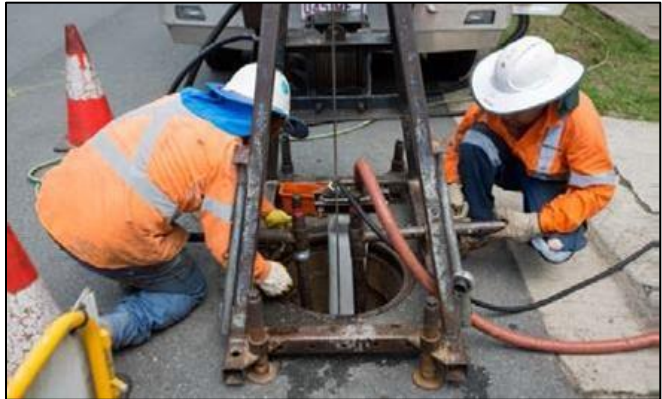
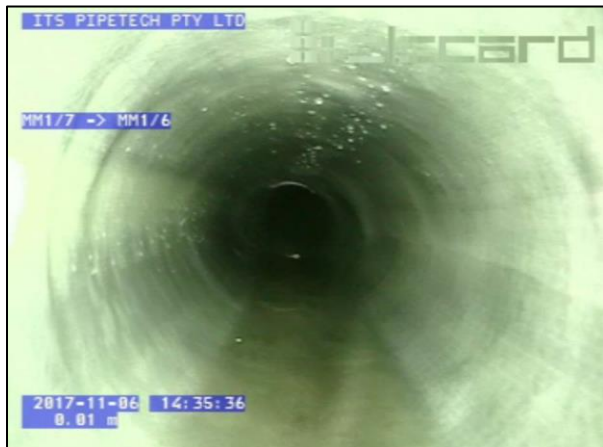


Kyogle Council



Sewer Asset Management Plan 2018



DOCUMENT CONTROL

For controlled copies of this Document the copy number is shown below.

Version 1.0	Issued by: Matt Sorenson	Adopted by Council: CO/0519/9	Date: 13/05/19
-------------	--------------------------	-------------------------------	----------------

COPYRIGHT OF KYOGLE COUNCIL

No part of this document may be reproduced without the prior permission in writing of the General Manager.

Table of Contents

1	EXECUTIVE SUMMARY	4
	Context	4
	What does it Cost?.....	4
	What we will do	4
	What we cannot do	4
	Managing the Risks.....	4
	The Next Steps	5
2	INTRODUCTION.....	6
2.1	Background	6
2.2	Goals and Objectives of Asset Management	7
2.3	Council Values and Community Plan Priorities	8
3	LEVELS OF SERVICE	9
3.1	Customer Research and Expectations	9
3.2	Legislative Requirements.....	9
3.3	Current Technical Service Levels.....	10
3.4	Current Community Service Levels	10
4	FUTURE DEMAND	11
4.1	Demand Forecast	11
4.2	Changes in Technology	12
4.3	Demand Management Plan	12
5	LIFECYCLE MANAGEMENT PLAN.....	13
5.1	Background Data.....	13
5.1.1	Physical parameters.....	13
5.1.2	Useful Lives and Unit Rates.....	14
5.1.3	Asset Condition	14
5.1.4	Asset condition inspections	16
5.1.5	Asset valuations	17
5.1.6	Asset hierarchy	17
5.2	Routine Maintenance Plan	18
5.3	Renewal/Replacement Plan.....	18
5.3.1	Renewal Plan.....	19
5.3.2	Summary of projected renewal expenditure.....	19
5.4	Creation/Acquisition/Upgrade Plan.....	20
5.4.1	Selection criteria	20
5.4.2	Summary of projected upgrade/new assets expenditure	20
5.5	Disposal Plan	21
6	ASSET MANAGEMENT PRACTICES	22
6.1	Accounting/Financial Systems	22

6.1.1	Accounting and financial systems	22
6.1.2	Accountabilities for financial systems.....	22
6.1.3	Accounting standards and regulations	22
6.1.4	Required changes to asset accounting systems arising from this AM Plan	22
6.2	Asset Management Systems	22
6.2.1	Asset management system and registers	22
6.2.2	Linkage from asset management to financial system.....	22
6.2.3	Accountabilities for asset management system and data	22
6.3	Information Flow Requirements and Processes	22
7	PLAN IMPROVEMENT AND MONITORING	24
7.1	Performance Measures.....	24
7.2	Improvement Plan	24
7.3	Monitoring and Review Procedures	24
APPENDICES.....		25
Appendix A – Relevant community goals and objectives		25
Appendix B – Legislative Requirements.....		27
Appendix C – Projected capital works program.....		29
Appendix D – Abbreviations		30
Appendix E – Glossary.....		31

1 EXECUTIVE SUMMARY

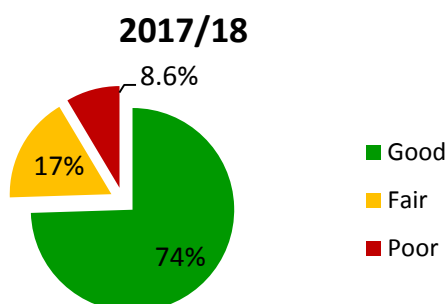
Context

Kyogle Council provides sewer infrastructure for the health and benefit of the community and the environment. The funding of sewer infrastructure is separate from Council's general fund and is provided through fees and charges collected from those who benefit from the service. Long term planning is essential to ensure that adequate funding is available to renew, maintain and upgrade the infrastructure required to ensure service levels are delivered and the associated risks are managed.

Sewer assets are defined of comprising the following elements:

- Sewer pipes and maintenance holes
- Sewerage treatment plants
- Sewerage pump stations

These infrastructure assets have a CRC of \$33.2M, WDV of \$27.2M and condition ratings (based on %CRC) as shown in the figure below.



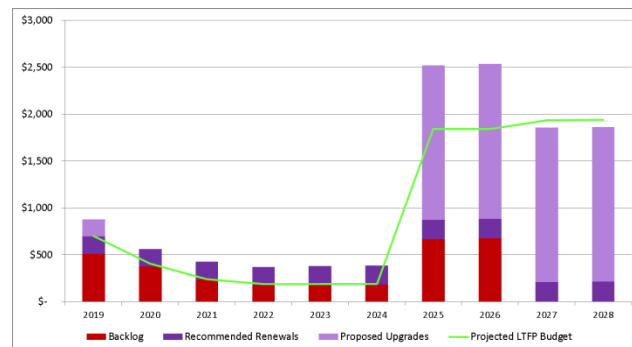
What does it Cost?

Council currently has a \$2.04M sewer assets backlog. Council plans to eliminate this backlog by the beginning of FY27.

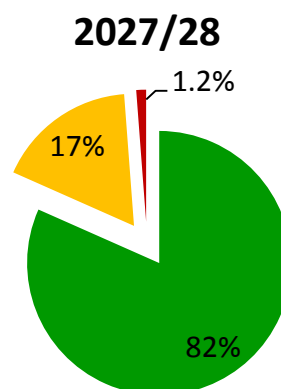
In addition to the backlog costs, the projected capital renewal cost to maintain all sewer assets at their current condition is \$0.2M per year. Council also intends to spend \$0.68M per year for new/ major upgrades within the 10 year planning period including new sewerage systems within the villages of Tabulam, Wiangaree and Mallanganee.

This equates to an average projected spend over the next 10 years of \$1.15M per year.

Council's estimated available funding for sewer assets for this period is \$0.93M per year. This means that Council's current budget is not quite adequate to cover the cost of sewer asset renewals, provide for planned upgrades and address the backlog.



However, the difference is only minor and the backlog is likely to still be reduced over the next 10yrs to acceptable levels, resulting in a condition profile as shown in the figure below.



What we will do

Council plans to provide sewer asset services for the following:

- Operation, maintenance, renewal and upgrade assets to meet service levels set by council in annual budgets.
- \$6.8M of new/ major upgrades within the 10 year planning period including sewerage three villages.
- Reduce the sewer assets backlog to required levels by 2027

What we cannot do

Council currently has sufficient funds over the 10 year period to service renewals, upgrades and reduce the backlog to acceptable levels. However, the next six years includes a shortfall of \$0.2m per year. The prioritisation of renewals beyond this period must focus heavily on avoiding additional assets adding to the backlog of assets in poor to very poor condition.

Managing the Risks

There are risks associated with providing sewerage services, managing the required assets and being able to complete all identified activities and projects. We have identified major risks as:

- General deterioration of the network

- Surcharge due to blockages
- Pumping or treatment system failures
- Licence conditions not being met

We will endeavour to manage these risks by prioritising works within the funding available, while continuing to monitor conditions and performance against set service levels.

