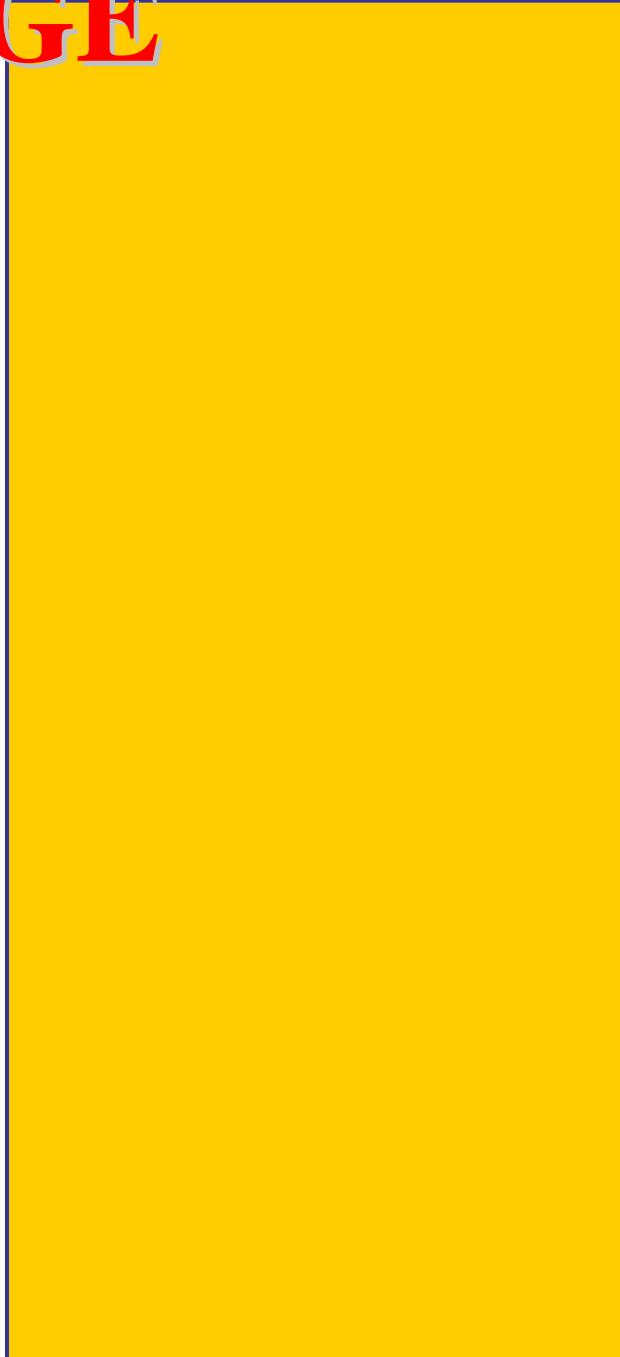
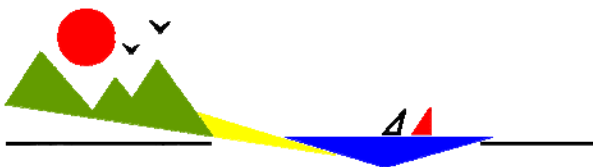


BEGA VALLEY SHIRE COUNCIL

# WONBOYN VILLAGE



Development Control Plan No.36





I, David Jesson, General Manager, Bega Valley Shire Council, certify that this is Development Control Plan No.36 – Wonboyn Village and was made pursuant to Section 72 of the Environmental Planning and Assessment Act, 1979 and approved by Council at its meeting on the 26 September 2006.

.....

DAVID JESSON  
**General Manager**

### Record of Amendments

<b>Name of Amendment</b>	<b>Date Approved by Council</b>	<b>Date Plan Came into Force</b>
<b>Original Plan</b>		3 November 1998
<b>Updating of references included in the plan</b>	12 November 2002	15 November 2002
<b>Updating of plan including modifications</b>	26 September 2006	9 October 2006

## DEVELOPMENT CONTROL PLAN NO.36

### WONBOYN VILLAGE

#### 1. NAME OF THE PLAN

This plan is Development Control Plan No.36 – Wonboyn Village.

