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Ordinary Council Meeting

15 June 2021

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SUMMARY REPORT:

S64 Developer Charges Audit: Goulburn Mulwaree Stormwater Developer Services Plans

March 2021

Document history

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Audit of Goulburn Mulwaree Council Stormwater Development Service Plan

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Executive Summary

An Audit was conducted of Cardno's Developer Services Plan of Goulburn Stormwater against the s64 Developer Charges requirements. This Audit has been provided to Cardno for checking.

The Audit found that the Developer Services Plan complies with the s64 Developer Charges Requirements.

Contents

1 Introduction

1.1 Background

Goulburn Mulwaree Council has an existing Developer Services Plan covering water, sewerage and stormwater which commenced in late 2017[1]. Goulburn Mulwaree Council commissioned Cardno (NSW/ACT) Pty Ltd in 2020 to prepare a stormwater Developer Services Plan to replace the stormwater component only of the existing plan. This audit is of this new stormwater plan.

This DSP has been prepared for three development areas served by the Council:

- Clyde Street
- Mary's Mount; and
- City Wide.

These three service areas have been allocated to two DSP Areas, Clyde Street to DSP Area A and the other two to DSP Area B. Area A is a new development area greater than 500 lots located south of the Wollondilly River to the North West of the city. Area B is includes Mary's Mount which is a 500 lot development area to the north of the Wollondilly River between Crookwell Road and Middle Arm Road. It also includes the City Wide

Cardno (NSW/ACT) Pty Ltd prepared the Developer Service Plan for Goulburn Mulwaree Council which is the subject of this Audit. The 2017 DSP continues in force except in regard to stormwater, and this audit does not cover any part of that continuing plan, but assumes that the stormwater component is fully replaced by the new plan.

2 Approach to Audit

Local Water Utilities are required under the NSW Government Developer Charges Guidelines [2] (hereafter, the Guidelines) to have all Development Servicing Plan (DSP) documents independently audited before public exhibition.

The purpose of the Audit is ensure that any water and sewerage or stormwater developer charges comply with the Guidelines. The Guidelines, in turn, have been designed to ensure that developer charges are efficient and fair. Developer charges should fund the needed infrastructure for the new development, whilst providing a signal to encourage an efficient pattern of that development and be fair to the parties being charged[3].

The Guidelines focus on water supply and sewerage developer charges (for instance, there is no worked example for stormwater). Nevertheless, the Guidelines have been able to be applied to stormwater by applying the guideline principles.

Audit Steps

That Audit is required to address sixteen separate subject areas in a checklist[4], each with a number of components. Broadly speaking these items can be grouped into four areas:

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[1] Goulburn Mulwaree (2017)Council Development Servicing Plan for Water Supply, Sewerage and Stormwater Final September 2017, Hunter H2O

[2] Pg. vii, 2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater

[3] Pg. iii *ibid.*

[4] Pg. 87-98, Appendix D, Water Supply and Sewerage Developer Charges Checklist, *ibid.*

Preliminaries:

1. Are the DSP requirements correctly identified?
2. Is the content of the Plan correctly summarised?
3. Are the administrative procedures (eg. Payment periods) adequate?

Services Areas Planning:

4. Are the Service Areas for the plans correctly identified?
5. Are the Levels of Service in the plans justified and in line with community expectations?
6. Is the design used consistent with the appropriate standards (eg. The IWCM Strategy and the technical manuals)?
7. Within each Service Area, are the projections for equivalent tenements (numbers of connections) appropriate?
8. For each Service Area, is the calculation of capital charge appropriate (eg. Includes the needed assets, excludes irrelevant assets, uses the standard costing and asset valuation methodologies, use the correct algorithm for aggregating these values for the size of the Local Water Utility, etc)?

Development Services Plans:

9. When agglomerating these service areas into each DSP, has the correct algorithm and table format been used?
10. Where a reduction amount is calculated, has the correct method been used for the scale of the Local Water Utility and has it been used correctly?
11. Has the correct Developer Charge calculation been used (eg. Has the formula been used correctly, and if manual adjustments are required - to say, avoid stranded assets, is this justified.)

Reporting and consultation:

12. Has the correct DSP report format been used and does it contain the critical information required?
13. Has the document been Audited by an approved auditor and is the Auditor's report provided?
14. Has the correct exhibition of the DSPs been offered with sufficient notice to be useful, and has the community response been included in the DSPs?
15. Has the final document included all appropriate feedback , and noted where this has been done, while still including appropriate content (eg. Nothing missing from the Draft)?

Implementation:

16. How has the final document been adopted (eg. Registered with DPI Water and entered in Operational Plan)

These steps from the checklist were conducted in parallel for the two service areas within the Plan. Thus the reporting looks at the two areas in parallel, at each Audit step.

3 Audit Findings

The following are the audit findings. More detailed calculations are in the working papers.

3.1 Preliminaries

1. Are the DSP requirements correctly identified?

The Development Service Plan (DSP) includes statements that it has "been prepared in accordance with the 2016 Developer Charges Guidelines" and cites the relevant legislation (Water Management Act 2000). No exemption from the requirements has been claimed according to the documentation. The DSP contain key elements of the DSP requirements, with the Audit confirming that the Table of Contents of the DSP on pages *iv* to *vi* includes all the items of the Table of Contents of the Model Development Servicing Plan Document[5] and thus referencing items 1 to 12 of the Audit checklist[6]. There are some caveats where a particular element of the requirements could not be included, or may be dated, but these are dealt with individually below.

2. Is the content of the Plan correctly summarised?

The Summary (Pg. iii) of the Plan contains the legal basis (Section 306 (3) of the *Water Management Act* 2000). There is a reference in the summary to the maps of the areas covered by the plan elsewhere in the document. There is a summary table of the developer charges. The required review period has been correctly stated.

3. Are the administrative procedures (eg. Payment periods) adequate?

The Introduction to the Plan (Pgs. 2-5) correctly replicates and modifies for the specifics, the mandatory five paragraphs from the Proforma Plan[7]. There are two extra paragraphs addressing methodology, Net Present Value and Equivalent Tenement, which are appropriate. Sections addressing issues required under Section s2.5-2.9 of the Guideline, such as allowance for a time limit for payment to be made in the notice of determination or separate notice, works in kind and dispute resolution. All are appropriate and are more than adequate.

3.2 Services Areas Planning

4. Are the Service Areas for the plans correctly identified?

Checking the service areas in Section 12 (Pgs. 22-30) of the Plan, it was confirmed that the areas match the planned service systems. There is extensive mapping provided, of the three individual Service Areas under the two DSP Areas, of the existing services in each area and of the future works in Clyde St. and Marys Mount. The mapping is internally consistent and comprehensive for the town area.

5. Are the Levels of Service in the plans justified and in line with community expectations?

The Levels of Service (LOS) on Pg. 10 are referenced to Council's Water Supply and Wastewater Strategic Business Plan[8]. This Business Plan is about a decade old, and may no longer accurately reflect the business requirements for stormwater in the Council area (for example, the Stormwater KPIs expired in 2013). The Business Plan makes extensive references to stormwater, but does not include specific LOS targets. The LOS targets provided in the DSP appear to have been sourced from the previous DSP[9], which as noted in the Introduction, remains current for non-stormwater infrastructure. Despite this, the specific targets seem unlikely to have changed and are appropriate. For instance, average recurrence intervals (of overflows?) for trunk mains are set at 1 in 100 years, which is a high standard. It would be useful to see the performance against those standards measured and reported.

[5] Pg. 100-101, Appendix E, Model Development Serving Plan Document, *ibid*
[6] Pg. 89-95, Appendix D, Water Supply and Sewerage Developer Charges Checklist, *ibid*
[7] Pg. 103-101, Appendix E, Model Development Serving Plan Document, *ibid*
[8] Goulburn Mulwaree Council (2011) Water Supply and Wastewater Strategic Business Plan, GHD
[9] Pg. 15, Table 5.3, Goulburn Mulwaree Council (2017) Water Supply, Development Servicing Plan for Water Supply, Sewerage and Stormwater, September, Hunter H2O

6. Is the design used consistent with the appropriate standards (eg. The IWCM Strategy and the technical manuals)?

There is no specific reference to the Integrated Water Cycle Management (IWCM) Strategy or the Total Asset Management Plan. The IWCM Strategy Study[10] is more than a decade old. Although the IWCM Strategy Study did consider a number of stormwater options as part of integrated water cycle management, none of these were shortlisted as a potential water source, with the focus of the strategy on waste water reuse (IWCM Strategy Pg. A2). It may be that an update of this strategy may prioritise stormwater as a source, but on the basis of current policy, the Stormwater DSP, which makes no mention of reuse, is consistent with the IWCM Strategy. The lack of a connection between system water yield and stormwater also means that there is not a need to evaluate stormwater yield from the IWCM and the related Yield Study[11] within the DSP.

A reference to why these relevant policy documents do not have a specific consequence for the DSP should be inserted. The suggested text is:

"Integrated Water Cycle Management (IWCM) Strategy of council does not currently include recommended stormwater options, though these were considered, but not shortlisted. As such the DSP is consistent with the IWCM, though there are no consequences for the DSP. "

There is appropriate reference to Design Manuals throughout the DSP.

7. Within each Service Area, are the projections for equivalent tenements (numbers of connections) appropriate?

The Equivalent Tenement (ET) projections are provided (Pg. 12 & 13) for 1996, at present and for 30 year projections as required, at the LGA level and for the Service Areas. The growth rates used seem conservative and appropriate for a regional town. The specific growth rates used for The Clyde Street and Marys Mount service areas reflect the higher growth expected in such areas. The areas are expected to be fully developed within 10 to 12 years. The totals of the ET for the Service Areas reconcile with the LGA totals.

8. For each Service Area, is the calculation of capital charge appropriate (eg. Includes the needed assets, excludes irrelevant assets, uses the standard costing and asset valuation methodologies, use the correct algorithm for aggregating these values for the size of the Local Water Utility, etc)?

The assets as far as can be seen are appropriately included and excluded. Without a Council 30 Year Total Asset Management Plan to audit against, the assets are hard to test for appropriateness, but the costings seem within benchmarks.

For instance, the detailed Capital Charge Tables (Pg. 45) the standard Present Value algorithm has been used appropriately. Underlying this, justification of using accepted hydraulic modelling to determine which assets would need upgrading has been undertaken.

3.3 Development Services Plans

9. When agglomerating these service areas into each DSP, has the correct algorithm and table format been used?

Agglomeration is allowed for and has been applied appropriately with the correct table format.

10. Where a reduction amount is calculated, has the correct method been used for the scale of the Local Water Utility and has it been used correctly?

The reduction amount has been applied correctly.

[10] Goulburn Mulwaree Council (2010) IWCM Strategy Study Final Report Hunter Water Australia
[11] Goulburn Mulwaree Council (2008) Goulburn Water Supply: Third Yield Study

11. Has the correct Developer Charge calculation been used (eg. Has the formula been used correctly, and if manual adjustments are required - to say, avoid stranded assets, is this justified.)

The Developer Charge Calculation is appropriate. The formula has been applied correctly.

The Council will not apply a cross-subsidy, having elected to apply the maximum amount.

3.4 Implementation

16. How has the final document been adopted (eg. Registered with DPI Water and entered in Operational Plan)

This yet to be completed stage will be checked at the appropriate time.

4 Audit Conclusion

The Plans subject to the queries above, pass the Audit standard.

5 References

2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater

Goulburn Mulwaree Council (2010) IWCM Strategy Study Final Report Hunter Water Australia

Goulburn Mulwaree Council (2008) Goulburn Water Supply: Third Yield Study

Goulburn Mulwaree Council (2011) Water Supply and Wastewater Strategic Business Plan, GHD

Goulburn Mulwaree Council (2017) Water Supply, Development Servicing Plan for Water Supply, Sewerage and Stormwater, September, Hunter H2O

Appendix A

Appendix Working Papers

Development Service Plan

Goulburn Stormwater

360776

Prepared for
Goulburn Mulwaree Council

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V00-07	*09/09/2020*	*Issued for Audit*	*GK*	*GK*
V01-00	01/06/2021	Issued for Adoption	GK	GK

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Summary

This Development Servicing Plan (DSP) covers Stormwater developer charges in regards to the City Wide, Clyde St and Marys Mount development areas served by Goulburn Mulwaree Council.

This DSP has been prepared in accordance with the 2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater issued by the Minister for Lands and Water, pursuant to Section 306 (3) of the *Water Management Act, 2000.*

The area covered by this DSP, and the existing and proposed works serving the area, are shown on the plans in Section 12.

The timing and expenditure for works serving the area covered by this DSP are shown in Section 4 and listed in Appendix A.

Levels of service to be provided for Marys Mount DSP area are summarised in Section 5.

The stormwater developer charges for the areas covered by this DSP document have been determined as follows:

Table 1-1 Developer Charges

Service	DSP Name	Service Area	Calculated Developer Charge ($ per ET)	Adopted Developer Charge ($ per ET)
Stormwater	**DSP Area A**	▪ Clyde St	$9,363	$9,363
	DSP Area B	▪ Marys Mount ▪ City Wide	$3,613	$3,613

Developer charges relating to this DSP will be reviewed after a period of 4 to 8 years, in accordance with the guidelines.

In the period between any review, developer charges will be adjusted annually on the basis of the movements in the CPI for Australia ABS: Consumer Price Index (Sydney), excluding the impact of GST.

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

Background information containing all the critical data including calculation models behind Marys Mount Stormwater DSP is available on request from Council.

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Figures

1 Introduction

Section 64 of the *Local Government Act, 1993* enables a local government council to levy developer chargers 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, sewerage and/or stormwater developer charges to be levied on development areas utilising a water utility's water supply, sewerage and/or stormwater infrastructure.

This DSP document covers stormwater infrastructure developer charges in regard to the City Wide, Clyde St and Marys Mount development areas served by Goulburn Mulwaree Council (GMC).

This DSP document has been prepared in accordance with the 2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater issued by the Minister of Lands and Water, pursuant to Section 306 (3) of the *Water Management Act, 2000*.

This DSP document supersedes any other requirements related to stormwater developer charges for the areas covered by this DSP. This DSP takes precedence over any of GMC's code or policies where there are any inconsistencies relating to stormwater developer charges.

The developer charge calculation is based on the net present value (NPV) approach, which effectively means the funds committed to developing infrastructure for a development area are fully recovered from the development. The calculation is based on the formula:

$$Developer\ Charge = Capital\ Charge - Reduction\ amount$$

Where:

- Capital charge is the expenditure required over time to service the development area
- Reduction amount is the net income received from providing the services to the development area

The calculations are expressed on a per unit basis, the Equivalent Tenement (ET), which is defined as the annual demand a detached residential dwelling will place on the infrastructure.

2 Administration

2.1 DSP Name and Area Covered

The service area boundaries with this DSP area are defined by the extent of the stormwater network within the LGA. These boundaries capture the existing and future developments served by GMC. Table 2-1 outlines the service areas.

Table 2-1 DSP Stormwater Service Area

DSP Name	Area Covered
City Wide	This service area is located in Goulburn and extends to all the existing developments, excluding those in the other service areas. This area is shown in Figure 12-1 Zoning Plan City Wide .
Clyde St	This service area is a new development area greater than 500 lots and is located to the west of the town in Goulburn, south of the Wollondilly River. This area is shown in Figure 12-2 Zoning Plan Clyde St.
Marys Mount	This service area is a new development area greater than 500 lots and is located to the north of Wollondilly River between Crookwell Road and Middle Arm Road in Goulburn. This area is shown in Figure 12-3 Zoning Plan Marys Mount.

Stormwater contribution rates for the service area of Marulan are not covered in this DSP plan. Please refer to Councils website to obtain a copy of *Development Servicing Plan for Water Supply, Sewerage and Stormwater 2017*.

2.2 Effective Date of the DSP

This Development Servicing Plan:

- Was adopted by Goulburn Mulwaree Council on the **1st June 2021**.
- Has a commencement date of the **1st July 2021**.

This DSP repeals all pre-existing developer charges related to stormwater for the service areas listed in Table 2-1.

2.3 Payment of Developer Charges

Developer charges will be determined and levied in accordance with the provisions of this DSP document at the time of considering an application for a compliance certificate under Section 305 of the *Water Management Act 2000* or a construction certificate under Section 109 of the *Environmental Planning and Assessment Act 1979* or at the time of issuing a notice or other form of written advice, e.g. under the *SEPP (Exempt and Complying Development Codes) 2008*. The time limit for payment of developer charges will be included in the notice of determination or will be advised to the developer by a separate notice. Payment of developer charges is usually prior to the issue of 307 Certificate or Subdivision Certificate. The amount of any developer charges not paid within the specified time limit will lapse. Any subsequent determination of developer charges will be made in accordance with GMC's then current DSP.

However, local water utilities (LWU) may elect to determine developer charges at the time of considering a development application. Such a determination would accompany the development consent, and must specify a time limit for payment as indicated above. If the developer charges are paid in full within the specified time limit, subject to the development consent remaining valid, no further adjustment to the developer charges may be made at the time of considering an application for a Compliance Certificate. However, if the developer charges had not been paid in full within the time limit, the developer charges will be determined by the LWU at the time of considering an application for a Compliance Certificate, using the LWU's then current DSP document.

All new properties and properties with an increase in impervious area are liable for payment of developer charges for stormwater. Credit for existing use is applied in the calculation of the ET loadings, as the developer

charges are levied for additional ET loading only. For example, the first lot in a residential subdivision is exempt from developer charges where the lot already contributes runoff from an existing dwelling and associated impervious areas to the stormwater system. Properties without existing impervious area do not receive credit for stormwater charges.

Payment of development contributions should be finalised at the following stages:

- Development applications involving subdivision – prior to the release of the subdivision certificate
- Development applications involving building work – prior to the release of the occupation certificate
- Development applications involving both subdivisions and building work (e.g. integrated housing developments) – prior to the release of the construction certificate
- Development applications where no construction certificate is required - prior to commencement of the approved development
- Prior to release of complying development certificate

2.4 Deferred / Periodic Payments

The contributions levied by this Plan are required to provide service infrastructure to new development as it comes on line. To fund completion of this work, all contributions must be paid prior to release of any subdivision or construction certificate.

Consideration will not be given to deferred, staged or periodic payments in order to settle contributions.

2.5 Works in Kind

The Council may accept an offer by the applicant to make a contribution by way of an 'in-kind' contribution or through provision of a material public benefit.

The offer may only be accepted if the applicant satisfies the Council that:

- Payment of the contribution in accordance with the provisions of this DSP is unreasonable or unnecessary in the circumstances of the case
- The 'in-kind' contribution will not prejudice the timing or manner of the provision of any particular facility or service for which the contribution is required
- The value of the works to be undertaken is at least equal to the value of the contribution assessed in accordance with this DSP.

2.6 Works on Council Land

The installation of a stormwater infrastructure on Council land or land proposed to be dedicated to and ultimately maintained by Council will be considered in the following circumstances:

- The development serviced by the facility is significant in size and/or involves multiple owners
- The site for the facility is available for use by Council for operational purposes

Permission for the installation of stormwater treatment infrastructure on Council land or land proposed to be dedicated to Council must be sought from and provided by Council for each instance. This would ordinarily occur as part of consideration of a development application. Council permission would be contingent upon the developer entering into a Planning Agreement with Council.

An application would be considered in the context of the public benefit that may result from this infrastructure on public land or that may result from the development itself. The following is for guidance for such application.

In any quantitative assessment Council will take into account the following:

- the value of the Council land that is being utilised for the infrastructure
- the capitalised costs to Council of operating, maintaining and renewing the infrastructure based on a 30-year life

Direct Works to be Carried out by the Developer

Construction

All construction shall be arranged by the developer at their own cost. This shall include but not be limited to: survey, design, legal fees, earthworks, access road, discharge arrangements, fencing, and landscaping.

Initial Maintenance

The initial maintenance period shall be carried out by the developer at their own cost. The minimum duration for this period is 2 years from the date of the completion of the final stage of the development being serviced by the facility.

Contributions Required from the Developer

Due to the use of public land, and future operation and maintenance costs to be incurred by Council, the developer contributions listed below apply. These contributions are payable at Subdivision Certificate stage and are separate and additional to other developer contributions.

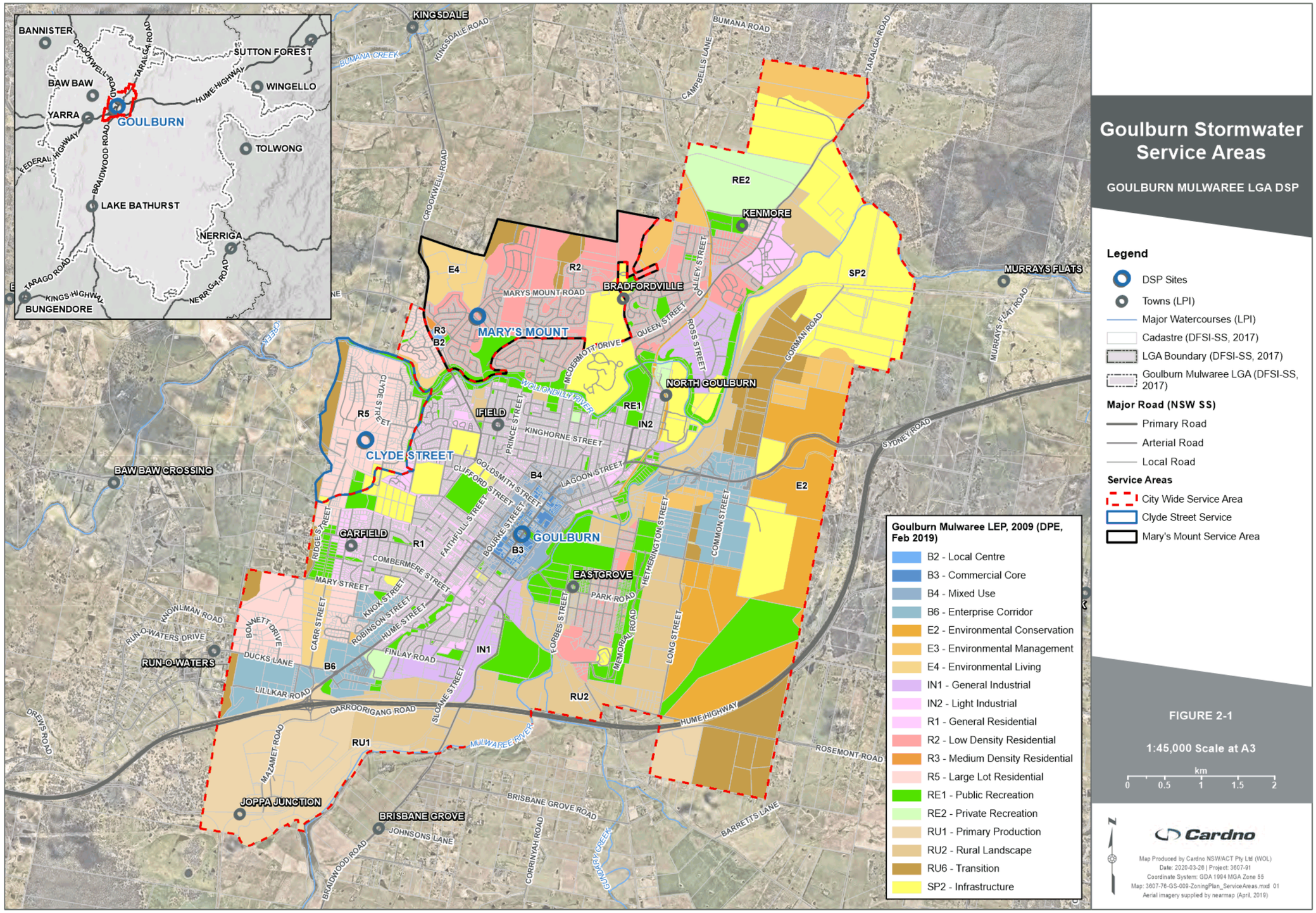
- Compensation for Use of Land
- If the stormwater infrastructure is proposed on land owned by Council, the developer shall pay to Council compensation for the land to be used. A valuation (by agreed certified valuer) shall be carried out at the developer's cost.
- Capitalised Operation and Maintenance Costs
  - The developer shall contribute the present value of future operation and maintenance costs for the facility over a period of 30 years (subsequent to the initial maintenance period) at the discount rate equal to the 30-year Treasury bond rate applicable at the time of the Planning Agreement initiation.
- Capitalised Renewal Costs
  - The developer shall contribute the present value of the future renewal of the facility after an assumed life of 30 years at the discount equal to the 30-year Treasury bond rate applicable at the time of the Planning Agreement initiation.

2.7 Dispute Resolution

Disputes will be resolved in accordance with Section 2.9 of the Guidelines, which states:

1. A developer who is dissatisfied with how a LWU has calculated a developer charge for his development may lodge a formal complaint to the LWU
2. The general manager of the LWU is to review the complaint or cause it to be reviewed;
3. If the developer is not satisfied with the general manager's response, he may refer the complaint to the Ombudsman [note: technical matters are discussed under (4) below]
4. If the complaint is on technical matters or issues of interpretation of these guidelines, the developer may refer the complaint to DPI Water. DPI Water will respond to the complaint. Where warranted, DPI Water may refer the matter to the expert technical panel, which includes representatives from DPI Water, IPART, the NSW Water Directorate, local water utilities and the development industry, and a developer charges expert.
5. The developer, if still dissatisfied, may request that the matter be reviewed by way of arbitration by an arbitrator, who is to be appointed by agreement between the developer and the LWU
6. The decision of the arbitrator is binding on both the developer and LWU
7. Costs of the arbitration are to be borne equally by the developer and the LWU
8. The Commercial Arbitration Act 2010 applies to any such arbitration

GMC is not a member of the Electricity and Water Ombudsman (EWON).


BANNISTER
SUTTON FOREST
BAW BAW
WINGELLO
YARRA
GOULBURN
TOLWONG
LAKE BATHURST
NERRIGA
BUNGENDORE
KINGSDALE
BUMANA CREEK
BUMANA ROAD
CAMPBELLS LANE
TARALGA ROAD
CROOKWELL ROAD
HUME HIGHWAY
FEDERAL HIGHWAY
BRAIDWOOD ROAD
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NERRIGA ROAD
RE2
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CUFFORD STREET
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GARFIELD
R1
COMBERMERE STREET
FAITHFULL STREET
BOURKE STREET
GOULBURN
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Goulburn Mulwaree LGA (DFSI-SS, 2017)
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Arterial Road
Local Road
Service Areas
City Wide Service Area
Clyde Street Service
Mary's Mount Service Area
Goulburn Mulwaree LEP, 2009 (DPE, Feb 2019)
B2 - Local Centre
B3 - Commercial Core
B4 - Mixed Use
B6 - Enterprise Corridor
E2 - Environmental Conservation
E3 - Environmental Management
E4 - Environmental Living
IN1 - General Industrial
IN2 - Light Industrial
R1 - General Residential
R2 - Low Density Residential
R3 - Medium Density Residential
R5 - Large Lot Residential
RE1 - Public Recreation
RE2 - Private Recreation
RU1 - Primary Production
RU2 - Rural Landscape
RU6 - Transition
SP2 - Infrastructure
FIGURE 2-1
1:45,000 Scale at A3
km
0 0.5 1 1.5 2
Cardno
Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2020-03-26 | Project: 3607-91
Coordinate System: GDA 1994 MGA Zone 55
Map: 3607-76-GS-009-ZoningPlan_ServiceAreas.mxd 01
Aerial imagery supplied by nearmap (April, 2019)

3 Demographic and Land Use planning information

3.1 Growth Projections

Growth projections for Goulburn Mulwaree Local Government Area (LGA) population are show in Table 3-1. These projections are from 2020 to 2050, which is GMC's current 30 year planning horizon. The population in January 1996 (ie.1995/96) is also indicated. The population projections are for the entire LGA and include un-serviced villages and rural areas.

