MOORABOOL
SHIRE COUNCIL

STORMWATER

ASSET MANAGEMENT PLAN 2022–2032

Contents

ACKNOWLEDGEMENT OF COUNTRY

Council respectfully acknowledges the Traditional Owners of the land which includes the Wurundjeri Woi Wurrung, Wadawurrung and Dja Dja Wurrung people. We pay our respects to the Elders past, present and emerging.

Executive summary

The purpose of the Plan

The purpose of this Stormwater Asset Management Plan (SAMP) is to inform Moorabool Shire Council's (Council) commitment to best practice asset management and provide principles for sound stormwater drainage asset investment decision making.

The SAMP documents the overall integrated planning framework to guide and improve Council's long-term strategic management of its stormwater drainage (stormwater) assets to cater for the community's required levels of service into the future as detailed in the Levels of Service Section. The SAMP defines the state of Council's stormwater assets as at the 2022 Financial Year, the 10-year funding required to achieve Council's adopted asset performance targets and planned asset management activities over a 10-year planning period.

This SAMP is to be read in conjunction with Council's Asset Management Strategy.

Current State of Council's Assets

The value of stormwater assets covered by this SAMP are estimated at $104.6M, as at 30th June 2021 and summarised in Table 1 - Assets Valuations as at 30th June 2021.

Figure 1 - State of Assets Snapshot as at FY2022, provides a high-level overview of the current condition (service state) of all stormwater assets owned and maintained by Council. The service state is a numerical score assigned to each major stormwater component (asset) to represent its current performance (i.e. where is the asset on its lifecycle path). Utilising predictive modelling software and techniques, we can then simulate each assets degradation (the way it moves from one condition state to another throughout its lifecycle) to predict when assets will fail and require future treatment intervention.

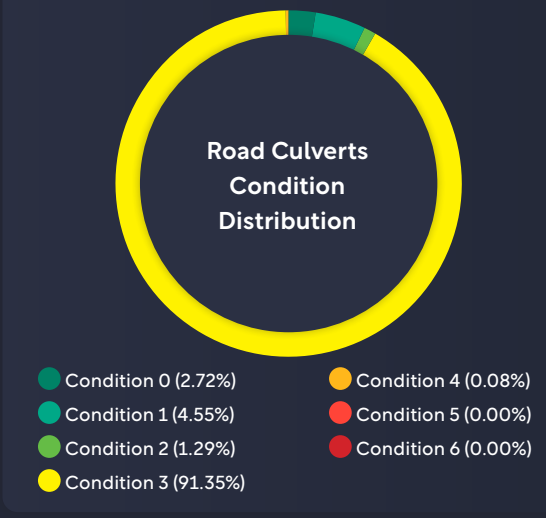
Refer to Table 4 – Asset Condition Rating Guidelines for condition definitions.

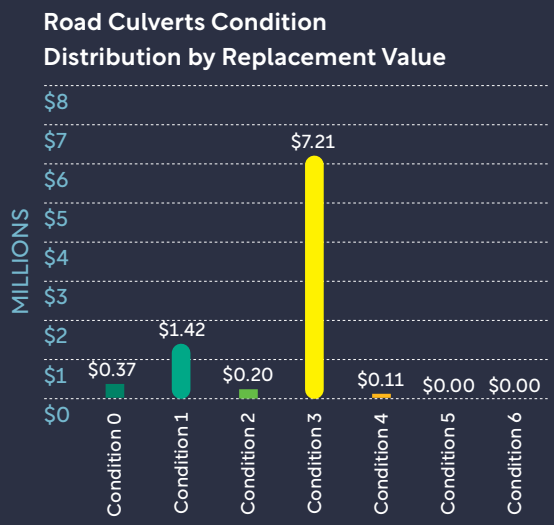
ASSET TYPE	QUANTITY (NUMBER)	REPLACEMENT COST	ACCUMULATED DEPRECIATION	FAIR VALUE	ANNUAL DEPRECIATION
Road Culverts	2,392	$9,835,211	$4,389,972	$5,445,240	$95,640
Stormwater Pipes	8,698	$74,453,898	$16,078,552	$58,375,346	$732,109
Stormwater GPTs	12	$226,440	$23,702	$202,738	$2,264
Stormwater Pits	8,427	$20,060,462	$3,607,873	$16,452,588	$196,022
TOTAL	**19,529**	**$104,576,011**	**$24,100,099**	**$80,475,912**	**$1,026,035**

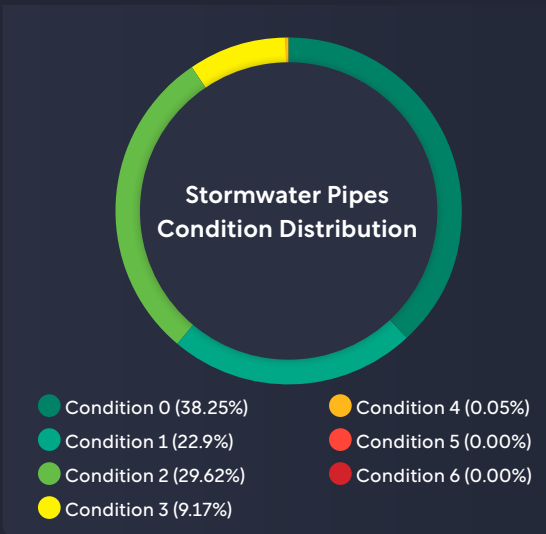
TABLE 1 Assets Valuations as at 30th June 2021

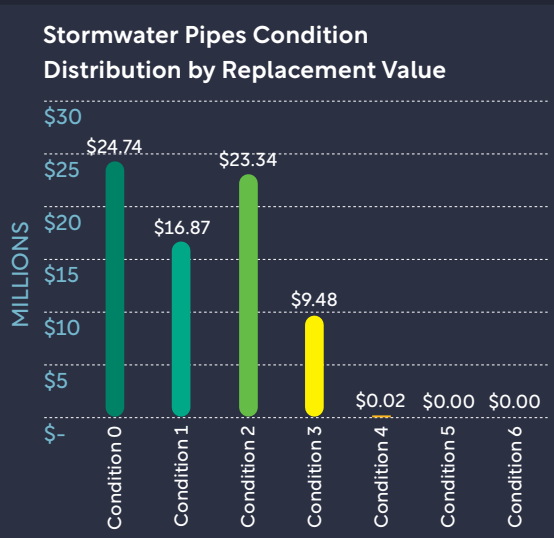
FIGURE 1 State of Assets Snapshot as at FY2022

$104.6M	19,529	$83.5K	1.3 out of 6
ASSET VALUE	ASSET COMPONENT QUANTITIES	BACKLOG VALUE	AVERAGE CONDITION (SERVICE STATE)