#### 2. AIMS OF THE PLAN

The aims of this plan are to protect the highly valuable environmental, social, economic and recreational values of Wonboyn Village and Wonboyn Lake by:

- a) protecting the ecosystem of Wonboyn Lake from the impacts of development in Wonboyn village
- b) providing certainty regarding the constraints that exist for development of Wonboyn village including servicing level constraints, land uses, threats from bushfire, and the community objective of limited development
- c) providing guidelines for built form that will enhance and maintain the aesthetic values of Wonboyn Village and contribute to a distinctive coastal village environment.

#### 3. LAND TO WHICH THIS PLAN APPLIES

- a) This plan applies to land shown edged heavy black on Map 1 Development Control Plan No. 36 - Wonboyn Village.
- b) The areas marked as “Residential Precinct No. 1” or “Residential Precinct No. 2” on Map 1 shall only be developed for the purposes of dwelling-houses, attached dual occupancy, home industries, home occupations, motel, serviced apartments, eco-tourism, bed and breakfasts, guest houses and backpacker’s hostels and utility installations (other than gas holders or generating works).
- c) The area marked as “Service Area” on the Development Control Plan Map No. 36 shall only be developed for purposes permitted under Zone 2(v) (Village Zone) and which meets the aims of this plan.

#### 4. RELATIONSHIP TO OTHER PLANS AND POLICIES

- a) This plan should be read in conjunction with:
- *Coastal Protection Act 1979*
  - *State Environmental Planning Policy 71*
  - *Bega Valley Local Environmental Plan 2002*
  - *Wonboyn Lake and Estuary Management Plan*
  - *Stormwater, Septic and Waste Leachate Management Plan: Wonboyn Lake*
  - *Bega Valley Bushfire Risk Management Plan*
  - *Wonboyn Lake Villages Protection Plan*
  - *Planning for Bushfire Protection*
  - *Wonboyn Lake Village Community Plan*
  - All other Codes and Policies adopted by Council relating to the development of land in the Bega Valley Shire.
- b) Where there is an inconsistency between this plan and other Council policies and codes, then this plan prevails.
- c) The proposal must meet the standards of the development requirements, unless the applicant can demonstrate that a proposed different development standard will better or more adequately achieve the Development Principle.

#### 5. DEVELOPMENT REQUIREMENTS (Development objectives and requirements)

##### 5.1 Stormwater, sedimentation and pollution

Wonboyn Village is located within the Coastal Zone. Due to the environmental sensitivity of Wonboyn Lake, development will need to adhere to stringent development controls in order to protect the ecosystem of lake and estuary. Council has adopted various policies in order to reduce the impacts of development on Wonboyn Lake.

##### **Development objective:**

To reduce sediment and pollutant run off into Wonboyn Lake.

##### **Development requirements:**

- a) technical submissions are required with every development application as outlined in the section 6.0 Submission Requirements
- b) development on slopes greater than 15 % will not be approved, unless the applicant is able to demonstrate that on site sewerage management is sustainable

- c) the development must adhere to:
- sediment and pollution control measures
  - construction site protocols, and
  - water quality standards

as outlined in Stormwater, Septic and Waste Leachate Management Plan: Wonboyn Lake. Please refer to Appendix A.

- d) development must comply with Development Control Plan No. 5 – On Site Sewerage Management
- e) a lot for the purposes of a dwelling-house shall not be created within Residential Precinct No. 1 unless it has an area of not less than 2000 m<sup>2</sup> or in the case of Residential Precinct No. 2 an area of not less than 4000 m<sup>2</sup>.
- f) a motel or serviced apartment shall not be developed unless each accommodation unit has a site area of not less than 2000 m<sup>2</sup> within Residential Precinct No. 1 and 4000 m<sup>2</sup> within Residential Precinct No. 2.

For the purposes of this plan, an accommodation unit shall be a room or suite of rooms capable of accommodating not more than six persons.

