DRAFT
STORMWATER ASSET MANAGEMENT PLAN
2025 TO 2035

“Our environment is greener, healthier and sustainable through Council’s environmental protection and enhancement, working in collaboration with our community

Council and Health and Wellbeing Plan
2025-2029

Acknowledgement of Country

Knox City Council acknowledges the Wurundjeri Woi-wurrung people and Bunurong people of the Kulin Nation as Traditional Custodians of the land.

The Knox Aboriginal and Torres Strait Islander Community come from a variety of different Nations within Australia and Torres Strait, including the Traditional Custodians and Stolen Generation. As such we pay respect to all Aboriginal and Torres Strait Islander Elders, past and present, who have resided in the area and have been an integral part of the region’s history.

Located at the foot of the Dandenong Ranges, Knox has many places of historic significance to the Kulin nation. Important cultural and historical sites within Knox hold both the traditional knowledge of the First Nations People and the traumatic stories of colonisation.

The journey ahead for Knox involves the land, the traditional custodians, the local Indigenous community, the wider community and the Council itself. Walking together and listening together to create a culturally safe and culturally rich community for all.

Contents

Our Assets

Knox City Council manage approximately $1.89 billion of infrastructure assets (excludes land value) on behalf of our community. These assets, which range from significant structures such as roads, drainage pipes, bridges and buildings, through to park furniture and play equipment, are fundamental to supporting services for the community.

What is Asset Management and why is it important?

Asset management allows Council to strategically, effectively and efficiently manage its assets across their life cycle, while meeting the service needs of the community. This requires balancing risk, cost, and performance criteria. Effective asset management answers the following fundamental questions:

- What assets do the community need now and in the future?
- How can we best manage our assets to serve the community?

The choices we make today can impact the quality of life for future generations. Sound asset management provides us with the ability to understand the immediate, medium, and long-term impacts of our decisions and provide solutions on how to mitigate risk. The benefits of sound asset management include:

- Improved cost efficiency by looking at the costs of assets over their entire lifecycle.
- Being able to target critical assets to ensure performance is maintained and risks are managed.
- Aligning levels of service for assets to meet community needs.
- Making sure infrastructure assets are appropriately funded for the long term.

Over the next 10 years we are budgeting investment of approximately $700 million to renew, improve, and care for our infrastructure. Given this sizeable investment and the importance of these assets to supporting community outcomes, it is vital that we are good asset managers.

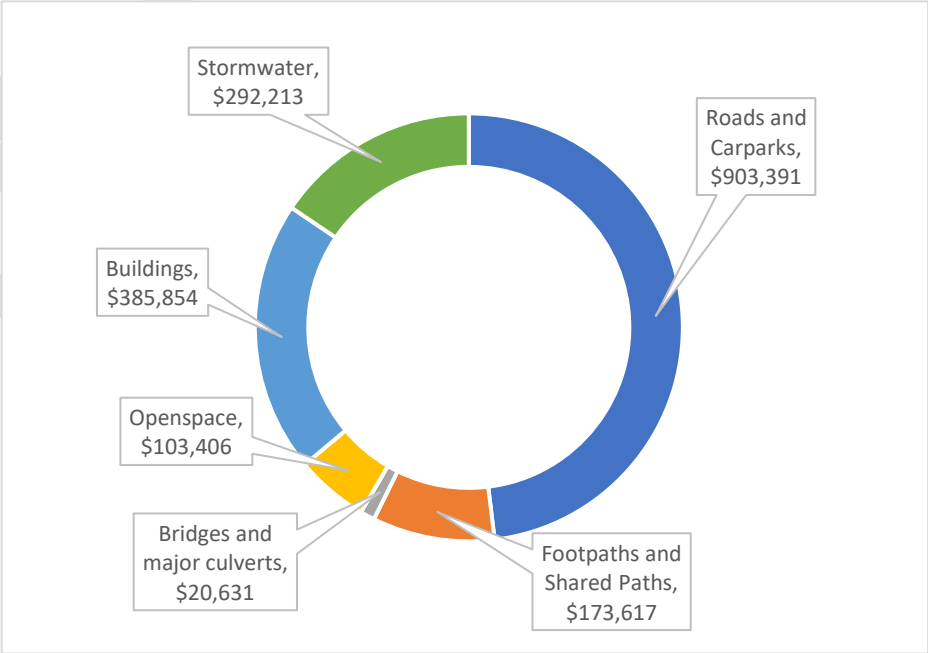


Figure 1 – Value($m) of Council Assets

Lifecycle Management

Our approach to asset management is centred on asset life-cycle management decision making processes that are used to manage our infrastructure. Through careful and efficient lifecycle management, our goal is to meet our agreed levels of service in the most cost-effective manner over the life of assets. The management strategies we follow in each asset lifecycle phase are shown in the figure below.

