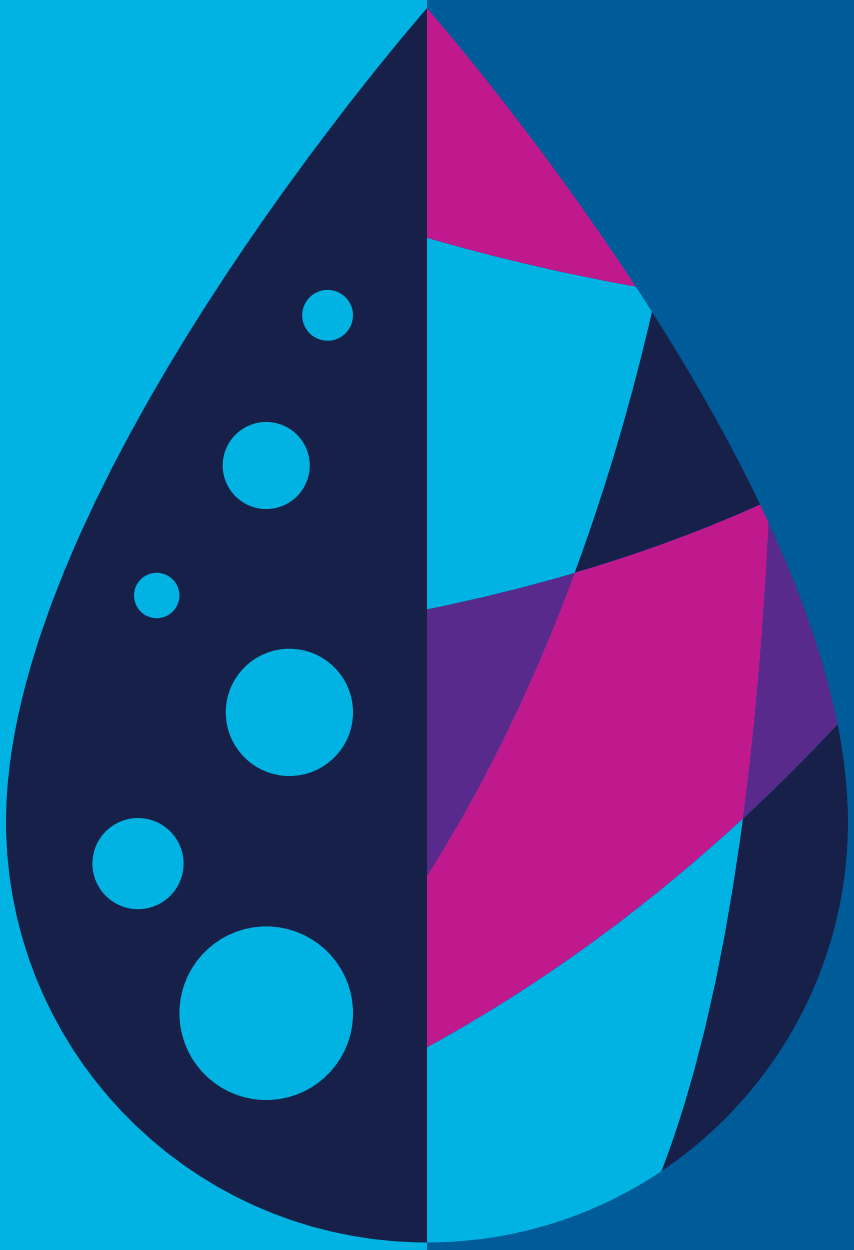
THE CITY of Unley

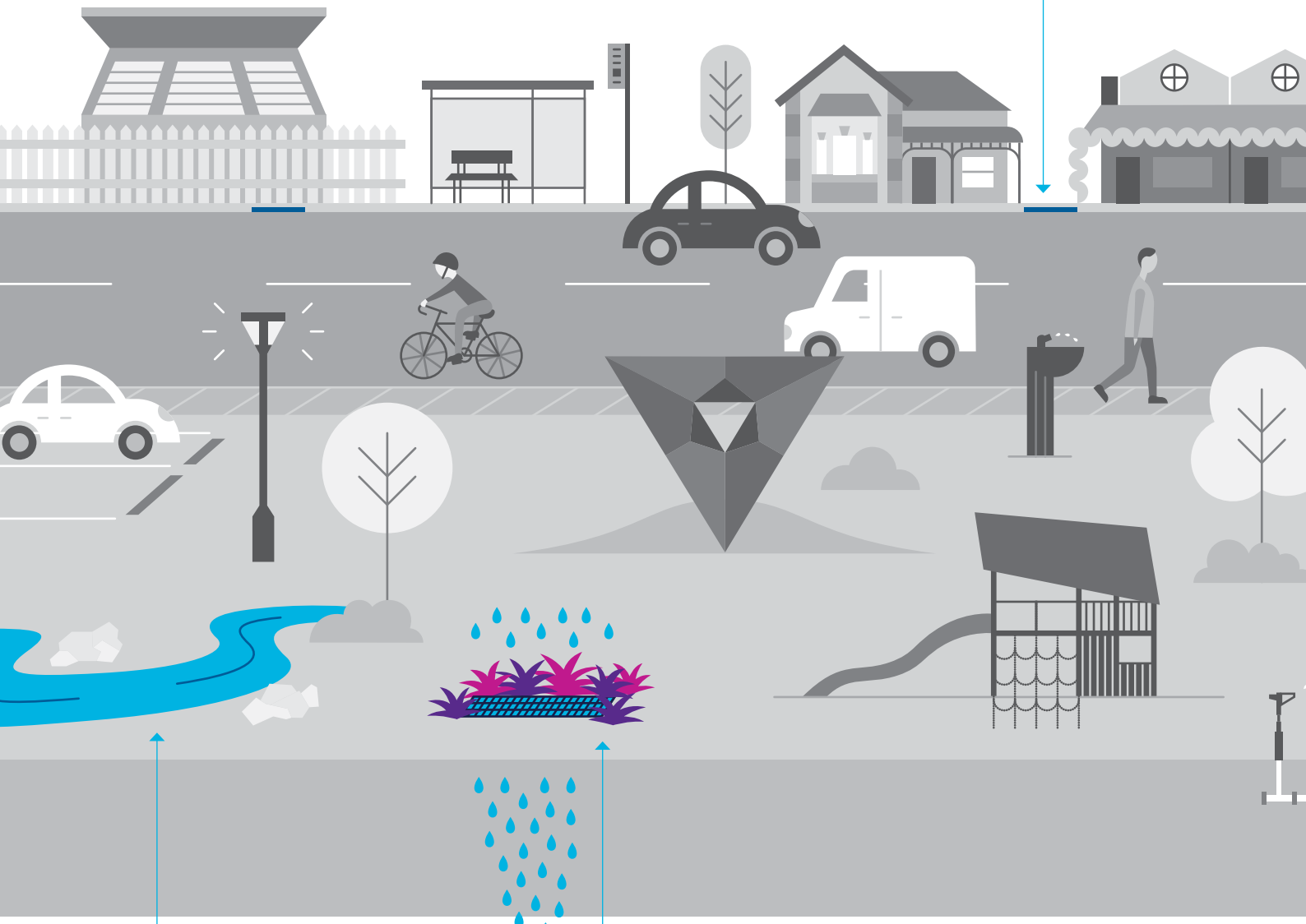


Stormwater

ASSET MANAGEMENT PLAN 2020

Contents

Stormwater Assets Summary



STORMWATER PIPES/ STORMWATER PITS

Replacement cost: $52,335,273

Condition: 60%

CREEKS

Replacement cost: $27,408,857

Condition: 32%

STORMWATER MANAGEMENT

Replacement cost: $6,005,451

Condition: N/A

RECYCLED WATER SYSTEM

Replacement cost:
$4,252,865

Condition: N/A

Total

Replacement cost:
$90,002,447

Condition: 59%

Condition percentage represents assets in fair to very good condition.

The City of Unley (Council) has adopted four asset management plans which set out its goals and objectives for managing key infrastructure and assets, namely building, open space, stormwater and transport.

Executive Summary

Council's stormwater assets manage the quality and quantity of rainfall runoff. Stormwater drainage serves to minimise property damage, danger and disruption to the community from flooding. This asset management plan (the Plan) focuses on the management of Council's stormwater assets.

The objective of asset management is to provide the desired level of service in the most cost-effective manner for present and future generations. A strategic approach to asset management aligning with industry standards and best-practice has been undertaken to ensure Council's sustainability.

Effective asset management for stormwater assets demonstrated in the Plan is essential to achieve Council's vision: "Our City is recognised for its enviable lifestyle, environment, business strength and civic leadership."

STORMWATER LEVELS OF SERVICE

QUALITY
The stormwater network is well maintained

FUNCTION
Assets meet the service needs

CAPACITY & UTILISATION
Stormwater assets have the capacity to meet the community need

CONDITION
Physical state of stormwater assets assets are in serviceable condition

RENEWAL
Sustainably managing the renewal of assets

SAFETY
Stormwater compliance standards achieved

FUTURE DEMANDS

POPULATION & DEMOGRAPHICS
Increased housing density

CLIMATE CHANGE
Awareness of Council's role in climate sustainability
Increasing trend of severe weather events

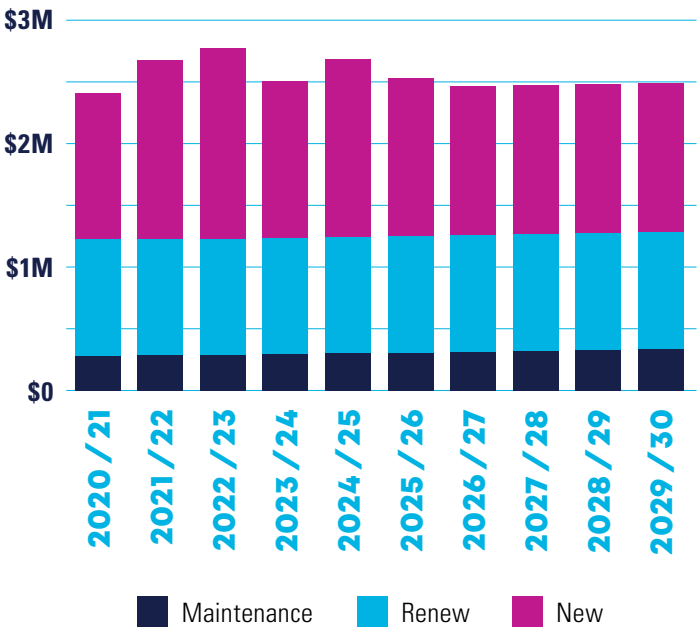
TECHNOLOGY
Testing new research and technologies

CONDITION

59% stormwater assets condition satisfaction

FINANCIAL SUMMARY

STORMWATER TEN YEAR FORECAST EXPENDITURE



The forecast contained within the Plan will be reviewed annually with an update completed every four years.

Council is committed to continuously improving the quality and maturity of its asset management practices. The improvement program specifies its commitment to increase asset management maturity and data confidence. Key performance measures have been established to track Council's performance of its assets and asset management practices.

2 Introduction

2.1 Background

The primary purpose of stormwater assets is to manage the quality and quantity of rainfall runoff. Stormwater drainage serves to minimise property damage, danger and disruption to the community from flooding.

The core objectives for Council's stormwater assets are to:

- Minimise property flooding and damage.
- Protect the health and safety of the community.
- Minimise adverse impacts on the environment.

Council's stormwater assets covered in the Plan include:

- Underground drainage network (stormwater pits and pipes)
- Creeks
- Stormwater management devices (Water Sensitive Urban Design (WSUD), detention)
- Recycled water (Managed Aquifer Recharge (MAR))

Council owns and operates two MAR systems used to harvest water for storage and distribution, supplying water for irrigation on Council's reserves. These MAR systems are located at Ridge Park and Heywood Park.

The Plan aims to:

- Align with ISO 55000:2014 (international standard for asset management) without seeking accreditation as an ISO document or process.
- Align the delivery of asset management activities with the organisation's goals and objectives; this is known as the "line of sight" with asset management.
- Create transparency and accountability through all aspects of asset management, ensuring all stakeholders understand their roles and responsibilities for achieving the Plan's aims.

