

Section 7.11 Development Contributions Plan

Raglan Creek Stormwater Drainage Management

AMENDMENT 2

Adopted:

16 December 1992

Table of Contents

1	Aim	s of this Plan3			
2	Pur	Purpose of this Plan			
3	Lan	d to which this plan applies	. 3		
	3.1	Developable Land within the Study Area	. 3		
	3.2	Nature of Development	. 3		
4	Nexus				
	4.1	Marsden Catchment Area	. 4		
	4.2	Camidge Catchment Area	. 4		
	4.3	Oaksland Catchment Area	. 4		
	4.4	Rosemont Catchment Area	. 4		
	4.3	Kelso North Catchment Area	. 4		
	4.4	Kelso South Catchment Area	. 4		
	4.5	Clyde Catchment Area	. 4		
	4.6	Kilacloran Catchment Area	. 4		
	4.7	Raglan Catchment Area	. 5		
	4.8	BIP Catchment Area	. 5		
	4.9	Lee Catchment Area	. 5		
	4.10	Wallaroi Catchment Area	. 5		
5	Costs and Funding				
	5.1	Estimated Costs	. 5		
	5.2	Proposed Method of Funding	. 5		
6	Administration of the Plan				
	6.1	Management Costs of the Plan	. 6		
	6.2	Plan Management and Administration	. 6		
7	Sun	nmary of Contribution Rates	. 7		
8	Cur	rent and Future Funding	. 7		
9	Sch	Schedule of Works			
	9.1	Drainage Channels	. 8		
	9.2	Retarding Basins	10		
	9.3	Water Quality Control Structures	11		
	9.4	Road Culvert Crossings	12		

	9.5 Drainage Strategy Plan S1	12
	9.6 Administration and Management costs	12
10	Works Program	12
11	Material Public Benefits	13
12	Adjustment of Contributions	13
13	Conclusion	13
14	Amendments	13
15	Map	14

1 Aims of this Plan

The aims of this plan are to:

- a) Maintain flood flows on the Macquarie River flood plan at or below the levels produced by a "greenfields" catchment and provide an unimpeded flowpath.
- b) Contain 100 year flood flows within properly constructed drainage channels with low flow pipes in drainage reserves outside the Macquarie River Flood plain.
- c) Provide pipe drainage and emergency overflow paths in all urban areas.
- d) Maintain quality of stormwater runoff entering the Macquarie River by the removal of pollutants such as silt, rubbish, oil and chemicals.

2 Purpose of this Plan

The purpose of this plan is:

- a) To ensure Council has adequate funding to properly manage stormwater runoff from developments within the subject land.
- b) To ensure that the funding of stormwater management is provided in an equitable manner.

3 Land to which this plan applies

This plan applies to land bounded by the heavy black line on the map marked "Section 7.11 Contributions Plan – Raglan Creek Stormwater Drainage" and deposited in the office of Bathurst Regional Council. The subject land has been divided into catchment areas marked Marsden, Camidge, Oaksland, Rosemont, Kelso North, Kelso South, Kilacloran, Raglan, BIP, Lee and Wallaroi which are bounded by medium black lines on the above plan.

3.1 Developable Land within the Study Area

The lands deemed to be available for development within the catchment are areas zoned other than rural under *Bathurst Regional Local Environmental Plan 2014* (as amended).

3.2 Nature of Development

The predominant types of development within the catchment are Residential, Rural Residential, Commercial, Special Uses (schools etc.) and Industrial. The impact on stormwater runoff is due to the creation of impervious areas such as roofs and paving. The assumptions used in this study are that industrial and commercial development will produce 80% impervious area and residential development will produce 40% impervious area.

Existing residential developments within the catchment have produced a yield of approximately 7.5 lots per hectare and this figure has been used for the purpose of estimating anticipated yields. Industrial and Commercial developments have been assumed to yield an equivalent of 15 residential lots per hectare for the purpose of cost sharing. Rural residential lots are considered equivalent to residential lots. Special use areas are considered equivalent to residential areas, i.e. 7.5 equivalent residential lots per hectare.

4 Nexus

Developments within the catchment have and continue to increase the frequency and volume of stormwater runoff and adversely affect the quality of this water. It is Council's responsibility to ensure that such impacts are negated by sound engineering practices to protect downstream water users and landholders and to fund such works on a "user pays" system.

