URALLA SHIRE COUNCIL

Stormwater Drainage Asset Management Plan

September 2022 (Version 1)

INFORMATION ABOUT THIS DOCUMENT

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Document History

Doc No.	Date Amended	Revision details.	Author	Reviewer	Approver
0.1	March 2022	Draft version	PL		
0.2	10 May 2022	Revised by Finance Advisory Committee	PSO	PL	
0.3	September 2022	Version 1	PL	Reviewed by staff, circulated to Capital Works Working Group for out-of-session review	
0.4	TBC	Public exhibition			Council
1.0	TBC	Adopted			Council

Further Document Information and Relationships

List here the related strategies, procedures, references, Strategy or other documents that have a bearing on this Strategy and that may be useful reference material for users of this Strategy.

Related Legislation*	*Local Government Act 1993* (the Act) and the *Local Government (General) Regulation 2021* (the Regulation)
Related Policies	Uralla Shire Council Community Strategic Plan 2022-2032 Uralla Shire Council Long Term Financial Plan 2023-2032 Uralla Shire Council Asset Management Policy, 2022 Uralla Shire Council Asset Management Strategy, 2022
Related Procedures/ Protocols, Statements, documents	Integrated Planning & Reporting Guidelines for Local Government in NSW International Infrastructure Management Manual (IIMM) 6th edition, Institute of Public Works Engineering Australasia (IPWEA, 2021) ISO 55000 Series Standards and Australian Accounting Standards

**Note: Any reference to Legislation will be updated in the Strategy as required. See website http://www.legislation.nsw.gov.au/ for current Acts, Regulations and Environmental Planning Instruments.*

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1. EXECUTIVE SUMMARY

1.1 Context

1.1.1 This asset management plan has been prepared to meet Uralla Shire Council's legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting.

1.1.2 Uralla Shire Council and its employees will strive to uphold and follow the practices outlined in this Stormwater Drainage Asset Management Plan (SDAMP).

1.1.3 This SDAMP is one of seven asset management plans (AMPs) covering all community assets for which Council is responsible. These fall under Council's Asset Management Policy and Asset Management Strategy.

1.1.4 Asset management planning is a comprehensive process to facilitate service delivery from infrastructure assets in a financially sustainable manner.

1.1.5 Asset management plans detail information about infrastructure assets, including actions required to provide an agreed level of service in the most cost effective manner. This plan defines the services to be provided, how the services are provided, and what funds are required to provide the services.

1.1.6 Council stormwater drainage assets assist in providing the community with services that enable the adequate collection, transport and discharge of stormwater runoff effectively, efficiently and economically to reduce flooding, soil erosion, pollution, and improve water quality.

1.1.7 The critical issues factored into Council's stormwater asset management include:

1.1.8 Maintenance and repair costs;

- Replacement or Rehabilitation cost;
- Age of assets;
- Life cycle of asset;
- Integrating new technologies;
- Usage and data capture; and
- Projected asset costs.

1.1.9 The stormwater service network is comprised of the following infrastructure assets:

- Stormwater drainage pipes (closed and open conduits);
- Stormwater drainage box culverts;

- Pits - junction pits, surface inlet pits, kerb inlet pits, headwalls/endwalls, manholes and converters; and Stormwater Quality Improvement Devices (SQIDs) – gross pollutant traps.

1.1.10 As at 30 June 2022 these infrastructure assets have a replacement value of $ 4,372,719.

1.2 What does it cost?

1.2.1 The projected outlays necessary to provide the services covered by this SDAMP includes operation and maintenance and renewal of existing assets over the 10 year planning period. There are no confirmed upgrades at the time of writing this plan.

1.2.2 The total amount of forecasted expenditure for stormwater drainage operations, maintenance and capital over the next ten years, in this SDAMP, will be approximately $1.8 million (as shown in Figure1.2.2) with annual forecasted expenditure varying between approximately $146,900 and $206,912 per annum. Forecasted operational expenditure for the ten year cycle will be approximately $1.3 million which equates to 72% of the total forecasted expenditure.

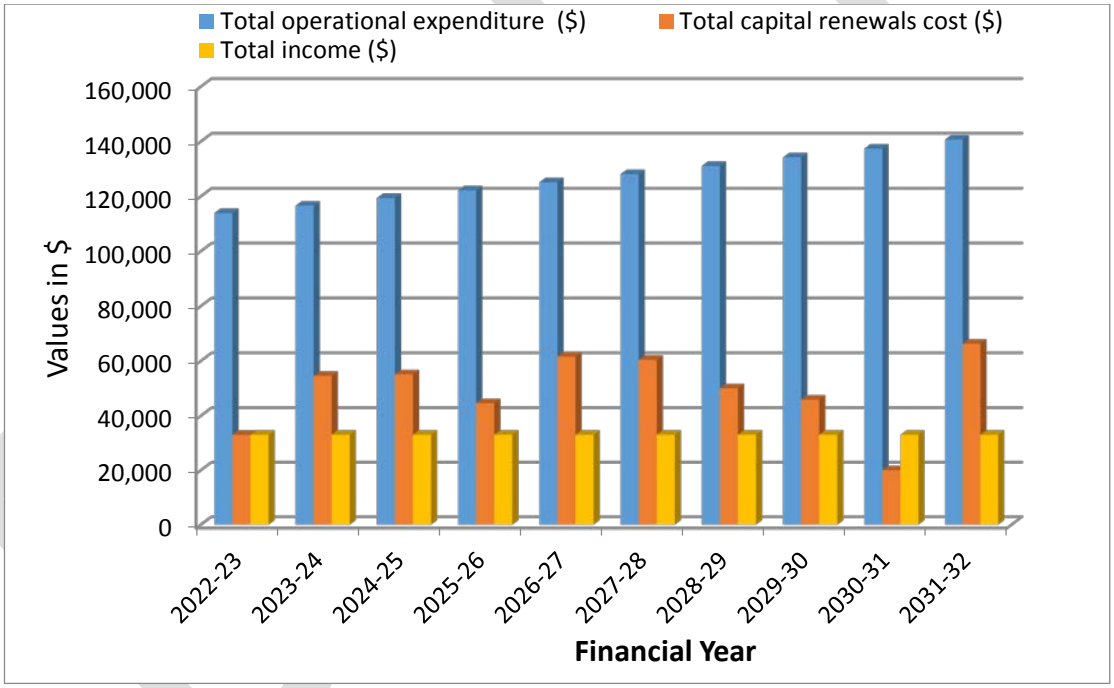

Figure 1.2.2: Stormwater drainage projected and long term financial plant expenditure

1.3 Managing the Risks

1.3.1. There are risks associated with providing the service and not being able to complete all activities and projects. Major risks have been identified as follows:

- Disruption to other Council operations and services.
- Deferred maintenance and renewal resulting in large future expenditure.
- Climate change associated risks such as flooding.

- Community expectations are not met.

1.3.2. Council will endeavour to manage these risks within available funding by:

- Prioritisation of maintenance and renewal works based on service levels and risks.
- Monitoring known flooding hotspots.

1.4 Confidence Levels

1.4.1. This SDAMP is based on medium level of confidence data. However, there may be incomplete and data gaps in the asset inventory datasets including imprecise or incomplete information regarding:

- Some Estimated Unit Cost (EUC) values
- Some material types
- Some asset size information
- Some install date values

1.4.2. Where inventories or unit replacement costs were not available or unknown, the assets have not been included in this Plan. The expenditure allocations have been identified for renewals, operational and maintenance, which are to be integrated into the Draft Long Term Financial Plan 2022 - 2032.

1.5 The Next Steps

1.5.1. The plan provides framework for good management of stormwater drainage assets by detailing:

- New established levels of service that have been prepared in detail with specific key performance indicators (KPIs). Further consultation is required with community for adaptation.
- New simplified improvement plan which highlights ongoing or next items for continuous improvement in asset management.
- Reviewing resilience of critical infrastructure.
- Reviewing adaptive technologies to prolong the life of assets.

1.5.2. The average capital and maintenance expenditure on Council assets over the ten-year forecast period is approximately $175,995 per year. This compares to the expenditure which is required to maintain and operate the asset network as required being $ $126,866 per year.

1.5.3. The analysis of the asset data and expenditure data suggest that there is an under expenditure on asset renewals.

1.5.4. This asset class is relatively small in size and value and as such one-off expenditure and minor maintenance expenditure can maintain the asset class in good condition.

1.5.5. Council will need to have a complete the comprehensive condition survey of all stormwater drainage assets.

2. INTRODUCTION

2.1 Background

2.1.1 Aging infrastructure is not a significant concern in the life of this plan and Council is able to operate, maintain, and improve systems and infrastructure assets installed for the long term. Uncertainty about the location and condition of infrastructure assets and lack of comprehensive planning often leads to a reactive approach to maintenance and the occurrence of emergency situations stemming from asset failures.

2.1.2 This asset management plan defines and demonstrates responsive management of assets (and services provided from assets), compliance with regulatory requirements, and communicates the funding needed to provide the required levels of service.

2.1.3 The asset management plan is to be read in conjunction with Council's Asset Management Policy, Asset Management Strategy and the following associated Council planning documents, and future updates:

- Community Strategic Plan 2022 -2032
- Delivery Program 2022 -2024
- Operational Plan 2022
- Draft Long Term Financial Plan 2022 -2032

2.1.4 This SDAMP has a direct relationship with the following associated planning process and documents:

Figure 2.1: Asset management planning process within the Integrated Planning and Reporting Framework

2.1.5 Council's current stormwater drainage assets covered by this asset management plan are tabled in Appendix A on page 44.

2.2 Goals and Objectives of Asset Management

2.2.1 Council exists to provide services to its community. Most of these services (from a value perspective) are provided by infrastructure assets. Council acquires infrastructure assets by purchase, by contract, construction by Council staff, and by donation of assets constructed by developers and others to increase the levels of service over time.