Projected population data is based off *Profile ID, 2019* which gives the official population of Goulburn Mulwaree Council area as of the 30th June 2017, as 30,556. The population growth rates from present day over the 30-year forecast horizon has determined from a combination of sources, including *The Tableland Regional Community Strategic Plan 2016-2036*, the NSW Government's Planning and Environment department *2016 NSW population projections data* and the *Profile ID* data.

Table 3-1 Projected Population Growth

Year	Population (Goulburn)	Growth Rate (% p.a.)
1995/96	25,562	0.67%
2019/20	31,797	1.16%
2020/21	32,167	1.16%
2021/22	32,499	1.03%
2022/23	32,835	1.03%
2023/24	33,174	1.03%
2024/25	33,517	1.03%
2025/26	33,863	1.03%
2026/27	34,197	0.99%
2027/28	34,535	0.99%
2028/29	34,875	0.99%
2029/30	35,219	0.99%
2030/31	35,567	0.99%
2031/32	35,888	0.90%
2032/33	36,212	0.90%
2033/34	36,539	0.90%
2034/35	36,869	0.90%
2035/36	37,202	0.90%
2036/37	37,538	0.90%
2037/38	37,877	0.90%
2038/39	38,219	0.90%
2039/40	38,564	0.90%
2040/41	38,912	0.90%
2041/42	39,264	0.90%
2042/43	39,618	0.90%
2043/44	39,976	0.90%
2044/45	40,337	0.90%
2045/46	40,701	0.90%
2046/47	41,068	0.90%

2048/49	41,813	0.90%
2049/50	42,191	0.90%

Growth projections for the number of Equivalent Tenements (ETs) for stormwater are shown in Table 3-2. The ET in January 1996 is also indicated. ET calculations are included in Section 7.3 of the DSP document.

Table 3-2 Projected Demand Growth for ETs

Service Area	City Wide	Clyde St	Marys Mount	Total
ETs 1996	7,803	0	0	7,803
ETs 2020	8,887	278	1,361	10,527
Projected ETs 2050	12,343	505	2,025	14,873
Total New ETs	3,456	227	664	4,346

3.2 Land Use Information

This DSP document should be read in conjunction with Goulburn Mulwaree Local Environmental Plan 2009.

Within the City Wide service area, the expected growth is mainly driven by infill development.

Clyde St is a new development area with a potential of 505 lots total. In 2004, there were a total of 65 lots approved and in 2019 there were a total of 265 lots approved. Council expects this area to be built out in approximately 10 years from the time of this report. Based on these facts, a linear growth rate was assumed and used in the calculations.

Marys Mount is a new development area with a potential of 2025 lots total. This area commenced development in 2004/05 and in 2019 there are a total of 1270 lots approved. Council expects this area to be built out in approximately 10 years from the time of this report. Based on these facts, a linear growth rate was assumed and used in the calculations.

4 Stormwater Infrastructure

The broader Goulburn Stormwater network drains to the Wollondilly River and the Mulwaree Ponds. The existing piped drainage network consists of over 100 km of pipes ranging in diameter from 150 mm to 2,100 mm. The urban drainage system also comprises detention basins, headwalls, pits and open drains. Within the Marys Mount area, the primary drainage channels are overland and involve a number of key road crossings.

The existing stormwater infrastructure servicing the City Wide, Clyde St and Marys Mount areas are shown on the plans in Section 12 of this DSP.

4.1 Existing Capital Costs

The estimated Modern Engineering Equivalent Replacement Asset (MEERA) capital cost of stormwater assets servicing the Goulburn Mulwaree Council areas covered by this DSP document are shown in Appendix A. Only those assets built in the last 30 years (cut-off date of 1989 adopted at the time of calculation) are included and reticulation assets are excluded. In this case, the distinction between reticulation and trunk mains has been assumed to be any pipe section with diameter less than or equal to 375mm is reticulation and was excluded.

The recoverable amount is calculated using the MEERA and is reduced based on two factors:

- The proportion of growth in that service area
- The percentage of the asset that services the area if the asset is shared with another area

The total MEERA cost for existing Stormwater assets in Goulburn is shown in Table 4-1.

Table 4-1 Existing Stormwater MEERA

Service Area	MEERA Value of Existing Assets	Recoverable MEERA for DSP
City Wide	$34,286,327	$3,645,384
Clyde St	$11,203,605	$2,961,214
Marys Mount	$4,658,678	$4,591,291

4.2 Future Capital Works Program

The timing and expenditure for stormwater capital works (including backlog works) serving the area covered by this DSP document are shown in Appendix A.

The capital works required was assessed through a stormwater modelling process as outlined in Appendix A. The summary of the required works is shown in the Table 4-2.

Table 4-2 Future Stormwater MEERA

Service Area	MEERA Value of Future Assets	Recoverable MEERA for DSP
City Wide	$38,442,905	$6,773,883
Clyde St	$4,723,565	$2,123,266
Marys Mount	$6,927,817	$2,271,640

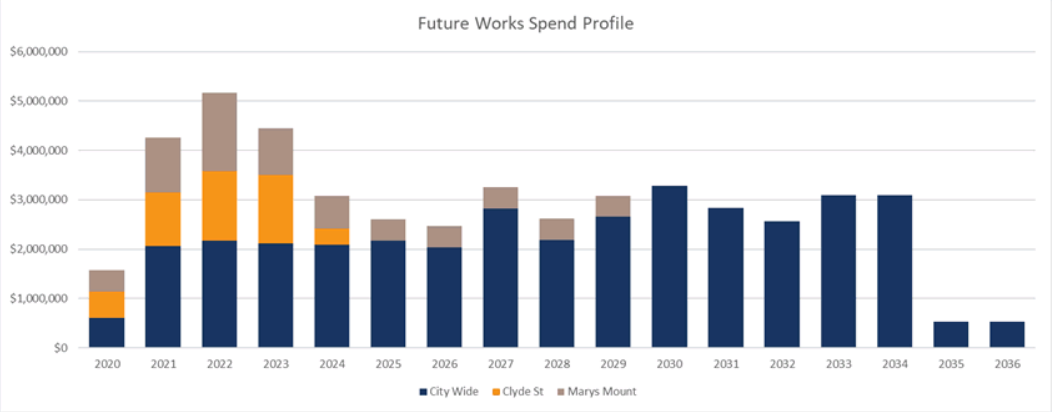


Figure 4-1 Future Works Spend Profile

4.3 Reticulation Works

The developer shall be responsible for the full cost of the design and construction of stormwater reticulation works within subdivisions. For this DSP, reticulation assets are defined as all assets less than 375mm diameter.

5 Levels of Service

System design and operation are based on providing the following levels of service (LoS). Typical levels of service are outlined below. Further information on levels of service is available from:

- GMC's Water Supply and Sewerage Strategic Business Plan (GHD, 2011)
- NSW Water and Sewerage Strategic Business Planning Guidelines, NSW Office of Water, July 2011, (available at www.water.nsw.gov.au).

5.1 Stormwater

The LoS that apply to GMC's stormwater system are the targets that GMC aims to meet. These targets are not intended as a formal customer contract. GMC's current LoS for stormwater are outlined in Table 5-1.

Table 5-1 Level of Service for Stormwater

Description	Unit	Target LoS
Community Levels of Service		
Minimal disruption due to a bridge/culvert maintenance	% Satisfaction	> 90% Satisfaction
Satisfactory provision of waterway crossing during flooding	Number / annum	13
Provide safe drainage systems free from preventable hazards	Number of injuries or property damage	0
Technical Levels of Service		
Conveyance capacity – trunk mains	Average recurrence interval	1 in 100 year
Conveyance capacity – collection network	Average recurrence interval	1 in 5 year
Carry out routine maintenance as scheduled	Number / annum	3 times / annum
Ensure access and reduced flooding etc. by pre-plan maintenance	Number of access issues per year	0
Provide Stormwater services in a cost effective manner	% budget overrun	No budget overrun
Provide clear safety signage	Number of defects per annum	0

6 Design Parameters

6.1 Stormwater

Investigation and design of stormwater system components is based on the following documentation:

- Goulburn Mulwaree Council Stormwater Drainage Design Handbook (March 2013)
- Council Standards for Engineering Works Policy
- Council Standards for Engineering Works Preface and Supplementary Notes
- Australian Rainfall and Runoff (ARR) 2016
- Water Sensitive Urban Design Report – Clyde Street (August 2004)
- Water Sensitive Urban Design Report – Marys Mount (August 2003)
- CBD Master Plan (December 2009)
- Transport Asset Management Plan (April 2017)

7 Developer Charge Calculation – Stormwater

7.1 Summary

The developer charges for the areas covered by this DSP document are summarised in Table 7-1.

Table 7-1 Summary of Proposed Stormwater Developer Charges

DSP Area	Capital Charge ($ per ET)	Reduction Amount ($ per ET)	Calculated Maximum Developer Charge ($ per ET)	Adopted Developer Charge ($ per ET)
DSP Area A ▪ Clyde St	$9,207	-$156	$9,363	$9,363
DSP Area C ▪ Marys Mount ▪ City Wide	$3,457		$3,613	$3,613

These amounts have been calculated as per *The Guidelines* and the calculations are shown in the following sections.

7.2 Service Areas

The stormwater service areas and the basis of determining the service areas are as follows:

Table 7-2 Stormwater Service Areas

Service area	Basis of determining the service area
City Wide	Captures the existing stormwater network within the town of Goulburn
Clyde St	New Development area of over 500 lots
Marys Mount	New Development area of over 500 lots

7.3 Equivalent Tenements (ETs)

The *Guidelines* define an equivalent tenement as the annual demand a detached residential dwelling will place on the infrastructure. For stormwater, one ET represents the equivalent runoff from a single, detached residential dwelling with an average impervious area of 350m^2. The number of ET's for non-residential property will be calculated based on the impervious area, where 350m^2 impervious area represents one ET.

In order to determine the number of stormwater ET's for input into the capital charge calculations, it was assumed that the number of stormwater ETs was equivalent to the number of lots and dwellings in each service area. For City Wide, the number of dwellings was used as the basis and growth rates were based on the population growth predictions as per *Profile ID, 2019*, the *Tableland Regional Community Strategic Plan 2016-2036* and data from the NSW Government's Planning and Environment department 2016 NSW population projections. Clyde St and Marys Mount were based on a linear projection of lot development from data supplied by GMC as discussed in Section 3.2.

ET projections for each service area over the next 30 years are shown in Table 7-3 and the ETs in January 1996 are also provided. ET calculation details for each service area are shown in Section 13.

Table 7-3 ET Projections for Stormwater

Year	LGA	City Wide	Clyde St	Marys Mount
Historic Growth Rate	0.90%	0.54%	5.04%	7.14%
Future Growth Rate	1.00%	1.10%	6.47%	4.24%
1995/96	7,803	7,803	0	0
2019/20	10,527	8,887	278	1,361
2020/21	10,695	8,985	295	1,415
2021/22	10,865	9,084	313	1,469
2022/23	11,036	9,184	330	1,523
2023/24	11,209	9,285	347	1,577
2024/25	11,382	9,387	364	1,631
2025/26	11,556	9,490	381	1,685
2026/27	11,732	9,595	398	1,739
2027/28	11,908	9,701	415	1,792
2028/29	12,086	9,807	433	1,846
2029/30	12,265	9,915	450	1,900
2030/31	12,445	10,024	467	1,954
2031/32	12,627	10,135	484	2,008
2032/33	12,773	10,246	501	2,025
2033/34	12,889	10,359	505	2,025
2034/35	13,003	10,473	505	2,025
2035/36	13,119	10,589	505	2,025
2036/37	13,235	10,705	505	2,025
2037/38	13,353	10,823	505	2,025
2038/39	13,472	10,942	505	2,025
2039/40	13,593	11,063	505	2,025
2040/41	13,714	11,184	505	2,025
2041/42	13,838	11,308	505	2,025
2042/43	13,962	11,432	505	2,025
2043/44	14,088	11,558	505	2,025
2044/45	14,215	11,685	505	2,025
2045/46	14,344	11,814	505	2,025
2046/47	14,474	11,944	505	2,025
2047/48	14,605	12,075	505	2,025
2048/49	14,738	12,208	505	2,025
2049/50	14,873	12,343	505	2,025

7.4 Capital Charge

The capital charge for each service area covered by this DSP document has been calculated using NPV spreadsheet method.

Under the NPV spreadsheet method, the capital cost of relevant assets and projected ETs served in a service area are entered into a spreadsheet. These capital costs are only for the share of the asset capacity used in the service area. The PV of capital cost and the PV of the new ETs are calculated, and the capital charge per ET is the PV of the capital cost divided by the PV of the ETs, according to the formula:

$$Capital\ Charge = \frac{NPV\ Capital\ Cost}{NPV\ ETs}$$

Calculations details for PV of ETs and PV of capital costs for each service area are shown in Section 16.

The summary of the capital charge calculations is shown in Table 7-4.

Table 7-4 Summary of Capital Charges

Service Area	PV of New ETs for pre-1996 assets @3%	PV of New ETs for post-1996 assets @5%	PV of capital cost for pre-1996 assets @3%	PV of capital cost for post-1996 assets @5%	Capital charge for pre-1996 assets	Capital charge for post-1996 assets	Capital charge per ET ($)
City Wide	1842	1143	$1,209,105	$3,093,336	$656	$2,707	$3,363
Clyde St	277	196	$0	$1,808,410	$0	$9,207	$9,207
Marys Mount	1,100	758	$0	$2,837,018	$0	$3,742	$3,742

7.5 DSP Area

It is a requirement of the DSP *Guidelines* that any service areas that have a capital charge within 30% of the highest capital charge are agglomerated together in a single DSP area. Table 7-5 shows the calculation. The service areas of Marys Mount and City Wide are agglomerated into a single DSP area.

Table 7-5 Agglomeration of Service Areas

Service Area	Capital Charge ($ per ET)	Percentage of Highest Capital Charge DSP Area	Percentage of next Highest Capital Charge DSP Area	Percentage of next Highest Capital Charge DSP Area
Clyde St	$9,207	100%	0%	0%
Marys Mount	$3,742	41%	100%	0%
City Wide	$3,363	37%	90%	0%

Weighted average capital charge for each DSP area is calculated by weighting by the PV of new ETs in each service area. The calculation is shown in Table 7-6.

Table 7-6 Weighted Average Capital Charge

DSP Area	Service Area	Capital charge for service area	New ETs in service area	PV New ETs	% of PV of new ETs in DSP area	Weighted component of Capital Charge	Weighted Capital Charge for DSP Area
DSP Area A	Clyde St	$9,207	227	176	100%	$9,207	$9,207
DSP Area B	Marys Mount	$3,742	664	577	25%	$927	$3,457
	City Wide	$3,363	3456	1751	75%	$2,530	

The utility-wide weighted average capital charge is $4,409.

7.6 Reduction Amount

Council has adopted the NPV of Annual Bills method to calculate the Reduction Amount. This method involves calculating the difference between the revenue from annual bills and annual costs of operation, maintenance and administration (OMA). This calculation is projected for development over the next 30 years. All amounts are expressed in terms of ET's.

The reduction amounts have been calculated based on the following assumptions:

- Annual Income from rates and charges is $0.00.
  - Council does not charge a levy for stormwater infrastructure
- Annual OMA cost at the commencement of the DSP = $130,000.00 per annum
- Total ET's in the LGA in 2020 are 10570

The net income is calculated according to the formula:

$$\text{Net income per ET} = \text{Annual income per ET} - \text{OMA per ET}$$

The resulting net income amount is -$12.54.

The reduction amount is calculated according to the formula:

$$Reduction\ amount = \frac{NPV\ net\ income}{NPV\ \ ETs}$$

The calculations are shown in Table 7-7. The resulting reduction amount is -$156

Table 7-7 Calculation of the Reduction Amount

Year	Total ETs	New ETs	PV New ETs (5%)	Cumulative ETs	Net Income ($'000s)	PV Net income (5%) ($'000s)
2019/20	10,527					
2020/21	10695	168	160	168	-$2,105	-$2,005
2021/22	10865	170	154	338	-$4,235	-$3,842
2022/23	11036	171	148	509	-$6,378	-$5,510
2023/24	11209	173	142	682	-$8,546	-$7,031
2024/25	11382	173	136	855	-$10,714	-$8,395
2025/26	11556	174	130	1029	-$12,894	-$9,622
2026/27	11732	176	125	1205	-$15,100	-$10,731
2027/28	11908	176	119	1381	-$17,305	-$11,713
2028/29	12086	178	115	1559	-$19,535	-$12,593
2029/30	12265	179	110	1738	-$21,778	-$13,370
2030/31	12445	180	105	1918	-$24,034	-$14,052
2031/32	12627	182	101	2100	-$26,315	-$14,653
2032/33	12773	146	77	2246	-$28,144	-$14,925
2033/34	12889	116	59	2362	-$29,598	-$14,949
2034/35	13003	114	55	2476	-$31,026	-$14,924
2035/36	13119	116	53	2592	-$32,480	-$14,879
2036/37	13235	116	51	2708	-$33,933	-$14,805
2037/38	13353	118	49	2826	-$35,412	-$14,714
2038/39	13472	119	47	2945	-$36,903	-$14,604
2039/40	13593	121	46	3066	-$38,419	-$14,480
2040/41	13714	121	43	3187	-$39,936	-$14,335

Year	Total ETs	New ETs	PV New ETs (5%)	Cumulative ETs	Net Income ($'000s)	PV Net income (5%) ($'000s)
2041/42	13838	124	42	3311	-$41,489	-$14,183
2042/43	13962	124	40	3435	-$43,043	-$14,014
2043/44	14088	126	39	3561	-$44,622	-$13,836
2044/45	14215	127	38	3688	-$46,214	-$13,647
2045/46	14344	129	36	3817	-$47,830	-$13,452
2046/47	14474	130	35	3947	-$49,459	-$13,248
2047/48	14605	131	33	4078	-$51,101	-$13,035
2048/49	14738	133	32	4211	-$52,767	-$12,820
2049/50	14873	135	31	4346	-$54,459	-$12,601
Total			2352			-$366,965
Reduction Amount						-$156

7.7 Developer Charge

The developer charge is calculated according to the formula:

$$Developer\ Charge = Capital\ Charge - Reduction\ Amount$$

The calculated developer charges are the maximum that may be levied by a LWU. The calculation is shown below in Table 7-8

Table 7-8 Developer Charge Calculation

DSP Area	Service Area	Capital Charge ($ per ET)	Reduction Amount ($ per ET)	Calculated Maximum Developer Charge ($ per ET)
DSP Area A	Clyde St	$9,207	-$156	$9,363
DSP Area B	Marys Mount	$3,457		$3,613
	City Wide			

7.8 Cross-Subsidy

If the LWU elects to adopt a developer charge less than the calculated maximum developer charge, they must then calculate a cross-subsidy in the annual bill. The cross-subsidy is the difference (%) between the annual bill with the calculated maximum developer charge and the annual bill with the proposed lower developer charge.

The cross-subsidy, resulting from capping of developer charges must be disclosed in the DSP, the utility's Annual Report, annual Operational Plan and in communication materials for consultation with stakeholders.

For this DSP, Council has elected to adopt the maximum calculated developer charges for stormwater, therefore no cross-subsidy will apply.

8 Reviewing / Updating of Calculated Developer Charges

Developer charges will be adjusted on 1 July each year on the basis of movements in the CPI for Australia ABS: Consumer Price Index (Sydney), in the preceding 12 months to December, excluding the impact of GST.

Developer charges will be reviewed by Council after a period of 4 to 8 years, or when a significant change in forecast spend or strategic development planning occurs.

9 Background Information

Background information containing all the critical data including calculation models behind each DSP is available from GMC on request. The contact details are below:

Goulburn Mulwaree Council Utilities Section
Ph: (02) 4823 4444

The background document lists and references all the other studies that have been used as a source, including GMC's Strategic Business Plan, Financial Plan and stormwater water modelling.

10 Other DSPs and Related Contribution Plans

This DSP document supersedes any other requirements related to stormwater developer charges for the service area covered by this DSP.

Other related DSPs are:

- *Developer Servicing Plan for Water Supply, Sewerage and Stormwater (Hunter H_2O 2017)*

The related Section 94 contributions plans prepared by GMC are:

- *Goulburn Mulwaree Council Section 94A Levy Development Contributions Plan 2009 (Parsons Brinckerhoff, 2009)*
- *Goulburn Mulwaree Council Section 94A Levy Development Contributions Plan 2009 Amendment No. 2 (2012)*

11 Glossary

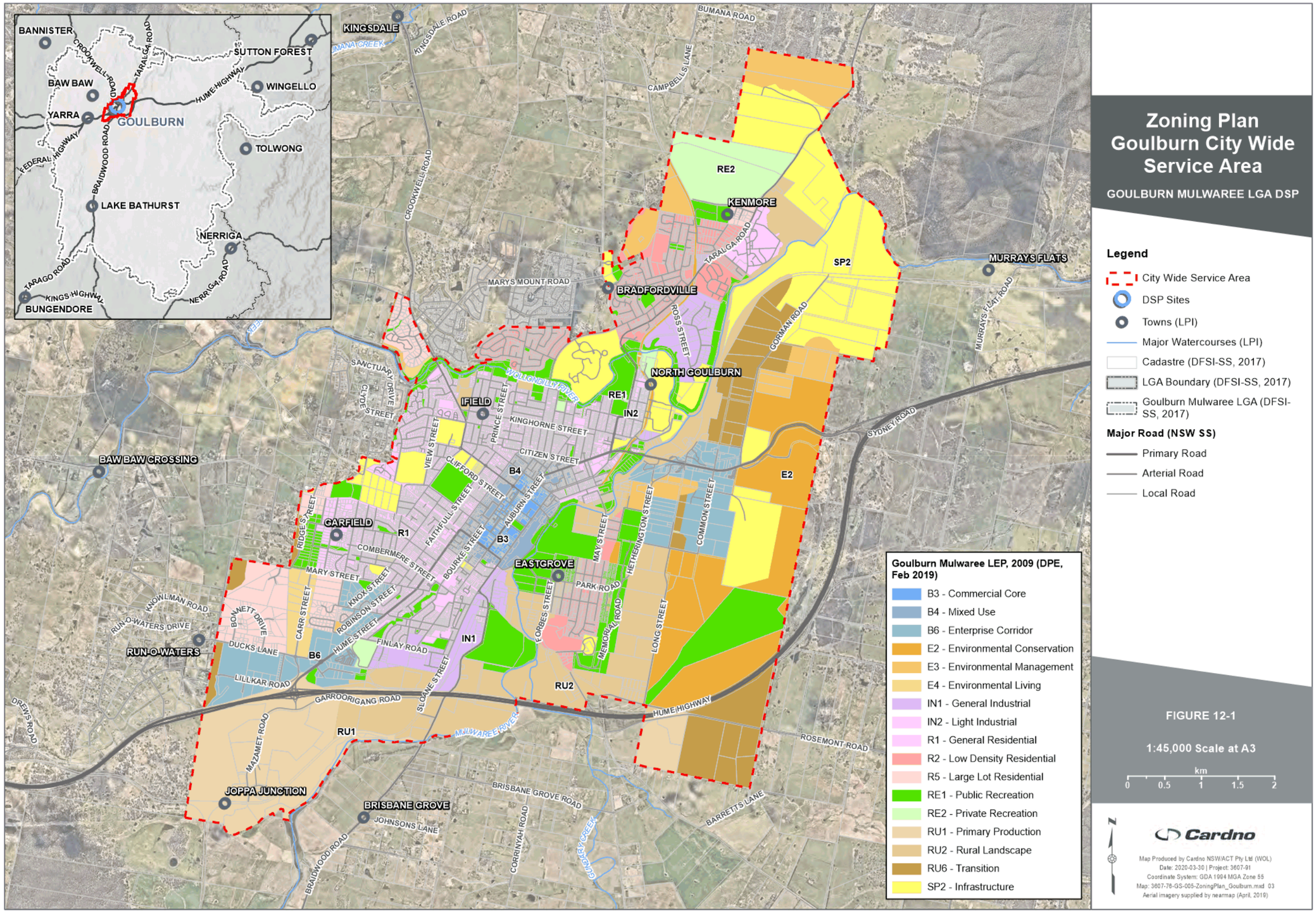
Annual Bill	LWU's annual water supply or sewage bill for an annual demand of 1 ET.
Asset	An asset (or part of an asset) including land and headworks assets that directly provides, or will provide, the developer services to development within the DSP area for which the Developer Charge is payable.
ADWF	Average dry weather flow. One of the design parameters for flow in sewers.
Annual Demand	The total water demand over a year. Used to size headworks components
Background Information	Contains all the critical data behind each DSP. This information should be made available electronically to developers on request, e.g. On a USB and should include the calculation models in Excel or similar electronic spreadsheet format, so that all components of the models can be investigated.
BOD	Biochemical oxygen demand. Used as a measure of the 'strength' of sewage.
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)
CP	Section 94 Contributions Plan
CPI	Consumer price index.
DPI Water	A division of NSW Department of Primary Industries
Developer Charge (DC)	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 Document	Development Servicing Plan Document
DSP Area	That part of a water utility's area covered by a particular Development Servicing Plan. Also referred to as Development Area.
EP	Equivalent Persons (or equivalent population). Used as a design parameter for loadings of sewage treatment works.
ET	Equivalent tenement. The annual demand a detached residential dwelling will place on the infrastructure in terms of the water consumption or sewage discharge.
Government Subsidies	Government funds provided towards the capital cost of a project.
GMC	Goulburn Mulwaree Council
GST	Goods and services tax.
Headworks	Significant assets at the top end of the water systems or the bottom end of the wastewater 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.
kL	Kilolitre (1,000 litres).
LGNSW	Local Government and Shires Associations.
LWU	Local water utility (NSW). Excludes Sydney Water Corporation, Hunter Water Corporation, Gosford Council, Wyong Council, Essential Water and Fish River Water Supply.
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).
Net Income	Annual bill minus OMA cost per ET.
NOW	NSW Office of Water, replaces by DPI Water since July 2015

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).
Peak Day Demand	The maximum demand in any one day of the year. Used to size water treatments works, service reservoirs, trunk mains and pumping stations in the distribution system.
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.
Periodic bills	The periodic bills (generally quarterly) levied by a LWU in accordance with their annual operational plan.
Post 1996 Asset	An asset that was commissioned by a LWU on or after 1 January 1996 or that is yet to be commissioned.
Pre-1996 Asset	An asset that was commissioned by a LWU before 1 January 1996.
PV	Present value. The current value of future money or ETs.
PWWF	Peak wet weather flow. One of the design parameters of flow in sewers.
Real Terms	The value of a variable adjusted for inflation by a CPI adjustment
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.
SS	Suspended solids, or the concentration of particles in sewage. Used as a measure of the 'strength' of sewage.
STW	Sewage treatment works
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.
WICA	Water Industry Competition Act, 2006
WICAA	Water Industry Competition Amendment (Review) Act, 2014
WTW	Water treatment works