4.1 Marsden Catchment Area

This catchment covers approximately 490 hectares of which approximately 170 hectares is to be developed for residential purposes (in accordance with *Bathurst Regional Development Control Plan 2014*). It is anticipated that the area will yield approximately 1485 residential lots.

4.2 Camidge Catchment Area

This catchment covers approximately 22.6 hectares and is to be developed for residential purposes (in accordance with *Bathurst Regional Development Control Plan 2014*). It is anticipated that the area will yield approximately 137 residential lots.

4.3 Oaksland Catchment Area

This catchment covers approximately 207 hectares of which approximately 127 hectares is to be developed for residential purposes (in accordance with *Bathurst Regional Development Control Plan 2014*). It is anticipated that the area will yield approximately 967 residential lots.

4.4 Rosemont Catchment Area

This catchment covers approximately 45 hectares of which approximately 31 hectares is to be developed for residential purposes (in accordance with *Bathurst Regional Development Control Plan 2014*) and the remainder has been fully developed. It is anticipated that the area will yield a total of 338 residential lots.

4.3 Kelso North Catchment Area

This catchment covers approximately 39 hectares and is to be developed for residential purposes (in accordance with *Bathurst Regional Development Control Plan 2014*). It is anticipated that the area will yield a total of 228 residential lots.

4.4 Kelso South Catchment Area

This catchment covers approximately 63 hectares and is virtually fully developed with 480 residential lots.

4.5 Clyde Catchment Area

This catchment covers approximately 96 hectares of which approximately 50 hectares is zoned industrial under *Bathurst Regional Local Environmental Plan 2014*. It is anticipated that the area will yield a total of 375 equivalent residential lots.

4.6 Kilacloran Catchment Area

This catchment covers approximately 670 hectares. It is anticipated that the area will yield a total of 650 equivalent residential lots.

4.7 Raglan Catchment Area

This catchment covers approximately 600 hectares of which approximately 77 hectares is zoned industrial and 97 hectares is zoned residential under *Bathurst Regional Local Environmental Plan 2014*. It is anticipated that the area will yield a total of 1880 equivalent residential lots.

4.8 BIP Catchment Area

This catchment covers approximately 65 hectares, all of which is zoned industrial under *Bathurst Regional Local Environmental Plan 2014*. It is anticpated that the area will yield a total of 975 equivalent residential lots. Approximately 37 hectares of this area has been developed.

4.9 Lee Catchment Area

This catchment covers approximately 604 hectares, 105 hectares of which is zoned industrial under *Bathurst Regional Local Environmental Plan 2014*. It is anticipated that the area will yield a total of 1575 equivalent residential lots.

4.10 Wallaroi Catchment Area

This catchment covers approximately 715 hectares, 18 hectares of which is zoned industrial under *Bathurst Regional Local Environmental Plan 2014*. It is anticipated that this area will yield a total of 391 equivalent residential lots.

5 Costs and Funding

In the past Council has funded trunk drainage works by several means including:

- Levying of contributions under Section 7.11 of the Environmental Planning and Assessment Act 1979.
- Requiring Developers to construct various works in conjunction with Development approval.
- Constructing trunk drainage works using borrowed funds which are repaid from general rate revenue.

This method of funding has led to inequities in funding of such works in that some development have contributed more or less than their "fair share" and some works have been paid for by rate payers from established areas, not necessarily in the vicinity of the work.

5.1 Estimated Costs

The cost of providing the required works has been estimated using the latest available data from several sources such as: recently completed works, Council's "Cost and Resources Estimating" software and "Rawlinsons Australian Construction Handbook".

5.2 Proposed Method of Funding

It is proposed that stormwater management within the subject are will be funded by developer contributions. These contributions will be levied on an amount per lot basis and a Rate per hectare basis for other than residential development for each of the catchment areas described in Section 4 (Nexus) and will correspond to the required works relating specifically to each catchment

Where developments other than low density residential subdivisions are proposed the contribution rate will be set at an equivalent rate per hectare of development. The anticipated yield of residential development is 7.5 lots per hectare, based on existing developments in the area. And this figure is used to calculate the equivalent contribution rate per hectare for residential development. Commercial and Industrial developments have been assumed to produce double the amount of impervious area and for cost sharing they are assumed to yield 15 equivalent residential lots per hectare.

