Jerilderie Shire Council

Potable Water Supply

Asset Management Plan

Version 1.3

June 2014

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1. EXECUTIVE SUMMARY

Context

Jerilderie Shire Council is located 640km south west of Sydney and 320km north of Melbourne. The population has declined from 1,642 people in the 2006 census to 1,496 in 2011 and is forecast to decline over the next 20 years.

Our Shire covers an area of 3,397km2 and includes the township of Jerilderie. We are the second smallest Council in NSW and located in the state electorate of Murray-Darling and the Federal electorate of Farrer.

The major issues facing the area include:

- Business retention and attraction.
- Declining population.
- Retaining young people in the area.
- Water security.
- Environmental impacts and uncertainty.
- Sustainability of clubs, community groups and committees.
- Protection of buildings.
- Maintaining community infrastructure.
- Provision of aged, health and medical services.
- Attracting funding for community priorities.

The provision and maintenance of Council's assets is an important component to the needs of the community. Many of the Council's Water assets have been in existence for many years and they provide a high quality filtered water service to 520 connections.

This plan focuses on the needs, challenges and risks attributed to the potable Water supply assets for which Jerilderie Shire Council is responsible for.

The Potable Water Supply Portfolio
The assets are categorised as follows:

- Filtered & Raw Water Mains
- Pump Stations
- Reservoir
- Water Bore
- Water Treatment Plant

These infrastructure assets have a replacement value of $8.22M as reported in Councils audited Financial Statements as at 30th June 2013.

The Aim

The aim of this plan is to forecast the timing and cost to replace existing assets and their components over a 20 year planning period commencing in the 2013/14 financial year. This is to ensure lifecycle costs are kept to a minimum and service levels are provided at an acceptable and sustainable level. In addition, it is important that any future upgrades and provision of new infrastructure is duly considered in respect to impacts on service levels, resources, finances and risk.

It is these impacts that need to be assessed as part of this plan and where the risk is considered high due processes and control measures are employed to ensure exposure is accepted and/or minimised.

The Approach

For Council assets, three modelling scenarios have been considered when developing these forecasts.

Scenario 1 projects future renewal timing and costs using the acquisition year (or date of last renewal) and useful life from Council's asset register. This is an important aspect as it communicates what is being stated in Council's Financial Statements reflecting the state of the assets and remaining service potential. Instances can occur where remaining lives can be under and/or over stated which can impact valuations and subsequent depreciation allocated to the Operating Statement.

Scenario 2 is aimed at sustaining existing assets and services at current levels over the long term whilst delivering a timely program of improvements to meet the targets set out in the Strategic Plan. The needs are based on technical knowledge and data plus outputs from existing systems and processes. This is the best available measure of renewal need at the present time and improvements are underway to increase the confidence in these forecasts.

Scenario 3 balances the operating, maintenance and capital renewal and upgrade/new expenditure projections identified in Scenario 2 with the available funds in the Long-term Financial Plan (LTFP) and discusses the likely service implications and risks.

The difference between Scenario 2 and 3 represents "what we can't do". This enables a discussion about the 'gap' in service delivery and will lead to a more informed discussion about what are achievable and acceptable service levels, while giving a focus on managing risk. In time, with increased knowledge of the asset stock and future needs Council will be in a more effective position to communicate these risks to the community.

The Findings

Results from Scenario 1 indicate we are over servicing assets and services according to the asset register however this position does not reflect current knowledge, performance and customer feedback on the assets.

This finding suggests the renewal projections forecasted from the Asset Register (i.e. useful and remaining lives) are not aligned to the actual needs and services being delivered. This is an area of concern as the amount of depreciation attributed to the Operating Statement may not be reflective of the actual position and will need further investigation.

Scenario 2 determined $560,000 is required for asset renewal to sustain current assets and service levels for the next 10 years. These long term renewal estimates exceed the LTFP over the 10 year planning period by $237,000. This shortfall is the estimated cost to bring existing assets to a satisfactory standard. Subsequently, ongoing if not improved monitoring of ageing and significant assets is crucial to ensure services can be sustained and risk of asset 'failure' is minimised.

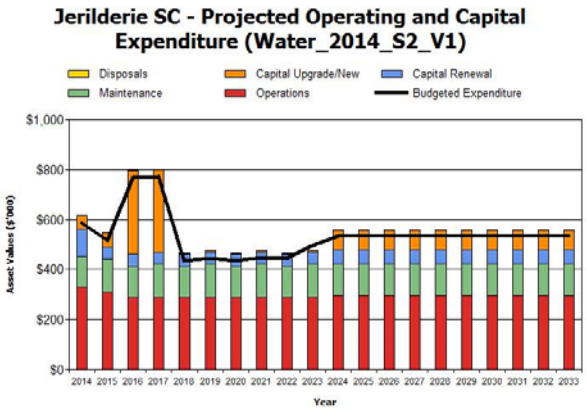
Scenario 3 balances the above needs with the 10 year Long-term Financial Plan. At Jerilderie Shire, this means the possible reduction of service levels in some areas. The timing is uncertain at this stage however given the $237,000 shortfall in renewals over the next 10 years it is possible some priority works may have to be deferred.

There is limited condition, capacity and utilisation reporting on the existing asset stock which poses a risk for Council. Increased investment in the monitoring and reporting of the assets performance will enable a more valued decision support mechanism than is currently offered and at the same time ensure risk is being duly managed.

What does it Cost?

The projected outlays necessary to sustain current service levels (includes operations, maintenance, renewal and upgrade of existing assets) over the 10 year planning period is $5.586M or $559,000 on average per year.

Estimated available funding for this period is $5.349M or $535,000 on average per year which is 96% of the cost to provide the service. This is a funding shortfall of $24,000 on average per year. The projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan are shown in the graph below.



Projected expenditure to sustain current service levels against the budgeted LTFP.

What we will do

We plan to provide potable water supply services for the following:

- Operation, maintenance, renewal and upgrade of water assets to meet service levels set in annual budgets.
- Sustain a $4.22M operational budget over the 10 year planning period.
- Sustain a $323,000 renewal program over the 10 year planning period.
- Sustain a $806,000 upgrade program over the 10 year planning period.
- We will assess remaining life of our existing assets and align with up to date condition data of critical assets as a priority.

What we cannot do

There is a minor shortfall in funding to provide services at current levels however, works and services that cannot be provided under present funding levels are:

- An estimated $237,000 funding shortfall in priority renewals over the next 10 years.

The long term average sustainability ratio is 0.84 which indicates that the current funding is 84% of the funds required. The risk that this constitutes is considered low at the present time however it will require careful monitoring.

Managing the Risks

There are risks associated with providing the service and not being able to complete all identified activities and projects. We have identified major risks as:

- Increasing maintenance and servicing costs.
- Ageing and general deterioration of assets.
- Potable drinking water standards being compromised.
- Reduction of service levels in some areas.
- Meeting community expectations.

We will endeavour to manage these risks within available funding by:

- Continuing water quality sampling and data monitoring.
- Allocating increased maintenance funds where required.
- Ensure preventative maintenance schedules are maintained.
- Investigate procurement strategies to reduce replacement costs.
- Improve management and prioritisation of renewals and upgrades.
- Undertake regular condition, functionality and capacity audits.

Confidence Levels

This AM Plan is based on a Low to Medium level of confidence information.

The Next Steps

The actions resulting from this asset management plan are:

- Assess the Remaining Life of all assets on a priority basis and align with up to date performance data and knowledge.
- Ensure funding models reflect the resources required where possible to meet the timely renewal of existing assets and those identified and implemented under the Strategic Plan.
- Increase confidence and prioritise renewal and upgrade/new estimates based on risk.
- Develop and confirm current and desired community and technical levels of service to understand and report on a sustainable service delivery model.
- Maintain an annual review and update of service level performance, financial projections and risk.
- Implement a continuous improvement strategy to assess and report on the performance of council controlled assets.
- Ensure the Asset Management Plan is updated on an annual basis.

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Jerilderie Shire community's potable water needs. These assets include

- Filtered Water Main
- Pump Station
- Raw Water Main
- Reservoir
- Water Bore
- Water Treatment Station

throughout the community area to provide safe and reliable supply of potable water.

What is an Asset Management Plan?

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

An asset management plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner. The plan defines the services to be provided, how the services are provided and what funds are required to provide the services.

Why is there a funding shortfall?

Most of the organisation's water network was constructed by developers and from government grants, often provided and accepted without consideration of ongoing operations, maintenance and replacement needs.

Many of these assets are approaching the later years of their life and require replacement, services from the assets are decreasing and maintenance costs are increasing.

Our present funding levels are slightly below those required to sustain existing services at current levels in the medium to long term.

What options do we have?

Resolving the funding shortfall involves several steps:

1. Improving asset knowledge so that data accurately records the asset inventory, how assets are performing and when assets are not able to provide the required service levels,
2. Improving our efficiency in operating, maintaining, renewing and replacing existing assets to optimise life cycle costs,
3. Identifying and managing risks associated with providing services from infrastructure,
4. Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure,
5. Identifying assets surplus to needs for disposal to make saving in future operations and maintenance costs,
6. Consulting with the community to ensure that potable water services and costs meet community needs and are affordable,
7. Developing partnership with other bodies, where available to provide services,
8. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

What happens if we don't manage the shortfall?

Given the current funding level and the status of the asset stock in its lifecycle it is unlikely that council will have to reduce service levels for the existing water supply services in the short to medium term.

What can we do?

We can develop options, costs and priorities for future water supply services, consult with the community to plan future services to match the community service needs with ability to pay for services and maximise community benefits against costs.

What can you do?

Council will be pleased to consider your thoughts on the issues raised in this asset management plan and suggestions on how Council may change or reduce its services mix to ensure that the appropriate level of service can be provided to the community within available funding.

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 over a 20 year planning period.

The asset management plan follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual[1].

The asset management plan is to be read with the organisation's Asset Management Policy, Asset Management Strategy and the following associated planning documents:

Jerilderie Shire Council Annual Report 2012/13
Jerilderie Shire Council Community Strategic Plan 2013-2023
Jerilderie Shire Council Long-term Financial Plan 2013-2023

The infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide potable water supply services to its community.

Table 2.1: Assets covered by this Plan

Asset category	Dimension	Replacement Value
Raw Water Mains	221	$2,246,227
Filtered Water Mains	87	$1,694,411
Pump Stations	1	$184,500
Reservoir	3	$2,419,000
Water Bore	1	$61,855
Water Treatment Plant	1	$1,609,250
TOTAL		**$8,215,243**

Key stakeholders in the preparation and implementation of this asset management plan are: Shown in Table 2.1.1.