- g) clearing within 40 metres of gullies and drainage lines will not be approved
- h) native grasses ground cover and low level tree planting should be used where ever possible on the site to reduce siltation run-off into the lake
- i) private and public roads with gradients above 15% that provide access to new private developments in Residential Precinct No. 2 are required to be sealed.

### 5.3 Bushfire

Four major wildfires (as well as a number of smaller fires) are known to have threatened Wonboyn Village this century. Due to its isolated location, the vegetation types surrounding the community, the maritime influence and the number of different land managers involved in hazard reduction activities, a coordinated plan is required for its protection.

#### **Development objective:**

To adhere to the requirements of the Wonboyn Village Protection Plan for fire threat mitigation.

## **Development requirements:**

- a) observance of Asset Protection Zones, Strategic Fire Zones and Land Management Zones as indicated in the Wonboyn Village Lake Villages Protection Plan
- b) within Asset Protection Zones - fuels of less than 5t per hectare and no elevated fuels.
- c) all hazard reduction activities to obtain permission and licences from the Rural Fire Service (RFS), unless the activities have been approved in a development consent.

## **5.4 Built form**

### **Development objective:**

To encourage a distinctive coastal village built form that responds to the natural environment and does not compromise visual amenity as is viewed from public places and particularly the lake.

### **Development requirements:**

- a) building heights are restricted to 7.5 m
- b) where colours and textures used in the surrounding development compliment or contribute to the landscape character of the area, these should be used as the basis for selection in new development
- c) primary colours should be avoided
- d) the existing character of Wonboyn is typified by a lack of front fences. Wherever possible front fences should not be used, or should be visually permeable and constructed from non-combustible materials.
- e) views to the coast and views to the lake from residences, roads, and other public places should be preserved as far as possible
- f) buildings should be sited so as not to be visually obtrusive when viewed from the lake
- g) buildings should not break the line of existing landforms such as ridge lines and tree canopies
- h) in general no development will be approved on major landscape features such as cliffs, ridges and headlands
- i) private roads should be screened with native vegetation to limit their view from public places or from the lake.

## 5.5 Universal access

It is Council policy that Development Applications adhere to the provisions of the *Building Code of Australia*, the *Disability Discrimination Act 1992* and Bega Valley Shire Council's *Access Policy and Access and Equity Policy*.

### Development objective:

Provision of universal access to public or semi-public buildings including restaurants and tourism developments

### Development requirements:

- a) provision of adequate entry for all to any public or semi-public buildings
- b) provision of continuous accessible paths of travel (which are also the most direct paths of travel) throughout the development, extending to all amenities and all levels of the building.

## 5.6 Village safety

### Development requirements:

- a) (a) planting of vegetation adjacent to the roadside should be designed to limit concealment opportunities.

## 5.7 Aboriginal archaeology

Wonboyn Village is an area rich with significant Aboriginal Heritage and comprises of many sites that may have potential heritage value.

### Development objective:

To protect Aboriginal cultural heritage, and Aboriginal places, values, customs, beliefs and traditional knowledge.

### Development requirements:

All new developments should include an assessment of Aboriginal significance to ensure that the development will not impact on Aboriginal Heritage.

## 6. 6.0 Submission Requirements:

- a) Due to the environmental sensitivity of Wonboyn Lake and estuary, all DAs are to be accompanied by either a conceptual Soil and Water Management Plan (SWMP) or Erosion Sediment Control Plan

(ESCP), depending on the scale of the development. Further details may be found in Appendix A.

- i. Developments where less than 2,500 m<sup>2</sup> is to be disturbed are required to present a conceptual Erosion Sediment Control Plan (ESCP).
- ii. Developments where more than 2,500 m<sup>2</sup> is to be disturbed are required to supply a conceptual Soil and Water Management Plan (SWMP).

Guidelines for the preparation of these studies are available in the Blue Book (Landcom 2004)

- b) All developments will be required to construct a sediment basin unless it can be demonstrated that it is not required, as referred to in the Stormwater, Septic and Waste Leachate Management Plan: Wonboyn Lake (please refer to Appendix A).