12 Plans

This section presents a number of plans to illustrate the services areas and assets covered by this DSP. Plans are shown for the:

- Individual Service Areas
  - Figure 12-1 Zoning Plan City Wide
  - Figure 12-2 Zoning Plan Clyde St
  - Figure 12-3 Zoning Plan Marys Mount
- An overview of existing Services
  - Figure 12-4 Existing Services City Wide
  - Figure 12-5 Existing Services Clyde St
  - Figure 12-6 Existing Services Marys Mount
- Future Works
  - Figure 12-7 Future Works Clyde St
  - Figure 12-8 Future Works Marys Mount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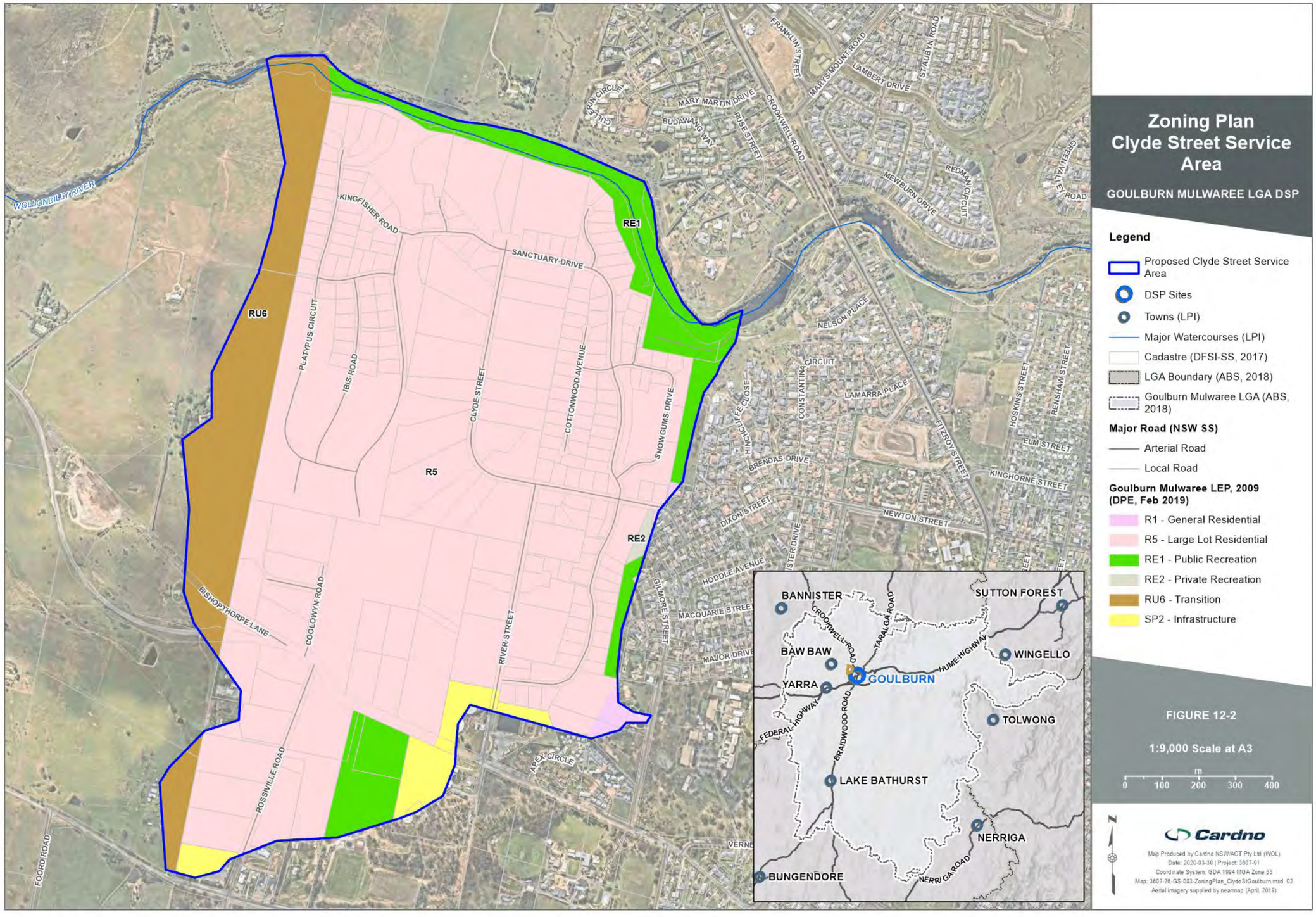
NERRIGA
BUNGENDORE
KINGSDALE
BUMANA ROAD
CAMPBELLS LANE
RE2
KENMORE
SP2
MURRAYS FLATS
BRADFORDVILLE
NORTH GOULBURN
RE1
IN2
IFIELD
B4
E2
B3
EASTGROVE
R1
GARFIELD
IN1
B6
RU2
RU1
BAW BAW CROSSING
RUN-O-WATERS
JOPPA JUNCTION
BRISBANE GROVE
SYDNEY ROAD
HUME HIGHWAY
GARROORIGANG ROAD
MARYS MOUNT ROAD
TARALGA ROAD
CROOKWELL ROAD
BRAIDWOOD ROAD
FEDERAL HIGHWAY
KINGS HIGHWAY
TARAGO ROAD
NERRIGA ROAD
MURRAYS FLAT ROAD
GORMAN ROAD
ROSS STREET
SANCTUARY DRIVE
WOLLONDILLY RIVER
KINGHORNE STREET
CITIZEN STREET
CLIFFORD STREET
VIEW STREET
PRINCE STREET
CLYDE STREET
RIDGES STREET
COMBERMERE STREET
MARY STREET
BOURKE STREET
FAITHFULL STREET
AUBURN STREET
MAY STREET
HETHERINGTON STREET
COMMON STREET
PARK ROAD
FORBES STREET
MEMORIAL ROAD
LONG STREET
KNOWLMAN ROAD
RUN-O-WATERS DRIVE
BONNETT DRIVE
CARR STREET
ROBINSON STREET
KNOX STREET
HUME STREET
FINLAY ROAD
DUCKS LANE
LILLKAR ROAD
SLOANE STREET
DREWS ROAD
MAZAMET ROAD
MULLWAREE RIVER
ROSEMONT ROAD
BARRETTS LANE
BRISBANE GROVE ROAD
JOHNSONS LANE
BRAIDWOOD ROAD
CORRINYAH ROAD
GUNDARY CREEK
Zoning Plan
Goulburn City Wide Service Area
GOULBURN MULWAREE LGA DSP
Legend
City Wide Service Area
DSP Sites
Towns (LPI)
Major Watercourses (LPI)
Cadastre (DFSI-SS, 2017)
LGA Boundary (DFSI-SS, 2017)
Goulburn Mulwaree LGA (DFSI-SS, 2017)
Major Road (NSW SS)
Primary Road
Arterial Road
Local Road
Goulburn Mulwaree LEP, 2009 (DPE, Feb 2019)
B3 - Commercial Core
B4 - Mixed Use
B6 - Enterprise Corridor
E2 - Environmental Conservation
E3 - Environmental Management
E4 - Environmental Living
IN1 - General Industrial
IN2 - Light Industrial
R1 - General Residential
R2 - Low Density Residential
R5 - Large Lot Residential
RE1 - Public Recreation
RE2 - Private Recreation
RU1 - Primary Production
RU2 - Rural Landscape
RU6 - Transition
SP2 - Infrastructure
FIGURE 12-1
1:45,000 Scale at A3
km
0 0.5 1 1.5 2
N
Cardno
Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2020-03-30 | Project: 3607-91
Coordinate System: GDA 1994 MGA Zone 55
Map: 3607-76-GS-005-ZoningPlan_Goulburn.mxd 03
Aerial imagery supplied by nearmap (April, 2019)



Zoning Plan Clyde Street Service Area

GOULBURN MULWAREE LGA DSP

Legend

- Proposed Clyde Street Service Area
- DSP Sites
- Towns (LPI)
- Major Watercourses (LPI)
- Cadastre (DFSI-SS, 2017)
- LGA Boundary (ABS, 2018)
- Goulburn Mulwaree LGA (ABS, 2018)

Major Road (NSW SS)

- Arterial Road
- Local Road

Goulburn Mulwaree LEP, 2009 (DPE, Feb 2019)

- R1 - General Residential
- R5 - Large Lot Residential
- RE1 - Public Recreation
- RE2 - Private Recreation
- RU6 - Transition
- SP2 - Infrastructure

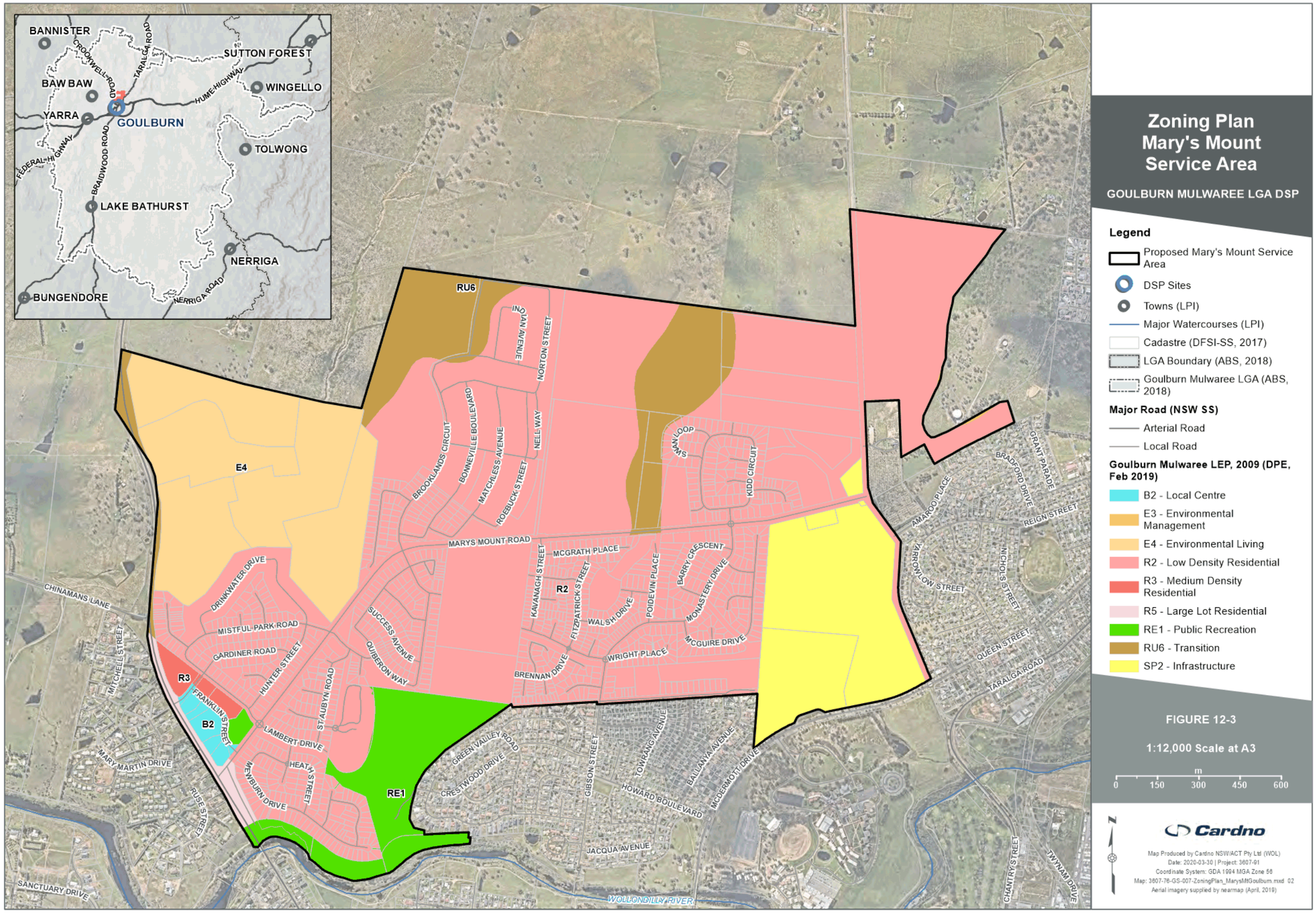
FIGURE 12-2

1:9,000 Scale at A3

m
0 100 200 300 400

Cardno

Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2020-03-30 | Project: 3607-91
Coordinate System: GDA 1994 MGA Zone 55
Map: 3607-76-GS-003-ZoningPlan_ClydeStGoulburn.mxd 02
Aerial imagery supplied by nearmap (April, 2019)



Zoning Plan Mary's Mount Service Area

GOULBURN MULWAREE LGA DSP

Legend

- Proposed Mary's Mount Service Area
- DSP Sites
- Towns (LPI)
- Major Watercourses (LPI)
- Cadastre (DFSI-SS, 2017)
- LGA Boundary (ABS, 2018)
- Goulburn Mulwaree LGA (ABS, 2018)

Major Road (NSW SS)

- Arterial Road
- Local Road

Goulburn Mulwaree LEP, 2009 (DPE, Feb 2019)

- B2 - Local Centre
- E3 - Environmental Management
- E4 - Environmental Living
- R2 - Low Density Residential
- R3 - Medium Density Residential
- R5 - Large Lot Residential
- RE1 - Public Recreation
- RU6 - Transition
- SP2 - Infrastructure

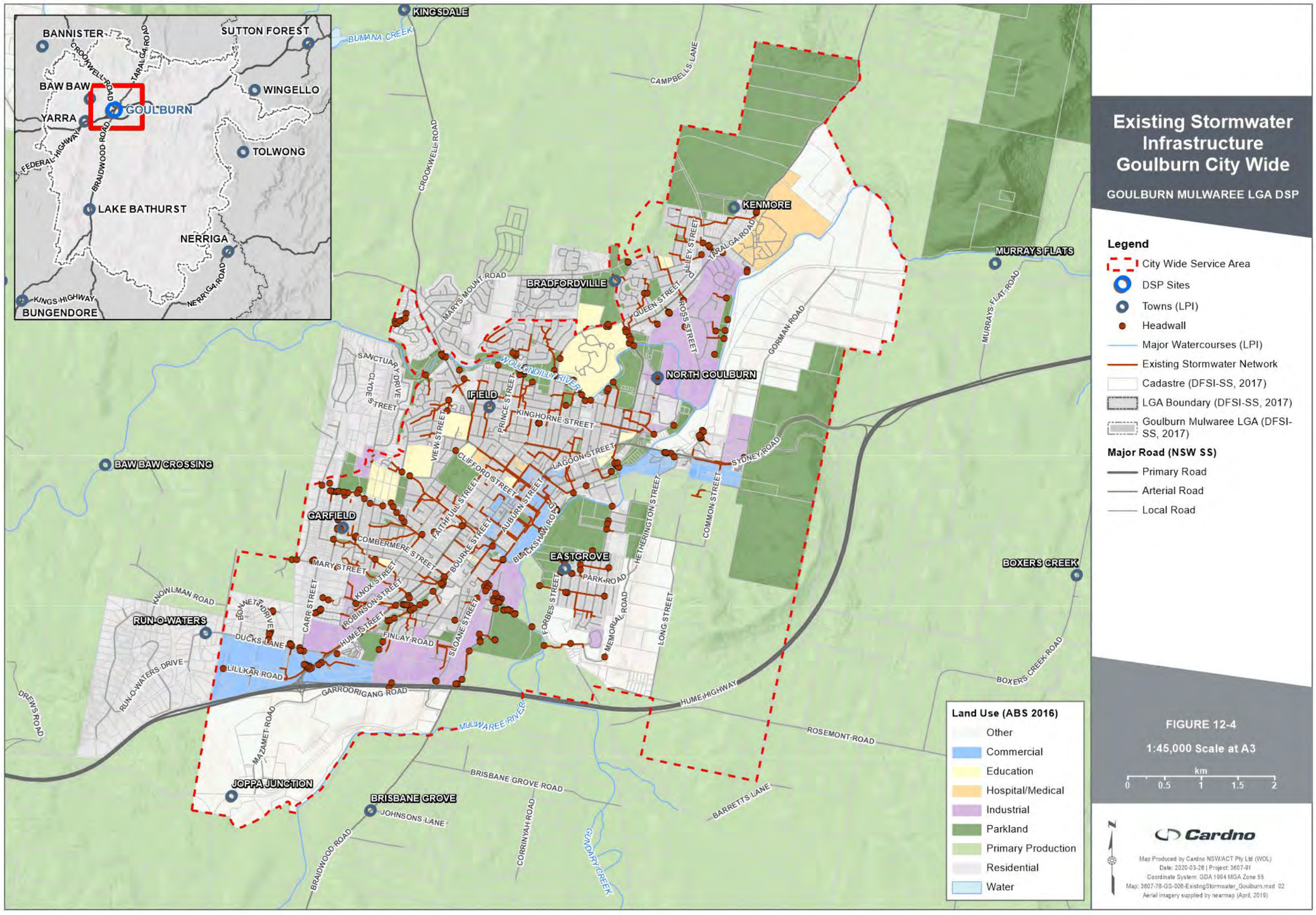
FIGURE 12-3

1:12,000 Scale at A3

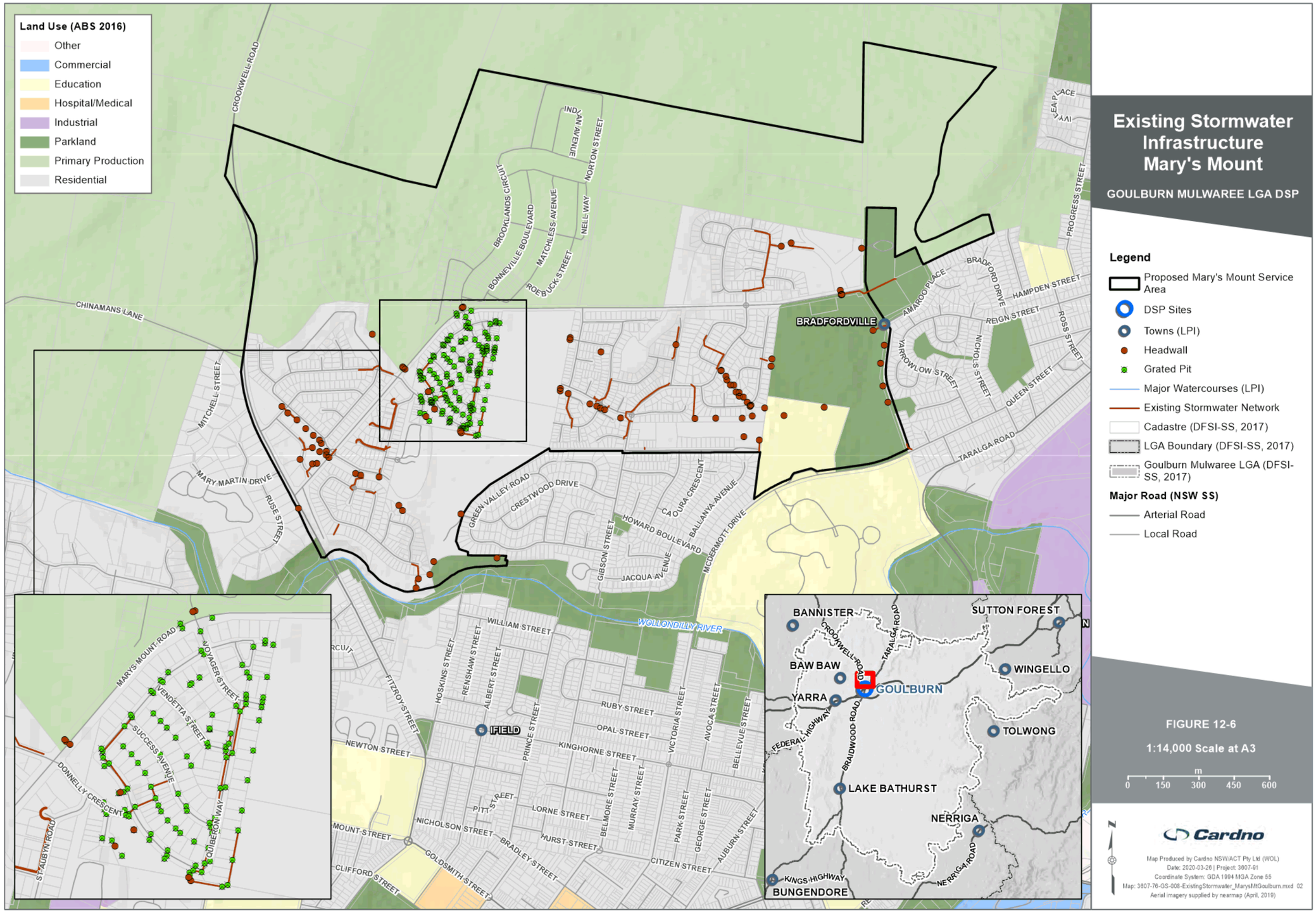
m
0 150 300 450 600

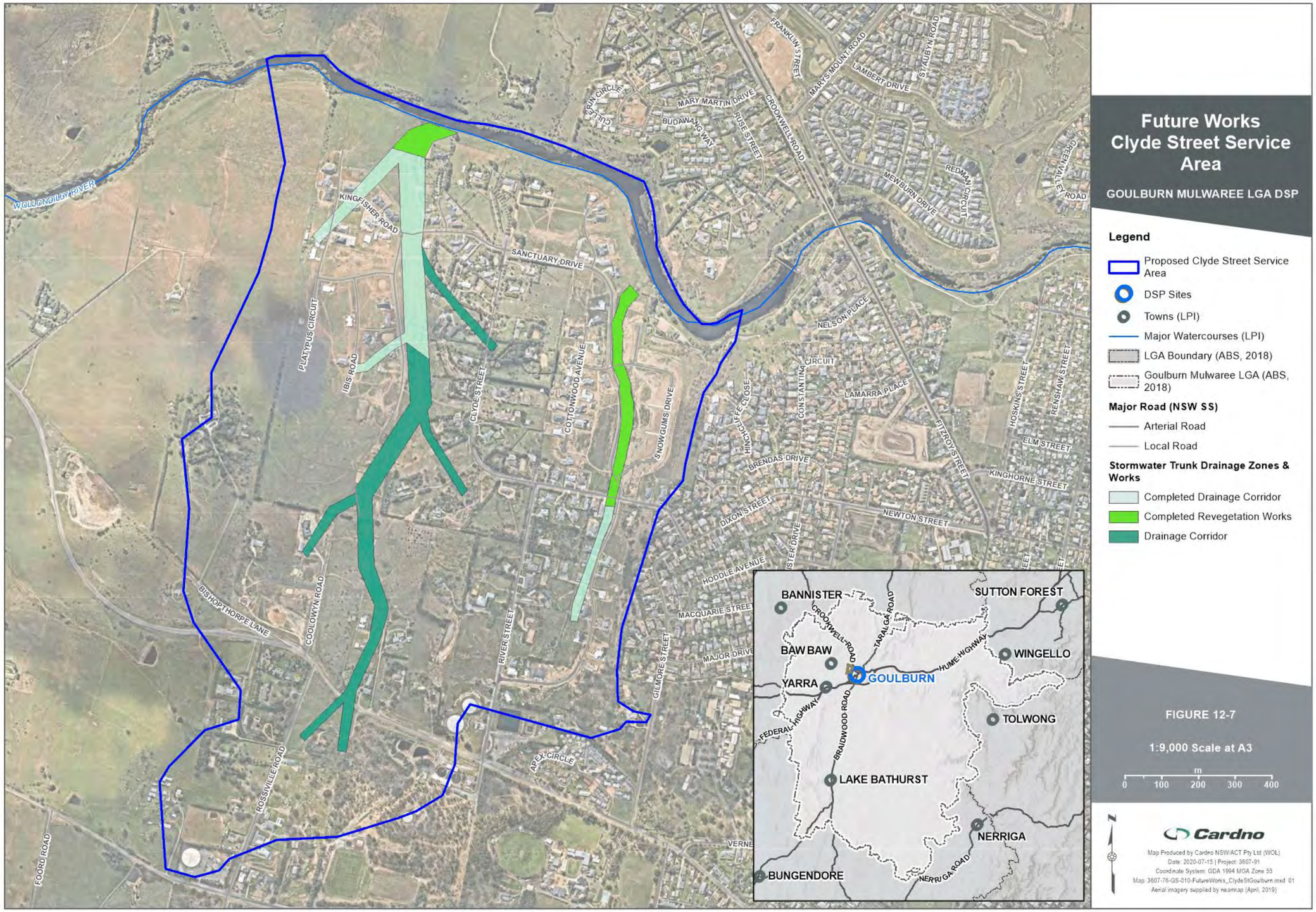
Cardno

Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2020-03-30 | Project: 3607-91
Coordinate System: GDA 1994 MGA Zone 56
Map: 3607-76-GS-007-ZoningPlan_MarysMtGoulburn.mxd 02
Aerial imagery supplied by nearmap (April, 2019)


Existing Stormwater Infrastructure Goulburn City Wide
GOULBURN MULWAREE LGA DSP
Legend
City Wide Service Area
DSP Sites
Towns (LPI)
Headwall
Major Watercourses (LPI)
Existing Stormwater Network
Cadastre (DFSI-SS, 2017)
LGA Boundary (DFSI-SS, 2017)
Goulburn Mulwaree LGA (DFSI-SS, 2017)
Major Road (NSW SS)
Primary Road
Arterial Road
Local Road
Land Use (ABS 2016)
Other
Commercial
Education
Hospital/Medical
Industrial
Parkland
Primary Production
Residential
Water
FIGURE 12-4
1:45,000 Scale at A3
km
0 0.5 1 1.5 2
Cardno
Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2020-03-26 | Project: 3607-91
Coordinate System: GDA 1994 MGA Zone 55
Map: 3607-78-GS-006-ExistingStormwater_Goulburn.mxd 02
Aerial imagery supplied by nearmap (April, 2019)
BANNISTER
SUTTON FOREST
BAW BAW
WINGELLO
GOULBURN
YARRA
TOLWONG
LAKE BATHURST
NERRIGA
BUNGENDORE
KINGSDALE
BUMANA CREEK
CAMPBELLS LANE
CROOKWELL ROAD
KENMORE
MURRAYS FLATS
BRADFORDVILLE
NORTH GOULBURN
IFIELD
GARFIELD
EASTGROVE
BOXERS CREEK
BAW BAW CROSSING
RUN-O-WATERS
JOPPA JUNCTION
BRISBANE GROVE
HUME HIGHWAY
GARROORIGANG ROAD
ROSEMONT ROAD
BRISBANE GROVE ROAD
BARRETTS LANE
BOXERS CREEK ROAD
MULWAREE RIVER
WOLLONDILLY RIVER
SYDNEY ROAD
GORMAN ROAD
MURRAYS FLAT ROAD
KINGHORNE STREET
LAGOON STREET
CLIFFORD STREET
AUBURN STREET
BLACKSHAW ROAD
PARK ROAD
LONG STREET
MEMORIAL ROAD
COMMON STREET
HETHERINGTON STREET
COMBERMERE STREET
MARY STREET
FINLAY ROAD
LILLIKAR ROAD
DUCKS LANE
KNOWLMAN ROAD
RUN-O-WATERS DRIVE
MAZAMET ROAD
DREWS ROAD
BRAIDWOOD ROAD
CORRINYAH ROAD
SUNDARY CREEK
JOHNSONS LANE
TARALGA ROAD
MARYS MOUNT ROAD
QUEEN STREET
CROSS STREET
VALLEY STREET
SANCTUARY DRIVE
CLYDE STREET
PRINCE STREET
VIEW STREET
FAITHFULL STREET
BOURKE STREET
LAGOON STREET
KNOX STREET
ROBINSON STREET
HUME STREET
SLOANE STREET
CARR STREET
BONNETT DRIVE
FORBES STREET
KINGS HIGHWAY
CROOKWELL ROAD
TARALGA ROAD
BRAIDWOOD ROAD
FEDERAL HIGHWAY
NERRIGA ROAD