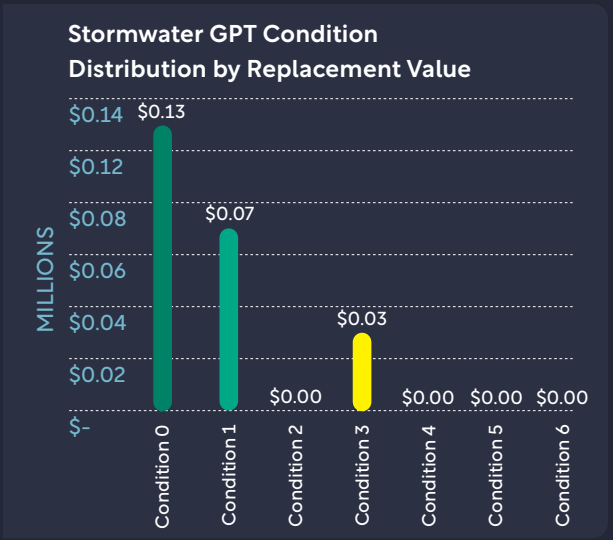


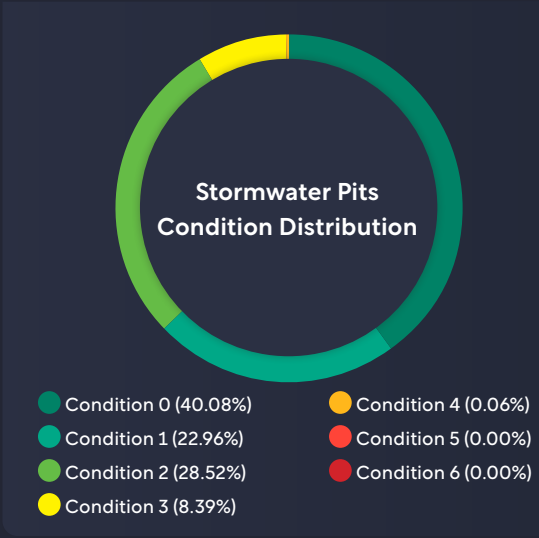


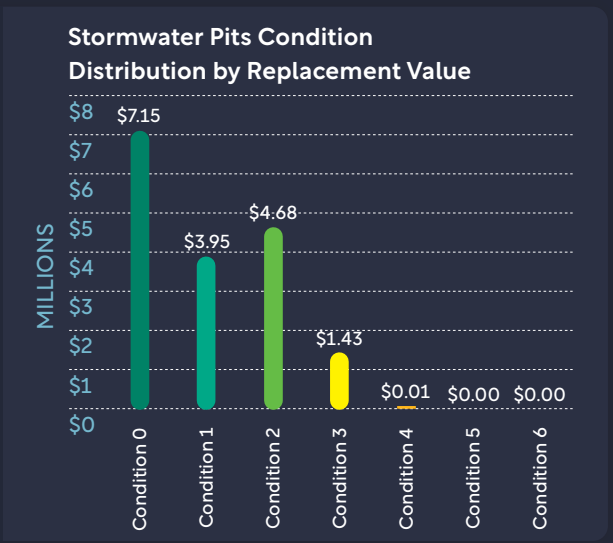





Stormwater GPT
Condition Distribution
Condition 0 (41.67%)
Condition 1 (50.00%)
Condition 2 (8.33%)
Condition 3 (0.1%)
Condition 4 (0.00%)
Condition 5 (0.00%)
Condition 6 (0.00%)


Stormwater GPT Condition
Distribution by Replacement Value
MILLIONS
$0.14
$0.12
$0.08
$0.06
$0.04
$0.02
$-
$0.13
$0.07
$0.00
$0.03
$0.00
$0.00
$0.00
Condition 0
Condition 1
Condition 2
Condition 3
Condition 4
Condition 5
Condition 6


Stormwater Pits
Condition Distribution
Condition 0 (40.08%)
Condition 1 (22.96%)
Condition 2 (28.52%)
Condition 3 (8.39%)
Condition 4 (0.06%)
Condition 5 (0.00%)
Condition 6 (0.00%)


Stormwater Pits Condition
Distribution by Replacement Value
MILLIONS
$8
$7
$6
$5
$4
$3
$2
$1
$0
$7.15
$3.95
$4.68
$1.43
$0.01
$0.00
$0.00
Condition 0
Condition 1
Condition 2
Condition 3
Condition 4
Condition 5
Condition 6

Asset Funding Levels

Typically, the Financial Summary in an asset management plan, recognises multiple strategic predictive modelling scenarios in the process of deriving the 10-year long-term financial budget, in line with the guiding principles of best practice asset management.

However, in the absence of suitable stormwater condition, capacity and functional data and considering existing stormwater levels of service delivered, it is proposed to continue to allocate current funding allocations as documented in Councils Capital Improvement Program for the following 10 years[1].

The 10-year funding considered sufficient (in the short term[2]) to enable the stormwater portfolio to achieve its current useful lives through capital and maintenance activities is as follows:

- Capital Renewal: $1.21M; and
- Maintenance: $3.64M or $364K on average per annum.

New assets required to meet population growth demands will be typically acquired from land developments and constructed by private developers who then gift these assets to Council. It is estimated that because of proposed developments such as those in Ballan, Merrimu and Hopetoun Park North, that Council will be gifted some 239 kms of pipes and 8,400 pits assets totalling $40.04M.

It is envisaged the financial projections will be improved as further information becomes available on the desired levels of service, asset dataset and current asset performance.

Monitoring and Improvement Program

The improvement action items identified can be found in the Plan Improvement and Monitoring Section.

Strategic Predictive Renewal Modelling Scenario Comparisons

FUNDING OPTIONS MODELLED	TOTAL 10-YEAR RENEWAL CAPITAL FUNDING	BACKLOG AT YEAR 10	AVERAGE CONDITION AT YEAR 10
CURRENT LTFP*	$1,206,910	$1,352,140	1.9
MAINTAIN CONDITION	$1,206,910	$1,352,140	1.9
VARIANCE	$0	$0	0.00

* Long Term Financial Plan

[1] It is envisaged that in conjunction with the next SAMP review that the funding plan will be updated utilising available asset performance data, which will be collected between SAMP reviews.

[2] As stormwater assets have a long useful life, the impact is considered to be immaterial in the next 4-5 years. It is envisaged that Council will be in a better position to undertake predictive modelling once it has undertaken a statistical CCTV visual analysis of its underground drainage system over the next few years.

[3] Currently not calculated. Excludes those assets requiring upgrade due to capacity issues, as these have yet to be identified.

[4] Excludes Operational Costs

Asset Class Information

Background

Any rain that falls on roofs or is collected via paved areas like driveways, roads or footpaths is called stormwater.

The stormwater drainage system within Moorabool Shire Council (Council) is a combination of pits, pipes, road culverts, open channels, natural waterways and road reserves, which carry the stormwater and dispose it in creeks, rivers and/or other catchments. It also includes quality protection devices (GPTs) that contribute to maintaining water quality.

Council's stormwater asset portfolio provides a vital service to the community. These stormwater assets represent a significant investment by Council and are of vital importance to providing the Shire with a stormwater drainage system. The function of the stormwater drainage system is to protect people, property, and public health, by safely and efficiently collecting, transporting and disposing of stormwater runoff.

Stormwater Assets Included in this AM Plan

The stormwater drainage assets considered in this SAMP, are described as including all assets directly associated with Council's stormwater drainage system, for which Council is the responsible authority.

In all, this SAMP covers 19,529 stormwater assets as classified by their asset subclass and set out in Table 2 – Stormwater Quantity by Asset Subclass.

A detailed list of all stormwater assets for which Council has included in this SAMP are recorded in Council's Asset Register.

Stormwater Asset Exclusions

The SAMP excludes all stormwater assets owned and maintained by other authorities such as the Melbourne Water Corporation and the Department of Environment, Land, Water and Planning (DELWP). Creeks, rivers and unlined channels are also not considered in this SAMP.

It should also be noted that household drainage systems from within private properties up until the drainage discharge point, are not maintained by Council. These systems are maintained by the property owners.

ASSET SUBCLASS	QUANTITY	LENGTH (KM)
Box Culvert (Road)	301	3.52
Pipe Culvert (Road)	2,133	19.84
GPTs	12	-
Pipes	8,650	237.98
Pits	8,427	-
TOTAL	**19,529**	**261.34**

TABLE 2 Stormwater Quantity by Asset Subclass

Current State of the Assets

The distribution of Council's stormwater asset portfolio by quantities is illustrated in Figure 2 – Distribution of Culverts, GPTs and Stormwater Pit Assets by Asset Type and Figure 3 - Distribution of Stormwater Pipe Assets by Size.

Current Replacement Costs

The total value of stormwater assets for which Council is responsible for is currently estimated at $104.5 million. The break-up of the asset type by replacement value is illustrated in Figure 4 – Stormwater Assets by Asset Type Estimated Replacement Values.

Table 3 – Stormwater Asset Class Valuations, identifies the annual asset depreciation of Council's stormwater assets to be in the order of $1.03 million per annum. The average annual depreciation (asset consumption) is considered a measure of the wearing out or other loss of value of the asset that arises from its use, passing of time or obsolescence environmental changes.

It should be acknowledged that depreciation is not an ideal measure and is seldom recommended now in modern practice with the focus more on sustainability-based analysis of asset service level (long term financial plans based on strategic lifecycle modelling and planning).

