



LEETON
SHIRE COUNCIL

Stormwater Asset Management Plan

Leeton Shire Council
March 2024

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REVIEW OF THIS DOCUMENT

This document will be reviewed every 5 years or as required in the event of legislative changes or operational requirements.

Any major amendments to the document must be made by way of a Council Resolution. Minor amendments such as corrections to spelling, changes to wording for improved clarity, formatting and updates to the Appendices may be made under authorisation of the General Manager, without approval from the Council.

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1. EXECUTIVE SUMMARY

1.1. Purpose of the Plan

This Asset Management Plan demonstrates that we are managing Leeton Shire Council's Stormwater assets in a responsible manner. It has been developed in accordance with our Asset Management Policy and principles of the Strategic Asset Management Plan (SAMP).

This Asset Management Plan details information about our stormwater assets. The plan outlines the management approach by:

- Describing and aligning delivery objectives of Stormwater assets to the Leeton 2035 strategic objectives.
- Managing the future demand for assets to achieve and maintain financial sustainability.
- Optimising the lifecycle management of assets (achieving service demand at lowest lifecycle cost).
- Identifying and managing risks associated with Stormwater assets.
- Identifying the funds required to operate the Stormwater assets.
- Continual improving the management of the assets and performance monitoring.

1.2. Asset Description

Our stormwater assets contribute to the community by providing reliable stormwater drainage systems in urban and rural areas.

Our stormwater asset portfolio has an estimated replacement cost of **\$ 33** million (as at 30 June 2020, excluding bridges).

According to 2020 valuation data, the stormwater asset portfolio includes 44km of pipes, 1218 pits, 15 pump stations, 200 culverts and 15.5km of channels.

1.3. Levels of Service

We are continuing to develop comprehensive levels of service for our Stormwater assets to meet community expectations whilst maintaining financial sustainability. At present, management of Stormwater assets, including intervention points and chosen treatment methods, is based upon:

- Available budget and resource allocations.
- Feedback from the community.
- Reactive monitoring of the performance of the stormwater asset portfolio.

According to the 2021 community consultation results, the service provided by stormwater infrastructure has not been identified within the top 5 important or top 5 satisfaction areas by the community.

However, the performance rating for Stormwater drainage in both town and rural areas is over 80% indicating a well-managed stormwater asset network that performs satisfactorily in meeting community expectations.

1.4. Future Demand

The future demand for services is impacted by:

- Current maintenance practises of Murrumbidgee Irrigation
- Change in land use due to increased farmlands and industry
- Population and demographic change
- Increased demand on existing network from new subdivisions and potential requirement for Council to take over ownership of drains from Murrumbidgee Irrigation
- Changing design standards
- Climate change impacts
- Council financial sustainability
- Community satisfaction

These will be managed through a combination of; liaising with Murrumbidgee Irrigation to resolve prevailing issues, appropriate management of existing assets, timely upgrade of existing assets, minimising climate change impact on assets and better management of customer expectations whilst maintaining financial sustainability.

1.5. Lifecycle Management Plan

Lifecycle planning describes the approach to maintaining an asset from construction to disposal. It involves the prediction of future performance of an asset, or a group of assets, based on investment scenarios and maintenance strategies.

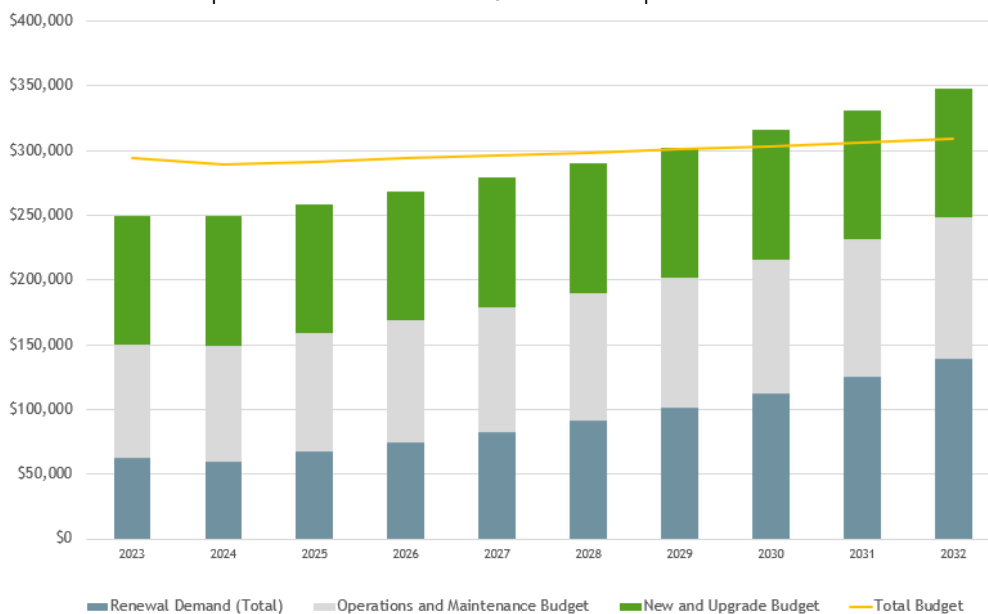
Our current approach to managing and operating our stormwater assets is transitioning to a more proactive approach as we are continually improving our knowledge on performance, changing requirements, and service demands.

We are always striving to improve our approach to lifecycle management to make sure that we deliver on our service commitments in the most cost effective and efficient manner.

1.6. Financial Summary

Based on our current forecasting, the renewal of existing stormwater assets over the next ten (10) years is **\$1.03million** or **\$103k** on average per year.

Our Long-Term Financial Plan has currently allocated **\$1M** for stormwater asset renewals for the next 10 years. Which means we plan to fund about **98%** of our required renewal over the next 10 years.



1.7. Our priority

We will implement a planned maintenance and inspection program to proactively maintain our stormwater assets to ensure they are safe and functional within the current levels of service.

We will prioritise renewals, upgrades, expansion and adding new stormwater assets to our asset base according to priorities and annual budget allocations. We will ensure Stormwater assets comply with all relevant statutory requirements and Australian Standards.

We will continue to collect rural stormwater assets to build a comprehensive stormwater asset database.

We will continue to work with local community, industries, businesses and both state and federal government to press for more funding to ensure our stormwater network meets the expectations of the Leeton community.

1.8. Risk Management

There are number of risks that need to be carefully managed in order to maintain our asset base to the expected standards and continue to provide the current level of service. The main risks are:

- Absence of a planned maintenance program (except for a basic maintenance plan that covers spraying and jetting of major urban drains) leading to asset failure,
- Uncertainty of ownership of a large number of culverts due to privatisation of Murrumbidgee Irrigation,
- Impact of maintenance practises (channels, culverts, etc.) of Murrumbidgee Irrigation on our Stormwater assets,
- Council taking ownership of undersized assets (either gifted assets or ownership transferred from Murrumbidgee Irrigation),
- Incomplete asset information handover during asset ownership transfers,
- Council stormwater network linkage to Northeastern Wetlands.

We will endeavour to manage these risks within available funding by:

- Implementing a proactive Maintenance and Inspection Program,
- Working closely with Murrumbidgee Irrigation to resolve current concerns,
- Continue to implement Liveable Leeton 2035 and supporting strategies to guide development and enhancement of Stormwater Assets,
- Implementing a formal process for the transfer of asset ownership to assess quality, capacity, completeness of information of stormwater assets,
- Achieve an MOU with Murrumbidgee Irrigation Limited regarding urban drainage structures by 2024.

1.9. Improvement Plan

This Stormwater Asset Management plan has identified a number of actions to improve overall management of Stormwater assets. Some of these actions include:

- Achieve an MOU with Murrumbidgee Irrigation Limited,
- Implementation of planned stormwater Maintenance and Inspection Program,
- Implementation of asset management information system and works management system,
- Implementation of cyclic condition assessment programs,
- Development of renewal programs based on asset condition,

- Improving drainage asset inventory information by collecting information of rural drainage assets, and information audit of urban stormwater assets.

2. INTRODUCTION

2.1. Background

Leeton Shire is located in southwest New South Wales, 584km from Sydney, 470km from Melbourne and 371km from Canberra. Leeton is the birthplace of the Murrumbidgee Irrigation Area and was purposely built as part of the Murrumbidgee Irrigation Scheme.

The Local Government Area covers 1,167km² and a population of 11,343 (ABS, 2020). Leeton is the second largest regional centre in the Western Riverina region and plays an integral role in value-added agricultural processing, agriculture, education and research, transport and logistics. Leeton Shire Council includes the towns of Leeton, Yanco and Whitton and the villages of Murrami and Wamoon.

We have 44 kilometres of drainage pipes, 1218 drainage pits, 15 pump stations, 114km of kerb & guttering, 200 culverts and 15km of stormwater channels. These assets are central to an effective Stormwater network and provide the community with a safe, functional, and fit for purpose stormwater drainage system. They help to connect the community, providing accessibility and linkages for efficient lifestyle throughout Leeton Shire.

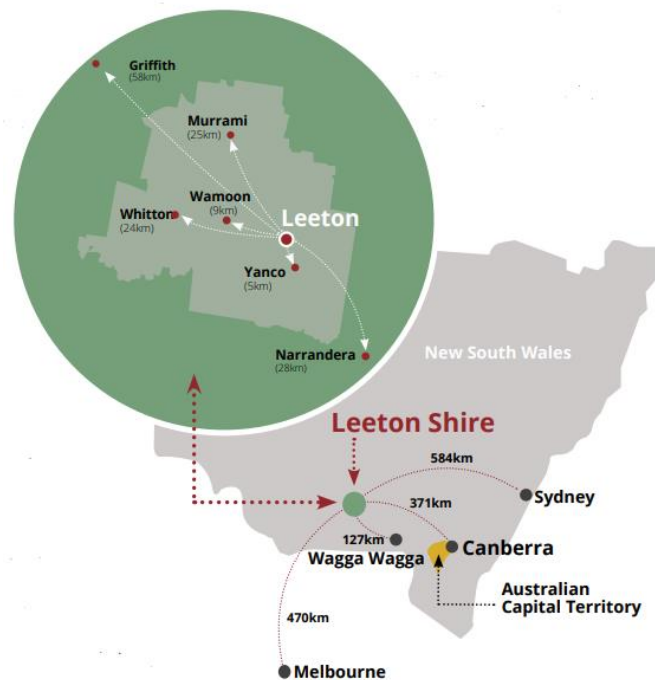


Figure 1: Leeton Shire Council Area

2.2. Purpose of the Plan

This Asset Management Plan covers a 10-year horizon and is intended to demonstrate how we will support the vision to provide community assets, including planning, developing and maintaining infrastructure that is sustainable. This is achieved by applying the principles of responsible asset management planning, the objective of which is to deliver the required level of service to existing and future customers in the most cost-effective way.

The purpose of the Asset Management Plan is to ensure our Stormwater assets fulfil their intended purpose and life expectancy at the most economical cost to the community. It balances financial, design, landscape, architectural and technical practices with community expectations to achieve this purpose.

The key objectives of this plan are to:

- Provide a plan to convey the long-term planning and strategy for the management of our Stormwater assets.
- Improve understanding of service level standards and options, while improving customer satisfaction and organisational image/reputation.
- Identify optimal whole of lifecycle costs to provide target levels of service.
- Provide the basis for improved understanding and forecasting of asset related management options and costs to meet funding demands.
- Clearly justify long term works programmes and provide evidence of future funding requirements.
- Manage the environmental and financial risks of asset failure.

2.3. Asset Management Plan Structure

This Asset Management Plan has been prepared using good practice guidance from the *ISO55000 - Asset Management standard*, *International Infrastructure Management Manual* and has been

developed based on existing processes, practices, data, and standards. We are committed to striving towards best appropriate asset management practices and it is recognised that this Asset Management Plan will need to be updated periodically to reflect changes to management of our assets.

It is intended by Council that our Asset Management Plans should always reflect as closely as practicable actual practices used in managing its assets. Only in this way will we be best able to ascertain the long-term financial needs for delivering sustainable assets and services.

2.4. Our Stormwater Assets

The following table shows a summary of stormwater assets as per 2020 valuation data.

Asset Class	Asset Type	Asset Quantity
Stormwater	Pipes	44km
	Pits	1218
	Pump Stations	15
	Culverts	200
	Channels	15.5km

Table 1: Summary of Stormwater Asset Information

3. STRATEGIC ALIGNMENT

This Asset Management Plan is aligned with the Asset Management Policy, Strategic Asset Management Plan (SAMP) and Community Strategic Plan. The objective of this Asset Management Plan is to support the Liveable Leeton 2035 Community Strategic Plan.

The following diagram shows the Integrated Planning and Reporting (IP&R) framework which helps deliver its community strategic plan.