Table 2.1.1: Key Stakeholders in the AM Plan

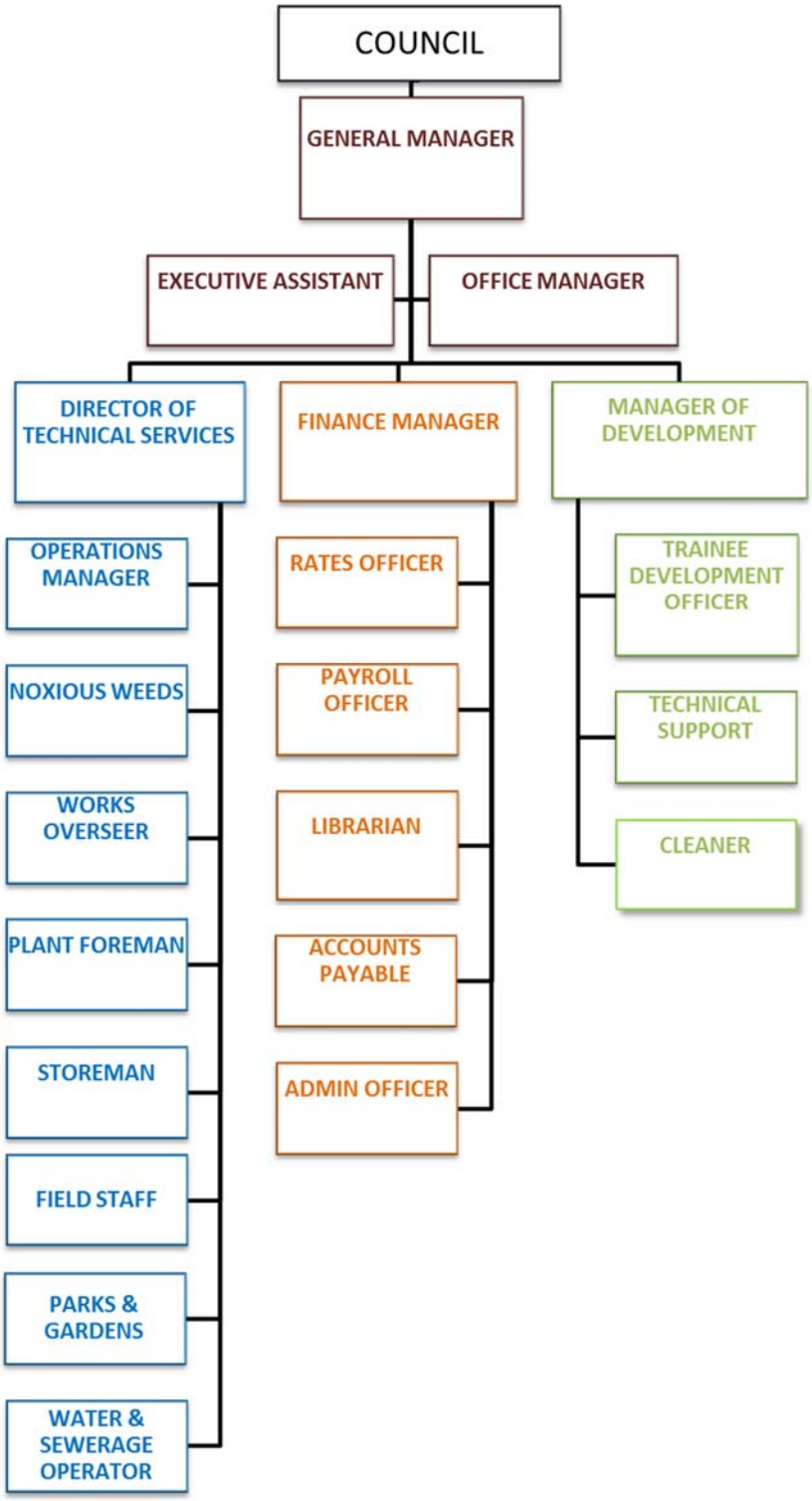
Key Stakeholder	Role in Asset Management Plan
Councillors	• Represent needs of community/shareholders, • Allocate resources to meet the organisation's objectives in providing services while managing risks, • Ensure organisation is financial sustainable.
General Manager	Overall responsibility for developing the asset management strategy, plans and procedures and reporting on the status and effectiveness of asset management within the organisation.
Director of Technical Services	• Managerial oversight of inspection regime, identification of and timely and effective response to risks. Annual review and update of service levels. • Provide forward expenditure projections based on delivering various service level scenarios.
Finance Manager	• Managerial oversight of asset funding model and Long Term Financial Plan. • Ensure capitalisation process is managed effectively.

[1] IPWEA, 2011, Sec 4.2.6, Example of an Asset Management Plan Structure, pp 4|24 – 27.

Our organisation's organisational structure for service delivery from infrastructure assets is detailed below:

2014 Jerilderie Shire Council

Organisation Structure



2.2 Goals and Objectives of Asset Management

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

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

Providing a defined level of service and monitoring performance,
Managing the impact of growth through demand management and infrastructure investment,
Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
Identifying, assessing and appropriately controlling risks, and
Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed.[2]

2.3 Plan Framework

Key elements of the plan are

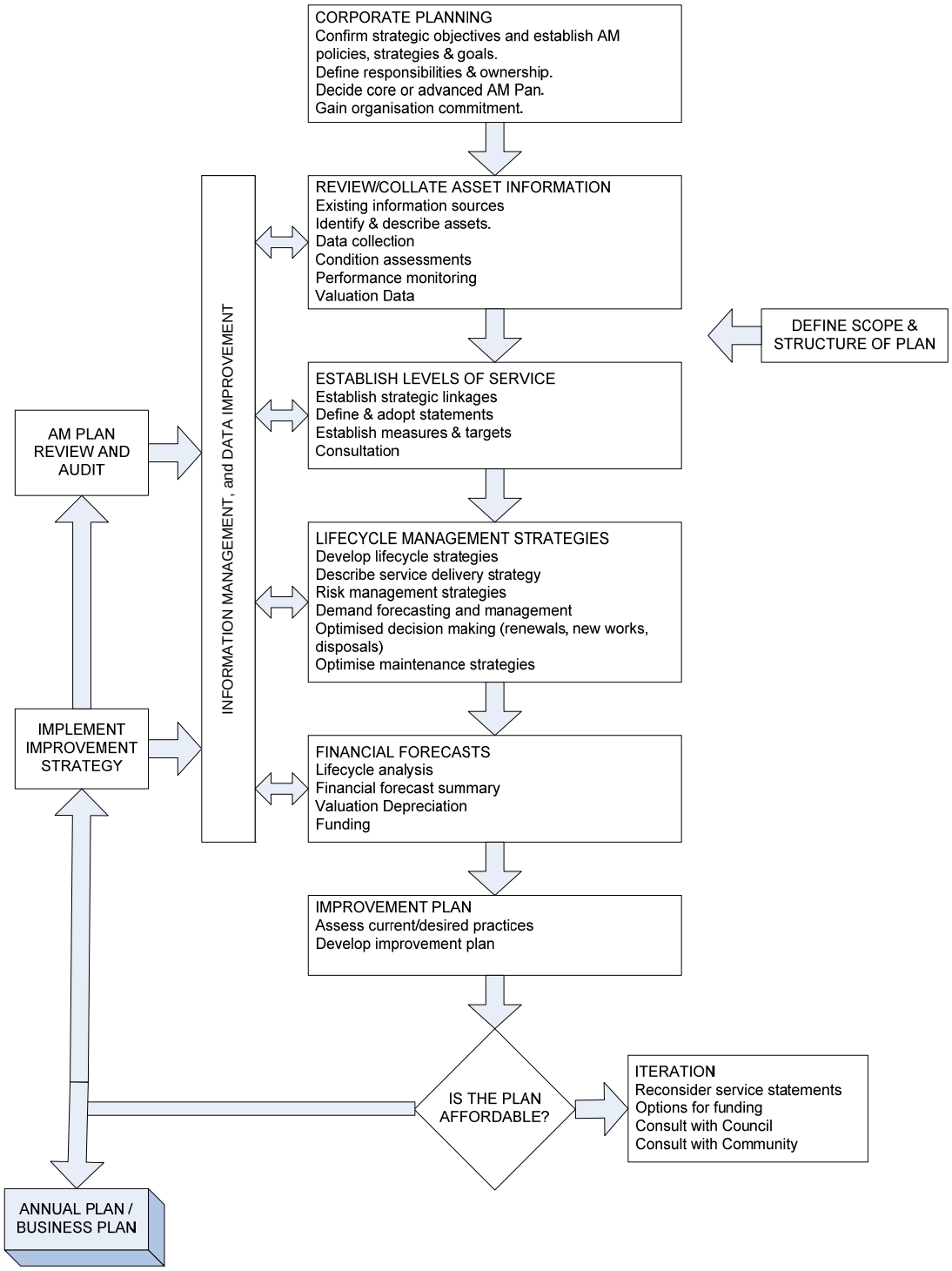
Levels of service – specifies the services and levels of service to be provided by the organisation,
Future demand – how this will impact on future service delivery and how this is to be met,
Life cycle management – how we will manage our existing and future assets to provide defined levels of service,
Financial summary – what funds are required to provide the defined services,
Asset management practices,
Monitoring – how the plan will be monitored to ensure it is meeting the organisation's objectives,
Asset management improvement plan.

A road map for preparing an asset management plan is shown below.

[2] Based on IPWEA, 2011, IIMM, Sec 1.2 p 1|7.

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11.



2.4 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual[3]. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

Future revisions of this asset management plan will move towards 'advanced' asset management using a 'bottom up' approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service levels.

2.5 Community Consultation

This 'core' asset management plan is prepared to facilitate community consultation initially through feedback on public display of draft asset management plans prior to adoption by the Council. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing the service. This will assist the Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability and willingness to pay for the service.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

The organisation has not carried out any research on customer expectations. This will be investigated for future updates of the asset management plan.

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the organisation's vision, goals and objectives identified in the Community Strategic Plan.

Our vision is:

"We are blessed with a strong and vibrant community, a resilient economy and an environment that provides us both enjoyment and productivity. As a community we offer diverse opportunities, exciting possibilities and a strong sense of belonging. We possess an identity that reflects our rich history, our focus on the land, and our hope for the future. Together, we will make our shire the place to be in the year 2030"

Relevant organisation goals and objectives and how these are addressed in this asset management plan are:

Table 3.2: Organisation Goals and how these are addressed in this Plan

Goals	Objectives
An economy that provides opportunities and stability for our shire and our families	**Outcome 1.5:** Infrastructure that supports growth and productivity of our businesses and industry Objective 1.5.1: The availability of service infrastructure to facilitate business growth and expansion Objective 1.5.2: Appropriate infrastructure to support our commercial and industrial businesses

[3] IPWEA, 2011, IIMM.