The Plan is developed and implemented in conjunction with the following Council plans, strategies and policies (Table 2-1):

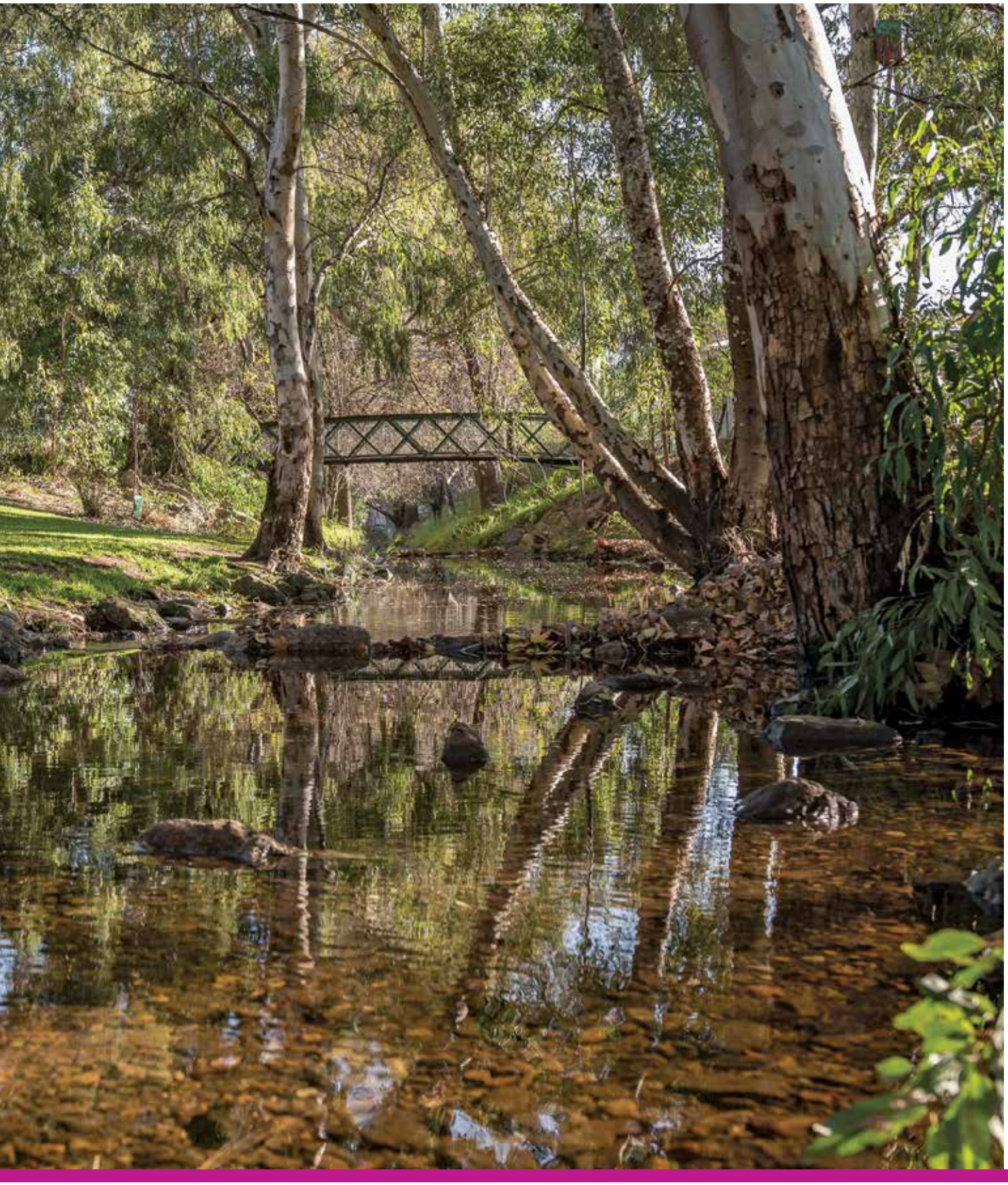
PLANS, STRATEGIES & POLICIES
Community Plan 2033
4 Year Delivery Plan 2017–2021
Environmental Sustainability
Long Term Financial Plan 2020–21 to 2029–30
Asset Management Policy
Asset Management Plans

Table 2-1: Plans, Strategies and Policies.

Council's stormwater asset key stakeholders for service delivery of the Plan are contained in Table 2-2:

KEY STAKEHOLDERS	ROLES IN ASSET MANAGEMENT PLAN
Residents / Community	◗ Opportunity to provide input into the development and review of the Council's strategic management plans.
Elected Members	◗ Represent needs and views of community. ◗ Ensure Council's objectives and policies are appropriate and effective. ◗ Ensure Council's resource allocation, expenditure and activities, and the efficiency and effectiveness of its service delivery is appropriate. ◗ Ensure Council is financially sustainable.
Audit Committee	◗ Audit Committee will review, make recommendations and observations to Council on the financial outcomes of the Plans.
Chief Executive Officer	◗ Ensures administration deliver strategic planning and direction of the Council. ◗ Ensures administration implement the strategic plan goals and objectives by providing services within the allocated resourcing while managing risks. ◗ Ensures Council is financially sustainable.
General Manager – City Development	◗ Ensures asset management plans are completed and reported to CEO and Council. ◗ Ensures the capital works programs are delivered in line with strategic planning. ◗ Ensures the maintenance programs are achieving service standards.
Assets and Operations Manager	◗ Ensures the review of asset management and the delivery of improvement strategies. ◗ Manages maintenance programs to ensure they are active and achieving service standards. ◗ Ensures the capital works programs are achieved.
Senior Assets and Engineering Lead	◗ Manages development and review of asset management plans. ◗ Responsible for advancing asset management within the organisation. ◗ Review infrastructure data integrity within the asset management system and GIS applications. ◗ Review and manage condition audits of infrastructure. ◗ Review asset valuation data. ◗ Coordinates the annual capital works program.
Team Leader Response and Signage	◗ Coordinate Council resources to deliver the maintenance program.
Response and Signage Team	◗ Deliver operations and maintenance.
Asset Management Team	◗ Deliver the annual capital works programs. ◗ Undertake data collection and operational asset management projects.

Table 2-2: Key Stakeholders in Asset Management Plan



2.2 Goals and Objectives of Asset Ownership

The goal of asset management is to provide the desired level of service through the provision and management of physical assets in the most cost-effective manner, for present and future generations.

The Plan demonstrates alignment with the Council's Community Plan 2033 through its vision and themes:

Our City is recognised for its enviable lifestyle, environment, business strength and civic leadership.

COMMUNITY LIVING

GOAL:

People value our City with its enviable lifestyle, activities, facilities and services.

OBJECTIVES:

- Our Community is active, healthy and feels safe.
- Our Community participates in community activities, learning opportunities and volunteering.
- Our City meets the needs of all generations.
- Our Community is proud to be part of our City.
- Our City is connected and accessible.

ECONOMIC PROSPERITY

GOAL:

Our businesses are valued because of the range of goods, services and facilities they provide, and new businesses are supported, not burdened with bureaucracy.

OBJECTIVES:

- Unley is recognised as an easy place to do business.
- Thriving main streets and other business activities operate across our City.

ENVIRONMENT STEWARDSHIP

GOAL:

We will maintain and enhance our urban environment and strengthen our City's resilience to climate change by providing leadership to our Community.

OBJECTIVES:

- Unley's urban forest is maintained and improved.
- Excellence in waste management is achieved through avoidance, re-use and diversion.
- The energy efficiency of the City if increased and our carbon footprint reduced.
- Efficient, effective & sustainable water management is ensured.
- The City's resilience to climate change is increased.

CIVIC LEADERSHIP

GOAL:

Council will listen to the community and make transparent decisions for the long-term benefit of the City.

OBJECTIVES:

- We have strong leadership and governance.
- Council provides best value services to the community.
- Our business systems are effective and transparent.

These objectives will be considered in all decision-making aspects regarding stormwater assets to ensure Council consistently strives to achieve these strategic objectives. There are several initiatives that feed into the above objectives outside of the asset management process that ultimately support the stated objectives.

2.3 Plan Framework

Key elements of the Plan include:

- Levels of service – specifies the levels of service objectives and how they are measured.
- Future demand – how this will impact on future service delivery and how the demand will be met.
- Lifecycle management – how Council manages existing and future assets to provide the levels of service.
- Risk management – how Council manages asset risks.
- Financial summary – funds required to provide the levels of service.
- Improvement plan and monitoring – how Council will improve asset management maturity and how the Plan will be measured to ensure it's meeting Council's objectives.

The asset management framework is shown in Figure 2-1 and the roadmap for preparing an asset management plan is in Figure 2-2.