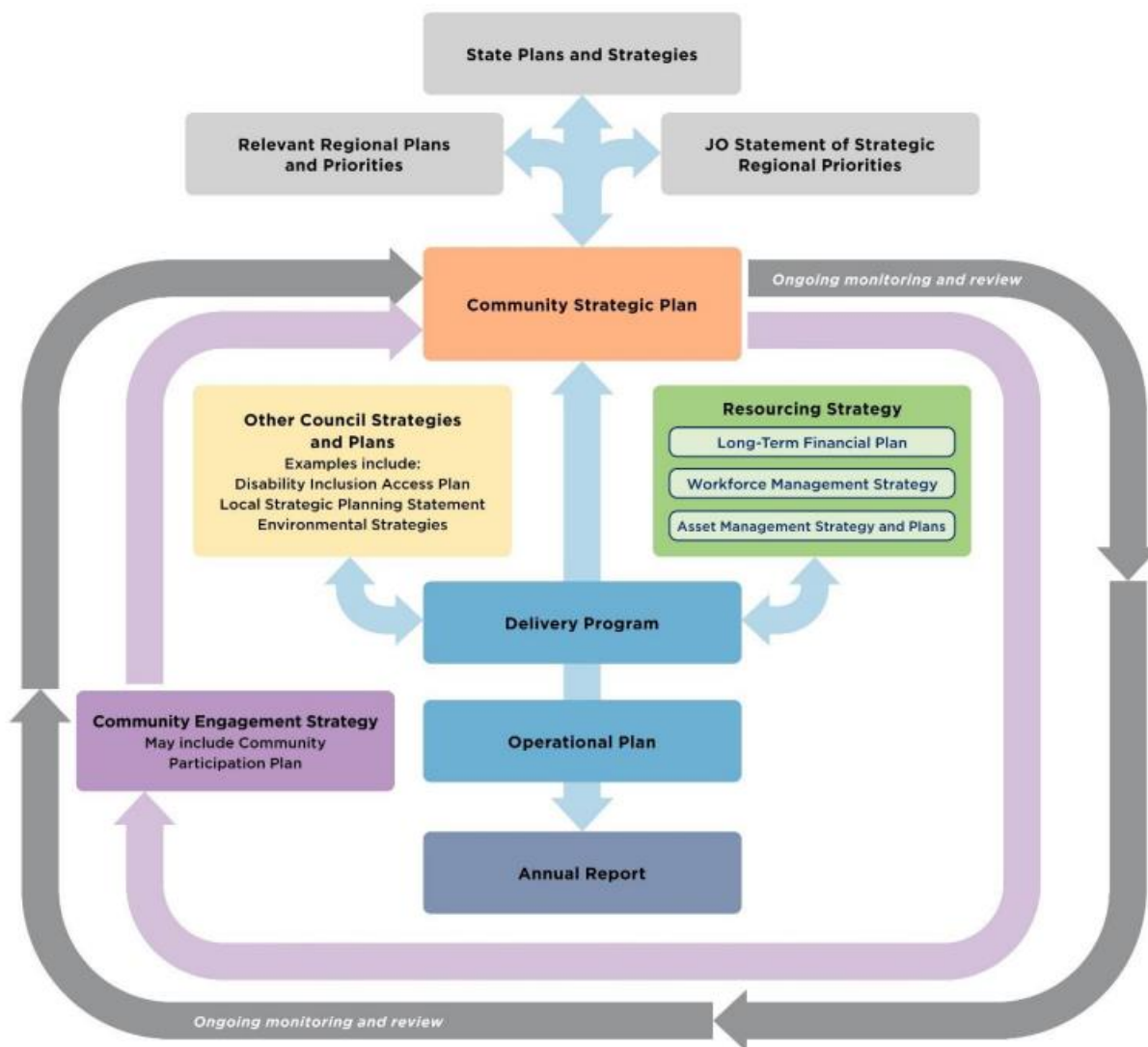


Figure 2: Integrated Planning & Reporting Framework – Leeton Shire Council

3.1. Strategic Goals and Objectives

Liveable Leeton 2035 is Leeton Shire's Community Strategic Plan. It outlines the community's

aspirations and long-term vision for Leeton Shire. The vision for Liveable Leeton 2035 is:

“We are a healthy, safe and connected community that respects people and the environment, enjoying active lives in a strong local economy underpinned by quality, accessible infrastructure, reliable water supplies and strong leadership”.

It has been prepared by Council in collaboration with, and on behalf of residents, other levels of government and agencies. Responsibility for meeting the long-term community vision and desired outcomes rests with everyone.

Liveable Leeton 2035 Community Strategic Plan not only provides a clear vision it also sets out the priority steps we can take towards achieving that vision so that we can work together to make Leeton Shire the place we want it to be.

The Liveable Leeton 2035 makes a commitment to outcomes and priority initiatives across several strategic objectives that align with the Community Vision. The Community Strategic Plan is broken into five focus areas and for each focus area there is a set of outcomes. The five focus areas are:

- FOCUS AREA 1. A connected, inclusive and enriched community (Cc)
- FOCUS AREA 2. A safe, active and healthy community (Sc)
- FOCUS AREA 3. A thriving regional economy (Ec)
- FOCUS AREA 4. A quality environment (En)
- FOCUS AREA 5. Strong Leadership and civic participation (L)

Effective asset management supports the strategic objectives and outcomes of the Liveable Leeton 2035 and the delivery of sustainable services and programs. This Asset Management Plan is integrated with Liveable Leeton 2035 and provides a view (both strategic and in financial terms) of how we propose to manage the Stormwater assets that we own and control.

3.1.1. Liveable Leeton 2035 Strategic Objectives – Stormwater Assets

The following table shows Shire's relevant strategic objectives for Stormwater service and assets to achieve Liveable Leeton 2035 vision.

Focus Area	Strategic Community Objective	Outcome
A quality environment (En)	En1.1 Support the healthy function of our ecosystems	We enjoy a protected natural environment and quality agricultural land
	En2.2 Mitigate the impacts of climate change reduce our carbon footprint and apply sustainable energy solutions	We live sustainably, use our resources responsibly and have adapted to climate change
	En3.1 Maintain and improve the appearance of our streetscapes, parks, gardens and other open spaces	Our built environment is attractive and serviceable
	En3.5 Provide reliable stormwater drainage systems in urban and rural areas	
	En4.2 Intelligent land use planning and utilities planning to meet the needs of a growing population, with consideration for the environment and future generations	We balance the needs of our natural and built environments
	En4.1 Implement intelligent land use planning and utilities planning to meet the needs of a growing population, with consideration for the environment and future generations	We balance the needs of our natural and built environments
Strong leadership and civic participation (L)	L1.1 Provide clear, accessible, relevant information to our community	We are well informed and engaged in decision-making
	L1.2 Actively engage with and seek direction from our community and other stakeholders	

Focus Area	Strategic Community Objective	Outcome
	L2.2 Advocate on behalf of the community to ensure the long-term sustainability of our region and lifestyle	Our leaders speak out for the good of our community
	L3.1 Develop and maintain relationships and partnerships for the benefit of the community	We work together to achieve our goals
	L4.1 Provide and promote opportunities for community involvement	We are active community members who recognise we all have a role to play
	L5.1 Practice sound financial and resource management	Our Council operates efficiently and effectively.
	L5.2 Maintain a framework of up-to-date plans, policies, procedures, systems, and service standards	
	L5.3 Sustainably manage our assets and infrastructure to ensure they are fit for their current purpose and are maintained for future generation	
	L5.4 Effectively manage risk, quality assurance, and work health and safety	
	L5.5 Deliver high quality customer service	
	L6.1 Provide effective disaster prevention/mitigation, emergency management and disaster recovery services	We demonstrate leadership in the face of disaster

Table 2: Strategic Community Objectives – Stormwater Assets

3.2. Liveable Leeton 2035 Alignment to Activities & Key Stakeholders – Stormwater Assets

Liveable Leeton Strategic Objective	Service/Activities	Key Stakeholders
En1.1	Weed management, Development Approvals, Trade Waste	Riverina Local Land Services, Department of Planning and Environment, NSW National Parks and Wildlife Service, Council, Murrumbidgee Irrigation Ltd, Fivebough Tuckerbil Wetlands Advisory Committee
En2.2	Energy Masterplan, Shire activation	Council, Local businesses, Farmers, Department of Planning and Environment
En3.1	Beautification projects, Parks and Open Spaces	Council
En3.5	Stormwater infrastructure	Council, Murrumbidgee Irrigation Ltd
En4.2	Planning and development services, Leeton Local Environment Plan, Leeton Strategic Planning Statement, Development Control Plan	Council, Department of Planning and Environment, developers, PWA
L1.1	Media releases, Council News, reports, social media, Council Meeting Business Papers	Council, State and Federal Governments, media outlets
L1.2	Engagement activities, advisory groups	Council, State and Federal Governments, community members
L2.2	Advocacy	Council, Local Members of Parliament, Ministers, RAMJO, Crown Lands
L3.1	Riverina and Murray Joint Organisation	Council, State and Federal Governments and their Agencies, businesses, Community groups, Regional NSW OLG
L4.1	Committees/Working groups	Council, community groups, Leeton Connect, community members, Fivebough/Tuckerbil Wetlands Advisory Groups
L5.1	Financial management, human resource management	Council
L5.2	Governance, integrated planning and reporting, information technology, customer service	Council, Office of Local Government
L5.3	Corporate Services – Finance, Operations – roads and drainage, waste, water and	Council

Liveable Leeton Strategic Objective	Service/Activities	Key Stakeholders
	wastewater, parks and gardens	
L5.4	Work health and safety, risk management, quality control	Council, Audit, Risk and Improvement Committee, Safe Work Australia, EPA
L5.5	Customer Service	Council
L6.1	Disaster planning, disaster recovery, emergency services support, business continuity	Council, State and Federal Governments, Murrumbidgee Irrigation, Rural Fire Service, NSW Fire Brigade, NSW Reconstruction Authority, NSW Police, NSW Health/MLHD, Local Emergency Management Committee (LEMC), Regional Emergency Management Committee (REMC)

Table 3: Alignment to Activities & Key Stakeholders - Stormwater Assets

3.3. Council Policies, Strategies and Plans Relevant to Stormwater Assets

The following table shows various Council policies, strategies and plans that are relevant to and support management of Stormwater assets.

Policy/Strategy/Plan
<ul style="list-style-type: none"> • Asset Management Policy 2022 • Revenue Policy • Long Term Financial Plan • Strategic Asset Management Plan 2022-2032 • Delivery Program 2022–2025 • Operational Plan 22/23 • Workforce Management Strategy 2022-2025 • Procurement Policy • Risk Management Policy • Business Continuity Plan

3.4. Goals and Objectives of Asset Ownership

Our goal in managing infrastructure assets is to meet the defined range and levels of service in the most cost-effective manner for present and future consumers.

By achieving the most cost-effective approach, we will contribute to affordability and liveability contributing to a vibrant, growing, and connected community.

The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance.
- Managing the impact of growth through demand management and infrastructure investment.
- Taking a lifecycle approach to developing cost-effective management strategies that meet the defined levels of service.
- Identifying, assessing, and appropriately controlling risks.
- Linking to a long-term financial plan that identifies required expenditure and how it will be allocated.

3.4.1. Ownership and Stakeholder Arrangements

The ownership and management of Stormwater assets within the municipal area can take various forms and involves various public entities.

The number of stakeholders involved in the provision of Stormwater services within the Shire indicates why engagement and co-ordinated decision making is vital for successful planning and delivery.

Currently there is an uncertainty in relation to the ownership of large number of culverts owned by Murrumbidgee Irrigation prior to its privatisation. The maintenance of these culverts is paramount for keeping our infrastructure free from flooding and therefore it is vital to engage with Murrumbidgee Irrigation to resolve the current situation.

Improvement Opportunity

Form a working group to liaise with Murrumbidgee Irrigation to resolve the ownership, condition and handover, where relevant, of culverts.

4. LEVELS OF SERVICE

Levels of Service is the defined quality of service of an asset. Understanding the required level of service is vital for lifecycle management, as this largely determines an asset's development, operation, maintenance, replacement, and ultimate disposal. In developing the levels of service outlined in this Asset Management Plan, we have given due regard to the following:

Community Requirements (Customer Expectations)	These are the expectations of the customers/community. These expectations must be balanced with the community's ability and desire to pay (balancing risk, cost, and performance).
Strategic Goals and Objectives (Strategic Drivers)	The lifecycle management of assets (service offered by assets, service delivery mechanism and specific levels of service that Council wishes to achieve) will be consistent with goals and objectives stated in the Community Vision and Council Plan.
Legislative Requirements (Mandatory Requirements)	These are the objectives and standards that must be met, set by legislation, regulations, Codes of Practice, etc that impact the way assets are managed.
Industry Standards and Guidelines (Operating Requirements)	Design and construction standards and guidelines that provide the principles and minimum standards for an asset.

Table 4: Key Levels of Service Drivers

4.1. Customer Research and Expectations

Leeton Shire Council 's Community Strategic Plan was prepared with the input of many people from the Leeton Shire community. Starting as early as 2020, a range of community engagement activities were undertaken to give Leeton Shire residents the opportunity to list what they value now, what they'd like to see changed and what they'd like Leeton Shire to look like in 2035.

In July 2021, community engagement sessions were held in Leeton, Murrumbidgee, Wamboon, Whitton and Yanco. Also in July 2021, emails requesting input into the development of the Community Strategic Plan were sent to a range of community groups, government agencies and other organisations identified as having a stake or a role to play in Leeton Shire.

Based on the customer research and expectations 5 areas of focus have been identified in Liveable Leeton 2035. Our areas of focus are:

- A connected, inclusive and enriched community
- A safe, active and healthy community
- A thriving regional economy
- A quality environment
- Strong leadership and civic participation

A number of strategic objectives to realise these focus areas have been identified and the

strategic objectives relevant to Stormwater assets are documented in Chapter 3 of this plan. These strategic objectives help identify strategic direction for Stormwater assets to realise Liveable Leeton 2035.