6 Administration of the Plan

6.1 Management Costs of the Plan

Council considers that the costs involved with administering Section 7.11 are an integral and essential component of the efficient provision of facilities generated by the development in the LGA. Accordingly, costs associated with the ongoing administration and management of the contributions plan will be levied on all applications occasioning a development contribution. These costs will appear as a separate element in the contributions schedule and the method of calculation is described in Section 5A.2 of this Plan. Fees collected will cover the implementation, review, monitoring and updating procedures set out in the Plan. In addition studies are undertaken to determine the design and costings of works as well as to review the development and demand assumptions of the contributions plan.

Where a WIK agreement is negotiated between a developer and the Council, the Plan Administration and Management Contribution levy will still apply. This amount will cover plan review costs and also Council's costs associated with negotiating the agreement and supervision work undertaken.

NSW Planning and Environment released a revised Local Development Contributions Practice Note - for the assessment of Local Contributions Plans by IPART, February 2014 (pp 9-10).

Section 3.4.2.3 of the Practice Note identifies that:

Plan administration costs may include:

- background studies, concept plans and cost estimates that are required to prepare the plan, and/or
- project management costs for preparing and implementing the plan (e.g., the employment of someone to co-ordinate the plan).

Note: Plan administration costs include only those costs that relate directly and solely to the preparation and implementation of the Section 7.11 Plan and do not include costs that would otherwise be considered part of Council's key responsibilities such as core strategic planning responsibilities.

6.2 Plan Management and Administration

6.2.1 **Nexus**

Council employs staff to coordinate the implementation of the Plan and associated works, as well as the financial accounting of contributions received. In addition, consultant studies may be commissioned in order to determine design and costing of works and to review the development and demand assumptions of the contributions plan.

Council considers that the costs involved with administering this Section 7.11 Plan are an integral and essential component of the efficient provision of facilities demanded by development throughout the Bathurst Regional LGA. The new population should therefore pay a reasonable contribution towards the costs associated with the management and administration of the Plan.

At the time of the preparation of this Plan, it was determined that 1.0% of all development contributions payable over the life of the Plan is a reasonable contribution towards Plan Management and Administration functions.

6.2.2 Contribution Catchment

Plan administration and management is based upon the catchment of the Plan and contributions have therefore been applied on this basis.

6.2.3 Facilities Strategy

The Plan aims to provide funds to ensure the efficient management of the Section 7.11 planning and financial processes within Council. These processes will be ongoing throughout the life of the Plan.

Council staff accountable for facility/service planning and delivery will be involved in reviewing and updating the Plan. This may include review of the works schedules or the latest information on community needs to ensure that facility planning is current and appropriate. This may also include engaging specialist consultants (e.g. planning, engineering, traffic, legal and valuation specialists) to carry out studies or to assist with the preparation of the Plan.

7 Summary of Contribution Rates

The following contribution rates will be applied to developments within the Raglan Creek Catchment. Low density subdivisions will be required to contribute the appropriate rate per lot. Special use areas such as Schools, Churches, medium density housing will be required to contribute at Rate 1 per hectare. Commercial and Industrial Developments will be required to contribute at Rate 2 per hectare.

Total cost of Management Works: \$10,218,400

Total equivalent residential lots: 9482

2004/2005 Contribution Rates:

Contribution per Residential Lot: \$994

Contribution per hectare Rate 1: \$7,426

Contribution per hectare Rate 2: \$14,851

8 Current and Future Funding

When fully developed contributions from within the study area are not expected to cover the total costs of the management works. A deficit is expected and this will be contributed by Council towards completion of the Schedule of Works by the time the catchment is fully developed.

9 Schedule of Works

The Schedule of Works relates to Stormwater Management Works as shown on the map marked "Section 94 Contributions Plan – Raglan Creek Stormwater Drainage" and deposited in the Office of Bathurst Regional Council.

