



Byron Shire Development Control Plan 2014

Chapter C4 Development in the Drinking Water Catchment



PO Box 219 Mullumbimby NSW 2482
70-90 Station Street
DX20007 Mullumbimby

P: 02 6626 7000 F: 02 6684 3018

E: council@byron.nsw.gov.au W: www.byron.nsw.gov.au

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Chapter C4 – Development in the Drinking Water Catchment

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C4.1 Introduction

C4.1.1 Drinking Water Catchments in Byron Shire

Byron Shire obtains its reticulated drinking water supply from two sources:

1. **Lavertys Gap Weir:** Byron Shire Council manages the water supply for the township of Mullumbimby. This water is sourced from Wilsons Creek at the Lavertys Gap weir which draws its water from the upper reaches of the Wilsons River. Management of the Lavertys Gap water resource is guided by the Catchment Management Plan for the Lavertys Gap Weir Catchment.
2. **Rous Water sources:** Rous Water is the regional water supply authority that supplies reticulated water to the majority of Byron Shire (as described above Mullumbimby has a separate supply) and to other Northern Rivers Local Government areas. Rous Water manages surface water catchment areas and **groundwater** resources associated with the following existing water sources:
 - Rocky Creek Dam;
 - Woodburn Sands **aquifer**;
 - Alstonville Plateau groundwater source;
 - Wilsons River Source at Lismore;
 - Emigrant Creek Dam.

Council and Rous Water recognise that keeping the **drinking water catchment** healthy is the first step in protecting the quality of water supplied. The health of the **drinking water catchment** is highly sensitive to the land use activities that are carried out within the catchment.

C4.1.2 Aims of this Chapter

The Aims of this Chapter are:

1. To facilitate and support the provisions of Byron LEP 2014 relating to development in a **drinking water catchment**.
2. To ensure that development and / or use of land within **drinking water catchments** does not adversely impact on the quality or quantity of the public water supply.
3. To require all developments in **drinking water catchments** to be adequately designed and assessed to prevent unacceptable risks to water quality, both individually and in terms of incremental and cumulative risk. This applies to surface water, **groundwater** and **aquifers**.
4. To identify catchment related design and assessment requirements for all development within **drinking water catchments**.



C4.1.3 Application of this Chapter

This Chapter applies to all Development Applications on land identified as being within the **Drinking Water Catchment Map** contained in Byron LEP 2014. Development Applications on land identified as being within a **drinking water catchment** must demonstrate consistency with this Chapter.

This Chapter must be read in conjunction with other relevant provisions of the DCP, including Chapters B3 Services, B6 Buffers and Minimising Land Use Conflict and B9 Landscaping.

C4.1.4 Referral to Rous Water

Where Council considers it appropriate certain development applications may be referred to Rous Water for advice related to catchment and water supply issues before determination by Council.

C4.2 General Provisions

C4.2.1 On-Site Sewage Management and Potentially High Impact Land Uses

Objectives

1. To protect the integrity of the **drinking water catchments** from risks arising from inadequate sewage management.
2. To protect the integrity of **drinking water catchments** from risks arising from potentially high impact land uses.

Performance Criteria

There are no Performance Criteria.

Prescriptive Measures

1. All Development Applications seeking consent for development that will include an **on-site sewage management system** must demonstrate consistency with the requirements of Chapter B3 Services and B6 Buffers and Minimising Land Use Conflict.
2. **High impact land uses** including **intensive livestock agriculture** (e.g. poultry sheds, piggeries, cattle feedlots), **animal boarding or training establishments**, **camping grounds**, **cemetery**, **crematorium**, **depots**, **extractive industry**, **garden centres**, **landscaping material supplies**, **plant nurseries**, **rural industries**, **rural supplies**, **transport depots**, **truck depots** and **warehouses** shall be set back not less than 100 metres from the top of the bank of any **watercourse**.



C4.2.2 Site Analysis and Constraints Mapping

Objectives

1. To ensure that the siting, design and management measures proposed for development in **drinking water catchments** are based on a competent analysis of the site and its characteristics.
2. To ensure that the siting and design of development in **drinking water catchments** achieve the Aims of this Chapter.

Performance Criteria

There are no Performance Criteria.

Prescriptive Measures

Where the above prescriptive measures in Section C4.2.1 cannot be complied with for the nominated land uses within the **drinking water catchment**, then any Development Application for those uses must include Site Analysis and constraints mapping as described below.

1. Requirement for Site Analysis

The Site Analysis and constraints mapping, must be prepared by a person with relevant qualifications and experience. The development application must demonstrate that the Site Analysis and constraints mapping are based on comprehensive and competent desktop analysis and field investigation.