4.1.1. Community Consultation

Leeton Shire Council's last community satisfaction survey was conducted in June 2021.

Based on the 2021 community consultation, the following areas related to Stormwater assets have been identified as the priorities for the next 4 years for the Leeton community:

- General maintenance/updated appearance of town/maintaining local infrastructure.
- Better communication and involvement with the community/a proactive Council.

4.1.2. Community Satisfaction

According to the 2021 community consultation results, service provided by stormwater infrastructure has not been identified within the top 5 important or top 5 satisfaction areas.

However, performance rating of stormwater drainage in both town and rural areas is over 80%, indicating a well-managed stormwater asset network that performs satisfactorily in meeting community expectations.

4.2. Legislative Requirements

There are many legislative requirements relating to the management of assets. The following table shows a list of legislations applicable to Stormwater assets.

Legislation	Requirement
Local Government Act 1993	Sets out roles, 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.
Work Health and Safety Regulation 2011	Sets out roles and responsibilities to secure the health, safety, and welfare of persons at work and covering injury management, emphasising rehabilitation of workers particularly for return to work. Organisations are to provide a safe working environment and supply equipment to ensure safety.
Environmental Protection Act 1994	Sets out guidelines for land-use planning and promotes sharing of responsibilities between various levels of government in the State.
Civil Liability Act 2003 and Civil Liability Regulation 2014	To manage negligence, elements of a claim, duty of care, standard of care and causation and to address the requirements of sections 35 and 37.

Table 5: Legislations Relevant to Stormwater Assets

4.3. Industry Standards and Guidelines

The majority of standards applicable to Stormwater infrastructure are covered by Council Standard Drawings, guidelines or design standards, along with other industry standards and guidelines that may influence service delivery.

4.4. Level of Service

Levels of service are generally set based on legislative and compliance obligations, and historical standards that we have used in the past. To support this, we have prepared high level performance measures to monitor the effectiveness of Councils service delivery for community and technical levels of service. In future, we expect to undertake further community engagement to validate our levels of service.

Service levels are defined in two ways, customer levels of service and technical levels of service. These are supplemented by organisational measures.

The level of service provided by Stormwater assets are documented in the Leeton Shire Council Operational Plan 23/24 and the Delivery Program 2022/25.

4.4.1. Customer Level of Service

Community Levels of Service measure how the customer receives the service and whether value to the customer is provided. Generally, customer levels of service measures are:

Quality	How good is the service, what is the condition or quality of the service?
Function	Is it suitable for its intended purpose, is it the right service?
Capacity/Use	Is the service over or under used, do we need more or less of these assets?

Council currently responds to customer requests in relation to Stormwater assets promptly. Council intends to review and document customer service levels in relation to stormwater in the near future. The following table shows widely used customer service levels and measures to assess the level of service provided to the community.

	Service Objective	Performance Measure
Quality	Residents are satisfied with drainage services provided	Number of customer service requests relating to service quality i.e., blocked drains, requesting maintenance of the existing drainage network.
Function	Provide a quality drainage network of appropriate standard and sound overall condition.	Number of customer service requests relating to service functionality i.e., flooding of property and maintenance related requests.

	Service Objective	Performance Measure
Capacity	Drainage network has appropriate capacity to cater for storm events	Number of customer service requests relating to service functionality i.e., flooding of property.

The following table shows Council's current customer level of service indicators.

4.5. Technical Levels of Service

Supporting the customer service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities to best achieve the desired customer outcomes and demonstrate effective performance. Technical service measures are linked to the activities and annual budgets covering:

Operations <i>(Reliability, Safety, and Responsiveness)</i>	The regular activities to provide services.
Maintenance <i>(Reliability, Safety, and Responsiveness)</i>	The activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life.
Renewal <i>(Condition and Cost)</i>	The activities that return the service capability of an asset up to that which it had originally.
Asset Improvements <i>(Availability, Function, Sustainability and Capacity)</i>	The activities to provide a higher level of service or a new service that did not exist previously.

Council's Delivery Program 2022-2025 is Council's statement of commitment to the community regarding what Council will do during its term of office to bring the community closer to achieving its long-term goals using the resources identified in the Resourcing Strategy. It turns the community's strategic goals into actions in asset operations, maintenance, renewal, and improvements. Its overall purpose is to program the strategies and activities Leeton Shire Council will undertake to deliver the aspirational goals of the community, as set out in the Liveable Leeton 2035 Community Strategic Plan.

Leeton Shire Council's Operational Plan 22/23 details the projects, programs, and actions to be undertaken in the 2022/23 financial year to achieve the Delivery Program commitments. Operational Plan 22/23 provides performance measures and targets expected to be provided by the Council in delivering Delivery program 2022-2025. The technical level of service provided by Stormwater assets are documented under "Operational Plan 22/23 activities of the Operational Plan 22/23.

Activity	Performance Measure	Target Performance
Complete the annual maintenance drainage program (shifting from reactive maintenance to proactive maintenance)	90% of the network	TBC (Once the annual programs are finalised)
Manage stormwater through rectifying drainage issues and undertaking strategic drainage planning, collaborating with Murrumbidgee Irrigation where relevant/appropriate.	Percentage of drainage condition assessment and data collection program completed	90+%
	Percentage of drainage capital works completed	100%
	Percentage of drainage maintenance works completed	No target – report when completed
	Number of rural drainage culverts renewed	No target – report as renewed
	Metres of channel piped	No target – report as piping installed
Continue effective Asset Management Planning (AMP) and GIS Service	Percentage completion of revaluation and condition assessments	100%
MOU with Murrumbidgee Irrigation Limited regarding urban drainage structures by 2024	Final MOU	By 2024 (Subject to the progress of the discussions)
Do CCTV inspection of stormwater network to ascertain conditions.	% network assessed	5% By 2024

Table 6: Technical Levels of Service

5. FUTURE DEMAND

The objective of asset management is to create, operate, maintain, rehabilitate, and replace assets at the required level of service for present and future customers in a cost effective and environmentally sustainable manner. The Asset Management Plan must therefore forecast the needs and demands of the community in the future and outline strategies to develop the assets to meet these needs.

5.1. Demand Forecasts and Impact on Assets

The present position, demand drivers, and their potential impacts on future service delivery and use of assets are presented in table below.

Demand Drivers	Present Position	Projection	Impact
Murrumbidgee Irrigation	<p>Uncertainty in the ownership of large number of culverts previously owned by Murrumbidgee Irrigation.</p> <p>Culvert and channel maintenance practises of Murrumbidgee Irrigation.</p>	<p>Increased damage to Council assets.</p> <p>Unforeseen costs associated with culvert lifecycle costs.</p>	<p>Increased flooding caused by poorly maintained channels.</p> <p>Financial burden on Council having to take ownership of large number of culverts.</p>
Expansion and change of industry	<p>Expansion and change in agricultural uses within Leeton Shire Council resulting in increased capacity in stormwater infrastructure.</p>	<p>Increase/ change in agriculture associated industries in the region leading to further demand on rural road network and stormwater network.</p> <p>Eg. Cotton and wine industry expansion.</p> <p>Farmland expansion</p>	<p>Need for provision of Stormwater infrastructure to manage the increased demand.</p>
Population Change	<p>11,343 in 2020</p>	<p>12,700 by 2041</p>	<p>Future population growth will generate additional demand for Stormwater infrastructure. However, demand will not be greatly impacted by the growth.</p>
Future Development	<p>Increased demand on existing network from new subdivisions.</p> <p>Limited number of Water Sensitive Urban Designs assets</p>	<p>Demand from new subdivisions will increase over time.</p> <p>Any new subdivision is accompanied by Water Sensitive Urban Design assets and pump stations if required</p>	<p>Additional Operations & Maintenance budget.</p> <p>Potential requirement for Council to take over ownership of drains from Murrumbidgee Irrigation.</p> <p>Murrumbidgee Irrigation removing drainage entitlements from properties resulting in Council having direct</p>

Demand Drivers	Present Position	Projection	Impact
			agreements with property owners.
Increase in Level of Service	Evolving design standards for Stormwater assets	Further improvements to design standards to bring Stormwater assets to current standards	Increased level of service and more economical assets
Climate Change	<p>The <i>Bureau of Meteorology and CSIRO 2016 State of the Climate</i> report outlines the following impacts of climate change in Australia:</p> <ul style="list-style-type: none"> - Australia's climate has warmed by around 1°C since 1910 <p>The duration, frequency and intensity of extreme heat events have increased</p>	<p>Stormwater assets are impacted by a range of changing climate conditions:</p> <ul style="list-style-type: none"> - More intense and frequent rainfall, wind, hail, and electrical storms - More severe drought periods. - Changes to humidity levels - Longer and more intense heat spells - Changes to ground water levels 	<p>Higher levels of deterioration may result in increased asset maintenance requirements and changed schedules to maintain asset in a serviceable condition, resulting in increased maintenance costs.</p> <p>Use and reuse of sustainable materials in renewal/ construction incorporating materials with low carbon emissions.</p>
Council Financial Sustainability	Council is required to provide its projects, programs, and services within an environment of constrained revenue control resulting from rate capping.	Rate capping has the potential to affect effective asset management if sufficient funds are unable to be secured to manage existing assets to agreed levels of service, or to provide new or upgraded Stormwater assets desired by the community	Ensure community receives maximum benefit from the investment in Stormwater infrastructure.
Community Satisfaction	Stormwater performance rating is over 80%.	Increased expectations from the community	Increased customer level of service impacting current resource levels.

Table 7: Demand Drivers, Projections, and Impact on Services

5.2. Demand Management Strategy

The table below presents the strategies to meet the current projected demands on Stormwater assets.

Demand	Demand Management Activities
Murrumbidgee Irrigation	Liaise with Murrumbidgee Irrigation to resolve current asset issues, including potential ownership transfer of Murrumbidgee Irrigation assets under roads to Council which will have a significant budgetary impact.
Expansion and change of industry	Undertake flood studies to identify adequacy of Stormwater infrastructure in light of change in land use.
Increased Community Expectations	<p>Prepare a planned maintenance and inspection program for stormwater assets.</p> <p>Conduct level of service analysis including community desired level of service across all Stormwater asset types and review affordability and risks.</p>
Achieve Financial Sustainability	<p>Implement capital programs according to priorities and funding availability.</p> <p>Review asset criticality, inspection programs and maintenance programs to identify improvements.</p> <p>Ensure that the Financial Plan and Asset Plan are integrated and reflect future asset needs</p>
Adapting to climate change	<p>Undertake impact analysis of climate change on Stormwater assets.</p> <p>Undertake flood studies to identify adequacy of Stormwater infrastructure.</p>
Design Standards	<p>Ensure design standards take into consideration of the climate change, local conditions, whole of life costings and accessibility requirements.</p> <p>Employ Water Sensitive Urban Design to retain Stormwater onsite to reduce the pressure on Stormwater network downstream.</p>

Table 8: Demand Management Strategies

Improvement Opportunity

Develop a capital work prioritisation framework and include demand drivers as part of the prioritisation criteria.

6. LIFECYCLE MANAGEMENT PLAN

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

We are the custodian of a portfolio of Stormwater assets with a replacement value of \$ 50M of as reported in our financial statements at 30 June 2020. These assets require significant and ongoing planning and management to meet both stakeholder and legislative requirements within the financial resources available to us. Our Stormwater portfolio is summarised in the table below:

Asset Class	Asset Type	Asset Quantity	Replacement Value as at June 2020	Written Down Value as at June 2020
Stormwater	Pipes	44km	\$25,675,558	\$20,162,837
	Pits	1218	\$3,473,602	\$2,459,069
	Pump Stations	15	\$1,056,551	\$818,815
	Culverts	200	\$1,696,417	\$1,033,687
	Channels	15.5km	\$1,231,770	\$1,231,770
	Total			\$33,133,898

Table 9: Summary of Stormwater Asset Information

6.1. Asset Data

Council is committed to maintain the currency of all Stormwater asset data. There are number of initiatives currently underway to improve asset data and systems to centralise Stormwater asset information.

- Stormwater asset condition assessment – to capture asset condition information and collect attribute data.
- Configuration of “Univerus” (Asset Management Information System) and migration of asset data including condition and valuation information.
- Configuration of “Univerus” works order management system to streamline work order management.

6.2. Asset Condition

Asset condition is a measure of the health of an asset and is a key consideration in determining remaining useful life, as well as predicting how long it will be before an asset needs to be repaired, renewed, or replaced. Asset condition is also an indicator of how well it can perform its function. Condition data is valuable for developing long term funding scenarios for strategic planning of our budgets.

We use a 1 to 5 condition rating system for its Stormwater assets as described in table below.

Score	Condition Rating	Characteristics
1	Very Good	Asset looks new or very close to as new.
2	Good	Asset is no longer in new condition. Only minor maintenance may be required.
3	Fair/ Average	The asset is serviceable and in a satisfactory condition however some maintenance may be required to address aesthetic, safety, or functional issues.
4	Poor	Asset requires significant maintenance or replacement of the asset is required
5	Very Poor	Asset is physically unsound, and replacement is required

Table 10: Condition Rating System

Our condition grading system follows good practice guidance as provided by various industry standards including the *International Infrastructure Management Manual*. Condition data for our Stormwater assets is recorded in valuation registers as at June 2020 have been used for renewal modelling. The following sections provide an overview of the condition of our Stormwater assets.

