Byron Shire Council

Development Servicing Plans for Water Supply and Sewerage

Adopted Plan (E2016/82468)

07 September 2016

This report has been prepared by Hydrosphere Consulting on behalf of Byron Shire Council.

PROJECT 16-037 – BYRON DEVELOPMENT SERVICING PLANS

REV	DESCRIPTION	ORIG	REVIEW	APPROVAL	DATE
0	Draft DSPs for Public Exhibition	R. Campbell	M. Howland	M. Howland	24 June 2016
1	Adopted as exhibited			Council Resolution 16-325	07 Sept 2016

SUMMARY

This document provides the Development Servicing Plans (DSPs) for water supply and sewerage developer charges for the development areas served by Byron Shire Council.

The DSPs have been prepared in accordance with the 2012 *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (Consultation Draft) issued by the Minister for Primary Industries, pursuant to section 306 (3) of the *Water Management Act, 2000*.

The areas covered by these DSPs are shown on the plans in Appendix A.

The timing and expenditure for works serving the areas covered by these DSPs are shown in the DSP Background Documents.

Levels of service to be provided in the DSP areas are summarised in Section 6.

The water supply and sewerage developer charges for the area covered by these DSPs are given in Table 1. The developer charges will be adjusted on 1 July each year on the basis of movements in the CPI for Sydney.

Table 1: Developer Charges (2016$)

Service Area	Byron Shire Council Developer Charge ($/ET)	
	Water	Sewerage
Bangalow	$761	$9,988
Brunswick Heads	$761	$9,988
Byron Bay/Suffolk Park	$761	$9,988
Mullumbimby	$9,017	$9,988
Ocean Shores/New Brighton/South Golden Beach/ Billinudgel	$761	$9,988

Council proposes to adopt water supply developer charges that are lower than the calculated developer charges. The resulting cross-subsidy payable by existing customers is $14 per assessment p.a. for Byron Shire Council water supply customers.

Developer charges for water supply are also levied by Rous Water for development within the Rous Water bulk supply areas.

Developers are responsible for the full cost of the design and construction of water supply and sewerage reticulation works within subdivisions.

CONTENTS

1. INTRODUCTION

Section 64 of the *Local Government Act, 1993* enables a local government authority to levy developer charges for water supply, sewerage and stormwater. This derives from a cross-reference in that Act to section 306 of the *Water Management Act, 2000*. A Development Servicing Plan (DSP) details the water supply and sewerage developer charges to be levied on development areas utilising a water utility's water supply and sewerage infrastructure.

This document provides the DSPs for water supply and sewerage developer charges for the development areas served by Byron Shire Council (BSC). The DSPs have been prepared in accordance with the 2012 *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (Consultation Draft) issued by the Minister for Primary Industries, pursuant to section 306 (3) of the *Water Management Act, 2000*.

These DSPs supersede any other requirements related to water supply and sewerage developer charges for the areas covered by these DSPs. These DSPs take precedence over any of Council's codes or policies where there are any inconsistencies relating to water supply and sewerage developer charges.

2. ADMINISTRATION

2.1 DSP Areas

The areas covered by these DSPs are shown on the maps in Appendix A.

- Water Supply DSP Area – Bangalow, Brunswick Heads, Byron Bay/Suffolk Park, Mullumbimby and Ocean Shores/New Brighton, South Golden Beach/Billinudgel.
- Sewerage DSP Areas – Bangalow, Brunswick Valley (Brunswick Heads, Mullumbimby, Ocean Shores, New Brighton, South Golden Beach and Billinudgel) and Byron Bay/Suffolk Park.

2.2 DSP Boundaries

These DSPs apply to all land in the Byron Local Government Area (LGA) that is within the water supply and/or sewerage service areas and are to be connected to the BSC water supply system and/or sewerage service as a result of development.

These include connection of land with existing residences and/or non-residential buildings if water or sewerage developer charges have not been paid previously for the land use.

The basis for defining the DSP area boundaries is the existing and future development serviced by the BSC water supply systems and sewerage systems.

Any development outside the water supply and sewerage service areas will require a special agreement with BSC.

2.3 Application of Developer Charges

Most types of development will increase the demand on a water supply system. The increase in demand is assessed in terms of equivalent tenements (ET). The calculation of ETs for each development will be made in accordance with the Byron Shire Council Policy No. 13/005 *Water and Sewer Equivalent Tenements Policy* or subsequent revised ET Policy. The minimum demand for each development is 1 ET. The developer charges will apply to new development and re-development (i.e. change of use).

2.4 Timing and Payment of Developer Charges

Developer charges payable in relation to proposed developments shall be stated within the conditions of consent issued with the applicable development consent.

If payment is made within three (3) months of the date of the notice, no further charges will apply for the development. If payment is not received in full within three (3) months, the charge will be recalculated in accordance with the DSP valid at that time.

A Compliance Certificate (or Linen Plan for subdivisions) will not be issued until the developer charge payment has been received.

2.5 Review

Developer charges relating to these DSPs shall be reviewed every 5 to 6 years. A shorter review period may be appropriate if a major change in circumstances occurs.

2.6 Indexation

The developer charges will be adjusted on 1 July each year on the basis of movements in the CPI for Sydney.

2.7 Exemption

Under section 306 (4) and (5) of the *Water Management Act 2000*, the Minister for Planning may make a determination in regard to developer charges levied on Crown development. Crown developments for essential community services (education, health, community services, and law and order) are exempt from general developer charges. Water utilities may charge these developments only for that portion of the direct connection cost (e.g. for a lead-in main) relating to Crown development.

BSC may waive developer contributions where the proponent demonstrates to Council's satisfaction that it is a non-profit and charitable organisation, which by virtue of carrying out such development, is considered to be making a significant and positive contribution to the community and is unable to recover the charge from the end user.

3. LAND USE PLANNING

3.1 Growth Projections

Growth projections provided by BSC for the water and sewerage service areas (Section 2.1) are shown in the following table as the number of water supply and sewerage ETs. These projections are from the present year to 2045, which is Council's current planning horizon. The growth projections for each service area are given in the DSP Background Documents.

Table 2: Growth Projections

Year	Total Number of Water Supply ETs	Total Number of Sewerage ETs
1996	9,139	10,761
2000	10,469	12,168
2005	11,469	13,203
2010	12,158	13,911
2015	13,345	15,148

Year	Total Number of Water Supply ETs	Total Number of Sewerage ETs
2020	15,267	18,574
2025	17,007	20,672
2030	18,863	22,736
2035	19,807	25,138
2040	21,817	26,980
2045	23,773	29,038

3.2 Land Use Information

These DSPs should be read in conjunction with the BSC Local Environmental Plan 2014 and Development Control Plans.