Figure 2 - Asset Lifecycle

Planning and Design

- Asset planning and analysis to meet long term service needs.
- Asset design balances affordability, equity, and environmental performance.
- Whole of life cost considerations

Creation/ Acquisition

- Before building or acquiring new assets non-asset service delivery solutions such as leasing, strategic partnerships, etc. are considered.
- Assets are constructed according to planning and design standards and documentation.
- Efficient procurement strategies are utilised.
- Asset performance standards are met when Council assets are delivered by Knox or others.

Maintenance and Operations

- Systems and processes record information about assets.
- Cyclic condition assessments are undertaken.
- Assets are operated and maintained to reduce risk/failure.
- Assets are available to meet/service community needs.
- Optimisation of works and timely intervention to minimise ongoing costs.

Renewal

- Optimisation of asset renewal to minimise cost and risk.
- Maximise the use of our assets through reuse or co-location of services, where possible.

Disposal or Rationalisation

- Where assets do not directly support service objectives they are considered for decommissioning, disposal or rationalisation to reduce lifecycle costs and financial burden.

Purpose of this Plan

The quality of our stormwater asset management practices determines our ability to keep our City green, liveable, resilient and sustainable. The aim of this plan is therefore to guide continuous improvement in our stormwater asset management practices and outcomes.

By improving our asset management practices, we can be confident that our investment in stormwater assets will deliver many important community benefits.

Community Benefits

- Improved flood protection.
- Resilience to the anticipated impacts of climate change.
- Increased biodiversity and improved habitat for our local fauna and flora.
- Improved ecological health of our streams and waterways.
- Healthier trees, vegetation and ecological systems.
- Attractive water landscapes and green spaces that encourage us to be more active and connected.
- A reduction in heat related stress due to the passive cooling effect of green-blue assets
- Reduced water utility bills as we increase our use of stormwater for irrigation.
- Preservation of potable water supplies for high value uses like drinking and food preparation.

How we developed this Plan

A stakeholder reference group was established, comprising Council staff involved in stormwater asset management. The participants:

- contributed to the setting of asset management objectives (service level targets).
- assisted in the identification of deliverable improvement recommendations.

Background to this plan

The following research/review of documents was undertaken to develop this Plan. Supporting documentation is linked to the Stormwater Asset Management Plan home page.

Related Knox City Council Documents	Internal Stakeholder Roles and Responsibilities
Relevant Regulations and Industry Standards	Our progress implementing earlier versions of this plan
Asset Management Information Systems	Our Current Asset Management Practices
Asset Audit Program	Our Service Level Objectives
Asset Inventory, Condition and Valuation	Risks and Challenges
Asset Deterioration model results	Community Expectations
Our priority improvement initiatives	Future Demand and Demand Management Strategies

Implementation of this Plan

The Strategic Infrastructure department, as subject matter experts, will have responsibility for implementing this plan.

Establishment of an Integrated Stormwater Asset Management Group (chaired by the Coordinator Strategic Stormwater) is recommended to bring stakeholders together to collaborate and deliver this Plan.

Funding for the management and performance of stormwater assets will be allocated as part of Council's budget processes. This requires Council to balance stormwater asset management investment against all other Council priorities.

Plan monitoring and review

This plan has a life of 10 years. It will then be reviewed, in full, updated and replaced.

The responsibility for reviewing the progress of Asset Management Plans improvement actions is allocated to the Asset Management Steering Group (AMSG), with key support from the Strategic Infrastructure Department.

The relevance of recommended improvements and the predicted funding levels will be reviewed each year, as part of Council's budget and capital works planning processes to reflect new data and changes in Council and community priorities.

Our stormwater asset management objectives

Our stormwater asset management approach is guided by six objectives.

Biodiversity, habitat and waterway protection

Water conservation and reuse

Flood protection

Community satisfaction and participation in decision making

Financial sustainability and intergenerational equity

Transparent evidence-based decision making

To deliver on these objectives we need to be strategic, proactive and innovative.

Our stormwater assets

Our stormwater assets include grey assets and a range of green-blue assets (known as water sensitive urban design features or WSUDs). The grey assets primarily act to provide flood protection and downstream carriage of stormwater, whilst the green-blue assets are used to capture water for re-use or to improve the quality of water discharged to the natural environment and provide opportunity for biodiversity enhancement.

GREEN-BLUE STORMWATER ASSETS	QUANTITY	ESTIMATED REPLACEMENT COST	ESTIMATED USEFUL LIFE
Raingardens	54	$250 to $2,000 per sq. m.	5 - 10 years
Wetlands	20	$150 to 250 per sq. m.	20 -25 years
Permeable paving	4 sites	$100-120 per sq. m. 1	25 years
Tree pits	128	$ 1,000 to $8,000 per sq. m.	10 years
Sedimentation ponds	13	$150 to $250 per sq. m. Plant and labour cost + $260 / tonne for sediment disposal	5 - 10 years
Gross pollutant traps	32	$50,000 to $250,000	25 years
Constructed swales	38	$15 to $150 per sq. m.	5 - 7 years
Passive irrigation kerb cuts	26	$30 per metre	80 years
Above- ground stormwater tanks	75	$5,000 for 10 KL tank + installation	20 – 30 years
Below-ground stormwater tanks	5	$5,000 for 10 KL tank + installation	30 years