Stormwater Pipes Condition

About 99% of our stormwater pipes are in very good to fair condition with about 1% of assets in poor condition. It should be notes that “Stormwater – Drainage – Pipe – Liner” refers to pipes that are relined.

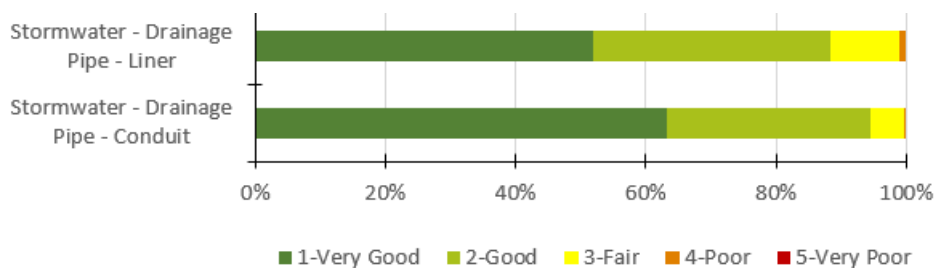


Figure 3: Condition Profile – Stormwater Pipes

Stormwater Pits Condition

Almost all our stormwater pits, lids and lentils are in very good to fair condition with less than 1% of assets in poor condition.

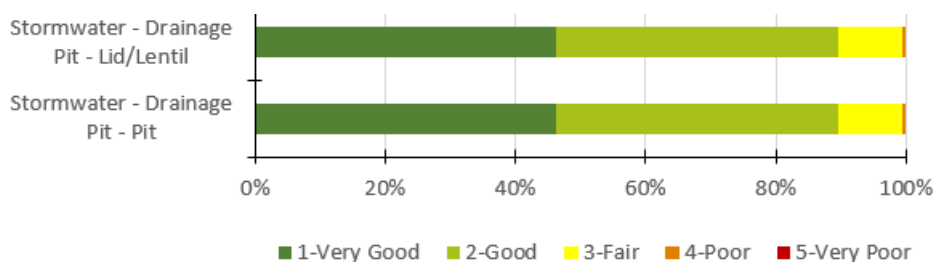


Figure 4: Condition Profile – Stormwater Pits

Pump Station Assets Condition

All civil and electrical assets at our pump stations are in very good to fair condition. Majority of pumps are in very good to fair condition. Pumps at Roma Avenue in Leeton are in poor condition and will require intervention in the immediate future.

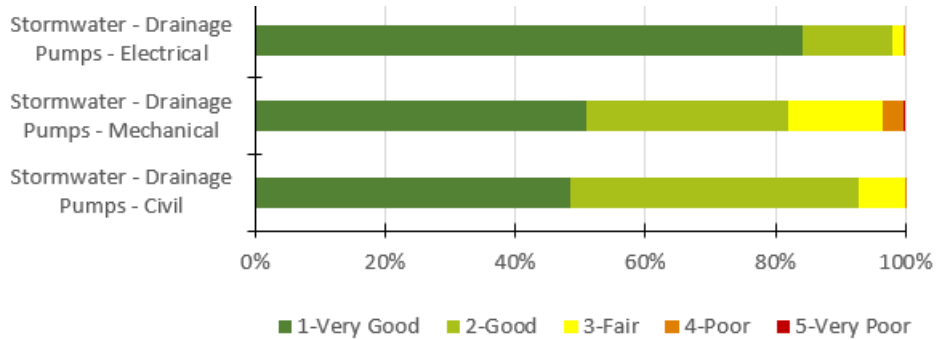


Figure 5: Condition Profile – Pump Station Assets

Culverts Asset Condition

Majority of our culverts are in very good to fair condition and only 3 pipe culverts are in poor condition. Of these three pipe culverts two are located along Kirke Road and one is along Vance Road.

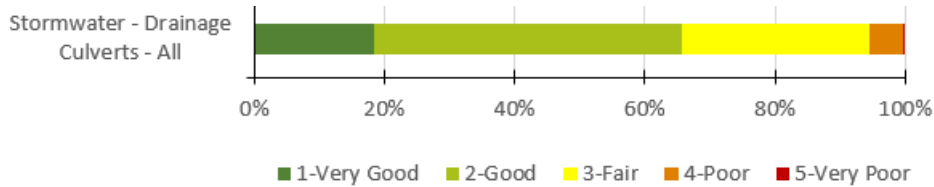


Figure 6: Condition Profile - Culverts

6.3. Stormwater Asset Maintenance and Inspections

Leeton Shire Council carries out a number of maintenance and inspection programs to enable existing assets to operate to their service potential over their useful life. This is necessary to meet service standards, achieve target standards and prevent premature asset failure or deterioration. This is achieved by providing the optimum level of maintenance and care in a financially and environmentally sustainable manner.

Our objectives in maintaining and operating Stormwater assets are:

- To maintain safety, amenity, and aesthetics of Stormwater networks and assets to the satisfaction of Council and the community.
- To maintain and preserve the functionality and value of the existing assets.

- To provide and maintain a safe environment for the community within the constraints of our financial capacity and resource capability, while displaying a reasonable 'duty of care'.
- To ensure the provision of excellent customer service and that customer requests are responded to quickly and efficiently.

6.3.1. Stormwater Asset Maintenance and Inspections

In order to carry out effective planning and competent management of our Stormwater assets, it is essential that maintenance and performance related information is collected through disciplined and regular inspections of the whole portfolio.

Our planned maintenance mainly consists of spraying large urban drains, while Stormwater inspections are predominantly reactive. We conduct regular inspections of our pump stations and telemetry, and we planning to implement a Planned Maintenance and Inspections Program.

Improvement Opportunity

- Develop and implement Planned Maintenance and Inspection Program for Stormwater assets.
- Identify resource requirement for implementation of Planned Maintenance and Inspection Program

6.3.2. Future Operation and Maintenance Costs

Figure below outlines the forecast operations and maintenance budgets based on the understanding of the current levels of service delivered by our stormwater assets.

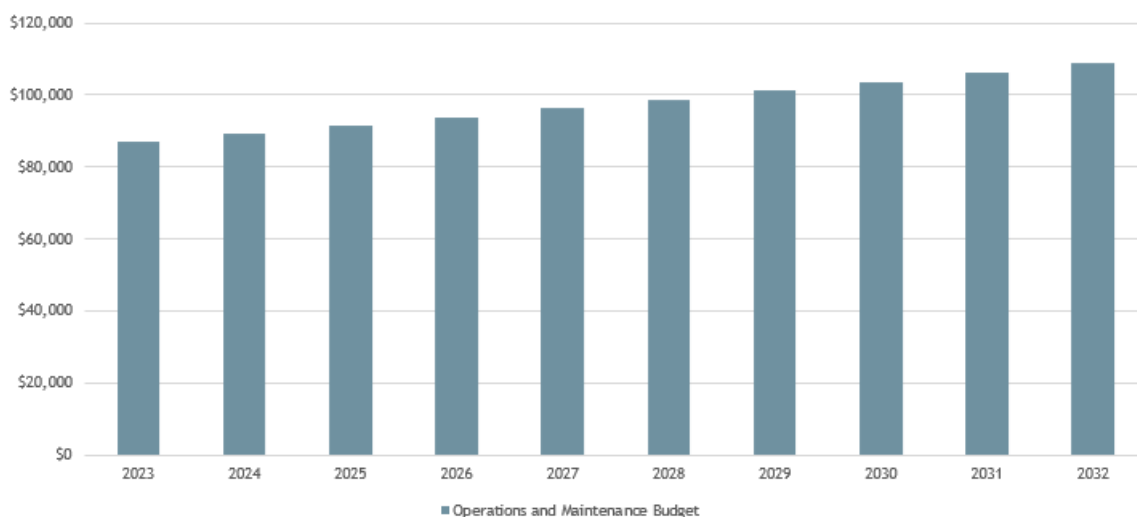


Figure 7: Projected Operations & Maintenance Expenditure

The total operations and maintenance budget over the next 10-years starting 2022/23 is **\$977K**. This is the required operations and maintenance budget to continue to deliver present service standards over the long term. An annual indexation rate of 2.5% has been applied to the forecast consistent with Council's Long Term Financial Plan. The forecast maintenance expenditure

requirements comprise two components: routine maintenance and operations, and consequential maintenance. The routine program is made up ongoing activities required to maintain the amenity, safety, and functionality of our stormwater network.

Detailed analysis of the current levels of service compared to desired levels of service has not yet been undertaken. We will need to review the budget allocations we set aside for stormwater asset maintenance and operations within our Financial Plan. This is to make sure that they are adequate for us to continue to maintain our current levels of service and they maintain safe and serviceable assets. Depending on funding availability, we may also need to review our levels of service to ensure that they are affordable, and we continue to be a financially sustainable organisation.

Improvement Opportunity

Review current funding allocations for Stormwater asset operations and maintenance to ensure that they are sufficient to deliver current levels of service and compare against any desired levels of service.

6.3.3. Disaster Recovery Maintenance Works

Identified disaster management works need to be carefully identified, recorded, and actioned as a separate activity so that they can be reported appropriately and ensure disaster funding recovery arrangements are covered as part of the process. Necessary information required and the process to support effective reporting for disaster recovery works (including information to support applications for disaster recovery funding) are:

- Evaluation of the initial state of Council's assets, involving the provision of visuals depicting the pre-existing state of assets. These visuals can be obtained through recurring surveys assessing asset conditions and then linked to the relevant assets within the Council's Asset Management System.
- Defects and damage identified following a disaster event including location, photos and details of assets affected.
- Estimated cost and scope of works to repair damaged assets.
- Effective reporting within Council's Asset Management System of works and costs against the damaged assets. This necessitates the coding of works orders raised in Council's systems to be tagged or identified as disaster recovery works and all costs attributed to these works orders.
- Photos of completed works and condition of assets.

6.4. Stormwater Asset Renewal

Renewal expenditure is major work that does not increase an asset's design capacity but restores, rehabilitates, replaces, or renews the asset to its original service potential. Work over and above restoring an asset to original service potential is an upgrade/expansion or new work expenditure resulting in additional future operations and maintenance costs. Assets requiring renewal are identified using a combination of an analysis of the long-term financial needs at a portfolio level and other information that identifies specific assets that require renewal at a project level.

6.4.1. Renewal Strategy

Renewal strategies are based on assessing a range of factors to ensure the appropriate level of investment is targeted at the optimum time to ensure assets remain fit for purpose and that renewal plans are efficient and effective. The factors considered include the following:

- Criticality.
- Maintenance and/or failure history.
- Age.
- Expected life.
- Remaining useful life.
- Condition (where known).
- Condition prediction.
- Climate change factors and impacts affecting assets.
- Geographical grouping.
- Demand and use patterns.
- Timing in relation to linked asset renewal plans.

As a general principle the number and cost of repairs will determine the optimum timing to invest in the renewal of assets. Every time an asset is repaired it provides information about its performance, rate of deterioration, and a prediction of the optimum time to renew.

As the rate of repairs increase a prediction can be made about the best time to renew an asset to keep the cost of ownership at the lowest possible levels.

6.4.2. Renewal Standards

Renewal work is carried out in accordance with the current standards and specifications.

6.4.3. Renewal Ranking Criteria

In general, renewal works are prioritised and planned by assessing the following considerations:

- Safety issues
- Physical condition
- Risk and asset criticality
- Community/user feedback
- Location and use type and patterns.

The following indicators are generally used to determine the criticality of an asset:

- Have a high consequence of failure.
- Have high use and subsequent impact on users would be greatest.
- Have a total value representing the greatest net value.
- Have the highest average age relative to their expected lives.
- Are identified in the Asset Management Plan as key cost factors.
- Have high operational or maintenance costs.
- Have replacement with a modern equivalent asset that would provide the equivalent service at a savings.

Leeton Shire Council Renewal Program development is based upon the principles set out in

Council's Strategic Asset Management Plan (SAMP). Renewal planning is carried out utilising the technical expertise of staff.

Improvement Opportunity

- Develop a capital work prioritisation framework and include renewal ranking criteria.
- Undertake cyclic condition assessments and develop Renewal Programs based on asset condition.

6.4.4. Summary of 10-Year Stormwater Asset Renewal, Upgrade and New Program

The following table presents a summary of our 10-year stormwater asset renewal, upgrade, and new programs.

	Program	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Renewals	General Urban Drainage - Capital (Replaces W90)	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$500,000
	Stormwater Drainage Management Urban 2022_23 \$100K	\$4,224	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,224
	Urban Stormwater Extension- Almond Road - McAliece (\$10k)	\$3,177	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,177
	General Rural Stormwater Drainage	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$500,000
Upgrades & New	Urban	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$500,000
	Rural	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$500,000

Improvement Opportunity

Review Stormwater Asset Capital and Maintenance programs for adequacy to identify gaps in funding.

6.4.5. Renewal Modelling Assumptions

The analysis to determine future Stormwater asset renewal requirements is based on the best available information held by the Council. The future funding forecasts will be revised and refined to best represent the performance of the asset base as the maturity of the asset management practices improves.