The Next Steps

The actions resulting from this asset management plan are:

- Deliver renewals program focused on backlog reduction
- Review budget allocations for sewer renewals
- Maintain the current assets in a safe condition
- Continue to assess condition
- Continue to monitor the delivery of the identified services levels
- Actively seek external grant funding for the construction of new sewer schemes for Tabulam, Wiangaree and Mallanganee

2 INTRODUCTION

2.1 Background

This asset management plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service.

The asset management plan is to be read with Council's Asset Management Policy, Asset Management Strategy, Core Infrastructure Risk Management Plan and the following associated planning documents:

- Kyogle Council Operational Plan 2018/19 and Delivery Plan 2018/2020
- Kyogle Council Long Term Financial Plan
- Kyogle Council Annual Report
- Kyogle Council Financial Statements for the year ended 30 June 2018
- Pollution Incident Response Management Plan
- Liquid Trade Waste Policy
- Developer Servicing Plan Water Sewer Stormwater
- Various work method statements and procedures

Kyogle Council operates three sewerage systems servicing around four thousand people in the township of Kyogle and the villages of Bonalbo and Woodenbong, and the aboriginal community of Muli Muli.

Kyogle sewerage system is a gravity reticulated system originally constructed in 1957, serving approximately 3,000 persons.

- 47km of gravity reticulation mains
- 5.2km rising mains
- 6 sewage pumping station
- Sewerage treatment works, 3200EP – trickling filters, chemical phosphorous removal, tertiary wetland, effluent reuse/stormwater detention dam, septic tank disposal and pre-treatment facility
- 1176 residential connections
- 154 non-residential connections
- 68 vacant properties

Bonalbo sewerage system is a gravity reticulated sewerage system originally constructed in 1968, serving approximately 400 persons.

- 6km of gravity reticulation mains 0.8km rising mains
- 1 sewage pumping station
- Sewerage Treatment Works, 500EP – Pasveer Channel, sludge drying beds, oxidation ponds, and chlorination with effluent reuse scheme for school agricultural land and golf course
- 158 residential connections
- 29 non-residential connections
- 21 Vacant properties

Woodenbong/Muli Muli – sewerage system is a gravity reticulated sewerage system originally constructed in 1968, serving approximately 500 persons.

- 7km of gravity reticulation mains
- 4.2km rising mains
- 2 sewage pumping stations

- Sewerage Treatment Works, 640EP – Pasveer Channel, sludge drying beds, oxidation ponds, and chlorination with effluent reuse scheme for school agricultural land and golf course
- 176 residential connections
- 31 non-residential connections
- 10 vacant properties

See summary in Table 2-1 below;

Table 2-1: Council Sewer Network

Asset Types	Kyogle	Woodenbong / Muli Muli	Bonalbo	Total
Sewerage Treatment Plants	1	1	1	3
Sewerage Pump Stations	6	2	1	9
Sewer Maintenance Holes	710	123	99	932
Gravity Sewer Pipes	46,922m	7,147m	6,288m	60,357m
Sewer Rising Mains	5,264m	4,321m	790m	10,375m

There are also;

- 1914 sewer connections
- 49 ventstacks, and
- 1 sewerage treatment wetland
- 2 effluent reuse schemes

Table 2-2: Assets covered by this Plan

Asset Subcategory	Current Replacement Cost	Written Down Value	Backlog as at EOFY18 *
Sewer pipelines	\$20.463M	\$17.305M	\$2.024M (<11.7%)
Sewer plant	\$10.655M	\$8.165M	\$0.015M (<1%)
Sewer services	\$1.830M	\$1.533M	\$0.007M (<1%)
Sewer fittings	\$0.244M	\$0.163M	\$0 M (0%)
TOTAL	\$33.192M	\$27.166M	\$2.041M (7.5%)

*Backlog figure represents Accumulated Depreciation of Assets in condition 4 or 5. Backlog percentage is Accumulated Depreciation of Assets in condition 4 and 5 divided by the Written Down Value of that subcategory.

2.2 Goals and Objectives of Asset Management

The Council exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by 'purchase', by contract, construction by council staff and by donation of assets constructed by developers and others to meet increased levels of service.

Council's goal in managing infrastructure assets is to meet the required level of service in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined level of service and monitoring performance,

- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,
- Continuous improvement in asset management practices.

The goal of this asset management plan is to:

- Document the services/service levels to be provided and the costs of providing the service,
- Communicate the consequences for service levels and risk, where desired funding is not available, and
- Provide information to assist decision makers in trading off service levels, costs and risks to provide services in a financially sustainable manner.

2.3 Council Values and Community Plan Priorities

This asset management plan is prepared under the direction of Council's vision, mission, goals and objectives.

Community vision is:

Working together to balance Environment, Lifestyle, and Opportunity

Our mission is:

To meet the challenges of our unique and diverse region

Our values are:

Respect and respond to community needs

Improve the quality of our services

Be open and accessible

Act with honesty and integrity

Value people's contribution

Support the culture of teamwork, cooperation and safety

Appendix A – Relevant community goals and objectives shows how these goals and objectives are addressed in this asset management plan.

3 LEVELS OF SERVICE

3.1 Customer Research and Expectations

Council has carried out research on customer expectations during the process of developing the Council Community Strategic Plan and the Long Term Financial Plan. The integration of the Asset Management Plans with the Community Strategic Plan and the Long Term Financial Plan will continue to be developed in future revisions of the asset management plan.

3.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and regulations. Relevant legislation is shown in Appendix B – Legislative Requirements.

Council has defined service levels in two terms.

Community Levels of Service relate to the service outcomes that the community wants in terms of safety, quality, quantity, reliability, responsiveness, cost effectiveness and legislative compliance.

Community levels of service measures used in the asset management plan are:

- Quality How good is the service?
- Function Does it meet users' needs?
- Capacity/Utilisation Does the service have sufficient capacity or is it used?

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the council undertakes to best achieve the desired community outcomes.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to its original condition (e.g. road patching, unsealed road grading, building and structure repairs),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade – the activities to provide an higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).

3.3 Current Technical Service Levels

Council's sewerage system operations are regulated through an Environmental Protection Licence issued by the NSW EPA. These licences define the technical operational service levels, discharge limits and incident response, as well as ongoing monitoring.

The following service levels for the capital renewal of transport assets are taken from the Kyogle Council Long Term Financial Plan 2015/2034 adopted by Council in February 2015 and as reviewed annually as part of Council's Operation Plan and Delivery Program development. These capital renewal frequencies represent the service levels adopted by Council based on the community's willingness to pay and the funding levels available in the long term. It is critical that the asset accounting is aligned with these service levels where practical.

Table 3-1: Current Technical Service Levels

Asset Type and Group	Service Level from LTFP
Sewer operations	\$724,000 pa
Sewer maintenance	\$80,000 pa
Sewer capital renewals	\$2.7 M over next 10 years
Sewer capital upgrades	\$6.7M over next 10 years including sewerage of 3 villages

3.4 Current Community Service Levels

Council's current community service levels are detailed in Table 3.2.

Table 3-2: Current Community Service Levels

COMMUNITY LEVELS OF SERVICE				
Theme	Community Expectation	Measure	Current Service Level Response	Acceptable Level of Service Response
Quality	Disposal has no impact on natural Watercourses or community	Customer surveys	Satisfaction levels high and improving	Satisfaction remains high
		Effluent Quality	Licence discharge limits met 95% of the time	Licence discharge limits met 100% of the time
		Number of pollution incidents	0.5 per yr	<2 per yr
Function	System services the needs of the customer	Number of customer requests	10-30 per yr	Customer requests received should not increase annually
		Number of sewer chokes	10-20 per yr	No increase in Number of sewer chokes
		% of network that is poor or very poor	8%	<2%
Capacity/Utilisation	Systems service the demand on infrastructure	Monitoring and reporting program	Meets all environmental requirements	Meets environmental standards
		Number of surcharged or overflows	No dry weather discharges. Frequent wet weather discharges	No dry weather discharges and decrease in wet weather discharges

4 FUTURE DEMAND

4.1 Demand Forecast

Factors affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership, consumer preferences and expectations, economic factors, agricultural practices, environmental awareness, etc.

Demand factor trends and impacts on service delivery are summarised in Table 4.1.

