

Mid Murray Council

Stormwater Management Plan 2020



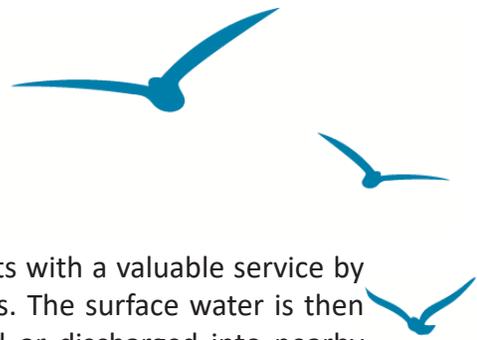
Summary

Description	Unit Rate/s	Units	Unit	Useful Life (yrs)
Culvert	\$220.50 - \$884.72	15	Each	80
RCP	\$254.84 - \$1327.95	10739	Linear Metre	100
Swale	\$40 - \$50	1189	Linear Metre	50
Gabion Mattress	\$250	20	M2	50
Gabion Basket Detention Basin	\$20,000	5	ML	100
Grated Kerb Inlet	\$2,346.65	2	Each	80
Grated Pit	\$1,782 - \$3,610.87	18	Each	80
Gross Pollutant Trap	\$17,500 - \$110,00	4	Each	50
Junction Pits	\$1,800 - \$3,600	3	Each	80
Kerb Inlets	\$2346.55 - \$6,500	264	Each	80
Natural Detention Basin	\$20	3440	M3	100

Asset Class	CRC
Culvert	\$76,176.93
Gabion Mattress	\$5,000.00
Grated Kerb Inlet	\$4,693.10
Grated Pit	\$60,351.31
Cross Pollutant Traps	\$440,000.00
Junction Pits	\$7,200
Kerb Inlet	\$882,600.95
Kerb Outlet	\$4,693.10
Pipework	\$5,294,166.65
Retention Basin	\$209,040.00
Swale	\$48,570.00
Total	\$7,075,660.04



Introduction



Mid Murray Council's stormwater assets provide townships and settlements with a valuable service by moving surface water to alleviate flooding to properties and road surfaces. The surface water is then diverted to lower parts of the catchment and infiltrated into the ground or discharged into nearby watercourses. The assets have been developed over several decades where development, demands and statutory requirements differ from today. In order to ensure that these assets continue to perform for current and future demands, a current review of all current infrastructure has been recently conducted, see Mid Murray Council: Township Stormwater Infrastructure Assessment 2019 (TSIA 2019), produced by Southfront, which reports what new and required upgrades are needed to the existing systems. As for the condition of the existing system, Council staff have, with the assistance of pipeline inspection specialists, have conducted condition inspections over the past few years, to ascertain demands for future renewal costs and requirements.

This asset management plan outlines what financial resourcing is required to achieve the desired outcome to ensure the required level of service for existing and future residents of Mid Murray Council townships and settlements are met. It is important to acknowledge, at the time of writing this report, no funding is attributed in the current Long Term Financial Plan for any stormwater capital investment, including renewal, upgrade or new infrastructure.

The key elements of this plan are:

- To provide a defined level of surface and method of monitoring performance, including an understanding of known inherited issues
- Take a whole of life approach to asset investment
- Develop cost effective management approach, including a cost benefit analysis for all proposed new and upgrade investments, to determine project priorities
- Managing risks associated with performance deficiencies and failures
- Meeting the needs of growth, including the immediate impact of any development on the localised stormwater management and the connected system on a broader scale
- Continue to review and improve asset management practices in relation to stormwater infrastructure
- Priorities of implementation and projected infrastructure planning on all aspects of proposed future works.



Service Levels

The levels of service defined in this report are:

- The level of service our customers should expect
- Identify works required to meet current service levels
- Review the costs and benefits to the services offered

Enable Council and customers to review and assess the affordability, sustainability and equality of the existing service level.

The adopted service levels are based on legislative requirements, recommendations made by Southfront in the TSIA 2019 report (including recommendations made in historic reports) and Council's strategic goals.

The primary objective of Council's stormwater asset network is to manage the disposal and diversion of primarily large rainfall runoff. Stormwater infrastructure serves to mitigate and minimise property damage, road network performance and disruption and the community at large from flooding.