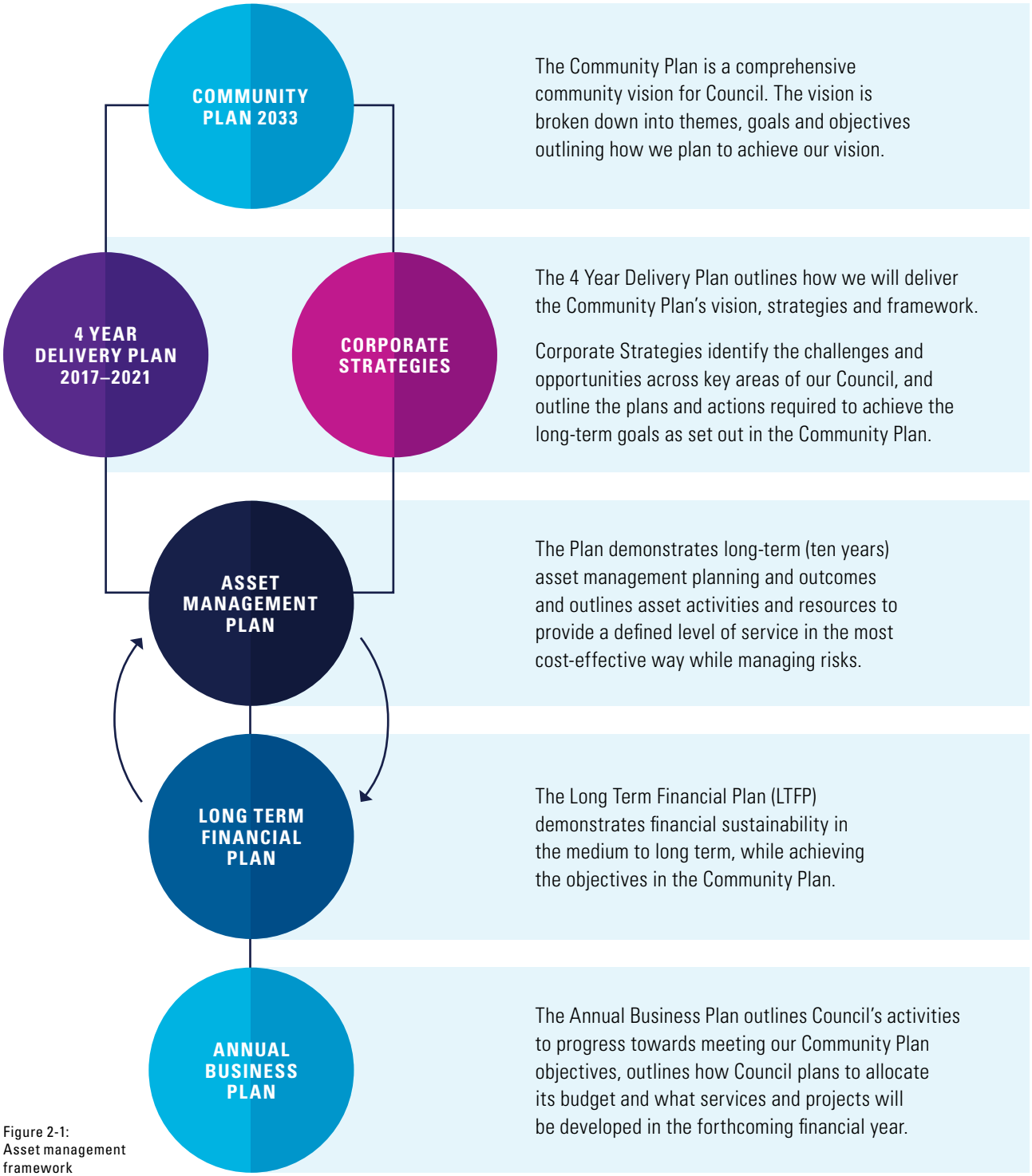


Figure 2-1:
Asset management framework

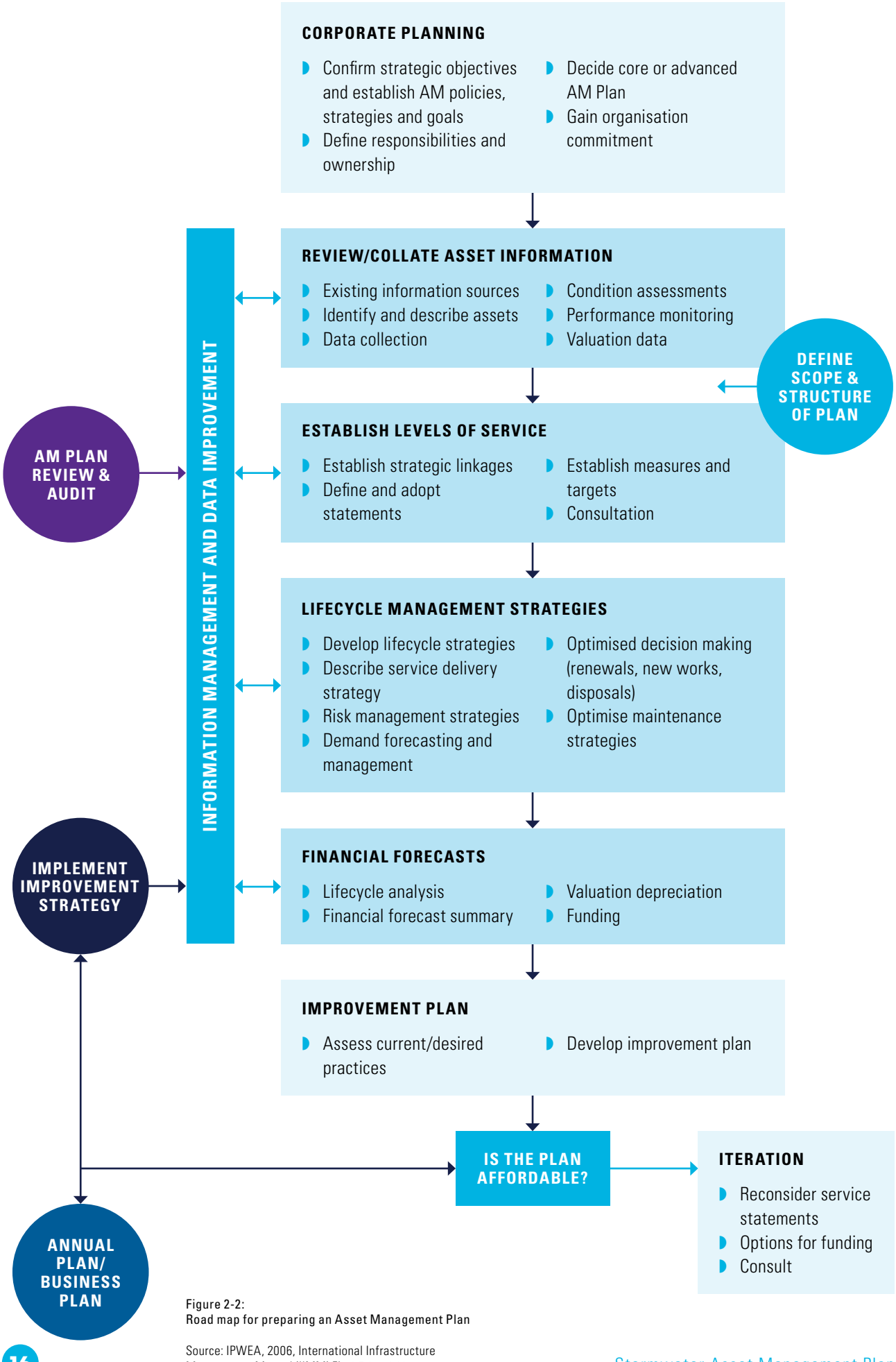


Figure 2-2:
Road map for preparing an Asset Management Plan

Source: IPWEA, 2006, International Infrastructure Management Manual (IIMM) Fig 1.5.1, p 1.11

2.4 Core and Advanced Asset Management

The Plan is prepared as a core level maturity over the ten year planning period in line with the International Infrastructure Management Manual (IIMM). Core asset management is a top down approach with analysis applied at a network level.

The Plan is prepared to meet legislative and organisational requirements for sustainable service delivery and long-term financial planning and reporting. The improvement program (Section 8) outlines and prioritises the steps required to an advanced asset management maturity.

3 Levels of Service

3.1 Customer Research and Expectation

Council receives continuous community feedback from a variety of sources including, but not limited to:

- Community enquiries and requests
- Community Plan consultation process
- Council Strategies
- Annual Business Plan and LTFP consultation process
- Project feedback
- Development of the Asset Management Plan
- Customer satisfaction surveys
- Service satisfaction surveys.

This feedback is built into the development of the Plan and the levels of service it aims to deliver.

Through the development of the community levels of service outlined in the Plan, Council will actively survey the community on its assets and associated services to ensure it is delivering on its levels of service. These surveys will be periodically repeated over time as the Council demographics change and new residents move to into Council. Council will develop a benchmark for community levels of service to measure performance against prior to the next review of the Plans.

3.2 Legislative Requirements

Council must meet many legislative requirements including Federal and State Government legislation and regulations as well as non-legislative requirements including Australian Standards and Council policies as contained in Table 3-1.

LEGISLATION	REQUIREMENT
Aboriginal Heritage Act 1988	An Act to provide for the protection and preservation of the Aboriginal heritage; to repeal the Aboriginal and Historic Relics Preservation Act 1965 and the Aboriginal Heritage Act 1979; and for other purposes.
Australian Accounting Standards	Standards applied in preparing financial statements, relating to the valuation, revaluation and depreciation of stormwater assets.
Development Act 1993	Regulates the use and managements of land and buildings including their design and construction, ongoing maintenance, and conservation of land and buildings where appropriate.
Environment Protection Act 1993	An Act to provide the protection of the environment; to establish the Environment Protection Authority and define its functions and powers; and for other purposes. Consideration of this act should be undertaken for the provision, development or management of stormwater.
Local Government (Stormwater Management) Amendment Act 2007	Outlines the Stormwater Management Agreement between State and Local Governments, establishment of the Stormwater Management Authority and preparation of Stormwater Management Plans.
Local Government Act 1999	Sets out role, purpose, responsibilities and powers of local governments including the preparation of long term financial plan supported by asset management plans for sustainable service delivery.
National Construction Code 2014	Sets out minimum standards for stormwater management for property development.
Landscape South Australia Act 2019	An Act to promote sustainable and integrated management of the State's natural resources; to make provision for the protection of the State's natural resources.
Work Health & Safety Act 2012	An Act to provide for the health, safety and welfare of persons at work; and for other purposes.

Table 3-1: Legislative requirements

3.3 Current Level of Service

Levels of service are a key business driver and influence all asset management decisions. It describes:

- The outputs Council intends to deliver to customers.
- The service attributes such as quality, functionality and capacity.
- The performance measures.

Performance measures are used to indicate how Council is doing in relation to delivering levels of service.

Council has defined two levels of service categories:

- Community Levels of Service – measures the service the community expects.
- Technical Levels of Service – measures the service the organisation provides.

Community levels of service measure the community's perception of Council's service performance, while the technical levels of service measure against technical indicators of performance.

Council's desired level of service is the technical level of service as a minimum. The level of service will be constantly monitored and reviewed with the introduction of the community survey to develop community level of service key performance indicators (KPIs). It's anticipated the next review will be in four years. Council's levels of service are captured in Table 3-2.

COMMUNITY LEVELS OF SERVICE

PERFORMANCE MEASURE		LEVEL OF SERVICE OBJECTIVE	PERFORMANCE MEASURE	KPI	2020
	Quality	The stormwater network is well maintained	Community survey on the quality of stormwater assets	KPI based on survey	Survey to set baseline
	Function	Asset to meet service needs – 'fit for purpose'	Community survey on the functionality of stormwater (sustainably and efficiently managing stormwater runoff)	KPI based on survey (see improvement program)	Survey to set baseline

TECHNICAL LEVELS OF SERVICE

PERFORMANCE MEASURE		LEVEL OF SERVICE OBJECTIVE	PERFORMANCE MEASURE	KPI	2020
	Condition	Physical state of stormwater assets in a serviceable condition	Average condition of stormwater assets	Equal or less than condition rating 3	3.1
	Renewal	Sustainably managing the renewal of assets	Asset Renewal Ratio	90%–100%	104%
	Capacity and Utilisation	Stormwater assets have the capacity to meet the community need	Property flooding incidents for a ten-year AIR rain event	0 property flooding reports for events under 1:10	0
	Safety	Safety compliance standards are achieved	Number of injury or accidents	0 accidents attributed to infrastructure capacity and condition	0

Table 3-2: Levels of service

3.4 Stormwater Standards

Council aims to achieve service standards consistent with the Australian Rainfall and Runoff (ARR) Guidebook 2019.

The guidebook is nationally regarded as the leading text in the design of stormwater networks and systems providing guidance for the design of underground stormwater systems and above ground overland flow paths under the major/minor flow principle.

This standard relates to the capacity of the assets to effectively cater for storms taking place at regular estimated intervals. Typically storms occurring more frequently create less runoff than storms of lower frequency. The major/minor drainage flow concept is the commonly accepted stormwater management approach and it is the approach adopted by Councils within South Australia and Australia.

Minor (Underground) System

The aim of the minor system of pits and pipes is to remove surface stormwater flows from the road and convey them underground to the appropriate outlet system. Generally, the minor system will be designed to cater for the flows of the 20% Annual Exceedance Probability (AEP) or five-year Annual Recurrence Interval (ARI) storm event. However, in flatter areas with minimal surface grade it may not be possible to achieve this design requirement.

Council aims to achieve the following design criteria as the minimum service standard for the installation of new drainage systems or the upgrade and replacement of existing systems for 20% AEP (five-year ARI) storms:

- Gutter flow width to be no greater than 2.5m (the width of water measured from the face of the kerb towards the centre of the road).
- Gutter flow width at pedestrian crossings to be no greater than 1.0m.
- Hydraulic grade line (HGL) to be a minimum of 150mm below the water table.

Major (Overland) System

The major system is typically comprised of the road and footpath areas up to the property boundary lines. The aim of the major system is to safely convey all stormwater overland to the appropriate outlet point without inundating properties for all events up to and including a 1% AEP storm (100-year ARI).

In all new developments this is the minimum design standard for the major system, with minimum freeboard (distance between top of flood water and house floor levels) to be no less than 200mm. In some existing areas it's not possible to cater for this overland flow within the road reserve. In this case (if possible) the minor system may be designed to a higher standard to reduce the overland flow.

4 Future Demand

The community's demand for services changes overtime. The reason for change can be varied, some of the common drivers are population, demographics, environment and technology.

As service demand changes, Council's assets may also need to change to meet the changing demand. A summary of Council's forecast demands and how these are proposed to be managed is contained in Table 4.1.

CURRENT POSITION	DEMAND FORECAST	DEMAND IMPACT
POPULATION AND DEMOGRAPHICS		
Increased housing density with 38.6% of dwellings are medium density compared to 23.9% for Greater Adelaide.	The higher than average provision of medium density housing (38%) is anticipated to further increase in the next 30 years.	Greater impervious areas through increased infill development has the potential to cause local flooding problems.
CLIMATE CHANGE		
Council and the community are increasingly aware of our impact to the environment and Council's role in environmental sustainability.	Council is committed to pursuing, supporting and creating an environment that will sustain current and future generations. This goal is shared by our community and is a primary objective of most governments across the world.	We are committed to using fewer of our precious resources, reducing our carbon footprint and looking for smarter ways to achieve this objective.
Increase of severe weather events including droughts, storms and storm surges.	Severe weather events continue to increase based on current trends.	More intense rainfall events are likely to place increased pressure on the drainage network to carry larger volumes of stormwater runoff.
TECHNOLOGY		
Testing new research and technologies being developed for stormwater management.	Looking for efficient and effective ways to improve stormwater management.	Taking advantage of opportunities through studies and grants to progress stormwater management technology.