GREY STORMWATER ASSETS

278 Endwalls
Replacement value =$ 0.44 M
Average age = 38.0 years
Est. Useful Life - 80 years

39,673 Pits
Replacement value =$ 60.87 M
Average age = 41 years
Est. Useful Life - 80 years

1, 188.9km Pipes
Replacement value =$ 227.70 M
Average age =42 years
Est. Useful Life - 80 years

Table 1 – Our Stormwater Asset Inventory

The total replacement value of our green-blue assets has not been quantified. The estimated replacement value of our grey stormwater assets was $292,213M on 30 June 2024

Demarcation of Roles and Responsibilities

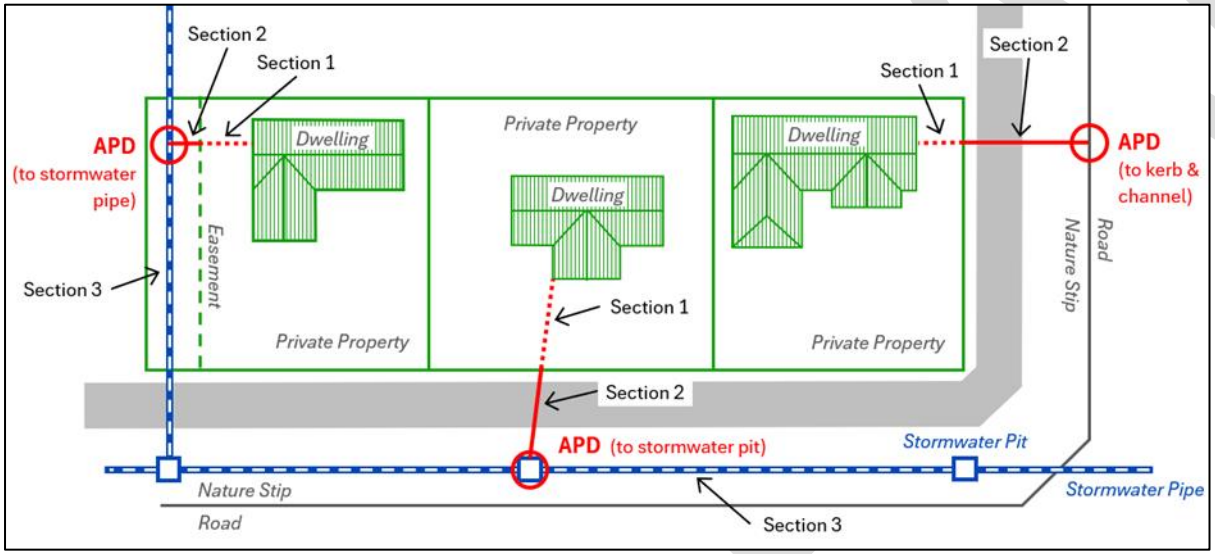
Not all stormwater assets are owned or managed by Council.

There is a clear demarcation of responsibilities.

Melbourne Water is the Regional Drainage and Floodplain Management Authority, with responsibility for all major drainage assets, creeks and waterways within Knox City Council.

Landowners (including private entities and public authorities such as Vic Track) are responsible for ensuring that stormwater runoff from their property does not cause nuisance to any neighbouring properties. Each landowner must connect to an approved point of discharge (APD) – ie the location at which private drainage is permitted to discharge into Council's drainage network.

The functionality of each landowner's private drainage network, as well as deficiencies in the capacity of Melbourne Water's regional drains, creeks and waterways, impact on the performance of Council's stormwater assets.



Pipe Section	Responsibility
Section 1	Landowner
Section 2	Landowner
Section 3	Council

Council has a duty to inspect, maintain and repair its stormwater assets (Section 3) as illustrated in the figure above. Section 3 will be inspected for hazards and maintained to specified service levels as articulated in the Knox Road Management Plan, when the drainage asset is located within a Council road reserve.

Stormwater pipes and pits located within drainage easements within private property are Council assets. Connection from a residential building to Council's stormwater system or kerbing is the responsibility of the resident to construct (to Council standards), alter and maintain at their cost

Council does not have a statutory duty to inspect, maintain and repair Sections 1 and 2. Household drainage (including tappings) is the responsibility of the resident to construct (to Council standards), alter and maintain. Council is not required to inspect Section 1 and 2 for hazards. These assets are not required to be maintained to specified service levels.

Risks and challenges we face

Challenges

Adapting to Climate Change

Extended dry periods with shorter duration and higher intensity rainfall events.

Infill development

The Victorian State Government has set a target of 43,000 additional homes in Knox by 2051.

More impervious surfaces leading to more polluted, higher velocity stormwater runoff and increasingly difficult access to easements.

Ageing Assets

Many of our older pipes are small and damaged by intrusive tree roots; with some assets potentially asbestos lined.