FIGURE 2 Distribution of Culverts, GPTs and Stormwater Pit Assets by Asset Type

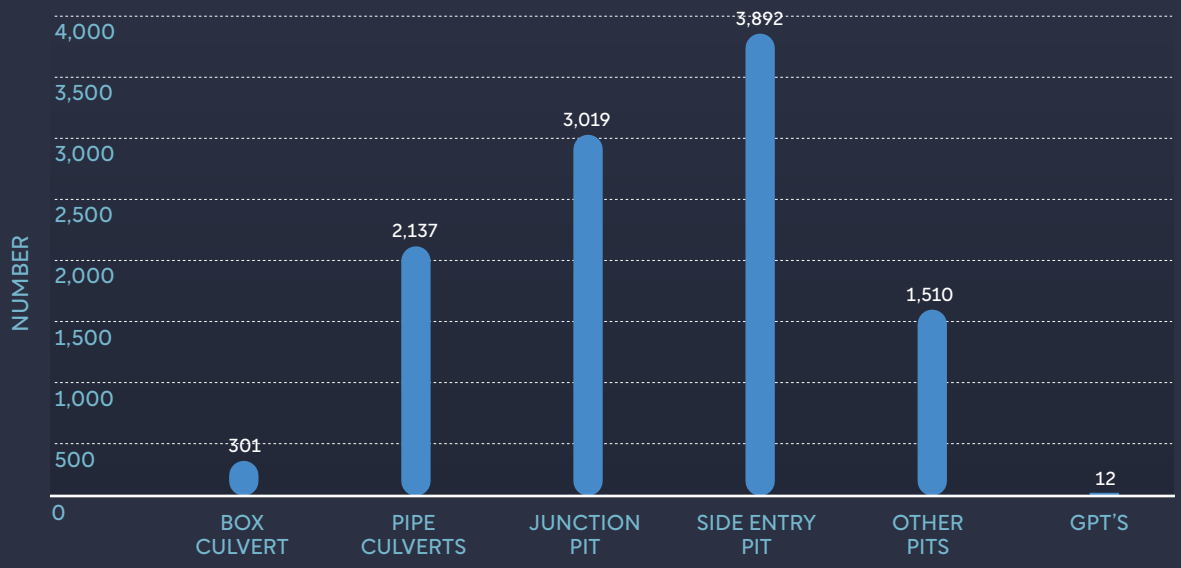


FIGURE 3 Distribution of Stormwater Pipe Assets by Size

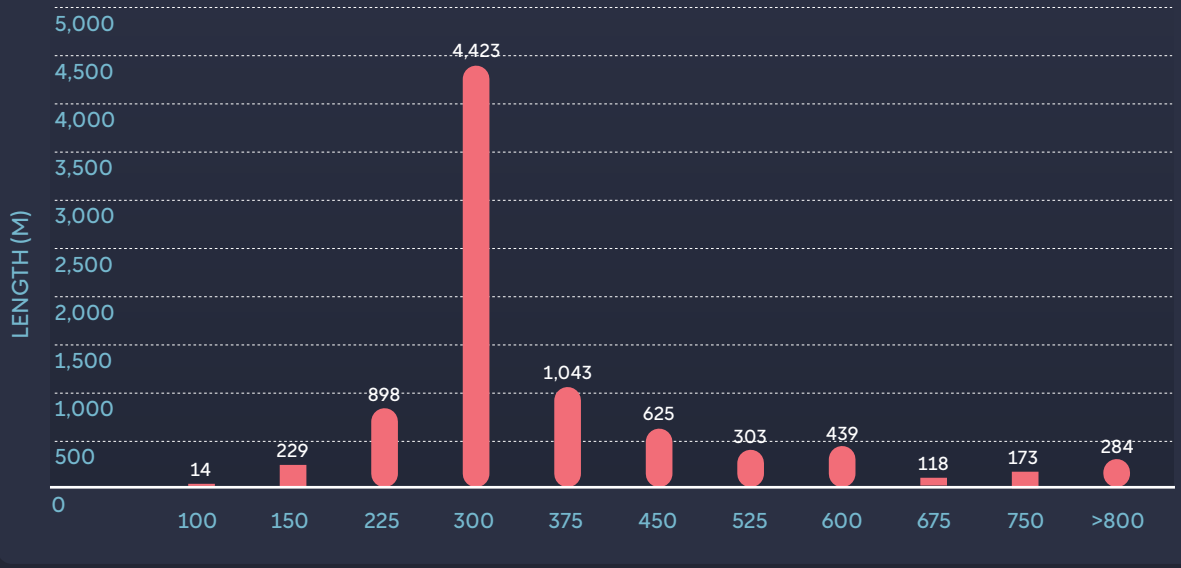


FIGURE 4

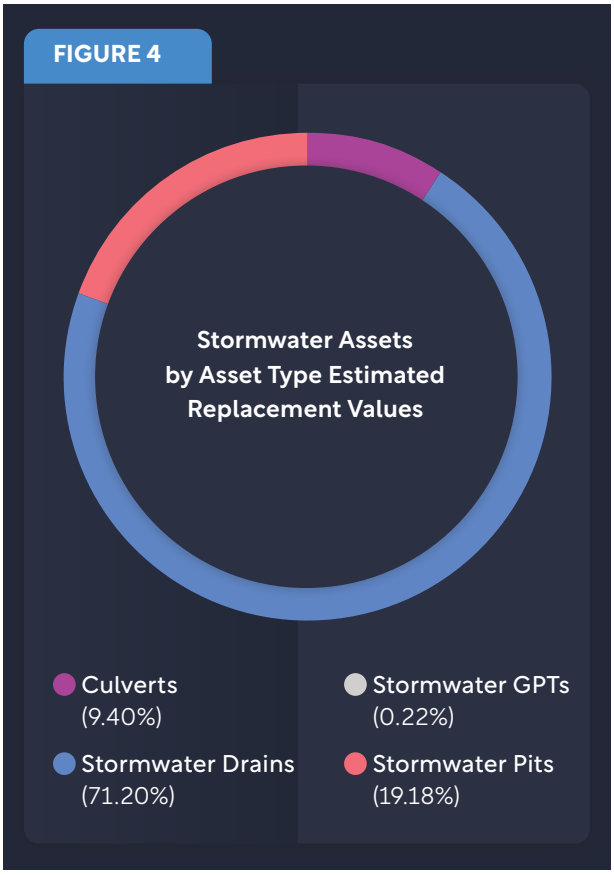
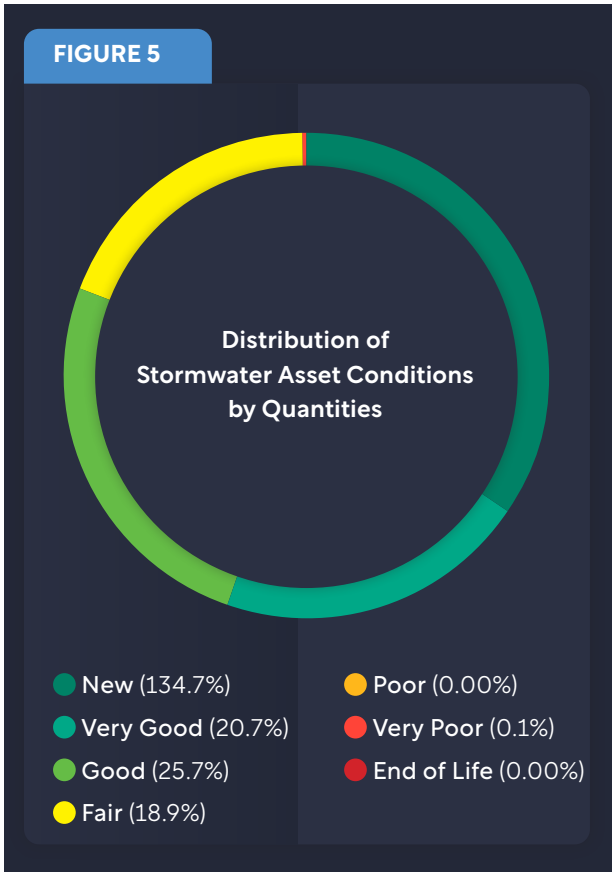


FIGURE 5



Stormwater Information Management

All information pertaining to location, type, dimensions, materials, known constructed dates and condition of these assets are recorded and stored in Council's Asset Register - Assetic Cloud©. At the time of preparing this SAMP, it is estimated that Council's Asset Register is 75% up to date.

Current Asset Performance

Based on available age data, Council's stormwater assets are estimated to be in good condition as shown in Figure 5 – Distribution of Stormwater Asset Conditions by Quantities, with some 79% in good condition or better. Approximately 19% of the drainage assets are in fair condition. The average network portfolio condition is 1.3 out of 6 with condition 0 representing an asset in brand new condition and condition 6 representing an asset that has

ASSET TYPE	QUANTITY (NUMBER)	REPLACEMENT COST	ACCUMULATED DEPRECIATION	FAIR VALUE	ANNUAL DEPRECIATION
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TOTAL	**19,529**	**$104,576,011**	**$24,100,099**	**$80,475,912**	**$1,026,035**

TABLE 3 Stormwater Asset Subclass Valuations[5]

[5] Valuations details sourced from Council's Asset Register as at 30 June 2021.

failed or exceeded its design life. Table 4 – Asset Condition Rating Guidelines provides further details on the condition descriptions.

Best practice asset management with regards to stormwater assets, utilises statistical sampling of the underground pipes using Closed Circuit TV (CCTV) methods to determine the structural condition and serviceability of pipes, whilst capacity analysis studies determine the drainage networks fitness for purpose in regard to meeting the required drainage design standards.

Locations where deficiencies in service performance exist are currently and progressively being identified by Council officers from resident requests and will be prioritised as part of a long-term rolling program of works. This is particularly relevant where location coincides with major road rehabilitation projects.

The framework documented in Council's Asset Management Policy, and the Strategy Objectives documented in the Asset Management Strategy and supported by this SAMP will place Council in a good position to address the asset issues currently faced.