Table 4-1: Future demands

DEMAND MANAGEMENT PLAN	IMPACT ON ASSETS
Deliver Council's 4 Year Delivery Plan, Strategy 2.4a – Increase stormwater management improvements in a minimum of 40 streets. Implementation of Brownhill Keswick Creek (BHKC) Stormwater Management Plan (SMP) and Sturt River SMP to manage catchment flows. Planning controls to reduce property damage through flood events and enforcing onsite stormwater detention to predevelopment levels.	Delivering stormwater management improvements including water sensitive urban design (WSUD) initiatives (raingardens, tree wells) as well as infrastructure expansions through the capital works program. Opportunities to be identified through capital planning to include stormwater benefits across the program. New and renewal capital budgets to be used to implement SMPs.
The Environmental Sustainability Strategy 2016-2020 is the lead strategy implementing the Greening goals identified in the Community Plan 2033. The Environmental Sustainability Strategy 2016-2020 priority of Waterwise Unley promotes the efficient, effective and sustainable water management and increasing resilience to change in climate. The City of Unley have aligned with Resilient East provides opportunities for the eastern region to collaborate to increase our resilience to climate change. Council is developing a Climate and Energy Plan to be endorsed in 2020/21.	The environmental strategy provides principals for the delivery of new and renewal of assets, these include: ◗ Natural and renewable materials used in the construction and manufacture of stormwater assets. ◗ Water Sensitive Urban Design (WSUD) principals to be implemented (for example, stormwater diversions for watering street trees, bio swales, rain gardens). ◗ Continue the expansion of our recycled water (MAR) networks and the use of recycled water.
Potential for design standard definitions change through the increase rainfall intensity. This will decrease the standard currently in place for our existing infrastructure.	In future, as definitions change, larger pipes may be required to meet the same design standard. Upgrading current capacity of current systems may also be required.
Using new technologies to control stormwater flows within catchments to eliminate localised flooding. Funding received from Department of Environment and Water for the introduction of detention to delay flows and the use of smart tanks.	A study has been undertaken in the Fullarton stormwater catchment. Outcomes of this research have the potential to impact the strategies and techniques used to manage stormwater more effectively.

5 Lifecycle Management

5.1 Background

Lifecycle management details how Council plans to manage and operate (from planning to disposing) its stormwater assets at the agreed level of service while optimising total cost of ownership at an appropriate level of risk.

This section outlines the stormwater asset data (condition, valuation, revaluation, useful life) and processes needed to effectively manage, renew and upgrade the infrastructure assets.

Significant time is spent on the decision to create or acquire a new asset, likewise financial costs of maintaining an asset from creation to disposal or replacement will need to be planned. New assets require initial expenditure; however, the required financial commitment for the asset's lifecycle costs can be up to five times the initial expenditure.

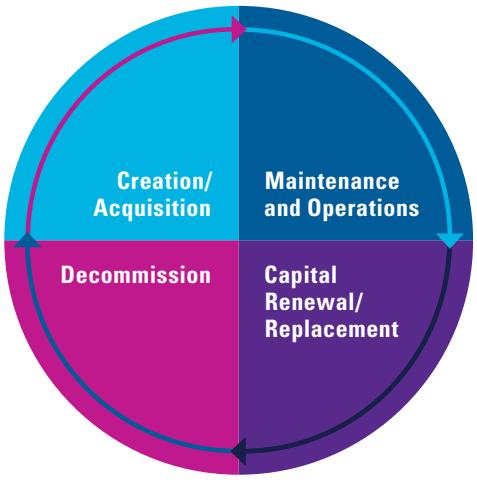


Figure 5-1:
Asset lifecycle flowchart

The cost of an asset lifecycle can be divided into four major stages:

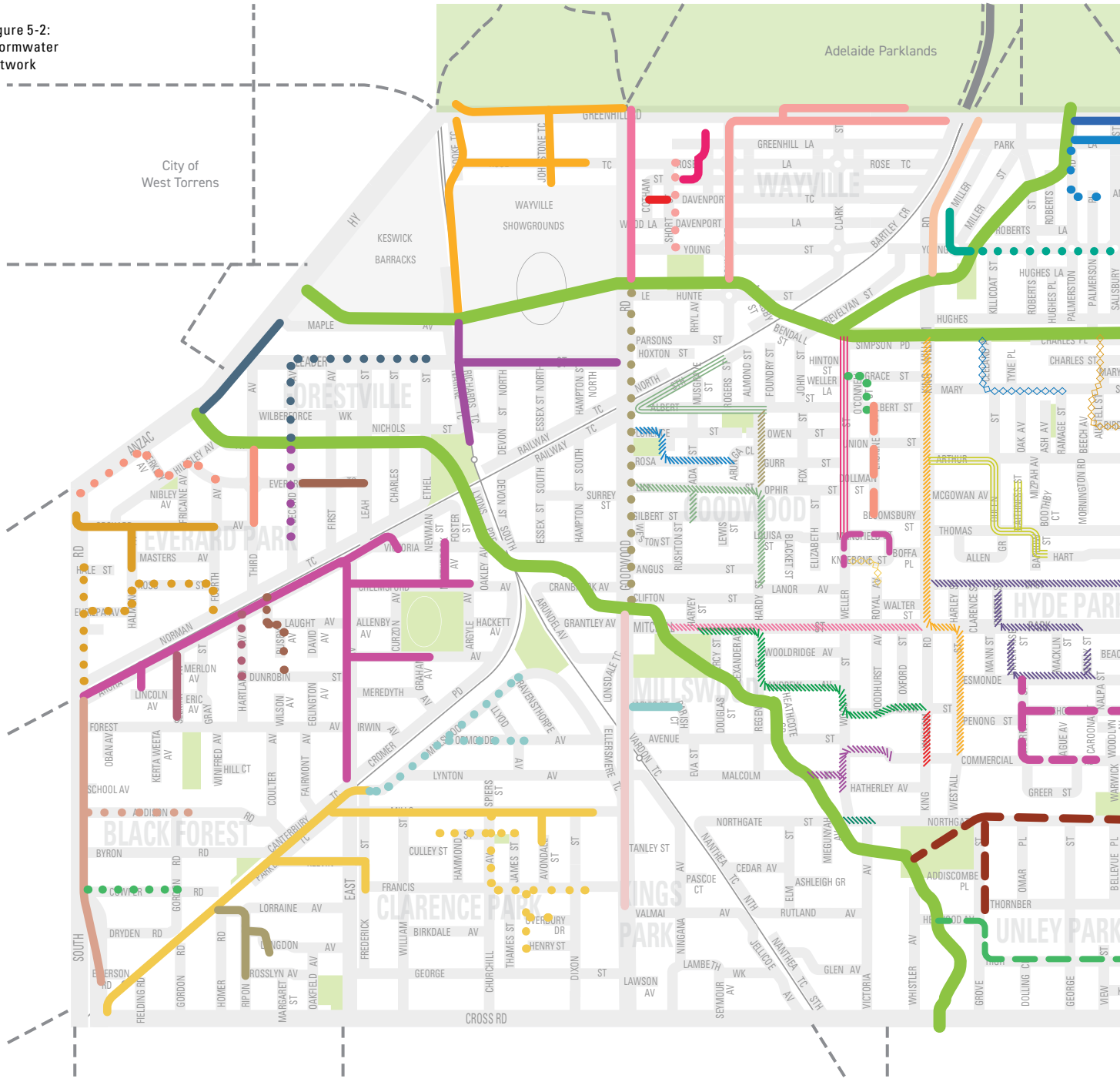
- Creation/Acquisition (Planning, Design/ Procurement, Construction)
- Maintenance and Operations (Operate, Maintain, Monitor)
- Capital Renewal/Replacement (Requirements/Specifications, Upgrade/ Modify, Replace)
- Decommission (Trigger, Decommission, Disposal)

These major stages are further detailed in this Lifecycle Management section.

Variability of these stages also exists within different stormwater categories, as function may influence the renewal versus replacement strategies.

The major stages can be further divided into specific processes as listed in Figure 5-1.

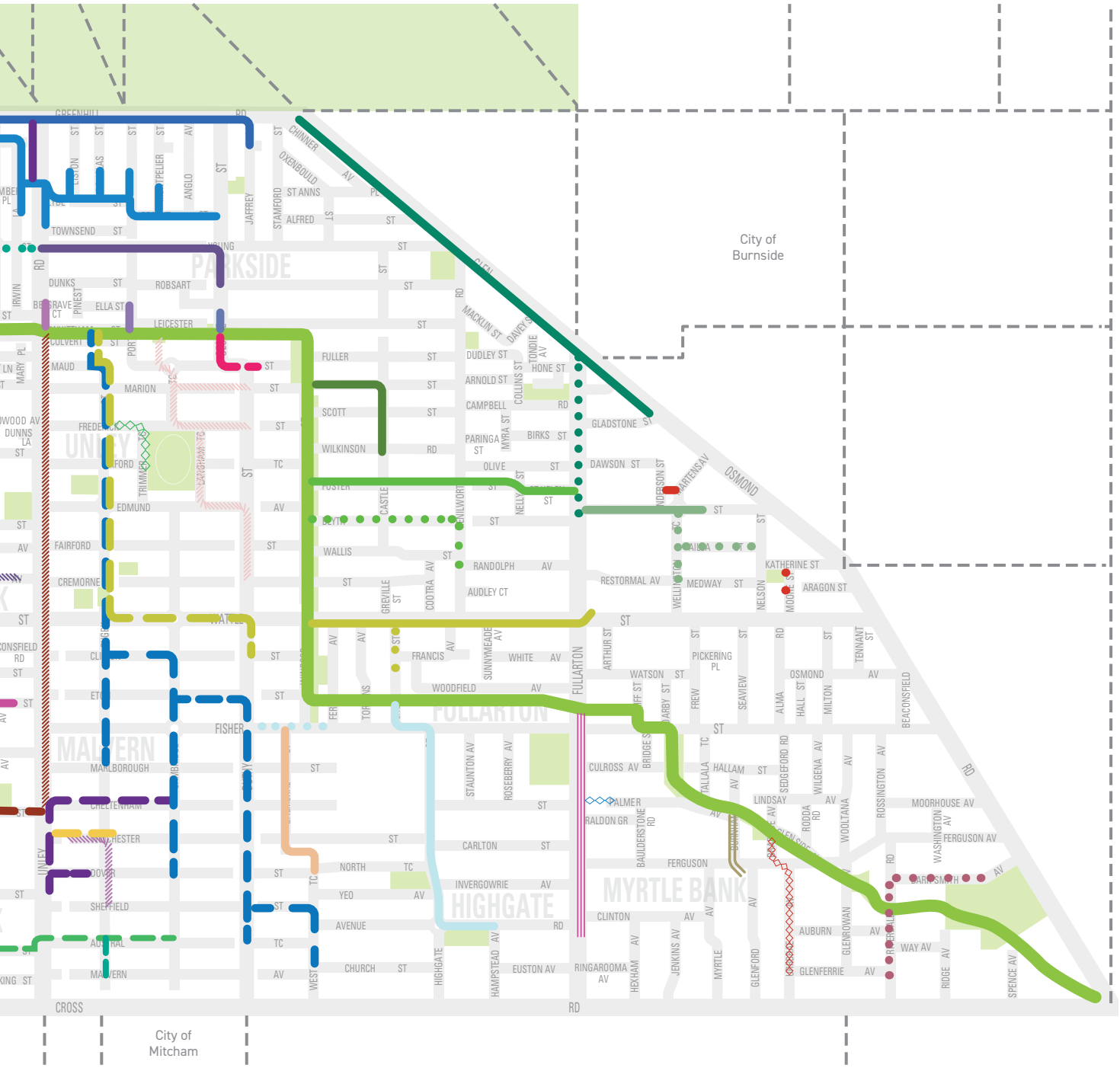
Figure 5-2:
Stormwater
network



COUNCIL STORMWATER DRAIN

LEGEND

- Drain 199 Greenhill Rd
- Drain 83 Goodwood Rd
- Drain 79 Greenhill Rd
- Drain 63 Short St
- Drain Cotham St
- Drain 62 Greenhill Ln
- Drain 186 King WIlliam
- Drain 184 Miller Pl
- Drain73 Mainsfield
- Drain 73 O'Connell
- Drain 73 Erskine St
- Drain Royal Ave
- Drain 185 Young St
- Drain 177 Palmerston
- Drain Unley Road
- Drain 176 Greenhill
- Drain 173 Unley Rd
- Drain Young St
- Drain 54 George St
- Drain Porter St
- Drain 68 Mary St
- Drain 65 Austell Ave
- Drain Mcgowan Ave
- Drain 73 Weller St
- Drain Unley Rd
- Drain 170 Glen Osmond
- Drain 91 Fullarton
- Drain F Castle St
- Drain 43 St Helens
- Drain E Kenilworth
- Drain 37 Wattle St
- Drain Cross St
- Drain 59 Wattle St
- Drain 59 Trimmer Tc
- Drain G & Associate
- Drain 55 Maud St
- Drain Florence St
- Drain Wellington S
- Drain Martins Ave
- Drain Aragon St
- Drain 30 Ave Rd
- Drain Fisher St
- Drain 36 Balmoral
- Drain 03A Anzac H
- Drain 60-1 Unley F
- Drain 116 Northga
- Drain L High St
- Drain Rugby St