4. DEVELOPER CHARGES METHODOLOGY

Developer charges are up-front charges levied to recover part of the infrastructure costs incurred in servicing new developments or additions/changes to existing developments. Developer charges serve two related functions:

- They provide a source of funding for infrastructure required for new urban development; and
- They provide signals regarding the cost of urban development and thus encourage less costly forms and areas of development.

The Developer Charges calculation is based on the net present value (NPV) approach adopted by the Independent Pricing and Regulatory Tribunal (IPART) for the metropolitan water utilities. The fundamental principle of the NPV approach is that the investment in assets for serving a development area is fully recovered from the development. The investment is recovered through up-front charges (i.e. developer charges) and the present value (PV) of that part of annual bills received from the development in excess of operation, maintenance and administration (OMA) costs.

Developer Charge = *Capital Charge (cost of providing the assets) –*

Reduction Amount (cost recovered through annual bills).

The Capital Charge and Reduction Amount are discussed further in the following sections. The developer charges process is described fully in the 2012 *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (Consultation Draft).

4.1 Capital Charge

The capital charges were calculated for BSC water supply and sewerage service areas based on the existing and future assets providing the services in these areas. The capital charge is calculated by dividing the present value (PV) of the cost of the assets by the PV of the number of new ETs.

The capital charge represents the efficient capital cost of assets used in providing water related services in a DSP area. This includes the cost of both existing and future assets that will be used to service the DSP area. In addition, because local water utilities provide the upfront funding for constructing these assets, the capital charge also includes a commercial return on this investment.

The capital charge is calculated for each service area. Service areas are:

- An area served by a separate sewage treatment plant;

- An area served by a separate water supply distribution system;
- Separate small towns or villages; or
- A new development area of over 500 lots.

Where the capital charges for two or more service areas are within 30% of each other, they are agglomerated into a single DSP area.

4.2 Reduction Amount

The reduction amount represents the portion of the cost of assets that BSC expects to recover through its annual bills to the new residents.

Council has adopted the NPV of annual bills method to calculate the reduction amount. This method calculates the reduction amount as the NPV for 30 years of the future net income from annual charges (revenue from annual bills less operation, maintenance and administration costs) for the development areas.

5. INFRASTRUCTURE

5.1 Water Supply

BSC provides reticulated water supply services to the main towns and adjacent areas of Ocean Shores, Brunswick Heads, Mullumbimby, Byron Bay, Suffolk Park and Bangalow. The Byron Shire water supply is comprised of five separate water supply systems serving these urban areas of the LGA.

The water supply for Mullumbimby is sourced from Lavertys Gap Weir, in the Wilsons River sub-catchment of the Richmond River and treated at the Mullumbimby WTP.

Council distributes water purchased from Rous Water though four separate distribution systems:

- Bangalow;
- Brunswick Heads;
- Byron Bay; and
- Ocean Shores.

The existing water supply systems serving the areas covered by this Water Supply DSP are shown on the Plans in Appendix A.

5.2 Sewerage

Council has four Sewage Treatment Plants (STPs) at Bangalow, Ocean Shores, West Byron and Brunswick Heads serving the urban areas of Byron Shire.

The Bangalow STP is a membrane bio-reactor that utilises biological activity for the treatment of the sewage followed by microfiltration through membranes as a final polishing process.

Sewage from the towns of Mullumbimby and Brunswick Heads is treated at the Brunswick Valley STP in Mullumbimby. The STP includes physical, chemical and biological treatment, including tertiary treatment in a 10 ha constructed wetland.

Ocean Shores STP currently serves the urban areas of Ocean Shores, New Brighton, South Golden Beach and Billinudgel. Council plans to redirect sewage from these catchments to be treated at the Brunswick Valley STP.

The West Byron STP serves the urban areas of Byron Bay and Suffolk Park. The STP was upgraded in 2005 to include constructed wetlands, recycled water irrigation of playing fields, golf courses and nurseries and beneficial reuse of biosolids.

A conceptual diagram of the sewerage DSP areas is given in Figure 1. The existing sewerage systems serving the areas covered by this Sewerage DSP are shown on the Plans in Appendix A.

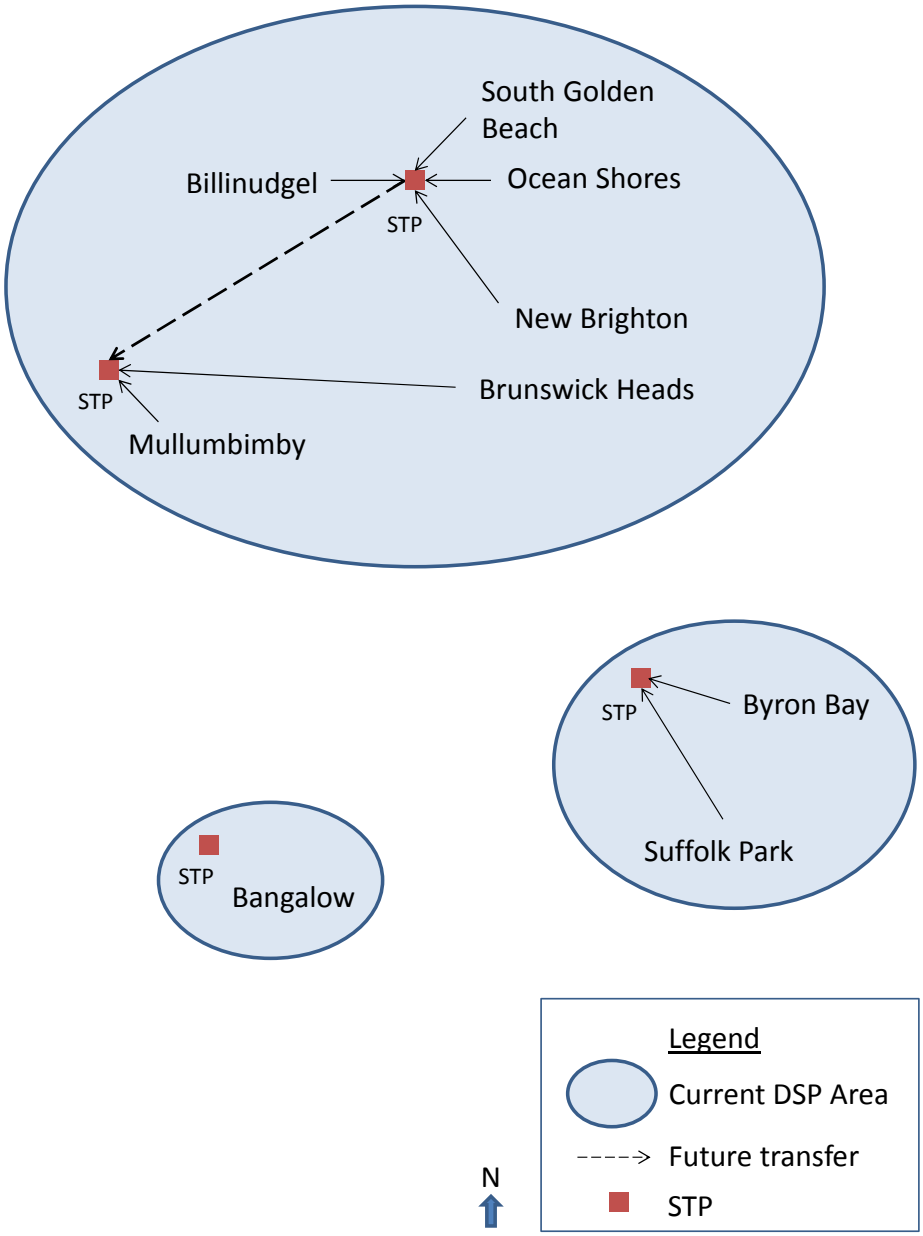

Figure 1: Conceptual Diagram of Sewerage DSP Areas

5.3 Existing Assets

All existing assets servicing BSC service areas are included in the capital charge calculations except for the following:

- Assets which will be more than 30 years old at the commencement of the DSPs (i.e. commissioned pre 1987). Headworks assets that are older than 30 years but were designed to provide capacity for future growth are included;
- Assets which are unlikely to be fully utilised over the planning horizon for calculating developer charges;
- Reticulation assets which are typically paid for directly by developers. Reticulation assets funded by Council as part of backlog works are included in the capital charge; and
- Gifted assets which were built by developers and later transferred to Council.

The existing assets servicing the area covered by the DSPs are listed in the DSP Background Documents.

5.4 Future Capital Works

Where a development area is expected to make use of future assets, the capital cost of these assets is included in the capital charge. Future capital works costs planned to service growth within the next 10 years are included in the capital charge calculations.

Renewals required within 10 years are included in the capital charge if the existing asset is older than 30 years and has been excluded.

The timing and expenditure for capital works serving the areas covered by the DSPs are shown in the DSP Background Documents.

5.5 Reticulation Works

The developer shall be responsible for the full cost of the design and construction of water supply and sewerage reticulation works within developments/subdivisions.

6. LEVELS OF SERVICE

BSC system design and operation are based on providing the levels of service (LOS) documented in the Strategic Business Plan for Water Supply and Sewerage Services (2015). The LOS applied to BSC's water supply and sewerage systems are the targets that BSC aims to achieve. They are not a customer contract.

Table 3: Levels of Service - Water Supply

Description	Unit	Level of Service	
		Current Performance	Target
Social			
Water quality complaints	Per 1000 properties	0.5	≤ 0.5
Service complaints	Per 1000 properties	0.3	≤ 0.3
Average frequency of unplanned interruptions	Per 1000 properties	14	≤ 14
Number of main breaks	Per 100 km	7	≤ 7
Total days lost	%	3.2	≤ 3.2
Environmental			
Average annual residential water supplied	kL per property	175	≤ 175
Real losses	L/service connection/day	80	≤ 80
Economic			
Operating cost	$ per property	463	≤ 463
Management cost	$ per property	127	≤ 127

Table 4: Levels of Service – Sewerage

DESCRIPTION	UNIT	LEVEL OF SERVICE	
		Current Performance	Target
Social			
Odor complaints	Per 1000 properties	2.1	≤ 2.1
Service complaints	Per 1000 properties	2	≤ 2
Average duration of interruption	Minutes	60	≤ 60
Total days lost	%	3.9	≤ 3.9
Environmental			
Volume of sewage collected	kL per property	350	≤ 350
Percentage Effluent Reuse	%	13	≤ 13
Biosolids reuse	%	100	≤ 100
Sewer main breaks and chokes	Per 100 km of main	32	≤ 32
Sewer overflows to the environment	Per 100 km of main	0.8	≤ 0.8
Economic			
Operating cost	$ per property	629	≤ 629
Management cost	$ per property	173	≤ 173
Treatment cost	$ per property	245	≤ 245
Pumping cost	$ per property	134	≤ 134
Sewer main cost	$ per property	45	≤ 45

7. DESIGN PARAMETERS

Investigation, design and construction of water supply components are based on:

- Council's levels of service;
- Northern Rivers Local Government Development Design and Construction Manual;
- Water Supply Investigation manual (1986); and
- WSAA water supply codes and standards.

Investigation, design and construction of sewerage components are based on:

- Northern Rivers Local Government Development Design and Construction Manual;
- Council's levels of service; and
- WSAA sewerage codes and standards.

8. WATER SUPPLY DEVELOPER CHARGES

The developer charges for the water supply areas covered by this Water Supply DSP are shown in Table 5.

Table 5: Developer Charges – Water Supply (2016$)

DSP Area	DSP Name	Capital Charge ($ per ET)	Reduction Amount ($ per ET)	Calculated Maximum Developer Charge ($ per ET) [1]	Adopted Developer Charge ($ per ET)
A	Mullumbimby	$12,389	$1,261	$11,128	$9,017
B	Brunswick Heads	$4,806		$3,545	$761
C	Bangalow	$3,148		$1,887	$761
D	Ocean Shores	$2,117		$761	$761
	Byron Bay/Suffolk Park	$2,008			$761
Weighted Average				$2,508	$1,788

1. Calculated from the predicted growth in each service area

Capital charge and reduction amount calculations for each service area are shown in the Water Supply DSP Background Document.

In setting the developer charges, BSC may consider financial, social and environmental factors to determine a level of developer charges that is balanced, fair and meet Council's objectives.

Council proposes to adopt water supply developer charges that are lower than the calculated developer charges. This means that existing residents will subsidise part of the new development. The cross-subsidy is the difference between the annual bill with the calculated maximum developer charge and the proposed lower developer charge.

The adopted water supply developer charge results in an average cross-subsidy for developers of $720 per ET. This option requires an increase in the medium-term water supply TRB of $14 per assessment p.a.

9. SEWERAGE DEVELOPER CHARGES

The developer charges for the sewerage areas covered by this Sewerage DSP are shown in Table 6.

Table 6: Developer Charges – Sewerage (2016$)

DSP Area	DSP Name	Capital Charge ($ per ET)	Reduction Amount ($ per ET)	Calculated Maximum Developer Charge ($ per ET) [1]	Adopted Developer Charge ($ per ET)
A	Brunswick Valley	$14,238	$1,470	$9,988	$9,988
	Bangalow	$11,775			$9,988
	Byron Bay/Suffolk Park	$10,448			$9,988
	Brunswick Valley	$14,238			$9,988

1. Calculated from the predicted growth in each service area

Capital charge and reduction amount calculations for each service area are shown in the Sewerage DSP Background Document.

10. OTHER RELATED CONTRIBUTION PLANS

The following contribution plans may also apply to development within Byron LGA:

- BSC *Development Contributions Plan 2012 and Amendment*;
- BSC *Section 94 Contributions Plan 2005*; and
- Rous Water Development Servicing Plans.