Condition Assessment

Council has documented a stormwater condition assessment methodology that will be used to assess the condition of road culverts and drainage pipes and pits. Council's draft Stormwater Business Process Manual (BPM) provides further information on the methodology for rating and assessing the condition/performance of these assets.

Typically, network wide condition assessments are undertaken on a three-to-four-year cycle (coinciding with the financial revaluations) and used to identify where assets are within their defined useful lives at any given point in time.

To date, Council has not undertaken any comprehensive condition assessments of the underground drainage system. Condition has been applied to these assets using either known construction dates or the age of the various areas across the municipality, in conjunction with limited CCTV including in areas where known defects have been reported.

Statistical sampling is a recognised and widely used method, since the drainage pipes are buried below the ground, and a visual assessment of the drainage pipe network is difficult to determine without the assistance of CCTV technology. However, for the sampling to provide affective results, the CCTV inspection needs to be undertaken as a random sampling. Work will commence in 2022/2023 to statistically sample the pipe network.

Future iterations of this SAMP will have improved condition analysis undertaken to provide an indication of condition and location deficiencies mapped to identify capacity issues. At present, this is difficult to ascertain and hence will be revised at a later stage.

Table 4 – Asset Condition Rating Guidelines provides an overall view with regards to a standardised and consistent approach to applying an overall condition score and is by no means an extensive method for Council's stormwater asset stock. Detailed condition assessment methodologies in relation to drainage pipes, pits and road culverts are documented in the draft BPM.

The condition rating system is summarised in Table 4 – Asset Condition Rating Guidelines.

CONDITION	RATING	DESCRIPTION
0	New	Brand new asset or recently rehabilitated to as new condition. Only cyclical routine maintenance is required.
1	Very Good	A stormwater asset that is in excellent overall condition however is not new and providing its intended level of service.
2	Good	A stormwater asset that is in good overall condition with some possible early stages of slight deterioration evident which is minor in nature and causing no serviceability issues. No indicators of any future obsolescence and providing a good level of service.
3	Fair	A stormwater asset that is in fair overall condition with some deterioration evident, which may be slight or minor in nature and causing some serviceability issues. Providing an adequate level of service with no signs of immediate or short-term obsolescence.
4	Poor	A stormwater asset that is in poor overall condition with moderate to high deterioration evident. Substantial maintenance required to keep the asset serviceable. Asset will need to be renewed, upgraded or disposed of in the near future. This is reflected via inclusion in the 10 year Capital Works Plan.
5	Very Poor	A stormwater asset that is in extremely poor condition or obsolete. The asset no longer provides an adequate level of service and/or immediate remedial action required to keep the asset in service in the near future. Considered under capacity. Requires renewal or upgrade works within following 1-2 years.
6	End of Life	Stormwater asset has physically failed and/or has no availability.

TABLE 4 Asset Condition Rating Guidelines

Lifecycle Management

Life Cycle Management is an essential component of any good asset management plan. This section of the SAMP identifies the processes required to effectively manage, maintain, renew and upgrade Council's stormwater assets.

Operations and Maintenance Plan

Operations activities can be described as activities that are delivered on a day-to-day basis necessary to meet levels of service delivery requirements. Operational activities can include service delivery items such as clearing debris from the pits and pipes and maintaining table drains. Operational activities also include proactive and reactive inspections, undertaken by in-house technical staff and/or specialist contractors. Operations activities do not improve the condition of assets.

Over time, minor faults can occur within the stormwater drainage system. Council addresses the repairs and maintenance of these faults (i.e. broken pipe or pit lid, blocked pipe or pit) on the basis of defined intervention levels and response times. The intervention level defines the condition, state or risk level associated with an asset / component, i.e. the point in time at which the asset is considered to be below an

acceptable level of service. Maintenance is scheduled as soon as the asset reaches this point.

For the Levels of Service delivered on a day-to-day nature (i.e. responding to customer requests for maintenance faults and responding to localized asset failures), these intervention levels will be documented in a future Stormwater Management Plan. The Levels of Service with regards to inspection and cleaning of pits are documented in Council's Rod Management Plan 2021-2025 and the Street Cleaning Maintenance Management Plan 2015.

Renewal/Replacement Plan

Activities such as renewal, rehabilitation, reconstruction, and replacement will return the degraded service of the asset back to its original condition. The extent of service improvement depends on the nature and type of treatment.

The nature of Council, being a mature urban environment in some areas and young rural environment in other parts, means that the some of the municipality is generally considered to be fully serviced by the existing stormwater drainage system and in other parts, new assets will be required as a result of developments.

At present, the program of major renewal works on Council's drainage network is progressively developed from the results of requests and known localised flooding locations, which are undertaken in conjunction with major road works. Council's Capital Works Evaluation Guidelines provides a prioritisation matrix for the Stormwater Asset category. All renewal projects identified on the long-term capital improvement program are prioritised in accordance with this adopted document.

In future, this program will include renewal works identified from CCTV surveys and taking into consideration of known localised flooding locations.

The rule bases which reflect the policy decisions that Council will employ to determine when they will select assets for inclusion on their capital works program will be documented in the draft BPM. The built nature of new stormwater assets will always be provided in accordance with relevant Australian Standards and the Infrastructure Design Manual.

Upgrade/Expansion Plan

Upgrade and expansion works are associated with improving service levels beyond the original designed capability or modern-day equivalent. Additionally, expansion works include activities that extends the capacity of an existing asset, to provide higher levels of service and/or meet changes in asset resilience requirements. Upgrade/expansion is different to renewal/replacement which only improves the degraded service capability within the boundaries of the original designed capability.

Upgrade/expansion of existing assets will be identified from various sources such as drainage capacity studies, councillor or community requests, proposals identified by strategic plans or partnerships with other organisations or utilising Council's prediction modelling software (to be undertaken in future iterations). Candidate proposals are inspected to verify the need and to develop a preliminary renewal estimate. Verified proposals are ranked utilising Council's Capital Works Evaluation Guidelines and available funds sourced and scheduled in future works programmes.

Creation/Acquisition Plan

New stormwater assets are typically acquired from developers. New assets required to meet population growth demands will be typically acquired from land developments and constructed by private developers who then gift these assets to Council. It is estimated that because of proposed developments in suburbs such as Ballan, Merrimu and Hopetoun Park North, that Council will be gifted some 239 kms of pipes and 8,400 pits totalling $40.03M.

Council can also acquire new stormwater infrastructure by constructing new assets to alleviate drainage capacity issue, construct new pipes or lined open channels to replace creeks or unformed water courses, construct new pits to improve inlet capacity or construct new GPTs to improve water quality outcomes of water entering localised creeks/rivers. Works are identified and prioritised as documented in the renewal/replacement plan and upgrade/expansion plan sections.

Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition, relocation or transfer of ownership. At present there are no plans to dispose of any assets.

Leadership and Accountability

Council's Asset Management Policy 2021 defines the roles and responsibilities within Council for asset management.

In addition, an Asset Management Steering Committee (AMSC) has been drawn from across Council administration to coordinate asset management related matters. Meetings are held regularly and chaired by the Manager Asset Management. Council is in the process of developing an Asset Management Responsibility Assignment Matrix that details the organisational relationships and lines of responsibility with regard to asset management over the asset lifecycle.

Levels of Service

Customer Research and Expectation

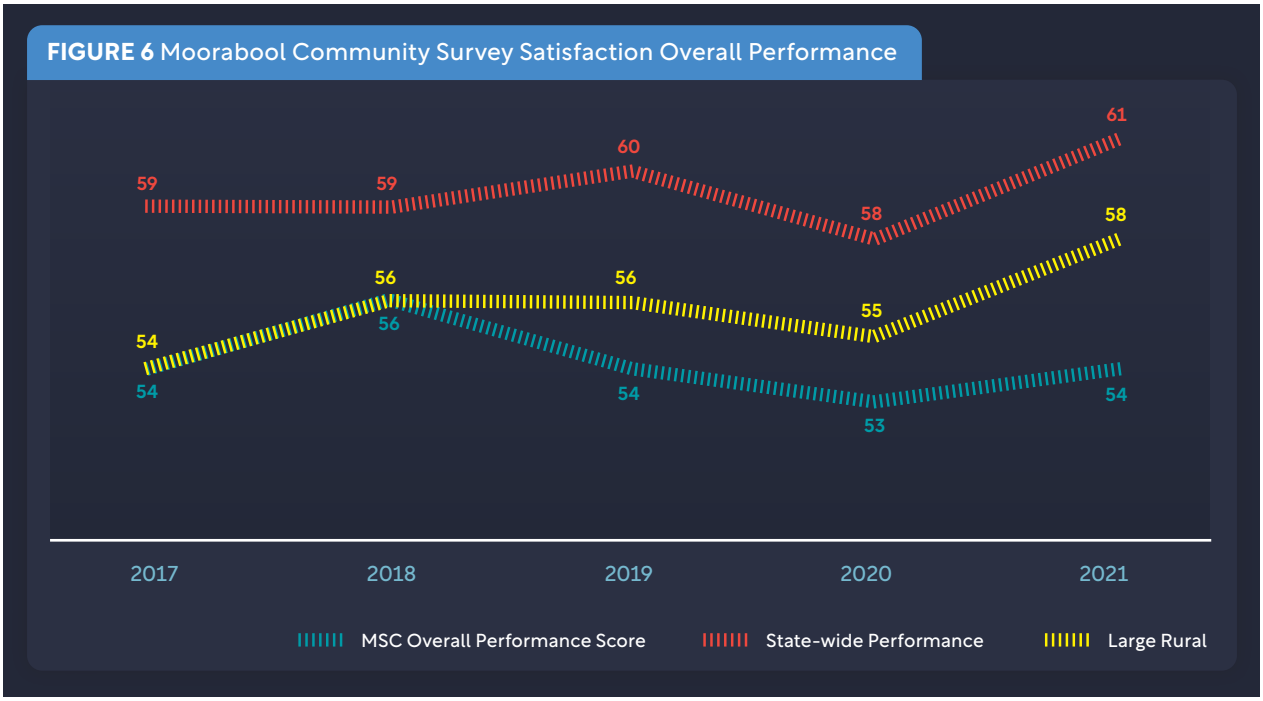
The most recent customer satisfaction survey[6], which was conducted in 2021, asks the opinions of local people about the place they live, work and play and offers councils a long-term measure of how they are performing.