Table 4-1: Demand Factors, Projections and Impact on Services

Demand factor	Present position	Projection	Impact on services
Population	Fluctuating population in recent years	Only minor population increase forecast	Minor increase in demand on existing sewer network, demand for new sewerage systems for unsewered villages
Sewer renewal Costs	Current costs	Costs anticipated to increase at around CPI	A shortage of local contractors and competitive prices means less sewer can be renewed if prices increase dramatically
Land use activities	Has resulted in small increases in commercial and industrial customers	Anticipated to continue	Additional loads on the sewer system (including from trade waste) will add further to the cost of providing, operating, maintaining and renewing the sewer system.
Climate Change	Higher frequency of extreme weather events	Higher temperatures, more intense storms, increased rainfall/flooding	Major damage to sewer infrastructure. Disaster relief funding is currently unavailable to council for sewerage infrastructure. Interruption to sewer system and increased overflows likely.

4.2 Changes in Technology

Technology changes are forecast to have minimal impact on the delivery of services covered by this plan. See Table 4.2.

Table 4-2: Changes in Technology and Forecast effect on Service Delivery

Technology Change	Effect on Service Delivery
Change in relining methods and the materials used	May increase the life of sewer components, reducing the susceptibility to damage, or reducing the cost of construction or maintenance
Energy production and efficiencies	Potential to reduce operating costs associated with sewage transport and treatment processes

4.3 Demand Management Plan

Demand for new services will be managed through a combination of managing existing assets, upgrading of 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 include:

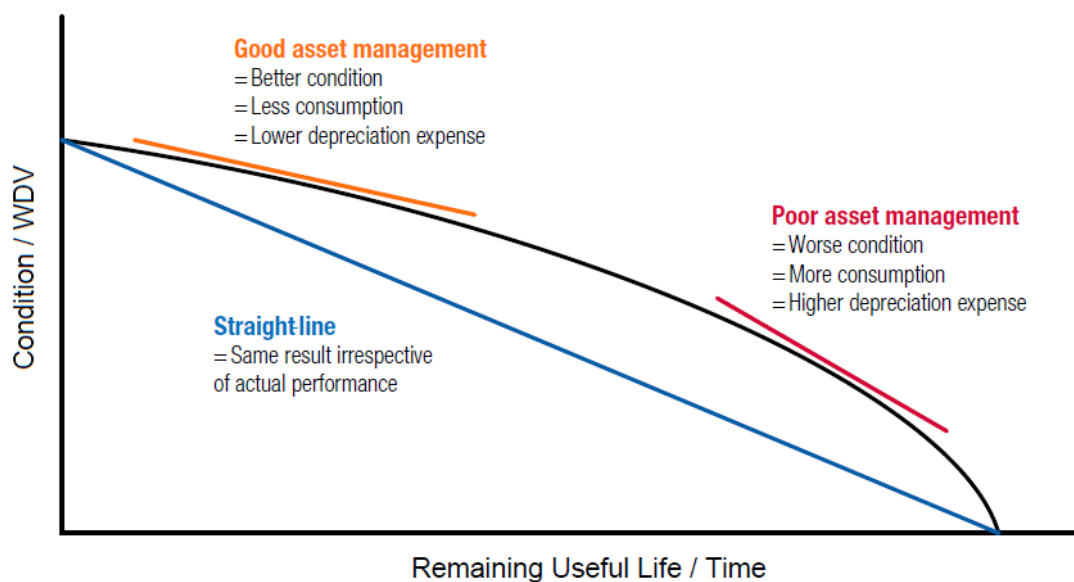
- Monitor community expectations and communicate service levels
- Continue to seek grant funding for projects
- Continue to analyse the cost of providing service and the capacity to fund at the current level of service
- Prioritise maintenance and renewal activities to areas of highest demand
- Reduction in inflow and infiltration of stormwater into sewerage system

5 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while optimising life cycle costs.

Figure 5-1 shows the impacts of different asset management practices and the financial benefits that come from keeping assets in optimal condition.

Figure 5-1: Impact of good and bad asset management practices



Source: CPA Valuation and depreciation guide 2013

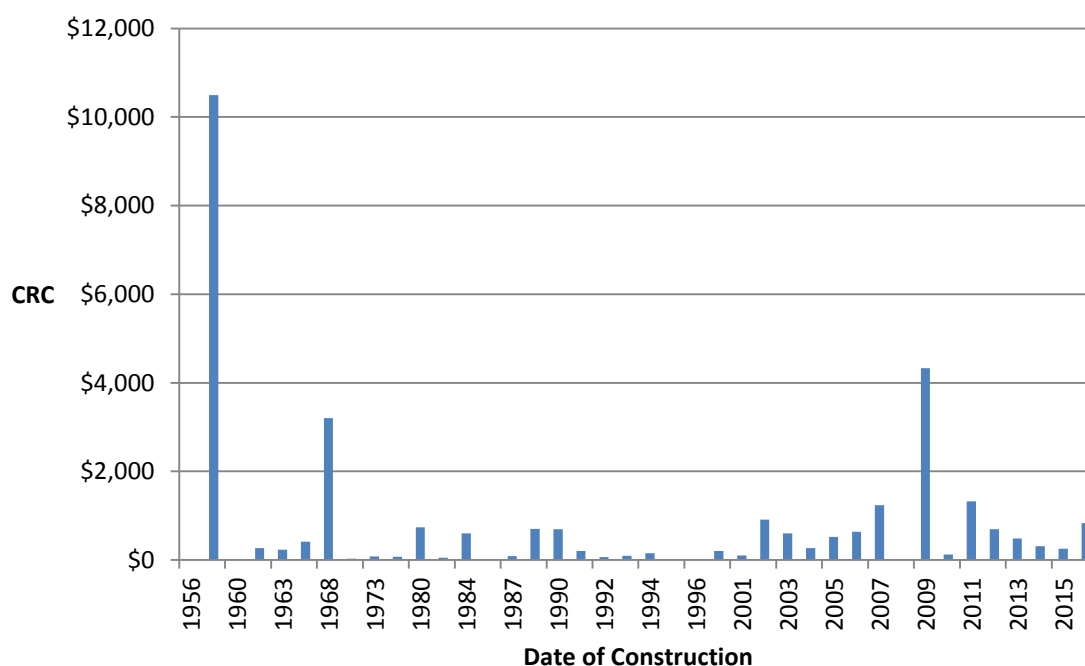
5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan are shown previously, in Table 2.2.

The age profile of the assets include in this AM Plan is shown in Figure 5-2.

Figure 5-2: Sewer Assets Age Profile (\$'000s)



5.1.2 Useful Lives and Unit Rates

The useful lives for 'passive' sewer assets (i.e. pipelines, maintenance holes etc.) are set out in Table 5-1 below. Active assets (i.e. pump stations, treatment plants etc.) are costed on an individual basis.

Table 5-1: Sewer Passive Assets Valuation Rules

NOTE: The unit rates shown below are based on 2014 figures provided by the NSW Office of Water in the NSW Reference Rates Manual, with indexation for 2014/15 of 1.5%, and 2015/16 of 1.5%. No indexation for 2016/17 has been added.

POINTS – Replacement Cost Life

FEATURE TYPE	2016 Rate	NOTES
MANHOLE	\$0	Included in Line Asset Valuations
AIR VALVE	\$0	Included in Line Asset Valuations
STOP VALVE	\$0	Included in Line Asset Valuations
VENTSTACK	\$4,807	Estimated Current Replacement Cost
PUMP STATION	\$0	Valuations of individual components
SEWAGE TREATMENT WORKS	\$0	Valuations of individual components included in plant assets
MONITORING POINT	\$0	Valuations of individual components
FLOW METER	\$0	Valuations of individual components

LINES – Replacement Cost by DIAMETER

PIPE SIZE (mm)	2016 Rate	NOTES
50	\$102	Interpolated from Table 9 NSW Reference Rates for reticulation at minimum depth
80	\$142	Interpolated from Table 9 NSW Reference Rates for reticulation at minimum depth
100	\$219	Taken from Table 9 NSW Reference Rates, for reticulation 1.5 to 3m deep
150	\$252	Taken from Table 9 NSW Reference Rates, for reticulation 1.5 to 3m deep
225	\$325	Taken from Table 9 NSW Reference Rates, for reticulation 1.5 to 3m deep
250	\$381	Taken from Table 9 NSW Reference Rates, for reticulation 1.5 to 3m deep
300	\$436	Taken from Table 9 NSW Reference Rates, for reticulation 1.5 to 3m deep
375	\$561	Taken from Table 9 NSW Reference Rates, for trunk mains 1.5m to 3.0m deep
450	\$680	Taken from Table 9 NSW Reference Rates, for trunk mains 1.5m to 3.0m deep
525	\$787	Taken from Table 9 NSW Reference Rates, for trunk mains 1.5m to 3.0m deep
600	\$1,015	Taken from Table 9 NSW Reference Rates, for trunk mains 1.5m to 3.0m deep