2.2.2 Council's goal in managing infrastructure assets is to meet the required level of service in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Taking a life cycle cost management approach;
- Developing cost-effective management strategies for the long term;
- Providing a defined level of service and monitoring performance;
- Understanding and meeting the demands of growth through future demand analysis and infrastructure investment;
- Managing risks associated with asset failures;
- Sustainable use of physical resources; and
- Continuous improvement in asset management practices.

2.2.3 Assets are inspected, maintained, upgraded and renewed as necessary or as specified in specific works programs so that they:

- Reach their expected lifecycle;
- Perform to their maximum capability;
- Satisfy community expectations and needs;
- Satisfy budget limitations; and
- Meet safety and regulatory requirements.

2.2.4 The purpose of this SDAMP is to:

- Maintain, replace and develop assets over the long term to meet required delivery standards and foreseeable future needs at minimal cost;
- Continually improve asset management practices and service delivery to the customers;
- Provide information to assist decision makers in trading off service levels, costs and risks to provide services in a financially sustainable manner;
- Provide long term financial planning for stormwater assets;
- Demonstrate responsible and sustainable stewardship of Council and community assets;

- Provides the basis for forward works programs;
- Provides the basis of optimising whole life costs;
- Comply with strategic and regulatory requirements; and
- Identify future funding requirements and service delivery in the context of current asset conditions and performance, levels of service, funding constrains, and forecast demands for infrastructure and services.

2.3 Core and Advanced Asset Management

2.3.1 This asset management plan is prepared as a first cut 'core' asset management plan in accordance with the International Infrastructure Management Manual (IPWEA, 2021). It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery, long term financial planning and reporting; and also, to enable effective and economical maintenance and enhancement of our stormwater assets. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

2.4 Community Consultation

2.4.1 This 'core' asset management plan is prepared to facilitate community consultation initially through feedback on public display of draft asset management plans prior to adoption by Council. Future revisions of the asset management plan will incorporate a more specific and comprehensive community consultation on asset group service levels and costs of providing the service. This will assist Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability and desire to pay for the service.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

3.1.1 Council has not yet carried out any specific stormwater drainage infrastructure formal research on customer expectations in relation to its stormwater drainage infrastructure. However, survey data about the Draft Long Term Financial Plan (LFTP 2022-32) indicated that less that 13% of the respondents would prefer to reduce operating costs, capital expenditure or a combination of the two to cut in standard or reliability on stormwater drainage infrastructure as compared to other infrastructure asset groups (See Figure 3.1.1 below)

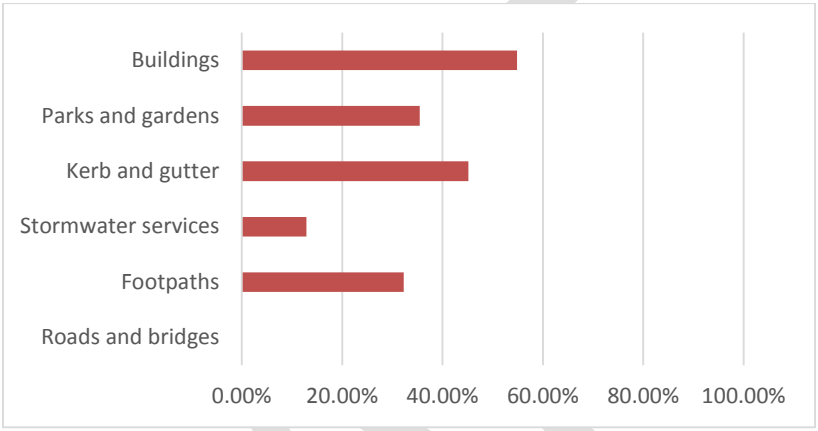

Figure 3.1.1: Comparison of infrastructure areas where community would prefer Council made a cut in service standard or reliability.

3.1.2 Community consultation to determine customer expectations, needs and wishes for all Council services in future may be resourced should Council determine the need to do so for updates of this asset management plan. This will assist Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability to pay for the service.

3.1.3 Future revisions of this asset management plan will incorporate community consultation on existing and future service needs, service levels and costs of providing the service.

3.2 Strategic and Corporate Goals

3.2.1 This SDAMP is prepared under the direction of Council's vision, mission, goals and objectives as set out in the Community Strategic Plan.

3.2.2 **Council's Vision:** In 2032 the Uralla Shire community will be vibrant with a growing economy supporting a sustainable quality of life that values its heritage.

3.2.3 **Council's Mission:** Uralla Shire Council listens to and facilitates the aspirations of the community.

3.2.4 **Council's Community Strategic Objectives:**

1. We have an accessible, inclusive and sustainable community.
2. We drive the economy to support prosperity.

3. We are good custodians of our environment.
4. We are an independent shire and well-governed community.

3.2.5 Infrastructure assets play both a direct and an indirect role in achieving the strategic objectives of the Community Strategic Plan. The following table indicates how Council's stormwater drainage assets play a role in the delivery of the key strategies (see Table 3.2.5 below) linked to the Community Strategic Plan.

Table 3.2.5: Strategic Objectives

Theme	Strategic Objective	Strategy
Economy	• We drive the economy to support prosperity.	• Communities that are well serviced with essential infrastructure
Environment	• We are good custodians of our environment.	• Secure, sustainable and environmentally sound water-cycle infrastructure and services

3.2.6 With respect to this SDAMP, the relevant organisational objectives and goals relating to this plan are listed in Table 3.2.6 below.

Table 3.2.6: Organisational Objective and Goals

Organisational Objective	Organisation Goals	How Goal and Objectives are addressed
To plan, design, construct and manage new and additional stormwater drainage systems and catchment areas, to collect, transport and discharge stormwater runoff effectively, efficiently and economically to reduce flooding, soil erosion, pollution and improve water quality.	To have an effective system for the collection and dispersal of stormwater arising from rain events that meet the 1 in 100 year measure.	Continue current level of routine maintenance of existing storm water drainage system (5.6km).
		Maintain the retention basins.
		By encouraging the use in urban as well as rural areas of rain water tanks.
	Improved quality of water flow downstream at the Uralla boundary with the clean-up of environmental weeds along the surrounding Uralla Creek.	By the removal of environmental weeds and replanting with appropriate vegetation in defined areas.
		Monitor the effectiveness of gross pollution traps.

3.3 Legislative Requirements

3.3.1 Council has to meet many legislative requirements including Australian and State legislation and State regulations. Key legislation which is relevant to this plan is listed in Table 3.3.1 below.

3.4 Current Levels of Service

3.4.1 Council has defined service levels in two terms: community levels of service and technical levels of service.

3.4.2 Community Levels of Service relate to the service outcomes that the community wants in terms of safety, quality, quantity, reliability, responsiveness, cost effectiveness and legislative compliance.

3.4.3 Community levels of service measures used in the asset management plan are:

- Quality – How good is the service?
- Function – Does it meet users' needs?
- Safety – Is the service safe?

Table 3.3.1: Legislative Requirements

Legislation	Requirement
Local Government Act 1993 and *Local Government (General) Regulation 2021*	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Environmental Planning and Assessment Act 1979 and *Environmental Planning and Assessment Amendment Act 2008*	Set out the guidelines used by Council to provide sustainable and environmentally responsible planning, development and land use.
Protection of the Environment Operations Act 1997	Sets environmental standards, goals, protocols and guidelines to reduce pollution and environmental harm.
Local Land Services Act 2013 and *Biodiversity Conservation Act 2016*	Govern the clearing of native vegetation in NSW.
Waste Avoidance and Recovery Act 2001	Establishes the need to avoid/minimise waste, increase resource use efficiency/reduce natural resource consumption, and minimise environmental impact through ecologically sustainable development and sustainable waste management systems.
Work Health and Safety Act 2011 and *Work Health and Safety Regulation 2017*	Council must ensure a safe workplace for all its employees and the public.

3.4.4 Technical Levels of Service are operational or technical measures of performance which support the community service levels. These technical measures relate to the allocation of resources to service activities that Council undertakes to best achieve the desired community outcomes.

3.4.5 Technical service measures are linked to annual budgets, covering:

- **Operations** – the regular activities to provide services, such as opening hours, cleansing frequency, mowing frequency, etc.
- **Maintenance** – the activities necessary to retain an asset as near as practicable to its original condition (e.g. routine inspections and maintenance and clearing stormwater blockages.)
- **Renewal/Rehabilitation** – the activities that return the service capability of an asset up to that which it was as new. Renewal refers to a complete changeover (old to new.) Rehabilitation refers to refurbishing and upgrading components.
- **Upgrade** – the activities to provide a higher level of service (eg replacing a pipeline with a larger size) or a new service that did not exist previously (eg construction of a new structure).

3.5 Desired Levels of Service

3.5.1 Stormwater Levels of Service are measured by community feedback and on a technical basis.

3.5.2 Current desired levels of service are obtained from various sources including service requests and correspondence, feedback and maintenance schedules. Existing customer service levels are validated every annually through a Citizen Satisfaction Survey and annually through stakeholder engagement as part of the business planning and budgeting process to fully match community expectations.