It is acknowledged that past surveys have not specifically gauged the community's satisfaction with regards to Council's provision of stormwater drainage services. However, Figure 6 - Moorabool Community Survey Satisfaction Overall Performance, illustrates the satisfaction with Council's overall performance between 2017 to 2021 and provides comparison performance with the State-wide average and large municipal Victorian like municipalities.

The overall performance index score of 54 (100 represents excellent and 50 represents average performance) for 2021 is in line with the 2020 result (up one index point).

Future surveys should include specific questions to the community regarding stormwater services, to identify and measure the importance and performance in delivering this service to the community.

FIGURE 6 Moorabool Community Survey Satisfaction Overall Performance



[6] 2021 Local Government Community Satisfaction Survey – Conducted by JWS Research

Strategic and Corporate Goals Alignment

This SAMP is prepared and aligned with Council's vision, mission, goals, and objectives and has been aligned to deliver cost-effective, transparent, realistic, and affordable service levels in accordance with community expectations.

Relevant Council goals and objectives and how these are addressed in this SAMP are detailed in Table 5 - Council's Goals and how these are addressed in this Plan.

STRATEGIC OBJECTIVE	OUTCOME	HOW GOAL AND OBJECTIVES ARE ADDRESSED IN BAMP
Providing good governance and leadership	Delivering services to communities by maintaining assets and infrastructure that is fit for purpose.	Provision of 10-year capital improvement programs in order to reduce asset renewal gap and to ensure that assets are fit for the purpose they were intended for.
Minimising environmental impact	Increasing health and wellbeing, improving amenity, and creating great places to live.	Provision of design for capital works, built assets management, civil and landscape infrastructure planning.
Improving social outcomes	Improving health and wellbeing, increasing community connectedness and capacity.	Provision of design for capital works, built assets management, civil and landscape infrastructure planning. Provision of stormwater assets (i.e. drainage, culverts, pits, etc.) that are fit for purpose and well maintained.

TABLE 5 Council's Goals and how these are addressed in this Plan

Key Stakeholders

Assets controlled by Council are utilised by a broad cross-section of the community. It is critical that assets are maintained and renewed based on need and fit for purpose. Asset users are key stakeholders of this SAMP.

Table 6 - Key Stakeholders identifies stakeholders where consultation is necessary when Council seeks input in relation to the determination of Levels of Service and intervention levels.

STAKEHOLDER GROUP	ROLE OR INVOLVEMENT
INTERNAL STAKEHOLDERS	
Elected Council	Custodian of the asset, with Councillors representing the residents and setting strategic direction as per the Corporate and Operational Plans.
Executive Team	To ensure that Asset Management policy and strategy is being implemented as adopted, and to ensure that long-term financial needs to sustain the assets for the services they deliver are advised to council for its strategic and financial planning processes.
Managers of the various Stormwater assets	As the designated Strategic Custodian of property assets, responsible for the overall management of the assets from planning, design, maintenance, capital works and monitoring and updating the plan and ensuring its outcomes are realised to achieve the levels of service being required from utilisation of the assets;
Asset Management Department	Maintaining Council's asset registers and performing strategic predictive modelling analysis works to inform Council's Long Term Financial Plans and Capital Works Program. Responsible for coordinating the development and implementation of asset management processes and frameworks within the Council.
Finance Department	Ensuring that the asset valuations are accurate. Development of supporting policies such as capitalisation and depreciation. Preparation of asset sustainability and financial reports incorporating asset depreciation in compliance with current Australian accounting standards, AM, GIS support and admin.
Maintenance Personnel (Internal)	To ensure provision of the required/agreed level of maintenance services for asset components;
Information Technology Managers	To ensure that the relevant IT systems are functioning and that any data within the systems is secure and its integrity is not compromised.
Risk Managers	To ensure that risk management practices are conducted as per Council policy and assist operations managers with advice on risk issues.
Internal Auditors	To ensure that appropriate policy practices are carried out and to advise and assist on improvements
EXTERNAL STAKEHOLDERS	
Community	General users of the water and drainage network.
Service Providers	Those external bodies or agencies that provide services to the community.
Maintenance Personnel (contractors)	To ensure provision of the required/agreed level of maintenance services for asset components.
State and Federal Government Depts	Periodic provision of advice, instruction and support funding to assist with management of the drainage network.
Council's Insurer	Insurance and risk management issues.

TABLE 6 – Key Stakeholders

Legislative Requirements

There are many legislative requirements relating to the management of Council assets. Legislative requirements that impact the delivery of Council stormwater services include:

LEGISLATION	REQUIREMENT
Local Government Act 2020	Sets out role, purpose, responsibilities and powers of local governments including the requirement to develop, adopt and keep in force an Asset Plan. The scope of the Asset Plan is a period of at least the next 10 financial years and must include information about maintenance, renewal, acquisition, expansion, upgrade, disposal and decommissioning in relation to each class of infrastructure asset under the control of the Council.
Road Management Act 2004	Purpose is to establish a coordinated management system for public roads that will promote safe and efficient State and local public road networks and the responsible use of road reserves for other legitimate purposes, such as the provision of utility services and drainage.
Public Health Act and Well Being Act 2008	The purpose of this Act is to enact a new legislative scheme which promotes and protects public health and wellbeing in Victoria. Impacts cooling towers.
Catchment and Land Protection Act 1994	Includes setting up a framework for the integrated management and protection of catchments (S1). The Act establishes the catchment management authorities (S11).
Planning and Environment Act 1987	The purpose of this Act is to establish a framework for planning the use, development and protection of land in Victoria in the present and long-term interests of all Victorians.
Occupational Health and Safety Act (Vic) 2004 and Occupational Health and Safety Regulations 2007	Governs the key principles, rights and duties in relation to occupational health and safety.
Environment Protection Act 1970	The purpose of this Act is to create a legislative framework for the protection of the environment in Victoria having regard to the principles of environmental protection.
Water Act 1989	Includes providing for the integrated management of all elements of the terrestrial phase of the water cycle (S1). The Act gives the rights and responsibilities for the use flow and control of water e.g. S16. The Act creates the waterway management authorities (e.g. Melbourne Water).
Water Management Act 2000	The objects of this Act are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations.
Environment Protection (Water Quality) Policy EPA 2003	Prohibits the disposal of contaminated stormwater into waterways

TABLE 7 Legislation Relevant to Management of Stormwater Assets

Regulations, Standards and Guideline requirements that impact the delivery of Council's stormwater services are outlined below.

REGULATION / STANDARD / GUIDE	REQUIREMENT
Moorabool Planning Scheme	Provides a framework in which decisions about the use and development of land in Moorabool, and allows for the implementation of State, regional and local policies affecting land use.
Australian Rainfall and Runoff	A national guideline document for the estimation of flood flows in Australia.