The renewal funding projections presented within this asset management plan are based on the following assumptions:

- The renewal costs are based on the asset data register as of 1 July 2020.
- Asset quantities, condition data and financial information within the current asset registers are assumed to be correct.
- Intervention standards is based on providing a balanced level of service before assets reach “very poor” condition.
- The renewal models are subject to the limitations of the CT Management renewal model and data used in it, which includes assumed performance of the asset types, deterioration curves, and trigger intervention levels.
- Useful lives for Stormwater assets are Council's adopted lives and are assumed to be a reasonable estimate of the life of the Stormwater assets.
- All projections are in present dollar value.
- There is no significant increase to the existing asset base over the next ten (10) years.
- Future renewal funding levels are derived from the Financial Plan.
- Service levels are based on current service levels and may not reflect community expectations or Council's strategic goals and objectives.

6.4.6. Asset Useful Lives

The following table shows a high-level summary of useful lives of Stormwater assets.

Stormwater Asset	Useful Life (Years)
Pipes - Liner	100
Pipes - Conduit	200
Pits - Pit	100
Pits – Lid	60
Pits - Lintel	60
Pump Stations – Civil Assets	60
Pump Stations – Mechanical Assets	30
Pump Stations – Electrical Assets	30
Culverts	80
Channels	N/A

Table 11: Useful Life - Stormwater Assets

6.4.7. Stormwater Pipe Renewal Forecast

For the next 10 years, stormwater pipe renewals do not require a significant amount of funding. The average demand over this period is about \$ 18,000. However, the current budget is used to renew and upgrade existing stormwater pipe to meet demand and capacity requirements. This is predominantly allocated to minor flooding issues and sag point areas causing localised flooding. Therefore, there is a difference between allocated renewal funding and end of life renewal demand.

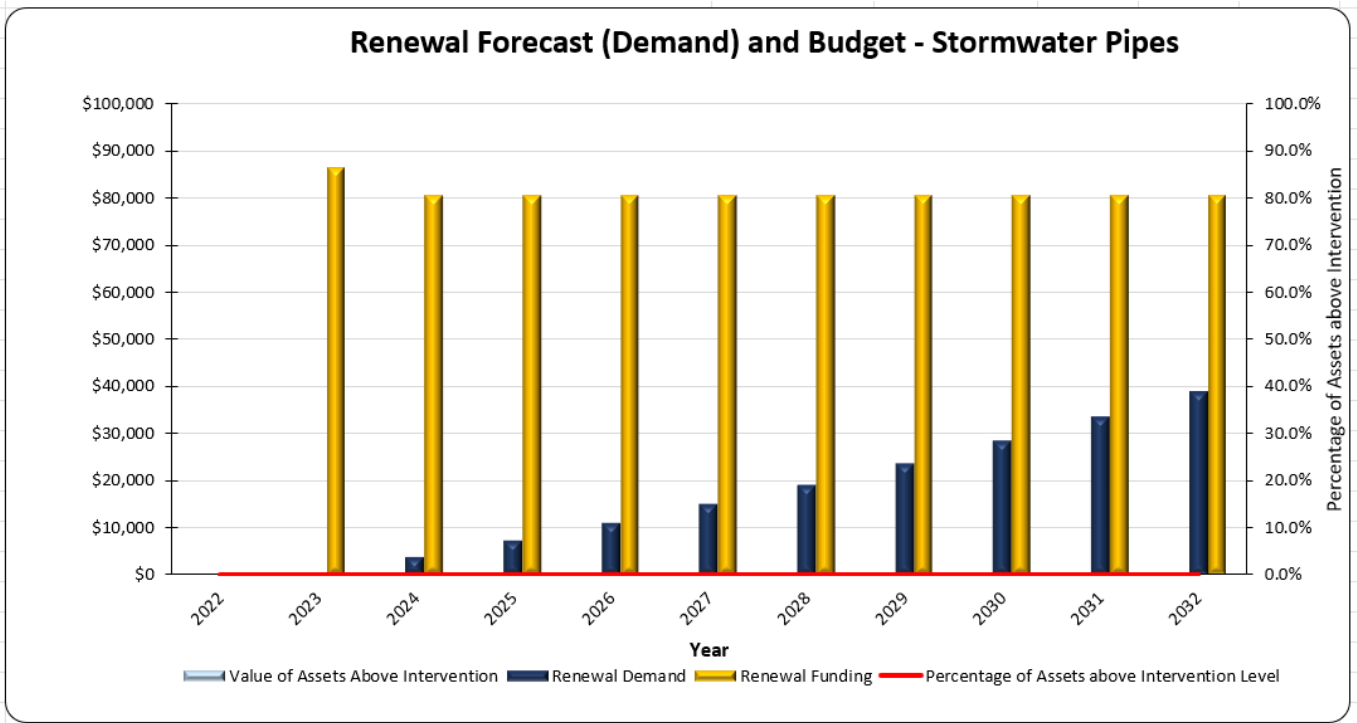


Figure 8: Renewal Forecast and Budget - Stormwater Pipes

Based on the 10-year condition profile forecast, stormwater pipes only require a minimal renewal intervention over the next 10 years. However, it is important to implement a planned Maintenance and Inspection Program which will help further reduce unforeseen interventions and maintain stormwater pipes in very good to good condition.

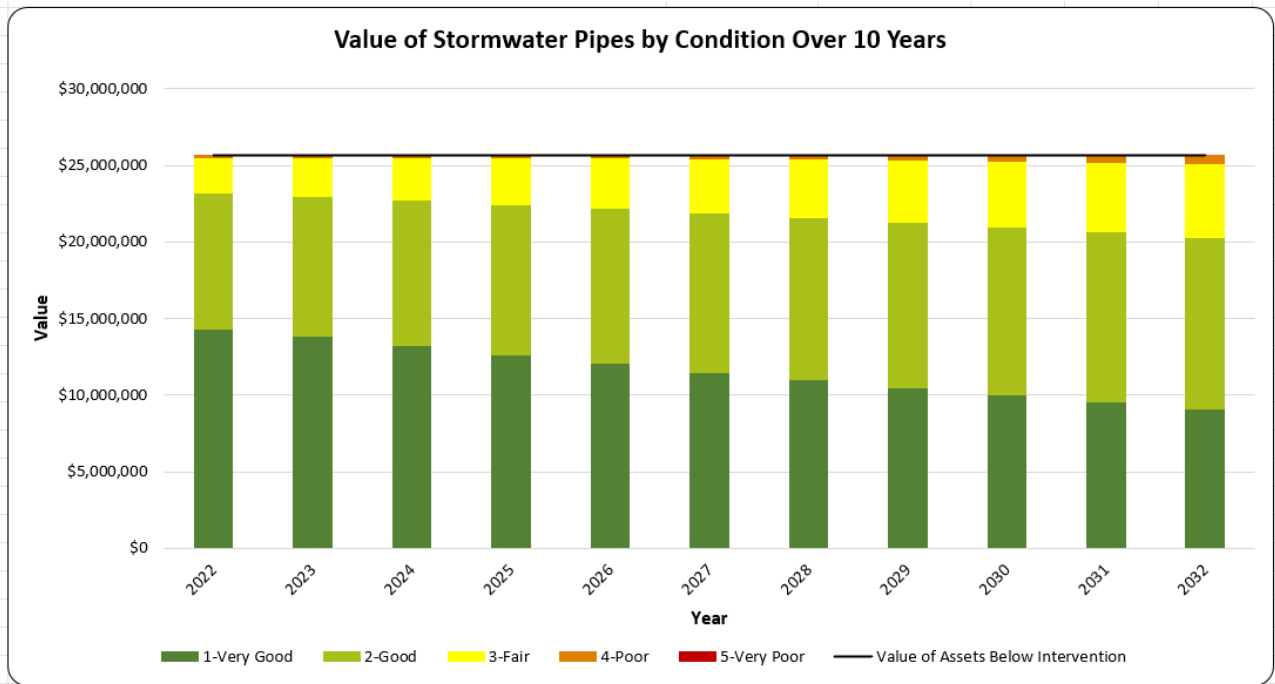


Figure 9: Value of Stormwater Pipes by Condition Over 10 Years

6.4.8. Stormwater Pits Renewal Forecast

For the next 10 years, stormwater pits renewals also do not require a significant amount of funding. Only about 0.1% pits will be above the intervention level at the end of 10-year period. This current budget allocation is used in conjunction with the stormwater pipe renewal program to target minor flooding issues and areas.

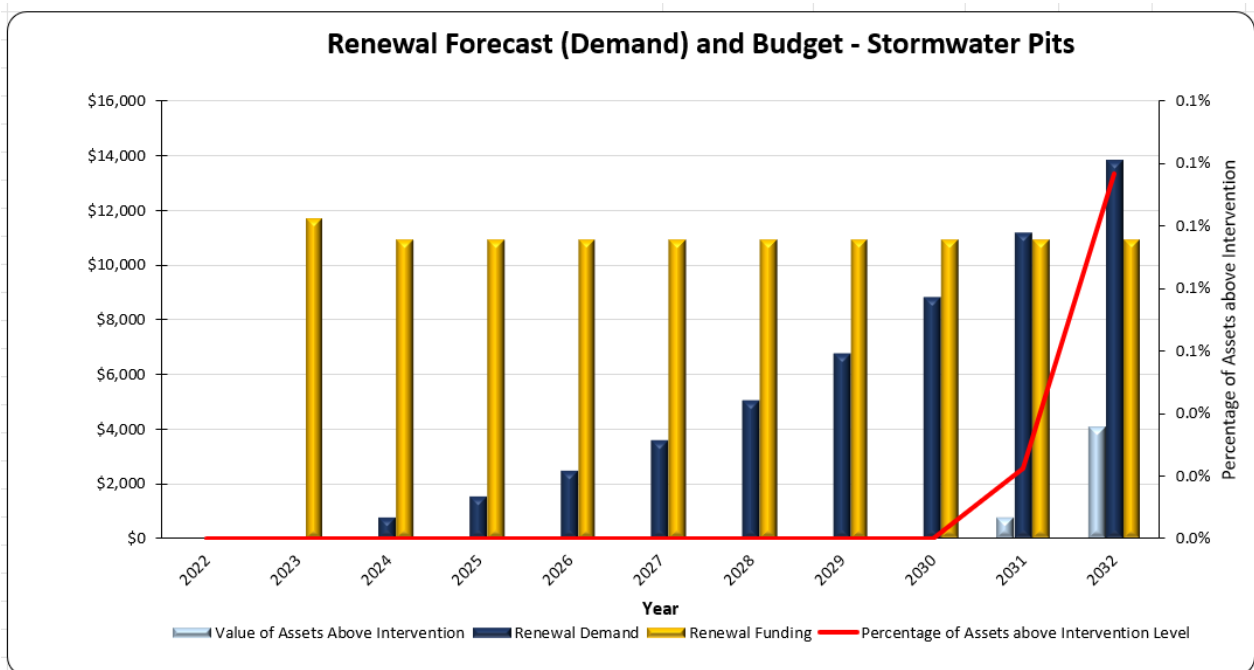


Figure 10: Renewal Forecast and Budget - Stormwater Pits

Similar to stormwater pipes, stormwater pits only require a minimal renewal intervention over the

next 10 years. However, it is important to implement a planned maintenance and inspection program which will help further reduce unforeseen interventions and maintain stormwater pits in very good to good condition.

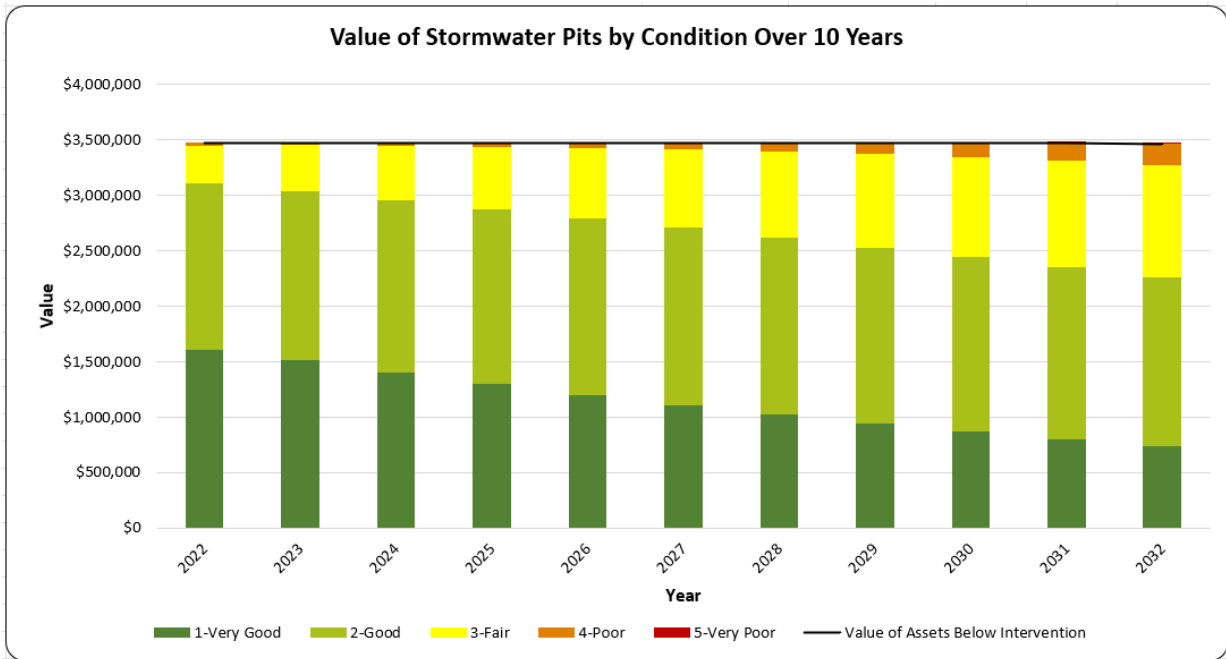


Figure 11: Value of Stormwater Pits by Condition Over 10 Years

6.4.9. Pump Stations Renewal Forecast

Our pumps stations only require minimal intervention over the next 10 years. The total renewal forecast over the next 10 years is about \$ 72,000. The current renewal allocations need to be reviewed and adequate funding needs to be allocated in order to maintain pump station assets in good to fair condition over time.

