

YOUNG SHIRE COUNCIL
ENGINEERING GUIDELINES
FOR
SUBDIVISIONS &
DEVELOPMENTS

PART 6

Guidelines for Landscaping and
Measures for Erosion,
Sedimentation and Dust Control

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Young Shire Council

February, 1994

PART 6

CONTENTS

	SECTION	PAGE
1.	Introduction	1
2.	Dust Control	2
3.	Erosion and Sediment Control	3
4.	Landscaping	8

1. INTRODUCTION

This document outlines Young Shire Council's recommended practice for Landscaping, Dust, Erosion and Sediment Control. It is in no way a comprehensive design "Manual" and it is intended to be read in conjunction with and as a supplement to relevant Department of Conservation and Land Management and New South Wales Department of Housing publications.

It is recommended that the handbook by the New South Wales Department of Housing - Soil & Water Management for Urban Development, be followed.

All references to the Director should be interpreted as referring to the Engineering and Technical Services Director or his nominated representative.

The other parts of the Engineering Guidelines for Subdivisions and Developments are as follows:-

- Part 1 - General Requirements
- Part 2 - Guidelines for Design of Roads
- Part 3 - Guidelines for Design of Drainage
- Part 4 - Guidelines for Design of Water Reticulation
- Part 5 - Guidelines for Design of Sewerage Reticulation
- Part 7 - Guidelines for Testing

2. DUST CONTROL

The Developer should take all reasonable steps to limit the creation of any dust nuisance which might arise during the execution of the works. In this regard the Contractor should regularly water all haul roads, access tracks and construction areas.

The Director may stipulate that work cease until such time as any particular dust nuisance has been controlled to his satisfaction.

3. EROSION AND SEDIMENT CONTROL

3.1 Plans

The Developer should prepare a Sediment and Erosion Control Plan which should be approved by the Director prior to commencement of construction.

3.1.1 The above plan should generally include the following six (6) principles:-

- (i) the erosion and sediment control should be planned concurrently with engineering design;
- (ii) minimise the area of soil exposure;
- (iii) conserve the topsoil;
- (iv) control water flow from the top of the development area, through the works and out the bottom of the site, for example:
 - * divert clean runoff above denuded areas;
 - * minimise slope gradient and length;
 - * keep runoff at non-erodible velocities;
 - * trap soil and water pollutants.
- (v) rehabilitate disturbed lands quickly; and
- (vi) where practicable, maintain soil and water management measures at a level to ensure the finally developed site releases water of a quantity and quality equal to, or better than the pre-development condition.

3.1.2 The plans should address and assess the following:-

- (a) Physical constraints at the particular site:-
 - . soil type
 - . landform type
 - . gradient
 - . hydrology
- (b) Measures to overcome the constraints:-
 - . staging of works
 - . mitigation/control of on-site soil erosion
 - . movement of water onto, through and off the site
 - . rehabilitation/maintenance of the works area;
- (c) Modification of landscape and drainage pattern of surrounding area;
- (d) The proposed works in the development.

3.1.3 The plans, while including the principles given in Section 3.1.1, should achieve the following specific objectives:-

- (a) adequate control of pollution of water courses during construction, up to 5 Year A.R.I. event;
- (b) stability of control devices/structures up to 10 Year A.R.I.;
- (c) zero annual impact by pollutants on receiving waters after completion of development.

3.2 General Requirements

On all areas that will be disturbed, top soil is to be stripped and stockpiled. On completion of earthworks topsoil is to be replaced on all footpath reserves, batters and site regrading areas including drainage reserves and detention basins.

Permanent vegetation should be established as soon as practicable, after final levels are established.

Perimeter control measures should be placed prior to or in conjunction with the first phase of earthworks. The existing vegetation should be preserved as much as possible.

Stabilisation of disturbed areas should be in accordance with the Specification for Grassing and/or Specification for Landscape Works.

Unless otherwise directed by the Director, the following principles should be applied for the control of erosion and sedimentation:-

- (a) Stabilisation of denuded areas should commence within thirty (30) days of the areas being disturbed;
- (b) Stabilisation of the area over all stormwater drainage lines and sewer mains not within road reservations should commence within fifteen (15) days of backfilling;
- (c) All temporary earth diversion channels/banks and sediment basin embankments should be seeded within fifteen (15) days of completion of their earthworks;
- (d) Stabilisation of all cut and fill slopes should be commenced within fifteen (15) days of completion of formation;
- (e) All stabilisation measures should be undertaken prior to issue of the Notification of Completion.