REGULATION / STANDARD / GUIDE	REQUIREMENT
Blue Green Algae Protocol	Provides information to councils on how to address the various issues arising from blue-green algae outbreaks.
Local Government (Planning and Reporting) Regulations 2020	The Local Government (Planning and Reporting) Regulations 2020 have replaced and substantially replicated the Local Government (Planning and Reporting) Regulations 2014, by prescribing the information to be included in councils' Council Plan, budget, and annual report, as well as continuing to provide a mandatory system of performance reporting for all councils. The only variations in the Regulations 2020 reflect the new strategic plans being introduced by the *Local Government Act 2020*, specifically the four-year budget, and the 10-year Financial Plan.
ISO 55000 Suite, 2014	The International Organization for Standardization's *ISO 55000:2014 Asset Management* (ISO 55000) provides a global guide to better practice in asset management, including asset information management. ISO 55000 specifies that entities should align information requirements to asset management needs and risks, along with requirements for collecting, managing, evaluating, and ensuring consistency and availability of information for asset management decision-making.
Australian Accounting Standards Board (AASB)	Provides direction and guidance on the financial and reporting expectations of entities, to ensure a consistent approach to accounting records. The following regulations apply to Council: **AASB 116 Property, Plant and Equipment** – prescribes requirements for recognition and depreciation of property, plant and equipment assets. **AASB 136 Impairment of Assets** – aims to ensure that assets are carried at amounts that are not more than their recoverable amounts. **AASB 1021 Depreciation of Non-Current Asset**s – specifies how depreciation is to be calculated. **AAS 1001 Accounting Policies** – specifies the policies that an organisation is to have for recognition of assets and depreciation. **AASB 1041 Accounting for the reduction of Non-Current Assets** – specifies the frequency and basis of calculating depreciation and revaluation basis used for assets; and **AAS 1015 Accounting for acquisition of assets** – method of allocating the value to new assets on acquisition.
All other relevant Australian Standards	AS/NZ Standards such as Risk Management Standard.
All Local Laws and relevant policies of the Organisation	Construction standards, Maintenance contracts, etc.
Asset Management Accountability Framework 2016 (AMAF)	The Department of Treasury and Finance's (DTF), AMAF establishes a flexible and non-prescriptive set of requirements which aim to ensure Victorian public sector Accountable Officers manage asset portfolios appropriately. The AMAF, although not compulsory for Victorian councils, provides useful guidance on how councils can manage their asset information. The AMAF sets out that agencies must maintain asset information—both financial and non- financial—to support asset planning, and performance monitoring and reporting.
International Infrastructure Management Manual, Sixth Edition, IPWEA, V6.0, 2020	The IIMM has been developed with public and private sector industry input from Australia, New Zealand, United States Canada, South Africa and the United Kingdom to promote best management practice for all infrastructure assets.

TABLE 8 Regulations and Standards Relevant to Management of Stormwater Assets

The following is a summary of policies relevant to this asset class. Many of these policies are available from Council.

POLICY	REQUIREMENT
Asset Valuation and Revaluation Policy 2018 (currently under review and expected update by 30 June 2022)	Provides direction for the development of Guidelines for the financial valuation of assets, under the control of Council, including the initial recognition, valuation, and subsequent revaluation together with the frequency of revaluation of those assets. The Policy's associated guidelines are to assist Council's commitment to sustainable long-term financial planning.
Asset Management Policy 2021	The Policy acknowledges Council's commitment to asset management and provides a consistent asset management approach with clear principles and guidelines in order to manage Council's assets for the current and future community. It establishes a framework to ensure a structured, coordinated, cost effective and financially sustainable approach to asset management across the organisation.
Risk Management Policy 2019	Sets the overall framework for ongoing and systematic identification, assessment and management of risk within the framework of ISO 31000-2018, Risk Management - Guidelines.
Asset Capitalisation Policy 2018 (currently under review and expected update by 30 June 2022)	Provides consistent guidelines, in accord with relevant Accounting Standards and State Government Policy, regarding which Council assets are to be capitalised (as opposed to expensed).

TABLE 9 Policies Relevant to Management of Stormwater Assets

Level of Service

The levels of service documented in this SAMP reflect the current levels of service provided by Council, for the benefit of the community, in the context of Council's financial and human resources, whilst meeting its Statutory requirements.

The levels of service that have been adopted are considered reasonable as demonstrated by industry standards and benchmarks.

Customer Levels of Service

Council's Customer Levels of Service that have been adopted as a result of this SAMP are detailed as follows:

KEY PERFORMANCE MEASURE	LEVEL OF SERVICE	PERFORMANCE MEASURE	2021 PERFORMANCE
COMMUNITY LEVELS OF SERVICE			
Customer Satisfaction	Stormwater assets meet community needs	>60 community survey satisfaction	Data to be collected.
Quality	Performance in providing and maintaining stormwater drainage facilities	<100 requests per annum in relation to new/renewal requests	67
Quality	Performance in providing and maintaining stormwater drainage facilities	<300 requests per annum in relation to maintenance requests	203
Quality	Protect the quality of receiving waters	Installation of GPT's as appropriate at strategic locations across the municipality	Data to be collected.
Responsiveness	Response time to customer requests	> 80% of all requests adequately responded to within target.	Data to be collected.

TABLE 10 Customer Levels of Service

Technical Levels of Service

Supporting the community service levels are operational or technical measures of performance.

Technical service measures are linked to annual budgets covering operations, maintenance, renewal and upgrade activities as defined in the Lifecycle Management Section.

KEY PERFORMANCE MEASURE	LEVEL OF SERVICE	PERFORMANCE MEASURE	2021 PERFORMANCE
TECHNICAL LEVELS OF SERVICE			
Condition	Condition assessment of stormwater assets every 3 years.	Average portfolio condition of stormwater network to be less than condition 3.	1.3
Quality	Stormwater assets maintained to an acceptable level.	Lesser than 5% of the total network in condition above score 4 out of 6.	<1%

TABLE 11 Technical Levels of Service

Future Demand

This section identifies the effect of expected growth and consequent demand on Council's stormwater asset infrastructure.

Forecasting future demand is essential in determining lifecycle management for assets. The management of stormwater assets within the municipality is directly affected by growth in the number of assets and growth in the number of developments.

Demand Drivers

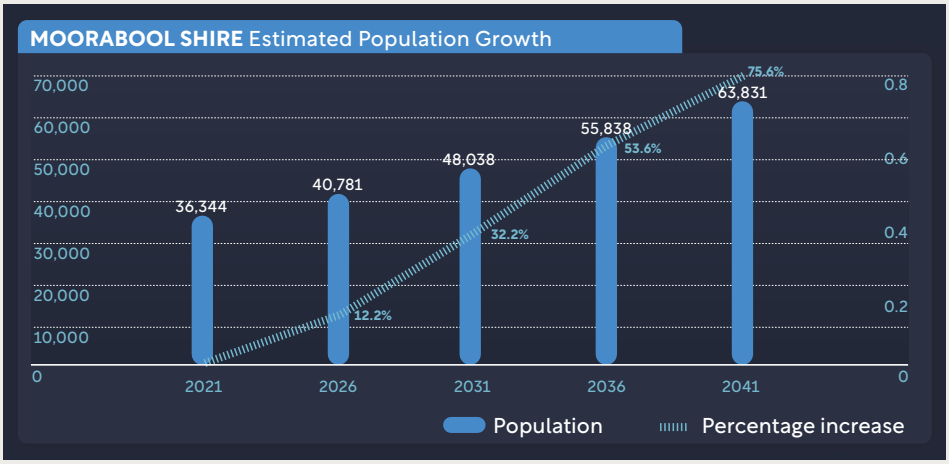
The main drivers affecting demand include demographic changes in population; environmental factors influencing infrastructure capacity and design requirements; and technological change and improvements in maintenance and management of infrastructure.

Demand Forecasts

The present position and projection for demand drivers due to population growth that may impact future service delivery and utilization of assets are identified and documented in Table 12 - Demand Factors, Projections, and Impact on Services.

The emerging needs of the population growth suggests that demand for stormwater assets (pipes, drains, road culverts) will need to cater for additional new and upgraded stormwater assets over the following 10 years. It is estimated that because of proposed developments in suburbs such as Ballan, Merrimu and Hopetoun Park North, that Council will be gifted some 239 kms of pipes and 8,400 pits.

DEMAND FACTOR	PRESENT POSITION	PROJECTION
Population Growth	Present population growth in Moorabool is forecast to increase by 75.6% between 2021 and 2041.	



Source: Population and household forecasts, 2016 to 2041, prepared by .id (informed decisions), November 2020.

TABLE 12 Demand Factors, Projections and Impact on Services

Changes in Technology

Council is continuously monitoring new asset treatments that may be available to increase the life of its assets. Over past years, Council has employed several changes in technology that have affected the functional levels of service of Council's drainage system, including the use of rubber ring jointed pipes to allow for movement of the pipe, improvement in bedding and backfill standards and the installation of gross pollutant traps (GPTs), to improve the quality of stormwater before reaching the receiving waterways.

Utilising advanced trenchless technology when renewing pipes, will minimise the disturbance of the road reserve in highly populated areas, while implementing water sensitive urban design features, will reduce the flow rates from new developments and provides for higher quality water runoff and opportunities to re-use the stormwater. These will be explored in future revisions of the SAMP.