Township and Settlements

The following townships and settlements are included and considered in this plan:

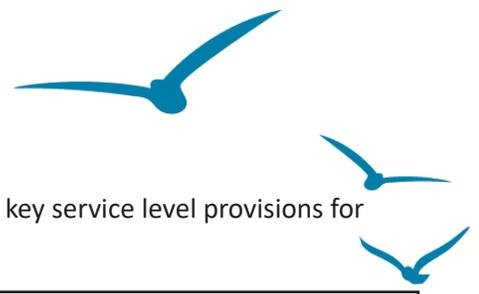
- Mannum
- Swan Reach
- Tungkillo
- Truro
- Palmer
- Cambrai
- Sedan
- Blanchetown
- Nildottie
- Morgan
- Cadell
- Keyneton
- Bowhill
- Purnong
- Walker Flat

Other areas are considered rural residential or rural and the provision for stormwater management will be managed under the conditions set out in Mid Murray Council's Development Plan 2018 (MMCDP 2018).

In line with the Stormwater Management Authority's Stormwater Management Principals Guidelines 2007 (SMPG 2007), the priorities established for the delivery of service levels is set against the principal that actions address the reduction of flood hazards and the protection of life and property in the first instance.



Service Levels



The proposed performance objectives, as listed in the TSIA 2019 report, will form the key service level provisions for Mid Murray Council.

Ref	Category	Objective	Action
1	Existing risk of inundation to dwellings	Deliver works that improve flood protection, such that dwelling floor levels are inundated less frequently	Follow recommendation made in the TSIA 2019 report subject to available funding
2	Potential future risk of inundation to dwellings, nuisance or damage to downstream areas caused by development	Ensure that appropriate requirements are put in place to ensure that future development does not cause future issues. This might include measures to protect new development (floor levels, appropriate siting of dwellings), stormwater detention, stormwater retention and on site reuse, and contribution to downstream infrastructure where no infrastructure is in place to receive flows.	Follow requirements are stated in the MMCDP 2018
3	Uncontrolled stormwater flows through private property	Ensure that any discharges through private property are appropriate. Where such discharges are inappropriate, seek to work with the landowner(s) to formalise a safe drainage flow path, which ideally will become a Council asset/easement.	Identify and development an action plan of all known properties affected. Establish a standard and definition for appropriate discharge infrastructure.
4	Nuisance inundation adjacent to properties	Provide infrastructure that achieves a functional level of service, that does not result in accelerated damage to road surfaces and verges	Follow recommendation made in the TSIA 2019 report subject to available funding
5	Infrastructure maintenance related issues	Provide infrastructure that is durable and can provide reliable long term performance	Follow and review annual maintenance program including condition inspections of the oldest, most vulnerable assets

Legislative

- Local Government Act 1999
- Environmental Protection Act 1993
- Australian Accounting Standards
- ISO 55000 – Asset Management Standards
- Public Health Act 2011
- Mid Murray Council Development Plan 2018



Risk Management

An assessment of risks associated with the service delivery of stormwater infrastructure has been undertaken by Council. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the impact should the event occur, develops a risk rating, evaluates the risk and develops a treatment plan for non-acceptable risks.

Critical risks, assessed as being 'Extreme', requiring immediate corrective action and 'High' requiring prioritised corrective action, see risk matrix on the right, which aligns with Council's Risk Management Policy.

ISO 31000:2009 Risk Identification Matrix

Consequence \ Likelihood		Insignificant	Minor	Moderate	Major	Catastrophic
		1	2	3	4	5
Almost Certain	E	Moderate	High	High	Extreme	Extreme
Likely	D	Low	Moderate	High	Extreme	Extreme
Possible	C	Low	Low	Moderate	High	Extreme
Unlikely	B	Low	Low	Low	Moderate	High
Rare	A	Low	Low	Low	Moderate	High

The following table is a summary of the risks as identified and detailed by Council:

Risk	Consequence	Likelihood	Risk Rating	Treatment/s	Responsibility	Due Date
Extreme weather event results in significant replacement or upgrade of capital works	Moderate	Likely	High	Emergency management policy and procedures, stormwater capacity reports and preventative works, asset maintenance program and asset insurance	WHS & Risk Management Coordinator and Asset Management Coordinator	Ongoing
Poor quality data in asset management systems	Moderate	Unlikely	Low	Independent asset valuation sampling, asset management and financial management dataset integration (Synergy), regular condition assessment, regular review of AMP	Asset Management Coordinator	Ongoing
Insufficient resources available to deliver asset management plan requirements	Major	Almost Certain	Extreme	Review of LTFP and other asset management plan requirements, adjust service level provisions to meet LTFP requirements, explore cost effective solutions for identified deficiencies.	Asset Management Coordinator and Director Corporate & Financial Services	Ongoing
Failure to deliver and maintain infrastructure that meets service level demands	Moderate	Possible	Moderate	Reactive and proactive routine maintenance program, staff training, asset management planning, community engagement, referencing Australian Standards.	Infrastructure Services & Asset Management Coordinator	Ongoing
Service level standards and strategic targets not aligning with community expectations	Minor	Likely	Moderate	Community engagement (public consultation), community surveys, linking service levels directly to budget, constant review of asset and strategic plans.	Assets, Infrastructure & Elected Members	Ongoing

Lifecycle Management Plan



The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service while optimising life cycle costs. It presents an analysis of the known asset information covering the three key work activities to manage the stormwater infrastructure.

Maintenance Plan - Maintenance includes reactive, planned and specific maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response and assessed from service requests and management/supervisory directions.

Planned maintenance is repair work that is identified and managed through a routine maintenance management program. The program includes inspections, assessing the condition against failure/breakdown experience, prioritising, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including such items as the repair or replacement of kerb inlets or lids. This work generally falls below the capital/maintenance threshold (Refer to Council's Asset Accounting Policy (AAP)) but may require a specific budget allocation.

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

Enhancement Plan - New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. In the instance of Council's existing stormwater plan, the enhancements have been identified in the TSIA 2019 report which will bring the current service level up to a higher standard but also address some current identified deficiencies.



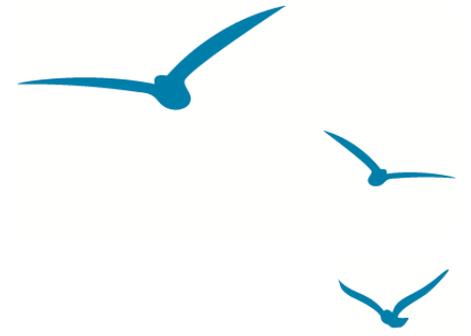
Asset Valuations

The value of Council's stormwater assets as at 1 July 2020 is summarised in the table below.

Asset Valuation	Current Replacement Cost	Annual Depreciation	Depreciated Amount	Depreciated Replacement Cost
Total	\$7,071,213.04	\$78,166.89	\$2,407,000.01	\$4,589,435.78



Council's total asset value for stormwater infrastructure is around \$7 million.



Maintenance Plan

Recently Council have developed a routine maintenance program which aims to deliver regular, ongoing work necessary to ensuring the ongoing operation of infrastructure.

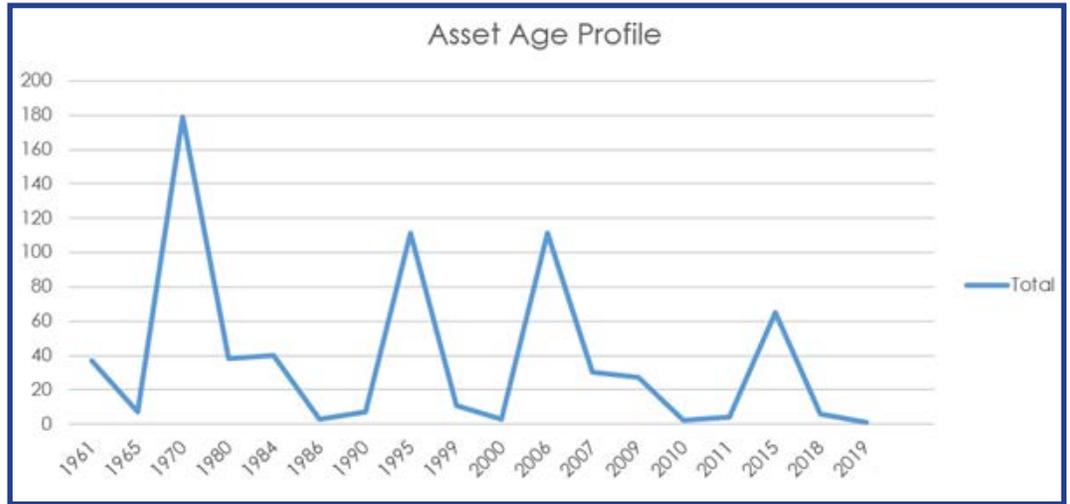
Reactive maintenance still arises and is often work carried out in response to service requests or supervisory direction, based on a specific occurrence or reason. An example being a storm event which creates a number of repairs, cleaning or inspections to monitor condition post event.