IAGE ASSET PLAN

NORTH

- Drain3 Ethel St
- Drain 84 Nichols St
- Drain 06A Second Ave
- Drain 06 Leah St
- Drain 05 Third Ave
- Drain 10 Anzac Hwy
- Drain 11 South Rd
- Drain 12 South Rd
- Drain Northgate St
- Drain N Enterprise
- Drain N Commercial
- Drain 60 Unley Rd
- Drain 165 Laught Ave
- Drain P Selkirk Ave
- Drain 87 Hartland
- Drain 165 Laught Ave
- Drain 165-1 South Rd
- Drain 165-2 701 Addis
- Drain 152 Mills St
- Drain 151 Hnery Ln
- Drain Andrew Ave
- Drain Jasper St
- Drain Northgate
- Drain 61 Rugby St
- Drain 135 Goodwood
- Drain 135 Jarvis St
- Drain 150 Millswood
- Drain 53 Ripon Rd
- Drain 80 Goodwood Rd
- Drain 85 Albert St
- Drain Arunga Close
- Drain 87 Hardy St
- Drain 86 Rosa St
- Drain 133 Westall
- Drain 70 King William
- Drain Winchester St
- Drain 27 Fullarton
- Drain 18 Urbrae Ave
- Drain 20 Burnham Ave
- Drain Palmer Ave
- Drain 3 Barr-Smith
- Creek water course

Figure 5-2: Stormwater network

5.1.1 Physical Parameters

Figure 5-2 contains Council's underground drainage network and Council is traversed by four creek systems:

- Parklands Creek (north)
- Glen Osmond Creek (south-east)
- Keswick Creek (Parkland Creek and Glen Osmond Creek merge to form Keswick Creek)
- Brown Hill Creek (south)

Ownership of the creeks is either with Council or the individual property owners as per their Certificate of Title. The concrete lining of creeks is a Council owned asset and Council has easements in place or is formalising the rights of entry for all concrete lined creeks within private land (improvement program item 12).

Council has two Managed Aquifer Recharge (MAR) schemes for the harvest and use of recycled water, reducing Council's dependency on River Murray water.

The Ridge Park MAR is used to harvest water from Glen Osmond Creek, which runs through the southern portion of Ridge Park. The Ridge Park MAR scheme and reticulation system allows for the capture, filtration and injection of up to 60ML per annum of harvested water into a fractured rock aquifer. The scheme involves extraction of water from Glen Osmond Creek, which is treated through a bioretention system and mechanical filters and stored in the aquifer. The water is then recovered to irrigate Fraser Reserve, Ferguson Avenue Reserve, Ridge Park, Scammell Reserve, Fullarton Park, Fern Avenue Reserve, Windsor Street Linear Park and biodiversity trail, Henry Codd Reserve and Unley Oval.

The Heywood Park MAR is used to harvest water from Brownhill Creek, which runs through the south west corner of Heywood Park, during the wetter seasons. The harvested water is treated through mechanical filters and up to 35ML per annum is injected into the aquifer for storage before being extracted during the dryer seasons to supply water for irrigation of Heywood Park, Soutar Park and Orphanage Park.

Under Section 105 of the Landscape South Australia Act 2019, the two MAR schemes will have restricted conditions for injection and extraction volumes from 1 July 2022. Council is undertaking a MAR improvement program in 2020/21 and 2021/22 to increase the performance of the MAR schemes in terms of water quality, capacity and control.

5.1.2 Asset Condition

The objective of a condition assessment is to provide sufficient information on asset condition to allow informed strategic asset planning and asset management decisions to be made. The condition rating is based on the 2017 stormwater condition assessment.

The next asset condition assessment and revaluation is to be completed in 2020/21.

Stormwater asset condition is measured using a 1-5 rating system summarised in Table 5-1, where condition rating 1 relates to assets in very good condition and rating 5 relates to assets in very poor condition.

The overall rating (based on the 2017 condition assessment) of Council's stormwater assets is contained in Figure 5-3, which identifies:

- 38% of assets do not require intervention.
- 21% of assets to be assessed for maintenance requirements.
- 41% of assets to be assessed for renewal/ replacement requirements.

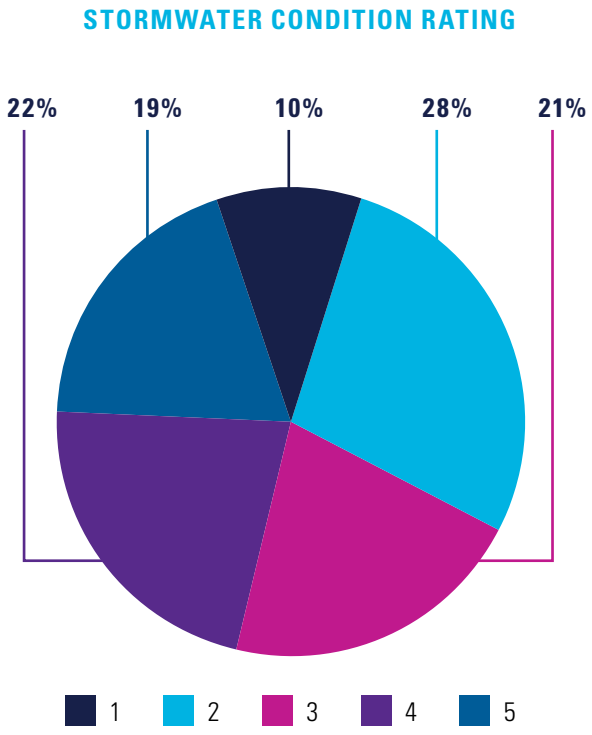


Figure 5-3: Stormwater Condition

RATING	CONDITION	CONDITION DESCRIPTION	ACTION
1	Very Good	A new or near new asset with no visible signs of deterioration.	No action required
2	Good	Early stages of minor deterioration causing no serviceability problems.	Minor defect only, no action required
3	Fair	Some obvious deterioration evident. Serviceability may be impaired slightly.	Maintenance required to sustain the level of service
4	Poor	Severe deterioration evident, starting to limit the serviceability of the asset.	Consider renewal
5	Very Poor	Serviceability problems needing immediate rehabilitation. Possible risk to remain in service.	Replace/dispose

Table 5-1: Asset condition rating

Asset condition rating are shown in Table 5-2 by asset category. The average rating can be used as a benchmark for measuring against the stormwater category desired level of service.

ASSET CATEGORY	AVERAGE CONDITION RATING	TARGET CONDITION
Creeks	3.3	≤ 3.0
Recycled Water	Not available*	≤ 3.0
Stormwater Management	Not available*	≤ 3.0
Stormwater Pipes	2.6	≤ 3.0
Stormwater Pits	3.4	≤ 3.0
TOTAL	**3.1**	**≤ 3.0**

Table 5-2: Asset Category Condition

*Not available due to assets being created and capitalised after the last condition assessment.

The overall condition rating is 3.1 with creeks (3.3) and stormwater management (3.4) both outside of the condition KPI of less than condition 3 (Fair). Council is undertaking a condition assessment and revaluation of the stormwater asset class in 2020/21 to increase the maturity and confidence for the condition data of the stormwater network. This will inform our future programs to meet the KPI.

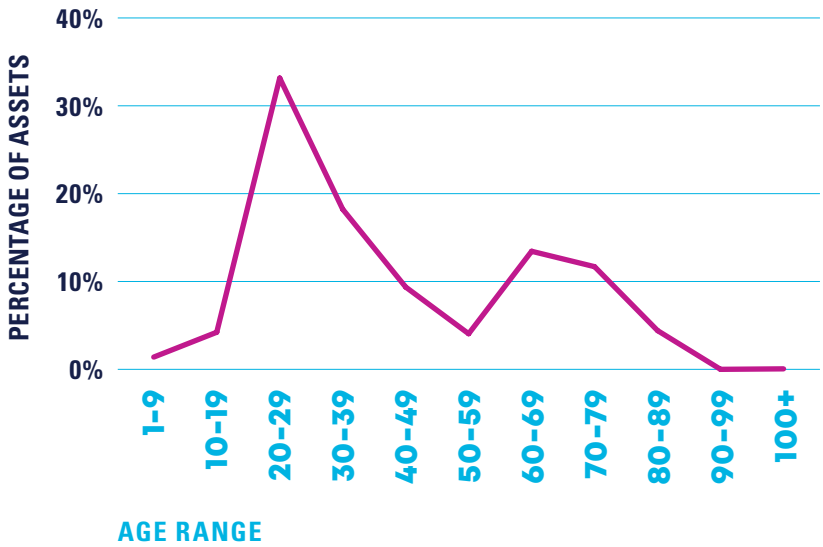
Stormwater assets are generally located underground and difficult to visually inspect. The age distribution can provide an indication of condition to inform upcoming renewals. The stormwater age distribution is depicted in Figure 5-4, the data indicates:

- 4% of the asset portfolio is over 80 years old (majority are creeks) and will be monitored for signs of deterioration.
- 25% of the stormwater assets (pipes, pits, creeks) were constructed 60–80 years ago. This will likely see a major increase in renewals in 20–40 years.
- Stormwater pipes and pits are considered to have useful service lives of 100 years, which are based on an estimated structural life and generally consistent with other metropolitan Councils.

The Plan's improvement program includes frequent condition assessments to collect data to provide confidence, inform accurate useful life expectations and postpone replacement/renewal works on functional assets. A combination of frequent inspections and maintenance is used to extend the life of stormwater assets beyond their design life. Following the next condition assessment, Council will review the useful lives for stormwater assets.

STORMWATER AGE DISTRIBUTION

Figure 5-4: Stormwater age distribution



5.1.3 Useful Life

A summary of useful life is further defined into asset groups in Table 5-3:

ASSET CATEGORY	ASSET GROUP	ASSET COUNT	USEFUL LIFE (YEARS)
Creeks	Open Channel – Concrete lined	3.1km	100
Creeks	Open Channel – Natural	2.1km	N/A
Creeks	Open Channel – Trapezoidal earth part concrete lined	1.6km	100
Creeks	Open Channel – Trapezoidal part stone lined	0.5km	100
Creeks	Box Culvert	3.2km	80
Creeks	Reinforced Concrete Pipe	1.2km	80
Recycled Water	MAR	5	40–50
Stormwater Management	Stormwater Management	7	35–100
Stormwater Pipes	Box Culvert	1.9km	80
Stormwater Pipes	Open Channel	0.4km	80
Stormwater Pipes	Pipes	76.9km	100
Stormwater Pits	Grated Inlet Pit	88	80
Stormwater Pits	Headwall	6	80
Stormwater Pits	Junction Box	553	80
Stormwater Pits	Letter Box Sump	11	80
Stormwater Pits	Side Entry Pit	1,663	80

Table 5-3: Asset useful life

The impact of climate change on infrastructure assets useful life is not yet quantified and may continue to change as increased temperature, heatwaves, higher storm and rainfall intensities will increasingly affect the useful life of infrastructure at a material level. These impacts have been identified in risk management and future demands.