**DEVELOPMENT CONTROL PLAN No. 36  
WONBOYN VILLAGE**

**APPENDIX 1 – Stormwater, Septic and Waste Leachate  
Management Plan**

*Stormwater, Septic and Waste Leachate Management: Wonboyn Lake.* 26

**7 Application of the Blue Book Recommendations to the Wonboyn Area**

Following on from the recommendations made in the Estuary Management Plan, this Stormwater Management Plan proposes a series of changes to be incorporated into the local DCPs for Wonboyn Village. These will help establish a series of environmental management strategies, particularly for individual lot-based developments, but also with provision for applications relating to any logging or clearing on freehold land.

The following provisions are derived from *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004 "The Blue Book"). These provisions are derived specifically for Wonboyn Village to help minimise the risk of erosion and sedimentation having negative impacts on Wonboyn Lake.

- (i) All DAs are to be accompanied by either a conceptual Soil and Water Management Plan (SWMP) or Erosion and Sediment Control Plan (ESCP). Refer to Chapter 9 of Landcom (2004). Which of these plans is required depends upon the scale of the development:
  - ▶ Developments where less than 2,500 m<sup>2</sup> is to be disturbed require an ESCP and do not require a sediment basin if slopes are less than 15% across the entire site. Note that a sediment basin might be required if slopes exceed 15% (see below), regardless of the total site area;
  - ▶ Developments where more than 2,500 m<sup>2</sup> is to be disturbed require a SWMP. A sediment basin will also be required if anticipated soil loss from the site exceeds 150 tonnes per year<sup>1</sup> (i.e. approx 110 m<sup>3</sup>/yr). See point (iv) below for calculating anticipated soil loss;
- (ii) The criteria to be addressed in an ESCP are contained in the Blue Book chapter 2.2 (b) and (c);
- (iii) The criteria to be addressed in a SWMP are contained in the Blue Book chapter 2.3.2 (b);
- (iv) Calculations are to be provided showing whether or not a sediment basin is required, based on the anticipated annual soil loss. Anticipated soil loss from the site should be calculated using the Revised Universal Soil Loss Equation (RUSLE). This is adapted to the Wonboyn Village area and calculated by:

$$\text{Annual Soil loss (tonnes/year)} = A \times LS \times 156.78$$

Where: A = Area; The total area to be disturbed (in hectares)

LS = Length/Slope factor; derived from the site's average slope

<sup>1</sup>The Blue Book suggests 200 t/yr (150 m<sup>3</sup>/yr). A lower figure is adopted here due to the sensitivity of the receiving waters and the inherently dispersible soils.

and a slope length of 80 m (Table 1).

Note that this calculation *only* applies to development within Wonboyn Village. Note also that a LS-factor derived from a shorter slope length can be used on the provision that the SWMP adequately demonstrates that slope lengths will be so maintained throughout the construction process.

Where the calculated annual soil loss exceeds 150 tonnes per year, a sediment basin will be required. This basin is to be designed according to the criteria below. If the calculated annual soil loss is less than 150 t/yr, a sediment basin is not required and other standard erosion and sediment control measures will be deemed to be sufficient.

Table 1 LS-factors on construction sites using the RUSLE (Landcom, 2004)