9.1 Drainage Channels

- 9.1.1 Channel C1: Open grass lined channel varying in width between 20 and 40 metres between Greenacres Turf Farm and St. Pats Sporting Club. Total length 1.35km. 100% complete.
- 9.1.2 Channel C2: Open grass lined channel 10 metres wide between Raglan Creek and Gilmour Street downstream of St. Pats Sporting Club. Total length 480m. 100% complete.
- 9.1.3 Channel C3: Open grass lined channel 10 metres wide with 2m wide concrete invert between Gilmour Street and future road including a new culvert under Gilmour Street. Total length 300m. 100% complete.
- 9.1.4 Channel C4: Open grass lined channel 10 metres wide with 450mm diameter low flow pipe between future road and Retarding Basin B1. Total length 300m. 100% complete.
- 9.1.5 Channel C5: Open grass lined channel 8 metres wide with 450mm diameter flow pipe between Basin B1 and Traffic Relief Route. Total length 750m. 0% complete.
- 9.1.6 Channel C6: Open grass lined channel 8 metres wide with 450mm diameter flow pipe between Gilmour Street and Basin B2. Total length 550m. 100% complete.
- 9.1.7 Channel C7: Open grass lined channel 5 metres wide with 450mm diameter flow pipe between upstream Basin B2. Total length 800m. 0% complete.
- 9.1.8 Channel C8: Open grass lined channel 15 metres at rear of St. Pats Sporting Club between Channels C2 and C9. Total length 280m. 100% complete.
- 9.1.9 Channel C9: Open grass lined channel 8 metres wide between Raglan Creek and Gilmour Street near Camidge Close. Total length 360m. 100% complete.
- 9.1.10 Channel C10: Open grass lined channel 10 metres wide between Channel C9 and Channel C11. Total length 400m. 100% complete.
- 9.1.11 Channel C11: Open grass lined channel 5 metres wide between Raglan Creek and Gilmour Street near Rosemont. Total length 250m. 0% complete.
- 9.1.12 Channel C12: Open grass lined channel 5 metres wide with 450mm diameter low flow pipe between Retarding Basin B4 and French Smith Place. Total length 800m. 0% complete.
- 9.1.13 Channel C13: Open grass lined channel 5 metres wide with 450mm diameter low flow pipe between French Smith Place and Traffic Relief Route. Total length 900m. 0% complete.
- 9.1.14 Channel C14: Open grass lined channel 5 metres wide with 450mm diameter low flow pipe between Retarding Basins B4 and B5. Total length 250m. 0% complete.
- 9.1.15 Channel C15: Open grass lined channel 5 metres wide with 450mm diameter low flow pipe between Retarding Basins B5 and Illumba Way. Total length 600m. 0% complete.
- 9.1.16 Channel C16: Open grass lined channel 5 metres wide with 450mm diameter low flow pipe between Retarding Basins B6 and B7. Total length 450m. 100% complete.
- 9.1.17 Channel C17: Open grass lined channel 10 metres wide between Channel C11 and Stephens Lane. Total length 230m. 100% complete.

- 9.1.18 Channel C18: Open grass lined channel 5 metres wide between Stephens Lane and Great Western Highway. Total length 900m. 100% complete.
- 9.1.19 Channel C19: Open grass lined channel 35 metres wide between Railway viaduct and Macquarie River (Raglan Creek diversion). Total length 500m. 0% complete.
- 9.1.20 Channel C20: Open grass lined channel 20 metres wide between Railway Viaduct and Lee Street. Total length 700m. 100% complete.
- 9.1.21 Channel C21: Open grass lined channel 20 metres wide with 450mm diameter low flow pipe between Lee Street and Littlebourne Street. Total length 580m. 0% complete.
- 9.1.22 Channel C22: Open grass lined channel 20 metres wide with 450mm diameter low flow pipe between Littlebourne Street and Sydney Road. Total length 250m. 0% complete.
- 9.1.23 Channel C23: Open grass lined channel 8 metres wide with 450mm diameter low flow pipe between Sydney Road and Bonner Street. Total length 400m. 100% complete.
- 9.1.24 Channel C24: Open grass lined channel 5 metres wide with 450mm diameter low flow pipe between Bonner Street and Traffic Relief Route. Total length 560m. 0% complete.
- 9.1.25 Channel C25: Open grass lined channel 20 metres wide with 450mm diameter low flow pipe between two Sydney Road crossings at Kilacloran. Total length 600m. 0% complete.
- 9.1.26 Channel C26: Open grass lined channel 5 metres wide with 450mm diameter low flow pipe between Raglan Creek and Traffic Relief Route at Kilacloran West. Total length 460m. 0% complete.
- 9.1.27 Channel C27: Open grass lined channel 20 metres wide with 450mm diameter low flow pipe between Sydney Road and Adrienne Street. Total length 1500m. 0% complete.
- 9.1.28 Channel C28: Open grass lined channel 20 metres wide with 450mm diameter low flow pipe between Adrienne Street and Napoleon Street. Total length 620m. 100% complete.
- 9.1.29 Channel C29: Open grass lined channel 10 metres wide between Toronto Street and Levee at BIP. Total length 850m. 100% complete.
- 9.1.30 Channel C30: Open grass lined channel 20 metres wide between Railway Viaduct and White Rock Road. Total length 1500m. 75% complete.
- 9.1.31 Channel C31: Open grass lined channel 20 metres wide between White Rock Road and O'Connell Road. Total length 300m. 0% complete.
- 9.1.32 Channel C32: Open grass lined channel 10 metres wide with 450mm diameter low flow pipe between O'Connell Road and Basin B15. Total length 1100m. 0% complete.
- 9.1.33 Channel C33: Open grass lined channel 5 metres wide with 450mm diameter low flow pipe associated with Basin B14. Total length 950m. 0% complete.
- 9.1.34 Channel C34: Open grass lined channel 5 metres wide with 450mm diameter low flow pipe upstream of Basin B15. Total length 500m. 0% complete.
- 9.1.35 Channel C35: open grass lined channel 12.5m wide between White Rock Road and the Water Filtration Plant weir on the Macquarie River. Total length 1915m. 0% complete.