3.5.3 Council's current service levels are detailed in Table 3.5.2.

Table 3.5.2: Current and Desired Service Levels

Key Performance Measure	Level of Service	Performance Measure Process	Target Performance	Current Performance
COMMUNITY LEVELS OF SERVICE				
Quality	Services protect property and people from impacts of flooding	Customer complaints	Customer requests for service and complaints are addressed within agreed timeframes	90%
	Percent of assets in condition 3 or better	Condition assessment (Condition rating 1-5)	95% for all assets	84%
	The services are affordable and managed at lowest possible cost for required level of service	Review of service agreements and benchmark with other councils	Total operating costs per km of network not greater than the industry average	100%
Function	Stormwater drains clear and clean	Frequency of inspections and maintenance	Stormwater pathways inspected once per year and maintained regularly	80%
Safety	Stormwater drains and grills are inspected for safety.	Number of injuries or accidents	Nil accidents.	100%
TECHNICAL LEVELS OF SERVICE				
Operations	Percent of network inspected by CCTV	Network inspection and monitoring	5% per year (within 5 years)	0%
	Percent compliance with Council's documented response time	CRMS data	90% CRMS to be actioned within time	100%
Maintenance	Continue current level of routine maintenance of existing storm water drainage system (5.6km), and maintain the retention basins.	Customer enquiries	≤ 1 complaint per quarter about drainage problems.	100%
		Budget	Cost of maintenance per km of existing stormwater pipe at $1,000 per km per annum.	50%
		Clean retention basins	Retention basins clean, maintenance completed within budget.	10%
		Volume of gross pollutants	No more than 1 tonne gross pollutants recorded monthly	20%
Renewal / Rehabilitation	Assets meet financial sustainability ratios	Consumption ratio	Between 50% and 75%	76.2%
		Renewal funding ratio	Between 90% and 110% (2018/19)	0%
		Long term funding ratio	Between 95% and 105%	95.9%
	Maintain appropriate vegetation around stormwater assets	Rate of removal of weeds and replanting of appropriate vegetation.	Undertaken 3 of times per year.	50%

3.6 Condition and Quality of Assets

3.6.1 The condition of Council's stormwater drainage assets is currently assessed every five years. This asset condition information is then used to plan the timing of our maintenance and capital renewal activities.

3.6.2 Quality has more to do with manner and type of the asset rather than its condition. An asset may be poor in quality yet have a condition which is described as good.

3.6.3 Condition is a measure of an assets physical condition relative to its condition when first constructed. When rating asset condition, Council uses a scale of 1 - 5, where 1 = new and 5 = totally failed. Council's condition rating matrix is set out in Table 3.6.3 below.

Table 3.5.3: Description of Condition

Condition Rating	Condition	Description	Guide	Residual life as a % of total life	Mean percentage residual life
1	Excellent	An asset in excellent overall condition.	Normal/planned maintenance required.	>86%	95%
2	Good	An asset in good overall condition with some possible early stages of slight deterioration evident, minor in nature and causing no serviceability issues.	Normal maintenance plus minor repairs required (to 5% or less of asset).	65 to 85%	80%
3	Satisfactory	An asset in fair overall condition with some deterioration evident, which may be slight or minor in nature and causing some serviceability issues.	Significant maintenance and/or repairs required (to 10-20% of asset).	41 to 64%	55%
4	Poor	An asset in poor overall condition, moderate to high deterioration evident.	Significant renewal required (to 10-40% of asset).	10 to 40%	35%
5	Worn	An asset in extremely poor condition or obsolete. The asset no longer provides an adequate level of service and/or immediate remedial action required to keep the asset in service in the near future.	Over 50% of the asset requires renewal.	<10%	5%

3.6.4 The intent of Council is not to undertake renewal on an asset until it reaches its intervention level. The intervention level is the condition level below which renewal is required based on the community's level of service expectations, legislative requirements and strategic goals of the council.

3.6.5 Typically, stormwater drainage assets in condition 4 will provide a poor level of service and will need to be renewed in the short- to medium-term. Assets in condition 5 may require urgent and immediate renewal or replacement. Funding may be needed to support the required level of renewals each year. Council will be allocating funds to an asset renewal reserve each year to help in managing these funding needs.

3.6.6 The condition of each stormwater drainage asset has been assessed by estimating the proportion of each asset's expected useful life that has been consumed.

3.6.7 The current condition ratings of Council's stormwater drainage assets as at 30 June 2021 are summarised in Table 3.6.7 below (See Figure 3.1). It indicates that the 450mm pipes asset are in condition 5 and as asset register this particular set of pipes asset need urgent and immediate inspection in order to maintain their efficiency and effectiveness during their remaining lifespan of 22 years.

Table 3.6.7: Condition ratings, stormwater drainage assets (estimated renewal cost) as at 30 June 2021

Stormwater drainage assets category	Condition rating – value ($)					Total Replacement cost ($)
	1	2	3	4	5	
100mm pipes	-	1,801	-	-	-	1,801
150mm pipes	-	3,207	-	-	-	3,207
250mm pipes	-	-	4,782	-	-	4,782
300mm pipes	-	28,577	-	23,535	-	52,112
315mm pipes	-	-	-	9,956	-	9,956
375mm pipes	-	510,732	-	-	-	510,732
430mm pipes	-	-	-	3,433	-	3,433
450mm pipes	-	596,913	-	-	56,430[1]	653,343
500mm pipes	-	-	3,176	-	-	3,176
525mm pipes	-	-	193,455	-	-	193,455
600mm pipes	-	743,960	-	-	-	743,960
625mm pipes	-	8,068	-	-	-	8,068
650mm pipes	-	-	94,011	-	-	94,011
750mm pipes	-	427,790	-	-	-	427,790
825mm pipes	-	-	31,149	-	-	31,149
900mm pipes	-	87,413	-	-	-	87,413
Box culverts	-	61,918	13,925	-	-	75,843
Drain	-	10,306	-	-	-	10,306
Retention basins	-	52,492	-	-	-	52,492
Gross Pollutant Traps (GPT)	-	134,399	-	-	-	134,399
Drainage pit	25,125	-	-	-	-	25,125
Total stormwater drainage assets	**$25,125**	**$2,667,576**	**$340,498**	**$36,924**	**$56,430**	**$3,126,553**

3.7 Responsiveness

3.7.1 Council places a high emphasis on customer service and its responsiveness to customer enquiries. Council will maintain assets in a workman-like manner and be responsive to the needs of the community now and into the future. Council implements strategies which maintain a high level of customer support.

3.8 Customer satisfaction

3.8.1 Council will continue to provide services to the community in a manner that is efficient and effective. Council will continue to monitor community satisfaction with its current services and strive to improve community satisfaction where possible.

3.9 Affordability

3.9.1 Council will maintain its infrastructure assets in a cost effective affordable manner in accordance with responsible economic and financial management. In order for Council's

[1] Need to be prioritised for CCTV inspection and renewal

assets to assist in meeting the strategic goals and in attaining optimum asset expenditure, Council will need to continually review its current operational strategies and adopt new and proven techniques to maintain assets in their current condition.

3.10 Sustainability

3.10.1 Council will maintain its assets in a manner to enable the long term financial sustainability for current and future generations. This will be achieved by ensuring efficient and effective service delivery and ensuring appropriate funds are allocated to maintain and renew infrastructure assets.

3.11 Health and Safety

3.11.1 Council will endeavour to identify and mitigate all key health and safety risks created by provision of services.

3.11.2 Each of the service level outcomes is related directly to Council's Community Strategic Plan by the way each asset class helps deliver the services required by the community. These service level outcomes are essential to maintain the asset portfolio to a satisfactory level, and also caters to the future demands of the community whilst balancing the potential risks to the community and Council.

3.12 Financial Based Service Levels

3.12.1 The premise of asset management is that asset requirements and asset management strategies should be driven by defined and acceptable service levels and performance standards. This section defines the various factors that are considered relevant in determining the Levels of Service for Council's assets that have been used to provide the basis for the life cycle management strategies and works programme identified within this asset management plan.

3.12.2 Levels of Service is a generic term used to describe the quality of services provided by an asset. Specific financial based service levels are described in Table 3.12.2 below.

Table 3.12.2: Financial Based Service Levels

Asset Consumption Ratio	The average proportion of 'as new' condition remaining for assets. This ratio shows the written down current value of the local government's depreciable assets relative to their 'as new' value. It highlights the aged condition of a local government's stock of physical assets and the potential magnitude of capital outlays required in the future to preserve their service potential.
Asset Sustainability Ratio	Are assets being replaced at the rate they are wearing out? This ratio indicates whether a local government is renewing or replacing existing non-financial assets at the same rate that its overall stock of assets is wearing out. It is calculated by measuring capital expenditure on renewal or replacement of assets relative to the rate of depreciation of assets for the same period. A local government would need to understand and be measuring its renewal expenditure to be able to determine this ratio.
Asset Renewal and Renewals Funding Ratio	Is there sufficient future funding for renewal and replacement of assets? This ratio indicates whether Council is allocating sufficient funds in its long term financial plan to adequately fund asset renewals.

Asset Backlog Ratio	This ratio shows what proportion the infrastructure backlog is against the total value of a council's infrastructure. The benchmark is less than 2%. The ratio is determined by dividing the estimated cost to bring assets to a satisfactory condition by the carrying value of infrastructure, building, other structures and depreciable land improvement assets.
Asset Maintenance Ratio	This ratio compares actual versus required annual asset maintenance for each asset class. A ratio of above 100% indicates that the council is investing enough funds that year to halt the infrastructure backlog from growing. The benchmark is greater than 100%.

3.12.3 The condition of storm sewers ("Excellent") is primarily based on the age and expected useful life of these assets. However, physical inspections and assessments will be leveraged to provide more reliable condition data in future asset management plans. Figure 3.12.2 shows gross pollutant trap in ("Excellent") condition.

Figure 3.12.2: Gross Pollutant trap in "Excellent" condition

4. FUTURE DEMAND

4.1 Demand forecast

4.1.1 The future infrastructure demand for community infrastructure and facilities is driven by changes and trends in population change, changes in demographics, lifestyle changes, residential occupancy levels, seasonal and climatic factors, consumer preferences and expectations, technological advancement, economic factors, agricultural practices, environmental awareness.