Slope ratio	Slope gradient (%)	Slope length (m)																		
		5	10	20	30	40	50	60	70	80	90	100	150	200	250	300				
100:1	1	0.09	0.11	0.13	0.15	0.16	0.17	0.18	0.19	0.20	0.20	0.23	0.24	0.26	0.27	Please refer to page 12				
50:1	2	0.14	0.18	0.24	0.28	0.31	0.34	0.36	0.39	0.41	0.43	0.44	0.52	0.58	0.64					0.69
33.3:1	3	0.17	0.24	0.34	0.41	0.45	0.49	0.52	0.55	0.58	0.61	0.64	0.87	1.00	1.11					1.22
25:1	4	0.21	0.30	0.44	0.54	0.60	0.65	0.69	0.73	0.76	0.79	0.82	1.26	1.47	1.65					1.82
20:1	5	0.24	0.36	0.54	0.68	0.75	0.81	0.85	0.89	0.93	0.96	0.99	1.70	2.00	2.28					2.53
16.6:1	6	0.28	0.42	0.64	0.81	0.89	0.96	1.01	1.06	1.10	1.14	1.18	2.14	2.54	2.91					3.25
12.5:1	8	0.34	0.53	0.83	1.08	1.19	1.27	1.34	1.40	1.45	1.50	1.54	3.07	3.70	4.28	4.82				
10:1	10	0.42	0.68	1.09	1.44	1.75	2.04	2.31	2.56	2.79	3.04	3.27	4.06	4.94	5.75	6.52				
8.3:1	12	0.52	0.85	1.39	1.85	2.27	2.66	3.02	3.37	3.69	4.02	4.33	5.77	7.07	8.28	9.42				
7.1:1	14	0.62	1.02	1.69	2.26	2.79	3.28	3.74	4.18	4.59	5.02	5.42	7.27	8.95						
6.3:1	16	0.71	1.19	1.98	2.67	3.31	3.90	4.46	5.00	5.52	6.02	6.51	8.78							
5.5:1	18	0.80	1.35	2.27	3.07	3.82	4.51	5.17	5.81	6.42	7.02	7.59								
5:1	20	0.89	1.50	2.55	3.47	4.32	5.12	5.88	6.61	7.31	8.01	8.68								
4:1	25	1.09	1.88	3.23	4.43	5.54	6.59	7.60	8.57	9.51										
3.3:1	30	1.28	2.23	3.86	5.32	6.69	7.99	9.23												
2.5:1	40	1.61	2.83	4.98	6.92	8.74														
2:1	60	1.88	3.33	5.89	8.22															

- (v) Sediment basins are to be designed following Standard Drawing SD 6-4 (Appendix 3). They are to comprise a Settling Zone and a Storage Zone, which together make up the total volume of the basin. The Settling Zone is to be calculated using the following formula:

$$\text{Settling Zone (m}^3\text{)} = 10 \times C_v \times R \times A$$

Where:

- ▶ A is the catchment area of the basin (in hectares);



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**Table 1** LS-factors on construction sites using the RUSLE (Landcom, 2004)

Slope Ratio	Slope Gradient (%)	Slope Length (m)														
		5	10	20	30	40	50	60	70	80	90	100	150	200	250	300
100:1	1	0.09	0.11	0.13	0.15	0.16	0.17	0.18	0.19	0.19	0.20	0.20	0.23	0.24	0.26	0.27
50:1	2	0.14	0.18	0.24	0.28	0.31	0.34	0.36	0.39	0.41	0.43	0.44	0.52	0.58	0.64	0.69
33.3:1	3	0.17	0.24	0.34	0.41	0.47	0.52	0.57	0.61	0.65	0.69	0.72	0.87	1.00	1.11	1.22
25:1	4	0.21	0.30	0.44	0.54	0.63	0.71	0.78	0.85	0.91	0.97	1.03	1.26	1.7	1.65	1.82
20:1	5	0.24	0.36	0.54	0.68	0.82	0.91	1.01	1.10	1.19	1.27	1.35	1.70	2.00	2.28	2.53
16.6:1	6	0.28	0.42	0.64	0.81	0.97	1.11	1.24	1.36	1.47	1.58	1.68	2.14	2.54	2.91	3.25
12.5:1	8	0.34	0.53	0.83	1.08	1.31	1.51	1.70	1.88	2.05	2.21	2.37	3.07	3.70	4.28	4.82
10:1	10	0.42	0.68	1.09	1.44	1.75	2.04	2.31	2.56	2.81	3.04	3.27	4.06	4.94	5.75	6.52
8.3:1	12	0.52	0.85	1.39	1.85	2.27	2.66	3.02	3.37	3.70	4.02	4.33	5.77	7.07	8.28	9.42
7.1:1	14	0.62	1.02	1.69	2.26	2.79	3.28	3.74	4.18	4.61	5.02	5.42	7.27	8.95	10.52	12.011
6.3:1	16	0.71	1.19	1.98	2.67	3.31	3.90	4.46	5.00	5.52	6.02	6.51	8.78	10.86	12.81	14.65
5.5:1	18	0.80	1.35	2.27	3.07	3.82	4.51	5.17	5.81	6.42	7.02	7.59	10.30	12.78		
5:1	20	0.89	1.50	2.55	3.47	4.32	5.12	5.88	6.61	7.32	8.01	8.68	11.95	14.84		
4:1	25	1.09	1.88	3.23	4.43	5.54	6.59	7.60	8.57	9.51	10.43	11.32				
3.3:1	30	1.28	2.23	3.86	5.32	6.69	7.99	9.23	10.43	11.60	12.74	13.85				
2.5:1	40	1.61	2.83	4.98	6.92	8.74	10.48	12.15	13.77							
2:1	50	1.88	3.33	5.89	8.22	10.42	12.52	14.55								