Maintenance expenditure trends have been historic and in the future will be broken down into the resulting works conducted by the routine maintenance program, including inspections, cleaning, repairs to infrastructure and replacement of assets below capital thresholds (AAP).



Renewal Plan

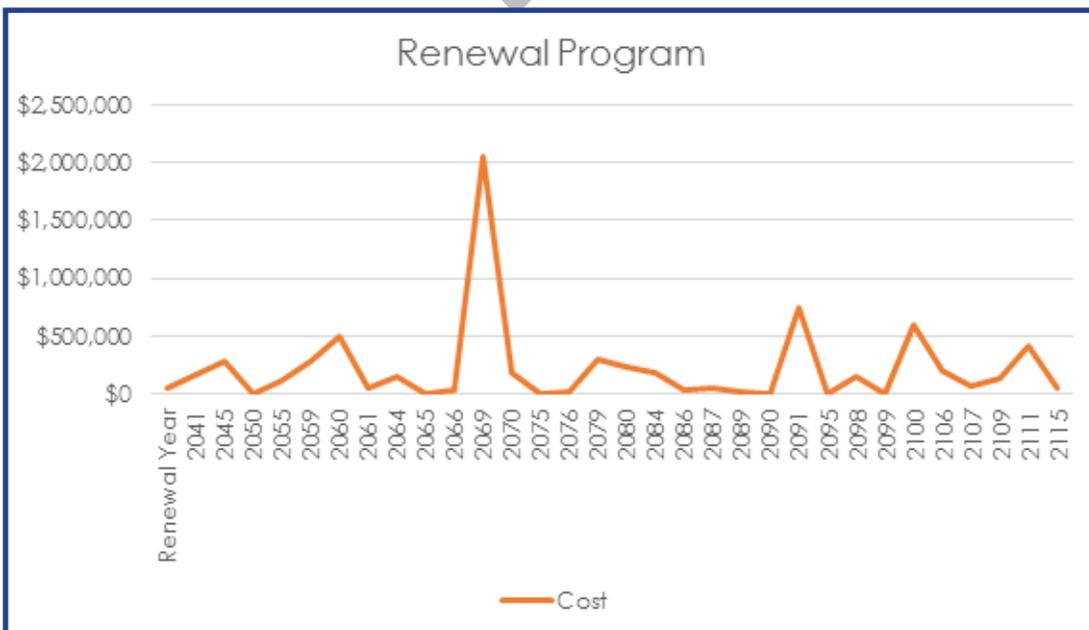
Renewal expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is covered in the enhancement plan for new or upgrade works expenditure. The first of Council's stormwater assets were installed in the 1960's and sporadically during the last 50 years, generally inherited from new housing development. Council's records system and old plans found at each Council office, provided the historic information for known acquisition dates/years.

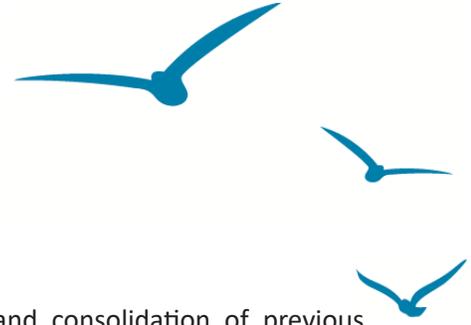


Due to the long useful life of stormwater assets and the renewal of components such as kerb inlets, top entry pits and headwalls falling below the financial capital threshold, the renewal program does not require funding until 2041. Although not for consideration in the short or medium term, Council will continue to conduct condition assessments, prioritising the oldest assets to ensure the estimated useful lives and remaining lives are aligned with the reality of condition. Condition assessments have occurred on all surface infrastructure and a sampling, 1.3km of the oldest, underground pipework. The condition of the infrastructure inspected does not reflect its age, there are very few structural defects and only minor serviceability defects located (eg. trapped sediment on poorly formed bandage joints).