11. GLOSSARY AND ABBREVIATIONS

Annual Bill	LWUs annual water supply or sewerage bill for an annual demand of 1 ET.
Asset	An asset (or part of an asset) including land and headworks assets that directly provides, or will provide, the developer services to developments within the DSP area for which the Developer Charge is payable
Annual Demand	The total water demand over a year. Used to size headworks components.
BSC	Byron Shire Council
Capital Cost	The Present Value (MEERA basis) of all expenditure on assets used to service the development.
Capital Charge	Capital cost of assets per ET adjusted for commercial return on investment (ROI).
CPI	Consumer price index.
Developer Charge	Charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new development.
Development Area	See DSP area.
Discount Rate	The rate used to calculate the present value of money arising in the future.
DSP	Development Servicing Plan
DSP area	That part of a water utility's area covered by a particular Development Servicing Plan. Also referred to as a Development Area.
ET	Equivalent tenement. The annual demand a detached residential dwelling will place on the infrastructure in terms of the water consumption or sewage discharge.
Headworks	Significant assets at the top end of the water systems or the bottom end of the sewerage and stormwater system. For example water headworks may comprise a system of storage reservoirs, water treatment works and major supply conduits.
IPART	The NSW Independent Pricing and Regulatory Tribunal
Kilolitre (kL)	1,000 litres
LGA	Local Government Area
LWU	Local Water Utility
MEERA	Modern Engineering Equivalent Replacement Asset. An asset value calculated on the basis that the asset is constructed at the time of valuation in accordance with modern engineering practice and the most economically viable technologies, which provides similar utility functions to the existing asset in service.
ML	Megalitre (1,000,000 litres, or 1,000 kilolitres)
NOW	NSW Office of Water
NPV	Net present value means the difference between the Present Value of a revenue stream and the Present Value of a cost stream.
OMA	Operation, maintenance and administration (cost).

Operating cost	In relation to a DSP is the operation, maintenance and administration cost (excluding depreciation and interest) of a LWU in providing Customer services to a DSP area.
Peak Day Demand	The maximum demand in any one day of the year. Used to size water treatment works, service reservoirs, trunk mains and pumping stations in the distribution system
PV	Present value. The current value of future money or ETs.
Reduction Amount	The amount by which the capital charge is reduced to arrive at the developer charge. This amount reflects the capital contribution that will be paid by the occupier of a development as part of future annual bills
ROI	Return on investment. Represents the income that is, or could be, generated by investing money
Service Area	An area serviced by a separate water supply system, an area served by a separate STW, a separate small town or village, or a new development of over 500 ETs.
TRB	Typical residential bill, which is the principal indicator of the overall cost of a water supply or sewerage system and is the bill paid by a residential customer using the utility's average annual residential water supplied per connected property