LINES – Replacement cost factors by Asset Type

asset type (Line Type)	Mult. Factor on CRC	NOTES
GRAVITY MAIN <3m DEEP	1	Unit rates are based on this asset type
GRAVITY MAIN 3m TO 4.5m DEEP	1.4	To allow for extra excavation costs, as per Table 9 NSW Reference Rates
GRAVITY MAIN >4.5m DEEP	1.7	To allow for extra excavation and shoring costs, as per Table 9 NSW Reference Rates
RISING MAIN MINIMUM DEPTH	0.8	No manholes or junctions, as per Table 9 NSW Reference Rates
RISING MAIN >2m DEEP OR UNDERBORE	1.6	No manholes or junctions, as per Table 9 NSW Reference Rates, but additional allowance for deep excavation and shoring
AQUEDUCT MAIN	3	To allow for suspension structures
CONCRETE ENCASED	2	To allow for extra construction costs
SURFACE FLOW	0.2	Open drain, use 600mm for diameter

LINES – Life by Material

Material	Kyogle Council Assumptions					Kyogle Council Adopted Weighted Average Useful Life	Kyogle Council Notes on Assumptions
	Long Life Perc	Useful life short min	Useful life short max	RV% Short	Useful life Long		
PVC	0.60	100.00	190.00	0.00	435.00	319	Long life percentage based on relining typically costing approx 40% of initial construction cost on average. Short life minimum based on the minimum life expectancy for PVC of 100 years +, and short life maximum based on research and testing of PVC pipes in service for up to 57 years in Germany and 30 years in Australia showing no signs of deterioration or loss of strength. Long life based on three relinings which is allowable before hydraulic capacity is affected, using the average short life of 145 years for each relining.
CONCRETE	0.60	100.00	190.00	0.00	435.00	319	Long life percentage based on relining typically costing approx 40% of initial construction cost on average. Short life minimum based on the minimum life expectancy for concrete pipes of 100 years +, and short life maximum based on records of concrete pipes still being in service for over 120 years in Australia and showing no signs of deterioration or loss of strength. Long life based on three relinings which is allowable before hydraulic capacity is affected, using the average short life of 145 years for each relining.
POLY	0.60	100.00	190.00	0.00	435.00	319	as for PVC
E.W.P.	0.60	81.00	190.00	0.00	405.00	297	Long life percentage based on relining typically costing approx 40% of initial construction cost on average. Short life minimum based on the average remaining service potential based on condition inspections for the bottom 38% (conditions 3-5 with average RSP 30%) of the 57 year old EWP assets within Councils sewerage systems, and short life maximum based on condition inspections for the entirety (average RSP of 70%) of the 57 year old EWP assets within Councils sewerage systems. Long life based on three relinings which is allowable before hydraulic capacity is affected, using the average short life of 135 years for each relining.
CAST IRON	0.40	100.00	140.00	0.00	360.00	216	Long life percentage based on relining typically costing approx 60% of initial construction cost on average, due to additional cleaning requirements. Short life minimum and maximum based on the life expectancy for Cast Iron provided by APV. Long life based on three relinings which is allowable before hydraulic capacity is affected, using the average short life of 120 years for each relining.
CONCRETE ENCASED RELINED	0.60	100.00	190.00	0.00	435.00	319	as for PVC and Concrete
OPEN DRAIN	0.60	100.00	190.00	0.00	290.00	232	Long life percentage based on relining typically costing approx 40% of initial construction cost on average. Short life minimum based on the minimum life expectancy for PVC of 100 years +, and short life maximum based on research and testing of PVC pipes in service for up to 57 years in Germany and 30 years in Australia showing no signs of deterioration or loss of strength. Long life based on two relinings as none of the existing network has been relined more than once at present, so a further two relinings are allowable before hydraulic capacity is affected, using the average short life of 145 years for each relining.
VENTSTACK	0.00	0.00	0.00	0.00	0.00	NA	non-depreciable earthworks, any clean and clear works is undertaken as maintenance and not capitalised as renewal
	0.30	52.00	111.00	0.00	253.00	133	Long life percentage based on replacement typically costing approx 70% of initial construction cost on average due to ability to reuse foundations. Short life minimum based on the recent replacement of vent stacks between 50 and 55 years within Councils sewerage systems, and short life maximum based on condition inspections for the entirety (average RSP of 49%) of the 57 year old vent stack assets within Councils sewerage systems. Long life based on two replacements before new foundations are required, using the average short life of 126.5 years for each replacement.

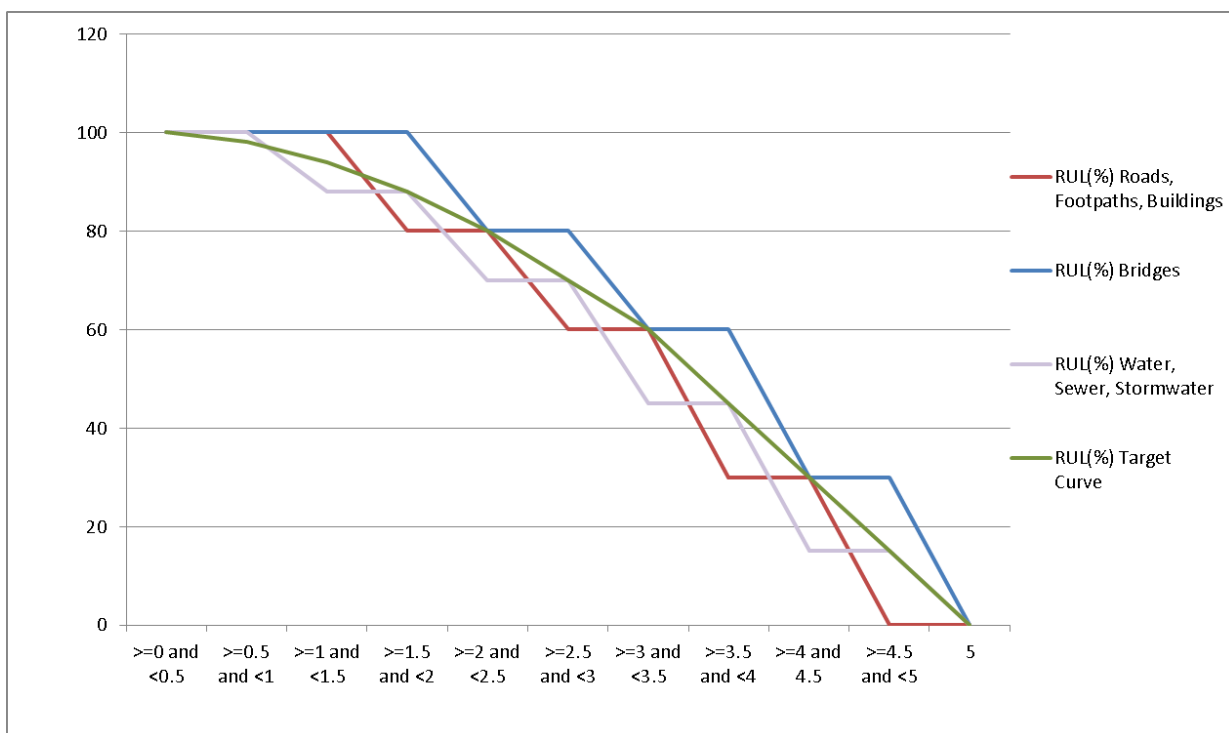
5.1.3 Written Down Value and Remaining Useful Life

For Water, Sewer, and Stormwater Assets, the Written Down Value (WDV) and Remaining Useful Life (RUL) is determined as shown in Table 5-2. This curve is then plotted in Figure 5-3 and compared against other asset classes' RUL curves.