Unavoidable flooding risks

Low lying areas within the municipality may be subject to riverine or flash flooding. This occurs when the intensity or duration of rainfall exceeds the capacity of Melbourne Water managed creeks and waterways or the local (Council) drainage network (1 in 5-year rainfall event for residential drainage systems and 1 in 10-year rainfall event for industrial drainage systems)..

Risks

Council's financial position and priorities can change quickly. It is therefore important to acknowledge the potential impacts if Council is unable to provide adequate funding or resources for stormwater asset management, including:

Funding shortfalls, or poorly assigned capital upgrade investment, will mean that known localised flooding risks and the effects of urbanisation on our natural waterways will remain. An increased risk of failed/poor quality asset requiring increased maintenance and leading to a potential decline in the current level of service provided to the community.

Closing the gaps

Stakeholder consultation revealed several gaps in Council's current approach to stormwater asset management. Council is focused on closing the gaps by:

- Developing a strategic roadmap (whole of Council, or precinct-level catchment master plans) to guide investment in stormwater assets.
- Ensuring maintenance budgets keep pace with growth in the size and complexity of the asset portfolio.
- Considering in-house provision of CCTV investigations of Council's pipe networks.
- Revising renewal budgets to upgrade under capacity stormwater assets and accommodating the cost of traffic management and control.
- Working with capital works delivery managers to improve asset handover performance.
- Considering lifecycle costs and maintenance needs when designing (or allowing others to create) new or upgraded stormwater assets.
- Designing the stormwater network to respond to higher intensity rainfall events.

Six priority improvement initiatives are proposed to address key gaps in Council's stormwater asset management practices. The anticipated budget implications are outlined at the end of this document (and in our 10-year Asset Plan).

Through this engagement process, additional, lower priority improvement recommendations have been developed for consideration by internal stakeholders and will inform the Service Plan for stormwater.

Current asset performance

We need to audit our assets in order to monitor their performance

Green-blue stormwater assets

To date, our green-blue assets have not been audited, largely because the condition of these assets are unstable and affected by the weather. Although we have not audited the condition of our water sensitive urban design features, we know that many of these assets are reaching the end of their design life.

Grey stormwater assets

The most recent audit of pits was in 2017. The most recent audit of drainage pipes was in 2021. To date, only 61% of pits and 7% of pipes have been audited. The lack of pipe condition data is due to the high cost of auditing underground drainage pipes. Proactive CCTV investigations of reported blocked pipes, pipes in known flooding locations, and pipes beneath roads being renewed have identified faults and provided treatments. The internal audit of asset management in 2023 identified that Council set the extent and frequency of drainage condition audits, to improve its knowledge of the total drainage network. To address this, Council is currently investigating the feasibility of establishing an in-house CCTV pipe auditing crew so that a greater proportion of pipes can be audited each year. To be effective in improving Council's knowledge of the condition of the pipe network, it will be important to audit a representative sample of the network each year. Taking into consideration pipe size, age, suburb and location within a road reserve or a property easement.

The graphs below summarise our condition audit results for pits and pipes. The table below explains how each condition rating should be interpreted.

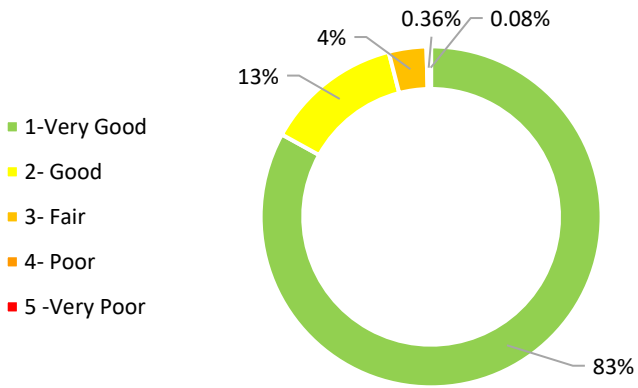


Figure 1 – Audited pit condition distribution

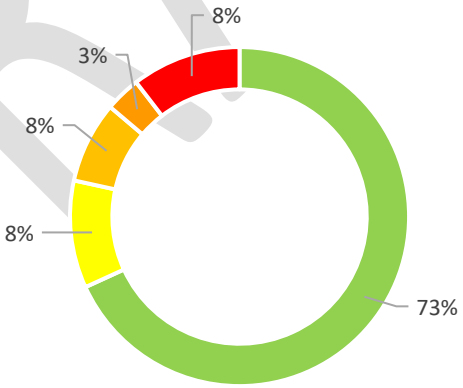


Figure 2 – Audited pipe condition distribution

Condition Rating	Description
1 - Very Good	Sound physical condition. Insignificant deterioration. Asset likely to perform adequately without major work for 25 years or more.
2 - Good	Acceptable physical condition; minor deterioration / minor defects evident. Negligible short-term failure risk but potential for deterioration in long-term (20 years plus). Only minor work required (if any).
3 - Fair	Moderate to significant deterioration evident; Minor components or isolated sections of the asset need replacement or repair now but not affecting short term structural integrity. Failure unlikely within the next 10 years but further deterioration likely and major replacement likely within next 10 to 20 years.
4 - Poor	Serious deterioration and significant defects evident affecting structural integrity. Failure likely in short to medium term. Likely need to replace most or all of asset within 10 years.
5 – Very Poor	Asset has failed or failure is imminent. Immediate need to replace most or all of the asset.