Condition assessment of RCP network on William St





Enhancement Plan

Council engaged engineering specialists, Southfront, to undertake an evaluation and consolidation of previous stormwater management and strategic plans, township and settlement inspections and a register of all previously reported and recorded deficiencies of the current system.

The objective and result of this project is a consolidated report (TSIA 2019) listing the known issues and a prioritised list of actions which will result all the capital investment for Council in the current long term financial plan. As stated earlier in this report, the current long term financial plan has no budget allocation for any capital investment in stormwater.

In assessing a delivery program on the recommended actions, the highest priority is to be given to those actions that address reduction of flood hazard and protect life and property. For the remaining actions, Council will apply a cost benefit analysis against the estimated costs associated with the action and the cost of the assets affected. This will ensure any future investment by Council will be targeted to achieve the best level of value to Mid Murray Council. Due to the lack of current funding available in the long term financial plan, Council will also explore future options for external capital grants.

The total cost of all the actions listed in the TSIA 2019 are:

- High - \$705,000
- Medium - \$1,260,000
- Low - \$3,010,000

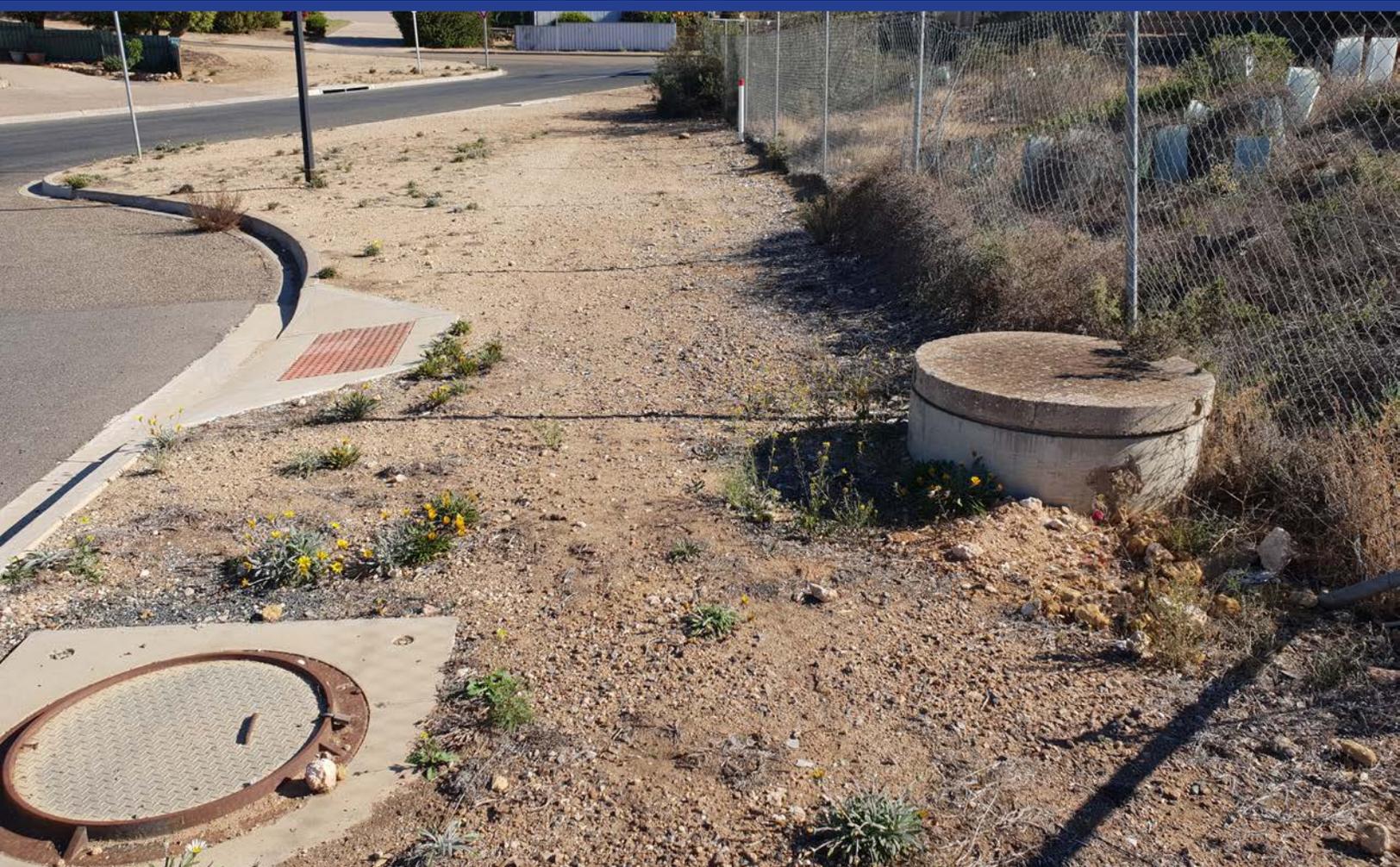


Plan Improvement & Monitoring

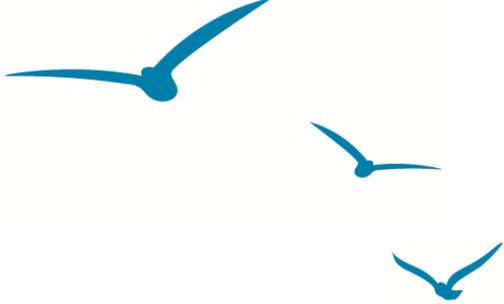
The ability to meet and fund the requirements of this plan will be reviewed annually as part of Council's long term financial plan review process and future versions of this plan will be amended to include any changes in service levels, valuations, condition assessments and/or resources available to provide the services.

Council is committed to working toward continuous improvement in the quality and accuracy of its asset management practices. The asset management improvement plan for this asset management plan is shown below:

Item	Action	Responsibility	Target Date	Funding Source
1	Establish and breakdown the unit rate costs for the maintenance delivery program, in order to measure the effectiveness of the investment	Asset Management Coordinator	Jan 2021	Internal Resourcing
2	Develop a routine inspection program, ensuring the assets predicted to be renewed soonest are assessed	Asset Management Coordinator	July 2020	Internal Resourcing
3	Explore options of funding this plan through potential savings in the currently funded LTFP	Asset Management Coordinator & Finance	Apr 2021	Internal Resourcing
4	Establish a cost benefit analysis of the investment in all proposed actions listed in the TSIA 2019	Asset Management Coordinator	Jul 2020	Internal Resourcing



Definitions