Table 5-2: Water, Sewer, and Stormwater Assets RUL and WDV calculation

Condition Score	Condition Description	%age RUL at Condition	Calculation Used to determine WDV
<=1	Only planned maintenance is required	100	$WDV = CRC * 1.0$
>1 and <=2	Minor maintenance required plus planned maintenance	88	$WDV = CRC * 0.88$
>2 and <=3	Significant maintenance required	70	$WDV = CRC * 0.7$
>3 and <=4	Renewal/upgrade required	45	$WDV = CRC * 0.45$
>4 and <5	Major renewal/upgrade required	15	$WDV = CRC * 0.15$
=5	Unserviceable	0	$WDV = 0$

Figure 5-3: RUL curves



5.1.4 Asset Condition

The condition profile of assets included within this AM Plan is shown in Figure 5-4 and

Figure 5-5. Percentages are based on the ratio of CRC of assets in that condition range, divided by total CRC of all sewer assets. Note: this is different to backlog ratio percentage which is accumulated depreciation of assets in condition 4 and 5, divided by total WDV of all sewer assets. The backlog ratio is currently 7.5%

Figure 5-4: Asset Condition Profile

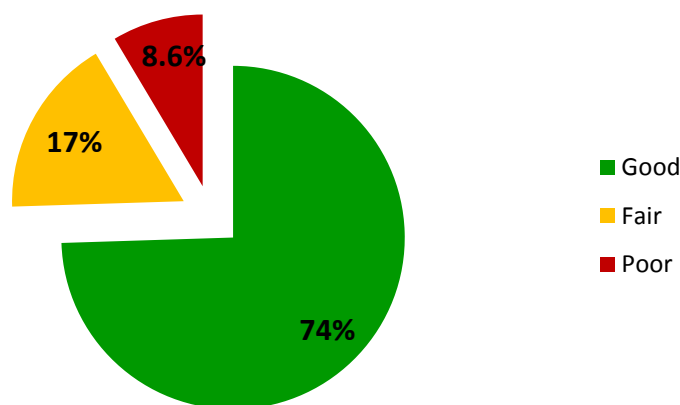
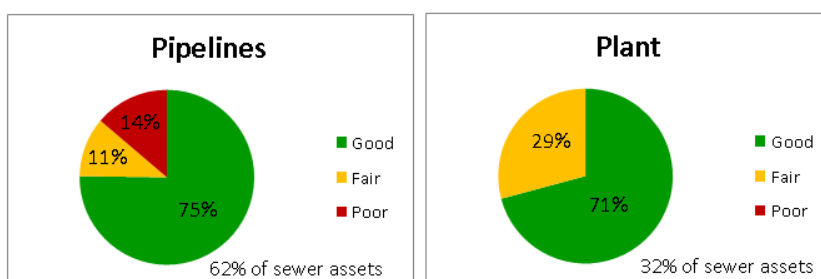


Figure 5-5: Asset Condition Profile by Subcategory



Note: the percentage in the bottom right corner of each chart is the CRC of this subcategory divided by total CRC of sewer assets. (remaining 6% of assets are made up of maintenance holes and service lines which are currently not condition rated)

Condition is measured using a 1 – 5 rating system as detailed in Table 5.2.

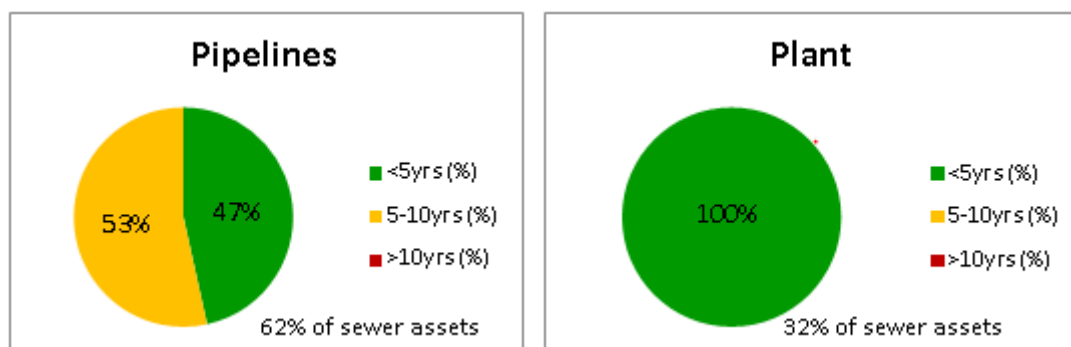
Table 5-3: Description of Condition

Condition	Condition Rating	Description
Good	1	Excellent condition: Only planned maintenance required.
	2	Good: Minor maintenance required plus planned maintenance.
Fair	3	Average: Significant maintenance required.
Poor	4	Poor: Significant renewal/upgrade required.
	5	Very Poor: Unserviceable.

5.1.5 Asset condition inspections

Sewer pipeline conditions are inspected once every 14yrs and are assessed using CCTV inspections in accordance with WSA 05-2008 Conduit Inspection Reporting Code of Australia Version 2.2. Plant assets (or active assets) are inspected once every 5yrs during the sewer revaluation process. The graphs below in Figure 5-6, splits each asset subcategory into three groups (%CRC): asset inspections within the last 5yrs (2013-2018), asset inspections within 5-10yrs (2009-2012), and assets that haven't been inspected for 10yrs or more. (**Note:** the percentage in the bottom right corner of each chart is the CRC of this subcategory divided by total CRC of sewer assets. Remaining 6% of assets are made up of maintenance holes and service line which are currently not condition rated)

Figure 5-6: Condition rating age



Currently, 53% of sewer pipelines have not been inspection within the past 5yrs, but all have been inspected within the last 10 yrs.

5.1.6 Asset valuations

The value of assets recorded in the asset register as at 2018 covered by this asset management plan is shown below.

Current Replacement Cost	33.2M
Depreciable Amount	31.6M
Written Down Value	24.9M
Annual Depreciation Expense	0.2M

Figures below show the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion. All figures are averaged over the 10 year period.

Asset Consumption	0.59%	(Depreciation/Depreciable Amount)
Asset renewal	0.85%	(Capital renewal exp/Depreciable amount)
Asset renewal vs. consumption	145%	(Capital renewal exp/Depreciation)
Annual Upgrade/New	2.15%	(Capital upgrade exp/Depreciable amount)

Council is currently renewing assets at 145% of the rate they are being consumed and increasing its asset stock by 2.15% per year. The excessive renewal rate is mainly due to the infrastructure backlog that the council is dealing with, as well as the continued aging of all assets.

To provide services in a financially sustainable manner, Council will need to ensure that it is renewing assets at the rate they are being consumed over the medium-long term and funding the life cycle costs for all new assets and services in its long term financial plan.

5.1.7 Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

Council's service hierarchy is shown is Table 5-4.

Table 5-4: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Treatment works	Treatment of effluent to a standard suitable for disposal in compliance with regulatory standards.
Sewer pipelines	Conveyance of effluent from source to treatment and disposal locations.
Sewer service equipment assets e.g. pumping stations	Conveyance of effluent from source to treatment and disposal locations.

5.2 Routine Maintenance Plan

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again.

Proposed maintenance expenditure for Sewer Infrastructure is as follows

Table 5-5: Maintenance Expenditure for Sewer Assets

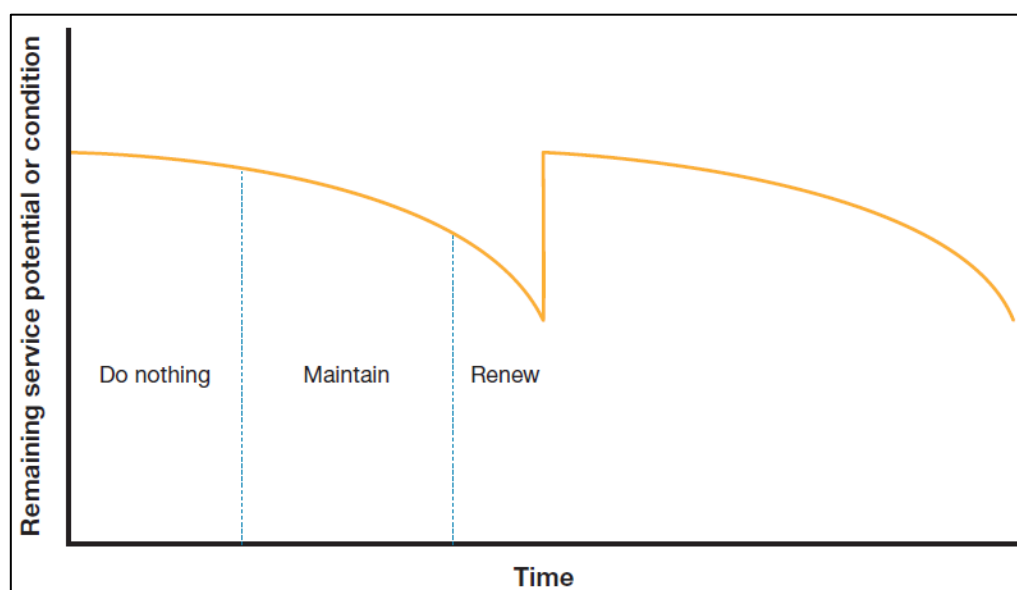
Year	Maintenance Expenditure
2018/19	\$230,000
2019/20	\$236,900
2020/21	\$244,007

Maintenance expenditure is planned to remain constant in real terms over the period covered by this asset management plan. Assessment and prioritisation of reactive maintenance is undertaken by operational staff.