Our level of service targets

We aim to provide high quality stormwater assets that meet our key objectives.

Technical service level objectives

PERFORMANCE MEASURE	TARGET	CURRENT PERFORMANCE
OBJECTIVE – FLOOD PROTECTION		
Capacity	**An annual reduction in the number of Commercial and Industrial properties at risk of inundation**, during a once in ten-year rainfall event **An annual reduction in the number of Residential properties at risk of inundation**, during a once in five-year rainfall event	Properties potentially at risk of inundation based on flood modelling and mapping in 2020. • 3,998 residential properties (8%) • 810 commercial properties (29%) • 815 industrial properties (22%)
Risk	**Zero settled insurance claims** attributable to poor condition stormwater assets that have deteriorated to an extent that reduces their original design capacity.	One under excess settled insurance claim in 2022. Cause categorised as flooding/storm/water
Maintenance	**Less than 1000 customer requests** to clear blocked pits or pipes per year.	Year / Qty 2023-2024: 852 2022-2023: 926 2021-2022: 867 2020-2021: 629 2019-2020: 1111

PERFORMANCE MEASURE	TARGET	CURRENT PERFORMANCE
Condition	**By 2029** consolidate CCTV registers into a single repository and capture asset condition in the asset register. **From 2026 onwards** conduct targeted CCTV inspections of 3km of drainage pipes per year to improve Council's understanding of condition across its entire network.	Only 7% pipes and 64% pits have been audited; WSUDs have not been audited. Based on asset age, it is predicted that 1.2% of pipes and 0.25% of pits not audited are also in Very Poor condition.
Road Management Plan Compliance	**100%. compliance** with the target timeframes documented in Council's Road Management Plan (RMP).	RMP compliance for the period 1 Jan 2021 until 31 Dec 2024. • Routine Inspections – 98% • Initial Assessment – 97% • Rectification Works – 99%
OBJECTIVE - BIODIVERSITY, HABITAT AND WATERWAY PROTECTION		
	Targets to be determined by the Stormwater team, taking into consideration targets set by the Department of Energy, Environment and Climate in their Integrated Water Management Framework.	
OBJECTIVE - WATER CONSERVATION		
	Targets to be determined by the Stormwater team, taking into consideration targets set by the Department of Energy, Environment and Climate in their Integrated Water Management Framework.	

Community service level objectives

PERFORMANCE MEASURE	TARGET	CURRENT PERFORMANCE
OBJECTIVE – COMMUNITY SATISFACTION AND INVOLVEMENT IN DECISION MAKING		
Community Satisfaction	Knox community satisfaction performance is rated **at least equal to the Melbourne Metropolitan average** for participating Councils.	• In 2024, Knox community satisfaction with Council's overall performance rated 7.0 out of 10. This result is similar or a little higher than to the Metropolitan Council Group average.
Community Involvement	**A minimum of one event/ campaign held by the Stormwater team each year** to involve the community in decision making. Deliberation on this Asset Plan in a manner consistent with principles of the Local Government Act 2020.	• Stormwater team community engagement data not available
OBJECTIVE – TRANSPARENT EVIDENCE BASED DECISION MAKING		
Strategic Master Planning	**Catchment master plans** presented to Council for endorsement **for 20 to 25 minor catchments** by December 2027.	Masterplans developed for: • 0 out of 49 minor catchments •
OBJECTIVE – LONG TERM FINANCIAL SUSTAINABILITY AND INTERGENERATIONAL EQUITY		
Renewal expenditure	Average annual renewal expenditure, calculated as a percentage of the fair value of the asset category, is at least equal to annual average asset consumption rate (AAAC) based on pit and pipe life of 80 years and WSUD life of 25 years. AAAC (Pits and Pipes) >= 1.25% of fair value **AAAC (WSUDs) >= 4% of fair value**	• AAAC - Pits and Pipes = 0.67% (i.e., $2.2 M pa spent on renewal of pits and pipes with a fair value of $326 .7 M)

PERFORMANCE MEASURE	TARGET	CURRENT PERFORMANCE
	Local Government Performance Reporting Framework (LGPRF) asset renewal indicator is greater than 100%. (i.e. the rate of spending on existing assets through renewing, restoring, and replacing existing assets exceeds depreciation.)	• 165.68% - sourced from the 2023-2024 Annual Report

Financials

Based on the available information we have about our assets and the planning we have done to formulate our capital works program; we intend to spend a total of $74.4M on stormwater assets over the next ten years. This includes a total budget of $42.9M to renew deteriorated stormwater assets, and $4.8M to improve the capacity of existing assets or create new stormwater assets. We also propose to allocate around $ 26.6M to operate and maintain our stormwater assets.