4.1.2 Demand factor trends and impacts on stormwater drainage assets are summarised in Table 4.1.2.

Table 4.1.2: Demand Factors, Projections and Impact on Services

Demand driver	Present position	Projection	Impact on services
Population	5,971 (2021 Census)	The NSW Department of Planning and Environment has predicted minor annual population decrease of 1.15% over the next 20 years to 5,450 in 2041. [2]	A minor population decrease will effect little change in demand to stormwater assets, however will result in decreased revenues without a corresponding reduction in stormwater drainage infrastructure service costs
Demographics	In 2021, the median age of people in Uralla Shire was 47 years. People aged 65 years and over made up 23.2% of the population.	The working age population (aged 15-64) is estimated to decrease by 3,750 from 2016 to 2,900 in 2041. The number of people aged 65 and over is estimated to increase from 1,200 in 2016 to 1,700 by 2041.	Insignificant
Residential development	Growth rate reflects demand for residential development	Future growth rate is possible due to proximity to State Significant Development projects	Small increase in demand on services
Environmental awareness	The community and Council are more environmentally aware and responsible.	Decreasing water supply and increasing demand. Onsite and catchment stormwater reuse and change to parks and gardens plantings due to water restrictions.	Stormwater capture and reuse infrastructure may be identified as a priority
Climate	Extremes increasing	Higher intensity rainfalls in storm events	Significant spending required to manage greater flows and pollutant treatment measures
Catchment management	Direct stormwater discharge into creek environment with some pollution control measures and limited stormwater reuse	Regulated controls on quality of stormwater discharge and reuse	Infrastructure to control pollutants, capture and reuse stormwater

[2] https://www.planning.nsw.gov.au/Research-and-Demography/Population-projections/Projections

4.2 Changes in Technology

4.2.1 Technology changes may affect the delivery of infrastructure services as a result of improvements to construction materials, methods, maintenance and operations. These may potentially increase the life of some assets and reduce susceptibility to damage.

4.2.2 Technology changes are forecast to affect the delivery of services covered by this plan as shown in Table 4.2.2 below.

Table 4.2.2: Technology Changes

Technology Change	Effect on Service Delivery
Changes in construction techniques, available materials and improvements to plant and equipment will evolve	These changes will be assessed on merit and applied where efficiencies can be achieved in construction and maintenance practices.
Improvement to pollutant control devises	Higher level of pollution capture and treatment of stormwater
Asset data capture by video inspection and the transportation of this information onto Council's GIS	Spatial location and condition of assets able to be verified from GIS reducing the need for reactive inspections
Further development of urban stormwater sensitive devices and techniques.	Reduce stormwater run-off and increase reuse

4.3 Demand Management Plan

4.3.1 Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

4.3.2 Non-asset solutions focus on providing the required service without the need for Council to own the assets. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another council area or public toilets provided in commercial premises.

4.3.3 Opportunities identified to date for demand management are shown in Table 4.3.3 below. Further opportunities will be developed in future revisions of this asset management plan.

Table 4.3.3: Demand Management Plan Summary

Service Activity	Demand Management Plan
Maintenance	Conduct routine inspections and repairs according to work plans and community enquiries.
Upgrades	Monitor the condition and lifespan of assets and plan upgrades accordingly.
Customer service requests	Record all customer service requests relating to stormwater assets and analyse the data collected to identify shortfalls in assets or services, and implement solutions.

4.4 New Assets for Growth

4.4.1 New stormwater drainage assets are those assets that Council did not previously possess, or stormwater drainage expenditure that upgrades or improves an existing asset beyond its existing capacity.

4.4.2 New assets required to meet growth will be acquired from land developments and constructed/acquired by Council. New assets may also result from the need to support growth or environmental needs, or to create additional service level capacity.

4.4.3 New assets and upgrade/expansion of existing assets are identified from various sources such as staff, councillor or community requests, proposals identified by strategic plans or reports, analysis of external plant hire charges incurred, testing or demonstrations of new technologies, or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary estimate. Verified proposals are ranked by priority and available funds are scheduled into replacement programs.

4.4.4 Acquiring these new assets will commit Council to fund ongoing operations and maintenance costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations and maintenance costs.

4.4.5 Council is not anticipating a significant increase in population and therefore anticipates there will be little change in demand for stormwater drainage assets.

5. LIFE CYCLE MANAGEMENT

The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service while optimising life cycle costs.

5.1 Background Data

Physical Parameters

5.1.1 This Asset Management Plan covers the infrastructure assets that serve the Uralla Shire's community stormwater needs. These assets include pipes, pits (pits, endwalls, headwalls and converters are broadly classified as pits), culverts, channels, and gross pollutant traps (GPTs) (See examples in Figure 5.1) throughout the local government area that enable people to protect both life and property from larger storm events and minimise disturbances from minor storms.

Figure 5.1: Examples of stormwater assets (A) Box culvert, (B) Waterway gabion protection (C) and (D) Pipes.

5.1.2 The asset inventory, values and conditions as per the current asset register are set out in Table 3.6.7 on page 16 above and Table 5.1.2 below.

Table 5.1.2: Asset Inventory, projected Value and Condition as at 30 June 2022

Stormwater Assets							
Gross Replacement Cost	**Written Down Value**	**Annual Depreciation Expense**	**Condition**				
			1	**2**	**3**	**4**	**5**
$ 4,347,767	$ 3,216,554	$ 90,002	8%	54%	23%	12%	4%

Asset capacity and performance

5.1.3 Council's services are generally provided to meet design standards where these are available.

5.1.4 Locations where deficiencies in service performance are known are detailed in Table 5.1.4 below. These service deficiencies were identified from the knowledge of Council management, community enquiries, and Council inspections.

Table 5.1.4: Known Service Performance Deficiencies

Location	Service Deficiency
Stormwater Drainage Network	Under capacity pipe and pit drainage, lack of drainage system and property flooding
Stormwater Pollution Control Measure	Not all stormwater outlets have pollution control measures
Stormwater Reuse	Limited or no infrastructure installed for stormwater reuse.
Non asset solutions	Flood studies including hydraulic maps to identify issues and develop mitigation strategies

5.2 Operations and Maintenance Plan

Maintenance Plan

5.2.1 Council's maintenance activities for stormwater drainage include routine, proactive, specific and reactive maintenance.

5.2.2 Routine maintenance is the regular ongoing work that is necessary to keep assets operational and to help assets reach their useful life. It includes work on an asset where a portion may fail and needs immediate repair to make it operational again.

5.2.3 Proactive maintenance (or planned maintenance) is repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown experience, prioritising, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

5.2.4 Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle. This work generally falls below the capital/maintenance threshold but may require a specific budget allocation.

5.2.5 In addition to planned maintenance, which is defined and scheduled over the medium-term, Council must also repair unforeseen damage caused by storms or accidents. This type of maintenance is referred to as either reactive or unplanned maintenance.

5.2.6 Council's unplanned maintenance work is often carried out because of issues identified through customer requests for service.

5.2.7 Assessment and prioritisation of reactive maintenance is undertaken by operational staff using experience and judgement.

5.2.8 Council's current maintenance is through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown experience, prioritizing of works, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

Standards and specifications

5.2.9 Maintenance work is carried out by Council staff in accordance with the current standards and capacity unless a reduced capacity can be justified by council and citizens..

Summary of future operations and maintenance expenditures

5.2.10 Future maintenance costs are forecast to trend in line with the value of the asset stock, plus an allowance for increase in levels of service over the planning period. Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others that are donated to Council.

5.2.11 Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded, are to be included in the risk assessment process in the infrastructure risk management plan.

5.2.12 Maintenance is funded from the operating budget and grants where available.

Operations and Maintenance Strategies

5.2.13 Council will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. Effective operation and maintenance activities include:

- Scheduling operations activities to deliver the defined level of service in the most efficient manner;
- Maintaining and reviewing a current infrastructure risk register for assets on an annual basis. Present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council;
- Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs;
- Review asset utilisation to identify under-utilised assets and appropriate remedies, and over-utilised assets and customer demand management options;

- Maintain a current hierarchy of critical assets and required operations and maintenance activities; and
- Review management of operations and maintenance activities to obtain best value for resources used.

5.3 Renewal/Replacement Plan

5.3.1 Renewal expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

5.3.2 Capital rehabilitation activities involve restoring, refurbishing or replacing an asset to bring it back to its original capacity and performance capability.

5.3.3 Renewal will be undertaken using 'low cost' renewal methods where practical. The aim of 'low cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement costs.

5.3.4 The annual required renewal costs reflect the amount needed to be spent on assets that have deteriorated to a point at which renewal is required based on the community's level of service expectations.

5.3.5 Typically, stormwater drainage assets in condition 4 will provide a poor level of service and will need to be renewed in the short-to medium-term and assets in condition 5 may require urgent and immediate renewal or replacement.

Renewal plan

5.3.6 Assets requiring renewal are identified from estimates of remaining life obtained from the condition survey. The estimated service life of stormwater drainage assets is between 60-100 years. Based on the age profile from the asset register the remaining life of the majority of Council's drainage network is estimated to be a greater than 40 years.

5.3.7 Council's next scheduled assessment will examine the condition of the pipe network and determine the performance of the drainage network and renewal requirements. A renewal plan will be prepared on completion of assessment and included in future Asset Management Plans.

5.3.8 The decision criteria for major stormwater renewal includes, in descending importance:

- In combination with other works integrated with the drainage location;
- Property damage reduction;
- Flood frequency reduction;
- Minor flooding; and
- Maintenance hot spots.