5.1.4 Asset Valuation

Valuations are undertaken in alignment with Australian Accounting Standard 'AASB13 Fair Value', and 'AASB116 Property Plant and Equipment'. These valuations are required every three to five years, with an independent audit required every five years. Valuations are undertaken to satisfy the financial reporting requirements and to understand the cost to replace assets.

The valuation of Council's stormwater assets is summarised in the Table 5-4.

ASSET CATEGORY	CURRENT REPLACEMENT COST	ACCUMULATED DEPRECIATION	WRITTEN DOWN VALUE
Creek	$27,408,857	$17,186,592	$10,222,265
Recycled Water System	$4,252,865	$529,918	$3,722,947
Stormwater Management	$6,005,451	$578,389	$5,427,062
Stormwater Pipe Stormwater Pit	$52,335,273	$24,225,936	$28,109,337
TOTAL	**$90,002,447**	**$42,520,835**	**$47,481,612**

Table 5-4: Stormwater Assets Valuation

5.1.5 Historical Expenditure

The maintenance budget has increase annually due to CPI and the asset portfolio growing in size, complexity and age. The renewal expenditure decreased for one year in 2019/20 to accommodate for cross category expenditure. A majority of the new capital expenditure has been allocated to the Brown Hill Keswick Creek Project (see Section 5.4.1). The historical expenditure for the last five years is contained in Figure 5-5.

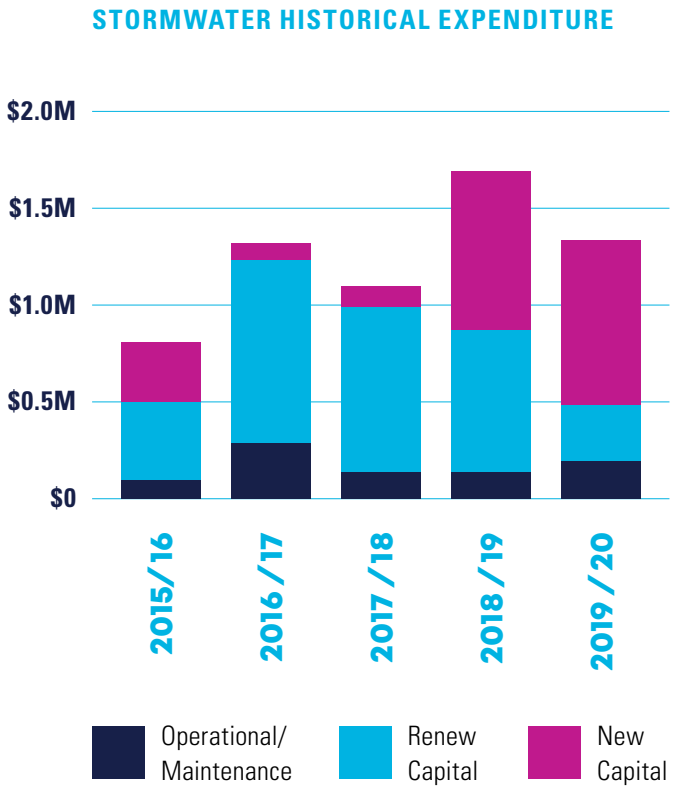


Figure 5-5: Historical expenditure

5.2 Operations and Maintenance Plan

5.2.1 Operations and Maintenance Strategies

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

As the years progress, the maintenance budget is projected to increase due to CPI and an asset portfolio growing in size, complexity and age.

Council's civil works and response team undertake maintenance for the physical structure and service of the stormwater network including creeks, stormwater pits (pit cleaning and street sweeping), stormwater pipes (cleaning and CCTV inspections) and stormwater management devices. The MAR schemes are largely automated through the SCADA (supervisory control and data acquisition) system, setting the operational parameters and in part through manual operation managed by Council.

In 2020/21 Council will conduct a review of all Depot operations in terms of levels of service to identify operational and financial efficiencies.

This review will be inclusive of all levels of service and processes to identify opportunities for efficiencies across all key depot operations including:

- Civil works
- Response and signage
- Open Space, Parks and Recreation
- Arboriculture

The outcomes of this service review may impact the operational and maintenance forecast with any changes made to be reflected in the LTFP following the conclusion of the review.

5.2.2 Summary of Future Costs

Figure 5-6 outlines the forecast of planned and unplanned operations and maintenance works over the next ten years. It has been projected with CPI increase over ten years, which aligns with the LTFP. As Australia is facing economic impacts that will have unknown consequences at this time, the CPI assumptions will change on an annual basis through the LTFP.

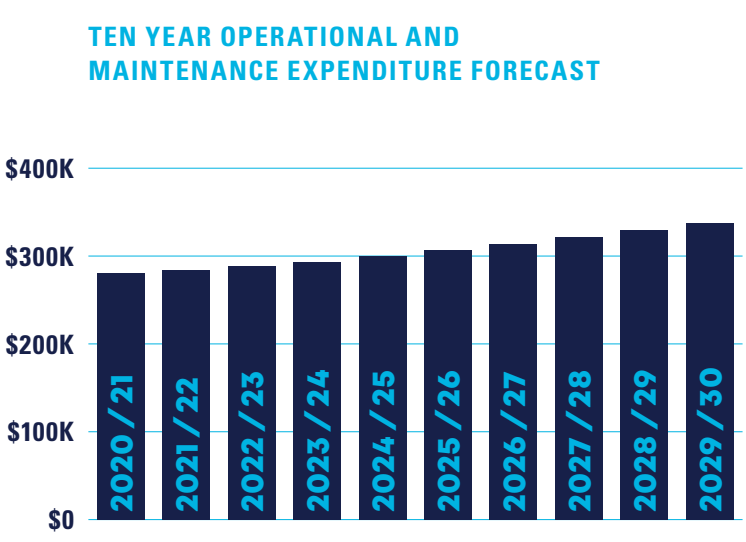


Figure 5-6: Ten Year operational and maintenance expenditure forecast

5.3 Renewal Plan (Capital)

Asset renewal is the replacement or refurbishment of an existing asset to return it to the modern standard equivalent performance and level of service. Renewal planning is necessary to ensure adequate funding is available, and assets are replaced at an optimum time to maintain the level of service.

5.3.1 Renewal Identification

Projected future renewal expenditures are forecast to increase over time as the asset portfolio grows in size, complexity and age.

Renewals are programmed across asset classes using the following methods:

1. Forward projection based on historic expenditure.
2. Broad estimates based on replacing assets at the end of their useful lives.
3. Predictive modelling of varying degrees of complexity.
4. Bottom-up approach with a high confidence in asset data. Projects are identified via asset monitoring, prioritised and allocated.

These methods increase in sophistication, which is reflected by the data confidence level.

5.3.2 Renewal Strategies

Renewal works identified in terms of renewal strategies may be deferred if the cost is beyond the current financial ability to fund it. This can occur when there are higher priority works on other asset groups. 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 in the longer term.

Renewals are primarily programmed based on condition, however early implementation of renewal may be undertaken for upgrades and replacements due to changes in standards, safety issues, changes in levels of service, funding opportunities or alignment with external projects, strategies and plans.

5.3.3 Summary of Future Costs

The projected future required renewal expenditure is summarised in Figure 5-7.

The three sets of data in Figure 5-7 include:

- The condition-based renewal bar graph displays the replacement value of assets reaching the end of their useful life based on the 2017 condition assessment.
- The condition-based renewal average line displays the annual budget per year to meet the ten year renewal targets without the extreme variance indicated from the renewal bar graph.
- The LTFP line displays the current LTFP projection based on past asset management plans and asset data.

It is recognised matching condition-based renewal fluctuations from year to year is not generally possible from both a budget and resourcing perspective. Distributing the renewal costs evenly over the ten year timeframe is preferable from a budget and resourcing perspective.

The average annual expenditure for the next ten years:

Renewal projection	$941,000
LTFP	$976,600
Annual depreciation	$1,150,000

The Plan identifies an annual spend of $941,000 for stormwater asset renewal base on asset condition over the next ten years. The annual depreciation in 2020/21 for stormwater is $1,150,000, which indicates an increase will be required in the LTFP spending for stormwater as the asset portfolio ages.

Under current financial planning, the perceived stormwater 2020/21 renewal can be distributed over the next ten years, avoiding a major one-year budget increase. The condition assessment in 2020/21 will prioritise critical or high-risk assets for renewal to inform our future programs.

Council's asset renewal ratio (planned renewal / the Plan's identified renewal) is at 104% over the next ten years. The ratio represents the level of capital expenditure on the renewal of assets (LTFP) relative to the expenditure projected in the Plan.

The current LTFP expenditure is over the budget projection and a decrease of $357,000 to the budget over ten years will be required to maintain a ratio of 100%. Council's target is a 100% average over the next ten years.

STORMWATER TEN YEAR RENEWAL EXPENDITURE FORECAST

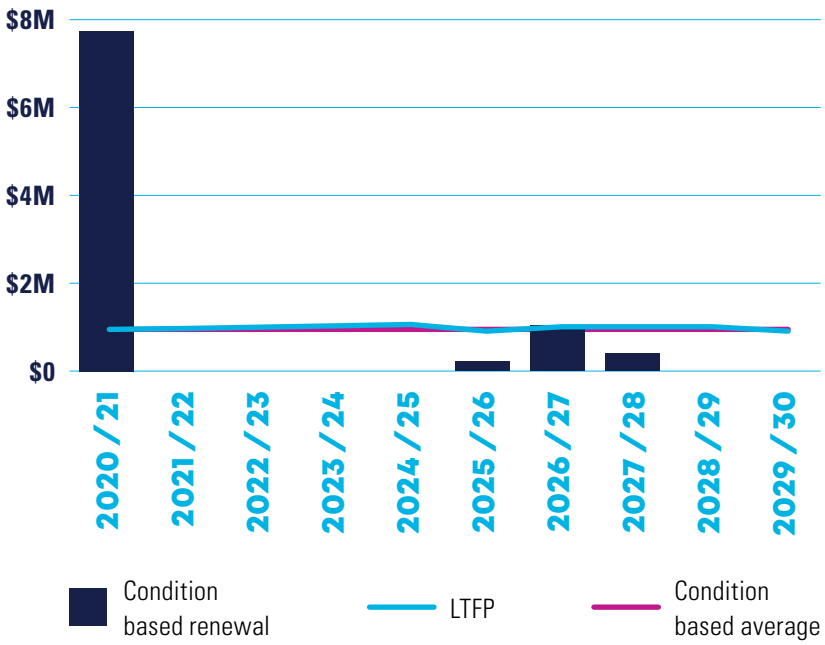


Figure 5-7: Stormwater ten year renewal expenditure forecast

5.4 Creation /Acquisition Plan (New Capital)

New capital relates to new assets or a significantly improved level of service that did not previously exist. They may result from various needs derived from demands such as population growth, environmental and technology change (as mentioned in Section 4).

5.4.1 Capital Investment Strategies

The need for new stormwater assets arises from a variety of sources including community requests, Council resolutions, proposals identified by Council strategies, grant opportunities or partnerships with external organisations. These projects are prioritised each year against all other asset categories and Council proposals.

The Brown Hill Keswick Creek (BHKC) Stormwater Management Plan (SMP) is a collaborative effort between catchment councils the City of Adelaide, the City of Burnside, the City of Mitcham, the City of Unley and the City of West Torrens. The primary objective of the BHKC SMP is to mitigate the risk and reduce the impact of major flooding on properties within the BHKC catchment up to and include a 100-year average recurrence interval (ARRI) flood.

As part of this agreement between catchment councils, Council makes an annual new capital contribution to the project to deliver the SMP. This contribution will continue over the next ten years.