Goals	Objectives
Infrastructure that is responsibly planned, developed and maintained	**Outcome 2.1:** Infrastructure that supports our community identity Objective 2.1.1: Consistent and recognisable development themes throughout the shire Objective 2.1.2: Protection of historic buildings and landmarks **Outcome 2.2:** The ability to be an active community Objective 2.2.1: Infrastructure that facilitates a community that is physically active **Outcome 2.3:** A safe and accessible shire to travel Objective 2.3.1: Deliver roads that ensure safe and enjoyable vehicular passage throughout the shire Objective 2.3.2: Effective transport options and supporting infrastructure **Outcome 2.4:** Infrastructure for our future Objective 2.4.1: Development infrastructure that supports growth within our community Objective 2.4.2: Land use that supports the development of our community
A supportive, active and passionate community	**Outcome 3.3:** A safe and accessible community Objective 3.3.1: A safe community for residents and visitors Objective 3.3.2: A community that is accessible for people of all ages and abilities **Outcome 3.5:** Protection of our history and heritage Objective 3.5.1: Protect and restore our historic places and spaces Objective 3.5.2: Celebration and protection of unique historic story
An environment that is valued, protected and respected	**Outcome 4.1:** Efficient and responsible waste management and recycling services Objective 4.1.1: Support recycling opportunities for the community Objective 4.1.2: Waste management **Outcome 4.2:** Respect and protection of our natural environment Objective 4.2.1: A community that actively protects the natural environment Objective 4.2.2: Decreased occurrence spread and impact of weeds throughout our shire Objective 4.2.3: Innovative ways to protect our environment Objective 4.2.4: Reduced impact of pests on our community **Outcome 4.3:** Waterways which are appreciated and valued Objective 4.3.1: High water quality in all of our waterways Objective 4.3.2: Responsible community use of our natural wetlands and waterways
Effective and productive relationships with all levels of government	**Outcome 5.4:** Strong and effective local government Objective 5.4.1: Accessible and relevant local community engagement practices. Objective 5.4.2: Provide the required support, resources and environment for an effective and productive local government team.

The Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 5.2

3.3 Legislative Requirements

We have to meet many legislative requirements including Australian and State legislation and State regulations. These include:

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Local Government Amendment (Planning and Reporting) Act 2009	Local Government Amendment (Planning and Reporting) Act 2009 includes the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Work Health & Safety Act 2011	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.
Water Management Act 2000	The act provides for sustainable and integrated management of NSW's water sources. Water rights, licences, allocations.

3.4 Current Levels of Service

We have defined service levels in two terms.

Community Levels of Service measure how the community receives the service and whether the organisation is providing community value.

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	Is the service over or under 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 organisation undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

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 asset as near as practicable to an appropriate service 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 (eg 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).

Asset managers plan, implement and control technical service levels to influence the customer service levels.[4]

[4] IPWEA, 2011, IIMM, p 2.22

Our current service levels are detailed in Table 3.4.

Table 3.4: Current and Desired Service Levels

Service Attribute	Service Objective	Performance Measure Process	Current Performance	Expected position in 10 years based on LTFP
COMMUNITY LEVELS OF SERVICE				
Quality	Potable water supply meets required standards.	Number of customer complaints.	Has not been fully assessed at this time	Has not been fully assessed at this time
		% of assets in poor/very poor condition.	Has not been fully assessed at this time	Has not been fully assessed at this time
Function	Assets meet program delivery needs.	% of assets in poor/very poor condition.	Has not been fully assessed at this time	Has not been fully assessed at this time
Capacity/ Utilisation	Assets are appropriate for usage.	% of assets in poor/very poor condition.	Has not been fully assessed at this time	Has not been fully assessed at this time

Technical service levels are unavailable at present and are recognised as one of the priority tasks in the Improvement Plan.

3.5 Desired Levels of Service

Indications of desired levels of service are obtained from community consultation/engagement. The asset management planning process includes the development of 3 scenarios to develop levels of service that are financially sustainable.

4. FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilisation of assets were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and utilisation of assets are shown in Table 4.3.

Table 4.3: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Increasing Costs	Current costs	Costs anticipated to increase	The shortage of skilled labour, high labour costs and increasing maintenance costs will impact on the future management of water assets.
Regulation	Current regulations	Regulations relating to water management increasing.	Will add further to the cost of providing, operating, maintaining and renewing assets.

4.4 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.

Non-asset solutions focus on providing the required service without the need for the organisation to own the assets and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures[5]. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another community area or public toilets provided in commercial premises.

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be developed in future revisions of this asset management plan.

Table 4.4: Demand Management Plan Summary

Demand Driver	Impact on Services	Demand Management Plan

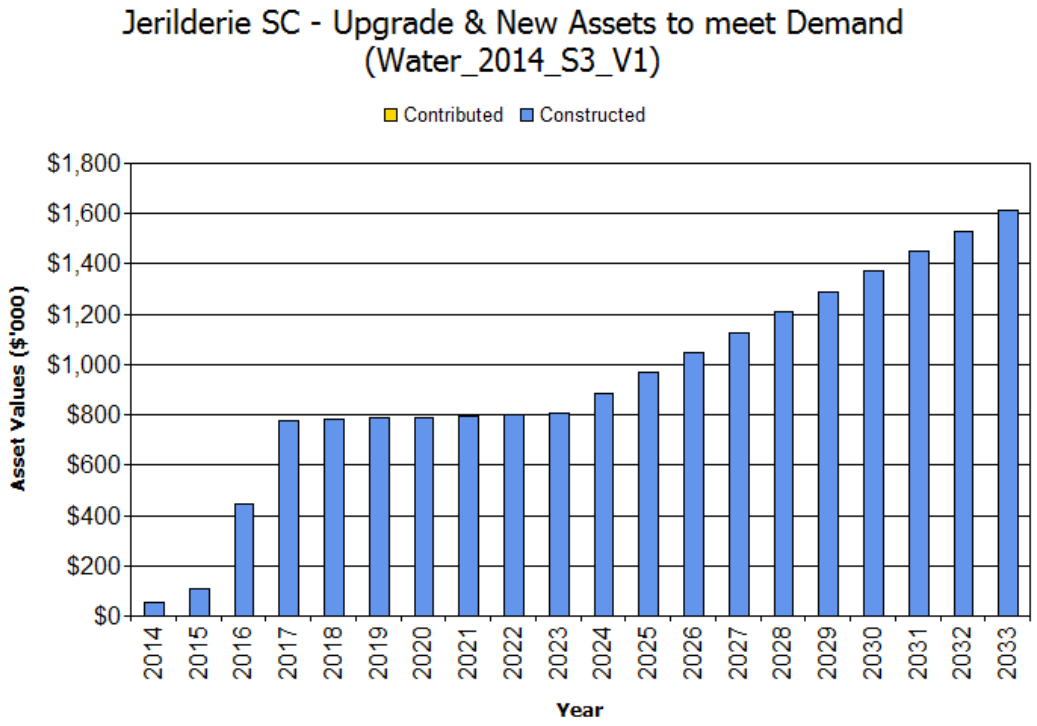
[5] IPWEA, 2011, IIMM, Table 3.4.1, p 3|58.

Demand Driver	Impact on Services	Demand Management Plan
Communicate options and capacity to fund Water infrastructure with the community	Monitor community expectations and communicate service levels and financial capacity with the community to balance priorities for infrastructure with what the community is prepared to pay for	Communicate options and capacity to fund Water infrastructure with the community
Funding priority works	Link asset management plans to long term financial plans and community strategic plans Continue to seek grant funding for projects identified in the Jerilderie Shire Community Plan and Asset Management Plans	Funding priority works
Improve understanding of costs and capacity to maintain current service levels	Continue to analyse the cost of providing service and the capacity to fund at the current level of service	Improve understanding of costs and capacity to maintain current service levels

4.5 Asset Programs to meet Demand

The new assets required to meet growth will be constructed/acquired by the organisation. New assets constructed/acquired by the organisation are discussed in Section 5.5. The cumulative value of these constructed asset values over the 20 year planning period is $1.61M and is summarised in Figure 1 below.

Figure 1: Upgrade and New Assets to meet Demand



Acquiring these new assets will commit the organisation to fund ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 5.

5. LIFECYCLE MANAGEMENT PLAN

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

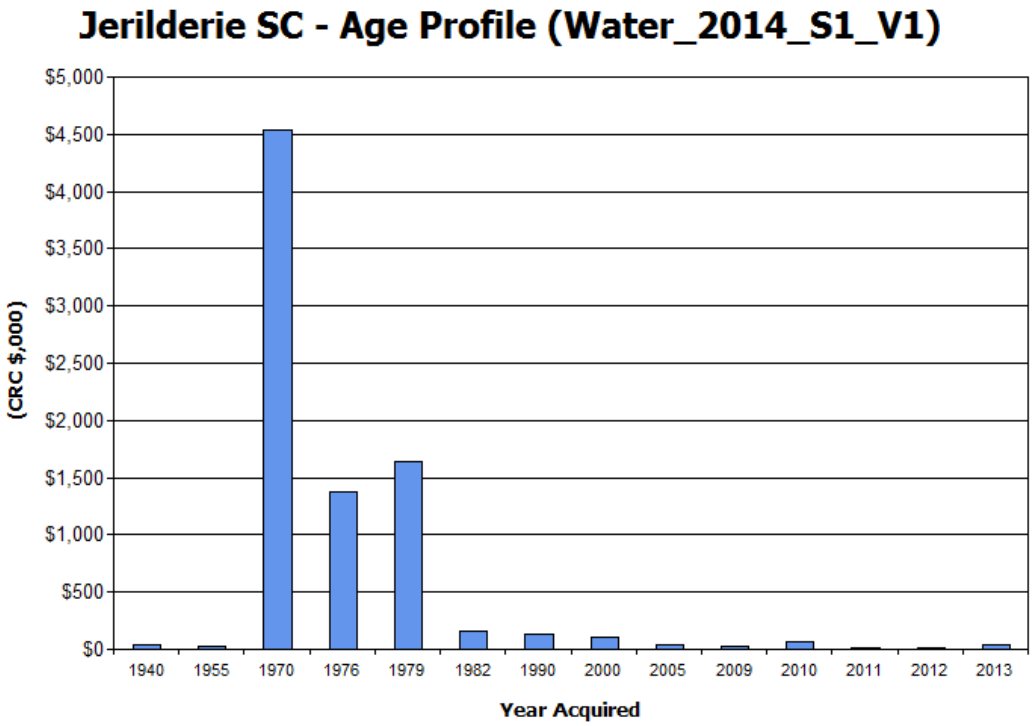
5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan are shown in Table 2.1. The useful life of an asset is defined as a period over which a depreciable asset is expected to be fully utilised.

The age profile of the assets included in this AM Plan is shown in Figure 2.

Figure 2: Asset Age Profile



The age profile shows the commissioning of the scheme in 1970 with subsequent (majority) works being delivered for the next ten years till 1980.

5.1.2 Asset capacity and performance

The organisation's services are generally provided to meet design standards where these are available.

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Known performance deficiencies have not been recorded.	In the update of future asset management plans, and in particular as these plans are integrated with the Long Term Financial and Community Plans service deficiencies will be identified.

5.1.3 Asset condition

Condition is monitored on an ad-hoc basis and data collection and storage processes require review so it is made available in the asset management system. Therefore the condition knowledge and profile of our assets is limited and unavailable to be reported on at the current time.

When condition is measured we use a 1 – 5 grading system[6] as detailed in Table 5.1.3.

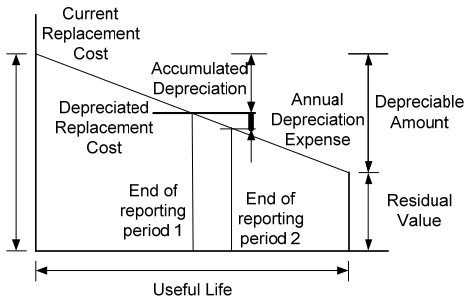
Table 5.1.3: Simple Condition Grading Model

Condition Grading	Description of Condition
1	**Very Good**: only planned maintenance required
2	**Good**: minor maintenance required plus planned maintenance
3	**Fair**: significant maintenance required
4	**Poor**: significant renewal/rehabilitation required
5	**Very Poor**: physically unsound and/or beyond rehabilitation

5.1.4 Asset valuations

The value of assets recorded in the asset register as at 30 June 2013 covered by this asset management plan is shown below. Assets were last revalued at June 2010. Assets are valued at fair value in accordance with AASB113.