APPENDIX A: PLANS

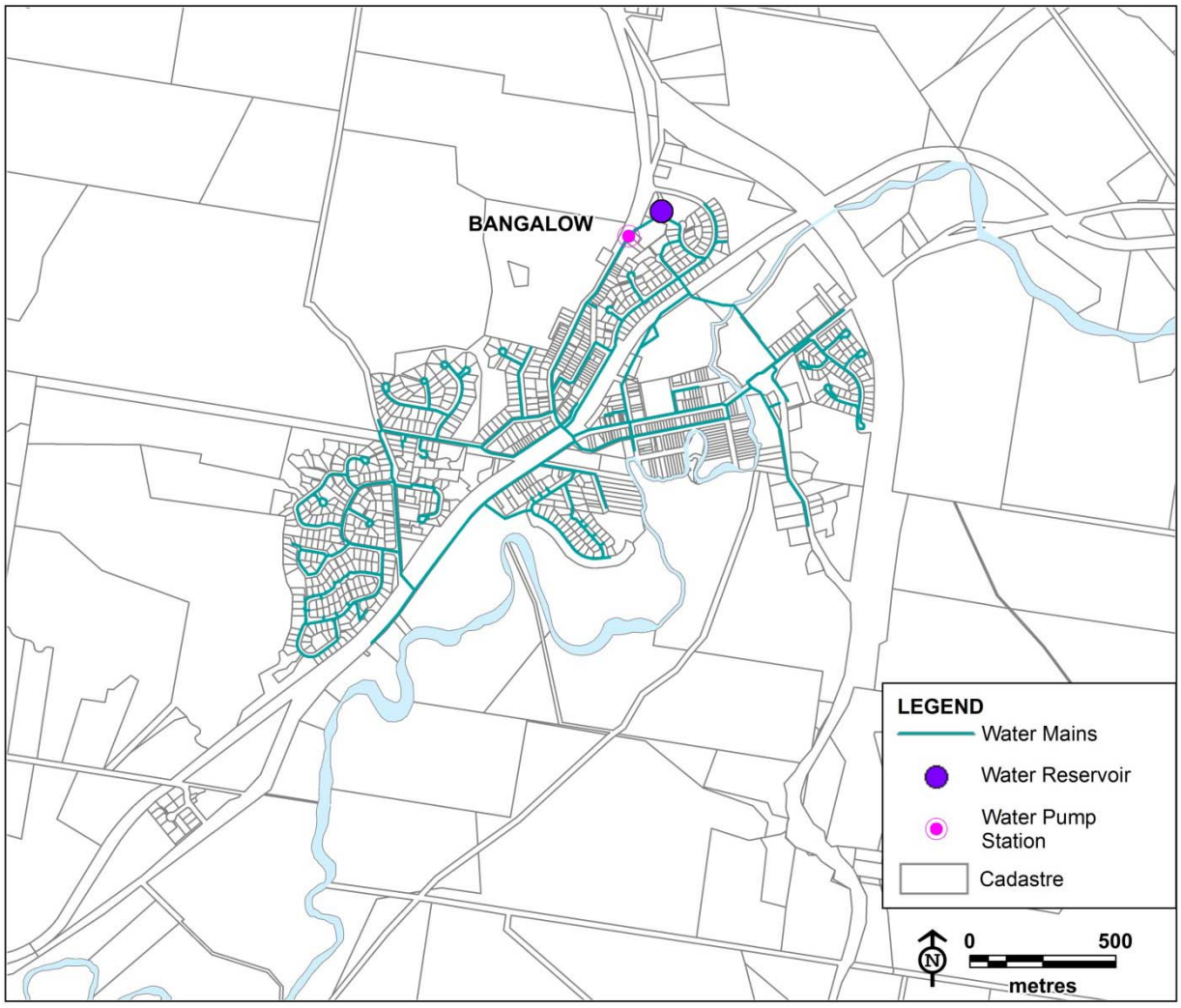

Figure 2: Bangalow Water Supply DSP Area

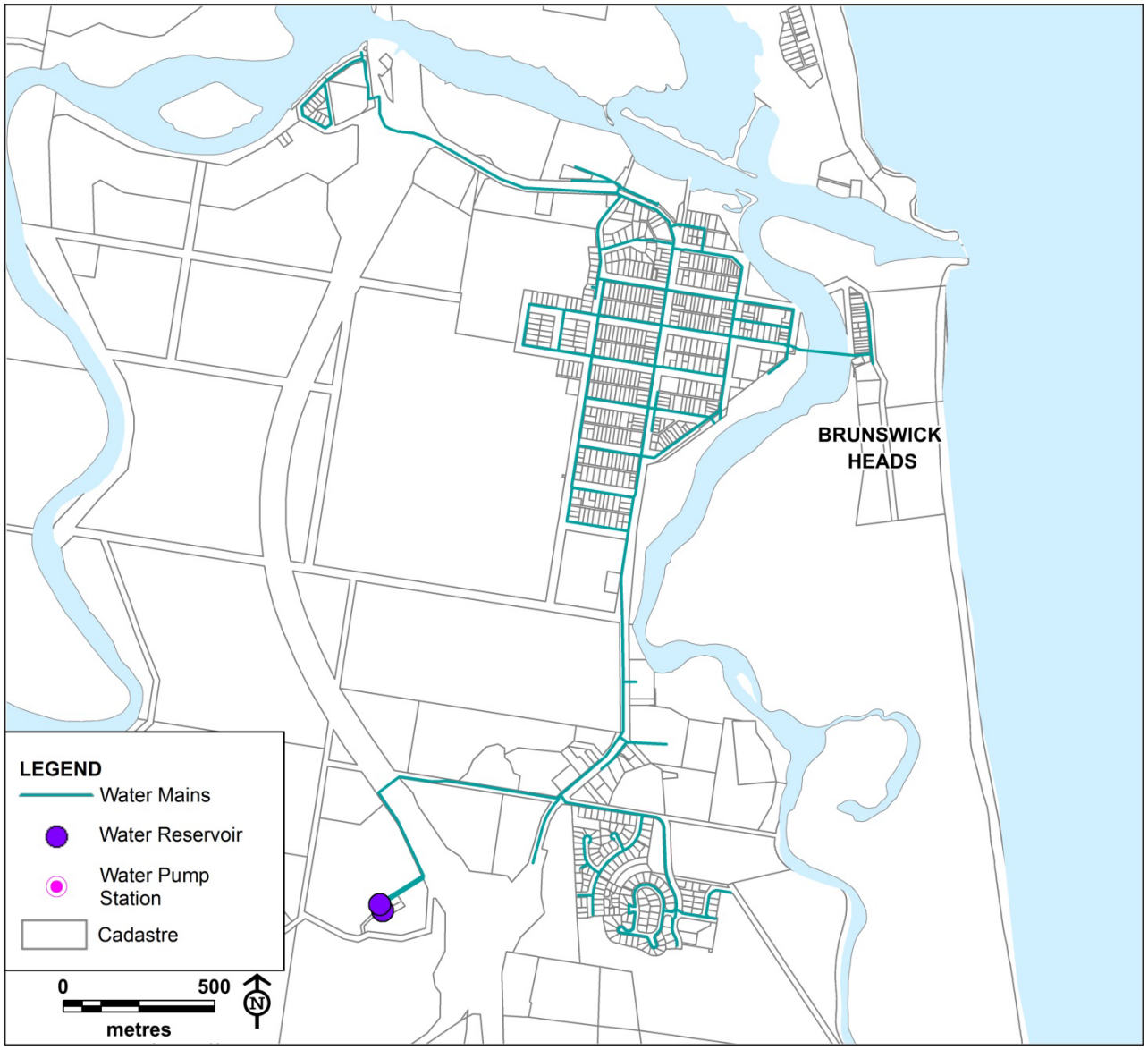

Figure 3: Brunswick Heads Water Supply DSP Area