2. Extent and level of detail required

The geographic extent and level of detail of the Site Analysis will depend on the nature, scale and potential impacts of the development. For example if a **dwelling house** is proposed on a relatively unconstrained 10 hectare rural lot it may be appropriate that the Site Analysis addresses only the property entry, driveway, **dwelling** site, bushfire asset protection zones, on-site sewage management areas and any areas proposed for land and/or vegetation disturbance or clearing. However if the development site has environmental constraints, or if a larger or more intensive development or subdivision is proposed, the Site Analysis may need to address the entire site, together with any associated **watercourses** within or outside the site. If development impacts are likely to extend beyond the site the Site Analysis will need to extend to all potentially affected areas. This should be discussed with Council early in the process.

3. Analysis process and issues

The Site Analysis will usually involve a desktop assessment using existing available data sources followed by comprehensive site inspection and investigation by persons with relevant qualifications and experience. The information derived from the Site Analysis must be presented in the Development Application in both written form (including References citing information sources) and resultant constraints mapping at a relevant scale, illustrating the constraints to development defined for the site.

On sites with limited or no unconstrained land, or where overlapping constraints exist, it may be necessary to provide 'sieve' mapping, which involves mapping individual constraints on separate sheets or digitised 'layers', and combining these to provide a final constraints overlay.



C4.2.3 Catchment Impact Assessment

Objectives

1. To facilitate achievement of the provisions of Byron LEP 2014 relating to development in **drinking water catchments**.
2. To ensure that the siting and design of development achieve the Aims specified in Section C4.1.2.
3. To ensure that proposed development would not compromise the quality and quantity of raw water in **drinking water catchment**.
4. To specify criteria for assessment of the impacts of development on the quality and quantity of raw water in **drinking water catchments**.

Performance Criteria

There are no Performance Criteria.

Prescriptive Measures

A catchment impact assessment (as described below) will be required where:

1. any development proposes to locate an **on-site sewage management system** (OSMS):
 - a) less than 100 metres from the top of the bank of any **watercourse**; or
 - b) on land with a gradient more than 15%;

Note: the catchment impact assessment can be combined with the on-site sewage management report required in Chapter B3 Services.

or

2. any of the following **high impact land uses** are proposed: **intensive livestock agriculture** (e.g. poultry sheds, piggeries, cattle feedlots), **animal boarding or training establishments**, **camping grounds**, **cemetery**, **crematorium**, **depots**, **extractive industry**, **garden centres**, **landscaping material supplies**, **plant nurseries**, **rural industries**, **rural supplies**, **transport depots**, **truck depots**, or **warehouses**.
3. Where a Development Application includes a catchment impact assessment, it must address at a minimum the following matters:
 - a) the type, extent and risk of any likely or potential pollutants or contaminants. This must include consideration of chemicals such as fertilisers and pesticides, sediment, effluent, nutrients and microbial pathogens (including bacteria, protozoan parasites and viruses);
 - b) the volume and quality of stormwater runoff;
 - c) any resultant variation to water flows and/ or water quality in the catchment;
 - d) any resultant loss or embellishment of catchment vegetation;
 - e) access and infrastructure requirements;
 - f) the resultant hazard types (i.e. identify and list the potential hazards to the quality of surface water and **ground water**);



- g) any potential hazardous events (i.e. what hazardous event(s) could take place?) and the potential consequences (i.e. define the resulting consequence/impact on the quality of raw water, were the hazardous event to occur);
 - h) the potential and proposed mitigation measures identified (i.e. specify short and long-term solutions to either eliminate the hazard or reduce the risk to acceptable levels);
 - i) resultant cumulative and incremental effects on the environment, including consideration of existing and approved uses within the catchment;
 - j) any potential adverse impact, including incremental and cumulative impacts, on the water quality and quantity within the catchment;
 - k) whether safeguards or other measures proposed are adequate and appropriate to protect water quality;
 - l) whether the proposed development would be more suitably undertaken on an alternative site.
4. Where the proposed development includes land situated within 40 metres of the top of the bank of any **watercourse**, the assessment must additionally include an assessment of the impact of the development on:
- a) the water quality and flows within a **watercourse**;
 - b) the aquatic and riparian species, habitats and ecosystems;
 - c) the stability of the bed, shore and banks of a **watercourse**;
 - d) the free passage of fish and other aquatic organisms within or along the **watercourse**;
 - e) any future rehabilitation of the **watercourse** and riparian areas.
5. The catchment impact assessment associated with a proposed development must also demonstrate that:
- a) the proposed development is designed, sited and will be managed to avoid any significant adverse environmental impact; and
 - b) if any impact cannot be avoided the development is designed, sited and will be managed to minimise that impact;

C4.2.4 Water Sensitive Urban Design

Objectives

1. To facilitate achievement of the provisions of Byron LEP 2014 relating to development in **drinking water catchments**.
2. To ensure that the siting and design of development achieves the Aims specified in Section C4.1.2.
3. To ensure that proposed development is designed to minimise adverse impacts on the quality and quantity of surface water and **ground water** through application of **water sensitive urban design** principles.