The Sturt River Catchment SMP is being delivered as a collaborative effort between catchment councils the City of Marion, the City of Mitcham, the City of Unley and the City of West Torrens. The Sturt River Catchment SMP is currently in draft form and associated capital works are not included within the new capital projections. Once the SMP outcomes are realised the associated projects and cost will be required to be included within the new capital program and the LTFP.

Along with the two major catchment SMPs, Council has undertaken stormwater studies on its sub-catchments to identify and prioritise stormwater upgrades across the network. The Unley Stormwater Management Plan Strategic Review 2012 has recommended $3.0M worth of high priority upgrade projects. It is recommended these projects are completed within the next ten years. An additional $6.6M medium priority projects and $9.8M low priority projects have been identified, however these are recommended to be deferred due to current funding limitations.

5.4.2 Summary of Future Costs

Figure 5-8 outlines the projected future spend through new capital works for stormwater assets. The known annual contributions from the BHKC SMP are included along with additional priority stormwater projects.

As timing and costs for these projects are still to be confirmed the projection for stormwater assets has been distributed with an average of $1,298,000 per year expected to be budgeted across ten years. These budgets are subject to individual year bids, Council strategies and funding opportunities and are expected to fluctuate year to year.

Council reviews its new capital projects on an annual basis, with one year (2020/21) of works approved through the Annual Business Plan. The projection for the remainder of the ten year renewal is based upon Council's annual priorities for new capital expenditure across Council and the need for new capital across all asset classes based on upcoming projects.

The upcoming new capital projects for the stormwater asset class in the next ten years include:

- BHKC contributions
- Unley Stormwater Management Plan Strategic Review 2012 high priority implementations
- MAR Scheme upgrades.

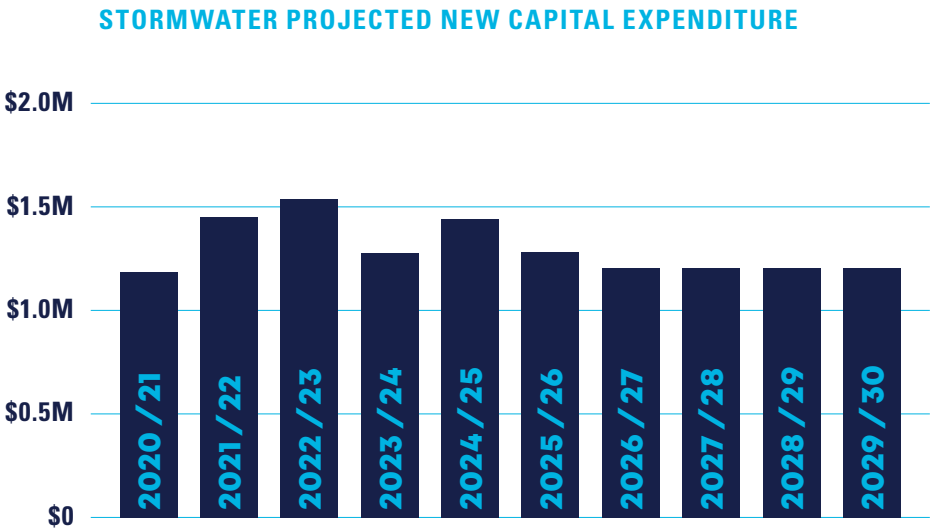


Figure 5-8: Stormwater projected new capital expenditure

5.5 Decommission Plan

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

Decommission of assets can be triggered in the following situations:

- The end of useful life of existing assets.
- Safety factors inherent to the asset.
- Non-compliance of the asset prompting a modern equivalent replacement.

Decommission of assets can involve the following courses of action:

- Design and replacement of the asset with a modern fit for purpose equivalent.
- Removal of the asset with the aim of repurposing the land in line with the long term strategy of Council.

6 Risk Management

6.1 Critical Assets

Critical assets are those assets which have a high consequence of failure but not necessarily a high likelihood of failure. The identification of critical assets and failure modes means investigative activities, condition inspection programs, maintenance and capital expenditure plans can be effectively targeted.

The criticality of underground stormwater assets is increased relative to the above ground infrastructure, the criticality of stormwater below major roads and intersections is higher than assets below local roads.

6.2 Risk Assessment

The process for managing Council's risks is consistent with the International Risk Management Standard ISO 31000:2018. It involves five key steps, additional steps to ensure feedback through a monitoring and review process and appropriate communication and consultation.

Council is committed to effective risk and opportunity management to:

- Improve its ability to deliver community priorities, service delivery and outcomes for Council.
- Maximise opportunities and minimise the impact and likelihood of risk.
- Protect its employees, assets, liabilities and its community by avoiding or mitigating losses.
- Provide greater certainty for its employees, residents, stakeholders and the community in which Council operates by understanding and managing its risks.

Council acknowledges risk management is an essential part of best practice asset management. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for unacceptable risks.

An assessment of risks associated with stormwater assets using Council's risk matrix (Table 6-1), has identified, analysed and evaluated stormwater risks. Table 6-2 outlines Council's risk management for stormwater assets and is to be reviewed annually at a minimum outside of the Plan.

LIKELIHOOD	CONSEQUENCE				
	Catastrophic	**Major**	**Moderate**	**Minor**	**Insignificant**
Rare	MEDIUM	MEDIUM	LOW	LOW	LOW
Unlikely	HIGH	MEDIUM	MEDIUM	LOW	LOW
Possible	HIGH	HIGH	MEDIUM	MEDIUM	LOW
Likely	EXTREME	HIGH	HIGH	MEDIUM	MEDIUM
Almost Certain	EXTREME	EXTREME	HIGH	HIGH	MEDIUM

Table 6-1: Risk matrix

	RISK DESCRIPTION (Event or potential event focused and their impact upon objectives)	INHERENT RISK Level of risk with NO controls in place Consequence	Likelihood	Risk Rating	CONTROLS ALREADY IN PLACE (What existing controls are in place to prevent and/or manage the risk?)
1	**Unsustainable management of assets due to poor quality data within asset management plan.**	Major	Likely	High	Periodic delivery of condition assessments and revaluations in line with industry standards.
2	**Council staff and/or members of the public injured as a result of poorly maintained infrastructure.**	Catastrophic	Likely	Extreme	Annual maintenance budgets. Periodical delivery of condition assessments. Maintenance inspections. Timely response to reported hazards in alignment with the service level agreement.
3	**Council unable to fund required capital and maintenance due to economic downturn.**	Moderate	Likely	High	Maintain strong sustainability ratio to avoid a backlog of capital works. Ability to fund capital program through borrowings. Ability to reduce levels of service.
4	**Climate change not appropriately planned for with respect to asset management.**	Major	Likely	High	High level targets are set through the objectives and targets within the Environmental Sustainability Strategy.
5	**Property flooding due to insufficient stormwater capacity.**	Major	Likely	High	Implementation of network upgrades through the stormwater management plan (SMP), prioritising locations of high risk. Working together with neighbouring councils through the SMPs to develop a holistic solution within the BHKC and Sturt River catchments.
6	**Blockages in critical infrastructure causing flooding and property damage.**	Major	Possible	High	Street sweeping program to minimise leaves and debris entering the underground stormwater system. Cyclic cleaning program of pits.
7	**Collapse of major pipe or culvert.**	Catastropic	Possible	High	Proactive structural age-based inspections to inform appropriate management of critical assets.

Table 6-2: Stormwater risks

Are the Controls effective at managing the risk?	RESIDUAL RISK Level of risk if existing controls are effective Consequence	Likelihood	Risk Rating	Is the Residual Risk Rating Tolerable?	TREATMENTS/ADDITIONAL CONTROLS (Additional controls that can be implemented to further reduce the level of risk)	TREATMENT OWNER & TIMING (Who is responsible for implementing the treatment and when it should be implemented/ completed)	RISK LEVEL AFTER TREATMENTS If treatments implemented are effective Consequence	Likelihood	Risk Rating
Partially effective	Major	Possible	High	No	Continuous improvements in asset management maturity and activities through the improvement program.	Assets and Operations and Finance & Procurement See improvement program (Section 8.2)	Major	Unlikely	Medium
Majority effective	Catastrophic	Unlikely	High	No	Continuous improvements in asset management maturity and activities through the improvement program.	Assets and Operations and Finance & Procurement See improvement program (Section 8.2)	Catastrophic	Rare	Medium
Majority effective	Moderate	Rare	Low	Yes	N/A	N/A	N/A	N/A	N/A
Partially effective	Major	Possible	Medium	No	Climate change addressed in the Plan with respect to Councils impact on the environment as well as the environments impact to councils' assets. Include climate change as a considered factor throughout the Plans, outlining the impact and associated demand on assets. Address assets within Climate and Energy Plan.	Assets & Operations Ongoing as asset management plans and council strategies are updated	Major	Rare	Medium
Majority effective	Major	Unlikely	Medium	Yes	N/A	N/A	N/A	N/A	N/A
Majority effective	Moderate	Unlikley	Medium	Yes	N/A	N/A	N/A	N/A	N/A
Partially effective	Catastrophic	Unlikely	High	No	Increase the inspection frequency through CCTV.	Assets & Operations Ongoing through annual program planning for CCTV	Catastrophic	Rare	Medium

7 Financial Summary

This section contains the financial requirements resulting from all the information presented in Section 5 of the Plan. The financial projections will be refined as part of the ongoing revision of the Plan.

7.1 Valuation forecast

Asset values are projected to increase as additional assets are added through capital works. Additional assets will generally increase the operational and maintenance requirements in the longer term, as well as the need for renewal. Additional assets will be included for future depreciation forecasts.

7.2 Expenditure forecast

Figure 7-1 outlines the financial projections for maintenance and capital renewal and capital new expenditure for the stormwater asset class.

The total forecast expenditure for stormwater assets is relatively constant over the ten year period. The predictability of this budget allows Council to undertake capital programs as and when required in each year.

7.3 Asset Renewal Funding Ratio

This ratio indicates whether Council has the financial capacity to fund asset renewal at continued existing service levels. Council's target is a 100% average over the next ten years.

ASSET RENEWAL FUNDING RATIO – STORMWATER: 104%

This ratio is an important budget indicator over the next ten years. Council's LTFP has budgeted 104% of funds identified in this plan for the optimal renewal and replacement of stormwater assets. A decrease of $357,000 to the renewal budget over ten years is required to maintain a ratio of 100%.

STORMWATER TEN YEAR FORECAST EXPENDITURE

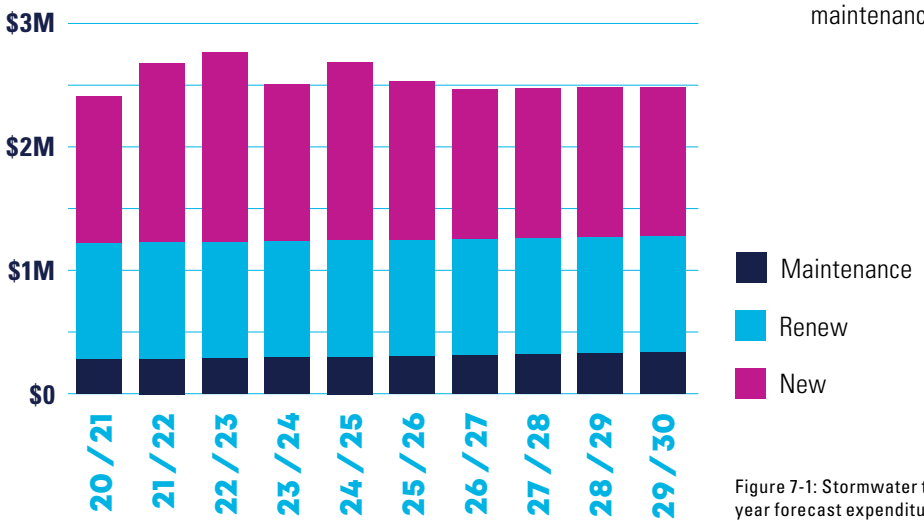


Figure 7-1: Stormwater ten year forecast expenditure

7.4 Funding Strategy

Key strategic milestones:

- The Plan will inform Council's future LTFP.
- The next major condition assessment and revaluation will be in 2020/21 and inform future renewal strategies.
- The Depot operations service review will be undertaken in 2020/21, which will inform future maintenance and operating budgets.