Renewal and replacement strategies

5.3.9 Council will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner;
- Undertaking project scoping for all capital renewal and replacement projects to identify:
  - the service delivery 'deficiency', present risk, and optimum time for renewal/replacement;
  - the project objectives to rectify the deficiency; and
  - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency;
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible;
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets, and reporting Very High and High risks and residual risks after treatment to management and Council;
- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs;
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required; and
- Review management of capital renewal and replacement activities to obtain best value for resources used.

Renewal standards

5.3.10 Renewal work is always carried out to current standards and capacity unless a reduced capacity can be justified.

Summary of projected renewal expenditure

5.3.11 Projected future renewal expenditures are forecast to first cover renewal/rehabilitation needs of assets in condition 3, 4 and 5 and later those currently in condition 2. The projected capital renewal program is shown in Appendix B.

5.3.12 Deferred renewal, i.e. those assets identified for renewal and not scheduled for renewal in capital works programs, are to be included in the risk assessment process in the risk management plan.

5.3.13 Renewals are to be funded from capital works programs and grants where available.

Impact of Deferring Renewal Works

5.3.14 Renewal works identified in terms of renewal strategies may be deferred if the cost (or aggregate cost) is beyond the current financial ability to fund it (forecast has been spread in the plan as part of this strategy). This can occur when there are short term renewal profile peaks, or higher priority works are required on other infrastructure asset groups.

5.3.15 When renewal works are deferred, the impact of the deferral on the assets ability to still provide the required level of service will be assessed. Although the deferral of some renewal works may not impact significantly on the short-term operation of the assets, repeated deferral will create a liability (backlog) in the longer term.

5.4 Creation/Acquisition/Upgrade Plan

5.4.1 New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to Council from land development. These assets from growth are considered in Section 4.4.

Selection criteria

5.4.2 New assets and upgrade/expansion of existing assets are identified from various sources, including:

- Proposals identified by strategic plans or partnerships with other organisation;
- Urban growth – increased development density and potential flooding;
- Known property and street flooding locations;
- Known drainage pipe and pit hydraulic deficiencies where the capacity is below 1 in 5 year event Average Recurrence Interval (ARI);
- High level of pollutant locations (i.e. outlets into waterways);
- Potential locations for stormwater storage and reuse; and
- Poor condition, under capacity pipe/pit network locations.

5.4.3 In preparing future works programs to upgrade/expand the stormwater network consideration is given to the following:

- Extent of property and street flooding for existing and future developments including potential damage and hazards;
- Capacity and condition of the existing stormwater system; and
- Strategic locations to improve the quality and reuse of stormwater.

5.4.4 New assets and services are to be funded from capital works program and grants where available.

5.5 Disposal Plan

5.5.1 Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation.

5.5.2 No stormwater drainage assets are currently identified for possible decommissioning and disposal.

6. RISK MANAGEMENT

6.1 Risk Assessment

6.1.1 Risk management is defined in AS/NZS 4360:2004 as "the culture, processes and structures that are directed towards realising potential opportunities whilst managing adverse effects".

6.1.2 Council is committed to the identification and elimination or reduction of risks associated with hazards that arise throughout Council's operations as far as reasonably practicable. Our risk assessment process includes:

- Identifying credible risks;
- Analysing the likelihood of the risk event occurring;
- Assessing the consequences should the event occur;
- Developing a risk rating ('likelihood' times 'consequences', as shown in Table 6.1.3 below);
- Evaluating the risk; and
- Detailing a risk treatment plan for non-acceptable risks.

6.1.3 An assessment of risks associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to the Council. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

6.1.4 Once the asset criticality and likelihood have been identified and rated, the risk score can be calculated. The risk matrix in Table 6.1.3 below shows the resulting range of ratings.

Table 6.1.3: Uralla Shire Council Risk Matrix

	CONSEQUENCES				
LIKELIHOOD	Minimal	Minor	Moderate	Major	Catastrophic
Almost certain	Medium	Medium	High	Catastrophic	Catastrophic
Likely	Medium	Medium	High	Catastrophic	Catastrophic
Possible	Low	Medium	Medium	High	Catastrophic
Unlikely	Low	Low	Medium	High	High
Rare	Low	Low	Medium	Medium	High

Strategic Infrastructure Risks

6.2.1 Some high-level infrastructure based risks have been identified that are associated with the management of stormwater assets. These strategic risks are identified in Table 6.2.1 below.

Table 6.2.1: Strategic Infrastructure Risks

Risk Details / Event	Likelihood	Consequence	Risk	Existing Controls	Controls Adequate	Actions Needed / Treatment Plan
Poor design/construction causes damage or injury	Possible	Major	High	Designs prepared and construction projects supervised by suitably qualified and experienced people	Y	N/A
Damage caused by vandalism including graffiti	Possible	Moderate	Medium	Design and construct works to reduce susceptibility to damage	Y	
Overall condition of assets decrease due to inadequate renewal and maintenance programs	Likely	Moderate	High	Programs controlled by budget availability	N	Develop Asset Inspection strategy and long term renewals plan
Changes in legislation affect Council's responsibilities	Unlikely	Moderate	Medium	Monitor legislative changes	Y	
Resource constraints affect the management of the assets	Possible	Major	High	None	N	Allocate funds to an asset renewal reserve
Failure of materials supplies	Possible	Major	High	None	N	Obtain alternative supply arrangements are in place for critical materials
Flooding	Possible	Major	High	• Monitor known flooding hot spots • Inspect and clear drain pipes quarterly • Conduct routine maintenance • Conduct renewal works as required • Allocate funds to an asset renewal reserve	Y	
Impact on climate change on assets	Possible	Major	High	Monitor conditions of assets	Y	Develop environmental plan to identify impacts on assets and develop strategies to manage climate change

6.2 Critical Assets

6.3.1 Critical assets are specific assets which have a high consequence of failure but not necessarily a high likelihood of failure. For example, failure would cause a financial loss within the community or a marked reduction of service.

6.3.2 By identifying critical assets and critical failure modes, Council can target and refine inspection regimes, maintenance plans and capital expenditure plans at appropriate times.

6.3.3 Operations and maintenances activities may also be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency and higher maintenance intervention levels.

6.3.4 Given the importance of minimising flooding impacts within the townships of Uralla and Bundarra during heavy storms, Council has determined that all stormwater drainage assets are critical assets.

7. FINANCIAL SUMMARY

7.1 Financial Statements and Projections

7.1.1 This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide the sufficient level of service to the community over a 10 year period. This plan provides input into the long term financial plan aimed at providing the required services in a sustainable manner.

7.1.2 The total amount of expenditure for stormwater drainage operations, maintenance and capital over the next ten years is forecast to be approximately $1,759,951with annual forecasted expenditure varying between $113,900 and $140,671per annum (including new assets). Forecasted operational expenditure for the ten year cycle will be approximately $1,268,661which equates to 72 % of the total forecasted expenditure.

7.1.3 Projected operating operations and maintenance proposed budget funding are set out in Table 7.1.3 below.

Year	Projected operational expenditure $			Total income ($)	Deficit ($)
	Operation and maintenance ($)	Depreciation ($)	Total operational expenditure ($)		
2022-23	64,564	49,336	113,900	33,037	-80,863
2023-24	66,156	50,446	116,602	33,037	-83,565
2024-25	67,788	51,582	119,370	33,037	-86,333
2025-26	69,460	52,742	122,202	33,037	-89,165
2026-27	71,173	53,929	125,102	33,037	-92,065
2027-28	72,929	55,142	128,071	33,037	-95,034
2028-29	74,728	56,383	131,111	33,037	-98,074
2029-30	76,571	57,652	134,223	33,037	-101,186
2030-31	78,460	58,949	137,409	33,037	-104,372
2031-32	80,396	60,275	140,671	33,037	-107,634
10 year=	**722,225**	546,436	1,268,661	**330,370**	**-938,291**
5 year=	**339,141**	**258,035**	**597,176**	**165,185**	**-431,991**

Table 7.1.3: Projected Operating Expenditure 2022 to 2032.

7.1.4 Projected capital expenditure (renewal and upgrade/expansion/new assets), net disposal expenditure estimated budget funding are set out in Table 7.1.4 below.

Year	Projected capital renewals expenditure $			Total capital renewals cost ($)
	Capital Renewals ($)	New Assets ($)	Disposals ($)	
2022-23	33,000	0	0	33,000
2023-24	54,559	0	0	54,559
2024-25	55,098	0	0	55,098
2025-26	44,600	0	0	44,600
2026-27	61,567	0	0	61,567
2027-28	60,388	0	0	60,388
2028-29	50,000	0	0	50,000
2029-30	45,838	0	0	45,838
2030-31	20,000	0	0	20,000
2031-32	66,241	0	0	66,241
10 year=	**491,291**	**0**	**0**	**491,291**
5 year=	**248,824**	**0**	**0**	**248,824**

Table 7.1.4: Projected capital expenditure, net disposal expenditure 2022 to 2032.

Renewals

7.1.5 Asset age and condition based renewals plans have been developed which provide a more realistic renewals pattern and renewals expenditure requirements. Although the plan provides optimal year of renewals for each asset, to set the budget to match the pattern is not practical. Therefore, it is important to review the renewals plan against estimated depreciation and establish a reserve that can be used as required.

7.1.6 Note that all costs are shown in 2021 dollar values. (Shortfall gap: -ve = gap, +ve = surplus). Council has included the budgeted and actual costs of routine activities undertaken and costs incurred to sustain the asset in a functional state in accordance with Special schedules – Local Government Code of Accounting 2021/22 – Section 4.