WOLLONDILLY RIVER
KINGFISHER ROAD
SANCTUARY DRIVE
PLATYPUS CIRCUIT
IBIS ROAD
CLYDE STREET
COTTONWOOD AVENUE
SNOWGUMS DRIVE
CULLEN CIRCLE
MARY MARTIN DRIVE
BUDAWANG WAY
RUSE STREET
CROOKWELL ROAD
FRANKLIN STREET
MARYS MOUNT ROAD
LAMBERT DRIVE
ST AUBYN ROAD
MEWBURN DRIVE
REDMAN CIRCUIT
GREEN VALLEY ROAD
NELSON PLACE
WILLIAM STREET
CONSTANTINA CIRCUIT
LAMARRA PLACE
CHICHESTER CLOSE
HOSKINS STREET
RENSHAW STREET
FITZROY STREET
ELM STREET
BRENDAS DRIVE
KINGHORNE STREET
FIELD
DIXON STREET
NEWTON STREET
HODDLE AVENUE
MACALISTER DRIVE
MACQUARIE STREET
MAJOR DRIVE
GILMORE STREET
RIVER STREET
BISHOPTHORPE LANE
COOLOWYN ROAD
ROSSIVILLE ROAD
APEX CIRCLE
VERNER STREET
FOORD ROAD
BANNISTER
SUTTON FOREST
CROOKWELL ROAD
TARALGA ROAD
BAW BAW
WINGELLO
GOULBURN
YARRA
FEDERAL HIGHWAY
BRAIDWOOD ROAD
TOLWONG
LAKE BATHURST
NERRIGA
NERRIGA ROAD
KINGS HIGHWAY
BUNGENDORE
Existing Stormwater Infrastructure Clyde Street
GOULBURN MULWAREE LGA DSP
Legend
Proposed Clyde Street Service Area
DSP Sites
Towns (LPI)
Headwall
Major Watercourses (LPI)
Existing Stormwater Network
Cadastre (DFSI-SS, 2017)
LGA Boundary (DFSI-SS, 2017)
Goulburn Mulwaree LGA (DFSI-SS, 2017)
Major Road (NSW SS)
Arterial Road
Local Road
Land Use (ABS 2016)
Education
Hospital/Medical
Industrial
Parkland
Primary Production
Residential
FIGURE 12-5
1:9,000 Scale at A3
m
0 100 200 300 400
N
Cardno
Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2020-03-26 | Project: 3607-91
Coordinate System: GDA 1994 MGA Zone 55
Map: 3607-76-GS-004-ExistingStormwater_ClydeStGoulburn.mxd 02
Aerial imagery supplied by nearmap (April, 2019)


Land Use (ABS 2016)
Other
Commercial
Education
Hospital/Medical
Industrial
Parkland
Primary Production
Residential
Existing Stormwater Infrastructure Mary's Mount
GOULBURN MULWAREE LGA DSP
Legend
Proposed Mary's Mount Service Area
DSP Sites
Towns (LPI)
Headwall
Grated Pit
Major Watercourses (LPI)
Existing Stormwater Network
Cadastre (DFSI-SS, 2017)
LGA Boundary (DFSI-SS, 2017)
Goulburn Mulwaree LGA (DFSI-SS, 2017)
Major Road (NSW SS)
Arterial Road
Local Road
FIGURE 12-6
1:14,000 Scale at A3
m
0 150 300 450 600
Cardno
Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2020-03-26 | Project: 3607-91
Coordinate System: GDA 1994 MGA Zone 55
Map: 3607-76-GS-008-ExistingStormwater_MarysMtGoulburn.mxd 02
Aerial imagery supplied by nearmap (April, 2019)
BRADFORDVILLE
FIELD
BANNISTER
SUTTON FOREST
BAW BAW
YARRA
GOULBURN
WINGELLO
TOLWONG
LAKE BATHURST
NERRIGA
BUNGENDORE
CROOKWELL ROAD
TARALGA ROAD
FEDERAL HIGHWAY
BRAIDWOOD ROAD
KINGS HIGHWAY
NERRIGA ROAD
WOLLONDILLY RIVER
CHINAMANS LANE
MARY MARTIN DRIVE
RUSE STREET
MITCHELL STREET
GREEN VALLEY ROAD
CRESTWOOD DRIVE
BROOKLANDS CIRCUIT
BONNEVILLE BOULEVARD
MATCHLESS AVENUE
ROEBUCK STREET
NELLE WAY
NORTON STREET
INDIAN AVENUE
PROGRESS STREET
IVY PLACE
BRADFORD DRIVE
HAMPDEN STREET
AMAROO PLACE
REIGN STREET
ROSS STREET
NICHOLS STREET
YARROWLOW STREET
QUEEN STREET
TARALGA ROAD
HOWARD BOULEVARD
GIBSON STREET
JACQUA AVENUE
BALLANYA AVENUE
CAOURA CRESCENT
MCDERMOTT DRIVE
WILLIAM STREET
HOSKINS STREET
RENSHAW STREET
ALBERT STREET
FITZROY STREET
PRINCE STREET
RUBY STREET
OPAL STREET
KINGHORNE STREET
VICTORIA STREET
AVOCA STREET
BELLEVUE STREET
NEWTON STREET
PITT STREET
LORNE STREET
BELMORE STREET
MURRAY STREET
PARK STREET
GEORGE STREET
AUBURN STREET
MOUNT STREET
NICHOLSON STREET
BRADLEY STREET
HURST STREET
CITIZEN STREET
GOLDSMITH STREET
CLIFFORD STREET
MARYS MOUNT ROAD
VOYAGER STREET
VENDETTA STREET
SUCCESS AVENUE
DONNELLY CRESCENT
ST AUBYN ROAD
QUIBERON WAY



Future Works Clyde Street Service Area

GOULBURN MULWAREE LGA DSP

Legend

- Proposed Clyde Street Service Area
- DSP Sites
- Towns (LPI)
- Major Watercourses (LPI)
- LGA Boundary (ABS, 2018)
- Goulburn Mulwaree LGA (ABS, 2018)

Major Road (NSW SS)

- Arterial Road
- Local Road

Stormwater Trunk Drainage Zones & Works

- Completed Drainage Corridor
- Completed Revegetation Works
- Drainage Corridor

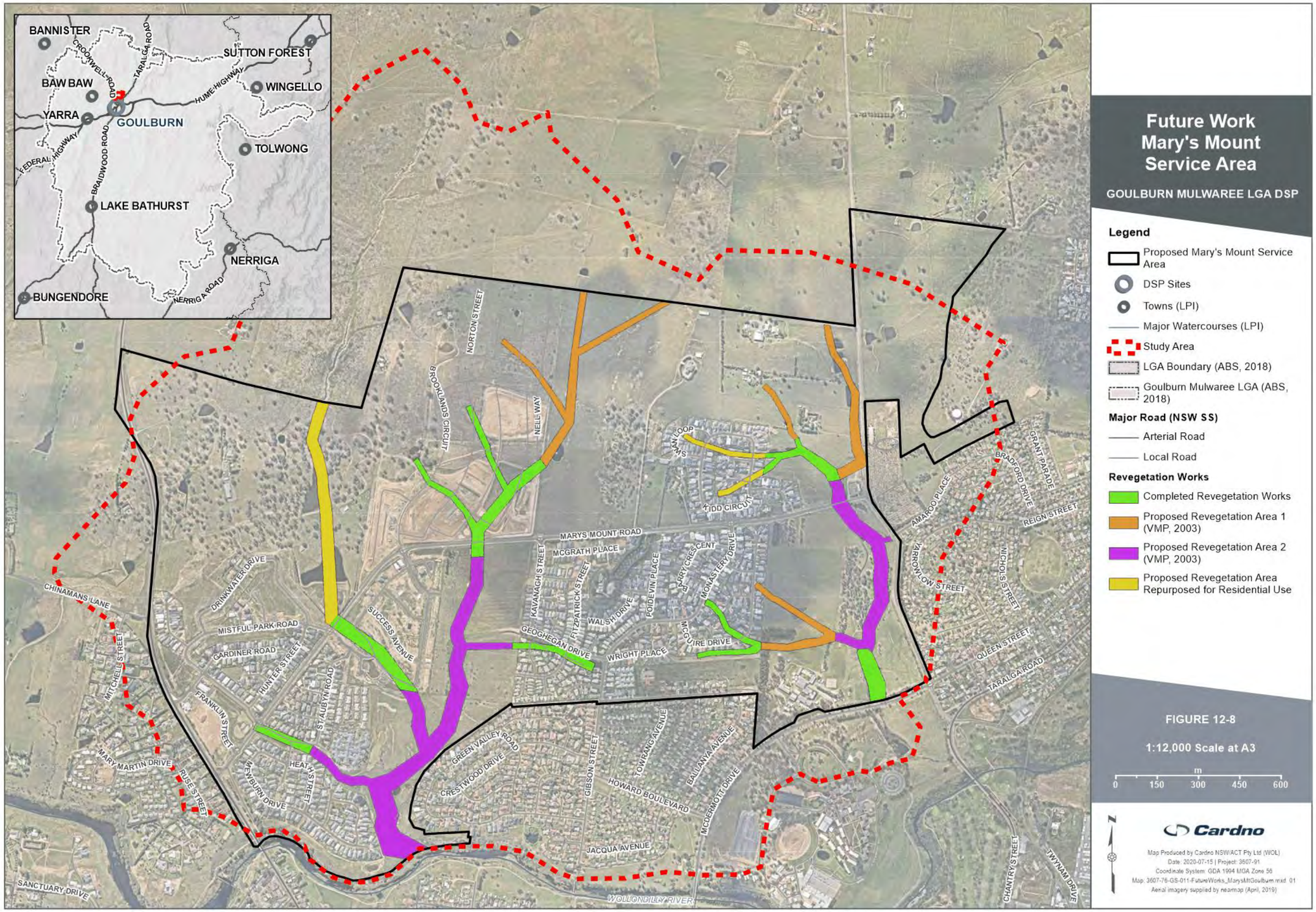
FIGURE 12-7

1:9,000 Scale at A3

m
0 100 200 300 400

Cardno

Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2020-07-15 | Project: 3607-91
Coordinate System: GDA 1994 MGA Zone 55
Map: 3607-76-GS-010-FutureWorks_ClydeStGoulburn.mxd 01
Aerial imagery supplied by nearmap (April, 2019)


BANNISTER
SUTTON FOREST
BAW BAW
WINGELLO
YARRA
GOULBURN
TOLWONG
LAKE BATHURST
NERRIGA
BUNGENDORE
CROOKWELL ROAD
TARALGA ROAD
HUME HIGHWAY
FEDERAL HIGHWAY
BRAIDWOOD ROAD
NERRIGA ROAD
NORTON STREET
BROOKLANDS CIRCUIT
NELL WAY
MARYS MOUNT ROAD
MCGRATH PLACE
TODD CIRCUIT
BRADFORD DRIVE
GRANT PARADE
REIGN STREET
AMAROO PLACE
ARROWLOW STREET
NICHOLS STREET
QUEEN STREET
TARALGA ROAD
KAVANAGH STREET
FITZPATRICK STREET
WALSH DRIVE
POIDEVIN PLACE
MARY CRESCENT
MONASTERY DRIVE
MOORE DRIVE
GEOGHEGAN DRIVE
WRIGHT PLACE
DRINKWATER DRIVE
CHINAMANS LANE
MISTFUL PARK ROAD
GARDINER ROAD
SUCCESS AVENUE
MITCHELL STREET
HUNTER STREET
STAUBYN ROAD
FRANKLIN STREET
MARY MARTIN DRIVE
RUSE STREET
NEWBURN DRIVE
HEATH STREET
SANCTUARY DRIVE
GREEN VALLEY ROAD
CRESTWOOD DRIVE
GIBSON STREET
TOWRANG AVENUE
HOWARD BOULEVARD
BALLANYA AVENUE
MCDERMOTT DRIVE
JACQUA AVENUE
WOLLONDILLY RIVER
CHANTRY STREET
TWYNAM DRIVE
Future Work
Mary's Mount
Service Area
GOULBURN MULWAREE LGA DSP
Legend
Proposed Mary's Mount Service Area
DSP Sites
Towns (LPI)
Major Watercourses (LPI)
Study Area
LGA Boundary (ABS, 2018)
Goulburn Mulwaree LGA (ABS, 2018)
Major Road (NSW SS)
Arterial Road
Local Road
Revegetation Works
Completed Revegetation Works
Proposed Revegetation Area 1 (VMP, 2003)
Proposed Revegetation Area 2 (VMP, 2003)
Proposed Revegetation Area Repurposed for Residential Use
FIGURE 12-8
1:12,000 Scale at A3
m
0 150 300 450 600
N
Cardno
Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2020-07-15 | Project: 3607-91
Coordinate System: GDA 1994 MGA Zone 56
Map: 3607-76-GS-011-FutureWorks_MarysMtGoulburn.mxd 01
Aerial imagery supplied by nearmap (April, 2019)

13 Calculation of ETs

The process for developing the ETs involves the following steps:

- Establishing the current, historic and projected population figures
- Determining the population growth rates
- Determining the number of current ETs based on the current dwellings and lots in the development areas
- Applying the growth rates to calculate the historic and projected ETs

Data was sourced from *population.id, The Tableland Regional Community Strategic Plan 2016-2036,* NSW Government's Planning and Environment department 2016 NSW population projections and data provided from Council.

Clyde St

Based on the DSP completed in the 2004, the Clyde St area had 65 existing lots with a potential for 505 lots total (Page 8, GMC s64 Levy Clyde Street Plan 2004). The same document sights an occupancy rate of 2.7. This results in a population of 175 in 2004.

Council has advised that 200 lots have since been approved to date, giving a total of 265 lots in 2019. Council expects the subdivision to be built out in approximately 10 years.

Using these details, a population profile can be developed and growth rates calculated for historic and future projection as shown below. A linear growth rate in this area has been assumed.

Year	2004	2019	2033
Lots	65	265	505
Population	175	715	1364
Nominal Annual Growth		5.04%	6.47%

Marys Mount

The Marys Mount area has 2025 lots as advised by Council. Development of this area was commenced in 2004/05. Based on the area calculations, there are approximately 1270 lots developed in 2019.

Based on the population calculations, there are 3400 people living in the area in 2019. Using these details, a population profile can be developed and growth rates calculated for historic and future projection as shown below. A linear growth rate in this area has been assumed.

Year	2005	2019	2033
Lots	0	1271	2025
Population	0	3430	5468
Nominal Annual Growth		7.14%	4.24%

Population

Historic Population	1996	2001	2006	2011	2016	2019
City Wide	21,208	20,829	20,529	19,809	19,348	19,877
Clyde St	0	67	247	427	607	716
Marys Mount	0	0	245	1,470	2,695	3,430
LGA (includes rural)	25,562	26,431	26,849	27,638	29,730	31,432

Future Population	2021	2026	2031	2036
City Wide	20,167	20,713	21,177	22,107
Clyde St	808	1,040	1,271	1,364
Marys Mount	3,721	4,449	5,176	5,468
LGA (includes rural)	32,167	33,863	35,567	37,202

Growth by Service Area	Historic	Future
City Wide	0.54%	1.10%
Clyde St	5.04%	6.47%
Marys Mount	7.14%	4.24%
LGA (includes rural)	0.90%	1.00%

Dwellings

Dwellings by Profile.id Areas	2019
Goulburn Central CBD	1,325
Goulburn Central North	2,325
Goulburn Central South	1,216
Goulburn North	2,682
Goulburn South East	1,258
Goulburn West	1,625
Total	10,430

Equivalent Tenements in 2019

Service Area	Current Residential Dwellings (ETs) (2019)
City Wide	8,920
Clyde St	282
Marys Mount	1,324
Total	10,527

Equivalent Tenement Forecast

Year	Equivalent Tenements (ET) LGA	Equivalent Tenements (ET) City Wide	Equivalent Tenements (ET) Clyde St	Equivalent Tenements (ET) Marys Mount
1995/96	7,803	7,803	0	0
1996/97	7,846	7,846	0	0
1997/98	7,888	7,888	0	0
1998/99	7,931	7,931	0	0
1999/00	7,985	7,974	11	0
2000/01	8,042	8,017	24	0
2001/02	8,098	8,061	37	0
2002/03	8,156	8,105	51	0
2003/04	8,213	8,149	64	0
2004/05	8,271	8,193	77	0
2005/06	8,419	8,238	91	91
2006/07	8,568	8,282	104	182
2007/08	8,717	8,327	118	272
2008/09	8,867	8,373	131	363
2009/10	9,016	8,418	144	454
2010/11	9,166	8,464	158	545
2011/12	9,316	8,510	171	635
2012/13	9,466	8,556	184	726
2013/14	9,617	8,603	198	817
2014/15	9,768	8,649	211	908
2015/16	9,919	8,696	224	998
2016/17	10,070	8,744	238	1,089
2017/18	10,222	8,791	251	1,180
2018/19	10,374	8,839	265	1,271
2019/20	10,527	8,887	278	1,361
2020/21	10,695	8,985	295	1,415
2021/22	10,865	9,084	313	1,469
2022/23	11,036	9,184	330	1,523
2023/24	11,209	9,285	347	1,577
2024/25	11,382	9,387	364	1,631
2025/26	11,556	9,490	381	1,685
2026/27	11,732	9,595	398	1,739
2027/28	11,908	9,701	415	1,792
2028/29	12,086	9,807	433	1,846
2029/30	12,265	9,915	450	1,900
2030/31	12,445	10,024	467	1,954
2031/32	12,627	10,135	484	2,008
2032/33	12,773	10,246	501	2,025
2033/34	12,889	10,359	505	2,025
2034/35	13,003	10,473	505	2,025

Year	Equivalent Tenements (ET) LGA	Equivalent Tenements (ET) City Wide	Equivalent Tenements (ET) Clyde St	Equivalent Tenements (ET) Marys Mount
2035/36	13,119	10,589	505	2,025
2036/37	13,235	10,705	505	2,025
2037/38	13,353	10,823	505	2,025
2038/39	13,472	10,942	505	2,025
2039/40	13,593	11,063	505	2,025
2040/41	13,714	11,184	505	2,025
2041/42	13,838	11,308	505	2,025
2042/43	13,962	11,432	505	2,025
2043/44	14,088	11,558	505	2,025
2044/45	14,215	11,685	505	2,025
2045/46	14,344	11,814	505	2,025
2046/47	14,474	11,944	505	2,025
2047/48	14,605	12,075	505	2,025
2048/49	14,738	12,208	505	2,025
2049/50	14,873	12,343	505	2,025

Equivalent Tenement Take-up

Year	Annual Take-up (ET) LGA	Annual Take-up (ET) City Wide	Annual Take-up (ET) Clyde St	Annual Take-up (ET) Marys Mount
1995/96				
1996/97	42	42	0	0
1997/98	42	42	0	0
1998/99	43	43	0	0
1999/00	54	43	11	0
2000/01	57	43	13	0
2001/02	56	44	13	0
2002/03	58	44	14	0
2003/04	57	44	13	0
2004/05	58	44	13	0
2005/06	148	45	14	91
2006/07	149	44	13	91
2007/08	149	45	14	90
2008/09	150	46	13	91
2009/10	149	45	13	91
2010/11	150	46	14	91
2011/12	150	46	13	90
2012/13	150	46	13	91
2013/14	151	47	14	91
2014/15	151	46	13	91

Year	Annual Take-up (ET) LGA	Annual Take-up (ET) City Wide	Annual Take-up (ET) Clyde St	Annual Take-up (ET) Marys Mount
2015/16	151	47	13	90
2016/17	151	48	14	91
2017/18	152	47	13	91
2018/19	152	48	14	91
2019/20	153	48	13	90
2020/21	168	98	17	54
2021/22	170	99	18	54
2022/23	171	100	17	54
2023/24	173	101	17	54
2024/25	173	102	17	54
2025/26	174	103	17	54
2026/27	176	105	17	54
2027/28	176	106	17	53
2028/29	178	106	18	54
2029/30	179	108	17	54
2030/31	180	109	17	54
2031/32	182	111	17	54
2032/33	146	111	17	17
2033/34	116	113	4	0
2034/35	114	114	0	0
2035/36	116	116	0	0
2036/37	116	116	0	0
2037/38	118	118	0	0
2038/39	119	119	0	0
2039/40	121	121	0	0
2040/41	121	121	0	0
2041/42	124	124	0	0
2042/43	124	124	0	0
2043/44	126	126	0	0
2044/45	127	127	0	0
2045/46	129	129	0	0
2046/47	130	130	0	0
2047/48	131	131	0	0
2048/49	133	133	0	0
2049/50	135	135	0	0
Total new ETs	7,069	4,539	505	2,025
Future new ETs	4,346	3,456	227	664

14 Existing Capital Costs

This section lists a summary of the assets included in this DSP, a full listing is provided in Appendix A.

Existing Asset Summary MEERA value – City Wide

Year	Box Culvert Headwall	Drainage	PIPE	Pipe Culvert Headwall	Stormwater Improvements	Total
1990			$846,804	$1,142		$847,945
1991	$36,069		$919,814	$11,545		$967,428
1992	$3,775		$572,642			$576,418
1993	$1,848		$211,330	$852		$214,030
1994			$353,872	$951		$354,823
1995			$325,630	$1,609		$327,239
1996			$428,573	$329		$428,902
1997			$46,999	$229		$47,228
1998			$94,803	$3,668		$98,471
1999			$124,705			$124,705
2000	$8,365		$707,005	$3,690		$719,060
2001			$9,055	$234		$9,289
2002			$190,867	$456		$191,323
2003	$1,293		$372,694	$5,143		$379,130
2004	$1,457		$161,808	$922		$164,187
2005			$49,267	$888		$50,155
2006			$966,555	$329		$966,885
2007	$5,554		$1,549,616	$5,495		$1,560,665
2008				$468		$468
2009			$62,477	$329		$62,806
2010			$4,258	$229	$12,305	$16,792

2011			$17,208		$38,035	$55,243
2012					$89,364	$89,364
2013					$83,684	$83,684
2014					$89,444	$89,444
2015					$120,714	$120,714
2016					$115,777	$115,777
2017		$361,057			$235,157	$596,214
2018		$361,057			$60,877	$421,934
2019					$232,463	$232,463
Total	**$58,362**	**$722,115**	**$8,015,981**	**$38,510**	**$1,077,821**	**$9,912,788**

Existing Asset Summary MEERA value – Clyde St

Year	Creek Remediation	Total
2007	$448,686	$448,686
2009	$121,690	$121,690
2016	$1,716,184	$1,716,184
2017	$310,020	$310,020
2018	$364,635	$364,635
Total	**$2,961,214**	**$2,961,214**

Existing Asset Summary MEERA value – Marys Mount

Year	Box Culvert Headwall	Drainage	PIPE	Pipe Culvert Headwall	Total
2004			$733,710	$3,448	$737,159
2005			$39,575		$39,575
2006			$3,128	$229	$3,357
2007		$199,800	$158,038		$357,838
2008	$1,469		$77,523		$78,992
2009		$299,700			$299,700
2010	$7,204		$68,137		$75,341
2011		$599,400	$112,714		$712,114
2012			$46,743		$46,743
2013	$913	$599,400	$349,366	$522	$950,200
2014			$21,542		$21,542
2015		$599,400			$599,400
2017		$669,330			$669,330
Total	**$9,585**	**$2,967,030**	**$1,610,477**	**$4,200**	**$4,591,291**

15 Future Capital Works Program

A full listing of the proposed future works is shown in the table below.