9.1.36 Channel C36: open grass lined channel 22.5m wide between White Rock Road and the Macquarie River. Total length 1550m. 0% complete.

9.2 Retarding Basins

9.2.1 Basin B1: Retarding Basin near "Fairfield", Laffing Waters Lane

Storage: 16,000 cu.m

Outlet: 3 x 1200mm diameter pipe

0% complete

9.2.2 Basin B2: Retarding Basin upstream of Wentworth Drive

Storage: 16,000 cu.m

Outlet: 2 x 900mm diameter pipe

0% complete

9.2.3 Basin B4: Retarding Basin at Sandy Creek culvert under Marsden Lane

Storage: 16,000 cu.m

Outlet: 3 x 1050mm diameter pipe

0% complete

9.2.4 Basin B5: Retarding Basin - Oaksland No. 3

Storage: 20,000 cu.m

Outlet: 2 x 900mm diameter pipe

0% complete

9.2.5 Basin B6: Retarding Basin Illumba Way

Storage: 20,000 cu.m

Outlet: 2 x 900mm diameter pipe

100% complete

9.2.6 Basin B7: Retarding Basin Oaksland No. 1

Storage: 11,000 cu.m

Outlet: 2 x 900mm diameter pipe

0% complete

9.2.7 Basin B9: Retarding Basin – Stephens Lane

Storage: 80,000 cu.m

Outlet: 3 x 900mm diameter pipe

100% complete

9.2.8 Basin B11: Retarding Basin – Bonner Street Kilacloran

Storage: 16,000 cu.m

Outlet: 1350 + 1050mm diameter pipes

40% complete

9.2.9 Basin B13: Retarding Basin – Bathurst Industrial Park

Storage: 18,000 cu.m

Outlet: 2 x 750mm diameter pipe

25% complete

9.2.10 Basin B14: Retarding Basin - corner Lee Street and O'Connell Road

Storage: 38,000 cu.m

Outlet: 1200mm diameter pipe

0% complete

9.2.11 Basin B15: Retarding Basin - O'Connell Road

Storage: 38,000 cu.m

Outlet: 1200mm diameter pipe

0% complete

9.3 Water Quality Control Structures

- 9.3.1 Water Quality Control Pond P1 Natural system of lagoons on Raglan Creek from Greenacres Turf Farm downstream. No cost involved.
- 9.3.2 Water Quality Control Pond P2 off Channel C9. 100% complete.
- 9.3.3 Water Quality Control Pond P3 near Railway Viaduct. 0% complete.
- 9.3.4 Water Quality Control Pond P4 at Adrienne Street. 0% complete.
- 9.3.5 Water Quality Control Pond P5: off Channel C35. 0% complete.
- 9.3.6 Water Quality Control Pond P6: off Channel C36. 0% complete.
- 9.3.7 Gross Pollutant Trap G1 near St Pats Sporting Club. 0% complete.
- 9.3.8 Gross Pollutant Trap G2 near Rosemont. 0% complete.