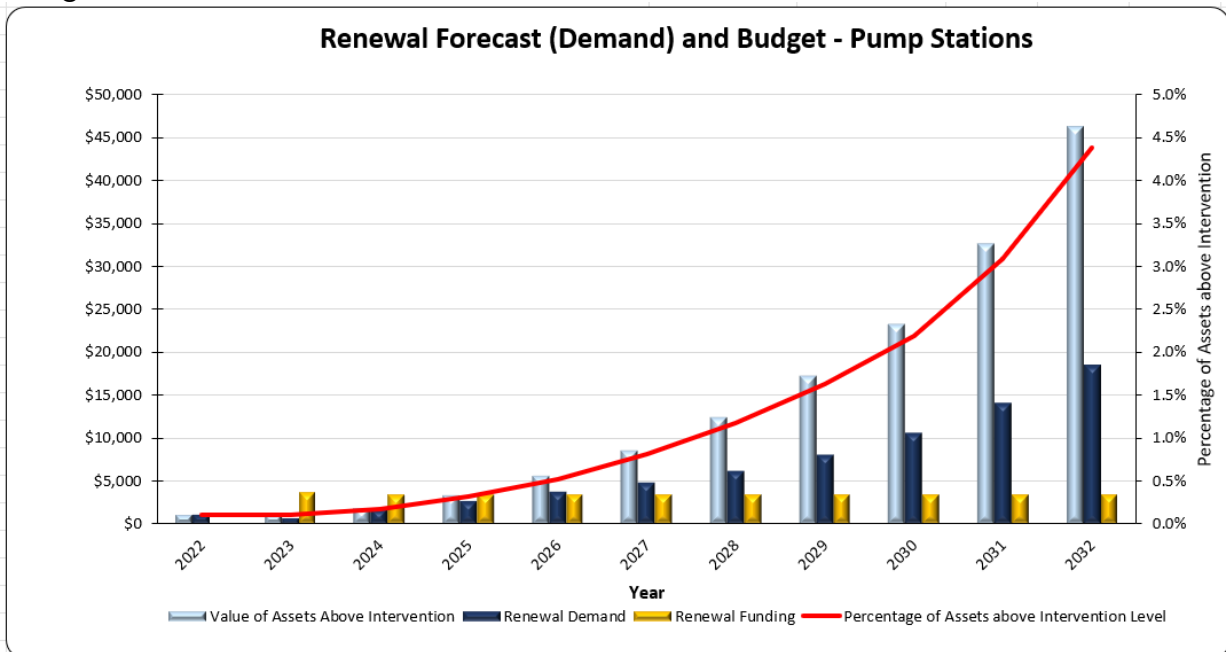


Figure 12: Renewal forecast and Budget - Pump Stations

The 10-year condition forecast profile shows a slight deterioration in pump station assets. About 4.5% of assets in terms of value will be in poor to very poor condition at the end of the 10-year planning period. An audit of pumps and associated civil and electrical assets will help prioritise this renewal program which does not require a significant amount of funding.

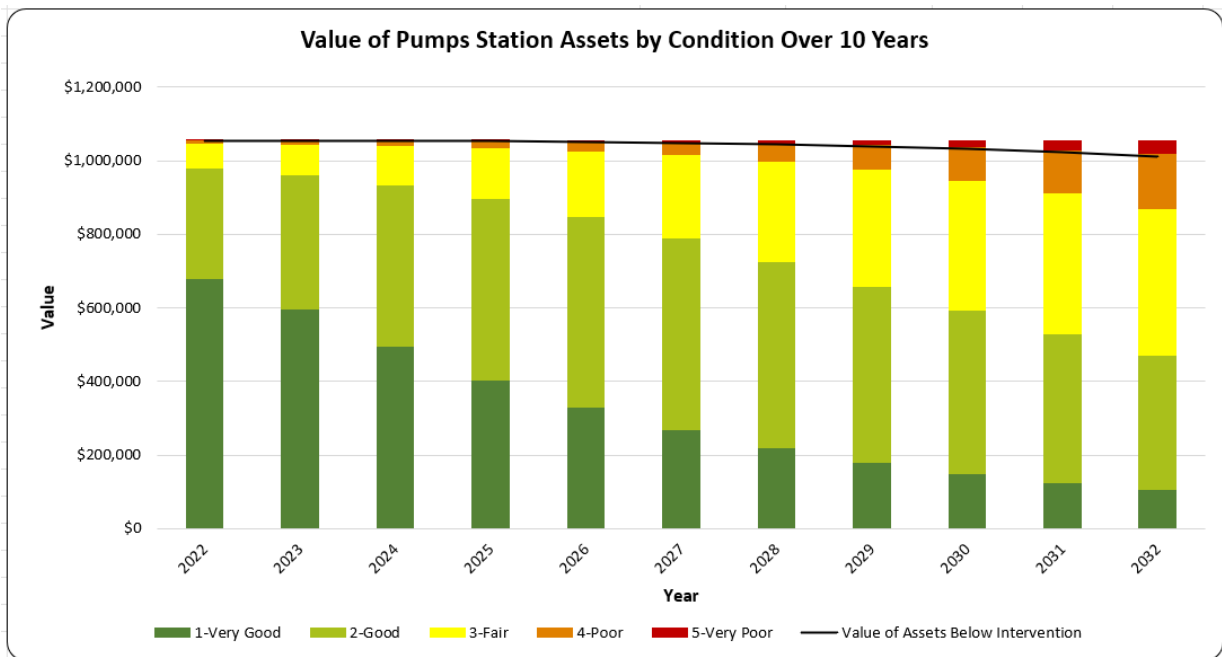


Figure 13: Value of Pump Station Assets by Condition Over 10 Years

Out of 18 pumps, only 3 are interchangeable. Council is planning to have one manufacturer for all stormwater water pumps to gain more efficiencies in operation.

6.4.10. Culvert Renewal Forecast

Our culverts also only require minimal intervention over the next 10 years. The total renewal forecast over the next 10 years is about \$ 110,000. The current renewal allocations need to be reviewed and adequate funding needs to be allocated in order to maintain culverts in good to fair condition over time as renewal funding does not meet the demand from 2026 onwards.

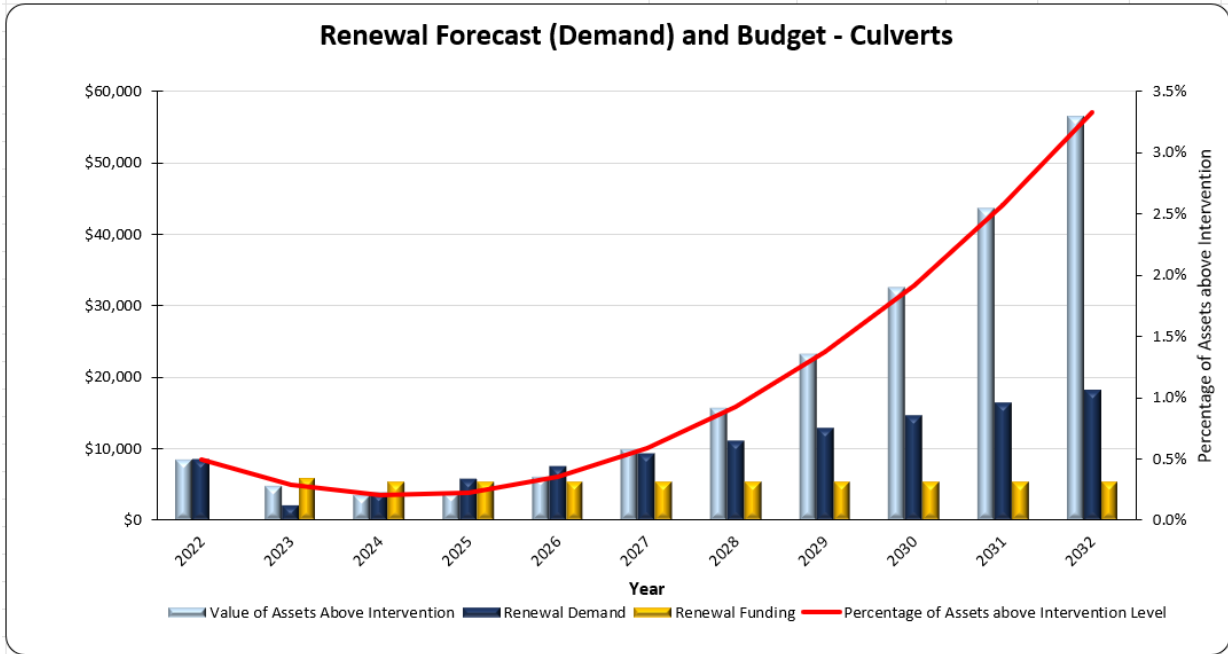


Figure 14: Renewal Forecast and Budget - Culverts

Similar to pump station assets, culverts show a slight deterioration in condition over the next 10 years. Current renewal investments will leave about \$ 50K worth of assets in very poor condition at the end of 10-year planning period. Even though it is minimal, it is important to develop a program based on condition assessments to prioritise renewal funding which will help maintain the current level of service.

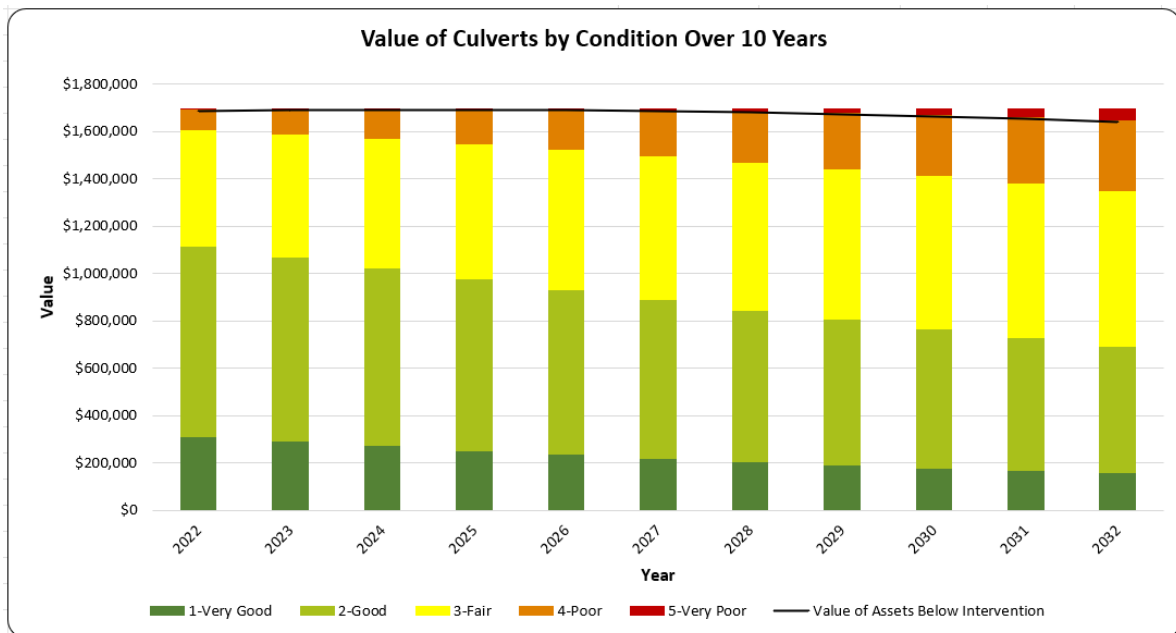


Figure 15: Value of Culverts by Condition Over 10 Years

6.5. Overall Renewal Forecast and Budget – Stormwater Assets

The following graph shows a comparison between the:

- Level of funding required for Stormwater asset renewal to achieve our service level objectives; and
- The amount of funding which we are projected to commit to renewing these assets from our current Long Term Financial Plan.

The renewal forecasts show Council's renewal program is adequately funded, or even over-funded over the next 10 years. However, it should be highlighted that the condition information used for renewal modelling forecast was from 2020 valuation data. It is, therefore, important to conduct a condition assessment of all Stormwater assets to develop and prioritise 4-to-5-year renewal program. Condition based renewal program will allow for the distribution of renewal funding across all Stormwater assets based on the actual renewal requirements.

It should also be noted that most of Council's rural Stormwater asset information has not been captured yet and therefore not included in renewal modelling. To ensure that the renewal model outputs closely resemble the need of our entire asset base including rural stormwater assets, current renewal funding for rural stormwater assets is \$50K per year has been added to the renewal forecast.