Asset Service Area(s)	Asset Purpose	Asset Details	Construction Date	Cost Estimate (2020 MEERA)	Shared Proportion	Growth Proportion	Recoverable Cost	Justification
Marys Mount	Drainage	Revegetation	2019/2020	$431,668	100%	33%	$141,544	Future renewal within next 10 years
Marys Mount	Drainage	Culvert 9 - McDermott Drive	2020/2021	$186,540	100%	33%	$61,167	Future renewal within next 10 years
Marys Mount	Drainage	Revegetation	2020/2021	$431,668	100%	33%	$141,544	Future renewal within next 10 years
Marys Mount	Drainage	Culvert 8 - Marys Mount Road	2020/2021	$494,727	100%	33%	$162,222	Future renewal within next 10 years
Marys Mount	Drainage	Revegetation	2021/2022	$431,668	100%	33%	$141,544	Future renewal within next 10 years
Marys Mount	Drainage	Culvert 4 - Marys Mount Road	2021/2022	$563,012	100%	33%	$184,612	Future renewal within next 10 years
Marys Mount	Drainage	Revegetation	2022/2023	$431,668	100%	33%	$141,544	Future renewal within next 10 years
Marys Mount	Drainage	Culvert 6 - Marys Mount Road	2021/2022	$599,755	100%	33%	$196,660	Future renewal within next 10 years
Marys Mount	Drainage	Culvert 3 - Baxter Place	2022/2023	$361,210	100%	33%	$118,441	Future renewal within next 10 years
Marys Mount	Drainage	Revegetation	2023/2024	$431,668	100%	33%	$141,544	Future renewal within next 10 years
Marys Mount	Drainage	Culvert 2 - Marys Mount Road	2022/2023	$161,216	100%	33%	$52,863	Future renewal within next 10 years
Marys Mount	Drainage	Revegetation	2024/2025	$431,668	100%	33%	$141,544	Future renewal within next 10 years
Marys Mount	Drainage	Culvert 1 - Crookwell Road	2023/2024	$106,215	100%	33%	$34,828	Future renewal within next 10 years
Marys Mount	Drainage	Revegetation	2025/2026	$431,668	100%	33%	$141,544	Future renewal within next 10 years
Marys Mount	Drainage	Culvert 7 - Brennan Drive	2023/2024	$138,464	100%	33%	$45,402	Future renewal within next 10 years
Marys Mount	Drainage	Revegetation	2026/2027	$431,668	100%	33%	$141,544	Future renewal within next 10 years
Marys Mount	Drainage	Revegetation	2027/2028	$431,668	100%	33%	$141,544	Future renewal within next 10 years
Marys Mount	Drainage	Revegetation	2028/2029	$431,668	100%	33%	$141,544	Future renewal within next 10 years
City Wide	Detention Basin	Detention Basin Quality Control Works	2030/2031	$1,413,183	100%	28%	$0	New asset required for development - not yet constructed, excluded outside of 10 years
City Wide	Drainage	Headwall Renewal	2019/2020	$3,533	100%	28%	$989	Future renewal within next 10 years

Asset Service Area(s)	Asset Purpose	Asset Details	Construction Date	Cost Estimate (2020 MEERA)	Shared Proportion	Growth Proportion	Recoverable Cost	Justification
City Wide	Drainage	Headwall Renewal	2019/2020	$3,533	100%	28%	$989	Future renewal within next 10 years
City Wide	Drainage	GPT Renewal	2019/2020	$18,548	100%	28%	$5,193	Future renewal within next 10 years
City Wide	Drainage	GPT Renewal	2019/2020	$18,548	100%	28%	$5,193	Future renewal within next 10 years
City Wide	Drainage	Pipe Renewal	2019/2020	$21,366	100%	28%	$5,982	Future renewal within next 10 years
City Wide	Drainage	Pipe Renewal	2019/2020	$21,366	100%	28%	$5,982	Future renewal within next 10 years
City Wide	Drainage	Victoria St - construct relief line 750mm (450m)	2019/2020	$525,439	100%	28%	$147,124	Pipes - existing line under capacity
City Wide	Drainage	Landsdowne St/ Hovell St: Limited stormwater infrastructure in the area creating overland flow issues for 26 Hovell St and 23 Hollis Avenue	2020/2021	$176,648	100%	28%	$49,462	Future renewal within next 10 years
City Wide	Drainage	Headwall Renewal	2020/2021	$3,533	100%	28%	$989	Future renewal within next 10 years
City Wide	Drainage	GPT Renewal	2020/2021	$18,548	100%	28%	$5,193	Future renewal within next 10 years
City Wide	Drainage	Pipe Renewal	2020/2021	$21,366	100%	28%	$5,982	Future renewal within next 10 years
City Wide	Drainage	Citizen St - Construct relief line 900 dia (600m)	2020/2021	$1,011,133	100%	28%	$283,119	Pipes - existing 1200 dia under capacity
City Wide	Drainage	Yarrowlow St to Taralga Rd - Duplicate existing lines -900 dia	2020/2021	$283,732	100%	28%	$79,445	Pipes - existing lines under capacity
City Wide	Drainage	Taralga Rd - Relief line 750 dia (60m)	2020/2021	$116,694	100%	28%	$32,674	Pipes - existing 1050 dia under capacity
City Wide	Drainage	Headwall Renewal	2021/2022	$3,533	100%	28%	$989	Future renewal within next 10 years
City Wide	Drainage	GPT Renewal	2021/2022	$18,548	100%	28%	$5,193	Future renewal within next 10 years
City Wide	Drainage	Pipe Renewal	2021/2022	$21,366	100%	28%	$5,982	Future renewal within next 10 years
City Wide	Drainage	Prince St 69 and 71 - Augment existing 1350 dia (185m)	2021/2022	$635,137	100%	28%	$177,840	Pipes - existing 1050 dia under capacity
City Wide	Drainage	Clinton St - Duplicate existing 900	2021/2022	$558,561	100%	28%	$156,398	Pipes - existing 900 dia under capacity
City Wide	Drainage	Overland flow path land acquisition - Common Street Business Park Wetland site	2021/2022	$222,576	100%	28%	$62,322	New asset required for development - not yet constructed

Asset Service Area(s)	Asset Purpose	Asset Details	Construction Date	Cost Estimate (2020 MEERA)	Shared Proportion	Growth Proportion	Recoverable Cost	Justification
City Wide	Drainage	Headwall Renewal	2022/2023	$3,533	100%	28%	$989	Future renewal within next 10 years
City Wide	Drainage	GPT Renewal	2022/2023	$18,548	100%	28%	$5,193	Future renewal within next 10 years
City Wide	Drainage	Pipe Renewal	2022/2023	$21,366	100%	28%	$5,982	Future renewal within next 10 years
City Wide	Drainage	View St - Replace with 2 x 750 dia (390m)	2022/2023	$753,898	100%	28%	$211,093	Pipes - existing 450 dia under capacity
City Wide	Drainage	Goldsmith St 8004-8003 - Duplicate 1050 on opposite side of road (275m)	2022/2023	$539,659	100%	28%	$151,106	Pipes - existing 1050 dia under capacity
City Wide	Drainage	Robinson St - Duplicate 600 dia	2022/2023	$131,991	100%	28%	$36,958	Pipes - existing 600 dia under capacity
City Wide	Drainage	Clifford St - Relief line parallel to existing 525 dia (480m)	2022/2023	$317,966	100%	28%	$89,031	Pipes - existing 900 dia under capacity
City Wide	Drainage	Overland flow path land acquisition - Park Road Wetland site	2022/2023	$153,684	100%	28%	$43,032	New asset required for development - not yet constructed
City Wide	Drainage	Headwall Renewal	2023/2024	$3,533	100%	28%	$989	Future renewal within next 10 years
City Wide	Drainage	GPT Renewal	2023/2024	$18,548	100%	28%	$5,193	Future renewal within next 10 years
City Wide	Drainage	Pipe Renewal	2023/2024	$21,366	100%	28%	$5,982	Future renewal within next 10 years
City Wide	Drainage	Nichols St - Duplicate 675	2023/2024	$320,033	100%	28%	$89,610	Pipes - existing pipes under capacity
City Wide	Drainage	Yarrowlow St to Taralga Rd - Duplicate existing lines -1050 dia	2023/2024	$577,285	100%	28%	$161,641	Pipes - existing lines under capacity
City Wide	Drainage	Bradley St - Relief line on northern side 900 dia (360m)	2023/2024	$577,003	100%	28%	$161,562	Pipes - existing 750 dia under capacity
City Wide	Drainage	Overland flow path land acquisition - Dick Street flowpath	2023/2024	$225,226	100%	28%	$63,064	New asset required for development - not yet constructed
City Wide	Drainage	Overland flow path land acquisition - Clinton, Gilmore, Verner Detention site	2023/2024	$171,098	100%	28%	$47,908	New asset required for development - not yet constructed
City Wide	Drainage	Drainage Upgrade	2072/2028	$532,593	100%	28%	$149,127	Future renewal within next 10 years
City Wide	Drainage	Headwall Renewal	2024/2025	$3,533	100%	28%	$989	Future renewal within next 10 years
City Wide	Drainage	GPT Renewal	2024/2025	$18,548	100%	28%	$5,193	Future renewal within next 10 years
City Wide	Drainage	Pipe Renewal	2024/2025	$21,366	100%	28%	$5,982	Future renewal within next 10 years

Asset Service Area(s)	Asset Purpose	Asset Details	Construction Date	Cost Estimate (2020 MEERA)	Shared Proportion	Growth Proportion	Recoverable Cost	Justification
City Wide	Drainage	Lansdowne St - Relief line on southern side 1050 dia (580m)	2024/2025	$1,152,451	100%	28%	$322,688	Pipes - existing 1350 dia under capacity
City Wide	Drainage	Drainage Upgrade	2032/2033	$532,593	100%	28%	$0	Future renewal - excluded outside of 10 years
City Wide	Drainage	Headwall Renewal	2025/2026	$3,533	100%	28%	$989	Future renewal within next 10 years
City Wide	Drainage	GPT Renewal	2025/2026	$18,548	100%	28%	$5,193	Future renewal within next 10 years
City Wide	Drainage	Pipe Renewal	2025/2026	$21,366	100%	28%	$5,982	Future renewal within next 10 years
City Wide	Drainage	Overland flow path land acquisition - Fitzroy Street flowpath	2025/2026	$44,162	100%	28%	$12,365	New asset required for development - not yet constructed
City Wide	Drainage	Drainage Upgrade	2033/2034	$532,593	100%	28%	$0	Future renewal - excluded outside of 10 years
City Wide	Drainage	Drainage Upgrade	2034/2035	$532,593	100%	28%	$0	Future renewal - excluded outside of 10 years
City Wide	Drainage	Drainage Upgrade	2035/2036	$532,593	100%	28%	$0	Future renewal - excluded outside of 10 years
City Wide	Drainage	Drainage Upgrade	2036/2037	$532,593	100%	28%	$0	Future renewal - excluded outside of 10 years
City Wide	Drainage	Drainage Upgrade	2037/2038	$532,593	100%	28%	$0	Future renewal - excluded outside of 10 years
City Wide	Drainage	Eastgrove Subway - Channel works	2027/2028	$423,955	100%	28%	$118,708	Drainage
City Wide	Drainage	Drainage Upgrade	2038/2039	$532,593	100%	28%	$0	Future renewal - excluded outside of 10 years
City Wide	GPT	3 Small traps	2020/2021	$79,492	100%	28%	$22,258	New asset required for development - not yet constructed
City Wide	GPT	7 Large traps	2029/2030	$1,854,803	100%	28%	$519,348	New asset required for development - not yet constructed
City Wide	Natural channel rehabilitation	8km of Channel of average 10m width = 180,000sqm. Earthworks @$5 = $900,000	2026/2027	$1,589,831	100%	28%	$445,156	New asset required for development - not yet constructed
City Wide	Natural channel rehabilitation	8km of Channel of average 10m width = 180,000sqm. Revegetation	2028/2029	$1,421,583	100%	28%	$398,046	New asset required for development - not yet constructed

Asset Service Area(s)	Asset Purpose	Asset Details	Construction Date	Cost Estimate (2020 MEERA)	Shared Proportion	Growth Proportion	Recoverable Cost	Justification
City Wide	Natural channel rehabilitation	8km of Channel of average 10m width = 180,000sqm. Revegetation	2029/2030	$1,421,583	100%	28%	$398,046	New asset required for development - not yet constructed
City Wide	Natural channel rehabilitation	8km of Channel of average 10m width = 180,000sqm. Revegetation	2030/2031	$1,421,583	100%	28%	$0	New asset required for development - not yet constructed, excluded outside of 10 years
City Wide	Rehabilitation	Brick drain, Sloane St Rehabilitation/ Replacement	2021/2022	$176,648	100%	28%	$49,462	New asset required for development - not yet constructed
City Wide	Sediment control	Road shoulders with existing K&G 5.153 km x 7 m wide x $25sqm	2025/2026	$1,592,966	100%	28%	$446,034	New asset required for development - not yet constructed
City Wide	Sediment control	Road shoulders with no K&G 13.6 km x 8 m wide seal + 13.6 length K&G	2031/2032	$2,562,572	100%	28%	$0	New asset required for development - not yet constructed, excluded outside of 10 years
City Wide	Sediment control	Road shoulders with no K&G 13.6 km x 8 m wide seal + 13.6 length K&G	2032/2033	$2,562,572	100%	28%	$0	New asset required for development - not yet constructed, excluded outside of 10 years
City Wide	Sediment control	Road shoulders with no K&G 13.6 km x 8 m wide seal + 13.6 length K&G	2033/2034	$2,562,572	100%	28%	$0	New asset required for development - not yet constructed, excluded outside of 10 years
City Wide	Strategy	Stormwater Strategy	2023/2024	$176,648	100%	28%	$49,462	New asset required for development - not yet constructed
City Wide	Wetland	Wetland quality control works	2024/2025	$971,563	100%	28%	$272,040	New asset required for development - not yet constructed
City Wide	Drainage	St Peter & Pauls School	2020/2021	$176,648	100%	28%	$49,462	Future renewal within next 10 years
City Wide	Drainage	37, 35 Knox St	2020/2021	$176,648	100%	28%	$49,462	Future renewal within next 10 years
City Wide	Drainage	63, 61, 59 Mary St	2021/2022	$176,648	100%	28%	$49,462	Future renewal within next 10 years
City Wide	Drainage	79, 77 Robinson St	2021/2022	$176,648	100%	28%	$49,462	Future renewal within next 10 years
City Wide	Drainage	47 Robinson St	2021/2022	$176,648	100%	28%	$49,462	Future renewal within next 10 years
City Wide	Drainage	59, 57 Cathcart St below Cathcart Park	2022/2023	$176,648	100%	28%	$49,462	Future renewal within next 10 years
City Wide	Drainage	Drainage reserve and culvert across Faithful/ Addison St intersection	2025/2026	$353,296	100%	28%	$98,924	Future renewal within next 10 years
City Wide	Drainage	Vegetation 139,480sqm	2026/2027	$1,231,825	100%	28%	$344,913	New asset required for development - not yet constructed

Asset Service Area(s)	Asset Purpose	Asset Details	Construction Date	Cost Estimate (2020 MEERA)	Shared Proportion	Growth Proportion	Recoverable Cost	Justification
City Wide	Drainage	Vegetation 139,480sqm	2027/2028	$1,231,825	100%	28%	$344,913	New asset required for development - not yet constructed
City Wide	Drainage	Vegetation 139,480sqm	2028/2029	$1,231,825	100%	28%	$344,913	New asset required for development - not yet constructed
Clyde St	Creek Remediation	Structures	2020/2021	$162,516	100%	45%	$73,052	New asset required for development - not yet constructed
Clyde St	Creek Remediation	Revegetation 18,000sqm	2020/2021	$476,949	100%	45%	$214,391	New asset required for development - not yet constructed
Clyde St	Culvert Augmentation	Various road crossing culvert augmentation	2021/2020	$529,944	100%	45%	$238,212	New asset required for development - not yet constructed
Clyde St	Drainage	57 Elizabeth St	2023/2024	$176,648	100%	45%	$79,404	Future renewal within next 10 years
Clyde St	Drainage	Earthworks 78,200cum @$10	2022/2023	$1,381,386	100%	45%	$620,940	New asset required for development - not yet constructed
Clyde St	Rectify erosion problems	various roads including Clinton Street	202/2021	$441,620	100%	45%	$198,510	New asset required for development - not yet constructed
Clyde St	Sand Filter	Near Wollondilly river, including land acquisition	2021/2022	$1,413,183	100%	45%	$635,233	New asset required for development - not yet constructed
Clyde St	Studies and plans	WSUD, creek management and creek vegetation studies and reports	2023/2024	$141,318	100%	45%	$63,523	New asset required for development - not yet constructed

16 Calculation of the Capital Charge

The common inputs for the calculations of the capital charge are shown in the able below.

The following sections outline the calculation table for each service area.

Dates and General information	Value	Source
Year of Calculation	2020	
Assessment date	30/06/2020	
Discount rate date	1/01/1996	
30yr cut-off date	30/06/1990	
Discount Rate (PA) For Assets Constructed Before 1 January 1996:	3%	DSP Guidelines
Discount Rate (PA) For Assets Constructed On Or After 1 January 1996:	5%	DSP Guidelines
Discount Rate (PA) For Proposed Future Assets:	5%	DSP Guidelines

16.1 City Wide

City Wide			
	NPV Assets	NPV ETs	Capital Charge
Existing Assets (Pre 1996)	$1,209,105	1842	$656
Existing Assets (Post 1996)	$3,093,336	1143	$2,707
		Total	$3,363

Year	Annual ET Take-up (ET)	Existing Assets (Pre 1996)	Existing Assets (Post 1996)	Historical Index	PV of Historical ETs (3%)	PV of Historical ETs (5%)	PV Existing Assets (Pre 1996) (3%)	PV Existing Assets (Post 1996) (5%)
1989/90		$311,891						
1990/91		$355,840						
1991/92		$212,018						
1992/93		$78,725						
1993/94		$130,511						
1994/95		$120,365						
1995/96	0		$157,727	0	0	0	$1,209,105	$157,727
1996/97	42		$17,368	1	41	40		$16,541
1997/98	42		$36,212	2	40	38		$32,846
1998/99	43		$45,860	3	39	37		$39,615
1999/00	43		$264,431	4	38	35		$217,548
2000/01	43		$3,416	5	37	34		$2,677
2001/02	44		$70,358	6	37	33		$52,502
2002/03	44		$139,423	7	36	31		$99,086
2003/04	44		$60,379	8	35	30		$40,867
2004/05	44		$18,444	9	34	28		$11,889
2005/06	45		$355,568	10	33	28		$218,288
2006/07	44		$573,928	11	32	26		$335,564
2007/08	45		$172	12	32	25		$96
2008/09	46		$23,097	13	31	24		$12,249
2009/10	45		$6,175	14	30	23		$3,119
2010/11	46		$20,315	15	30	22		$9,772
2011/12	46		$32,863	16	29	21		$15,055
2012/13	46		$30,775	17	28	20		$13,427
2013/14	47		$32,892	18	28	20		$13,668
2014/15	46		$44,392	19	26	18		$17,567
2015/16	47		$42,577	20	26	18		$16,047
2016/17	48		$219,255	21	26	17		$78,700
2017/18	47		$155,165	22	25	16		$53,043
2018/19	48		$85,487	23	24	16		$27,832
2019/20	48		$171,454	24	24	15		$53,162
2020/21	98		$578,047	25	47	29		$170,699

Year	Annual ET Take-up (ET)	Existing Assets (Pre 1996)	Existing Assets (Post 1996)	Historical Index	PV of Historical ETs (3%)	PV of Historical ETs (5%)	PV Existing Assets (Pre 1996) (3%)	PV Existing Assets (Post 1996) (5%)
2021/22	99		$606,572	26	46	28		$170,593
2022/23	100		$592,846	27	45	27		$158,793
2023/24	101		$585,411	28	44	26		$149,335
2024/25	102		$606,893	29	43	25		$147,442
2025/26	103		$569,488	30	42	24		$131,767
2026/27	105		$790,069	31	42	23		$174,099
2027/28	106		$612,749	32	41	22		$128,595
2028/29	106		$742,959	33	40	21		$148,497
2029/30	108		$917,394	34	40	21		$174,630
2030/31	109		$0	35	39	20		$0
2031/32	111		$0	36	38	19		$0
2032/33	111		$0	37	37	18		$0
2033/34	113		$0	38	37	18		$0
2034/35	114		$0	39	36	17		$0
2035/36	116		$0	40	36	16		$0
2036/37	116		$0	41	35	16		$0
2037/38	118		$0	42	34	15		$0
2038/39	119		$0	43	33	15		$0
2039/40	121		$0	44	33	14		$0
2040/41	121		$0	45	32	13		$0
2041/42	124		$0	46	32	13		$0
2042/43	124		$0	47	31	13		$0
2043/44	126		$0	48	30	12		$0
2044/45	127		$0	49	30	12		$0
2045/46	129		$0	50	29	11		$0
2046/47	130		$0	51	29	11		$0
2047/48	131		$0	52	28	10		$0
2048/49	133		$0	53	28	10		$0
2049/50	135		$0	54	27	10		$0
Total	4539				1842	1143	$1,209,105	$3,093,336

16.2 Clyde St

Clyde St			
	NPV Assets	NPV ETs	Capital Charge
Existing Assets (Pre 1996)	$0	277	$0
Existing Assets (Post 1996)	$1,808,410	196	$9,207
		Total	$9,207

Year	Annual ET Take-up (ET)	Existing Assets (Pre 1996)	Existing Assets (Post 1996)	Historical Index	PV of Historical ETs (3%)	PV of Historical ETs (5%)	PV Existing Assets (Pre 1996) (3%)	PV Existing Assets (Post 1996) (5%)
1989/90		$0						
1990/91		$0						
1991/92		$0						
1992/93		$0						
1993/94		$0						
1994/95		$0						
1995/96	0		$0	0	0	0	$0	$0
1996/97	0		$0	1	0	0		$0
1997/98	0		$0	2	0	0		$0
1998/99	0		$0	3	0	0		$0
1999/00	11		$0	4	10	9		$0
2000/01	13		$0	5	11	10		$0
2001/02	13		$0	6	11	10		$0
2002/03	14		$0	7	11	10		$0
2003/04	13		$0	8	10	9		$0
2004/05	13		$0	9	10	8		$0
2005/06	14		$0	10	10	9		$0
2006/07	13		$448,686	11	9	8		$262,337
2007/08	14		$0	12	10	8		$0
2008/09	13		$121,690	13	9	7		$64,535
2009/10	13		$0	14	9	7		$0
2010/11	14		$0	15	9	7		$0
2011/12	13		$0	16	8	6		$0
2012/13	13		$0	17	8	6		$0
2013/14	14		$0	18	8	6		$0
2014/15	13		$0	19	7	5		$0
2015/16	13		$1,716,184	20	7	5		$646,812
2016/17	14		$310,020	21	8	5		$111,279
2017/18	13		$364,635	22	7	4		$124,650
2018/19	14		$0	23	7	5		$0
2019/20	13		$238,212	24	6	4		$73,862
2020/21	17		$485,953	25	8	5		$143,503

Year	Annual ET Take-up (ET)	Existing Assets (Pre 1996)	Existing Assets (Post 1996)	Historical Index	PV of Historical ETs (3%)	PV of Historical ETs (5%)	PV Existing Assets (Pre 1996) (3%)	PV Existing Assets (Post 1996) (5%)
2021/22	18		$635,233	26	8	5		$178,653
2022/23	17		$620,940	27	8	5		$166,318
2023/24	17		$142,927	28	7	4		$36,460
2024/25	17		$0	29	7	4		$0
2025/26	17		$0	30	7	4		$0
2026/27	17		$0	31	7	4		$0
2027/28	17		$0	32	7	4		$0
2028/29	18		$0	33	7	4		$0
2029/30	17		$0	34	6	3		$0
2030/31	17		$0	35	6	3		$0
2031/32	17		$0	36	6	3		$0
2032/33	17		$0	37	6	3		$0
2033/34	4		$0	38	1	1		$0
2034/35	0		$0	39	0	0		$0
2035/36	0		$0	40	0	0		$0
2036/37	0		$0	41	0	0		$0
2037/38	0		$0	42	0	0		$0
2038/39	0		$0	43	0	0		$0
2039/40	0		$0	44	0	0		$0
2040/41	0		$0	45	0	0		$0
2041/42	0		$0	46	0	0		$0
2042/43	0		$0	47	0	0		$0
2043/44	0		$0	48	0	0		$0
2044/45	0		$0	49	0	0		$0
2045/46	0		$0	50	0	0		$0
2046/47	0		$0	51	0	0		$0
2047/48	0		$0	52	0	0		$0
2048/49	0		$0	53	0	0		$0
2049/50	0		$0	54	0	0		$0
Total	505				277	196	$0	$1,808,410

16.3 Marys Mount

Marys Mount			
	NPV Assets	NPV ETs	Capital Charge
Existing Assets (Pre 1996)	$0	1100	$0
Existing Assets (Post 1996)	$2,837,018	758	$3,742
		Total	$3,742

Year	Annual ET Take-up (ET)	Existing Assets (Pre 1996)	Existing Assets (Post 1996)	Historical Index	PV of Historical ETs (3%)	PV of Historical ETs (5%)	PV Existing Assets (Pre 1996) (3%)	PV Existing Assets (Post 1996) (5%)
1989/90		$0						
1990/91		$0						
1991/92		$0						
1992/93		$0						
1993/94		$0						
1994/95		$0						
1995/96	0		$0	0	0	0	$0	$0
1996/97	0		$0	1	0	0		$0
1997/98	0		$0	2	0	0		$0
1998/99	0		$0	3	0	0		$0
1999/00	0		$0	4	0	0		$0
2000/01	0		$0	5	0	0		$0
2001/02	0		$0	6	0	0		$0
2002/03	0		$0	7	0	0		$0
2003/04	0		$737,159	8	0	0		$498,938
2004/05	0		$39,575	9	0	0		$25,510
2005/06	91		$3,357	10	68	56		$2,061
2006/07	91		$357,838	11	66	53		$209,221
2007/08	90		$78,992	12	63	50		$43,986
2008/09	91		$299,700	13	62	48		$158,937
2009/10	91		$75,341	14	60	46		$38,052
2010/11	91		$712,114	15	58	44		$342,539
2011/12	90		$46,743	16	56	41		$21,414
2012/13	91		$950,200	17	55	40		$414,569
2013/14	91		$21,542	18	53	38		$8,951
2014/15	91		$599,400	19	52	36		$237,203
2015/16	90		$0	20	50	34		$0
2016/17	91		$669,330	21	49	33		$240,251
2017/18	91		$0	22	47	31		$0
2018/19	91		$0	23	46	30		$0
2019/20	90		$141,544	24	44	28		$43,888
2020/21	54		$364,933	25	26	16		$107,766

Year	Annual ET Take-up (ET)	Existing Assets (Pre 1996)	Existing Assets (Post 1996)	Historical Index	PV of Historical ETs (3%)	PV of Historical ETs (5%)	PV Existing Assets (Pre 1996) (3%)	PV Existing Assets (Post 1996) (5%)
2021/22	54		$522,817	26	25	15		$147,037
2022/23	54		$312,848	27	24	14		$83,796
2023/24	54		$221,775	28	24	14		$56,573
2024/25	54		$141,544	29	23	13		$34,388
2025/26	54		$141,544	30	22	12		$32,750
2026/27	54		$141,544	31	22	12		$31,191
2027/28	53		$141,544	32	21	11		$29,705
2028/29	54		$141,544	33	20	11		$28,291
2029/30	54		$0	34	20	10		$0
2030/31	54		$0	35	19	10		$0
2031/32	54		$0	36	19	9		$0
2032/33	17		$0	37	6	3		$0
2033/34	0		$0	38	0	0		$0
2034/35	0		$0	39	0	0		$0
2035/36	0		$0	40	0	0		$0
2036/37	0		$0	41	0	0		$0
2037/38	0		$0	42	0	0		$0
2038/39	0		$0	43	0	0		$0
2039/40	0		$0	44	0	0		$0
2040/41	0		$0	45	0	0		$0
2041/42	0		$0	46	0	0		$0
2042/43	0		$0	47	0	0		$0
2043/44	0		$0	48	0	0		$0
2044/45	0		$0	49	0	0		$0
2045/46	0		$0	50	0	0		$0
2046/47	0		$0	51	0	0		$0
2047/48	0		$0	52	0	0		$0
2048/49	0		$0	53	0	0		$0
2049/50	0		$0	54	0	0		$0
Total	2025				1100	758	$0	$2,837,018

17 Calculation of the Reduction Amount

Income	Water	Source
Income	$0	Council provided income per annum - no levy in place
Ops, Mnt and Admin	$130,000	Council provided OMA costs per annum
ET's	10374	
Income / ET	$0.00	
Ops, Mnt and Admin / ET	$12.53	
Net income per ET	-$12.53	

	NPV Income	NPV ETs	Reduction Amount
Reduction Amount	-$366,965	2352	-$156

Year	Total ETs	New ETs	PV New ETs (5%)	Cumulative ETs	Net Income ($'000s)	PV Net income (5%) ($'000s)
2019/20	10,527					
2020/21	10695	168	160	168	-$2,105	-$2,005
2021/22	10865	170	154	338	-$4,235	-$3,842
2022/23	11036	171	148	509	-$6,378	-$5,510
2023/24	11209	173	142	682	-$8,546	-$7,031
2024/25	11382	173	136	855	-$10,714	-$8,395
2025/26	11556	174	130	1029	-$12,894	-$9,622
2026/27	11732	176	125	1205	-$15,100	-$10,731
2027/28	11908	176	119	1381	-$17,305	-$11,713
2028/29	12086	178	115	1559	-$19,535	-$12,593
2029/30	12265	179	110	1738	-$21,778	-$13,370
2030/31	12445	180	105	1918	-$24,034	-$14,052
2031/32	12627	182	101	2100	-$26,315	-$14,653
2032/33	12773	146	77	2246	-$28,144	-$14,925
2033/34	12889	116	59	2362	-$29,598	-$14,949
2034/35	13003	114	55	2476	-$31,026	-$14,924
2035/36	13119	116	53	2592	-$32,480	-$14,879
2036/37	13235	116	51	2708	-$33,933	-$14,805
2037/38	13353	118	49	2826	-$35,412	-$14,714
2038/39	13472	119	47	2945	-$36,903	-$14,604
2039/40	13593	121	46	3066	-$38,419	-$14,480
2040/41	13714	121	43	3187	-$39,936	-$14,335
2041/42	13838	124	42	3311	-$41,489	-$14,183
2042/43	13962	124	40	3435	-$43,043	-$14,014
2043/44	14088	126	39	3561	-$44,622	-$13,836
2044/45	14215	127	38	3688	-$46,214	-$13,647
2045/46	14344	129	36	3817	-$47,830	-$13,452

Year	Total ETs	New ETs	PV New ETs (5%)	Cumulative ETs	Net Income ($'000s)	PV Net income (5%) ($'000s)
2046/47	14474	130	35	3947	-$49,459	-$13,248
2047/48	14605	131	33	4078	-$51,101	-$13,035
2048/49	14738	133	32	4211	-$52,767	-$12,820
2049/50	14873	135	31	4346	-$54,459	-$12,601
Total			2352			-$366,965

18 Cross-Subsidy Calculations

This section is not required as no cross-subsidy is applied in this DSP.