- 9.3.9 Gross Pollutant Trap G3 with oil trap at Lee Street Kelso. 0% complete.
- 9.3.10 Gross Pollutant Trap G4 with oil trap at Adrienne Street. 0% complete.
- 9.3.11 Gross Pollutant Trap G5 with oil trap— at BIP. 0% complete.
- 9.3.12 Gross Pollutant Trap G6 with oil trap at O'Connell Road. 0% complete.

9.4 Road Culvert Crossings

9.4.1 Road Culvert Crossing R1 – Hereford Street

Storage: 135,000 cu.m

2x: 3 x 3300 x 900mm diameter RCBC

100% complete

9.4.2 Road Culvert Crossing R2 – Stephens Lane

Storage: 132,000 cu.m

Outlet: 3 x 900mm diameter pipe

100% complete

9.4.3 Road Culvert Crossing R3 – Church Lane

Storage: 46,000 cu.m

Outlet: 3 x 900mm diameter pipe

0% complete

9.5 Drainage Strategy Plan S1

Hydrologic and hydraulic analysis, identification of required works and preparation of Section 7.11 Contributions Plans for Raglan Creek catchment. 100% complete.

9.6 Administration and Management costs

Studies undertaken to determine the design and costings of works as well as to review the development and demand assumptions of the contributions plan for Sawpit Creek catchment.

Estimate 1% of all development contributions payable.

At the commencement of the Plan, it is estimated that the maximum contributed from the Plan towards the administration and management costs is \$102,184.

10 Works Program

The nature, extent and location of future developments within the study area are difficult to predict and hence it is impractical to produce a precise works program. Council intends, however, to expend all money levied for drainage works within three to five years of its receipt and to carry out these works in areas as close as possible to the relevant developments where the maximum benefit can be obtained.

11 Material Public Benefits

Where a developer wishes, or is required by a condition of development consent, to carry out trunk drainage works, as contained in the Schedule of Works in this plan, in conjunction with a development Council may accept the value of these works and any land contribution in lieu of monetary payment. Where the value of such works differs from the contribution value the difference will be made up be monetary contribution or reimbursement from available Section 7.11 Contribution Funds held by Council.

12 Adjustment of Contributions

To ensure that the value of contributions for the construction and delivery of infrastructure is not eroded over time by inflation or significant changes in land values, this Plan authorises that the published Section 7.11 Contribution Rates for a development will be adjusted at the time of consent, and again at the time of payment.