Performance Criteria

All Development Applications within **drinking water catchments** must demonstrate that the proposed development has been designed in accordance with the following seven **water sensitive urban design** principles:

1. Integrate the Design

All issues that affect the water cycle such as flooding, stream protection, stream flow, water supply, sewerage, drainage, water quality and the like must be managed in an integrated manner which allows them to be reconciled with other site planning issues such as biodiversity conservation, scenic and landscape quality and access driveways and roads. This requires a thorough understanding of the site, and will enable the designer to avoid adverse impacts and to utilise measures that achieve multiple objectives.

2. Accommodate Existing Soil and Water Management Measures

Development has the potential to result in the inappropriate modification of natural land and water features. To avoid this, development must be designed to recognise the site constraints, protect natural features and embrace opportunities to address existing land degradation. The development design must recognise successful existing soil and water management measures that may have been introduced on the site including erosion control works such as contour banks, flumes, sediment dams. Addressing existing land degradation and incorporation of functional existing soil and water management measures into the design can result in many benefits including:

- a) reduced risks from natural hazards;
- b) maintenance of biodiversity;
- c) aesthetic benefits;
- d) protection of water quality.

3. Erosion and Sediment Control

Development has the potential to increase erosion and sedimentation. This can occur through disruption to land surfaces, removal of vegetation and through the importation and stockpiling of materials for construction of roads, buildings and other impervious surfaces. During moderate rainfall events highly erosive water flows may be created following development, potentially leading to:

- a) sheet and rill erosion;
- b) gully erosion;
- c) increased bank and channel erosion;
- d) sediment deposition;
- e) loss of natural pool and riffle sequences within **watercourses**;
- f) degradation of aquatic habitats.

To counteract these impacts development must be designed to minimise the likelihood of erosive stormwater flows from the development. Design must take into consideration erosion risks and where possible must avoid disturbance in high risk areas which include steep slopes, erosive soils, and areas in close proximity to drainage depressions and **watercourses**. Design must incorporate the preparation of a sediment and erosion control plan for a proposed development.



4. Control Stormwater Pollution

The development of land has the potential to introduce greater quantities and a broader variety of pollutants to the site. In addition, the replacement of natural ground surfaces and vegetation cover with roads, buildings and other impermeable surfaces may increase the volume of runoff from the site and the potential for pollutants to be transported off site during rainfall events. Stormwater generated by rainfall events must be controlled to minimise such adverse impacts by management measures incorporated into the design. Development Applications must demonstrate that stormwater and drainage discharge from the site will have a neutral or beneficial effect on surface water and **ground water** quality and quantity. Stormwater and drainage management measures and works must also comply with the requirements of Chapter B3 Services.

5. Control Wastewater Pollution

Wastewater management is a major issue associated with rural development. Due to the relatively remote location of many rural subdivisions and **dwellings**, wastewater management will often be provided through **on-site sewage management systems**. Wastewater Management Systems must be designed to comply with the requirements of Section C4.2.1 and Chapter B3 Services and B6 Buffers and Minimising Land Use Conflict.

6. Enhance Biodiversity

Development has the potential to degrade site biodiversity through the removal of vegetation and disturbance of habitat if the design does not reflect the site constraints. Design of development must seek to enhance biodiversity through the protection and management of vegetated areas and restoration of important areas on site. Where a proposed development impacts on any **watercourse** or **riparian lands**, the affected **watercourse** or natural system must be rehabilitated, revegetated and maintained in good condition consistent with **best management practice** for the protection and improvement of water quality.

7. Ensure Long-Term Effectiveness of Management Measures

On-site soil and water management measures serve not only the immediate site, but provide benefits to the downstream catchment. Failure of these measures through lack of maintenance, or through accidental or deliberate action can lead to significant water quality problems. The development design process must ensure and demonstrate that the design integrity and effectiveness of on-site measures will be enduring.

Prescriptive Measures

There are no Prescriptive Measures.

C4.2.5 Development involving new roads and driveways

Objectives

1. *To minimise potential adverse impacts of road and driveway construction on **drinking water catchments**.*
2. *To define road and driveway construction criteria based on **water sensitive urban design principles**.*



Performance Criteria

To avoid undue disturbance to soil, roads should be located so as to minimise cut and fill, minimise vegetation clearing, and minimise the length of road and associated disturbance. When determining road configuration, the number of **watercourse** and drainage depression crossings should also be minimised.

Refer also to the requirements of Chapter B3 Services and to the Northern Rivers Development and Design Manual.

Prescriptive Measures

There are no Prescriptive Measures.

C4.2.6 Subdivision Design and Lot Layout

Objectives

1. *To minimise water quality impacts through application of appropriate subdivision design criteria.*

Performance Criteria

There are no Performance Criteria.

Prescriptive Measures

Applications should be consistent with Chapter D6 Subdivision.