Current Replacement Cost	$8,215,000
Depreciable Amount	$8,215,000
Depreciated Replacement Cost[7]	$3,556,000
Annual Depreciation Expense	$120,000



Useful lives were reviewed in June 2010 by conducting a sample based remaining life assessment based on condition to determine overall useful life.

Major changes from previous valuations are due to existing assets not previously recognised and existing records being reviewed and updated after verification.

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time.

Rate of Annual Asset Consumption (Depreciation/Depreciable Amount)	1.50%
Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount)	1.00%
Rate of Annual Asset Upgrade/New (Capital upgrade exp/Depreciable amount)	0.70%
Rate of Annual Asset Upgrade/New	0.70%

[6] IPWEA, 2011, IIMM, Sec 2.5.4, p 2|79.
[7] Also reported as Written Down Current Replacement Cost (WDCRC).

(including contributed assets)

In 2013/14 the organisation plans to renew assets at 65.80% of the rate they are being consumed and will be increasing its asset stock by 0.70% in the year.

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.

5.2 Infrastructure Risk Management Plan

An assessment of risks associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to the organisation. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 5.2.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Quality of drinking water.	High levels of naturally occurring minerals result in drinking water guideline standards not being met	High	Monitor water quality test reports. Implement Drinking Water Quality Management Plan actions	Medium	Within existing budget
All water assets.	Accelerated deterioration of ageing assets.	High	Continue to improve data and knowledge by carrying out sample inspections. Required renewal of water supply system components is being achieved in the short to medium term. Future planning improvements can be made by documenting service level risks and utilisation of these in establishing future renewal priorities.	Medium	Within existing budget

Note * The residual risk is the risk remaining after the selected risk treatment plan is operational.

5.3 Routine Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, eg street sweeping, grass mowing and street lighting.

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.

5.3.1 Operations and Maintenance Plan

Operations activities affect service levels including quality and function through street sweeping and grass mowing frequency, intensity and spacing of street lights and cleaning frequency and opening hours of building and other facilities.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating, e.g. pump maintenance and repair but excludes rebuilding or replacement. Maintenance may be classified into reactive, planned and specific maintenance work activities.

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

Planned maintenance is repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, 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 repainting, replacing air conditioning units, etc. This work falls below the capital/maintenance threshold but may require a specific budget allocation.

Actual past maintenance expenditure is shown in Table 5.3.1.

Table 5.3.1: Maintenance Expenditure Trends

Year	Maintenance Expenditure		
	Planned and Specific	Unplanned	Total
2010/11	Unavailable	Unavailable	$450,000
2011/12	Unavailable	Unavailable	$450,000
2012/13	Unavailable	Unavailable	$450,000

The percentage of planned and specific maintenance work as a percentage of the total maintenance expenditure is unavailable.

Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels are such that will result in a lesser level of service, the service consequences and service risks have been identified and service consequences highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

Assessment and prioritisation of reactive maintenance is undertaken by the organisation's staff using experience and judgement.

5.3.2 Operations and Maintenance Strategies

The organisation will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operation and maintenance activities include:

Scheduling operations activities to deliver the defined level of service in the most efficient manner,
Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities (50 – 70% planned desirable as measured by cost),
Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council,
Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs,
Review asset utilisation to identify underutilised assets and appropriate remedies, and over utilised assets and customer demand management options,
Maintain a current hierarchy of critical assets and required operations and maintenance activities,
Develop and regularly review appropriate emergency response capability,
Review management of operations and maintenance activities to ensure the organisation is obtaining best value for resources used.

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.

The organisation's service hierarchy is under development and will be considered as part of the update to this plan.

Critical Assets

Critical assets are those assets which have a high consequence of failure but not necessarily a high likelihood of failure. By identifying critical assets and critical failure modes, organisations can target and refine investigative activities, maintenance plans and capital expenditure plans at the appropriate time.

Operations and maintenances activities may be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency, higher maintenance intervention levels, etc. Critical assets failure modes and required operations and maintenance activities are detailed in Table 5.3.2.1.

Table 5.3.2.1: Critical Assets and Service Level Objectives

Critical Assets	Critical Failure Mode	Operations & Maintenance Activities
To be developed in future revisions of this Plan.		

Standards and specifications

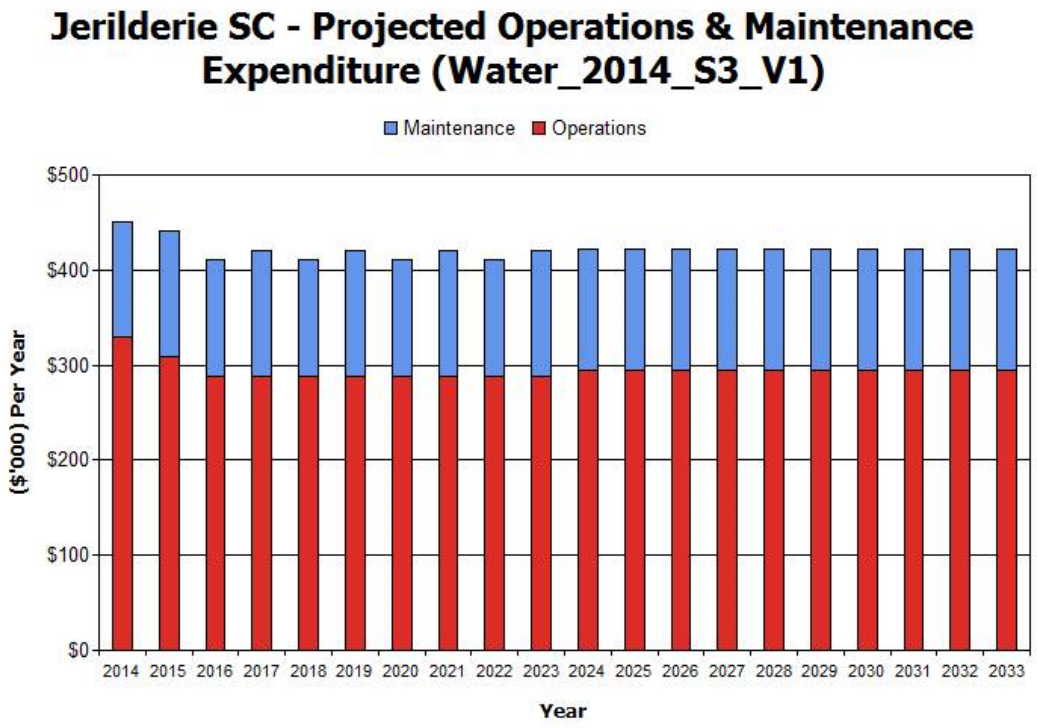
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Relevant engineering Australian Standards
- Relevant standards and specifications for public health and water works

5.3.3 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2013/14 dollar values (i.e. real values net of inflation).

Figure 4: Projected Operations and Maintenance Expenditure



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analysis in the infrastructure risk management plan.

Maintenance is funded from the operating budget where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

Renewal and replacement 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 or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

Renewal should 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 renewal include:

- Replacing water mains
- Replacing pump motors and electronics

5.4.1 Renewal plan

Assets requiring renewal/replacement are identified from one of three methods provided in the 'Expenditure Template'.

Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or

Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or

Method 3 uses a combination of average *network renewals* plus *defect repairs* in the *Renewal Plan* and *Defect Repair Plan* worksheets on the 'Expenditure template'.

A combination of Methods 1 & 3 was used for this asset management plan. It is recognised that the asset register used in Method 1 is not developed to a level of maturity where it is reliable for producing a realistic renewal forecast. Ideally when this asset register is sorted by remaining life from 1 to 10 years this should be consistent with the capital renewal program. This is not the case at Jerilderie Shire Council and the refinement of the asset register to achieve this situation should become an important part of the asset management improvement plan.

The useful lives of assets used to develop projected asset renewal expenditures are shown in Table 5.4.1. Asset useful lives were last reviewed in June 2010.[8]

Table 5.4.1: Useful Lives of Assets

Asset (Sub)Category	Useful life
• Raw Water Mains	50 to 80 years
• Filtered Water Mains	40 to 80 years
• Pump Stations	50 years
• Reservoir	100 years
• Water Bore	5 years
• Water Treatment Plant	70 years

5.4.2 Renewal and Replacement Strategies

The organisation will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
Undertaking project scoping for all capital renewal and replacement projects to identify:
- the service delivery 'deficiency', present risk and optimum time for renewal/replacement,
- the project objectives to rectify the deficiency,
- the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
- and evaluate the options against evaluation criteria adopted by the organisation, and
- select the best option to be included in capital renewal programs,

Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible,
Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and the Council,
Review current and required skills base and implement workforce training and development to meet required construction and renewal needs,
Maintain a current hierarchy of critical assets and capital renewal treatments and timings required ,
Review management of capital renewal and replacement activities to ensure the organisation is obtaining best value for resources used.

Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (eg replacing a bridge that has a 5 t load limit), or
To ensure the infrastructure is of sufficient quality to meet the service requirements (eg roughness of a road).[9]

[8] June 2010 Revaluation.
[9] IPWEA, 2011, IIMM, Sec 3.4.4, p 3|60.

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

Have a high consequence of failure,
Have a high utilisation and subsequent impact on users would be greatest,
The total value represents the greatest net value to the organisation,
Have the highest average age relative to their expected lives,
Are identified in the AM Plan as key cost factors,
Have high operational or maintenance costs, and
Where replacement with modern equivalent assets would yield material savings.[10]

The ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in Table 5.4.2.

Table 5.4.2: Renewal and Replacement Priority Ranking Criteria

Criteria	Weighting
Available budget	No weighting criteria adopted
Condition	No weighting criteria adopted
Risk	No weighting criteria adopted
Regulatory Standards	No weighting criteria adopted
Total	**100%**

Renewal and replacement standards

Renewal work is carried out in accordance with the following Standards and Specifications.