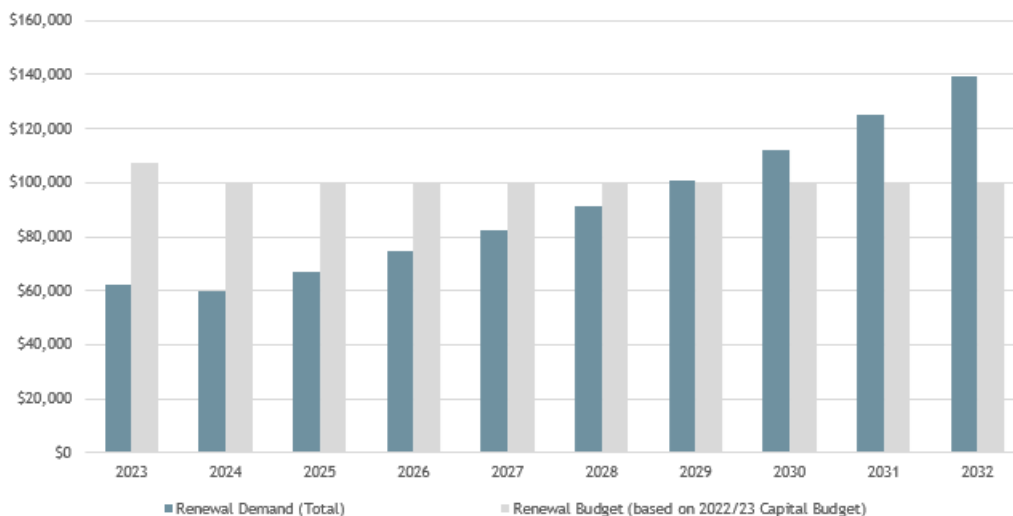


Figure 16: Renewal Forecast (Demand) Vs Renewal Budget

6.6. Acquisition/Upgrade/Expansion Plan

Decisions relating to the acquisition, upgrade, and expansion of an asset is carried out considering full lifecycle costing of the planned asset. Leeton Shire Council follows the following criteria when a budget proposal is prepared:

- Capital cost of the asset
- Total borrowing costs associated with acquisition of the asset (if any)
- Total capital outlay required for the asset (sum of the above)
- Expected annualised maintenance & operational costs associated with the asset.
- Expected reduction in any existing annualised maintenance & operational costs via efficiency gains or asset rationalisations.
- Expected annualised renewal costs associated with the asset.
- Total annualised lifecycle cost (sum of the above annualised costs)
- Total lifecycle cost (total annualised cost times useful life)
- Forecasted net position after acquisition, and consequences of not acquiring the asset.

It should be noted that historically, Council has acquired under sized/under designed Stormwater assets built by developers and Murrumbidgee Irrigation. Therefore, it is important that Council has a formal process in place when asset ownership is transferred to Council either by developers or Murrumbidgee Irrigation.

The current new/upgrade Stormwater asset forecast is based on the information provided in the (Strategic Asset Management Plan (SAMP)). According to the SAMP, \$500k is allocated for urban stormwater asset renewal and upgrades. However, it should be noted that how much out of \$100K rural stormwater capital fund is allocated for upgrades and new assets is not specified. Therefore, it has been assumed that 50% of the total rural budget is allocated for new/upgrade assets, resulting in funding for new and upgrade assets of about \$1M over the next 10 years.

However, it should be noted that specific new and upgrade projects have not been identified in the LTFP.

The projected new/upgrade asset expenditures are shown in the graph below:

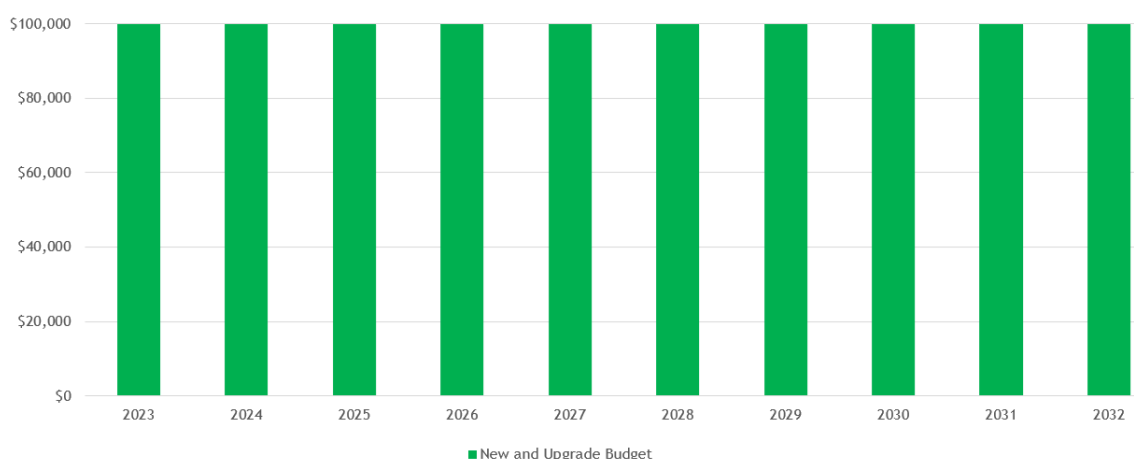


Figure 17: New & Upgrade Budget

Improvement Opportunities

- Undertake condition assessment program of all Stormwater assets to inform Renewal Program development.
- Develop a Project Management Framework and include framework for Acquisition (New), Upgrade, and Expansion of assets.
- Implement a formal process for the transfer of asset ownership to assess quality and capacity of assets.

6.7. Disposal Plan

The strategy for the development of an asset disposal plan is to first identify those Stormwater assets, or parts thereof, that are either:

- Surplus to requirements.
- Technologically obsolete.
- No-longer meeting community needs, or
- Have reached the end of their useful life and there is no demand for renewal or replacement.

Where appropriate, such assets should also be considered for consolidation and rationalisation based on service needs and community benefit prior to being placed in the Disposal Plan. When disposal does occur, recognition needs to be made in the recurrent/operating budget of the reduction of associated operating or maintenance costs of the decommissioned assets, as well as any disposal costs. Costs associated with the sale, demolition or relocation of decommissioned assets and any associated works are to be included as part of the Disposal Plan. Associated works could include any necessary site remediation or rehabilitation.

Improvement Opportunity

Develop an Asset Disposal Policy and identify a mechanism to streamline the asset disposal process.

6.8. Summary of Asset Expenditure Requirements

We are projecting a slight deficit in capital and operational funding when compared to the level of funding that we predict will be required over the forthcoming 10-year period.

Key Financial Performance Indicators for Current Projected Funding	
Total Lifecycle Costs over next 10 years (projected demand)	\$3,006,860
Total Lifecycle Budget over next 10 years (from Financial Plan)	\$2,984,706
Total Lifecycle Funding Deficit	\$22,154
Average Lifecycle Funding Deficit per annum	\$2,215
Percentage Lifecycle Funding Being Met	99%

However, we need to ensure that our forecasts are correct and need to put effort into reviewing our asset condition and useful lives, where appropriate, and the funding we are proposing to set aside in our long-term plans. It should be noted that 2020 valuation and condition data has been used for renewal modelling.

Therefore, it is important that Council undertakes condition assessments of all Stormwater assets to validate these forecasts. We also need to focus on determining appropriate and affordable levels of service in consultation with the community. It is only once service standards have been agreed to that well informed lifecycle costs can be projected and used to inform the long-term Financial Plan.

7. RISK MANAGEMENT

The purpose of this section is to describe the basis of our strategic risk and investment policies and the way it will manage risk associated with our Stormwater assets.

7.1. Risk Management Process

Our Risk Management Framework and processes are in accordance with AS/NZS ISO 31000:2009 – Risk Management – Principles and Guidelines. The Framework is designed to provide the architecture for a common platform for all risk management activities undertaken by Council and is used to identify specific risks associated with our delivery of services and management of assets. The objective of the risk management process with regards to our assets is to ensure that:

- All significant operational and organisational risks are understood and identified.
- The highest risks that need to be addressed in the short to medium term are identified.
- Strategies and treatments to address risks are identified and applied.

An assessment of risks associated with service delivery from infrastructure assets has identified the most critical risks we face in relation to our Stormwater asset portfolio. The risk assessment process identifies and assesses risks, develops a risk rating and develops a risk treatment plan for non-acceptable risks.

This process help determine the risks associated with Stormwater assets by identifying the use, priority and timeframes to be considered. The principal objectives of this risk management process in relation to Stormwater assets include:

- To provide safety from flooding.
- To enable a system of proactive maintenance (where possible).
- To identify areas that require maintenance through a systematic and prioritised inspection system.
- To facilitate scheduling and resource allocation where required, and
- To establish a priority system for carrying out maintenance works.

7.1.1. Risk Assessment

There are four (4) types of inspections that Council carries out with respect to risk identification and assessment. They are:

- Routine Inspections.
- Supplementary Inspection.
- External Inspection Request.
- Internal Inspection Request.

Routine Inspections are the primary type of inspection and represent a proactive method of risk identification.

The supplementary inspections are performed in addition to routine inspections. These inspections may be performed for the following reasons:

- Following a storm event, flood, bushfire.
- Review / audit of previously completed routine Inspections.
- Inspection seeking a specific defect type.
- An inspection completed while driving to or from a routine inspection on a different asset.
- Unauthorised third-party repairs.
- Criticality of asset.

External inspection requests are the requests from the public on condition and risks associated with our Stormwater assets. These inspection requests are registered by Council's Customer Request Management (CRM) system and assigned to the appropriate council officer for action.

Internal inspection requests are generated by councillors, council staff & other council representatives. These requests are handled in the same manner as an external inspection request.

7.1.2. Risk Control

To reduce "risk exposure" Council requires control measures to be implemented. Some of the control measures are;

- Use of warning signs, warning paint, and lights to alert pedestrians of potential hazards.
- Erection of temporary barriers or barricades and lights around the area until the risk is eliminated.
- Planning and allocating resources for the long-term replacement.
- Eliminating the risk by asset repair.

All requests are assigned a typical response time based on the criticality of asset.

The following table shows typical risks associated with stormwater assets and the mitigation practises.

Risk Event and Cause	Risk Rating	Possible Risk Mitigation Practice	Residual Risk*
<p>Stormwater-Maintenance Program Failure to identify deteriorating assets.</p> <p>Absence of a planned maintenance program leading to asset failure.</p>	High	<p>Develop and implement a planned Maintenance and Inspection Program for Stormwater assets.</p> <p>Complete the annual Drainage Maintenance Program (shifting from reactive maintenance to proactive maintenance).</p>	Low
<p>Assuring adequate Funding for Stormwater Asset Planned Maintenance Program.</p> <p>Failure to fund the program will lead to</p>	High	<p>Assess funding requirements and resource requirements for Annual Maintenance and Inspection Program.</p> <p>Fund the Annual Maintenance and Inspection program through the Long-Term Financial plan.</p>	Low

Risk Event and Cause	Risk Rating	Possible Risk Mitigation Practice	Residual Risk*
unforeseen asset failures.			
Asset Ownership – Culverts Uncertainty of ownership of large number of culverts due to privatisation of Murrumbidgee Irrigation	High	Form a working group to liaise with Murrumbidgee Irrigation to resolve the ownership, conditions and handover of culverts. Achieve an MOU with Murrumbidgee Irrigation Limited regarding urban drainage structures by 2024.	Medium
Flooding Due to Failure of Channels alongside Stormwater Channels owned by Murrumbidgee Irrigation need to be well maintained to prevent leakage and flooding which result in damage to Council infrastructure.	High	Analyse impact of Council stormwater network flow into MI network and impacts on local stormwater catchments and Council network. Augment infrastructure to ensure stormwater discharges effective and does not impact property and infrastructure upstream of Council outlets.	
Adding under sized assets to stormwater network Council taking ownership of undersized Assets (either gifted assets or ownership transferred from Murrumbidgee Irrigation)	High	Implement a formal process for the transfer of asset ownership to assess quality, capacity, completeness of information of stormwater assets.	Medium
Council stormwater network linkage to Fivebough Wetlands (next to STP)	High	Councils Stormwater network flows into Murrumbidgee Irrigation Drainage network, which Council does not own. There is no current agreement between Murrumbidgee Irrigation and Council. Fivebough Wetland, which is a Ramsar Wetland, is fed through overflows from the Murrumbidgee Irrigation network into its basin. This overflow is generated through increased intensity of storm events. Council has no control over the amount of water entering the wetland site, or management of the wetland. Therefore, implementation of a formal agreement between Murrumbidgee	Medium

Risk Event and Cause	Risk Rating	Possible Risk Mitigation Practice	Residual Risk*
		Irrigation, Leeton Council, Crown Lands, and other key stakeholders on Stormwater discharge into wetlands and its management is required.	

Table 12: Risk Register

7.2. Critical Assets

Matt – can you please send the info on stormwater critical assets and any issues. Issues around pump stations? Etc.

Assets which have a high consequence of failure are identified as critical assets. Generally, criticality frameworks assess assets against the following areas outlined in Risk Management Framework:

- Service interruption
- Public safety
- Environmental impact
- Environmental Incident impact
- Financial Impact
- Reputation/ Complaints and Legal Action Impact
- Political Impact
- Obligation/ Legislative/ Standard Compliance Impact

7.3. Climate Change and Adaptation Strategies

Climate change science demonstrates that human activity is creating more greenhouse gas emissions which in turn is changing the climate across the globe. This change is expected to continue in the years to come and will have a profound impact on the services Council provides to its community and our infrastructure assets that support the delivery of these services.