5.3 Renewal/Replacement 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 upgrade/expansion or new works expenditure.

Figure 5-7: Typical asset management strategy



Source: CPA Valuation and depreciation guide2013

5.3.1 Renewal Plan

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5-6.

Table 5-6: Renewal Priority Ranking Criteria

Criteria	Weighting
Available budget	10%
Sewer block/failure history	30%
Condition	30%
Risk	20%
Regulatory Standards	10%
Total	100%

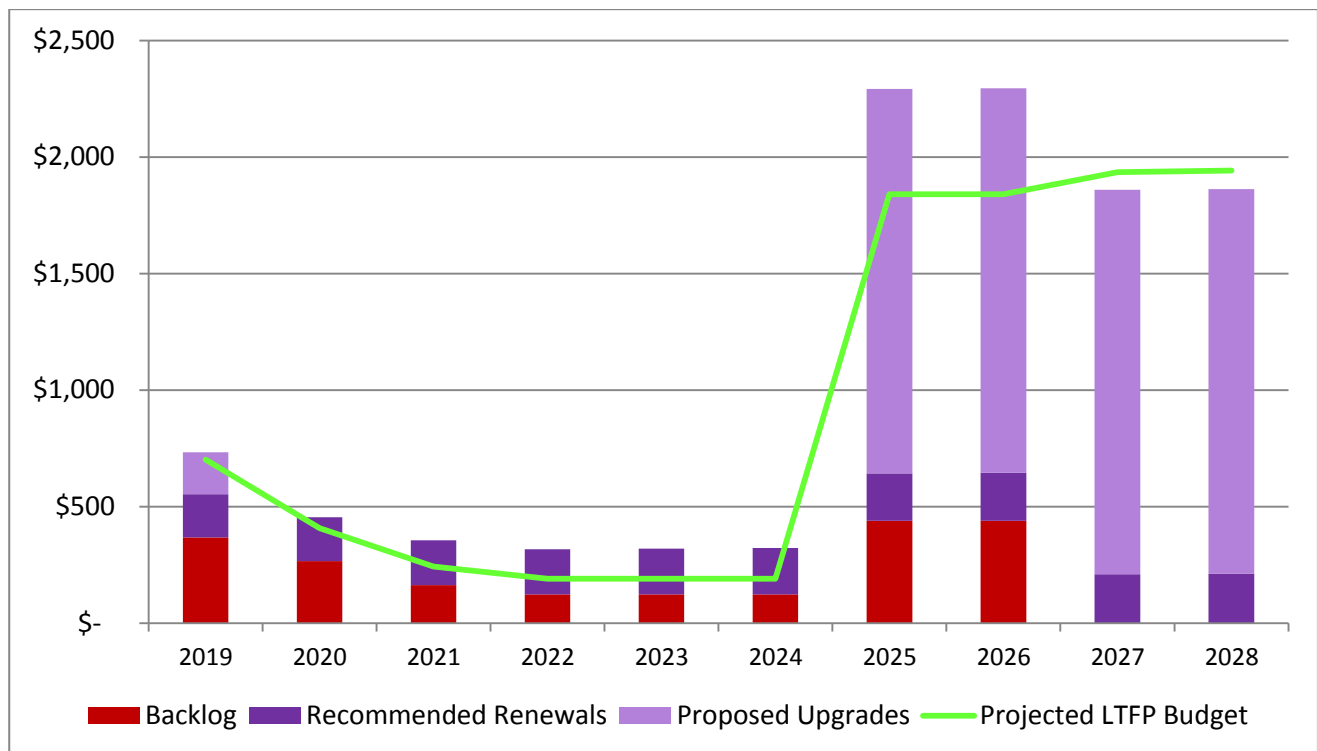
Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost.

Examples of low cost renewal include pipeline relining.

5.3.2 Summary of projected renewal expenditure

Renewal expenditure in the short to medium term will be focused on reducing the existing infrastructure backlog. In addition, renewal expenditures are forecast to increase over time as the asset stock ages. The projected and budgeted renewals are summarised in Figure 5-8. Note that all costs are shown in 2018 dollar values. The projected capital renewal program is shown in Appendix C – Projected capital works program.

Figure 5-8: Projected Capital Renewal Expenditure ('000s)



The current projections eliminate the backlog over 8yrs and result in \$1.3M of unfunded renewals over the 10yr period.

Table 5.6 shows the relationship between projected and budgeted renewals.

Table 5-7: Projected and Budgeted Renewals and Expenditure Shortfall ('000s)

Year	Recommended Renewals	Planned Renewal Budget	Net Renewal Funding (-ve Gap, +ve Surplus)	Planned Backlog spend	Backlog Remaining
Backlog					-2040.50
2019	185.80	521.00	335.20	367.29	-1673.21
2020	188.59	407.00	218.41	265.27	-1407.95
2021	191.42	242.00	50.58	163.24	-1244.71
2022	194.29	190.00	-4.29	122.43	-1122.28
2023	197.20	190.00	-7.20	122.43	-999.85
2024	200.16	190.00	-10.16	122.43	-877.42
2025	203.16	190.00	-13.16	438.71	-438.71
2026	206.21	190.00	-16.21	438.71	0
2027	209.30	285.00	75.70	0	0
2028	212.44	291.42	78.98	0	0

Note: Backlog spend does not include any annual indexation.

5.4 Creation/Acquisition/Upgrade 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. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the Council from land development.

5.4.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor or community requests, proposals identified by strategic plans or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary estimate.

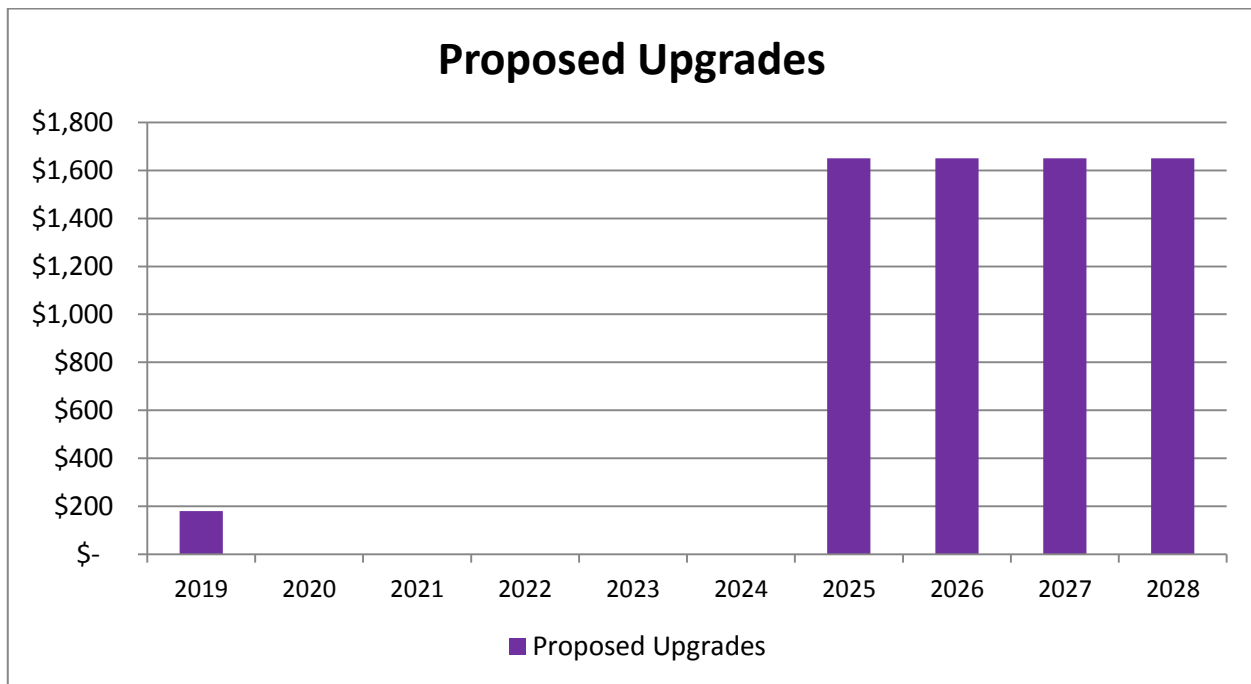
Also, upgrades are generally linked with proposed renewals. Where Council is planning on renewing a pump station, for example, potential upgrades to be implemented as part of the construction project are considered.