- ▶ R is the rain depth<sup>2</sup>, calculated as follows:
  - 24.6 mm (5-day 80<sup>th</sup> percentile) if construction activities will be completed inside six months, or
  - 32.5 mm (5-day 85<sup>th</sup> percentile) if construction activities will extend beyond six months;

Note that applicants can reduce this to the 2-day 80<sup>th</sup> percentile value (16.1 mm) or the 2-day 85<sup>th</sup> percentile value (21.3 mm) if they demonstrate how flocculation, settlement and discharge will be achieved within 2 days.

- ▶ C<sub>v</sub> is the runoff coefficient calculated as follows:
  - 0.5 for developments where construction activity will be completed inside six months, or
  - 0.64 for developments where construction activity will extend beyond six months;

Note that all sediment basin calculations are based entirely on Type D (dispersive) soils and are to be used unless laboratory testing of soils at the development site demonstrates alternative values are appropriate. Soil Hydrologic Group is assumed to be Group D.

$$\text{Storage Zone (m}^3\text{)} = A \times LS \times 20.5$$

Where:

- A is the area to be disturbed within the basin's catchment (ha),
- LS is the length/slope factor derived from the average slope across the site and an 80 m slope length (Table 1).

Note that a shorter slope length can be used to calculate the LS factor if the SWMP adequately demonstrates that the shorter length will be maintained throughout the site during construction.

$$\text{The total volume of the sediment basin (m}^3\text{)} = \text{Settling Zone (m}^3\text{)} + \text{Storage Zone (m}^3\text{)}$$

- (vi) Sediment basins are to follow these criteria:
- ▶ they will be flocculated following the guidelines in Appendix E of the

<sup>2</sup> The Blue Book suggests the 5-day 75<sup>th</sup> percentile rain depth, although a higher value is selected here due to the sensitivity of the receiving waters.

Blue Book before being discharged;

- ▶ sediment basin discharge will not contain more than 50 milligrams per litre of suspended solids in the design rainfall event (normally the 10-year ARI time of concentration ( $t_c$ ) event). Note that time of concentration can be determined as:

$$t_c \text{ (hours)} = 0.76 \times (\text{Catchment area in km}^2)^{0.38}$$

Note that this applies only to semi-rural catchments. In an urbanised catchment, the time should be halved. The 10-year ARI event for the calculated  $t_c$  can be determined using the chart in Appendix 1. This chart gives rainfall intensity, expressed in mm/hr.