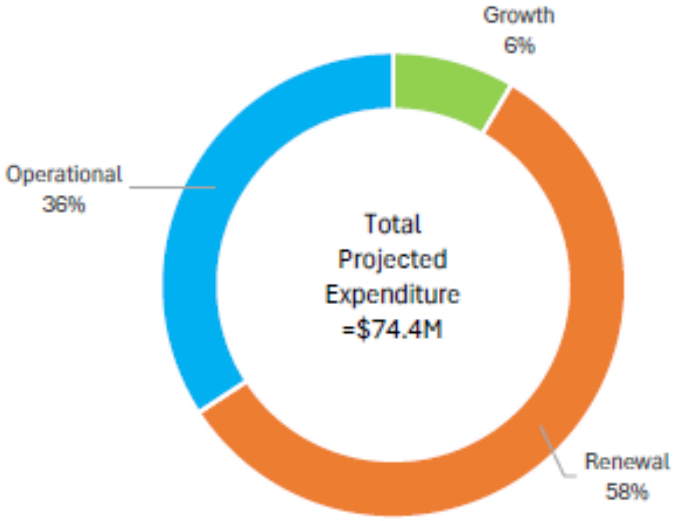


Figure 3- Projected 10 -year Expenditure by Expenditure Category

Expenditure Category	Activity	Description
Operational	Maintenance	Ongoing work required to keep an asset performing at the required level of service.
	Operations	Recurrent expenditure that is continuously required to provide a service.
Renewal	Renewal	Returns the service potential or the life of the asset up to that which it had originally.
Growth	Upgrade	Enhancements to an existing asset to provide a higher level of service.
	Expansion	Extends or expands an existing asset at the same standard as is currently enjoyed by residents, to a new group of users.
	New	Creates a new asset that provides a service that does not currently exist.

Our plan for the next 10 years

Our experienced staff will continue to manage our stormwater assets throughout each stage of the asset lifecycle

HOW MUCH DO WE PLAN TO SPEND ON STORMWATER ASSETS

ANNUAL AVERAGE PLANNED EXPENDITURE ($M)	
GROWTH (NEW, UPGRADE, EXPANSION)	0.5
RENEWAL	4.3
OPERATIONAL (MAINTENANCE)	2.6
TOTAL	**7.5**

EXAMPLES OF THE TYPES OF ACTIVITIES WE HAVE PLANNED FOR THE NEXT 10 YEARS

Renewal

- Replacement of failed drainage pits and pipes
- Refurbishment or retrofitting of non functional water sensitive urban design assets such as wetlands and raingardens

Growth

- Replacement of drainage pipes to a higher hydraulic capacity in line with the results of Council's Flood Mapping and Modelling results.
- Installation of stormwater quality improvement devices (e.g., raingardens, litter traps, etc.)
- Stormwater harvesting initiatives (e.g. rainwater tanks)
- Transfer of maintenance responsibility for Melbourne Water assets within less than 60-hectare catchments

Operational

- Pit and pipe cleansing and removal of debris, sediment, etc.
- Removal of litter from Gross Pollutant Traps
- Repair or replacement of small sections of damaged pipes and damaged pit components
- Programmed inspections (including CCTV audits of underground assets)

PREDICTED ASSET CONDITION

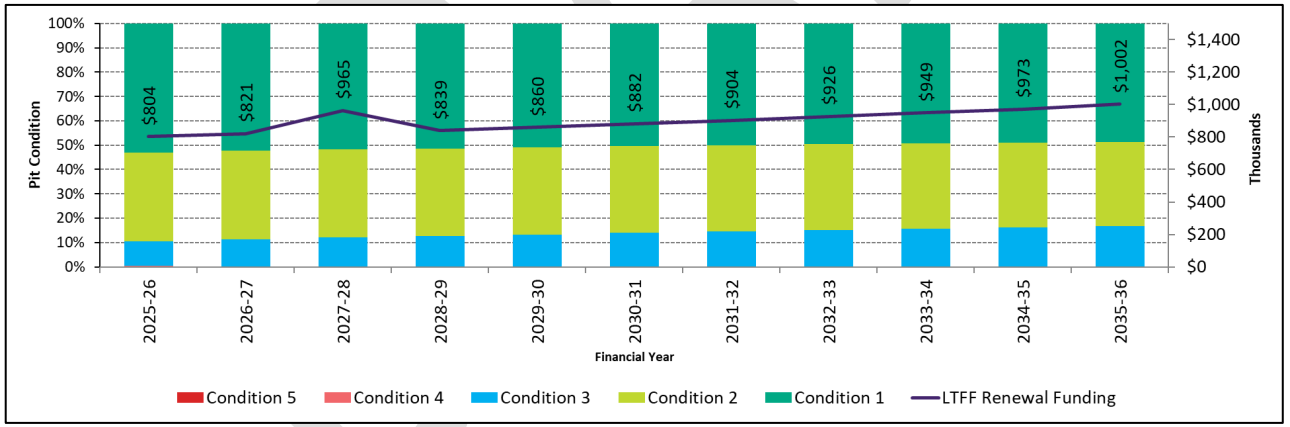
Green-blue stormwater assets

The predicted condition of our green-blue assets is unknown. Future condition audits will form the basis of future predictions.