Adaption and mitigation strategies for our Stormwater assets are developing as we understand the climate change impacts in greater detail. As a minimum we consider how to manage our existing assets given potential climate change impacts for our region. Climate change indicators, potential impacts as they relate to Stormwater assets, and suitable adaptation strategies have been identified in the table below.

Climate Change Indicator	Potential Impact on Stormwater Assets and Services	Possible Adaptation Strategies
Extreme rainfall (riverine flooding and pluvial flooding)	<p>Accelerated degradation of infrastructure, reduced life expectancy, increased lifecycle costs.</p> <p>Accelerated material degradation.</p> <p>Failure of drainage systems.</p>	<p>Identify when and where road assets are most likely to be exposed to increased frequency and intensity of riverine and pluvial flooding through asset risk modelling. Undertake flood mapping of road levels to identify hot spots.</p> <p>Prioritise those assets for review, including projected hydrological changes specifically to that site and identify condition and type of materials used in infrastructure construction.</p> <p>Undertake reactive and proactive maintenance – to identify and initiate repairs where needed to maintain/improve asset integrity now.</p> <p>Factor future flooding impacts into design and maintenance program.</p> <p>Maintain/build Water Sensitive Urban Design assets to manage and slow stormwater runoff.</p>
Soil Subsidence	<p>Soil expansion and contraction causing Stormwater pipes to crack and move. Formation of sinkholes.</p>	<p>Use climate risk modelling to identify when and where assets are most likely to be exposed to soil subsidence.</p> <p>Understand the prevalence of clay soils and changes to the wetting and drying climate cycles.</p> <p>Inspection of Stormwater assets for damage if possible.</p>
Extreme Wind	<p>Trees and debris blocking Stormwater assets.</p>	<p>Identify when and where assets are most likely to be exposed to increased frequency and intensity of extreme wind through asset risk modelling.</p> <p>Where possible initiate ongoing management of vegetation to reduce risk of trees and debris.</p> <p>Initiate regular inspection of drainage assets to ensure structures remain clear of debris and can continue.</p>
Higher Carbon Emissions	<p>Legislative need to reduce emissions.</p>	<p>Use low embodied energy materials in construction of infrastructure.</p>

Table 13: Managing the Impact of Climate Change on Stormwater Assets

8. FINANCIAL SUMMARY

Our Long-Term Financial Plan provides a view of the resources that we expect to be available to us and how these will be allocated and prioritised over the next ten (10) years. Our Financial Plan identifies our current and projected financial capacity to continue delivering high quality services, facilities, and infrastructure while identifying critical new capital investment to support our community's prosperity and to respond to our future challenges. This Stormwater Asset Management Plan will inform the budgets and projections outlined in our Financial Plan for Stormwater asset management. Ongoing affordability and financial sustainability are our key objectives and the Long-Term Financial Plan in combination with Asset Management Plans support in achieving these objectives.

This section contains the financial information resulting from all the information presented in the previous sections of this Asset Management Plan. The financial forecasts made will be refined as we improve our understanding of future asset performance and required levels of service.

8.1. Financial Statements and Projections

8.1.1. Asset Valuations

The value of the assets covered by this Stormwater Asset Management Plan as per our financial valuations as of 30 June 2020 are shown below.

2020 Replacement Cost (Fair Value)	\$33,133,898
Accumulated Depreciation	\$7,427,721
Depreciated Replacement Cost (Fair Value)	\$25,706,177
Annual Average Asset Consumption	\$304,475

8.1.2. Asset Sustainability

We use the following indicators to measure asset sustainability:

- Asset renewal funding ratio, and
- Projected funding requirements compared with budget allocations (Long Term Financial Plan)

8.1.3. Asset Renewal Funding Ratio

Asset Renewal Funding Ratio	98%
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The Asset Renewal Funding Ratio is the most important indicator and shows that over the next ten (10) years we are expected to have 98% of the funds required for the optimal renewal and replacement of Stormwater assets. The Asset Renewal Funding Ratio is calculated

as the ratio between the calculated asset renewal forecast and allocated renewal funding.

8.1.4. Projected Renewal Forecast for Financial Plan

Our Asset Management Plans and Long-Term Financial Plan are the foundations of our long-term resource planning. These plans work together to ensure that expectations are achievable and sustainable. We are working to improve the integration between our Asset Management Plans and Long-Term Financial Plan. The Asset Management Plans inform the Long-Term Financial Plan by identifying the amounts that are required to renew, maintain, and improve our assets over their lifecycle. The Long-Term Financial Plan determines how much funding is available to support our assets. It incorporates knowledge of the condition of our assets, and risk assessment issues, as well as the impact of reviewing and setting intervention and service levels for our infrastructure.

The financial projections from this Asset Management Plan are shown Figure 19 and Table 14. This covers the full lifecycle costs over the next ten (10) years to sustain current levels of service. Note that all costs are shown in real values.

The bars in the graphs represent the anticipated budget needs required to achieve the lowest lifecycle costs, and the budget line indicates the funding that is forecast to be available.

These amounts need to be verified against affordable levels of expenditure as determined through our Long-Term Financial Plan and cyclic condition assessment of stormwater assets. The gap between these informs the discussion on achieving the balance between services, costs, and risk to achieve best value outcomes.

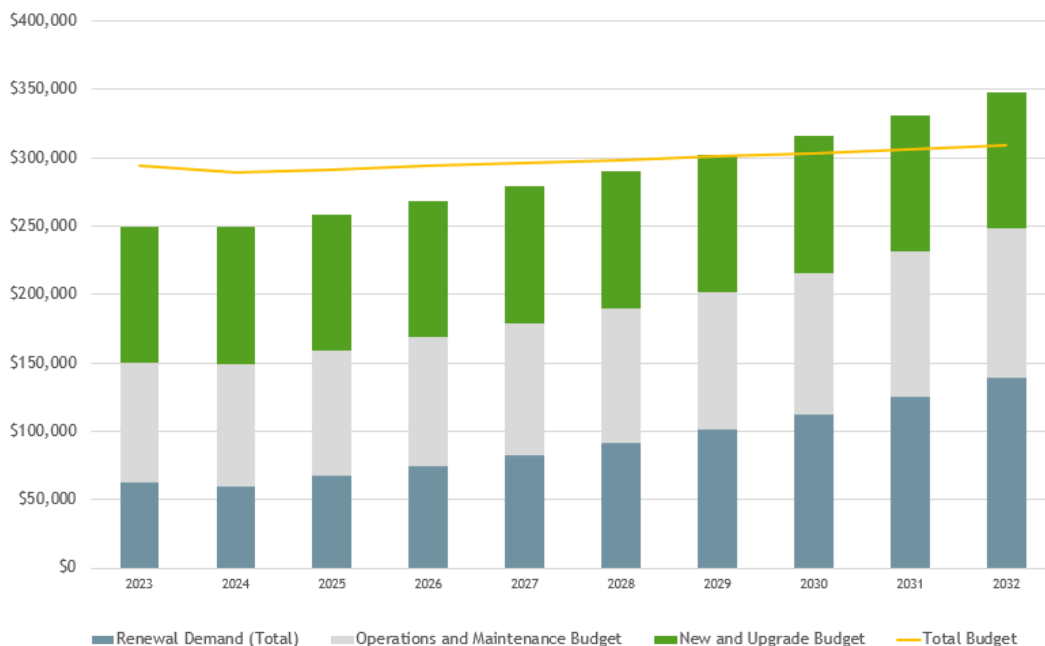


Figure 18: Total Life Cycle Cost Demand – Stormwater Assets

Year	Renewal Forecast	Renewal Budget	New and Upgrade	Operation & Maintenance	Total Lifecycle Cost
2022	\$62,411	\$107,401	\$100,000	\$87,233	\$294,634
2023	\$60,036	\$100,000	\$100,000	\$89,414	\$289,414
2024	\$67,228	\$100,000	\$100,000	\$91,649	\$291,649
2025	\$74,690	\$100,000	\$100,000	\$93,940	\$293,940
2026	\$82,621	\$100,000	\$100,000	\$96,289	\$296,289
2027	\$91,304	\$100,000	\$100,000	\$98,696	\$298,696
2028	\$101,069	\$100,000	\$100,000	\$101,164	\$301,164
2029	\$112,224	\$100,000	\$100,000	\$103,693	\$303,693
2030	\$124,930	\$100,000	\$100,000	\$106,285	\$306,285
2031	\$139,135	\$100,000	\$100,000	\$108,942	\$308,942
Total	\$915,648	\$1,007,401	\$1,000,000	\$977,305	\$2,984,706

Table 14: 10 Year Renewal Forecast - All Stormwater Assets

However, it should be noted that a desktop indexation of fair values undertaken in 2021 and 2022 by valuers show a cumulative fair value movement of 12.44% in stormwater assets. Therefore, the true renewal forecast for this 10-year period is **\$1,029,555**.

8.2. Funding Sources

Funding for assets is provided from our annual budget informed by the Long-Term Financial Plan. Our financial strategy determines how funding will be provided, whereas the Asset Management Plan communicates how and when this will be spent, particularly in renewal investments.

The two major funding sources to maintain, renew and improve our Stormwater assets are shown in the table below.

Activity	Funding Source
Maintenance and Operations	<ul style="list-style-type: none"> ▪ Council's own source funds
Renewal	<ul style="list-style-type: none"> ▪ Council's own source funds ▪ Government grants
Capital Improvement (i.e., new, upgrade, and expansion)	<ul style="list-style-type: none"> ▪ Council's own source funds including SMSC – stormwater management service charge. ▪ Government grants

Table 15: Funding Sources

The purpose of the stormwater management service charge is to cover the expenses associated with delivering new or additional stormwater management services within a specific catchment, suburb, town, or local government area (LGA). The charge is based on the average cost of providing stormwater services over a defined period, typically 3-5 years, to account for variations in costs. The charge is intended to cover the estimated expenses related

to implementing new or additional stormwater measures.

8.3. Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this Asset Management Plan. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts. Key assumptions made in this Asset Management Plan are:

- Current levels of service reflect community needs.
- Future funding levels are derived from the Long-Term Financial Plan.
- No known legislative changes or other influences that will impact on or demand a change in level of service and associated funding throughout the period of the plan.
- Adequate funds are continued to be provided to maintain the current level of service.
- 2020 valuation data including the condition of assets are accurate and valid for current year

9. Improvement Plan

A number of improvements have been identified in this Stormwater Asset Management Plan. It is important that these improvement actions are prioritised based on the business needs/ongoing projects and sufficiently resourced.

The Asset Management Improvement Plan generated from this Asset Management Plan is shown in Table below.

Item No.	Task	Responsibility	Priority
1	Review and document customer service levels	Manager Assets/Manager Roads & Drainage	Medium
2	Develop and implement planned maintenance and inspection program for stormwater assets. Identify resource requirement for implementation of planned maintenance and inspection program.	Manager Roads & Drainage	High
3	Undertake cyclic Stormwater asset condition assessment program (every 4-5 years). Complete 5% of CCTV inspection of stormwater pipes by 2024.	Asset Management Coordinator	High
4	Develop and prioritise renewal programs based on condition of the assets.	Asset Management Coordinator	High
5	Form a working group to liaise with Murrumbidgee Irrigation to, <ul style="list-style-type: none"> Resolve the ownership, conditions and handover of culverts. To discuss and find a long-term resolution to maintenance of channels alongside Stormwater owned by Murrumbidgee Irrigation. 	Manager Assets/Manager Roads & Drainage/TBC	High

Item No.	Task	Responsibility	Priority
6	Analyse impact of Council Stormwater network flow into MI network and impacts on local Stormwater catchments and Council's network. Augment infrastructure to ensure stormwater discharges are effective and does not impact property and infrastructure upstream of Council outlets.	Asset Management Coordinator /Manager Roads & Drainage	High
7	Develop a Capital Work Prioritisation Framework and include demand drivers as part of the prioritisation criteria. Develop a Project Management Framework and include framework for Acquisition (New), Upgrade, and Expansion of assets.	Asset Management Coordinator	Medium
8	Develop an Asset Disposal Policy and identify a mechanism to streamline the asset disposal process.	Asset Management Coordinator	Medium
9	Continue implementation of "Univerus" asset and work order management system to centralise asset data management.	Asset Management Coordinator	High
10	Implement a formal process for the transfer of asset ownership to assess quality, capacity and completeness of information of Stormwater assets.	TBC	TBC
11	Review Stormwater asset capital and maintenance programs and identify gaps in funding	Asset Management Coordinator /Manager Roads & Drainage	Medium
12	Collect asset information of all rural Stormwater assets and audit and verify existing information of urban Stormwater assets.	Asset Management Coordinator /Manager Roads & Drainage	Medium

Item No.	Task	Responsibility	Priority
13	Enhance community consultation regarding service levels	Asset Management Coordinator / Manager Roads and Drainage	Medium

Table 16: Stormwater Asset Management Improvement Plan

9.1. Monitoring and Review – Improvement Actions

Prioritisation and Implementation of the Stormwater Asset management Improvement Plan will be the responsibility of the Manager Assets with the support and guidance from the Senior Management Team.