- ▶ temporary sediment basin walls and outlets will be designed for stability in at least the 10-year ARI  $T_c$  event;
- ▶ Sediment basins are to be constructed off-line from natural drainage pathways (i.e. not in a creek);
- ▶ Where possible, divert "clean" (i.e. non-sediment-laden) waters from upslope of the construction site around a sediment basin rather than into it;
- ▶ The general provisions and requirements for sediment basins contained in the Blue Book are to be adopted, apart from those that are modified in this document;

- (vii) Soil erosion on construction sites will be kept as low as practicable by limiting access according to Table 2;

Table 2 Limitations to access

Land use	Limitation	Comments
Construction areas	Limited to 5 (preferably 2) metres from the edge of any essential construction activity as shown on the engineering plans	All site workers should clearly recognise these areas that, where appropriate, are identified with barrier fencing (upslope) and sediment fencing (downslope) or similar materials.
Access areas	Limited to a maximum width of 5 metres	The site manager will determine and mark the location of these zones on site. They can vary in position so as to best conserve existing vegetation and protect downstream areas while being considerate of the needs of efficient works activities. All site workers will clearly recognise these boundaries
Remaining lands, including revegetation areas	Entry prohibited except for essential management works	Thinning of growth might be necessary, for example, for fire reduction or weed removal



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- (viii) Where practicable, each phase of any construction program will be scheduled so that:
  - ▶ the time from starting land disturbance activities to final stabilisation is a duration of less than six months; and
  - ▶ the duration from the conclusion of land shaping to completion of final rehabilitation is less than 15 working days.

Here, stabilisation means achieving a C-factor (Appendix 2) of less than 0.1 and setting in motion a program that should ensure it will drop permanently, by vegetation, paving, armouring, etc. to less than 0.05 within a further 60 days. Of course, local water restrictions might affect this in drought times. Locally-sourced native mulch is likely to be an excellent source of ground cover at many sites where excessive shading or poor soils limit adequate vegetation growth;

- (ix) While C-factors (Appendix 2) are likely to rise to 1.0 during a work program, they will not exceed those given in Table 3;

**Table 3** Maximum C-factors (Appendix 2) for various lands during and after construction

Lands	Maximum C-factor	Remarks
Waterways and other areas subjected to concentrated flows, post construction	0.05	Applies after ten working days from completion of formation and before they are allowed to carry any concentrated flows. Flows will be limited to those shown in Table 5.2 of the Blue Book (see Appendix 2 of this report). Foot and vehicular traffic will be prohibited in these areas
Stockpiles, post construction	0.10	Applies after ten working days from completion of formation. Maximum C-factor of 0.10 equals 60% ground cover
All lands, including waterways and stockpiles during construction	0.15	Applies after 20 working days of inactivity, even though works might continue later. Maximum C-factor of 0.15 equals 50% ground cover

- (x) Areas within 40 m of Wonboyn Lake (taken from the MHWS level) or within 40 m of a creek are classified as "Waterfront Lands" and are therefore subject to special provisions for timing of any works. Such lands are to be automatically classified as having Soil Loss Class 6 (Table 4) if their slope is below 25%, and Soil Loss Class 7 if slope exceeds 25%. Table 5 shows the timing restrictions for works according to Soil Loss Classes, with the following point describing the additional erosion and sediment control measures required;
- (xi) Specialised erosion and sediment control measures are required at certain times of year for all construction activities in the Wonboyn Village area.

These are determined by the slope of the land. Table 4 details the various Soil Loss Classes for slopes up to 26%. Table 5 shows the times of year when works can proceed on sites with each Soil Loss Class using the standard suite of BMPs for erosion and sediment control. At other times, works can proceed but only on the provision that:

- ▶ ground cover lowers C-factors to less than 0.1 (Appendix 2) at all times unless the 3-day weather forecast suggests rain is not likely; and
- ▶ ground cover materials (e.g. 350 gsm jute matting) are available onsite that can lower C-factors to less than 0.1 (Appendix 2) within 24 hours if the forecast proves wrong and a rain event occurs;

Table 4 Soil Loss Classes on various slopes in the Wonboyn Village area

Slope ratio	Slope (%)	Slope length	LS-factor	Soil Loss (t/ha/yr)	Soil Loss Class
50:1	2	80	0.41	64	1
25:1	4	80	0.91	143	1
16.6:1	6	80	1.47	230	3
12.5:1	8	80	2.05	321	3
10:1	10	80	2.81	441	4
8.3:1	12	80	3.7	580	5
7.1:1	14	80	4.61	723	5
6.3:1	16	80	5.52	865	6
5.5:1	18	80	6.42	1007	6
5:1	20	80	7.32	1148	6
4.5:1	22	80	8.21	1287	6
4.2:1	24	80	9.08	1424	6
3.8:1	26	80	9.9	1552	7

Note that these figures are derived using the Revised Universal Soil Loss Equation (RUSLE). Rainfall zone is 1, R-factor is 2680 and K-factor is 0.045.