Grey stormwater assets

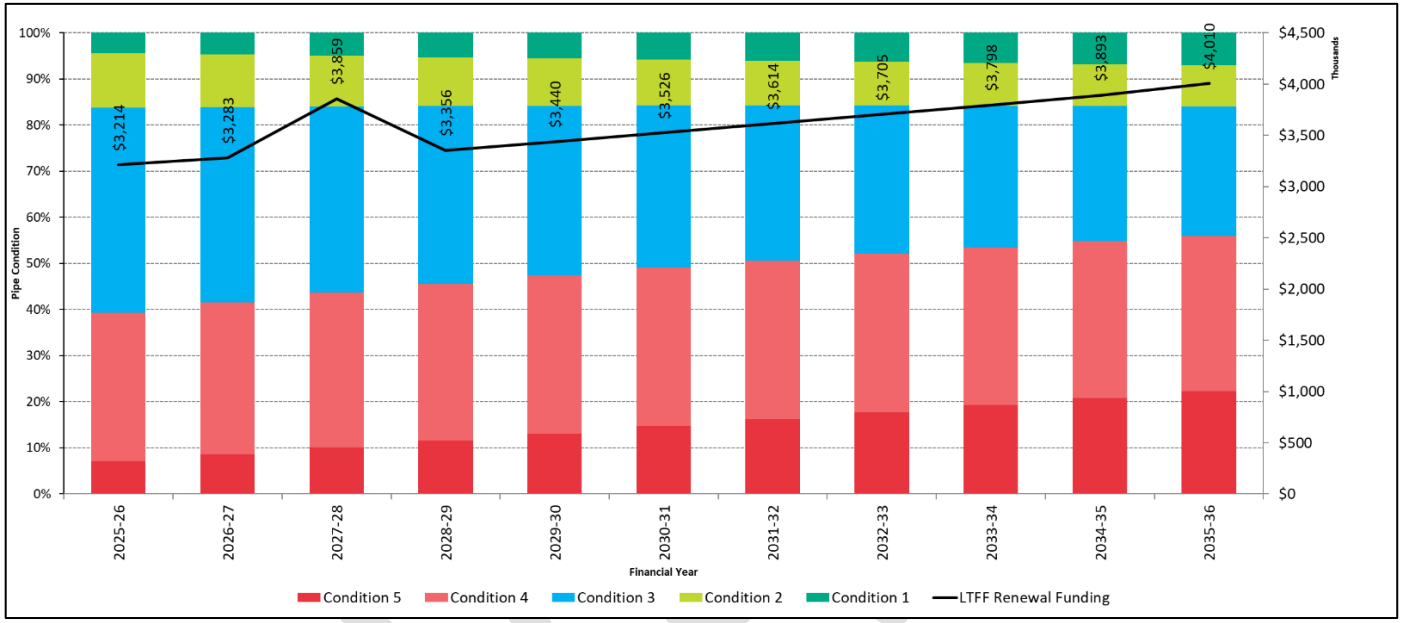
Predictive asset deterioration modelling results (illustrated in graphs 1 and 2 below) show that funding asset renewal in accordance with the current Long-Term Financial Forecast may not keep pace with the predicted rate of asset deterioration for pipes. 22% of pipes (259 km) are predicted to be in Very Poor condition (Condition 5) by 2035-36 and a further 34% of pipes are predicted to be in Condition 4 (Poor).

It must be noted however that we have a low level of confidence in the predicted condition because we do not yet have a complete inventory of current asset condition (only 7% of pipes and 64% of pits have been audited and in some cases, audit data will target known problem assets). In the absence of comprehensive condition data across the whole stormwater assets network, a conservative approach was used. The model was based on asset age and an estimated asset life of 80 years. Performance targets set for condition will gradually improve Councils knowledge of network condition. The predicted condition, and our level of confidence in the prediction will improve when Council has audited a representative sample of underground pipes.



Graph 1 – Predicted Pit Condition

PREDICTED ASSET CONDITION



Graph 2 – Predicted Pipe Condition

OUR LIFECYCLE MANAGEMENT PLANS FOR THE NEXT 10 YEARS

CAPITAL WORKS PLAN

GROWTH (NEW- UPGRADE – EXPANSION – DISPOSAL)

We will continue to aim to upgrade our stormwater assets when their original design functionality no longer matches service expectations. Capital projects to create new assets, upgrade or expand existing assets will only go ahead if approved by Council as part of annual budget preparations.