7.1.7 Figure 7.1.4.1 below shows operation and maintenance, renewal costs and income levels.

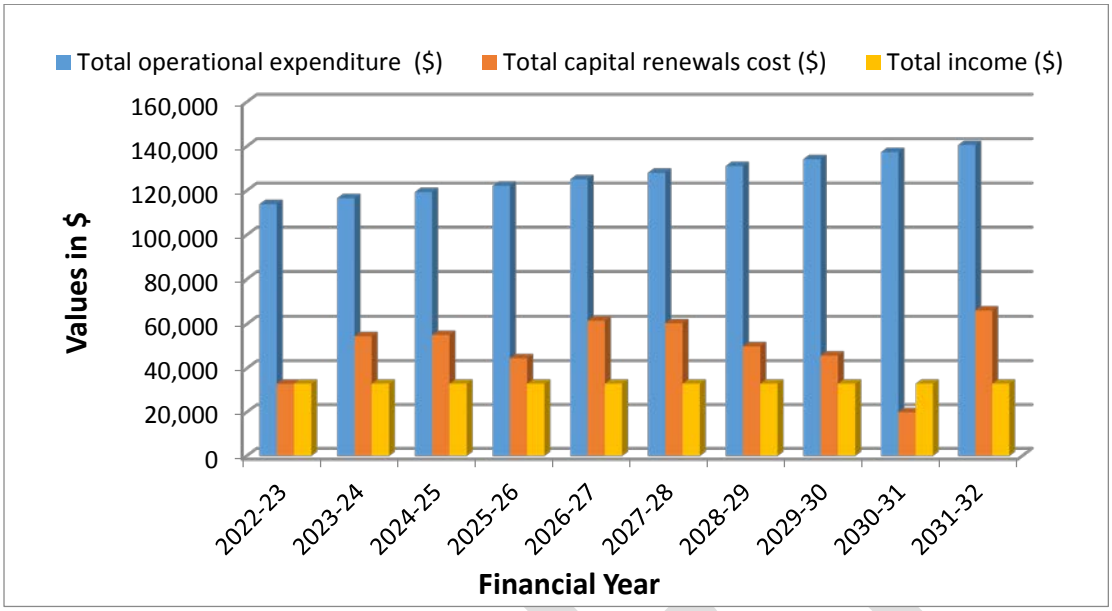

Figure 7.1.4.1: Operation and maintenance, renewal costs as compared income levels 2022-32

7.1.8 Council has not undertaken targeted consultation with the community for its stormwater assets and has no agreed level of service for stormwater assets. Therefore the estimated cost to bring to a satisfactory standard (required renewals) has been measured against the asset condition rating of 3, 4 and 5 as in the last asset valuation.

Financial sustainability in service delivery

7.1.9 Renewal expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

7.1.10 There are three key indicators for financial sustainability that have been considered in the analysis of the services provided by this asset category, these being long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

7.1.11 The capacity to meet the projected/budgeted expenditures is dependent upon the capacity of the organisation to provide sufficient funding from its own resources to sustain the ongoing costs.

7.1.12 Life cycle costs (or whole of life costs) are the total annual costs that are required to sustain the service levels over the assets life. Life cycle costs include the original purchase, operations, depreciation and maintenance expenditure to hold the asset over its period of use. The life cycle cost for the stormwater drainage assets is $ 72,223 per year (operations and maintenance expenditure excluding depreciation expense in year 1).

7.1.13 A comparison should be used between the predicted life cycle costs and actual life cycle expenditure to highlight any differences. If the life cycle expenditure is more than that life cycle cost, it is most likely that charges will need to be increased to meet requirements.

7.1.14 Life cycle costs can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals.

7.1.15 A shortfall between life cycle cost and life cycle expenditure is the life cycle gap.

7.1.16 Assets requiring renewal have been identified using Asset Register data to project the renewal costs for renewal years using acquisition year and useful life.

7.1.17 The expenditure projections in Table 7.1.3 above looks at the annual expenditure gap by comparing planned revenue against the required expenditure, calculated based on best practices. The allocation of adequate budget in each budget category demonstrates Council's knowledge and understanding of asset's life cycle requirements.

7.1.18 The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future.

7.1.19 Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and Long Term Financial Plan.

Financial sustainability in service delivery

7.1.20 There are three key indicators for financial sustainability that have been considered in the analysis of the services provided by this asset category, these being long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

Long term – 10 year financial planning period

7.1.21 This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

7.1.22 These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

7.1.23 The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is $175,995 per year.

7.1.24 This indicates that Council spends 72 % of the projected operational expenditures of total cost needed to provide the services documented in the asset management plan.

Medium Term – 5 year financial planning period

7.1.25 The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is $84,600 per year.

7.1.26 The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future.

7.1.27 Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

Financial Sustainability Indicators

7.1.28 Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and funding to achieve financial sustainability.

7.1.29 Providing services in a sustainable manner will require matching of projected asset renewals to meet agreed service levels with planned capital works programs and available revenue.

7.1.30 A gap between projected asset renewals, planned asset renewals, and funding indicates that further work is required to manage required service levels and funding to eliminate any funding gap.

7.1.31 Council manages the 'gap' by developing this asset management plan to provide guidance on future service levels and resources required to provide these services, and review future services, service levels, and costs with the community.

7.2 Funding Strategy

7.2.1 Council funds stormwater drainage assets through its stormwater management levy, grants, general funds, and borrowings.

7.2.2 Grant funding is required when major projects need to be undertaken.

7.2.3 General funds are used in two ways for our stormwater drainage assets. Firstly, they are used to support the maintenance of our stormwater drainage assets. Secondly, they are used to build an asset renewal reserve each year. This will help in reducing Council's reliance on grant funding for renewal projects.

7.2.4 Council also has the option of borrowing to support investments in stormwater drainage assets. This option requires careful monitoring of Council's debt service ratio.

7.3 Valuations

Asset valuations

7.3.1 The value of assets recorded in the asset register as at 30 June 2021 covered by this asset management plan is shown below. Stormwater drainage assets were last revalued at 30 June 2020.

Current Replacement Cost	$	4,372,719
Depreciable Amount	$	4,372,719
Depreciated replacement cost	$	3,216,552

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion.

Asset Consumption (Depreciation/Depreciable Amount) >= 100 %	74%	Bench mark
Asset renewal (Capital renewal exp/Depreciable amount) <= 2.00%	0.11%	Bench mark
Annual Upgrade/New (upgrade exp/Depreciable amount)	0%	
Annual Upgrade/New (including contributed assets)	0%	

7.3.2 Council is currently renewing assets at 0.11% of the rate they are being consumed and increasing its asset stock by 0% each year.

7.3.3 To provide services in a financially sustainable manner, Council will need to renew assets at the rate they are being consumed over the medium-long term, and fund the life cycle costs for all new assets and services in its long term financial plan.

Valuation Forecasts

7.3.4 Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council.

7.3.5 Figure 7.3.6 below shows the projected replacement cost asset values over the planning period in 2021 dollar values.

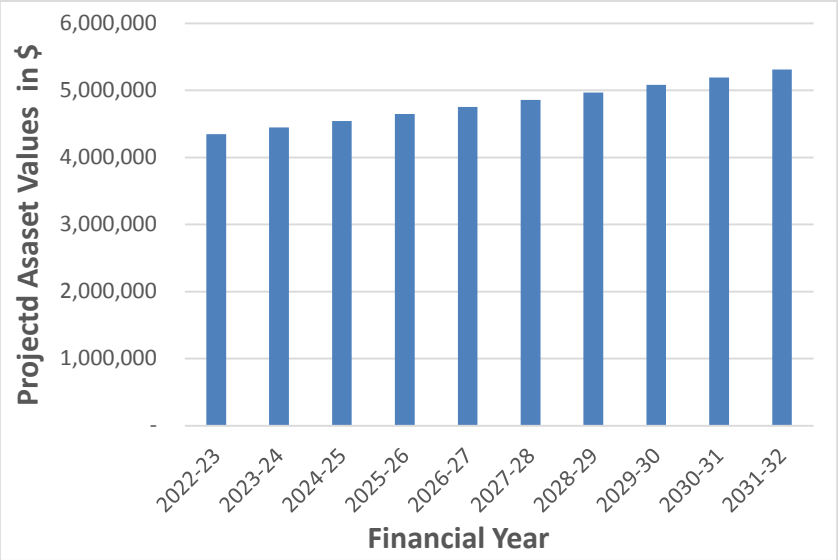

Figure 7.3.6: Projected Asset Values 2022 to 2032

7.3.6 Depreciation expense values are forecast in line with asset values as shown in Figure 7.3.7 below.

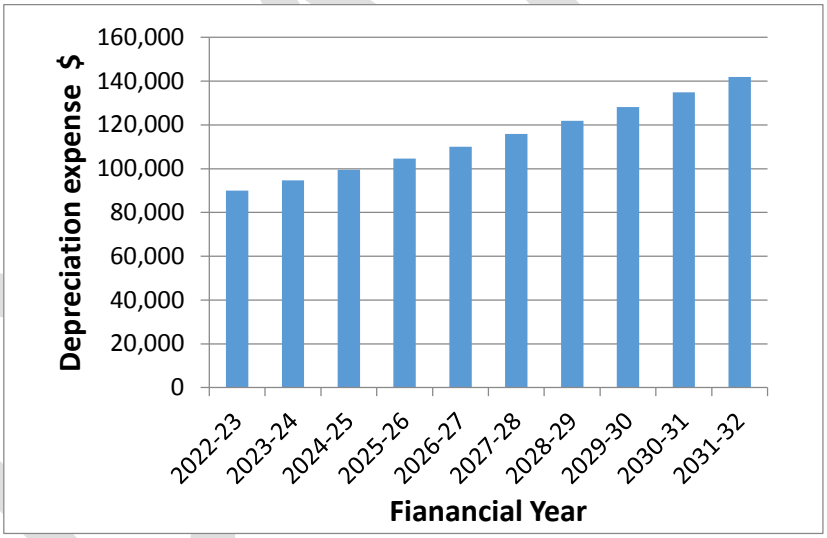

Figure 7.3.7: Projected Depreciation Expense

7.3.7 The depreciated replacement cost (current replacement cost less accumulated depreciation) will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Figure 7.3.8 below.