5.4.2 Summary of projected upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in

Figure 5-9. The projected upgrade/new capital works program is shown in Appendix C – Projected capital works program. All costs are shown in current 2018 dollar values.

Figure 5-9: Projected Capital Upgrade/New Asset Expenditure ('000s)



New or upgrades totalling 6.8M over 10 years have been included in this asset management plan. New assets and services are to be funded from the capital works program and grants where available. The primary upgrades are associated with improvements to the Kyogle Sewerage Treatment Plant in 2019 and provisions of new sewerage schemes in the villages of Tabulam, Wiangaree and Mallanganee from 2025 onwards.

5.5 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including impairment, sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5-8, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any.

Where cashflow projections from asset disposals are not available, these will be developed in future revisions of this asset management plan.

Table 5-8: Assets identified for Disposal

Asset	Reason for Disposal	Timing	Net Disposal Expenditure (Expend +ve, Revenue -ve)	Operations & Maintenance Annual Savings
No assets identified for disposal in this asset management plan				

6 ASSET MANAGEMENT PRACTICES

6.1 Accounting/Financial Systems

6.1.1 *Accounting and financial systems*

Kyogle Council uses the Civica PCS software solution for asset accounting.

6.1.2 *Accountabilities for financial systems*

The financial systems are managed by the Corporate and Community Services section

6.1.3 *Accounting standards and regulations*

Council works under Australian Accounting Standards and NSW State Legislation/Regulations and Directives issued by the Division of Local Government

NSW Local Government Act 1993

NSW Local Government Code of Accounting Practice and Financial Reporting

Australian Accounting Standards Board AASB116

6.1.4 *Required changes to asset accounting systems arising from this AM Plan*

Changes to asset management systems identified as a result of preparation of this asset management plan are:

- Improved monitoring and assessment of condition data and condition trends over time

6.2 Asset Management Systems

6.2.1 *Asset management system and registers*

- BizeAsset

6.2.2 *Linkage from asset management to financial system*

Linkage from the asset management system to the financial systems is detailed in the internal Asset Accounting Policy and Procedure.

6.2.3 *Accountabilities for asset management system and data*

- Assets and Infrastructure Services

6.3 Information Flow Requirements and Processes

The key information flows *into* this asset management plan are:

- Current condition assessment of assets
- Council strategic and operational plans,
- Service requests from the community,
- Network assets information,
- The unit rates for categories of work/materials,
- Current levels of service, expenditures, service deficiencies and service risks,
- Projections of various factors affecting future demand for services and new assets acquired by Council,
- Future capital works programs,
- Financial asset values.

The key information flows *from* this asset management plan are:

- The projected Works Program and trends,

- The resulting budget and long term financial plan expenditure projections,
- Financial sustainability indicators.

These will impact the Long Term Financial Plan, Delivery Program, Operational Plan and departmental business plans.

7 PLAN IMPROVEMENT AND MONITORING

7.1 Performance Measures

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required cashflows identified in this asset management plan are incorporated into the organisation's long term financial plan and Community/Strategic Planning processes and documents
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan
- The degree to which the overall condition of the assets improve over time
- The degree to which the backlog decreases over time

7.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.2.

Table 7-1: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Linking of the customer service system to the corporate asset register to link requests to asset records	Corporate	Staff Time	2021
2	Review the accuracy and currency of asset condition data	Technical	Staff Time	Ongoing
3	Continue to review the procedures for maintaining the Asset and Financial Registers	Corporate (Technical & Financial)	Staff Time	Ongoing

7.3 Monitoring and Review Procedures

This asset management plan will be referenced during annual budget preparation and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of the budget decision process. The Plan should be renewed each four years or as required.

APPENDICES

Appendix A – Relevant community goals and objectives

Goal	Objective	How Goal and Objectives are addressed in AMP
Participation and Communication	To encourage public participation and provide access opportunities for the recognition of community needs and expectations and develop appropriate lines of communications to ensure that the public is kept well informed as to Council activities.	<p>Development of the service levels provided by infrastructure, and the balancing of this with the available funding and acceptable risk will require communication and consultation with the community</p> <p>A primary objective of the asset management plans prepared by Council is to establish the position in relation to maintaining the current infrastructure at a level which will sustain an improved standard of services.</p>
Management	To set the example in Local Government through efficient and effective management practices and provide an environment that fosters trust, encourages and rewards excellence in performance and which supports the implementation of Council's goals and policies.	<p>Council has limited resources. Asset Management Planning provides a way in which the community can be engaged in setting the priorities and allocation of these resources.</p> <p>The Asset Management Plan in conjunction with Long Term Financial Plans are the tools by which Council assesses the long term financial sustainability of council's infrastructure assets</p> <p>Planning long term sustainable infrastructure is important to enable the appropriate resources to be identified and provided</p> <p>Planning long term sustainable infrastructure is important to enable Council to meet its statutory requirements</p>
Quality of Life	To promote the physical, social, cultural and general well-being of the Community.	The provision and maintenance of public infrastructure is an important component contributing to the cultural and social needs of the community
Roads and Traffic	To provide an adequate and safe road system appropriate to present and future vehicular and pedestrian use.	Planning and long term management of these assets is one of the principle aims of the Asset Management Plans and is essential to the sustainability of these services.
Services	To provide and facilitate the provision of a broad range of services to a standard commensurate with the needs and resources of a rural council and provide equitable access for all residents	<p>Infrastructure is provided to support services. Getting the correct infrastructure appropriate to the needs of the community is a primary goal of Asset Management Planning.</p> <p>A primary objective of the asset management plan is to develop a lifecycle approach to the provision of infrastructure. This aims to minimise the life cycle cost of assets while maximising the service that is delivered</p>
Promotion and Development	To assist and coordinate the ongoing development of Kyogle Council area and enhance and market its capacity as a location for residential opportunities, primary production, industry, commerce, government	Economic sustainability and growth is linked to the services provided by infrastructure. The Asset Management Plans will provide guidance as to the assets required, and the long term sustainability of these services.

services and tourism.		
Environment	<p>To achieve acceptable planning, development and building standards; to manage waste collection and disposal and to protect the environment in accordance with community expectations.</p>	<p>Infrastructure is provided to support services. Getting the correct infrastructure appropriate to the needs of the community is a primary goal of Asset Management Planning.</p> <p>Council has limited resources. Asset Management Planning provides a way in which the community can be engaged in setting the priorities and allocation of these resources.</p> <p>Provision of the appropriate infrastructure to support the natural environment will continue to be a long term consideration in Asset Management Planning</p>
Health	<p>To protect and promote the health and well-being of the Kyogle Council area Community by developing and applying environmental health and public safety measures.</p>	<p>The provision and maintenance of infrastructure is an important component contributing to the health and safety of the community</p>

Appendix B – Legislative Requirements

Legislation	Requirement
Local Government Act 1993	<p>Sets out role, purpose, responsibilities and powers of local governments.</p> <p>The purposes of this Act are as follows:</p> <ul style="list-style-type: none"> (a) to provide the legal framework for an effective, efficient, environmentally responsible and open system of local government in New South Wales, (b) to regulate the relationships between the people and bodies comprising the system of local government in New South Wales, (c) to encourage and assist the effective participation of local communities in the affairs of local government, (d) to give councils: <ul style="list-style-type: none"> • the ability to provide goods, services and facilities, and to carry out activities, appropriate to the current and future needs of local communities and of the wider public • the responsibility for administering some regulatory systems under this Act • a role in the management, improvement and development of the resources of their areas, (e) to require councils, councillors and council employees to have regard to the principles of ecologically sustainable development in carrying out their responsibilities. <p>The land management provisions of the Act require that Council prepare plans of management for all community land. The plan of management identifies the management objectives for the land category, performance indicators and performance measures to meet the objectives identified.</p>
Disability Discriminations Act, 1992	<p>The Federal <i>Disability Discrimination Act 1992</i> (D.D.A.) provides protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people.</p> <ul style="list-style-type: none"> (a) to eliminate, as far as possible, discrimination against persons on the ground of disability in the areas of: <ul style="list-style-type: none"> (i) work, accommodation, education, access to premises, clubs and sport; and (ii) the provision of goods, facilities, services and land; and (iii) existing laws; and (iv) the administration of Commonwealth laws and programs; and (b) to ensure, as far as practicable, that persons with disabilities have the same rights to equality before the law as the rest of the community; and to promote recognition and acceptance within the community of the principle that persons with disabilities have the same fundamental rights as the rest of the community.
Work Health & Safety Act 2011	<p>Sets out roles and responsibilities to secure the health, safety and welfare of persons at work and covering injury management, emphasising rehabilitation of workers particularly for return to work. Council is to provide a safe working environment and supply equipment to ensure safety.</p>
Environmental Planning and Assessment Act 1979	<p>An Act to institute a system of environmental planning and assessment for the State of New South Wales. Among other requirements the Act outlines the requirement for the preparation of Local Environmental Plans (LEP), Development Control Plans (DCP), Environmental Impact Assessments (EIA) and Environmental Impact Statements.</p> <p>Also provides for State Environmental Planning Policies (SEPP) for Infrastructure as well as exempt and complying development.</p>
Biodiversity Conservation Act, 2016	<p>An Act to conserve threatened species, populations and ecological communities of animals and plants.</p>

