are more expensive than installing sediment fences and stabilising soils across the site.



## Sediment Control Fences

Sediment control fences work to catch sediment flowing from a site. They should be installed at the downstream edge of the property and around stockpiles. The material for the fences can include geotextiles, woven (coarse sediment) and non-woven (fine sediment) material. Effective sediment fence design requires burying the fence to 150-200mm, and installing steel star pickets at spacing of up to 2m. These fences are essential on all medium and high risk sites.

Straw bales may be considered for lower risk, rural sites however they must also be buried and tightly packed to be effective.



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## High Risk Sites

High risk sites have the potential to directly impact downstream drainage infrastructure and natural waterways. All measures for low and medium risk sites should be implemented, together with the following:

- Sediment traps (multiple sandbags or filter socks) installed in the roadway upstream of kerb inlets (ensuring flows are not directed to other inlets);
- Sediment traps (multiple sandbags or filter socks) around grated inlets and inlets in road sags (ensuring flows are not directed to other inlets);
- Sediment fences installed around any waterways within the property; and
- Implementation of vehicle wash-down facilities at site access points to eliminate sediment reaching the roads.

These measures require regular inspection and cleaning to prevent sediment build up. Ongoing adjustments to the layout of these traps may also be required to ensure they are effective.

## Inspection and Maintenance

Inspection and maintenance of sediment control measures is required by the site manager to ensure they are functioning correctly and not damaged. These inspections must occur regularly, and must occur before and after significant rainfall events. All control measures should be maintained until the completion of all earthworks and landscaping, and disturbed areas have been rehabilitated. Where repair works or additional controls are required, they must be completed as soon as possible to prevent further sediment movement on the site.

## Further Information

- Shire of Augusta Margaret River website (<https://www.amrshire.wa.gov.au/>)
- Call the Shire's Environmental Officer on 08 9780 5255
- Erosion and Sediment Control Manual for the Darling Range, Perth, WA
- Erosion and Sediment Control – A Field Guide for Construction Site Managers (Catchments and Creeks, 2010); and,
- International Erosion Control Association (Australasia) (IECA) ([www.austieca.com.au](http://www.austieca.com.au))

## Acknowledgements

This fact sheet has been prepared with information from the referenced documents, consultation with other local authorities (including Lake Macquarie City Council) and information provided by the Sediment Task Force (Perth NRM).

Note that the guidance is general and specific site erosion and sediment control designs may be required to ensure compliance with the *Shire of Augusta Margaret River Site Erosion and Sand Drift Law 2018*.

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## Document and Version Control Table

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<b>Version</b>	<b>Date Issued</b>	<b>Brief Description</b>
<b>1.0</b>	14/09/2018	Initial Issue

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