19 Stormwater Modelling for Marys Mount

Stormwater Modelling and Reporting	Sam Kelly, Mitchell Howard	15/02/19
Reviewed by	Mark Hulme	15/02/19
Updated by	Geoffrey Kleu	03/06/20

In order to determine the future stormwater infrastructure requirements of the Marys Mount area, stormwater modelling of the area was undertaken. The methodology and results of the modelling are detailed in this section.

19.1 Hydrology

19.1.1 Catchment Description

The study area, presented in Figure 19-1, is located to the north of Wollondilly River between Crookwell Road and Middle Arm Road, Goulburn. The study area consists of approximately 677 ha comprised of a mix of low density residential development (approximately 35%) and faming land. This area is proposed to be increasingly used for residential development in the near future. Two key watercourses flow through the study area, flowing from the north towards Wollondilly River in the South. These watercourses, along with several other minor tributaries, are crossed by several urban roads in the region, including Marys Mount Road, Crookwell Road and McDermott Drive

The slopes of the hills either side of the two respective water courses are steep (5-10%). The whole site drains generally towards the south along the two watercourses with a slope of around 3%. The study area is largely free of vegetation.

19.1.2 Hydrological Model Selection

The computer model Watershed Bounded Network Model (WBNM; 2012) was used for hydrological modelling of the study area. WBNM is an advanced storage-routing model that allows simulation of catchment behaviour and is a recognised network model in Australian Rainfall and Runoff (ARR, 1987). This particular model was considered appropriate for the task of modelling the study area, given its ability to model a wide range of catchment characteristics. The model allowed peak flows to be established at various locations throughout the subject site. The WBNM model was also used in the Goulburn Flood Study, (Wollondilly and Mulwaree Rivers Flood Study, 2016) for calculation of peak flows.

19.1.3 Model Inputs

19.1.3.1 Sub-Catchment Topology

Details of the sub-catchment delineation used in the hydrologic model is presented Figure 19-2.

The sub-catchment topology for the constructed model reflects input from:

- Aerial Laser Survey (ALS) elevation data
- Cardno's GIS database for cadastral information
- Aerial photography from NearMap for the establishment of impervious areas

19.1.3.2 Impervious Fraction

Impervious fractions were calculated for the catchment based on aerial photography and current Cadastre for the site area. Adopted impervious factors were 45% for light residential, 65% for roads, including verges, and 100% for roofs and buildings in accordance with Goulburn Council standards, (Goulburn Mulwaree Council Stormwater Drainage Design handbook, 2013). A map of calculated impervious area coverage is included in Figure 19-3.

Figure 19-1 Study area

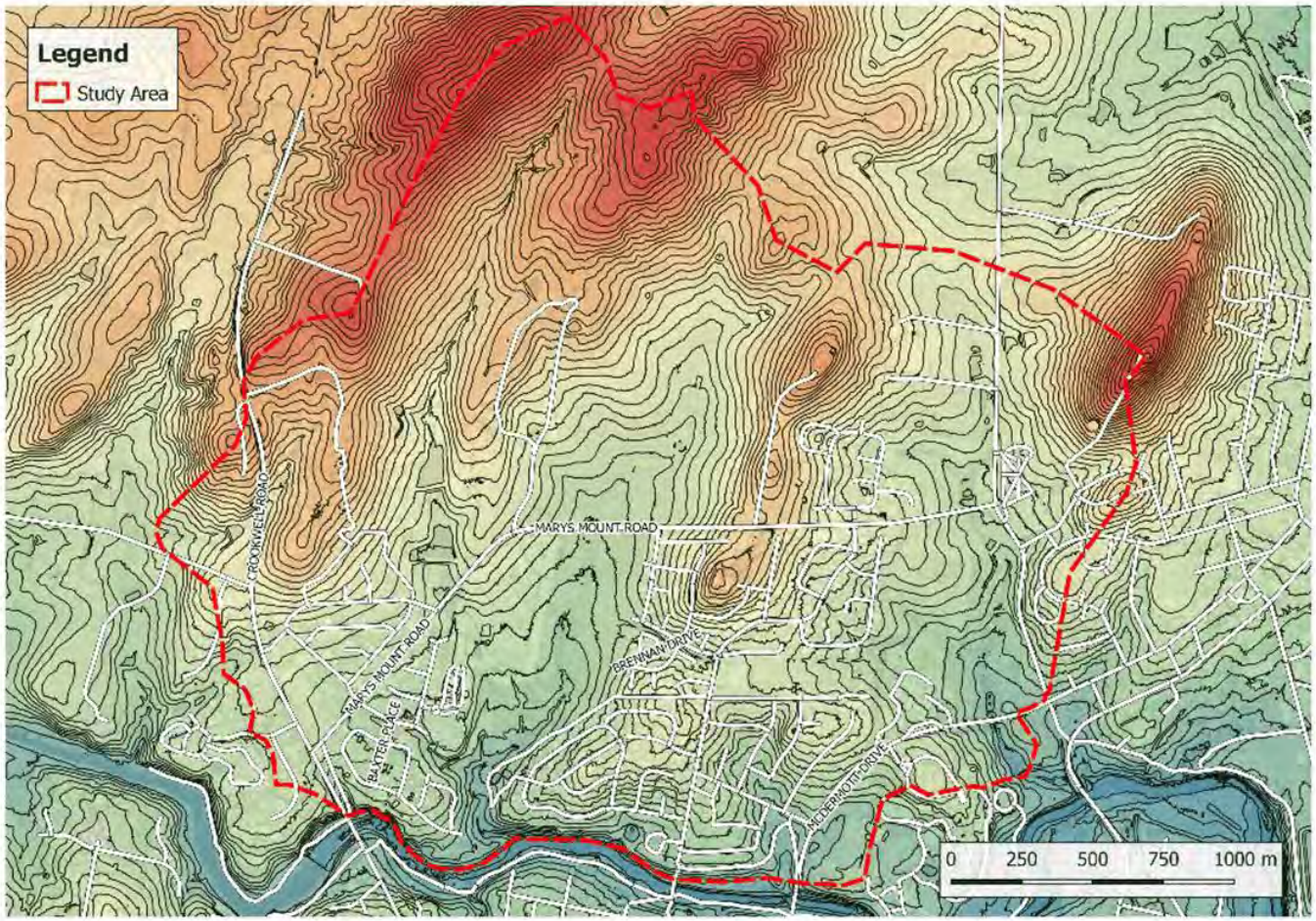


Figure 19-2 Hydrological Catchments (2m Contours)

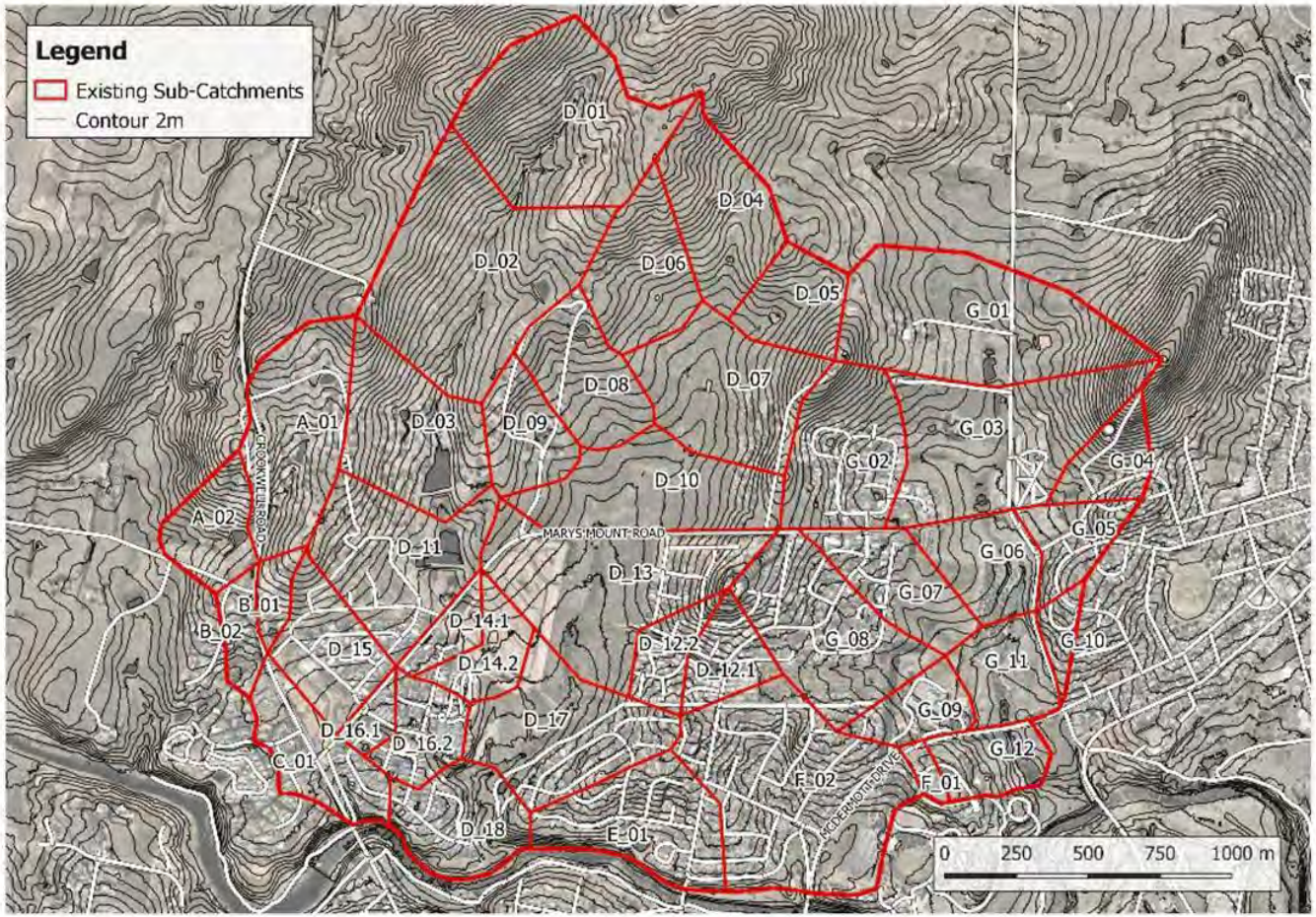
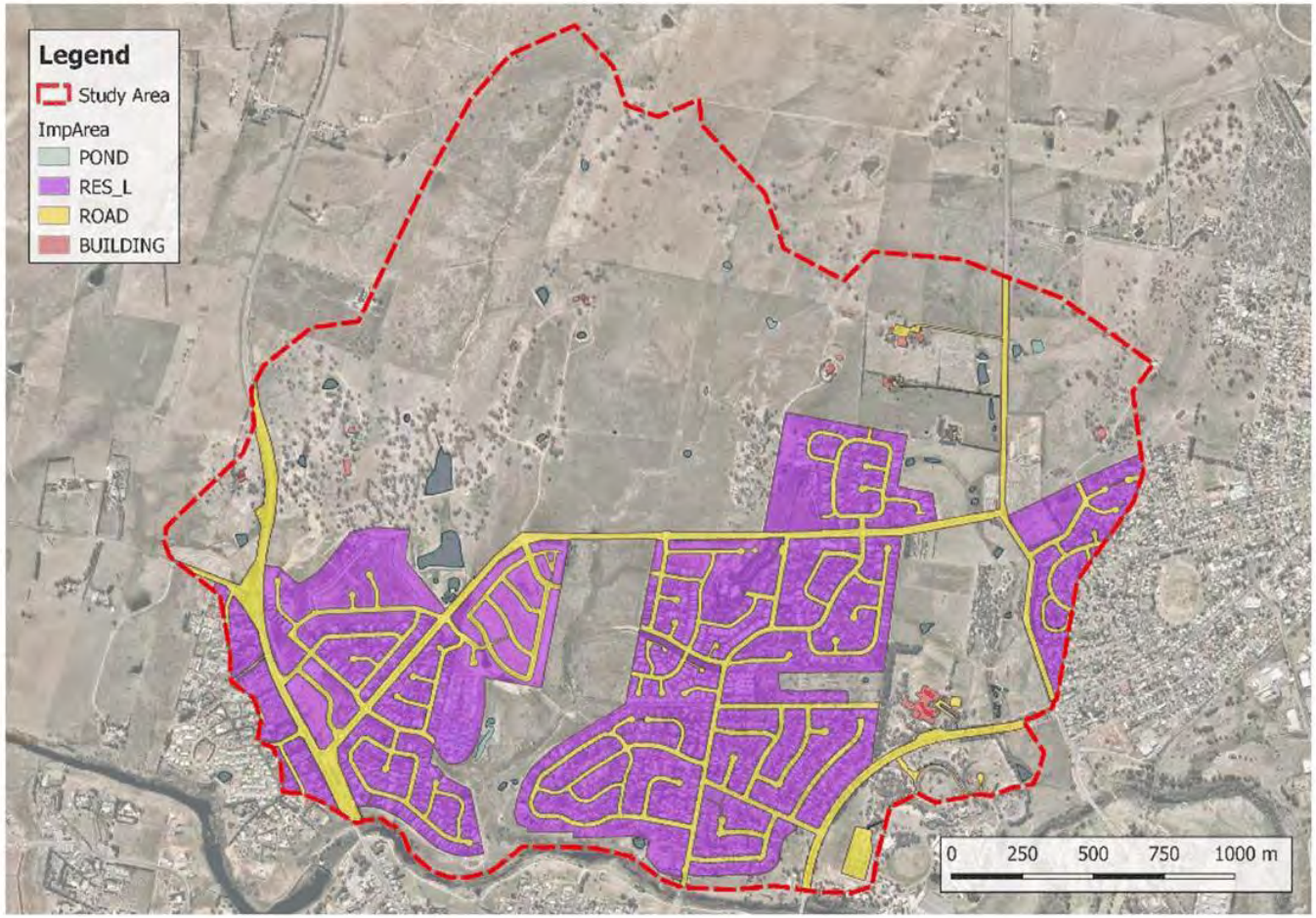


Figure 19-3 Impervious area coverage



19.1.3.3 Hydrological Parameters

Hydrological parameters adopted for the WBNM model are provided in Table 19-1. These values are primarily based on parameters used in the Goulburn Flood Study, (Wollondilly and Mulwaree Rivers Flood Study, 2016).

Table 19-1 WBNM Hydrological Parameters

Parameter	Value(s)	Comment
Initial loss (pervious surface)	0 mm	For long duration storms critical for this catchment, antecedent rainfall is likely, therefore initial loss assumed to be zero.
Initial loss (impervious surface)	0 mm	For long duration storms critical for this catchment, antecedent rainfall is likely, therefore initial loss assumed to be zero.
Continuing loss (pervious surface)	1.95 mm/hr	Adopted in accordance with Goulburn Flood Study (2016).
C (Lag parameter)	1.6	Adopted in accordance with Goulburn Flood Study (2016).
Stream routing factor	1.00	Accepted value for natural streams

19.1.3.4 Rainfall Data

Rainfall data for the site was sourced from the Bureau of Meteorology (BOM). The data used to generate the design storm bursts in the WBNM model is presented in Table 19-2. ARR1987 rainfall data has been utilised in this study this was the rainfall data used in Goulburn Mulwaree Shire Council's adopted flood study (WMA 2016).

Table 19-2 Rainfall data

Parameter	Value
2 Year 1 Hour Intensity	23.3 mm/hr
2 Year 12 Hour Intensity	4.5 mm/hr
2 Year 72 Hour Intensity	3.5 mm/hr
50 Year 1 Hour Intensity	45 mm/hr
50 Year 12 Hour Intensity	8.4 mm/hr
50 Year 72 Hour Intensity	2.4 mm/hr
F2 Geographic Factor	4.29
F50 Geographic Factor	15.64
Location Skew Coefficient	0.16

19.1.4 Results

The WBNM hydrological model was run with a spectrum of storm durations to allow determination of the critical design storm duration for the catchment and the derivation of hydrographs at key locations for use in the hydraulic model. It was established that for the 100 year ARI event, the critical duration is varied between 30 and 120 minutes. Refer to Table 19-3 for detailed modelling results.

Table 19-3 Peak flow rates based on 100 year ARI modelling

Catchment	Duration (min)	Peak flow rate (m^3/s)
A_01	90	3.759
A_02	60	4.358
B_01	30	1.05
B_02	90	2.034
C_01	30	3.599
D_01	60	4.25
D_02	60	7.362
D_03	90	8.711
D_04	90	2.805
D_05	90	1.874
D_06	90	2.532
D_07	60	8.254
D_08	90	2.408
D_09	90	1.852
D_10	60	12.728
D_11	120	10.065
D_12.1	30	2.246
D_12.2	90	3.15
D_13	90	15.474
D_14.1	120	10.247
D_14.2	120	10.541
D_15	30	3.545
D_16.1	90	3.512
D_16.2	60	4.312
D_17	120	29.073
D_18	120	29.475
E_01	30	4.583
F_01	30	0.513
F_02	90	8.501
G_01	90	4.86
G_02	90	4.475
G_03	60	9.848
G_04	90	1.843
G_05	90	3.199
G_06	60	12.89
G_07	90	2.894
G_08	90	5.465
G_09	90	1.845
G_10	30	1.068
G_11	60	19.974
G_12	60	20.251

19.2 Hydraulics

19.2.1 Culvert Locations

Through Near-map Imagery, 9 key hydraulic structures were identified across the study area (Figure 19-4). Existing stormwater data provided by Goulburn Mulwaree Council provided detail on culvert and pipe sizing for culverts 2, 3, 4, 8 and 9. For culverts 5 and 6, sizing was estimated from site photos taken on 19/12/2018. There was not enough information available at the time of assessment to determine the sizing of culverts 1 and 7. The assumed sizing for existing culverts is shown in Table 19-4.

Table 19-4 Existing Culvert sizing.

ID	no. of culverts/pipes	Culvert Type	Height (mm)	Width (mm)	Diameter (mm)	council plan ref.
1	Insufficient Information					
2	1	Box	600	1200		R788
3					2400	R719
4	2	Box	900	1200		R789
*5	3	Box	1800	1800		
*6	2	Box	600	1200		
7	Insufficient Information					
8	2	Box	600	1200		R113,R694
9	2	Pipe			1800	R128

*Culvert sizing estimated from site photos (19/12/2018)

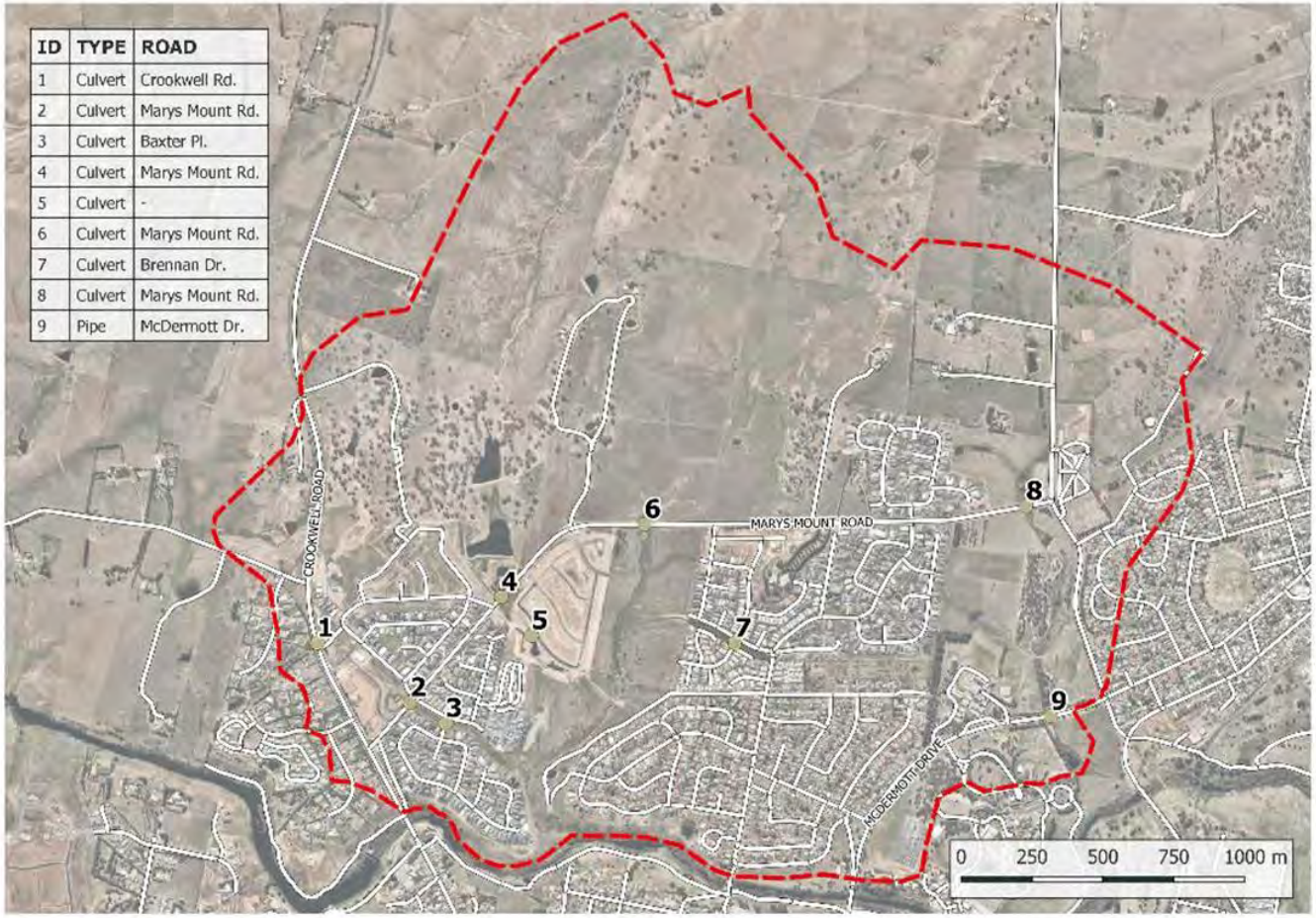
19.2.2 Culvert Capacity Calculation

Culvert Inlet control (Culvert IC) is a program developed by Michael Boyd at the University of Wollongong (Boyd 2003) to calculate the headwater discharge relationship for the existing box culverts and major pipe structures. Culvert IC was used to assess the maximum flow of each existing culvert under design storm conditions. For culverts determined to be insufficient to convey the design storm, the required size was then calculated to estimate the future cost to upgrade these culverts.

For this analysis, the following assumptions were made:

- The design event used for the culverts capacity analysis was the 100 year ARI (refer GMC Stormwater Drainage Design Standards 2013, D5.14 – Major Structures)
- The culverts operate under inlet control (in consideration of the catchment slope and elevation above the Wollondilly River 100 year ARI maximum flood level as determined in the GFS 2016)
- The maximum upstream head level for determining culvert capacity was the obvert level (or pipe height in the absence of data) minus 0.3m representing the required design flood level during an unblocked scenario (refer GMC Stormwater Drainage Design Standards 2013, D5.14 – Major Structures)
- The Wing wall flare was assumed to be 45 degrees for box culverts and square for pipe headwalls.

Figure 19-4 Culvert locations



19.2.3 Results

19.2.3.1 Existing Culverts

IC Culvert Results indicate that all but Culvert 5 are undersized and are likely to require future upgrades to meet Goulbourn Council Standards, (Table 19-5).

Table 19-5 Existing Culvert maximum discharge rate.

Culvert ID	Road	100yr Peak flow (m^3/s)	Current Estimated Culvert Capacity (m^3/s)	Upgrade Required	Priority
1	Crookwell rd.	1.05	No details	Yes	7
2	Marys Mount rd.	3.545	2.397	Yes	6
3 (minor rd.)	Baxter pl.	3.512	1.716	Yes	5
4	Marys Mount rd.	10.065	5.806	Yes	4
5 (minor rd.)	n/a	10.247	20.252	No	
6	Marys Mount rd.	12.728	2.37	Yes	1
7 (minor rd.)	Brennan dr.	2.246	No details	Yes	8
8	Marys Mount rd.	9.848	3.318	Yes	3
9	McDermott dr.	19.974	12.526	Yes	2

19.2.3.2 Culvert upgrade requirements

IC Culverts was use to estimate an appropriate culvert sizing to meet Goulburn Mulwaree Council standards. The recommended sizing is presented in Table 19-6.

Table 19-6 Recommended Culvert sizing to meet Goulburn Council Standards.

Culvert ID	Road	no. of culverts/pipes	Height (mm)	Width (mm)	Diameter (mm)
1	Crookwell rd.	1	600	1200	
2	Marys Mount rd.	1	900	1200	
3 (minor rd.)	Baxter pl.	3	600	1200	
4	Marys Mount rd.	3	1200	1500	
5 (minor rd.)	n/a	No Upgrade Required			
6	Marys Mount rd.	3	1200	1800	
7 (minor rd.)	Brennan dr.	1	900	1200	
8	Marys Mount rd.	3	1200	1500	
9	McDermott dr.	3			1800

19.3 Revegetation

With the Goulburn City Council Vegetation Management Plan (VMP, 2003) riparian revegetation works were proposed in Areas 1 and 2 (Figure 19-5). After review of current NearMap Imagery, there were areas that had seemed to be revegetated or area reused for residential development. The Remaining Area to be revegetated is estimated at 31.489Ha.

Table 19-7 Proposed and current revegetated areas.