	Under the terms of this Act Council is required to ensure the long term survival of the species identified.
Water Management Act, 2000	An Act to provide for the carrying out of works for the removal of obstructions from and the improvement of rivers and foreshores and the prevention of erosion of lands by tidal and non-tidal waters
Protection of the Environment Operations Act 1997	Council is required to exercise due diligence to avoid environmental impact and among others are required to develop operations emergency plans and due diligence plans to ensure that procedures are in place to prevent or minimise pollution.
National Parks and Wildlife Act (1974)	An Act relating to the establishment, preservation and management of national parks, historic sites and certain other areas and the protection of certain fauna, native plants and Aboriginal objects
Public Works and Procurement Act 1912	Sets out the role of Council in the planning and construction of new assets.
NSW Road Rules 2014	A provision of road rules that are based on the Australian Road Rules so as to ensure that the road rules applicable in this State are substantially uniform with road rules applicable elsewhere in Australia.
Valuation of Land Act 1916	This act sets out requirements in respect Land Valuation
Crown Land Management Act, 2016	An Act to provide for the administration and management of Crown land in the Eastern and Central Division of the State of NSW Council has large holdings of Crown land under it care, control and management.
Heritage Act, 1977	An Act to conserve the environmental heritage of the State. Several properties are listed under the terms of the Act and attract a high level of maintenance cost, approval and monitoring.
Building Code of Australia	The goal of the BCA is to enable the achievement of nationally consistent, minimum necessary standards of relevant, health, safety (including structural safety and safety from fire), amenity and sustainability objectives efficiently. This code also sets out the regulations for things such as means of escape, Limitation of people in buildings, Fire and evacuation plans and testing of special fire services and installations.
Plumbing and Drainage Act 2011	This act sets out requirements in respect to Plumbing Requirements
Rural Fires Act, 1997	An Act to establish the NSW Rural Fire Service and define its functions; to make provision for the prevention, mitigation and suppression of rural fires. Under the terms of this Act Council is required to mitigate any fire that emanate from bushland.
Dangerous Goods (Roads and Rail Transport) Act 2008	This act sets out the requirements for safe transport of dangerous goods
Fire Brigades Act 1989	This act sets out requirements in respect to Emergency Services for Fire and Rescue
State Records Act 1998	This act sets out requirements in respect maintaining Public Records
Surveillance Devices Act, 2007	This act sets out requirements in respect use of Surveillance Devices
Civil Liability Act, 2002	An Act to make provision in relation to the recovery of damages for death or personal injury caused by the fault of a person

Appendix C – Projected capital works program

Sewerage Services											
Project / Item	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29
Sewerage system renewals	521,000	407,000	242,000	190,000	190,000	190,000	190,000	190,000	285,000	291,420	297,985
Sewering of Tabulam, Wiangaree and Mallanganee							1,650,000	1,650,000	1,650,000	1,650,000	1,650,000
Total	521,000	407,000	242,000	190,000	190,000	190,000	1,840,000	1,840,000	1,935,000	1,941,420	1,947,985

Appendix D – Abbreviations

AAAC	Average annual asset consumption
AMP	Asset management plan
ARI	Average recurrence interval
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
EF	Earthworks/formation
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SS	Suspended solids
vph	Vehicles per hour

Appendix E – Glossary

Annual service cost (ASC)

- 1) Reporting actual cost
The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
- 2) For investment analysis and budgeting
An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/opportunity and disposal costs, less revenue.

Asset

A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.

Asset class

A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.

Asset condition assessment

The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

Asset management (AM)

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.

Average annual asset consumption (AAAC)*

The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.

Borrowings

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the

initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided.

Capital expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital expenditure - expansion

Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases the organisation's asset base, but may be associated with additional revenue from the new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new

Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

Capital expenditure - renewal

Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, eg. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

Capital expenditure - upgrade

Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations

and maintenance expenditure in the future because of the increase in the organisation's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital funding

Funding to pay for capital expenditure.

Capital grants

Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

Capital investment expenditure

See capital expenditure definition

Capitalisation threshold

The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

Carrying amount

The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

Class of assets

See asset class definition

Component

Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Cost of an asset

The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into service. This includes one-off design and project management costs.

Current replacement cost (CRC)

The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

Depreciable amount

The cost of an asset, or other amount substituted for its cost, less its residual value.

Depreciated replacement cost (DRC)

The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

Depreciation / amortisation

The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

Economic life

See useful life definition.

Expenditure

The spending of money on goods and services. Expenditure includes recurrent and capital.

Fair value

The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arms length transaction.

Funding gap

A funding gap exists whenever an entity has insufficient capacity to fund asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current funding gap means service levels have already or are currently falling. A projected funding gap if not addressed will result in a future diminution of existing service levels.

Heritage asset

An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

Impairment Loss

The amount by which the carrying amount of an asset exceeds its recoverable amount.

Infrastructure assets

Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, eg. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the

assets have long lives. They are fixed in place and are often have no separate market value.

Investment property

Property held to earn rentals or for capital appreciation or both, rather than for:

- (a) use in the production or supply of goods or services or for administrative purposes; or
- (b) sale in the ordinary course of business.

Key performance indicator

A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

Level of service

The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

Life Cycle Cost

1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual operations, maintenance and asset consumption expense, represented by depreciation expense. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure

The Life Cycle Expenditure (LCE) is the actual or planned annual operations, maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of life cycle sustainability.

Loans / borrowings

See borrowings.

Maintenance

All actions necessary for retaining an asset as near as practicable to its original condition, including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

- **Planned maintenance**

Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

- **Reactive maintenance**

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

- **Significant maintenance**

Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.

- **Unplanned maintenance**

Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

Maintenance and renewal gap

Difference between estimated budgets and projected required expenditures for maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Maintenance and renewal sustainability index

Ratio of estimated budget to projected expenditure for maintenance and renewal of assets over a defined time (eg 5, 10 and 15 years).

Maintenance expenditure

Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

Materiality

The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset

Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes and, improvements and efficiencies in production and installation techniques

Net present value (NPV)

The value to the organisation of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from eg the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.

Non-revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations expenditure

Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, eg power, fuel, staff, plant equipment, on-costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

Operating expense

The gross outflow of economic benefits, being cash and non cash items, during the period arising in the course of ordinary activities of an entity when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.

Pavement management system

A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

PMS Score

A measure of condition of a road segment determined from a Pavement Management System.

Rate of annual asset consumption

A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

Rate of annual asset renewal

A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade

A measure of the rate at which assets are being upgraded and expanded per annum expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

Recoverable amount

The higher of an asset's fair value, less costs to sell and its value in use.

Recurrent expenditure

Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operations and maintenance expenditure.

Recurrent funding

Funding to pay for recurrent expenditure.

Rehabilitation

See capital renewal expenditure definition above.

Remaining useful life

The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.

Renewal

See capital renewal expenditure definition above.

Residual value

The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

Revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, eg public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

Risk management

The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

Section or segment

A self-contained part or piece of an infrastructure asset.

Service potential

The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit

sector/public sector to value assets, particularly those not producing a cash flow.

Service potential remaining

A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

Strategic Longer-Term Plan

A plan covering the term of office of councillors (4 years minimum) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the council's longer-term plans such as the asset management plan and the long-term financial plan. The plan is prepared in consultation with the community and details where the council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes and how the plan will be resourced.

Specific Maintenance

Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, replacement of air conditioning equipment, etc. This work generally falls below the capital/maintenance threshold and needs to be identified in a specific maintenance budget allocation.

Sub-component

Smaller individual parts that make up a component part.

Useful life

Either:

- (a) the period over which an asset is expected to be available for use by an entity, or
- (b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the council.

Value in Use

The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.

Source: IPWEA, 2009, Glossary