- Building Code of Australia BCA
- Relevant engineering standards
- Relevant standards and specifications for water works

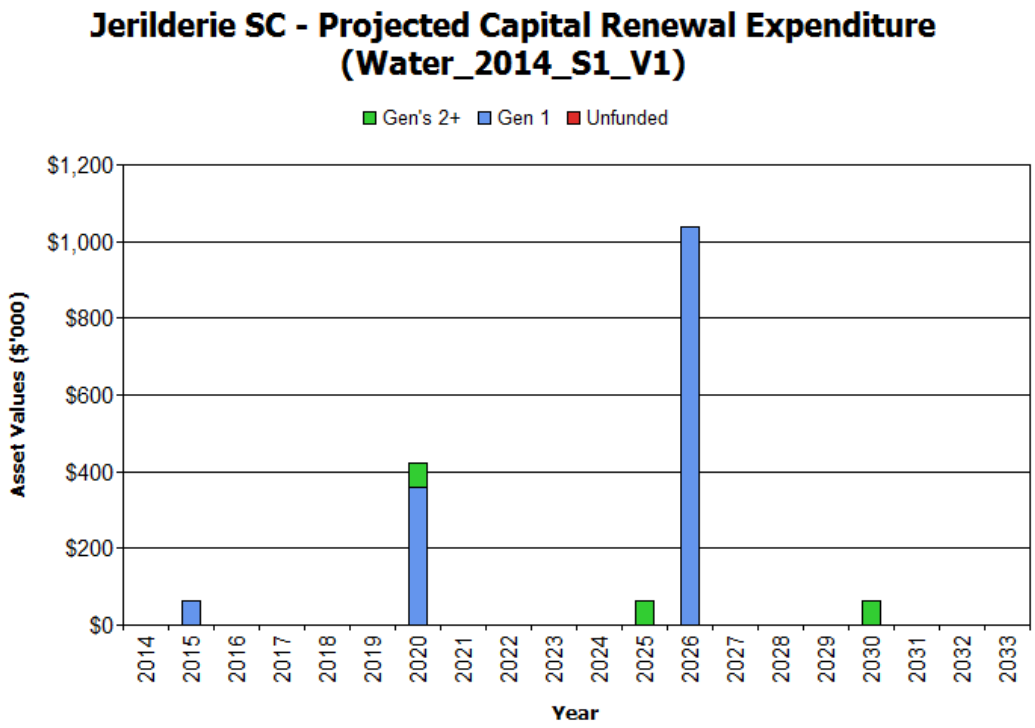
5.4.3 Summary of future renewal and replacement expenditure

The projected 20 year capital renewal expenditures have been developed for each of the three Scenarios and are shown below. All amounts are shown in real values (i.e. 2013/14 dollars and net of inflation).

The projected capital renewal and replacement program accommodated in the long term financial plan under Scenario 3 is shown in Appendix B and discussed further in Section 6.2.

[10] Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3|66.

Fig 5.1: Scenario 1 - Projected Capital Renewal and Replacement Expenditure (From Asset Register)



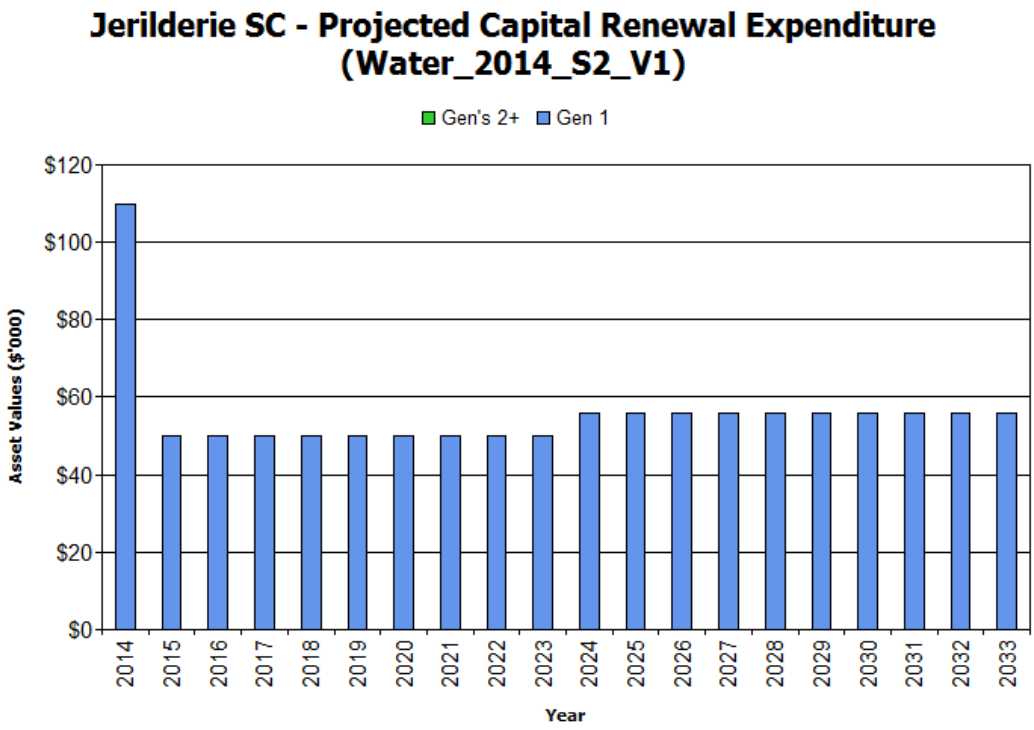
For **Scenario 1** the projected renewals uses the acquisition year (or date of last renewal) and useful life from the financial asset register. This is an important aspect as it communicates what is being stated in the audited Financial Statements and should reflect the state of the assets and remaining service potential. Instances can occur where remaining lives can be under and/or over stated which can impact valuations and subsequent depreciation allocated to the Operating Statement.

The renewal projection (forecast) in Scenario 1 shows little need to replace existing assets over the planning period. This suggests assets:

- Are performing extremely well,
- Lives may be too long,
- May not be componentised in the asset register to account for the short lived components, and
- Maybe inconsistent with the known (and funded) capital renewal plans.

This indicates that further refinement of the asset register is required before it is used as a capital renewal planning tool and should be given a high priority in the asset management improvement plan. The review is particularly important with respect to the useful lives in the asset register, aligning these with the required expenditure pattern for renewals and partial renewals.

Fig 5.2: Scenario 2 - Projected Capital Renewal and Replacement Expenditure (Sustaining current assets and services over the planning period)



Scenario 2 is aimed at sustaining existing assets over the long term at an agreed or desired service level whilst delivering a timely program of improvements to meet the targets set out in the Strategic Plan. These needs and estimates are based on technical knowledge and expertise from existing systems and key staff members. This is the best available measure at the present time and improvements are underway to increase the confidence in these forecasts.

The short to medium (10-year) outlook suggests $560,000 is required to sustain current service levels. These works include:

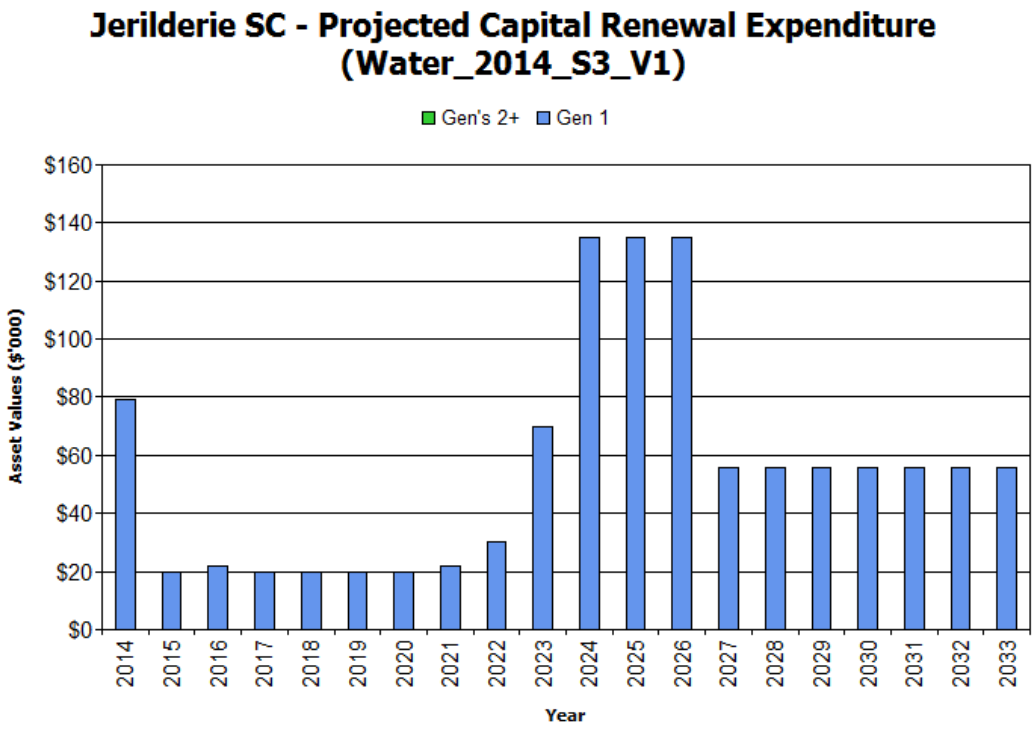
• Water Main Renewal	$500,000	
• Pump Renewal	$ NIL	
• Reservoir Renewal - water tank recoating		$ 30,000
• Treatment Plant Renewal - backwash pump, turbidity meter, mixing tanks		$ 30,000
Total	**$560,000**	

These are low confidence estimates and are the best available measure of renewal need at the present time.

Given known service performance deficiencies and limited condition, function and capacity data the risks that may arise during the planning period need to be carefully monitored. With increased investment in monitoring, auditing and reporting of the infrastructure supporting the services a more reliable estimate of renewal will assist with evaluating future risks.

These projections create a baseline position to determine what cannot be done when projections are balanced to the LTFP in Scenario 3.

Fig 5.3: Scenario 3 - Projected Capital Renewal and Replacement Expenditure (Balanced with the LTFP)



Scenario 3 balances the capital renewal expenditure projections identified in Scenario 2 with the available funds in the 10 year Long-term Financial Plan (LTFP).

The available funding in the 10 year LTFP for the renewal of assets is estimated at $323,000 over the next 10 years or approximately $32,300 per year. When compared to the $560,000 required funds to sustain existing assets and services for the next 10 years there is an estimated shortfall of $237,000 or approximately $23,700 per year. This shortfall is therefore 'pushed' out or deferred to 2024 – 2026 and is a quantitative assessment (in dollar terms) of what cannot be delivered.

Caution should be applied and due assessment made of the risk given the low level of confidence applied in the forward projections in Scenario 2 as the risk may actually be lower than assumed. In time, with increased knowledge of the asset stock and future needs officers will be in a more effective position to communicate these risks to the Council and in turn the Council to the Community.

Deferred renewal and replacement, i.e. those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the risk management plan.

Renewals and replacement expenditure in the organisation's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.5 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 organisation from land development. These assets from growth are considered in Section 4.4.

5.5.1 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 renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

Table 5.5.1: New Assets Priority Ranking Criteria

Criteria	Weighting
Available budget	No weighting criteria adopted
Land use planning priorities	No weighting criteria adopted
Public health needs	No weighting criteria adopted
Regulatory standards	No weighting criteria adopted
Total	**100%**

5.5.2 Capital Investment Strategies

The organisation will plan capital upgrade and new projects to meet level of service objectives by:

Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner,

Undertake project scoping for all capital upgrade/new projects to identify:

- the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new asset,
- the project objectives to rectify the deficiency including value management for major projects,
- the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
- management of risks associated with alternative options,
- and evaluate the options against evaluation criteria adopted by Council, and
- select the best option to be included in capital upgrade/new programs,

Review current and required skills base and implement training and development to meet required construction and project management needs,

Review management of capital project management activities to ensure the organisation is obtaining best value for resources used.

Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

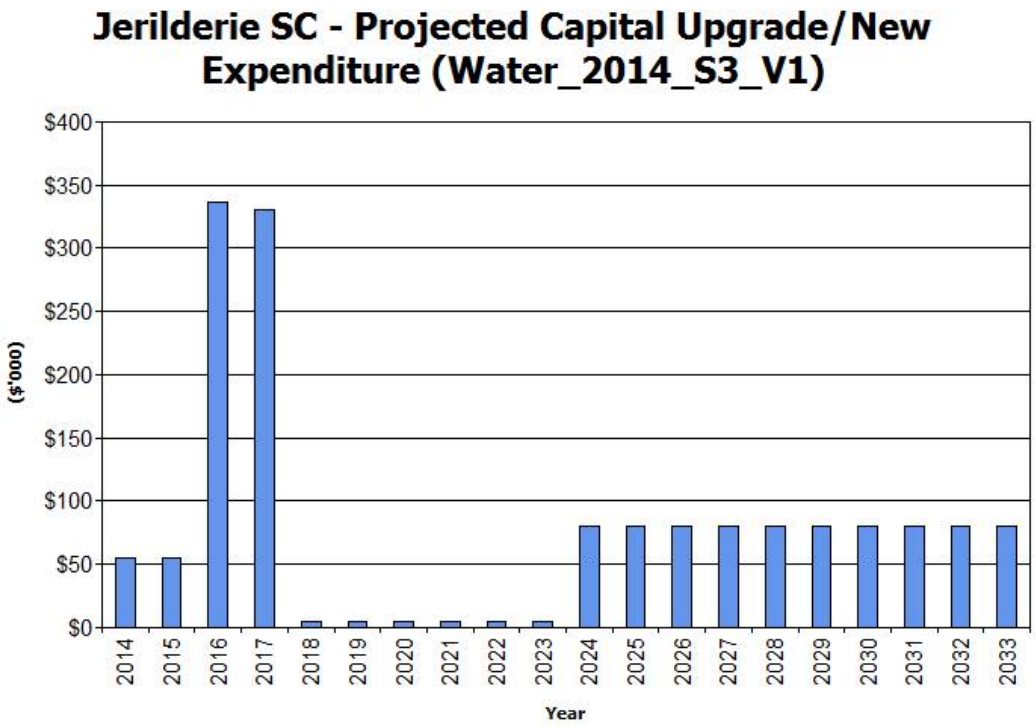
5.5.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Fig 6. The projected upgrade/new capital works program is shown in Appendix B. All amounts are shown in real values (i.e. 2013/14 dollars and net of inflation).

The projected capital upgrade/new program accommodated in the 10 year Long-Term Financial Plan is estimated at $806,000.

Scenario 3 is shown in Figure 6.2 below with project estimates listed in Appendix B.

Fig 6: Projected Capital Upgrade/New Asset Expenditure (Balanced with the LTFP)



The chart above shows the $806,000 projected for road upgrade/new projects over the first 10 years according the LTFP.

The $2.573M short to medium (10-year) priority upgrade/new projects included in the LTFP are:

- Sprinkler Timers $ 50,000
- Raw Water Control Systems $106,000
- Reservoir for Treatment Plant $650,000

Total $806,000

Expenditure on new assets and services in the organisation's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6, 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. Any revenue gained from asset disposals is accommodated in the organisation's long term financial plan.

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

Table 5.6: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Expenditure	Operations & Maintenance Annual Savings
No assets have been identified				

for disposal in this asset management plan				

5.7 Service Consequences and Risks

The organisation has prioritised decisions made in adopting this AM Plan to obtain the optimum benefits from its available resources. Decisions were made based on the development of 3 scenarios of AM Plans.

Scenario 1 - What we would like to do based on asset register data. Projects future renewal timing and costs using the acquisition year (or date of last renewal) and useful life from the financial asset register.

Scenario 2 – Is aimed at sustaining existing assets and service levels over the long term whilst delivering a timely program of improvements to meet the targets set out in the Community Strategic Plan. These needs and estimates are based on technical knowledge and expertise from existing systems and key staff members.

Scenario 3 – What we can do and be financially sustainable with the AM Plan matching the Long-Term Financial Plan. What we should do with existing budgets and identifying level of service and risk consequences (i.e. what are the operations and maintenance and capital projects we are unable to do, what is the service and risk consequences associated with this position).

The development of the 3 scenarios provides the tools for discussion with the Council, stakeholders and community on trade-offs between what we would like to do (Scenario 1) and what we should be doing with existing budgets (Scenario 2) by balancing changes in services and service levels with affordability and acceptance of the service and risk consequences of the trade-off position (Scenario 3).

5.7.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

An estimated $237,000 funding shortfall in priority renewals over the next 10 years.

5.7.2 Service consequences

Operations and maintenance activities and capital projects that cannot be undertaken will maintain or create service consequences for users. These include:

Increasing number of main breaks and service interruptions.

5.7.3 Risk consequences

The operations and maintenance activities and capital projects that cannot be undertaken may maintain or create risk consequences for the organisation. These include:

- Increased maintenance and servicing costs.

Accelerated ageing and general deterioration of assets

These risks have been included with the Infrastructure Risk Management Plan summarised in Section 5.2 and risk management plans actions and expenditures included within projected expenditures.

6. FINANCIAL SUMMARY

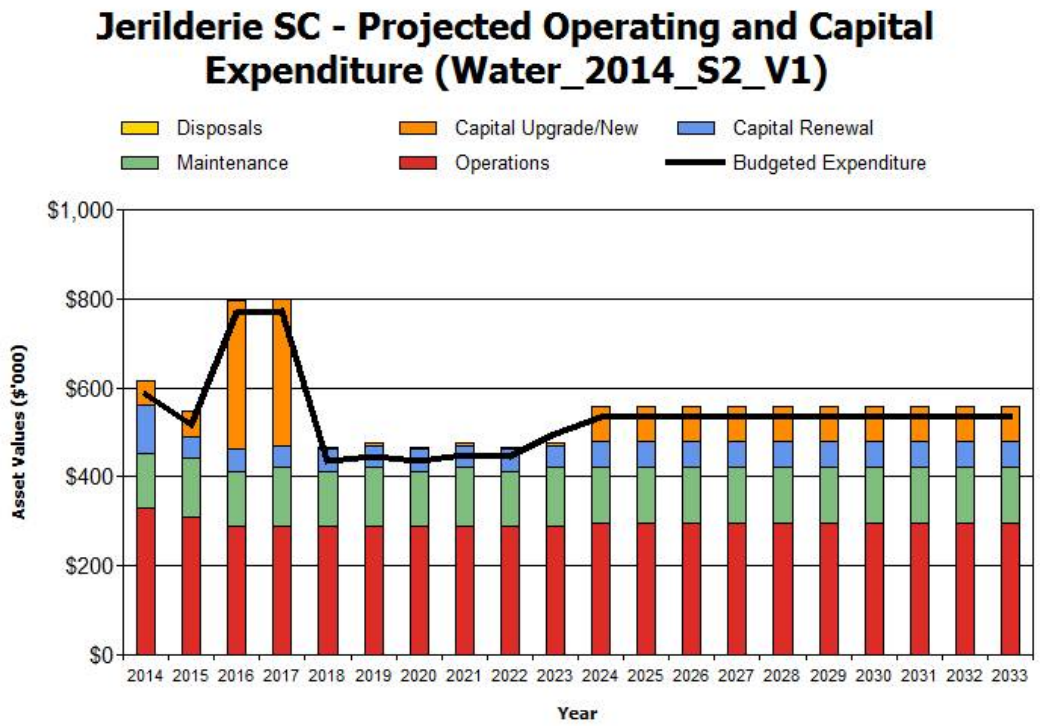
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance.

The projections are based on the best available information and are aimed at giving a direction for the future and indication of priority for asset and financial management and planning. There may be concerns about the reliability and accuracy of the data used to prepare the financial projections, however, it is important that the projections be based on best available information and improved over time as information becomes available on desired levels of service and current and projected future asset performance.

6.1 Financial Statements and Projections

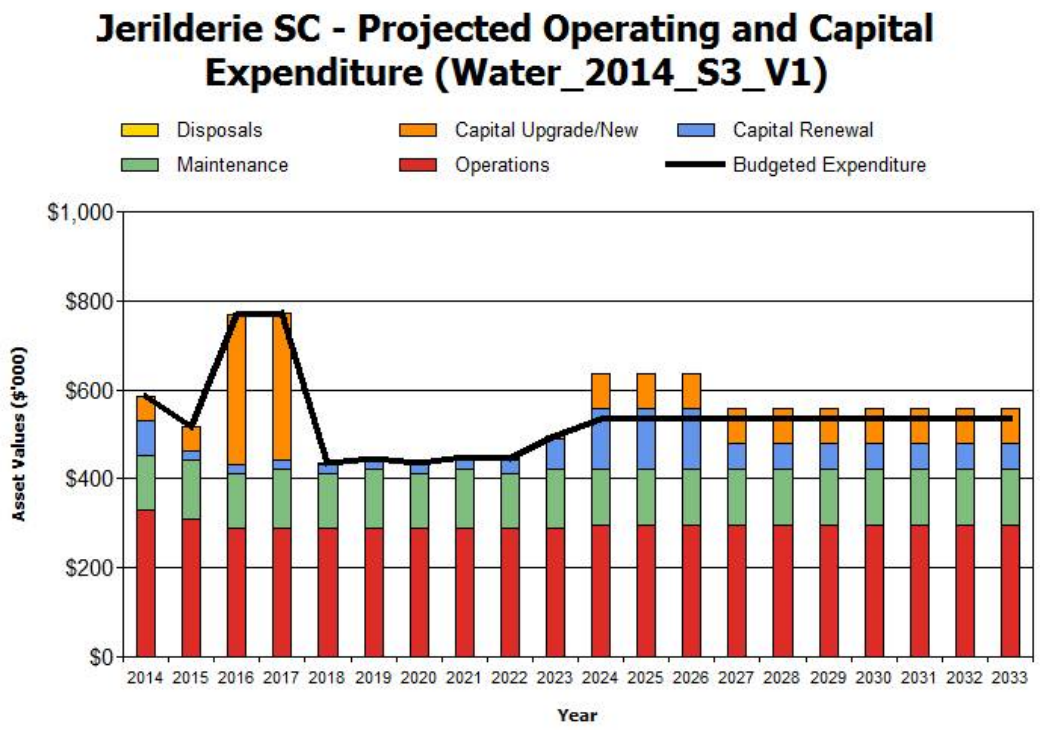
The combined 20 year financial projections for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets) for Scenario 2 & 3 are shown below. All amounts are shown in real values (i.e. 2013/14 dollars and net of inflation).

Fig 7.1: Scenario 2 - Projected Operating and Capital Expenditure
(Sustaining assets and services over the planning period at current levels)



Scenario 2 requirements are based on an amount sustaining existing assets over the long term at an agreed or desired service level. This level of funding estimated at $5.59M over the next 10 years is not currently being achieved in the Long Term Financial Plan (current projections suggest $5.35M is allocated). This indicates the deferral of $240,000 priority replacement and upgrade/new works past the 10 year LTFP outlook creating future reduction in services and increased risk which is represented in Figure 7.2 below.

Fig 7.2: Scenario 3 - Projected Operating and Capital Expenditure (Balanced with the LTFP)



The mix of operational and capital expenditure in the $240,000 deferral in the first 10 years of the plan is a question for the Executive and Council to determine. Clearly there will be implications and the service and risk consequence of this should form the basis of reviewing priorities in subsequent updates of the asset management plan as part of the ongoing improvement plan.