To improve the capacity of our existing drainage network, additional funding is recommended to implement two improvement initiatives:

➢ Strategic upgrade master planning ($0.16 M pa (for three years) + cost to implement approved catchment master plans).

- Invest in catchment master planning to provide a road map for future upgrade investment. Including the development of innovative water sensitive solutions to replace small pipes that are often blocked by tree roots.
- The aim is to identify and prioritise projects that provide multiple benefits: improved flood protection; protection of our waterways; and Increased opportunity for water conservation
- Implement approved catchment master plans, starting with priority flood protection and water conservation projects, as soon as the first year of master planning is complete.
- Improve efficiencies by aligning the delivery of drainage upgrades with other capital programs, such as road renewal.

➢ Pilot proactive drainage easement replacement ($0.15 M pa for two years)

- Introduce a proactive drainage replacement pilot program to upgrade damaged, undersized easement drains when small-scale private developments are approved, and demolition consents are provided.
- This pilot could enable replacement of around 300 m of pipe each year.
- At the end of the pilot, assess deliverability and consider opportunities to continue the program using funding from developer contributions.

RENEWAL

We will aim to renew our existing stormwater assets as they fail, so that the network functionality is retained. Council's Drainage Renewal Program will continue to be informed by independent condition audits and inspections undertaken by Council staff. Typically, the team only renew around 0.5% of the pit and pipe network each year. Due to capacity issues, most grey asset renewal work unavoidably includes asset upgrades to increase capacity.

To keep pace with asset deterioration additional renewal funding is recommended to fund the implementation of two initiatives:

➢ Shift toward more proactive renewal of green-blue assets (WSUD) – $0.3M pa.

- Audit the quantity, replacement cost and condition of our WSUDs.
- Develop a proactive WSUD renewal program to restore the functionality of poorly performing assets.
- Review long-term recurrent WSUD renewal funding to reflect 2% of the replacement cost of these assets.

➢ Review assumed economic life of pits and pipes (currently 80 years),

- When assets are formally revalued, consider increasing the economic life
- Adjust Council's predictive asset deterioration modelling and renewal funding requirements accordingly.

➢ Maintain LTFF renewal funding above $3M for next four years.

- When formal revaluation is complete, and proposed catchment master planning is well progressed, adjust the pit and pipe renewal funding to:
    - Keep pace with rising replacement costs and the anticipated rate of deterioration.
    - Efficiently and strategically address capacity constraints when assets are renewed.

MAINTENANCE PLAN

We will continue to maintain our stormwater assets so that they operate at their original design capacity for as long as possible. Maintenance includes reactive and proactive inspections, and a range of activities to repair defects and clear blockages as they arise. Our pit and pipe inspection and maintenance standards (including timeframes) are detailed in our Road Management Plan.

We recognise that more work is required to improve the maintenance of our green-blue stormwater assets (such as wetlands, raingardens and swales). Maintenance standards for our green-blue assets are reactive and not yet documented.

To improve our maintenance outcomes additional maintenance funding is recommended to implement the following improvements:

➢ Shift toward more proactive maintenance of green-blue assets (WSUD) – increase funding from $0.045M to $0.244M pa

- Re-establish a vacated role within the Stormwater team to lead a shift toward proactive management of all WSUDs.
- Develop inspection and maintenance service levels for all WSUD types including raingardens, water tanks and emerging WSUD assets such as filter screens and UV lights.
- Address the backlog of poorly functioning WSUDs, including plant and filter media management and the establishment of stable ecosystems.
- Deliver regular proactive inspection and maintenance programs for all WSUDs.

➢ Improve grey stormwater asset (pit and pipe) maintenance – increase funding from $1.35M to $1.78M pa

- Increase funding to match growth in the size and complexity of the service including:
    - Clearing waste from increased numbers of litter baskets and gross pollutant traps.
    - Open drain maintenance, to protect waterways from debris that runs off our unsealed roads.
    - CCTV investigation when pipes are found to block repeatedly and require renewal.
    - More regular cleaning of drains in areas that flood modelling has identified as flood prone.

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What will happen next.

Community engagement will be undertaken to seek support for the draft plan before it is adopted by Council.

The level of capital investment in renewals, upgrades, new and expanded assets will be informed by Council's Financial Plan and Council's Forward Capital Works Program.

Subject to available funding, allocated during the annual budget process, staff and resources will be allocated to the delivery of recommended improvement initiatives.

Council's website will be updated with the revised Asset Plan and information relevant to the Stormwater Asset Management Plan including:

Council's Asset Policy	Relevant Legislation and Industry Standards	Relevant Asset Management Information System data	Council's Condition Audit Program
Stormwater assets deterioration modelling data	Priority Improvement Initiatives and their status	Internal Stakeholder Roles and Responsibilities	Progress on Implementation of Asset Management Plans
Current Management Practices	Key Risk and Challenges	Community Expectations	Future Demand modelling

[1] Melbourne Water healthy waterways Raingardens- Instruction sheet Porous Paving