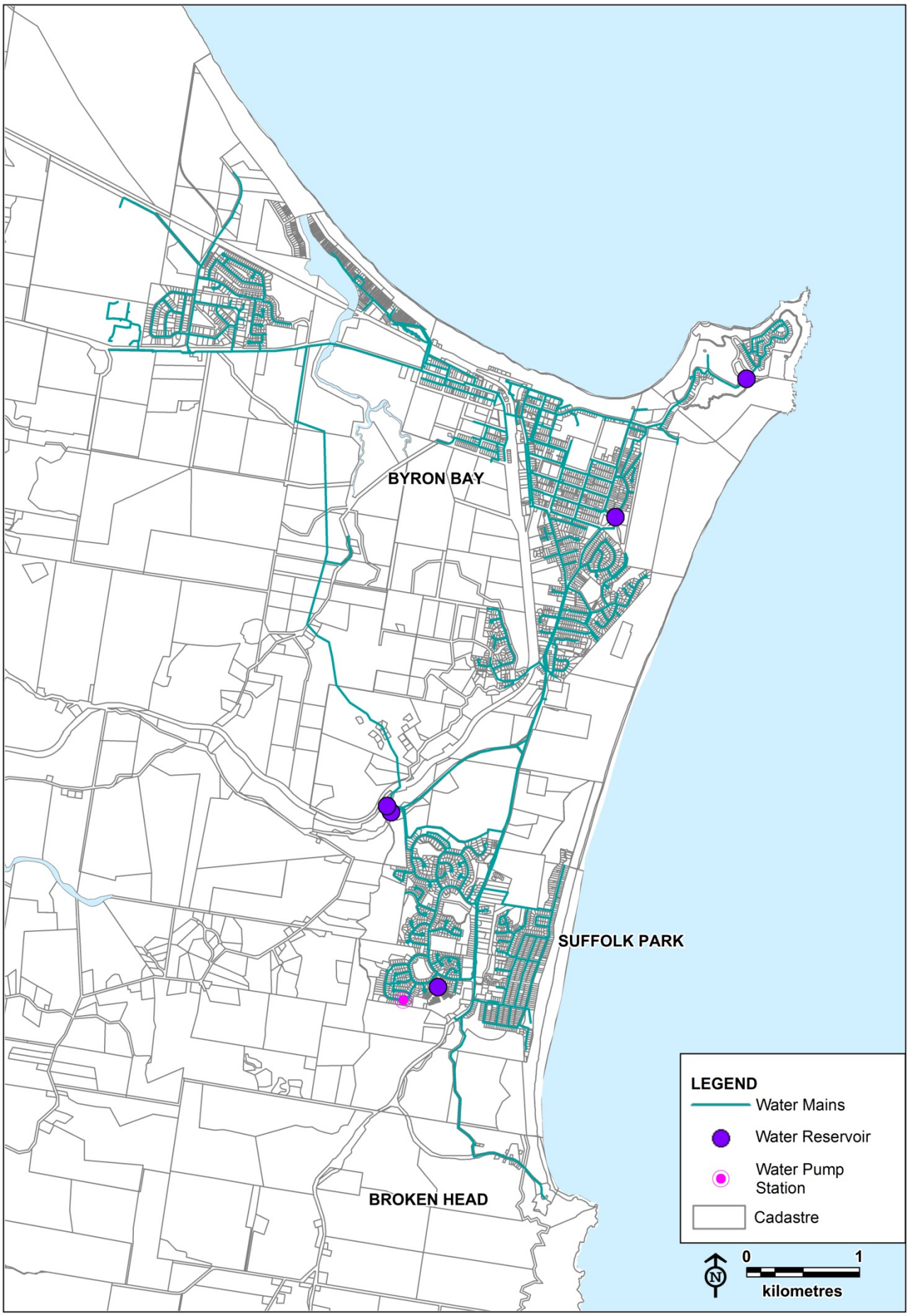

Figure 4: Byron Bay/Suffolk Park Water Supply DSP Area

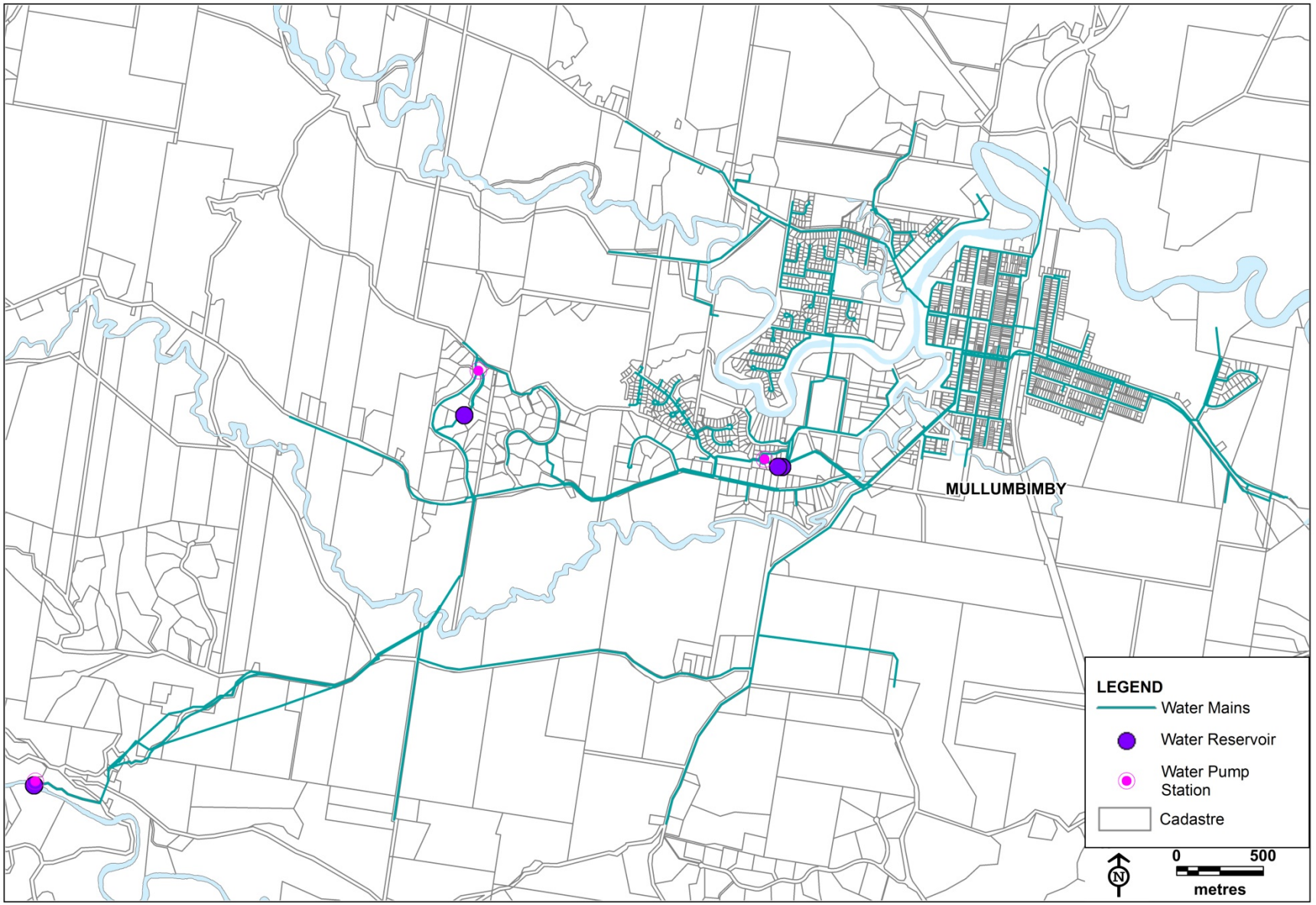