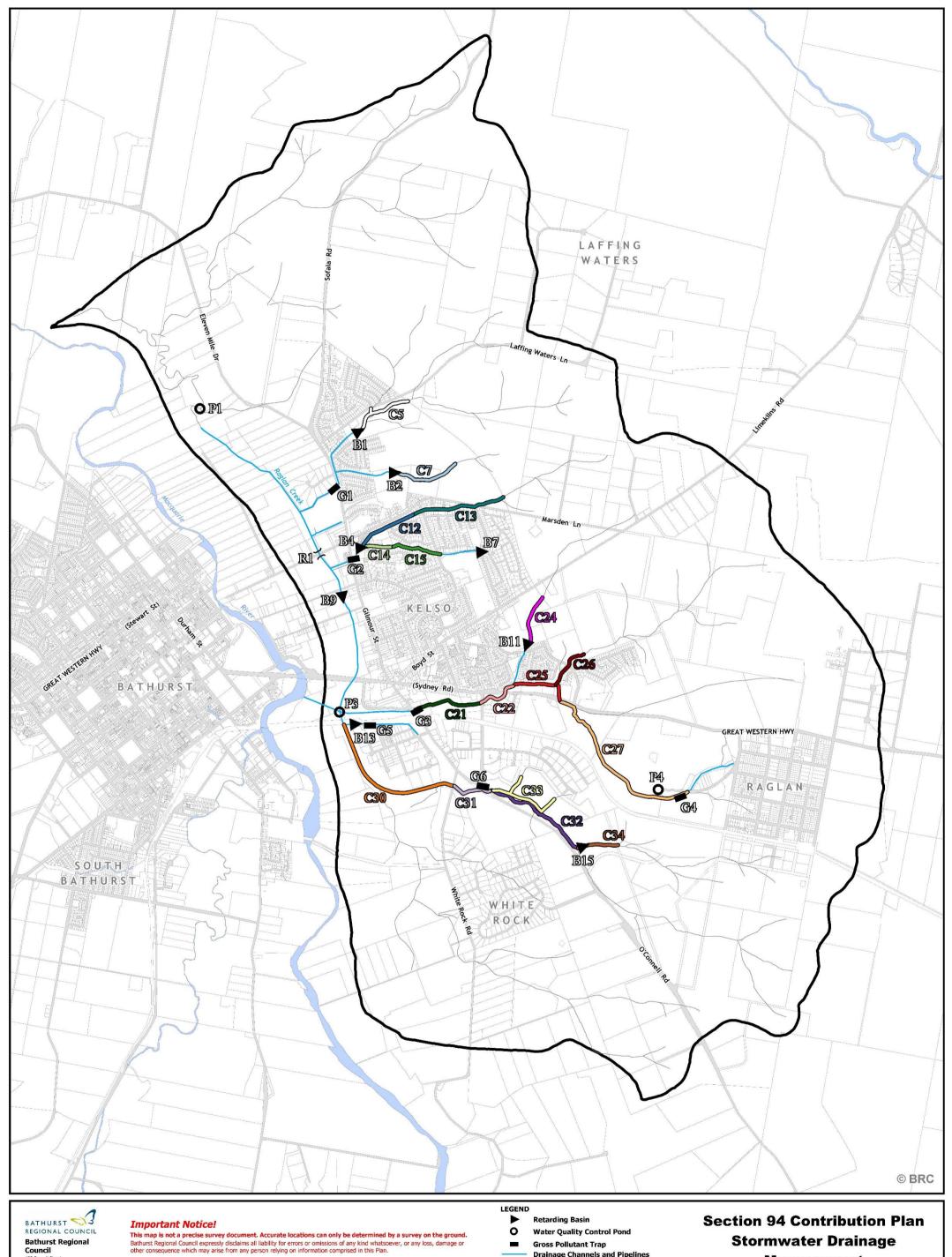
Council will make changes to the Section 7.11 Contribution Rates set out in this Plan to reflect quarterly movements in the Consumer Price Index (All Groups Index) for Sydney, as published by the Australian Bureau of Statistics. The Section 7.11 Contribution imposed on a development will reflect the latest, indexed contribution rates authorised by this Plan. The latest Contribution Rates will be published on Council's website.

13 Conclusion

The contribution rates set out in Section 7 Summary of Contribution Rates are considered reasonable and therefore can be imposed as a monetary condition pursuant to Section 7.11 of the *Environmental Planning and Assessment Act 1979*.

14 Amendments

Plan Title	Amendments	Adoption Date	Amendment Number
Section 94 Development Contributions Plan, Raglan Creek Stormwater Drainage Management	Insertion of Section 5A.1, 5A.2 & 8.4 relating to the Plan Management and Administration.	14 December 2016	1
Section 7.11 Development Contributions Plan Raglan Creek Stormwater Management (Amendment 2)	Update legislative references. Allow for quarterly indexation.	16 October 2024	2



Council
158 Russell Street
Bathurst
NSW
2795
Telepthone: 02 6333 f111
Facsimilie: 02 6331 7211
Web: www.bathurst.nsw.gov.au

NORTH

Note: The colours on this Plan do not indicate landuse zones under the Bathurst Regional (Interim) Local Environment Plan 2005.

This map was produced on the GEOCENTRIC DATUM OF AUSTRALIA 1994 (GDA94), which has superseded the Australian Geographic Datum of 1984 (AGD66/84). Heights are referenced to the Australia Height Datum (AHD) heights. For most practical purposes GDA94 coordinates and satellite derived (GPS) coordinates based on the World Geodetic Datum 1984 (WGS84) are the same.

Drainage Channels and Pipelines Catchment Area

UNCOMPLETED CHANNELS:

C5 C14 C26 C33 C7 C21 C27 C27 C12 C22 C30 C13 C24 C31 C14 C25 C32

Management

RAGLAN CREEK

Map Scale: 1:35,000 at A3