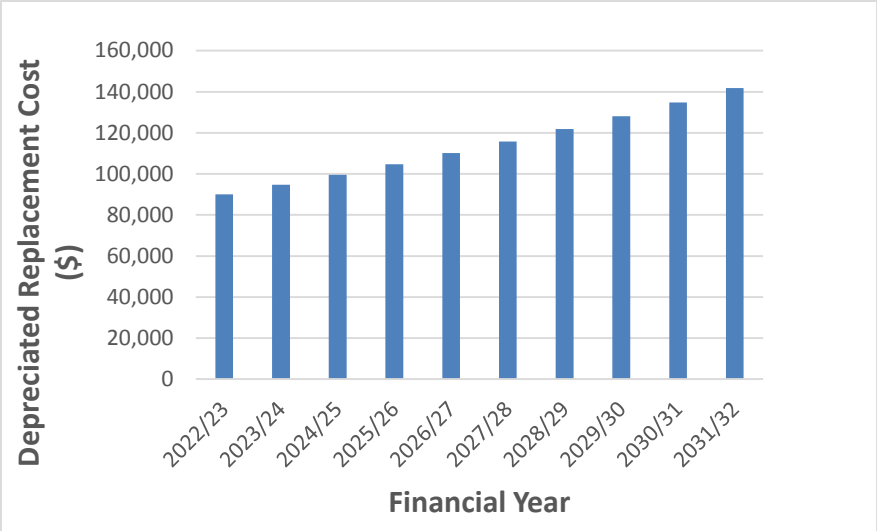

Figure 7.3.8: Projected Depreciated Replacement Cost

7.4 Factors affecting supply of stormwater drainage assets

Funding Uncertainties

7.4.1 Uralla Shire Council is highly reliant on grant funding and its rates revenues are limited.

7.4.2 Based on the size of our communities, it is difficult to fund the provision of our stormwater drainage assets. Council needs to seek ongoing government funding, where available, to maintain and enhance our stormwater drainage assets.

Council's asset renewal backlog

7.4.3 Assets that are below the minimum condition rating do not meet Council's minimum levels of service. Such assets will require renewal. These assets form part of Council's renewal backlog and Council should be ensuring that these assets are brought up to the agreed levels of service.

7.4.4 Council's asset renewal backlog will need to be funded.

Staff and resource shortages

7.4.5 As with financial constraints on the provision of our stormwater drainage assets, difficulties in recruiting and retaining staff can be a challenge for Council. As a large rural council, Council often faces challenges in filling technical and managerial positions. When technical or managerial positions are vacant it can affect Council's ability to provide some of the services expected by the community.

8. IMPROVEMENT PLAN AND MONITORING

8.1 Asset Management Practices

Accounting/Financial Systems

8.1.1 Council uses Authority and Magiq software for its financial/accounting systems. The system is managed by Council's Finance section and produces quarterly financial reports for Council, while also producing reports for annual financial statements for audit and production to the Uralla Shire community.

8.1.2 Council manages and is responsible for all of the accounting, budgeting and financial aspects of all of its assets. The primary issue for the financial systems section is to:

- Conduct regular asset valuations;
- Ensure valuations match what is out in the field; and
- Undertake regular updates to the system.

Accountabilities for Financial Systems

8.1.3 Under the *Local Government Act 1993,* Council must meet certain financial reporting requirements. These include budget reviews with all AMP sections within the Council. Council must also provide an annual report outlining the year's achievements, in terms of meeting its objectives and performance targets as it had set out. The annual report also outlines the amount of expenditure required to meet the standards set in the asset plans, the amount of annual maintenance required to keep the assets at the level of service specified, and Council's maintenance program for the year in relation to the work carried out.

8.1.4 The determination of expenditure as capital or maintenance is a combination of purpose, value and economic life of the asset received from the expenditure. The guidelines for the determination are set out in Note C1-7 of the Annual Financial Statements as adopted annually by Council.

8.1.5 **Initial Recognition:** All non-current assets purchased are capitalised as the expenditure is incurred and assets are depreciated from the first full year of use. For the initial recognition, an asset's cost is measured at its fair value, plus all expenditure that is directly attributable to the acquisition. Where settlement of any part of an asset's cash consideration is deferred, the amounts payable in the future are discounted to their present value as at the date of recognition or date of exchange of the asset to arrive at fair value. The discount rate used is Council's incremental borrowing rate, being the rate at which a similar borrowing could be obtained from an independent financier under comparable terms and conditions.

8.1.6 **Materiality:** Assets with an economic life in excess of one year are only capitalised where the cost of acquisition exceeds materiality thresholds established by Council for each type of asset. In determining and in annually reviewing such thresholds, regard is had to the nature of the asset and its estimated service life.

8.1.7 **Subsequent Costs**: Subsequent costs are added to an asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to Council and the cost of the item can be measured reliably.

8.1.8 **Maintenance**: All other expenditure on stormwater asset, including the excess of fair value addition expense noted above, is recorded as repairs and maintenance and charged to the Income Statement during the financial period in which they are incurred.

Asset Management Systems

8.1.9 A number of systems and registers are used by Council for the purpose of stormwater drainage asset management:

- Microsoft® Excel spreadsheets – manipulate, interrogate and report on asset data
- Civica© "Authority" software – finance system
- TRIM (© (HP Software Division) – records and document management

8.1.10 The responsibility for operating and maintaining the core Asset Management systems relating to stormwater drainage assets is with the Executive Manager Civil Infrastructure and the Executive Director Infrastructure and Development. The development of an annual budget allocation is between the Executive Director, the Manager Finance and IT, and the General Manager, based upon the ten year financial plan forward estimates. Further details on organisational responsibilities are set out in Appendix C.

8.1.11 Currently, there is no core corporate system for asset management thus various duplications of assets records exist in different databases and have misaligned information. There are no direct links with operations and maintenance expenses and the individual asset.

8.1.12 The ongoing maintenance of this system should become a core function within Council's operations. Linking Council's asset management system and financial system (Authority) is identified as a key strategy to improve Council's asset management practices.

Information Flow Requirements and Processes

8.1.13 The key information flows *into* this asset management plan are:

- Council strategic and operational plans,
- Service requests from the community,
- Network assets information,
- The unit rates for categories of work/materials,
- Current levels of service, expenditures, service deficiencies and service risks,
- Projections of various factors affecting future demand for services and new assets acquired by Council,
- Future capital works programs, and
- Financial asset values.

8.1.14 The key information flows *from* this asset management plan are:

- The projected Works Program and trends,
- The resulting budget and long term financial plan expenditure projections, and
- Financial sustainability indicators.

8.1.15 The information flows listed above will impact the Long Term Financial Plan, annual budget, and departmental business plans and budgets.

8.2 Improvement Program

8.2.1 The stormwater drainage asset management improvement program generated from this asset management plan is shown in Table 8.2.1 below.

Table 8.2.1: Improvement Program

No	Action	Priority	Responsibility	Timeline
1	Review and confirm expenditure for all Stormwater sub-categories into renewals, new, maintenance and operational	High	Asset Manager/Manager Civil Infrastructure	2023/24
2	Review and adopt acceptable Level of Services in consultation with community, update any changes and measure progress annually	High	Asset Manager/Manager Civil Infrastructure	2023/24
3	Review and establish clear assumptions and approach for calculating depreciation and backlog. Apply this consistent approach across all asset sub categories to obtain most accurate backlog.	High	Asset Manager/Manager Civil Infrastructure	2023/24
4	Prioritise and plan Stormwater asset renewals to meet agreed service levels based on community's importance, asset category priority and site inspections. Standardise renewal expenditure where possible and reserve any extra funds separately for later use.	Medium	Asset Manager/Manager Civil Infrastructure	2024/25
5	Review and update future life cycle costs (unit rates) to improve accuracy of estimated lifecycle costs	Medium	Asset Manager/Manager Civil Infrastructure	2024/25

8.3 Monitoring and Review Procedures

8.3.1 This asset management plan will be reviewed during annual budget preparation and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of the budget decision process.

8.3.2 This plan will be updated annually accurately represent the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into Council's long term financial plan.

8.3.3 This plan has a life of four years and is due for complete revision and updating within twelve months of each Council election.

8.4 Performance Measures

8.4.1 The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this AMP are incorporated into the organisation's long term financial plan;
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the AMP; and
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the organisation's Strategic Plan and associated plans.

Key Performance Benchmarks

8.4.2 Council monitors and assesses its performance with respect to maintaining and renewing its assets using key performance benchmarks. These benchmarks are used to measure how well Council is meeting the community's expectations in relation to the condition of its assets.

8.4.3 Council recognises the importance of working with the local community when managing the Uralla Shire's assets on behalf of the community. Council works with the community in two important ways. Firstly, it creates community service expectations. These summarise what the community wants. Secondly, it measures its progress in meeting these community service expectations against key performance benchmarks.

8.4.4 By using community-focussed performance benchmarks, Council maintenance and improvements to stormwater drainage assets are directly relevant to the community.

8.4.5 The key performance benchmarks that have been established for the stormwater drainage assets are outlined in Table 3.5.2 on page 14.

REFERENCES

1 NSW Office of Local Government, 2021, *Integrated Planning & Reporting Handbook for Local Councils in NSW*, ISBN 978-1-922001-90-0, www.olg.nsw.gov.au.

2 Department for Victorian Communities (DVC), 2006, *Asset Investment Guidelines*, Glossary, Department for Victorian Communities, Local Government Victoria, Melbourne, http://www.dpcd.vic.gov.au/localgovernment/publications-and-research/asset-management-and-financial.