Item		Initial Assessment '19 Land Area (Hectare)	Updated Assessment '20 Land Area (Hectare)[1]
Area revegetated completed		3.754	9.979
Proposed revegetation area repurposed		0.954	4.613
Remaining area to be revegetated	Area 1	17.376	7.492
	Area 2	14.113	14.113
Total remaining area to be revegetated		31.489	21.605

19.4 Costing

19.4.1 Culverts

Using the culvert sizing determined in Section 19.2.3.2 a summary of the estimated culvert upgrade costs in presented in Table 19-8

These cost estimate has been prepared for guidance only based on the following assumptions:

- Contactors shall write their own quantities together with any additional items they deem necessary to obtain a true cost for the works.
- Estimates are based on current costs at the time of preparation.
- No inflation for future construction of structures is quantified.
- Costs estimations are for supply and install on structures only.
- Cost are not quantified for; earthworks, inlet and outlet lining or carriageway modifications.
- Culvert lengths are estimated between existing headwalls from current near map imagery at the time of preparation.

Table 19-8 Summary of estimated Culvert upgrade costs.

ROAD HYDRAULIC STRUCTURES - Marys Mount Road Catchment		
Culvert	ROAD	TOTAL
1	Crookwell Road	$60,128.00
2	Marys Mount Road	$91,264.00
3	Baxer Place	$204,480.00
4	Marys Mount Road	$318,720.00
6	Marys Mount Road	$339,520.00
7	Brennan Drive	$78,384.00
8	Marys Mount Road	$280,064.00
9	McDermott Drive	$105,600.00
ROAD HYDRAULIC STRUCTURES TOTAL:		$1,478,160.00

[1] Council provided updated data in May 2020 for the completed areas of revegetation, these calculations have been updated to generate a new cost forecast for inclusion in the DSP, shown in Table 19-9. Figure 19-5 has been updated accordingly.

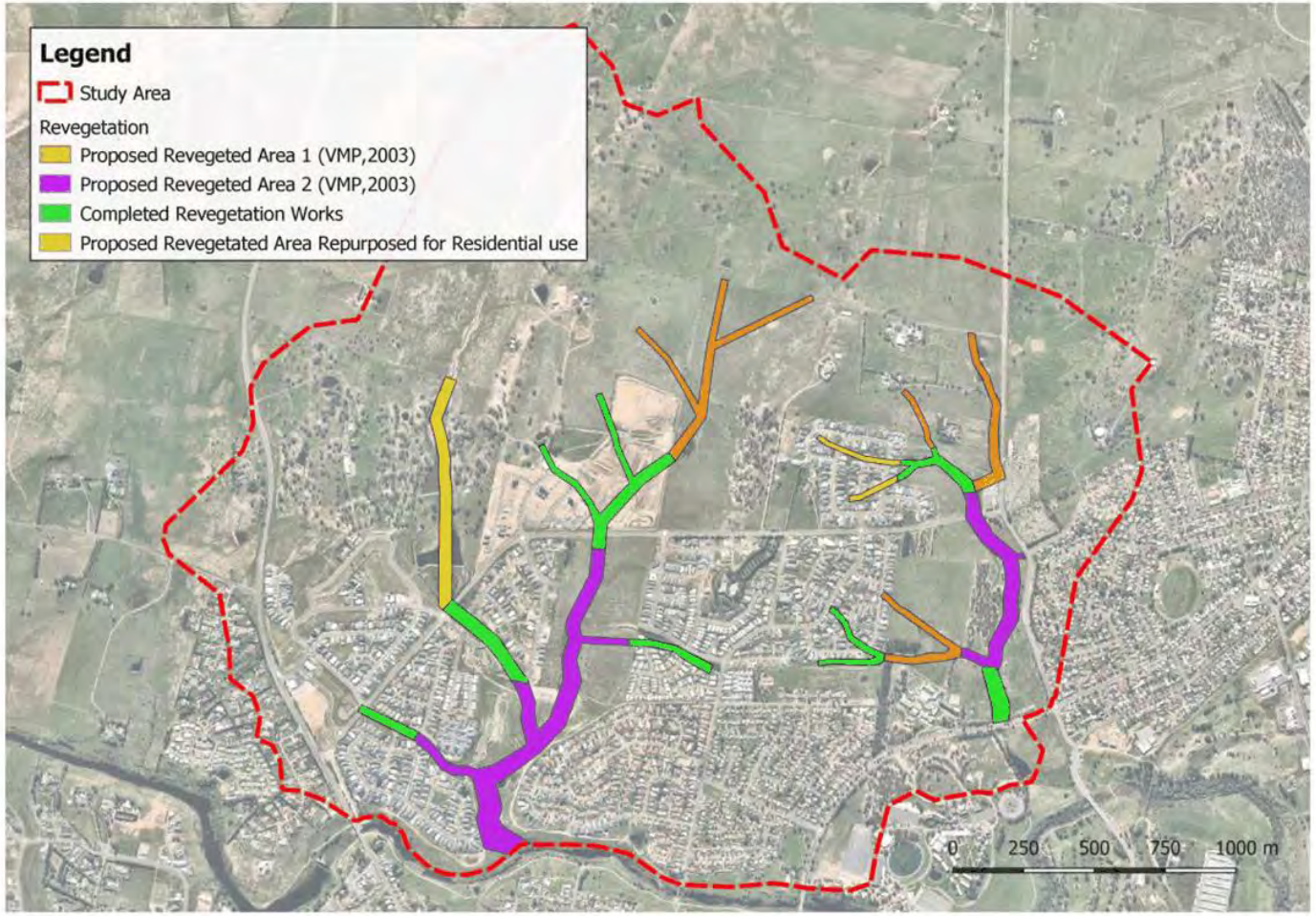
19.4.2 Revegetation

Based on the analysis in Section 19.3, the total estimated cost of revegetation of the 21.6ha is $4,321,000. Council's recent costs for revegetation projects have been in the order of $20.00 to $35.00 per square metre for standard to high level revegetation. As such, $20.00 per square metre was adopted for the calculation of the revegetation costs for the forward works plan. Spread over ten (10) years, the spend profile is shown in Table 19-9.

Table 19-9 Summary of estimated revegetation costs

Revegetation - Marys Mount Road Catchment		
Year	Task	TOTAL
2020	Revegetation	$432,100
2021	Revegetation	$432,100
2022	Revegetation	$432,100
2023	Revegetation	$432,100
2024	Revegetation	$432,100
2025	Revegetation	$432,100
2026	Revegetation	$432,100
2027	Revegetation	$432,100
REVEGETATION TOTAL:		$4,321,000

Figure 19-5 Revegetation



APPENDIX A

EXISTING ASSET LISTING

A full listing of the existing assets is provided in this table.

- *Shared Proportion* – indicates if an asset is shared with another service area
- *Growth Proportion* – indicates the contribution of the asset to the new growth ET's in the service area