New Assets from Growth

Currently Moorabool Shire has a population of around 36,000 which is set to grow to around 64,000 by 2041. Several growth and strategic areas are currently going through the re-zoning applications due to population and demand growth. Table 14 – New Assets from Growth, summarises projected growth in Moorabool which will result in an increase in residents and subsequently will require new stormwater assets to accommodate this population growth.

Due to population growth and development, Council is expecting to be gifted $40.04M in new stormwater assets necessary to service this growth. This expenditure will be funded via developer contributions. As additional information becomes available with regards to new growth and development areas, Council will continue to identify the community infrastructure needs and these will be included in future revisions of this SAMP in greater detail.

With the commitment of new stormwater asset growth, Table 13 - Financial Impacts from Growth, identifies the predicted impacts to replacement values, annual depreciation and maintenance.

When new assets are acquired, or assets are expanded or upgraded, this results in an increase in commitment of annual operational and maintenance and renewal funding to ensure continued service delivery of the asset over its lifecycle.

	CURRENT	PREDICTED	IMPACT BY 2032
Replacement Value	$104.6M	$144.6M	+38%
Annual Depreciation	$1.03M	$1.4M	+36%
Maintenance	$295.5k	$2.89M	+878%
Renewal	Impact to renewal is beyond life of this SAMP and will be reviewed in future SAMP updates.		

TABLE 13 Financial Impacts from Growth

AREA	ANTICIPATED GROWTH
Ballan	Approximately 3,000 lots with construction anticipated to commence in 2023/2024.
Hopetoun Park North	Approximately 850 lots with construction anticipated to commence in 2023/2024.
Merrimu	Approximately 7,200 lots with construction anticipated to commence in 2023/2024.
Parwan Employment and Parwan Station	Approximately 4,000 lots and over 5,000 job opportunities with construction anticipated to commence in 2024/2025.

TABLE 14 New Assets From Growth

Demand Management Plan

The demand for stormwater assets at Council will increase proportionally with the predicted population growth and predicted demographic changes.

Demand for new services will be managed through a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures. Opportunities identified to date for demand management are shown in Table 15 - Demand Management Plan Summary.

SERVICE ACTIVITY	DEMAND MANAGEMENT PLAN
Development of new residential subdivisions which can affect future capacity requirements	Placing planning controls on the amount of discharge that a new development may discharge to Council's drainage system by storing flows by via on-site retention systems.
Development of new residential subdivisions which can affect future capacity requirements	All new developments will be managed through the planning and engineering subdivision process with Development Control Plans enabling contributions from new developments allocated to upgrade existing downstream drainage systems, where impacted as a result of new developments.
Identified areas where a lack of capacity exists	Undertake drainage capacity analysis and identify areas of the drainage network that need to be upgraded to meet current design standards.
Non-Asset based solution through education and information programs	Encourage and promote the use of rainwater tanks and the reduction of hard surface areas to reduce the volume of stormwater entering into the network.

TABLE 15 Demand Management Plan Summary

Risk Management Planning

Asset Criticality / Hierarchy

To manage Council's stormwater assets more effectively, they have been categorised based on the level of importance and criticality. The methodology and an explanation will be documented in Council's draft SWBPM.

The stormwater hierarchy adopted by Council considers the varying risk and service levels associated with the stormwater asset portfolio and is summarised in Table 16 - Asset Criticality / Hierarchy for Stormwater Assets.

Risk Management Plan

Council's Risk Management Policy sets the overall framework for addressing risk within the framework of ISO31000-2018. The Policy outlines Council's commitment to manage its resources and responsibilities in a manner which is intended to minimise harm or loss. The elements of this framework are illustrated in Figure 7 - Risk Management Process, Source: ISO31000:2018.

Risks Assessment

Council has also developed a Risk Framework which documents Council's risk management processes and procedures and the rationale behind them. The risk assessment process identifies credible risks, the likelihood of the risk event occurring and the consequences should the risk event occur.

Risk Plan

An assessment of risks associated with service delivery from stormwater assets has identified critical risks to Council. The asset risk and risk treatment plan will be documented in Council's Stormwater Management Plan, due for development.

CRITICALITY / HIERARCHY	DESCRIPTION
Major	All stormwater asset types located within the trunk collector and collector road reserve and/or All 750mm in diameter or greater pipes and associated pits discharging to these pipes.
Minor	All stormwater asset types located within the access street and place road reserve and/or All pipes less than 750mm in diameter and associated pits discharging to these pipes.

TABLE 16 Asset Criticality / Hierarchy for Stormwater Assets

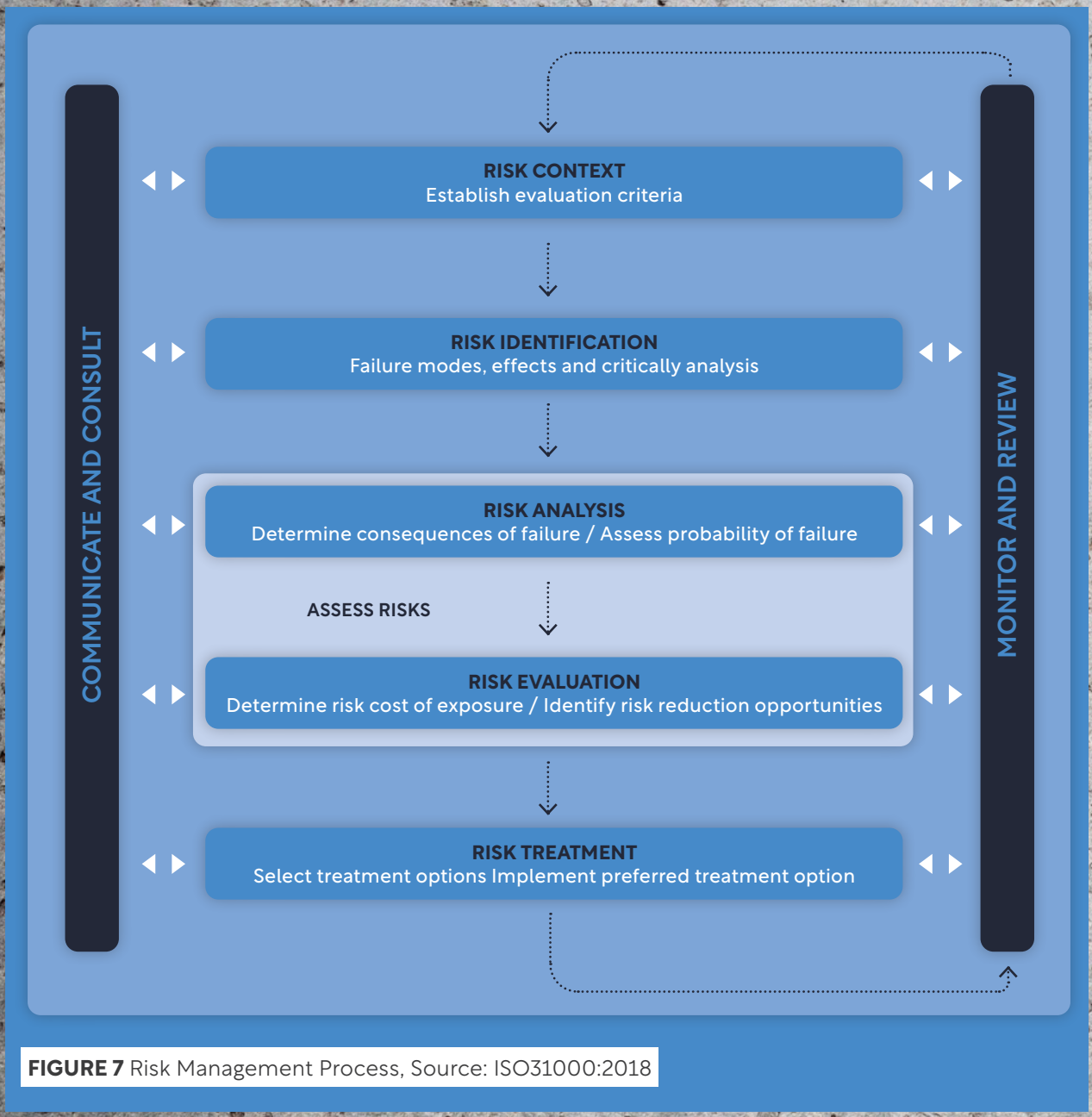


FIGURE 7 Risk Management Process, Source: ISO31000:2018

Financial Summary

The provision of adequate financial resources ensures that Council's stormwater asset portfolio is appropriately managed and preserved.

Financial provisions below requirements impact directly on community development and if prolonged, results in substantial needs for "catch up" expenditure imposed on the community in the future. Additionally, deferred renewal results in increased and escalating reactive maintenance as aged assets deteriorate at increasing rates.