Asset Condition Assessment – The process of a continuous inspection program, assessment and record of condition (against an industry standard - IPWEA) which determines the timeline for current or future remediation.

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

Assets – Resources owned by Council which have a current and future economic value (AAS27.12).

Capital Expenditure – Expenditure which contributes to the resources required to construct and install a physical asset.

Capital Grants – money received from an external party, which is generally tied to the specific projects for which they are granted.

Component – The individual part of an asset which contributes to the composition of the whole and can be separated from an asset or system.

Current Replacement Cost – The cost to acquire the asset on the reporting date. The cost is based on the equivalent cost based on a modern asset with the same economic and performance benefits.

Depreciated amount – The cost of an asset less its residual value (AASB 116.6).

Depreciated Replacement Cost – The current replacement cost of an asset less the accumulated depreciation calculated on the amount of useful life it has consumed.

Depreciated – The systematic allocation of the depreciable amount of an asset over its useful life.

Infrastructure Assets – Physical assets of Council that contribute to meeting the public's needs for access to economic and social facilities and services. The components of these assets may be separately maintained, replaced or upgraded individually so that the service level of the network of assets is sustained.

Level of Service – The defined service standard for a particular asset class. Service levels relate to quality, quantity, reliability, responsiveness, acceptability and cost.

Maintenance Expenditure – Recurrent expenditure which is required to deliver a schedule of works which ensure the asset achieves the designed and predicted useful life at the required service level.

Nuisance Inundation - Pooling of stormwater run-off in low-lying areas due to poor drainage. This is a frequent hazard but rarely causes major damage.

Reactive Maintenance – Unplanned repair work that carried out in response to service requests and management/supervisory directions.

Routine Maintenance – Repair work that is managed through a routine maintenance program. Activities include inspections, assessing condition, actioning repair work, collecting maintenance history and seeking way to continuously improve maintenance efficiency.

Remaining life – The time remaining until an asset ceases to provide the required service level or economic usefulness.

Risk Management – The application of a formal process to assessing the key factors associated with the risk in order to determine the resultant range of outcomes and their probability of occurrence.

Useful Life – The period over which an asset is expected to be available for use.