Table 5 Times of the year when special erosion control measures are required on construction sites in Wonboyn Village (Landcom, 2004).

Soil loss class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1-4	N	N	N	N	N	N	N	N	N	N	N	N
5	N	N	Y	Y	N	N	N	N	N	N	N	N
6	Y	Y	Y	Y	Y	N	N	N	N	N	N	Y
7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Note: Y = Special erosion control measures required. See above. N = No special controls required beyond the BMPs in the Blue Book.

- (xii) Council will conduct random site inspections of erosion and sediment control works prior to ascertain that they have been properly installed and are being adequately maintained. Fines might be considered appropriate for repeat offences;
- (xiii) All SWMPs and ESCPs are to be maintained following the guidelines in the Blue Book, with a log book kept detailing supervisor checking of all measures and any actions taken or modifications made;
- (xiv) Cut and fill (i.e. batter gradients) are to be limited according to slope length. Total slope length is determined either from the top of the slope or to an artificial barrier such as an upslope catch drain. Batter gradient limitations are:
  - ▶ Total slope length: < 12 m; Max batter grade: 2(H):1(V)
  - ▶ Total slope length: 12 to 14 m; Max batter grade: 2.5(H):1(V)
  - ▶ Total slope length: 14 to 17 m; Max batter grade: 3(H):1(V)
  - ▶ Total slope length: 17 to 24 m; Max batter grade: 4(H):1(V)
  - ▶ Total slope length: 24 to 35 m; Max batter grade: 5(H):1(V)
  - ▶ Total slope length: > 35 m; Max batter grade: 6(H):1(V)

(as recommended in Landcom, 2004. Based on an R-factor of 2680).
- (xv) Currently, the DCP requires that all new developments show no net increase in stormwater flow quantity entering the receiving waters (i.e. Wonboyn Lake in most cases). This is to be added to, requiring that all developments demonstrate how they are going to achieve a neutral or beneficial effect on water quality in terms of the three basic indicators:
  - ▶ Total Suspended Solids (TSS)
  - ▶ Total Phosphorus (TP)
  - ▶ Total Nitrogen (TN)

This will be in addition to the requirement on water quantity.

Additionally, benchmark water quality targets for the estuary, as detailed in the Wonboyn Estuary Processes Study (WBM, 2002) are to be used in conjunction with the requirement for a neutral or beneficial effect on water quality. These targets give a range for each parameter, including:

- TP: < 0.01 - 0.1 mg/L
- TN: < 0.15 - 0.3 mg/L

Monitoring of these criteria within the lake is the responsibility of Bega Valley Shire Council.

For individual development sites, initial targets for pollutant runoff are:

- TP: 0.3 mg/L (50<sup>th</sup> percentile)
- TN: 1.0 mg/L (50<sup>th</sup> percentile)

If a development site can achieve a neutral or beneficial effect, but cannot demonstrate compliance with these targets, it is at risk of contributing to locally elevated pollutant levels in the lake (particularly in Myrtle Cove) and the development can be rejected by Council if they deem the risk of pollution to be too significant.

## 8 References

- Landcom (2004). *Managing Urban Stormwater: Soils and Construction* (4th edition).
- Tulau, M. (in press). *Soil Landscapes of the Eden-Green Cape 1:100 000 Sheet*. Department of Infrastructure, Planning and Natural Resources, NSW.
- WBM Oceanics Australia (2003) *Wonboyn Lake and Estuary Management Plan*.
- WBM Oceanics Australia (2002) *Wonboyn Lake and Estuary: Estuary Processes Study*.