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
Marys Mount	PIPE	450 mm diameter	1986	$14,729.6	100.0%	100.0%	$0	Excluded - asset > 30yrs old
Marys Mount	PIPE	525 mm diameter	1986	$17,196.7	100.0%	100.0%	$0	Excluded - asset > 30yrs old
Marys Mount	PIPE	600 mm diameter	1986	$35,459.7	100.0%	100.0%	$0	Excluded - asset > 30yrs old
Marys Mount	Pipe Culvert Headwall	1500 mm diameter	2004	$1,277.6	100.0%	100.0%	$1,278	Asset less than 30 years old
Marys Mount	Pipe Culvert Headwall	1500 mm diameter	2004	$1,277.6	100.0%	100.0%	$1,278	Asset less than 30 years old
Marys Mount	PIPE	1500 mm diameter	2004	$33,968.1	100.0%	100.0%	$33,968	Asset less than 30 years old
Marys Mount	PIPE	2400 mm diameter	2004	$71,698.9	100.0%	100.0%	$71,699	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2004	$3,109.0	100.0%	100.0%	$3,109	Asset less than 30 years old
Marys Mount	Pipe Culvert Headwall	525 mm diameter	2004	$234.1	100.0%	100.0%	$234	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$8,825.0	100.0%	100.0%	$8,825	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$13,832.9	100.0%	100.0%	$13,833	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$36,664.0	100.0%	100.0%	$36,664	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$5,407.8	100.0%	100.0%	$5,408	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$20,378.3	100.0%	100.0%	$20,378	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$8,580.6	100.0%	100.0%	$8,581	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$19,125.2	100.0%	100.0%	$19,125	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$9,807.0	100.0%	100.0%	$9,807	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$10,584.6	100.0%	100.0%	$10,585	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2004	$20,222.8	100.0%	100.0%	$20,223	Asset less than 30 years old
Marys Mount	Pipe Culvert Headwall	600 mm diameter	2004	$329.4	100.0%	100.0%	$329	Asset less than 30 years old
Marys Mount	Pipe Culvert Headwall	600 mm diameter	2004	$329.4	100.0%	100.0%	$329	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2004	$11,458.4	100.0%	100.0%	$11,458	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2004	$6,060.7	100.0%	100.0%	$6,061	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2004	$9,489.5	100.0%	100.0%	$9,490	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2004	$5,222.8	100.0%	100.0%	$5,223	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
Marys Mount	PIPE	600 mm diameter	2004	$10,594.7	100.0%	100.0%	$10,595	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2004	$22,412.9	100.0%	100.0%	$22,413	Asset less than 30 years old
Marys Mount	PIPE	675 mm diameter	2004	$19,555.9	100.0%	100.0%	$19,556	Asset less than 30 years old
Marys Mount	PIPE	900 mm diameter	2004	$151,195.3	100.0%	100.0%	$151,195	Asset less than 30 years old
Marys Mount	PIPE	900 mm diameter	2004	$235,515.8	100.0%	100.0%	$235,516	Asset less than 30 years old
Marys Mount	Pipe	450 mm diameter	2005	$26,101.3	100.0%	100.0%	$26,101	Asset less than 30 years old
Marys Mount	Pipe	450 mm diameter	2005	$8,323.9	100.0%	100.0%	$8,324	Asset less than 30 years old
Marys Mount	Pipe	450 mm diameter	2005	$5,149.8	100.0%	100.0%	$5,150	Asset less than 30 years old
Marys Mount	Pipe Culvert Headwall	450 mm diameter	2006	$229.3	100.0%	100.0%	$229	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2006	$3,128.2	100.0%	100.0%	$3,128	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2007	$4,671.2	100.0%	100.0%	$4,671	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2007	$4,762.1	100.0%	100.0%	$4,762	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2007	$28,083.5	100.0%	100.0%	$28,083	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2007	$21,551.4	100.0%	100.0%	$21,551	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2007	$19,907.3	100.0%	100.0%	$19,907	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2007	$20,440.5	100.0%	100.0%	$20,440	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2007	$18,396.4	100.0%	100.0%	$18,396	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2007	$4,012.6	100.0%	100.0%	$4,013	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2007	$12,717.8	100.0%	100.0%	$12,718	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2007	$5,580.6	100.0%	100.0%	$5,581	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2007	$7,546.4	100.0%	100.0%	$7,546	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2007	$10,368.5	100.0%	100.0%	$10,369	Asset less than 30 years old
Marys Mount	Box Culvert Headwall	1200 mm x 600 mm	2008	$1,468.7	100.0%	100.0%	$1,469	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2008	$3,300.5	100.0%	100.0%	$3,300	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2008	$17,386.9	100.0%	100.0%	$17,387	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2008	$2,833.4	100.0%	100.0%	$2,833	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2008	$14,201.2	100.0%	100.0%	$14,201	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2008	$22,497.9	100.0%	100.0%	$22,498	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
Marys Mount	PIPE	525 mm diameter	2008	$5,567.8	100.0%	100.0%	$5,568	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2008	$5,412.3	100.0%	100.0%	$5,412	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2008	$6,323.2	100.0%	100.0%	$6,323	Asset less than 30 years old
Marys Mount	Box Culvert Headwall	1200 mm x 600 mm	2010	$1,468.7	100.0%	100.0%	$1,469	Asset less than 30 years old
Marys Mount	Box Culvert Headwall	1200 mm x 900 mm x 2 cells	2010	$2,867.4	100.0%	100.0%	$2,867	Asset less than 30 years old
Marys Mount	Box Culvert Headwall	1200 mm x 900 mm x 2 cells	2010	$2,867.4	100.0%	100.0%	$2,867	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$13,309.1	100.0%	100.0%	$13,309	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$9,030.8	100.0%	100.0%	$9,031	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$4,729.2	100.0%	100.0%	$4,729	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$5,639.9	100.0%	100.0%	$5,640	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$3,446.0	100.0%	100.0%	$3,446	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$5,685.9	100.0%	100.0%	$5,686	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$9,553.0	100.0%	100.0%	$9,553	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$9,303.7	100.0%	100.0%	$9,304	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$3,446.0	100.0%	100.0%	$3,446	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2010	$3,993.5	100.0%	100.0%	$3,994	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2011	$13,707.3	100.0%	100.0%	$13,707	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2011	$15,736.6	100.0%	100.0%	$15,737	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2011	$5,651.4	100.0%	100.0%	$5,651	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2011	$10,510.2	100.0%	100.0%	$10,510	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2011	$5,510.7	100.0%	100.0%	$5,511	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2011	$15,879.2	100.0%	100.0%	$15,879	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2011	$11,900.4	100.0%	100.0%	$11,900	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2011	$20,716.5	100.0%	100.0%	$20,717	Asset less than 30 years old
Marys Mount	PIPE	650 mm diameter	2011	$5,400.2	100.0%	100.0%	$5,400	Asset less than 30 years old
Marys Mount	PIPE	675 mm diameter	2011	$7,701.0	100.0%	100.0%	$7,701	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2012	$19,542.5	100.0%	100.0%	$19,543	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
Marys Mount	PIPE	450 mm diameter	2012	$7,795.6	100.0%	100.0%	$7,796	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2012	$5,850.5	100.0%	100.0%	$5,850	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2012	$3,633.6	100.0%	100.0%	$3,634	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2012	$9,921.3	100.0%	100.0%	$9,921	Asset less than 30 years old
Marys Mount	Box Culvert Headwall	1200 mm x 300 mm	2013	$912.7	100.0%	100.0%	$913	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2013	$25,653.4	100.0%	100.0%	$25,653	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2013	$14,779.4	100.0%	100.0%	$14,779	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2013	$8,538.4	100.0%	100.0%	$8,538	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2013	$16,847	100.0%	100.0%	$16,847	Asset less than 30 years old
Marys Mount	PIPE	450 mm diameter	2013	$21,020	100.0%	100.0%	$21,020	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2013	$13,042	100.0%	100.0%	$13,042	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2013	$11,091	100.0%	100.0%	$11,091	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2013	$8,541	100.0%	100.0%	$8,541	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2013	$12,229	100.0%	100.0%	$12,229	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2013	$8,843	100.0%	100.0%	$8,843	Asset less than 30 years old
Marys Mount	PIPE	525 mm diameter	2013	$13,193	100.0%	100.0%	$13,193	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2013	$21,832	100.0%	100.0%	$21,832	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2013	$16,722	100.0%	100.0%	$16,722	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2013	$55,431	100.0%	100.0%	$55,431	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2013	$10,024	100.0%	100.0%	$10,024	Asset less than 30 years old
Marys Mount	PIPE	600 mm diameter	2013	$5,907	100.0%	100.0%	$5,907	Asset less than 30 years old
Marys Mount	PIPE	675 mm diameter	2013	$25,190	100.0%	100.0%	$25,190	Asset less than 30 years old
Marys Mount	PIPE	675 mm diameter	2013	$20,582	100.0%	100.0%	$20,582	Asset less than 30 years old
Marys Mount	Pipe Culvert Headwall	825 mm diameter	2013	$522	100.0%	100.0%	$522	Asset less than 30 years old
Marys Mount	PIPE	825 mm diameter	2013	$31,963	100.0%	100.0%	$31,963	Asset less than 30 years old
Marys Mount	PIPE	825 mm diameter	2013	$7,938	100.0%	100.0%	$7,938	Asset less than 30 years old
Marys Mount	PIPE	650 mm diameter	2014	$7,295	100.0%	100.0%	$7,295	Asset less than 30 years old
Marys Mount	PIPE	650 mm diameter	2014	$10,025	100.0%	100.0%	$10,025	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
Marys Mount	PIPE	650 mm diameter	2014	$4,222	100.0%	100.0%	$4,222	Asset less than 30 years old
Marys Mount	Drainage	Revegetation	2007	$199,800	100.0%	100.0%	$199,800	Asset less than 30 years old
Marys Mount	Drainage	Revegetation	2009	$299,700	100.0%	100.0%	$299,700	Asset less than 30 years old
Marys Mount	Drainage	Revegetation	2011	$599,400	100.0%	100.0%	$599,400	Asset less than 30 years old
Marys Mount	Drainage	Revegetation	2013	$599,400	100.0%	100.0%	$599,400	Asset less than 30 years old
Marys Mount	Drainage	Revegetation	2015	$599,400	100.0%	100.0%	$599,400	Asset less than 30 years old
Marys Mount	Drainage	Revegetation	2017	$669,330	100.0%	100.0%	$669,330	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1987	$4,327	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$4,124	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$19,221	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$24,995	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$8,002	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$41,042	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$2,653	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$40,394	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$19,144	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$19,822	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$42,401	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$1,834	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$14,546	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1987	$14,979	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	675 mm diameter	1987	$41,104	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	675 mm diameter	1987	$57,773	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	750 mm diameter	1987	$8,221	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1987	$30,433	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1987	$13,482	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1987	$77,623	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1987	$12,647	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1987	$64,513	100.0%	36.8%	$0	Excluded - asset > 30yrs old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	1050 mm diameter	1987	$48,044	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1987	$60,460	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Pipe Culvert Headwall	1050 mm diameter	1987	$951	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Pipe Culvert Headwall	1050 mm diameter	1987	$951	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Pipe Culvert Headwall	1050 mm diameter	1987	$951	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1200 mm diameter	1987	$79,684	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1200 mm diameter	1987	$56,425	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Pipe Culvert Headwall	1200 mm diameter	1987	$1,043	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Box Culvert Headwall	1200 mm x 450 mm	1987	$1,398	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Box Culvert Headwall	1200 mm x 450 mm	1987	$1,398	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	525 mm diameter	1987	$6,061	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	525 mm diameter	1987	$17,072	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	525 mm diameter	1987	$43,943	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$9,196	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$20,650	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$8,847	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$3,897	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$5,732	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$3,084	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$18,043	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$27,759	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$4,627	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$22,459	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$18,593	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1987	$12,718	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Pipe Culvert Headwall	675 mm diameter	1987	$449	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Pipe Culvert Headwall	900 mm diameter	1987	$527	100.0%	36.8%	$0	Excluded - asset > 30yrs old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	1050 mm diameter	1988	$217,093	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1988	$8,314	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1988	$7,023	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1988	$38,623	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1988	$84,585	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1988	$33,182	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1988	$29,822	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1988	$248,801	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1500 mm diameter	1988	$131,158	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1988	$20,484	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1988	$7,581	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1988	$6,203	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1988	$7,976	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1988	$5,223	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1988	$21,059	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	450 mm diameter	1988	$18,685	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Pipe Culvert Headwall	450 mm diameter	1988	$229	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Pipe Culvert Headwall	450 mm diameter	1988	$229	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	525 mm diameter	1988	$39,557	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	525 mm diameter	1988	$5,906	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	525 mm diameter	1988	$5,906	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	525 mm diameter	1988	$9,687	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1988	$6,529	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1988	$11,674	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1988	$28,325	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1988	$42,307	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1988	$31,820	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1988	$13,108	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	600 mm diameter	1988	$0	100.0%	36.8%	$0	Excluded - asset > 30yrs old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	600 mm diameter	1988	$0	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	Pipe Culvert Headwall	600 mm diameter	1988	$329	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	825 mm diameter	1988	$62,825	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$120,956	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$34,029	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$38,884	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$14,616	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$34,513	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$189,479	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$84,001	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$3,005	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$7,075	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$31,014	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	900 mm diameter	1988	$50,457	100.0%	36.8%	$0	Excluded - asset > 30yrs old
City Wide	PIPE	1050 mm diameter	1989	$131,950	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1989	$58,816	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	1350 mm diameter	1989	$27,582	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	1800 mm diameter	1989	$13,571	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$2,232	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$1,359	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$2,642	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$27,173	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$5,540	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$23,176	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$12,099	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$10,510	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$8,339	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$13,742	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$2,037	100.0%	36.8%	$0	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	450 mm diameter	1989	$10,338	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$2,987	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$63,819	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$6,436	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$22,276	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$4,227	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$23,547	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1989	$24,505	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1989	$229	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$36,144	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$36,144	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$24,551	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$5,266	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$4,999	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$18,943	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$18,130	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$1,249	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$17,010	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$4,244	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1989	$31,030	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1989	$64,771	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1989	$32,077	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1989	$11,566	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1989	$7,284	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1989	$26,834	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1989	$4,740	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1989	$5,459	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	1989	$329	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	1989	$329	100.0%	36.8%	$0	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	Pipe Culvert Headwall	600 mm diameter	1989	$329	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1989	$37,838	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1989	$41,191	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1989	$42,373	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1989	$34,135	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1989	$26,265	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1990	$99,435	100.0%	36.8%	$36,567	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1990	$42,433	100.0%	36.8%	$15,604	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1990	$52,219	100.0%	36.8%	$19,203	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1990	$27,388	100.0%	36.8%	$10,072	Asset less than 30 years old
City Wide	PIPE	1800 mm diameter	1990	$16,285	100.0%	36.8%	$5,989	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$2,718	100.0%	36.8%	$1,000	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$5,514	100.0%	36.8%	$2,028	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$4,912	100.0%	36.8%	$1,807	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$12,616	100.0%	36.8%	$4,640	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$12,566	100.0%	36.8%	$4,621	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$13,822	100.0%	36.8%	$5,083	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$8,990	100.0%	36.8%	$3,306	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$4,667	100.0%	36.8%	$1,716	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$11,915	100.0%	36.8%	$4,382	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$4,181	100.0%	36.8%	$1,538	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$17,230	100.0%	36.8%	$6,336	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$3,507	100.0%	36.8%	$1,290	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$3,163	100.0%	36.8%	$1,163	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$15,897	100.0%	36.8%	$5,846	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$39,893	100.0%	36.8%	$14,670	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$1,911	100.0%	36.8%	$703	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$2,412	100.0%	36.8%	$887	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$3,446	100.0%	36.8%	$1,267	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	450 mm diameter	1990	$4,403	100.0%	36.8%	$1,619	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1990	$2,045	100.0%	36.8%	$752	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1990	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1990	$33,229	100.0%	36.8%	$12,220	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1990	$11,824	100.0%	36.8%	$4,348	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1990	$45,858	100.0%	36.8%	$16,864	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1990	$5,826	100.0%	36.8%	$2,142	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1990	$7,088	100.0%	36.8%	$2,606	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1990	$4,466	100.0%	36.8%	$1,642	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1990	$7,554	100.0%	36.8%	$2,778	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1990	$6,812	100.0%	36.8%	$2,505	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1990	$37,081	100.0%	36.8%	$13,636	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1990	$3,813	100.0%	36.8%	$1,402	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1990	$37,149	100.0%	36.8%	$13,661	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1990	$42,116	100.0%	36.8%	$15,488	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1990	$8,622	100.0%	36.8%	$3,171	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1990	$41,970	100.0%	36.8%	$15,434	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1990	$20,009	100.0%	36.8%	$7,358	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1990	$44,862	100.0%	36.8%	$16,498	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	750 mm diameter	1990	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	750 mm diameter	1990	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	PIPE	850 mm diameter	1990	$28,985	100.0%	36.8%	$10,659	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1990	$45,969	100.0%	36.8%	$16,905	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1991	$45,804	100.0%	36.8%	$16,844	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1991	$15,994	100.0%	36.8%	$5,882	Asset less than 30 years old
City Wide	PIPE	1350 mm diameter	1991	$169,276	100.0%	36.8%	$62,251	Asset less than 30 years old
City Wide	PIPE	1400 mm diameter	1991	$14,849	100.0%	36.8%	$5,461	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	2400 mm diameter	1991	$2,767	100.0%	36.8%	$1,018	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	Box Culvert Headwall	2400 mm x 1200 mm	1991	$4,128	100.0%	36.8%	$1,518	Asset less than 30 years old
City Wide	Box Culvert Headwall	2400 mm x 1200 mm	1991	$4,128	100.0%	36.8%	$1,518	Asset less than 30 years old
City Wide	Box Culvert Headwall	2400 mm x 1200 mm	1991	$4,128	100.0%	36.8%	$1,518	Asset less than 30 years old
City Wide	Box Culvert Headwall	2400 mm x 1200 mm	1991	$4,128	100.0%	36.8%	$1,518	Asset less than 30 years old
City Wide	Box Culvert Headwall	2400 mm x 1800 mm	1991	$6,519	100.0%	36.8%	$2,397	Asset less than 30 years old
City Wide	Box Culvert Headwall	2400 mm x 1800 mm	1991	$6,519	100.0%	36.8%	$2,397	Asset less than 30 years old
City Wide	Box Culvert Headwall	2400 mm x 1800 mm	1991	$6,519	100.0%	36.8%	$2,397	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$1,769	100.0%	36.8%	$651	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$1,107	100.0%	36.8%	$407	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,097	100.0%	36.8%	$1,507	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,671	100.0%	36.8%	$1,718	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,135	100.0%	36.8%	$1,521	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,863	100.0%	36.8%	$1,788	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,212	100.0%	36.8%	$1,549	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$6,509	100.0%	36.8%	$2,394	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$3,752	100.0%	36.8%	$1,380	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$3,829	100.0%	36.8%	$1,408	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,709	100.0%	36.8%	$1,732	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,671	100.0%	36.8%	$1,718	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,824	100.0%	36.8%	$1,774	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,709	100.0%	36.8%	$1,732	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,327	100.0%	36.8%	$1,591	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$5,667	100.0%	36.8%	$2,084	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$13,707	100.0%	36.8%	$5,041	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	450 mm diameter	1991	$24,516	100.0%	36.8%	$9,016	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$28,774	100.0%	36.8%	$10,581	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,507	100.0%	36.8%	$1,657	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$11,130	100.0%	36.8%	$4,093	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$8,163	100.0%	36.8%	$3,002	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$15,706	100.0%	36.8%	$5,776	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$5,081	100.0%	36.8%	$1,868	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$3,178	100.0%	36.8%	$1,169	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$4,935	100.0%	36.8%	$1,815	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$15,128	100.0%	36.8%	$5,563	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$11,100	100.0%	36.8%	$4,082	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$17,019	100.0%	36.8%	$6,259	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$19,642	100.0%	36.8%	$7,223	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$2,906	100.0%	36.8%	$1,069	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$13,604	100.0%	36.8%	$5,003	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$1,631	100.0%	36.8%	$600	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$5,100	100.0%	36.8%	$1,876	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$39,728	100.0%	36.8%	$14,610	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1991	$18,187	100.0%	36.8%	$6,688	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1991	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1991	$24,161	100.0%	36.8%	$8,885	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1991	$8,533	100.0%	36.8%	$3,138	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1991	$19,637	100.0%	36.8%	$7,221	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1991	$8,996	100.0%	36.8%	$3,308	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1991	$16,943	100.0%	36.8%	$6,231	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1991	$17,560	100.0%	36.8%	$6,458	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1991	$12,903	100.0%	36.8%	$4,745	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1991	$12,641	100.0%	36.8%	$4,649	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	1991	$329	100.0%	36.8%	$121	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	Pipe Culvert Headwall	600 mm diameter	1991	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	1991	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1991	$36,301	100.0%	36.8%	$13,350	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1991	$48,141	100.0%	36.8%	$17,704	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1991	$72,263	100.0%	36.8%	$26,574	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1991	$15,029	100.0%	36.8%	$5,527	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1991	$4,644	100.0%	36.8%	$1,708	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1991	$9,680	100.0%	36.8%	$3,560	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1991	$5,223	100.0%	36.8%	$1,921	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1991	$17,126	100.0%	36.8%	$6,298	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	750 mm diameter	1991	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	750 mm diameter	1991	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1991	$12,512	100.0%	36.8%	$4,601	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1992	$18,173	100.0%	36.8%	$6,683	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1992	$21,971	100.0%	36.8%	$8,080	Asset less than 30 years old
City Wide	PIPE	1200 mm diameter	1992	$22,771	100.0%	36.8%	$8,374	Asset less than 30 years old
City Wide	PIPE	1200 mm diameter	1992	$9,746	100.0%	36.8%	$3,584	Asset less than 30 years old
City Wide	PIPE	1350 mm diameter	1992	$20,579	100.0%	36.8%	$7,568	Asset less than 30 years old
City Wide	Box Culvert Headwall	1500 mm x 750 mm	1992	$3,775	100.0%	36.8%	$1,388	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1992	$4,978	100.0%	36.8%	$1,830	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1992	$17,548	100.0%	36.8%	$6,453	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1992	$5,408	100.0%	36.8%	$1,989	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1992	$44,969	100.0%	36.8%	$16,537	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1992	$30,088	100.0%	36.8%	$11,065	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1992	$17,992	100.0%	36.8%	$6,616	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1992	$6,945	100.0%	36.8%	$2,554	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1992	$16,081	100.0%	36.8%	$5,914	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1992	$63,361	100.0%	36.8%	$23,301	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	750 mm diameter	1992	$57,675	100.0%	36.8%	$21,210	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1992	$40,908	100.0%	36.8%	$15,044	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1992	$26,490	100.0%	36.8%	$9,741	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1992	$7,212	100.0%	36.8%	$2,652	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1992	$62,630	100.0%	36.8%	$23,032	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1992	$16,389	100.0%	36.8%	$6,027	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1992	$48,150	100.0%	36.8%	$17,707	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1992	$5,486	100.0%	36.8%	$2,017	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1992	$7,095	100.0%	36.8%	$2,609	Asset less than 30 years old
City Wide	Box Culvert Headwall	1200 mm diameter	1993	$1,848	100.0%	36.8%	$680	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1993	$5,269	100.0%	36.8%	$1,937	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1993	$1,256	100.0%	36.8%	$462	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1993	$11,609	100.0%	36.8%	$4,269	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1993	$33,043	100.0%	36.8%	$12,151	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1993	$9,105	100.0%	36.8%	$3,348	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1993	$96,741	100.0%	36.8%	$35,576	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1993	$3,855	100.0%	36.8%	$1,418	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	1993	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	PIPE	825 mm diameter	1993	$18,085	100.0%	36.8%	$6,651	Asset less than 30 years old
City Wide	PIPE	825 mm diameter	1993	$4,855	100.0%	36.8%	$1,785	Asset less than 30 years old
City Wide	PIPE	825 mm diameter	1993	$27,512	100.0%	36.8%	$10,118	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	825 mm diameter	1993	$522	100.0%	36.8%	$192	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	1050 mm diameter	1994	$951	100.0%	36.8%	$350	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$29,011	100.0%	36.8%	$10,669	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$3,676	100.0%	36.8%	$1,352	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$22,135	100.0%	36.8%	$8,140	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$31,236	100.0%	36.8%	$11,487	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$1,911	100.0%	36.8%	$703	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$20,906	100.0%	36.8%	$7,688	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	450 mm diameter	1994	$5,590	100.0%	36.8%	$2,056	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$2,527	100.0%	36.8%	$929	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$3,867	100.0%	36.8%	$1,422	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$9,170	100.0%	36.8%	$3,372	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$6,141	100.0%	36.8%	$2,259	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$7,462	100.0%	36.8%	$2,744	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$15,086	100.0%	36.8%	$5,548	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$5,169	100.0%	36.8%	$1,901	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$20,255	100.0%	36.8%	$7,449	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$20,729	100.0%	36.8%	$7,623	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$25,270	100.0%	36.8%	$9,293	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1994	$20,393	100.0%	36.8%	$7,499	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1994	$17,216	100.0%	36.8%	$6,331	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1994	$7,094	100.0%	36.8%	$2,609	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1994	$10,667	100.0%	36.8%	$3,923	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1994	$6,888	100.0%	36.8%	$2,533	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1994	$5,398	100.0%	36.8%	$1,985	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1994	$4,848	100.0%	36.8%	$1,783	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1994	$24,630	100.0%	36.8%	$9,058	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	1994	$26,598	100.0%	36.8%	$9,781	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	1050 mm diameter	1995	$951	100.0%	36.8%	$350	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1995	$708	100.0%	36.8%	$260	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1995	$42,742	100.0%	36.8%	$15,718	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1995	$26,071	100.0%	36.8%	$9,587	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1995	$3,817	100.0%	36.8%	$1,404	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1995	$4,507	100.0%	36.8%	$1,657	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1995	$0	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1995	$16,437	100.0%	36.8%	$6,045	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1995	$34,171	100.0%	36.8%	$12,566	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	525 mm diameter	1995	$11,642	100.0%	36.8%	$4,281	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1995	$15,019	100.0%	36.8%	$5,523	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	1995	$18,796	100.0%	36.8%	$6,912	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$21,200	100.0%	36.8%	$7,796	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$12,337	100.0%	36.8%	$4,537	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$7,762	100.0%	36.8%	$2,855	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$29,168	100.0%	36.8%	$10,726	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$9,901	100.0%	36.8%	$3,641	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$7,402	100.0%	36.8%	$2,722	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$7,094	100.0%	36.8%	$2,609	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$27,965	100.0%	36.8%	$10,284	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$7,557	100.0%	36.8%	$2,779	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1995	$21,333	100.0%	36.8%	$7,845	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	1995	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	1995	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1996	$17,528	100.0%	36.8%	$6,446	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1996	$10,468	100.0%	36.8%	$3,850	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1996	$22,397	100.0%	36.8%	$8,236	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1996	$3,725	100.0%	36.8%	$1,370	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1996	$8,764	100.0%	36.8%	$3,223	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1996	$3,997	100.0%	36.8%	$1,470	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1996	$17,724	100.0%	36.8%	$6,518	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1996	$2,983	100.0%	36.8%	$1,097	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1996	$13,194	100.0%	36.8%	$4,852	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1996	$2,470	100.0%	36.8%	$908	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1996	$15,710	100.0%	36.8%	$5,777	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1996	$23,777	100.0%	36.8%	$8,744	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1996	$28,096	100.0%	36.8%	$10,332	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1996	$53,380	100.0%	36.8%	$19,630	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	600 mm diameter	1996	$8,739	100.0%	36.8%	$3,214	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1996	$36,200	100.0%	36.8%	$13,312	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	1996	$48,321	100.0%	36.8%	$17,770	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	1996	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1996	$47,975	100.0%	36.8%	$17,643	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1996	$6,523	100.0%	36.8%	$2,399	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1996	$56,601	100.0%	36.8%	$20,815	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1997	$6,318	100.0%	36.8%	$2,323	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1997	$21,671	100.0%	36.8%	$7,970	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1997	$4,978	100.0%	36.8%	$1,830	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1997	$2,314	100.0%	36.8%	$851	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1997	$11,718	100.0%	36.8%	$4,309	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1997	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1998	$1,800	100.0%	36.8%	$662	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1998	$1,811	100.0%	36.8%	$666	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1998	$5,238	100.0%	36.8%	$1,926	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1998	$4,709	100.0%	36.8%	$1,732	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1998	$4,729	100.0%	36.8%	$1,739	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1998	$4,709	100.0%	36.8%	$1,732	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1998	$4,671	100.0%	36.8%	$1,718	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1998	$4,709	100.0%	36.8%	$1,732	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	1998	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	1998	$62,426	100.0%	36.8%	$22,957	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1999	$32,646	100.0%	36.8%	$12,005	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1999	$46,656	100.0%	36.8%	$17,158	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	1999	$12,635	100.0%	36.8%	$4,646	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1999	$9,702	100.0%	36.8%	$3,568	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1999	$4,441	100.0%	36.8%	$1,633	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1999	$8,558	100.0%	36.8%	$3,147	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1999	$2,083	100.0%	36.8%	$766	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1999	$5,475	100.0%	36.8%	$2,014	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	1999	$2,508	100.0%	36.8%	$922	Asset less than 30 years old
City Wide	Box Culvert Headwall	1500 mm x 450 mm	2000	$2,851	100.0%	36.8%	$1,048	Asset less than 30 years old
City Wide	Box Culvert Headwall	1500 mm x 450 mm	2000	$2,851	100.0%	36.8%	$1,048	Asset less than 30 years old
City Wide	Box Culvert Headwall	1800 mm x 450 mm	2000	$1,331	100.0%	36.8%	$490	Asset less than 30 years old
City Wide	Box Culvert Headwall	1800 mm x 450 mm	2000	$1,331	100.0%	36.8%	$490	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2000	$5,514	100.0%	36.8%	$2,028	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2000	$79,564	100.0%	36.8%	$29,259	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2000	$22,667	100.0%	36.8%	$8,336	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2000	$14,550	100.0%	36.8%	$5,351	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	450 mm diameter	2000	$15,400	100.0%	36.8%	$5,663	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2000	$45,908	100.0%	36.8%	$16,882	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2000	$29,195	100.0%	36.8%	$10,736	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$2,222	100.0%	36.8%	$817	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$23,289	100.0%	36.8%	$8,564	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$6,385	100.0%	36.8%	$2,348	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$10,207	100.0%	36.8%	$3,754	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$3,555	100.0%	36.8%	$1,307	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$36,473	100.0%	36.8%	$13,413	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$3,959	100.0%	36.8%	$1,456	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$2,080	100.0%	36.8%	$765	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$15,806	100.0%	36.8%	$5,813	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2000	$40,921	100.0%	36.8%	$15,049	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$29,044	100.0%	36.8%	$10,681	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$169,022	100.0%	36.8%	$62,157	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$11,078	100.0%	36.8%	$4,074	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$6,657	100.0%	36.8%	$2,448	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$2,061	100.0%	36.8%	$758	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$3,794	100.0%	36.8%	$1,395	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$3,650	100.0%	36.8%	$1,342	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$5,506	100.0%	36.8%	$2,025	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$23,575	100.0%	36.8%	$8,669	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2000	$2,072	100.0%	36.8%	$762	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2000	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2000	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2000	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2000	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2000	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2000	$329	100.0%	36.8%	$121	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	Pipe Culvert Headwall	600 mm diameter	2000	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2000	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2000	$28,247	100.0%	36.8%	$10,388	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2000	$9,692	100.0%	36.8%	$3,564	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2000	$22,292	100.0%	36.8%	$8,198	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2000	$32,623	100.0%	36.8%	$11,997	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	900 mm diameter	2000	$527	100.0%	36.8%	$194	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	900 mm diameter	2000	$527	100.0%	36.8%	$194	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2001	$1,551	100.0%	36.8%	$570	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2001	$7,505	100.0%	36.8%	$2,760	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	525 mm diameter	2001	$234	100.0%	36.8%	$86	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2002	$1,612	100.0%	36.8%	$593	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2002	$29,291	100.0%	36.8%	$10,772	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2002	$1,914	100.0%	36.8%	$704	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2002	$4,671	100.0%	36.8%	$1,718	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2002	$4,208	100.0%	36.8%	$1,547	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2002	$22,895	100.0%	36.8%	$8,420	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2002	$19,844	100.0%	36.8%	$7,298	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2002	$10,294	100.0%	36.8%	$3,786	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2002	$16,371	100.0%	36.8%	$6,021	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2002	$4,734	100.0%	36.8%	$1,741	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2002	$18,655	100.0%	36.8%	$6,860	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2002	$9,364	100.0%	36.8%	$3,443	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2002	$16,760	100.0%	36.8%	$6,163	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2002	$5,502	100.0%	36.8%	$2,023	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2002	$4,831	100.0%	36.8%	$1,777	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2002	$8,485	100.0%	36.8%	$3,120	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	750 mm diameter	2002	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2002	$11,437	100.0%	36.8%	$4,206	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	1050 mm diameter	2003	$18,258	100.0%	36.8%	$6,714	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	1050 mm diameter	2003	$951	100.0%	36.8%	$350	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	1050 mm diameter	2003	$951	100.0%	36.8%	$350	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2003	$18,493	100.0%	36.8%	$6,801	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2003	$23,023	100.0%	36.8%	$8,467	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2003	$5,628	100.0%	36.8%	$2,070	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2003	$5,743	100.0%	36.8%	$2,112	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2003	$4,748	100.0%	36.8%	$1,746	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2003	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2003	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2003	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2003	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2003	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2003	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2003	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2003	$13,353	100.0%	36.8%	$4,910	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2003	$13,313	100.0%	36.8%	$4,896	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2003	$7,110	100.0%	36.8%	$2,615	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2003	$15,026	100.0%	36.8%	$5,526	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2003	$5,346	100.0%	36.8%	$1,966	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2003	$25,641	100.0%	36.8%	$9,429	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2003	$24,736	100.0%	36.8%	$9,097	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2003	$6,426	100.0%	36.8%	$2,363	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2003	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2003	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Box Culvert Headwall	750 mm diameter	2003	$647	100.0%	36.8%	$238	Asset less than 30 years old
City Wide	Box Culvert Headwall	750 mm diameter	2003	$647	100.0%	36.8%	$238	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2003	$17,203	100.0%	36.8%	$6,326	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2003	$0	100.0%	36.8%	$0	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	Pipe Culvert Headwall	750 mm diameter	2003	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	PIPE	825 mm diameter	2003	$3,949	100.0%	36.8%	$1,452	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	825 mm diameter	2003	$522	100.0%	36.8%	$192	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2003	$62,213	100.0%	36.8%	$22,879	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2003	$62,213	100.0%	36.8%	$22,879	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2003	$40,270	100.0%	36.8%	$14,809	Asset less than 30 years old
City Wide	Box Culvert Headwall	2100 mm x 75 mm	2004	$243	100.0%	36.8%	$89	Asset less than 30 years old
City Wide	Box Culvert Headwall	2100 mm x 75 mm	2004	$243	100.0%	36.8%	$89	Asset less than 30 years old
City Wide	Box Culvert Headwall	2100 mm x 75 mm	2004	$243	100.0%	36.8%	$89	Asset less than 30 years old
City Wide	Box Culvert Headwall	2100 mm x 75 mm	2004	$243	100.0%	36.8%	$89	Asset less than 30 years old
City Wide	Box Culvert Headwall	2100 mm x 75 mm	2004	$243	100.0%	36.8%	$89	Asset less than 30 years old
City Wide	Box Culvert Headwall	2100 mm x 75 mm	2004	$243	100.0%	36.8%	$89	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2004	$3,427	100.0%	36.8%	$1,260	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2004	$6,892	100.0%	36.8%	$2,534	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2004	$18,402	100.0%	36.8%	$6,767	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2004	$2,822	100.0%	36.8%	$1,038	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2004	$2,014	100.0%	36.8%	$741	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2004	$4,464	100.0%	36.8%	$1,642	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2004	$2,198	100.0%	36.8%	$808	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2004	$8,423	100.0%	36.8%	$3,098	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2004	$9,074	100.0%	36.8%	$3,337	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2004	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2004	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2004	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	525 mm diameter	2004	$234	100.0%	36.8%	$86	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2004	$104,092	100.0%	36.8%	$38,279	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2005	$4,445	100.0%	36.8%	$1,635	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2005	$1,168	100.0%	36.8%	$429	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2005	$229	100.0%	36.8%	$84	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	600 mm diameter	2005	$2,622	100.0%	36.8%	$964	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2005	$30,278	100.0%	36.8%	$11,135	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2005	$10,754	100.0%	36.8%	$3,955	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2005	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2005	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	2006	$64,172	100.0%	36.8%	$23,599	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2006	$8,339	100.0%	36.8%	$3,067	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2006	$28,311	100.0%	36.8%	$10,411	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2006	$2,473	100.0%	36.8%	$910	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2006	$19,749	100.0%	36.8%	$7,263	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2006	$31,236	100.0%	36.8%	$11,487	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2006	$27,453	100.0%	36.8%	$10,096	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2006	$9,572	100.0%	36.8%	$3,520	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2006	$0	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2006	$20,446	100.0%	36.8%	$7,519	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$25,151	100.0%	36.8%	$9,249	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$33,709	100.0%	36.8%	$12,396	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$29,128	100.0%	36.8%	$10,712	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$8,225	100.0%	36.8%	$3,025	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$5,732	100.0%	36.8%	$2,108	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$2,831	100.0%	36.8%	$1,041	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$37,184	100.0%	36.8%	$13,674	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$38,268	100.0%	36.8%	$14,073	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$8,096	100.0%	36.8%	$2,977	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$25,151	100.0%	36.8%	$9,249	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$41,228	100.0%	36.8%	$15,161	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2006	$2,857	100.0%	36.8%	$1,051	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2006	$43,309	100.0%	36.8%	$15,927	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2006	$329	100.0%	36.8%	$121	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	900 mm diameter	2006	$42,974	100.0%	36.8%	$15,804	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2006	$38,332	100.0%	36.8%	$14,096	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2006	$49,042	100.0%	36.8%	$18,035	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2006	$48,576	100.0%	36.8%	$17,864	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2006	$119,987	100.0%	36.8%	$44,125	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2006	$121,829	100.0%	36.8%	$44,802	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2006	$33,195	100.0%	36.8%	$12,207	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	2007	$40,716	100.0%	36.8%	$14,973	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	2007	$39,694	100.0%	36.8%	$14,597	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	2007	$47,143	100.0%	36.8%	$17,337	Asset less than 30 years old
City Wide	PIPE	1050 mm diameter	2007	$32,914	100.0%	36.8%	$12,104	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	1050 mm diameter	2007	$951	100.0%	36.8%	$350	Asset less than 30 years old
City Wide	PIPE	1200 mm diameter	2007	$65,035	100.0%	36.8%	$23,916	Asset less than 30 years old
City Wide	PIPE	1200 mm diameter	2007	$31,513	100.0%	36.8%	$11,589	Asset less than 30 years old
City Wide	PIPE	1350 mm diameter	2007	$74,033	100.0%	36.8%	$27,225	Asset less than 30 years old
City Wide	PIPE	1350 mm diameter	2007	$145,810	100.0%	36.8%	$53,621	Asset less than 30 years old
City Wide	PIPE	1350 mm diameter	2007	$129,745	100.0%	36.8%	$47,713	Asset less than 30 years old
City Wide	PIPE	1350 mm diameter	2007	$77,071	100.0%	36.8%	$28,342	Asset less than 30 years old
City Wide	PIPE	1350 mm diameter	2007	$36,411	100.0%	36.8%	$13,390	Asset less than 30 years old
City Wide	PIPE	1350 mm diameter	2007	$63,429	100.0%	36.8%	$23,326	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	1350 mm diameter	2007	$1,175	100.0%	36.8%	$432	Asset less than 30 years old
City Wide	Box Culvert Headwall	2400 mm x 750 mm	2007	$2,777	100.0%	36.8%	$1,021	Asset less than 30 years old
City Wide	Box Culvert Headwall	2400 mm x 750 mm	2007	$2,777	100.0%	36.8%	$1,021	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$3,840	100.0%	36.8%	$1,412	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$26,389	100.0%	36.8%	$9,704	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$10,200	100.0%	36.8%	$3,751	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$3,408	100.0%	36.8%	$1,253	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	450 mm diameter	2007	$29,260	100.0%	36.8%	$10,760	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$11,869	100.0%	36.8%	$4,365	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$1,149	100.0%	36.8%	$422	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$3,925	100.0%	36.8%	$1,443	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$4,066	100.0%	36.8%	$1,495	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$10,265	100.0%	36.8%	$3,775	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$3,829	100.0%	36.8%	$1,408	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$3,040	100.0%	36.8%	$1,118	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$38,250	100.0%	36.8%	$14,066	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$35,264	100.0%	36.8%	$12,968	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$3,867	100.0%	36.8%	$1,422	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$6,164	100.0%	36.8%	$2,267	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2007	$6,892	100.0%	36.8%	$2,534	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2007	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2007	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2007	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2007	$7,390	100.0%	36.8%	$2,718	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2007	$9,496	100.0%	36.8%	$3,492	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2007	$7,082	100.0%	36.8%	$2,604	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2007	$31,607	100.0%	36.8%	$11,623	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2007	$6,661	100.0%	36.8%	$2,450	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2007	$2,222	100.0%	36.8%	$817	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2007	$28,306	100.0%	36.8%	$10,409	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2007	$29,317	100.0%	36.8%	$10,781	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2007	$8,184	100.0%	36.8%	$3,010	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2007	$6,678	100.0%	36.8%	$2,456	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2007	$7,706	100.0%	36.8%	$2,834	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2007	$4,920	100.0%	36.8%	$1,809	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	600 mm diameter	2007	$329	100.0%	36.8%	$121	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	PIPE	675 mm diameter	2007	$28,798	100.0%	36.8%	$10,590	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2007	$30,527	100.0%	36.8%	$11,226	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2007	$6,831	100.0%	36.8%	$2,512	Asset less than 30 years old
City Wide	PIPE	675 mm diameter	2007	$15,134	100.0%	36.8%	$5,566	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2007	$18,020	100.0%	36.8%	$6,627	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2007	$22,582	100.0%	36.8%	$8,304	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2007	$52,462	100.0%	36.8%	$19,293	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2007	$10,721	100.0%	36.8%	$3,942	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2007	$10,721	100.0%	36.8%	$3,942	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2007	$14,822	100.0%	36.8%	$5,451	Asset less than 30 years old
City Wide	PIPE	750 mm diameter	2007	$9,211	100.0%	36.8%	$3,387	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	750 mm diameter	2007	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	750 mm diameter	2007	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	750 mm diameter	2007	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	750 mm diameter	2007	$456	100.0%	36.8%	$168	Asset less than 30 years old
City Wide	PIPE	825 mm diameter	2007	$8,092	100.0%	36.8%	$2,976	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2007	$22,844	100.0%	36.8%	$8,401	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2007	$44,961	100.0%	36.8%	$16,534	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2007	$22,844	100.0%	36.8%	$8,401	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2007	$96,290	100.0%	36.8%	$35,410	Asset less than 30 years old
City Wide	PIPE	900 mm diameter	2007	$0	100.0%	36.8%	$0	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	900 mm diameter	2007	$527	100.0%	36.8%	$194	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	525 mm diameter	2008	$234	100.0%	36.8%	$86	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	525 mm diameter	2008	$234	100.0%	36.8%	$86	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2009	$6,892	100.0%	36.8%	$2,534	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2009	$4,848	100.0%	36.8%	$1,783	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2009	$25,035	100.0%	36.8%	$9,206	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2009	$9,191	100.0%	36.8%	$3,380	Asset less than 30 years old
City Wide	PIPE	600 mm diameter	2009	$16,512	100.0%	36.8%	$6,072	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	Pipe Culvert Headwall	600 mm diameter	2009	$329	100.0%	36.8%	$121	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2010	$4,258	100.0%	36.8%	$1,566	Asset less than 30 years old
City Wide	Pipe Culvert Headwall	450 mm diameter	2010	$229	100.0%	36.8%	$84	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2011	$5,651	100.0%	36.8%	$2,078	Asset less than 30 years old
City Wide	PIPE	450 mm diameter	2011	$5,820	100.0%	36.8%	$2,140	Asset less than 30 years old
City Wide	PIPE	525 mm diameter	2011	$5,736	100.0%	36.8%	$2,110	Asset less than 30 years old
City Wide	Drainage	Drainage Upgrade	2017	$333,825	100.0%	36.8%	$122,763	Asset less than 30 years old
City Wide	Drainage	Drainage Upgrade	2018	$333,825	100.0%	36.8%	$122,763	Asset less than 30 years old
City Wide	Drainage	Headwall Renewal	2017	$2,214	100.0%	36.8%	$814	Asset less than 30 years old
City Wide	Drainage	Headwall Renewal	2018	$2,214	100.0%	36.8%	$814	Asset less than 30 years old
City Wide	Drainage	GPT Renewal	2017	$11,626	100.0%	36.8%	$4,275	Asset less than 30 years old
City Wide	Drainage	GPT Renewal	2018	$11,626	100.0%	36.8%	$4,275	Asset less than 30 years old
City Wide	Drainage	Pipe Renewal	2017	$13,392	100.0%	36.8%	$4,925	Asset less than 30 years old
City Wide	Drainage	Pipe Renewal	2018	$13,392	100.0%	36.8%	$4,925	Asset less than 30 years old
City Wide	Stormwater Improvements	Stormwater Improvements	2010	$12,305	100.0%	36.8%	$4,525	Asset less than 30 years old
City Wide	Stormwater Improvements	Stormwater Improvements	2011	$38,035	100.0%	36.8%	$13,987	Asset less than 30 years old
City Wide	Stormwater Improvements	Stormwater Improvements	2012	$89,364	100.0%	36.8%	$32,863	Asset less than 30 years old
City Wide	Stormwater Improvements	Stormwater Improvements	2013	$83,684	100.0%	36.8%	$30,775	Asset less than 30 years old
City Wide	Stormwater Improvements	Stormwater Improvements	2014	$89,444	100.0%	36.8%	$32,892	Asset less than 30 years old
City Wide	Stormwater Improvements	Stormwater Improvements	2015	$120,714	100.0%	36.8%	$44,392	Asset less than 30 years old
City Wide	Stormwater Improvements	Stormwater Improvements	2016	$115,777	100.0%	36.8%	$42,577	Asset less than 30 years old
City Wide	Stormwater Improvements	Stormwater Improvements	2017	$235,157	100.0%	36.8%	$86,478	Asset less than 30 years old
City Wide	Stormwater Improvements	Stormwater Improvements	2018	$60,877	100.0%	36.8%	$22,387	Asset less than 30 years old

Asset Service Area(s)	Asset Purpose	Asset Detail	Commissioning Year	MEERA (2020)	Shared Proportion	Growth Proportion	Recoverable DSP Value	Justification
City Wide	Stormwater Improvements	Stormwater Improvements	2019	$232,463	100.0%	36.8%	$85,487	Asset less than 30 years old
Clyde St	Creek Remediation	Revegetation	2007	$448,686	100.0%	100.0%	$448,686	Asset less than 30 years old
Clyde St	Creek Remediation	Revegetation	2009	$121,690	100.0%	100.0%	$121,690	Asset less than 30 years old
Clyde St	Creek Remediation	Revegetation	2016	$1,716,184	100.0%	100.0%	$1,716,184	Asset less than 30 years old
Clyde St	Creek Remediation	Revegetation	2017	$310,020	100.0%	100.0%	$310,020	Asset less than 30 years old
Clyde St	Creek Remediation	Revegetation	2018	$364,635	100.0%	100.0%	$364,635	Asset less than 30 years old

About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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