Forecasted Funding Requirements

The objective of this Section is to model the deterioration of Council's stormwater assets portfolio, by developing a simulation model using Assetic's Predictor© modelling software.

This process typically involves setting up life cycle paths for each stormwater asset / component, along with their inspected condition, identifying the appropriate treatments and unit rates to deliver these treatments and configuring the treatment rule base (matrices based on selected condition criteria that when matching will drive a treatment based on the condition).

By utilising the above process and setting up the criteria and logic within the predictive modelling software, it is typically possible to model the future costs of Council's stormwater asset portfolio renewal requirements and also to predict the future condition of these assets under varying funding scenarios.

However, in the absence of suitable stormwater condition, capacity and functional data and considering existing stormwater levels of service delivered, it is proposed to continue to allocate current funding allocations as documented in Table 17 - Desired 10-Year Funding Strategy.

Forecast 10-Year Funding

The 10-year funding* considered sufficient (in the short term[8]) to enable the stormwater portfolio to achieve its current useful lives through capital and maintenance activities is as follows:

- Capital Renewal: $1.21M; and
- Maintenance: $3.64M or $364K on average per annum.

However, there are a number of studies / investigations being undertaken which may identify additional funding needs to upgrade existing assets to meet required service levels, over the following 4 years.

[8] As stormwater assets have a long useful life, the impact is considered to be immaterial in the next 4-5 years. It is envisaged that Council will be in a better position to undertake predictive modelling once it has undertaken a statistical CCTV visual analysis of its underground drainage system over the next few years.

* This funding plan will be reviewed in conjunction with the next SAMP update in 2026. As new information becomes available on growth demand needs and asset lifecycle, these will be reflected in the 10-Year Funding Strategy.

> Council requires approximately $1.21M over the following 10 years for renewal works to preserve current stormwater asset portfolio condition.

2022/23 ($,000)	2023/24 ($,000)	2024/25 ($,000)	2025/26 ($,000)	2026/27 ($,000)	2027/28 ($,000)	2028/29 ($,000)	2029/30 ($,000)	2030/31 ($,000)	2031/32 ($,000)
SPEND TYPE: Capital Asset Renewal									
$83.5	$106.9	$117.8	$123.5	$113.1	$121.8	$129.0	$134.1	$138.6	$138.6
SPEND TYPE: Total Capital[9]									
$83.5	**$106.9**	**$117.8**	**$123.5**	**$113.1**	**$121.8**	**$129.0**	**$134.1**	**$138.6**	**$138.6**
SPEND TYPE: Maintenance[10]									
$295.5	**$308.9**	**$323.0**	**$337.7**	**$353.2**	**$369.0**	**$385.5**	**$402.8**	**$422.2**	**$447.8**

TABLE 17 Desired 10-Year Funding Strategy

[9] Excludes assets which will be gifted by developers.

[10] Excludes operational costs

Financial Ratios

Asset management ratios provide insight into an organisation's performance and success in managing its assets. Council's asset management ratios for its asset portfolio calculated as at 30 June 2022 are shown in Table 18 – Key Asset Management Ratios.

RATIO	DESCRIPTION	CALCULATION	TARGET	2021 PERFORMANCE*
Asset Renewal Funding Ratio	The extent with regards to how the organisation is funding their capital works program when comparing allocated capital works expenditure with the desired expenditure which has been derived from prediction modelling and/or service level agreements.	Funded capital expenditure on renewals divided by the planned/ desired capital expenditure.	>75%	To be determined post prediction modelling in future SAMP
Remaining Service Index Ratio	The overall health of the organisation's asset stock in terms of measuring past asset consumption, via the amount of accumulated depreciation. The lower this ratio is, the more the asset stock has been consumed, which also indicates that not enough capital expenditure has been allocated to the asset.	Written down value (fair value of the portfolio) divided by the total current replacement value.	>70%	77%
Maintenance Sustainability Ratio	Measures the level of maintenance funding spent per annum, as a % of asset replacement value on the asset portfolio.	Total maintenance funding per annum / Total Replacement Value, expressed as a percentage.	2-5%	<0.5%

TABLE 18 Key Asset Management Ratios

[10] Excludes operational costs

* The Improvement Plan, identifies action items that will assist Council in improving its future Financial ratio Performance in relation to its maintenance sustainability ratio.

Plan Improvement and Monitoring

This section outlines how Council will measure its asset management performance.

The identified action items in Table 20 - Improvement Actions will enable Council to improve its asset management capability, to enhance asset value and deliver more for stakeholders while balancing cost, risk and performance.

Assumptions

The key assumptions made in this SAMP and risks that these may change are shown below.

KEY ASSUMPTION	RISK OF CHANGE TO ASSUMPTION / IMPACT TO MODEL
Maintenance funding levels will be progressively increased to represent as a minimum, 2% of the asset base replacement value.	Medium
The funding needs for new and/or upgrade of stormwater assets will be identified via capacity analysis studies and funding sought from grants and/or developer contributions. As identified, these will be incorporated into future SAMP revisions.	Medium
Capital renewal treatments are like for like and do not account for additional costs to upgrade and/or utilise new technologies and materials.	Medium to Low
Asset register currency pertaining to asset quantities.	Medium to Low
Network strategic sampling CCTV condition inspections will be funded on an annual basis and incorporated into the Operational budget.	Low
Current human resource plan will not change in the near future.	Low

TABLE 19 Key Assumptions made in SAMP and Risks of Change

Improvement Plan

The Asset Management Improvement Plan which is set out in Table 20 - Improvement Actions below details the key improvement tasks. Completion of these tasks will improve Council's asset management capabilities for this asset class.

TASK NO	IMPROVEMENT ITEMS	RESPONSIBILITY	TIMELINE
1.	Ensure information relating to capacity, functionality and fit for purpose from Council's Community Infrastructure Plan is used to inform renewal planning for stormwater assets.	Asset Manager	June 2024
2.	Formally document the current maintenance Levels of Service with regard to all stormwater assets owned or maintained by Council in a Stormwater Management Plan.	Operations Manager	June 2023
3.	Finalise the draft Stormwater Business Process Manual for adoption and implementation.	Asset Manager	December 2022
4.	Develop, implement and resource an annual CCTV sampling inspection of underground pipes and update pipe conditions within the asset register.	Asset Manager	December 2023
5.	Identify and capture asset data pertaining to stormwater asset types such open drains and basins and incorporate into future SAMP reviews.	Asset Manager	December 2023
6.	Identify and maintain a register of known flooding location and undertake drainage capacity analysis as required, to determine capacity and functionality conditions to assist in identifying future works.	Asset Manager	December 2023
7.	Undertake prediction modelling and lifecycle costing analysis of the stormwater drainage system to inform Section 6 of this plan.	Asset Manager	June 2024
8.	Develop and implement an asset handover process to enable 100% asset data capture of new assets gifted or constructed by others to be captured in Council's asset register on an annual basis.	Asset Manager	December 2022
9.	Future community surveys should include specific questions to the community regarding stormwater services, to identify and measure performance in delivering this service to the community.	Asset Manager	January to June 2022
10.	Review and finalise the draft responsibility matrix with a view to identify and streamline roles and responsibilities.	Asset Manager	June 2022
11.	Develop and implement frameworks to improve and further develop its lifecycle AM processes to ensure that all lifecycle costs are identified and included in all capital investment decisions.	Asset Manager, Project Managers, Finance Manager	June 2024

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TASK NO	IMPROVEMENT ITEMS	RESPONSIBILITY	TIMELINE
12.	Undertake analysis to identify financial and accomplishment data on maintenance works to improve alignment with annual capital funding process, ensuring allocation of appropriate annual maintenance funding. Update Maintenance funding expenditure in future SAMP revisions.	Asset Manager, Finance Manager, Operations Manager, Civil Maintenance Coordinator	June 2023
13.	Review Council's operational and resource costs to ensure funding is at required levels.	Asset Manager, Finance Manager	June 2023

TABLE 20 Improvement Actions

Monitoring and Review Procedures

The SAMP has a planning horizon of 10 years, and it is based on details documented within the Asset Management Strategy. The SAMP will be reviewed and updated in the year following Council general elections, as required by the Local Government Act (LGA) 2020 Section 92.4.

This SAMP will be reviewed and amended to recognise any changes in service levels, needs arising from drainage capacity studies and/or resources available to provide those services as a result of the budget decision process.

Performance Measures

The effectiveness of this SAMP can be measured and monitored based on annual strategic Council indicators as follows:

- The performance of Council against the Levels of Service documented in this SAMP; and
- Performance against the Asset Management Ratios documented in this SAMP.

MOORABOOL
SHIRE COUNCIL

Moorabool Shire Council
Principal office
15 Stead Street
Ballan Victoria 3342

moorabool.vic.gov.au