6.1.1 Sustainability of service delivery

There are four key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the asset renewal funding ratio, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[11] 57%

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 10 years, the organisation is forecasting that it will have 57% of the funds required for the optimal renewal and replacement of its assets.

Long term - Life Cycle Cost

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is $542,000 per year (average operations and maintenance expenditure plus depreciation expense projected over 10 years).

[11] AIFMG, 2009, Financial Sustainability Indicator 8, Sec 2.6, p 2.18

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure over the 10 year planning period is $454,000 per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 10 years).

A shortfall between life cycle cost and life cycle expenditure is the life cycle gap. The life cycle gap for services covered by this asset management plan is -$88,000 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 84% of life cycle costs.

The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future.

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

Medium term – 10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is $478,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $454,000 on average per year giving a 10 year funding shortfall of -$24,000 per year. This indicates that the organisation expects to have 95% of the projected expenditures needed to provide the services documented in the asset management plan.

Medium Term – 5 year financial planning period

The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is $489,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $459,000 on average per year giving a 5 year funding shortfall of -$30,000. This indicates that the organisation expects to have 94% of projected expenditures required to provide the services shown in this asset management plan.

Asset management financial indicators

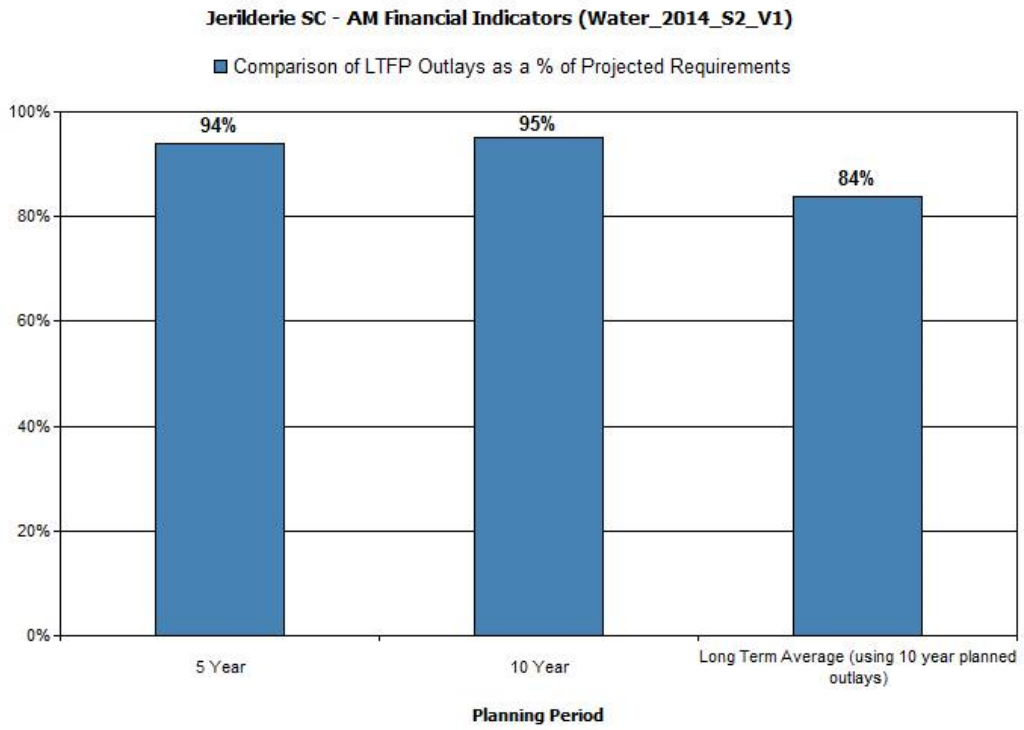
Figure 7.3 shows the asset management financial indicators over the 10 year planning period and for the long term life cycle.

Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 100% for the first few years of the asset management plan and ideally over the 10 year life of the Long

Term Financial Plan. Anything less than this in the 5-10 year period would suggest funding levels below that required to sustain existing service levels.

The following chart summarises the ratios for Scenario 2 - Sustaining assets and services at current levels over the planning period.

Figure 7.3: Scenario 2 - Asset Management Financial Indicators (Sustaining assets and services over the planning period at current levels)



The chart illustrates that funding remains below what is required to sustain existing service levels for the short to medium term (5 to 10 years). It shows council has 94% of the funds required to operate, maintain and replace assets in the next 5 years, 95% for the next 10 years and 84% over the assets life cycle.

For the 5 year planning period, the projected and planned expenditures should be almost the same to demonstrate sustainability, the gap should be close to zero and the sustainability indicator should be nearing 1.0 or 100% as this is the period most under the control of Council.

At 94% this is not cause for concern and improvements in data quality and a review of services and service levels and financing options will lead to a more sustainable position.

The Long Term Average (relative to depreciation) decreases to 84% suggesting decreasing services and increased risk.

Figure 8 shows the projected asset renewal and replacement expenditure over the 20 years of the AM Plan. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the long term financial plan

Figure 8: Projected and LTFP Budgeted Renewal Expenditure

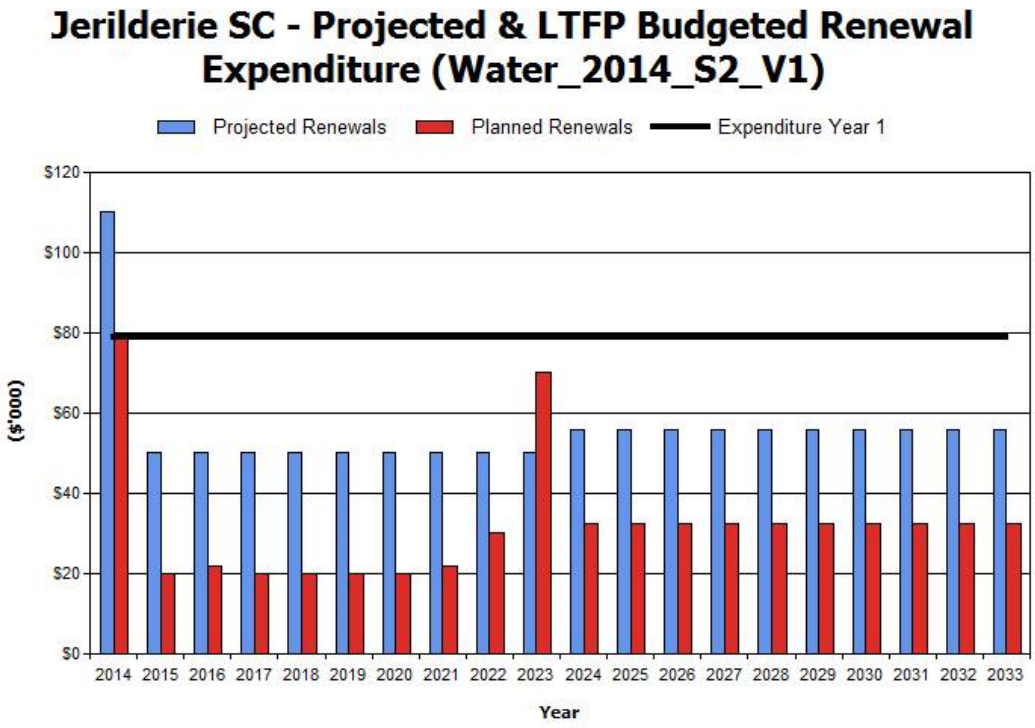


Table 6.1.1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix C.

Table 6.1.1: Projected and LTFP Budgeted Renewals and Financing Shortfall

Year	Projected Renewals ($000)	LTFP Renewal Budget ($000)	Renewal Financing Shortfall ($000) (-ve Gap, +ve Surplus)	Cumulative Shortfall ($000) (-ve Gap, +ve Surplus)
2014	$110	$79	-$31	-$31
2015	$50	$20	-$30	-$61
2016	$50	$22	-$28	-$89
2017	$50	$20	-$30	-$119
2018	$50	$20	-$30	-$149
2019	$50	$20	-$30	-$179
2020	$50	$20	-$30	-$209
2021	$50	$22	-$28	-$237
2022	$50	$30	-$20	-$257
2023	$50	$70	$20	-$237
2024	$56	$32	-$24	-$261
2025	$56	$32	-$24	-$284
2026	$56	$32	-$24	-$308
2027	$56	$32	-$24	-$332
2028	$56	$32	-$24	-$356

Year	Projected Renewals ($000)	LTFP Renewal Budget ($000)	Renewal Financing Shortfall ($000) (-ve Gap, +ve Surplus)	Cumulative Shortfall ($000) (-ve Gap, +ve Surplus)
2029	$56	$32	-$24	-$379
2030	$56	$32	-$24	-$403
2031	$56	$32	-$24	-$427
2032	$56	$32	-$24	-$450
2033	$56	$32	-$24	-$474

Note: A negative shortfall indicates a financing gap, a positive shortfall indicates a surplus for that year.

Providing services in a sustainable manner will require matching of projected asset renewal and replacement expenditure to meet agreed service levels with **the corresponding** capital works program accommodated in the long term financial plan.

A gap between **projected asset renewal/replacement expenditure and amounts accommodated in the LTFP** indicates that **further work is required on reviewing service levels in the AM Plan (including possibly revising the LTFP)** before finalising the asset management plan to manage required service levels and funding **to eliminate any funding gap**.

We will manage the 'gap' by developing this asset management plan to provide guidance on future service levels and resources required to provide these services, and review future services, service levels and costs with the community.

6.1.2 Projected expenditures for long term financial plan

Table 6.1.2.1 & 6.1.2.2 shows the projected expenditures for the 10 year long term financial plan for Scenario 2 & 3.

Expenditure projections are in2013/14 real values.