Figure 5: Mullumbimby Water Supply DSP Area

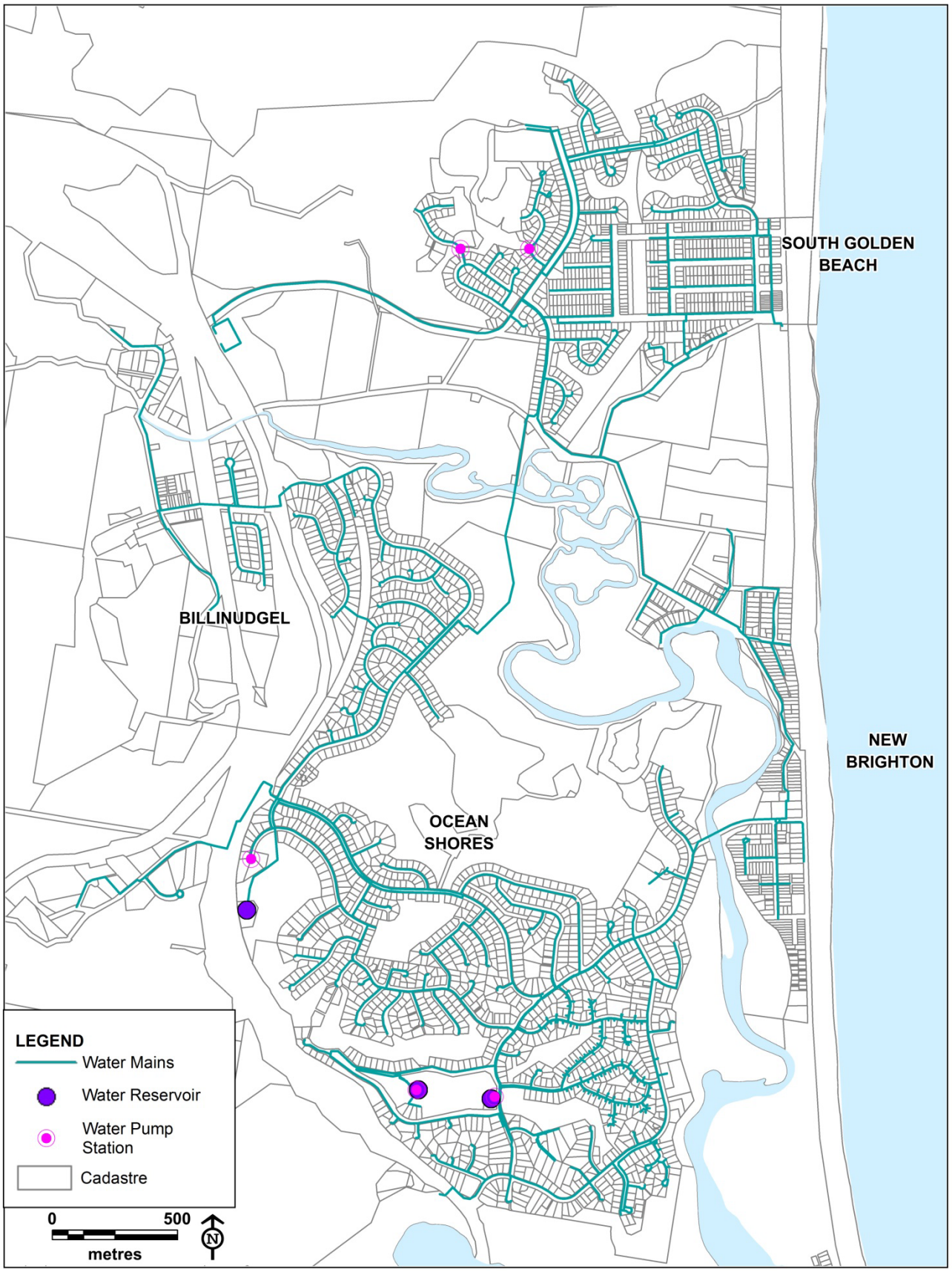

Figure 6: Ocean Shores/New Brighton/South Golden Beach/Billinudgel Water Supply DSP Area