Footpath reserves, embankments, public reserves and open channels should be grassed.

The site preparation, fertilising, sowing, turfing, water, mowing and general caring for grass should be as per Department of Conservation and Land Management.

To protect the grass cover during initial stages, a geotextile fabric (or any other approved by the Director) should be used. The installation of the fabric should be as per the manufacturer's specification.

Instead of grassing, above areas may be sown with seed and fertiliser using "Hydromulching" technique with the prior approval of the Director.

The seed variety/mixture for grassing should be approved by the Director of Community Services.

3.3 The construction works should follow the following procedure related to erosion and sediment control:-

1. Approval of "Soil and Water Management Plan (erosion and sediment control)" by the Director.
2. Clear minimum vegetation for site access.
3. Direct clean water away from the site.
4. Install erosion and sediment control devices.
5. Commence development works.
6. Undertake other erosion and sediment control practices as required.
7. Ongoing review of the Erosion and Sediment Control Plan.
8. Removal of temporary devices after completion of works.

3.4 Maintenance

All sediment and erosion control devices should be maintained in a satisfactory working order throughout the Construction and Maintenance Period or until such time as the area above has been stabilised and the Director directs that the device be removed.

The Contractor should inspect the devices after each storm for structural damage or clogging by silt and other debris and make prompt repairs or replacement.

All sediment deposited within ponded areas should be periodically removed to a disposal area as directed by the Director.

Gravel or other filter materials should be cleaned and restacked or replaced when directed by the Director to maintain effective performance.

In the case of the temporary construction exit, the contractor should undertake weekly surface cleaning by drag broom or equivalent, to remove all build up of foreign material to the satisfaction of the Director.

To control bank growth and to maintain healthy ground cover in channels and on banks, mowing should be undertaken as directed by the Director. All costs associated with this Clause should be borne by the Developer.

4. LANDSCAPING

The developer should prepare a Landscaping Plan, which should be approved by Director, prior to commencement of construction. The plans should clearly indicate the grassed areas, species and variety, and size of trees and shrubs. Two approved trees or shrubs with guards should be provided for each lot. The developer should plant and maintain the grass cover, trees and shrubs until the expiry of the maintenance period.

4.1 Trees and/or Shrubs

Trees and shrubs should be advanced specimens having a height of at least 1.2 metres and 0.5 metres respectively, both measured from ground level when planted.

The Developer should excavate a hole 0.4 metre diameter by 0.6 metre deep for each tree or shrub to be planted, and if in the opinion of the Director, the excavated material is unsuitable for tree growth, it should be spread evenly and neatly over the adjoining areas, and any stones larger than 50mm should be removed from the site.

The hole should then be filled with approved soil suitable for tree growth and this should be lightly tamped until 0.3 metres from surface flooded with water and allowed to settle before planting takes place.

Forty (40) grams of an approved fertiliser, either in granule or tablet form should be placed around the tree or shrub after planting.

The Developer should provide and fix two (2) 40mm x 40mm stakes, two (2) metres long driven 600mm into the ground and should securely tie each plant in a workmanlike manner without damage to the plant.

After planting, each plant should be immediately watered by the Developer, who should ensure that sufficient watering is carried out to keep the soil moist for the period of the project, including the Maintenance Period.

For the whole period of the project, including the Maintenance Period, the Developer should keep the area within 500mm radius of the plant free of all grass and weed growth and should maintain a fine tilth on the surface. The developer should ensure that plants are kept free of insect and fungus attack and at the end of the maintenance period should give an additional application of fertiliser as above specified at the rate of 60 grams per plant followed by watering. Plants should have a healthy and vigorous appearance at the time of final completion.

Any plants which die or are vandalised either during the period of the contract or during the Maintenance Period should be immediately replaced by the developer with plants of the same species in accordance with the requirements of these Guidelines.

4.2 Parks and Public Reserves

Parks and public reserves should be provided with a water service. The following conditions should be satisfied prior to notification of completion.

1. Should be free of boulders, dirt and debris.
2. Should be trimmed as per the design contours, to facilitate easy mowing.
3. Should be grassed.
4. Provided with clear access.
5. Should be provided with a 1.2 metre wide concrete footpath for access, if not otherwise provided.