3 Institute of Public Works Engineers Australasia (IPWEA), 2008, *NAMS.PLUS Asset Management* Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/namsplus.

5 Institute of Public Works Engineers Australasia (IPWEA), 2009, *Australian Infrastructure Financial Management Guidelines*, Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AIFMG.

6 International Infrastructure Management Manual (IIMM) 6th edition, Institute of Public Works Engineering Australasia (IPWEA, 2021)

APPENDICES

Appendix A Schedule of Assets

Appendix B Projected Capital Renewal/ rehabilitation Program

Appendix C Organisational Structure Responsibilities

Appendix D Glossary of Terms

Appendix A – Schedule of Assets

Stormwater Drainage Asset category	Condition (1-5)	Replacement Cost as at 30 June 2022 $
Stormwater Drainage pit - Rowan Ave (20-22)	1	25,522
Stormwater Drainage pit - Rowan Ave (20-22)	1	2,299
Stormwater Drainage - 100mm Uralla	2	4,031
Stormwater Drainage - 150mm Uralla	2	33,859
Stormwater Drainage - 300mm Uralla	2	662,864
Stormwater Drainage - 375mm Uralla	2	795,200
Stormwater Drainage - 450mm Uralla	2	907,448
Stormwater Drainage - 600mm Uralla	2	9,330
Stormwater Drainage - 625mm Uralla	2	535,886
Stormwater Drainage - 750mm Uralla	2	106,875
Stormwater Drainage - 900mm Uralla	2	57,569
Stormwater Drainage - Box Culverts - Type B - Uralla	2	22,370
Stormwater Drainage - Box Culverts - Type C - Uralla	2	60,455
Stormwater Drainage - Retention Basins Uralla	2	13,016
Stormwater Drainage - Drain Only Uralla	2	171,524
Stormwater Drainage Gross Pollutant Traps Uralla	2	7,054
Stormwater Drainage - 250mm Uralla	3	298,039
Stormwater Drainage - 525mm Uralla	3	174,680
Stormwater Drainage - 650mm Uralla	3	45,944
Stormwater Drainage - 825mm Uralla	3	20,796
Stormwater Drainage - Box Culverts - Type A Uralla	3	5,901
Stormwater Drainage - 500mm Uralla	3	34,805
Stormwater Drainage - 315mm Uralla	4	12,001
Stormwater Drainage - 430mm Uralla	4	94,927
Stormwater Drainage - 300mm Bundarra	4	244,802
Stormwater Drainage - 450mm Bundarra	5	25,522
TOTAL		**$4,372,719**

Appendix B – Projected Capital Renewal Program

Stormwater drainage assets category	Condition rating – value ($)	Planned Projected Capital Renewals Expenditure (Cond 3 to 5)									
		2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
100mm pipes	2	-	-	-	-	-	-	-	-	-	2,244
150mm pipes	2	-	-	-	-	-	-	-	-	-	3,996
250mm pipes	3		-	-		-		-	-	-	
300mm pipes	4					-	4,878 -	-	-	-	-
315mm pipes	4		-	25,098[3] -		-	-	-	-	-	-
375mm pipes	2	-	-	-	10,856	-	-	-	-		-
430mm pipes	4		-	-		-	-	-	-	-	-
450mm pipes[4]	5			-	3,743 -	-	-	-	-	-	-
500mm pipes	3	33,000	24,559 -	-	-	-	-	-	3,786		
525mm pipes	3		30,000	30,000	30,000	35,692	30,000	30,000		30,000	30,000
600mm pipes	2	-	-	-	-	-	-	-	-	-	-
625mm pipes	2	-	-	-	-	-	-	-	-	-	-
650mm pipes	3	-	-	-	-		-	20,000	42,053	20,000	30,000
750mm pipes	2	-	-	-	-		-	-	-	-	-
825mm pipes	3	-	-	-	-	10,000	25,511	-	-	-	-
900mm pipes	2	-	-	-	-	-	-	-	-	-	-
Box culverts	3	-	-	-	-	15,875[5]			-	-	-
Drain	2	-	-	-	-	-	-	-	-	-	-
Retention basins	2	-	-	-	-	-		-	-	-	-
Gross Pollutant Traps (GPT)	2	-	-	-	-	-		-	-	-	-
Drainage pit	1	-	-		-	-		-	-	-	-
Total stormwater drainage assets		33,000	54,559	55,098	44,599	61,567	60,389	50,000	45,838	20,000	66,241

[3] A section of asset in condition rating 4

[4] Section of 450 mm pipes in condition rating 5

[5] Box culverts in condition rating 3

Appendix C – Organisational Structure Responsibilities

Key person	Responsibilities
Councillors	• Represent needs of community. • Allocate resources in consultation with the General Manager
General Manager	• Allocate resources to meet the organisation's objectives in providing services while managing risks. • Authorise Delegations of Authority to undertake AMP works. • Ensure organisation is financial sustainable.
Manager Finance & IT	• Ensure organisation is financial sustainable.
Executive Director Infrastructure & Development	• Coordinate the budget and infrastructure development. • Identify changes in work flows or Council requirements.
Asset Manager/ Manager Civil Infrastructure	• Schedule the works and maintenance as per the Asset Management Plan. • Oversee the works of the Asset Management Plan.
Contractors / Employees	• Undertake the works as per the schedule.

Appendix D – Glossary of Terms

Annual service cost (ASC)

1) Reporting actual cost
   The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
2) For investment analysis and budgeting
   An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/opportunity and disposal costs, less revenue.

Asset

A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.

Asset class

A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.

Asset condition assessment

The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

Asset management (AM)

The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

Average annual asset consumption (AAAC)*

The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.

Borrowings

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided**.**

Capital expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital expenditure - expansion

Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases the organisation's asset base, but may be associated with additional revenue from the new user group, egg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new

Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

Capital expenditure - renewal

Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, eg. resurfacing or re-sheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

Capital expenditure - upgrade
Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in the organisation's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital funding
Funding to pay for capital expenditure.

Capital grants
Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

Capital investment expenditure
See capital expenditure definition

Capitalisation threshold
The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

Carrying amount
The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

Class of assets
See asset class definition

Component
Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Cost of an asset
The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into service. This includes one-off design and project management costs.

Current replacement cost (CRC)
The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

Depreciable amount
The cost of an asset, or other amount substituted for its cost, less its residual value.

Depreciated replacement cost (DRC)
The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

Depreciation / amortisation
The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

Economic life
See useful life definition.

Expenditure
The spending of money on goods and services. Expenditure includes recurrent and capital.

Fair value
The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arm's length transaction.

Funding gap
A funding gap exists whenever an entity has insufficient capacity to fund asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current funding gap means service levels have already or are currently falling. A projected funding gap if not addressed will result in a future diminution of existing service levels.

Heritage asset
An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

Impairment Loss
The amount by which the carrying amount of an asset exceeds its recoverable amount.

Infrastructure assets
Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, eg. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no separate market value.

Investment property
Property held to earn rentals or for capital appreciation or both, rather than for:
(a) use in the production or supply of goods or services or for administrative purposes; or
(b) sale in the ordinary course of business.

Key performance indicator
A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

Level of service
The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

Life Cycle Cost
1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, and rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual operations, maintenance and asset consumption expense, represented by depreciation expense. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure
The Life Cycle Expenditure (LCE) is the actual or planned annual operations, maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of life cycle sustainability.

Loans / borrowings
See borrowings.

Maintenance
All actions necessary for retaining an asset as near as practicable to its original condition, including regular ongoing day-to-day work necessary to keep assets operating, egg road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

- **Planned maintenance**
  Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.
- **Reactive maintenance**
  Unplanned repair work that is carried out in response to service requests and management/supervisory directions.
- **Significant maintenance**
  Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.
- **Unplanned maintenance**
  Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

Maintenance and renewal gap
Difference between estimated budgets and projected required expenditures for maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Maintenance and renewal sustainability index
Ratio of estimated budget to projected expenditure for maintenance and renewal of assets over a defined time (egg 5, 10 and 15 years).

Maintenance expenditure
Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

Materiality
The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset
Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes and, improvements and efficiencies in production and installation techniques

Net present value (NPV)
The value to the organisation of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from egg the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.

Non-revenue generating investments
Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, egg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations expenditure
Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, egg power, fuel, staff, plant equipment, on-costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

Operating expense
The gross outflow of economic benefits, being cash and non-cash items, during the period arising in the course of ordinary activities of an entity when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.

Pavement management system
A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

PMS Score
A measure of condition of a road segment determined from a Pavement Management System.

Rate of annual asset consumption
A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

Rate of annual asset renewal
A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade
A measure of the rate at which assets are being upgraded and expanded per annum expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

Recoverable amount
The higher of an asset's fair value, less costs to sell and its value in use.

Recurrent expenditure
Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operations and maintenance expenditure.

Recurrent funding
Funding to pay for recurrent expenditure.

Rehabilitation
See capital renewal expenditure definition above.

Remaining useful life
The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.

Renewal
See capital renewal expenditure definition above.

Residual value
The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

Revenue generating investments
Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, egg public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

Risk management
The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

Section or segment
A self-contained part or piece of an infrastructure asset.

Service potential
The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Service potential remaining
A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

Strategic Longer-Term Plan
A plan covering the term of office of councillors (4 years minimum) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the council's longer-term plans such as the asset management plan and the long-term financial plan. The plan is prepared in consultation with the community and details where the council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes and how the plan will be resourced.

Specific Maintenance
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

Sub-component
Smaller individual parts that make up a component part.

Useful life
Either:
(a) the period over which an asset is expected to be available for use by an entity, or
(b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the council.

Value in Use
The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets, whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.

Source: IPWEA, 2009, Glossary