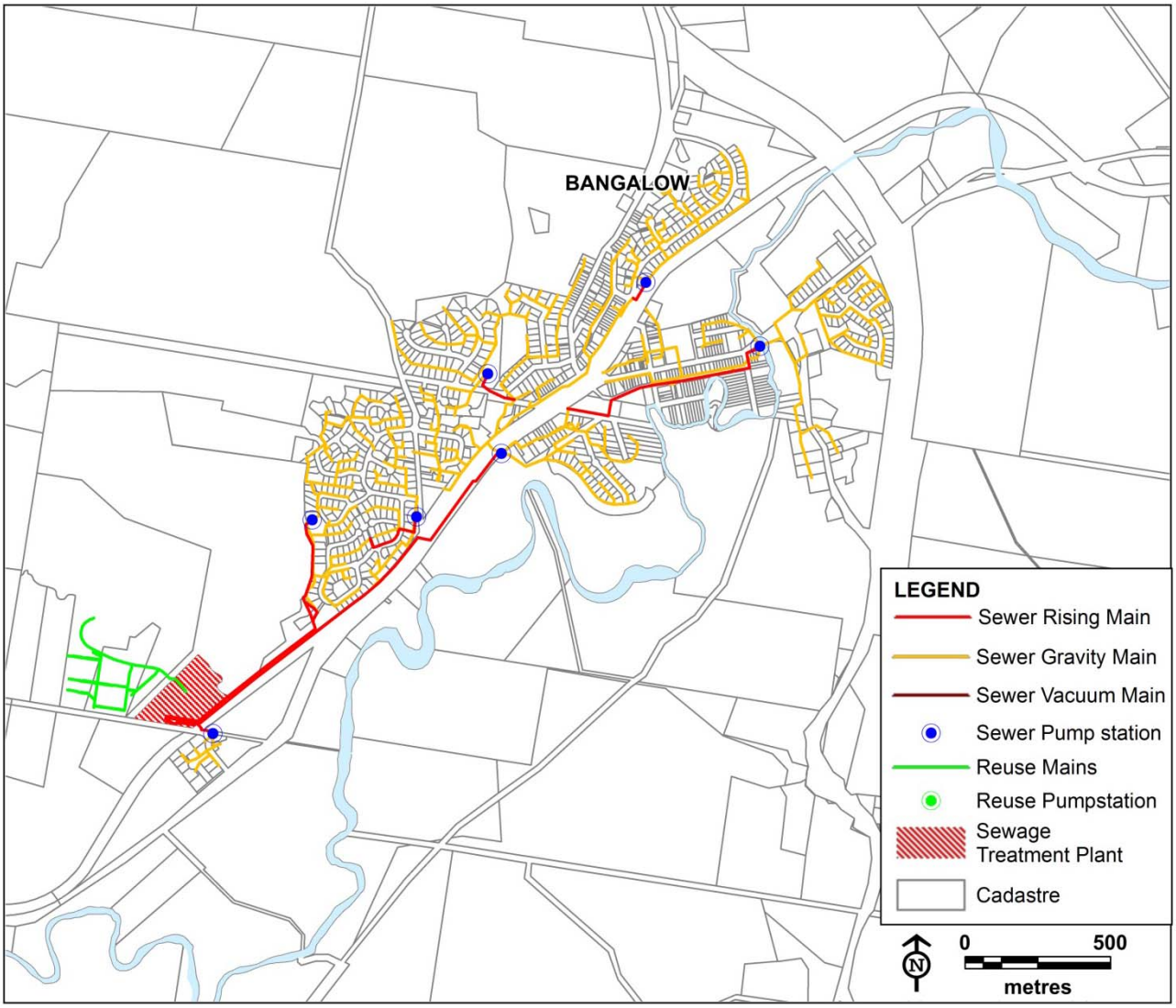

Figure 7: Bangalow Sewerage DSP Area

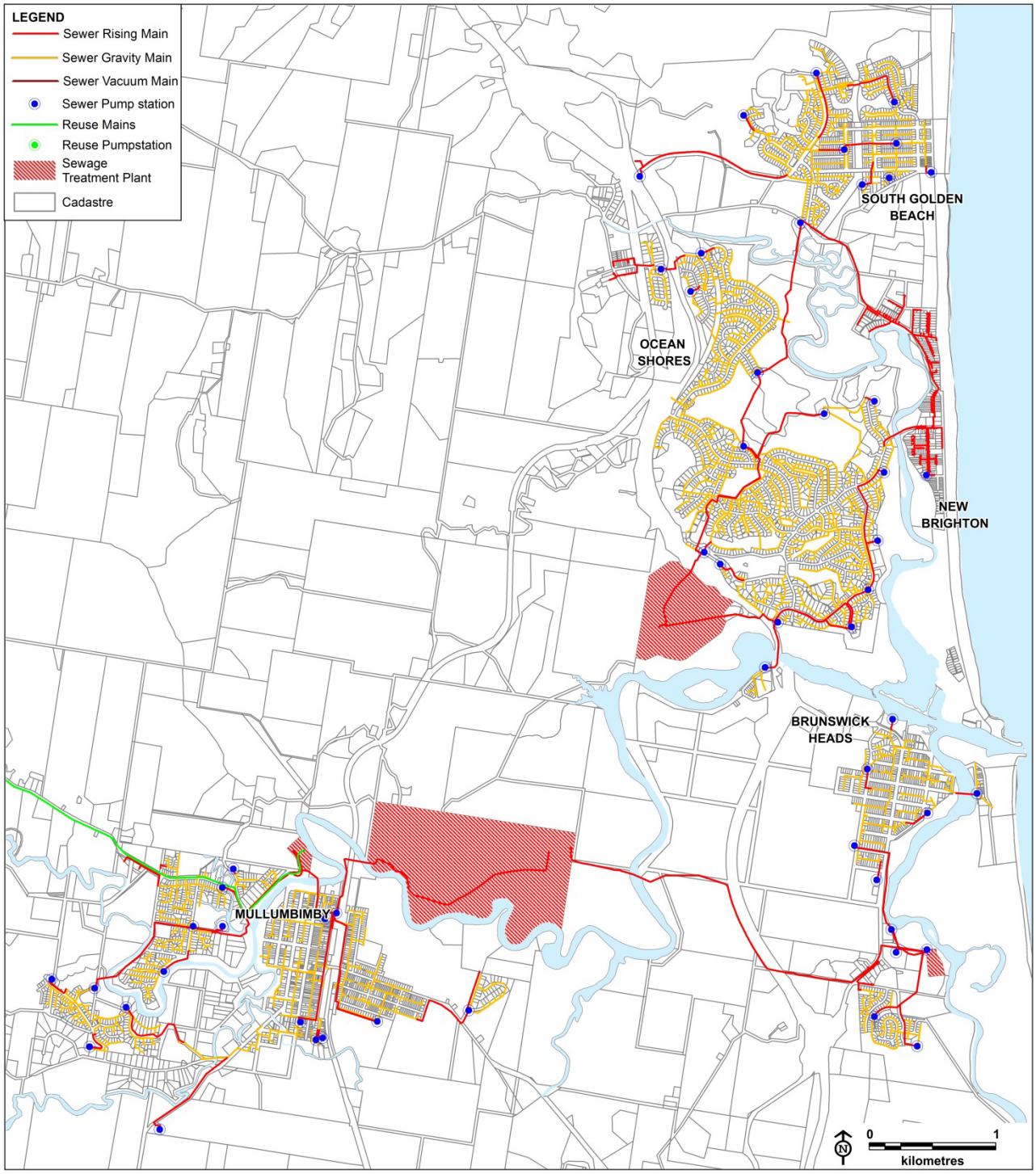

Figure 8: Brunswick Valley Sewerage DSP Area

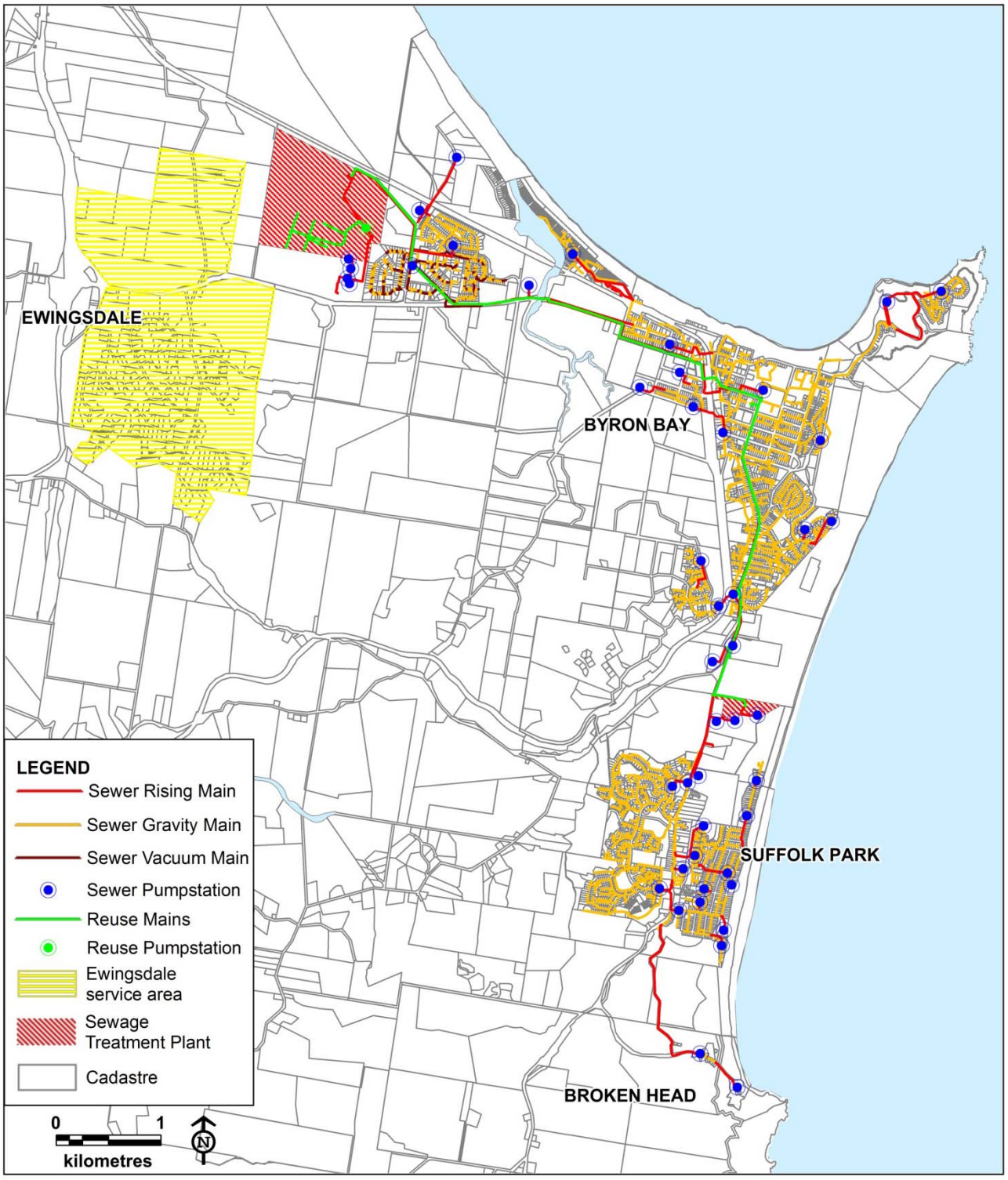

Figure 9: Byron Bay/Suffolk Park Sewerage DSP Area