Repayment of existing loans has been extracted from the current loan schedule. The LTFP assumption indicates no additional funding through borrowings is required to meet new capital commitments in the future. The Local Government Finance Authority Cash Advance Debenture (CAD) Facility will continue to be used to balance funding requirements in terms of borrowing.

The projected expenditure is to be funded from Council's operating, maintenance and capital budgets.

7.5 Key Assumptions

The assumptions and data used in presenting this forecast information were:

- Replacement costs derived from the fixed asset register in Technology One asset database.
- Condition data derived from stormwater condition assessment 2017.
- Key financial assumptions derived from LTFP 2020/21.
- Operation funding will be made without reduction.
- Capital funding will be made without reduction.
- Appropriate resources will be made available to manage the Plan.
- Council income will remain consistent with LTFP.
- There will be no natural disasters.

7.6 Forecast Reliability and Confidence

CONFIDENCE LEVEL	DESCRIPTION
A – Highly Reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Data set is complete and estimated to be accurate +-2%.
B – Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, e.g. some of the data is old, some documentation is missing and /or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate +-10%.
C – Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +-25%.
D – Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy +-40%.
E – Unknown	None or very little data held.

Table 7-1: Data confidence level

The expenditure projections are based on the best available data. Data confidence is critical for an accurate expenditure projection. As new data becomes available, the forward plans will be updated. There are five levels that measures data confidence.

It's naturally difficult to visually inspect underground stormwater assets, bringing a level of uncertainty to the data confidence. Council's stormwater asset data confidence is currently (C) Uncertain across condition, spatial and financial data. This risk will be controlled through periodically assessing sections of the underground network through CCTV based on risk and criticality. The improvement program outlines steps to increase the maturity and confidence of the data through the next condition assessment and revaluation in 2020/21.

Improvement and Monitoring

8.1 Status of Asset Management Practices

Council is committed to improve the data quality and confidence by implementing actions within the improvement program in Table 8-1.

8.1.1 Accounting and Financial Systems

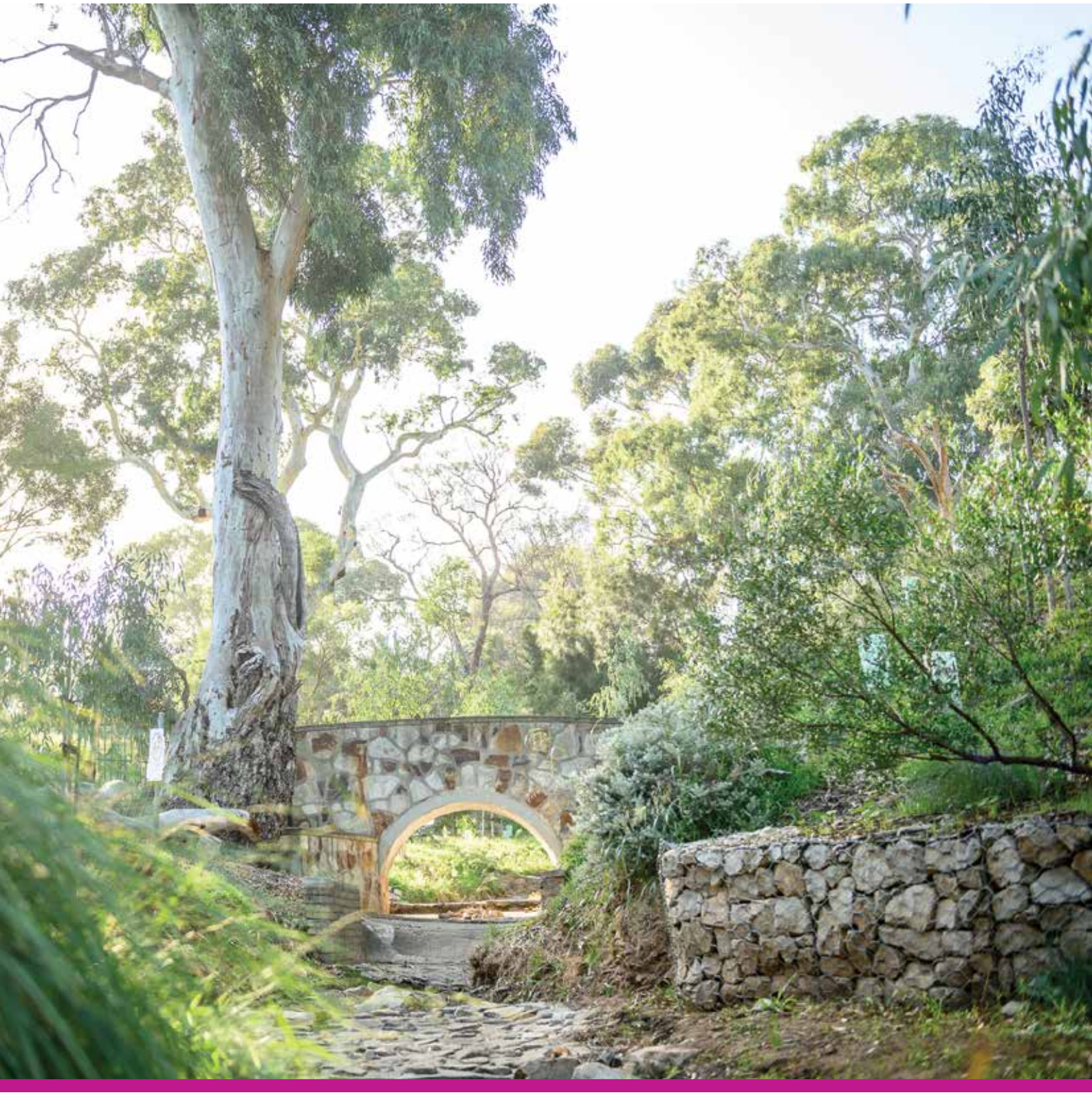
Council uses Technology One as its financial management and accounting system. Technology One has the capability to report the full lifecycle of assets providing full transparency from acquisition to disposal of assets.

8.1.2 Asset Management System

Council uses Technology One – Enterprise Asset Management software as its Asset Management System. Initial set up of the asset management system is crucial to ensure integration between operating and financial functions. Council's initial set up of the asset management system was incomplete and is being addressed through the improvement program, periodically updating the asset registers during revaluations.

A future improvement is to integrate the financial system and asset management system following each asset categories condition assessment and revaluation.

Council's geographic information system (GIS) data is stored within a specialised GIS software suite. An improvement will be to integrate the GIS data with the asset register to provide live spatial data.



8.2 Improvement Programs

The improvement program derived from the Plan is shown in Table 8-1.

TASK NO.	TASK	RESPONSIBLE OFFICER	RESOURCE REQUIRED	DUE DATE
1	Stormwater assets audit and link to GIS.	Asset Management Officer	External	2020–21
2	Condition assessment to be completed.	Senior Assets and Engineering Lead	Internal / External	2021/22
3	Continual review and update of the asset register.	Asset Management Officer	Internal	Revaluation 2020–21
4	Integration of stormwater assets with Asset Management System, the finance module in TechOne and GIS.	Asset Management Officer Manager Business Systems Solutions	Internal	Ongoing staged approach
5	Undertake community research on stormwater assets. This will provide data for future planning of stormwater assets ensuring the required level of services are met.	Senior Assets and Engineering Lead	Internal	2024/25
6	Review of the stormwater related maintenance programs through depot operations service review.	Manager Assets and Operations	Internal	2020/21
7	Review useful life values for all stormwater assets.	Asset Management Officer	Internal	Revaluation 2020/21
8	Compete Sturt River Catchment SMP in collaboration with relevant stakeholder councils.	Senior Assets and Engineering Lead	Internal	2023/24
9	Proactive CCTV inspection program to inform condition and useful life.	Senior Assets and Engineering Lead	Internal	Ongoing
10	Develop and review flood mapping to identify and prioritise future upgrade works.	Senior Assets and Engineering Lead	Internal	Ongoing
11	Develop and implement improvement program for MAR systems to increase performance in terms of water quality, capacity and control.	Senior Assets and Engineering Lead	Internal / Eternal	1 July 2022 (Heywood Park MAR)
12	Creek review – ownership and maintenance.	Senior Assets and Engineering Lead	Internal	2021/22

Table 8-1: Improvement program

8.3 Monitoring & Review Procedure

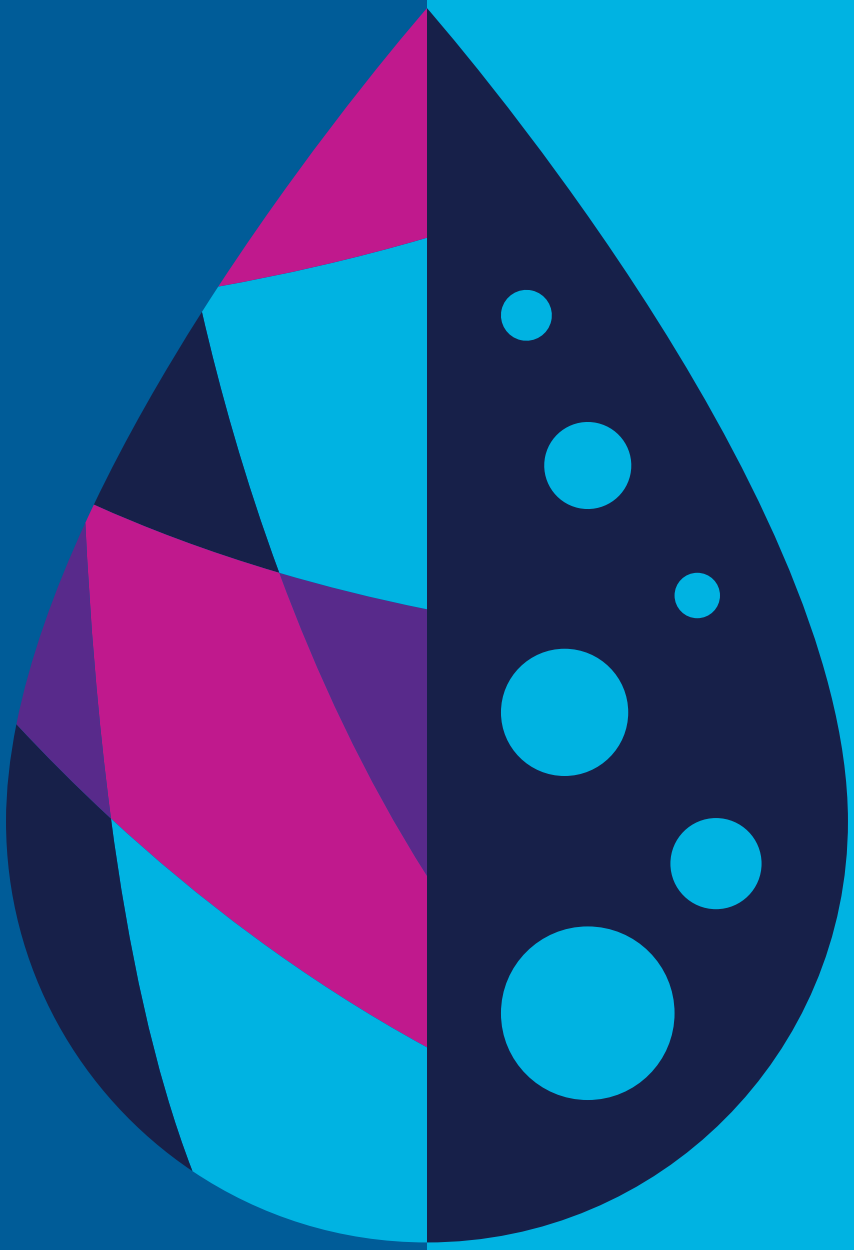
Council will schedule the Plan review into its strategic and annual planning and budget processes. The Plan has a life of four years.

8.4 Performance Measures

Council will track the performance of the Plan through the following performance measures:

1. Level of Service Key Performance Indicators (KPIs).
2. Delivery of improvement program.
3. Improved data confidence.
4. Review of the Plan minimum every four years.

Notes



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