Table 6.1.2.1: Scenario 2- Projected Expenditures for Long Term Financial Plan ($000)

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)
2014	$329.00	$122.00	$110.00	$55.00	$0.00
2015	$309.00	$132.00	$50.00	$55.00	$0.00
2016	$289.00	$122.00	$50.00	$336.00	$0.00
2017	$289.00	$132.00	$50.00	$330.00	$0.00
2018	$289.00	$122.00	$50.00	$5.00	$0.00
2019	$289.00	$132.00	$50.00	$5.00	$0.00
2020	$289.00	$122.00	$50.00	$5.00	$0.00
2021	$289.00	$132.00	$50.00	$5.00	$0.00
2022	$289.00	$122.00	$50.00	$5.00	$0.00
2023	$289.00	$132.00	$50.00	$5.00	$0.00

Table 6.1.2.2: Scenario 3- Projected Expenditures for Long Term Financial Plan ($000)

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)
2014	$329.00	$122.00	$79.00	$55.00	$0.00
2015	$309.00	$132.00	$20.00	$55.00	$0.00
2016	$289.00	$122.00	$22.00	$336.00	$0.00
2017	$289.00	$132.00	$20.00	$330.00	$0.00

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)
2018	$289.00	$122.00	$20.00	$5.00	$0.00
2019	$289.00	$132.00	$20.00	$5.00	$0.00
2020	$289.00	$122.00	$20.00	$5.00	$0.00
2021	$289.00	$132.00	$22.00	$5.00	$0.00
2022	$289.00	$122.00	$30.00	$5.00	$0.00
2023	$289.00	$132.00	$70.00	$5.00	$0.00

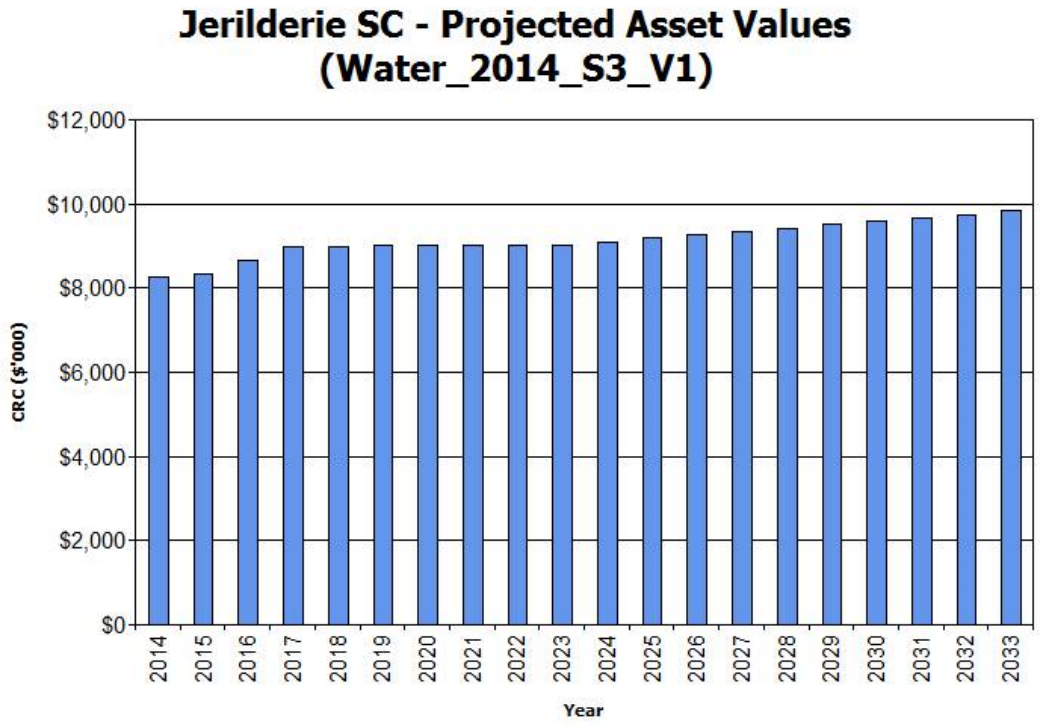
6.2 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability projected expenditures identified in Section 6.1.2 will be accommodated in the organisation's 10 year long term financial plan.

6.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by the organisation and from assets constructed by land developers and others and donated to the organisation. Figure 9 shows the projected replacement cost asset values over the planning period in real values under Scenario 3.

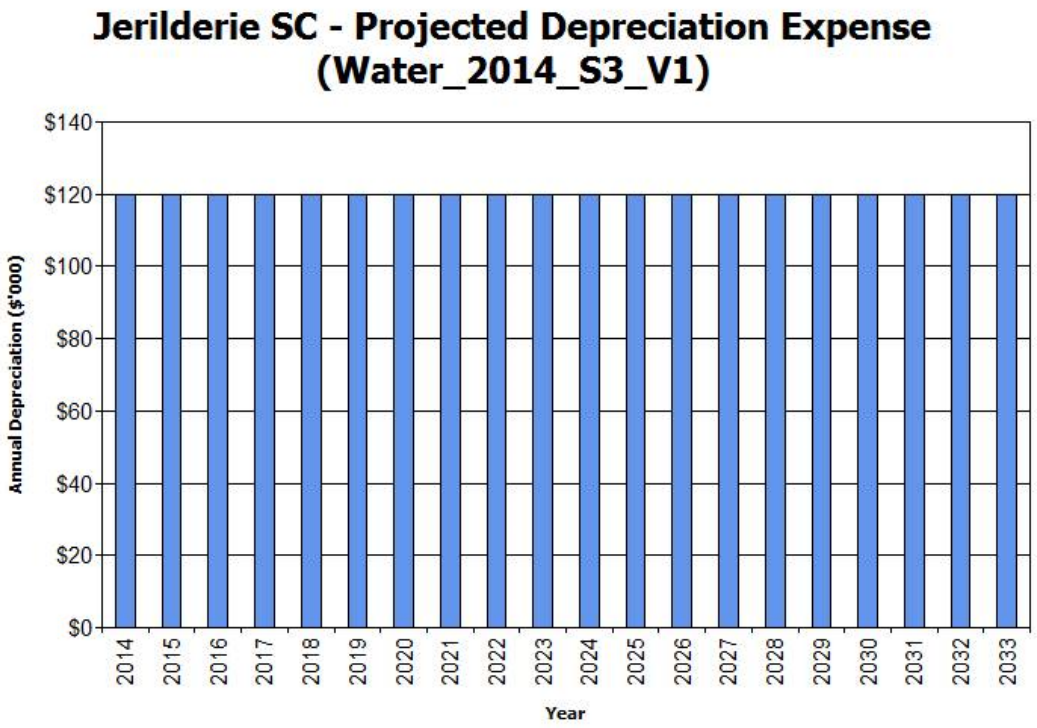
Figure 9: Projected Asset Values



The projected asset values are forecast to increase from the current value of $8.2M to $9.9M by 2033.

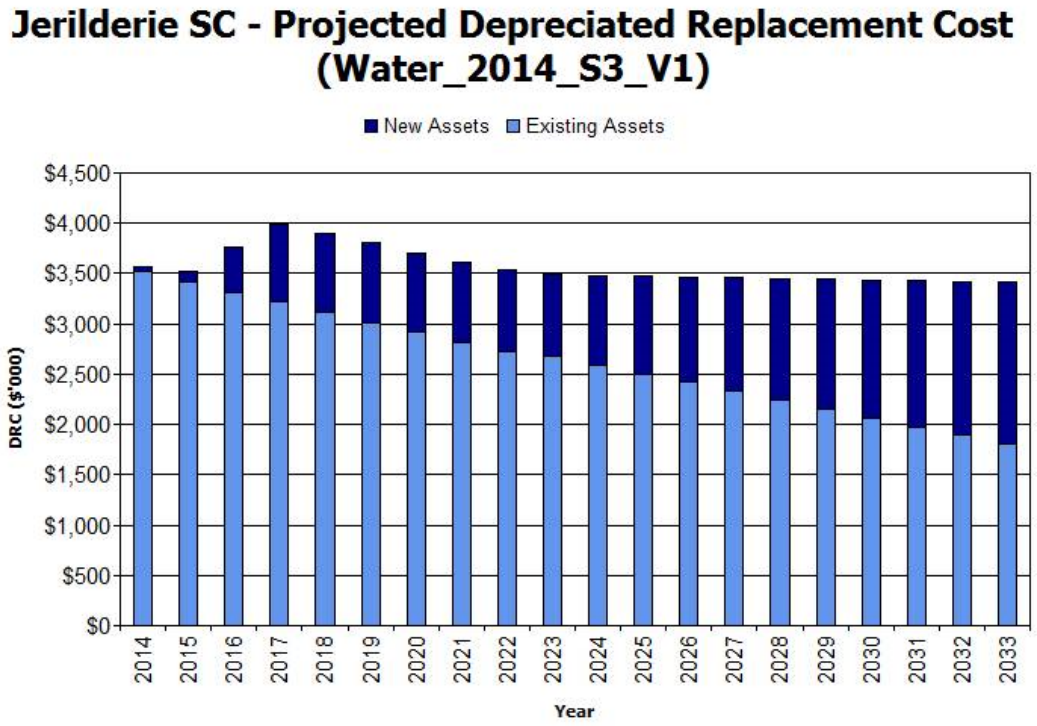
Depreciation expense values are forecast to remain constant at $120,000 per year in line with asset values as shown in Figure 10.

Figure 10: Projected Depreciation Expense



The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Figure 11. The depreciated replacement cost of contributed and new assets is shown in the darker colour and in the lighter colour for existing assets.

Figure 11: Projected Depreciated Replacement Cost



The renewal of existing assets (lighter coloured bars) is declining gradually over the planning period suggesting the organisation is not replacing assets when they fall due. The degree of risk attributed to this may be low at this point in time however it should not be ignored and managed appropriately. The addition of new assets (darker coloured bars) is adding to the overall Depreciated Replacement Cost remaining relatively constant over time.

6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan and risks that these may change are shown in Table 6.4.

Table 6.4: Key Assumptions made in AM Plan and Risks of Change

Key Assumptions	Risks of Change to Assumptions
The assets will remain in the organisations ownership throughout the planning period.	Low
Required maintenance is assumed to take place in accordance with relevant guidelines/standards.	Low
All expenditure stated is in 2013/14 dollar values.	Low
Financial projections are based on historical expenditure and revenue trends and assume there will no significant change.	Medium
It is assumed that regulations/standards relating to operations will remain the same over the planning period.	Medium

6.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale[12] in accordance with Table 6.5.

Table 6.5: Data Confidence Grading System

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

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 6.5.1.

Table 6.5.1: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	B Reliable	Based on local corporate knowledge and State government projections.
Growth projections	B Reliable	Based on State government projections.
Operations expenditures	B Reliable	Council records
Maintenance expenditures	B Reliable	Council records
Projected Renewal expenditures. - Asset values	C Uncertain	Assets last revalued in June 2012.
- Asset residual values	C Uncertain	Asset residual values not recognised.
- Asset useful lives	B Reliable	Based on June 2012 assessment.
- Condition modelling	C Uncertain	Based on expert judgement and experience.
- Network renewals	C Uncertain	Based on asset register and network level modelling from expert judgement.
Upgrade/New expenditures	B Reliable	Projected proposals identified however low confidence estimates.
Disposal expenditures	B Reliable	Projected proposals identified however low confidence estimates.

Over all data sources, the data confidence is assessed as Low to Medium confidence level for data used in the preparation of this AM Plan.

[12] IPWEA, 2011, IIMM, Table 2.4.6, p 2|59.

7. PLAN IMPROVEMENT AND MONITORING

7.1 Status of Asset Management Practices

7.1.1 Accounting and financial systems

Jerilderie Shire Council uses the 'Civicview' Local Government software solution for financial and asset accounting.

Accountabilities for financial systems

The financial systems are managed by the Finance and Rates Officers.

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
- Local Government Amendment (Planning and Reporting) Act 2009
- NSW Local Government Code of Accounting Practice and Financial Reporting
- Australian Accounting Standards Board AASB116

Capital/maintenance threshold

- Land 100% Capitalised
- Plant and Equipment Capitalise if value >$500
- Buildings and Land Improvements
- Park Furniture and Equipment Capitalise if value >$500
- Building Construction/Extensions 100% Capitalised
- Other Structures Capitalise if value >$1,000
- Stormwater Assets Capitalise if value >$1,000
- Transport Assets
- Road construction & reconstruction 100% Capitalised
- Reseal, re-sheet & major repairs Capitalise if value >$1,000
- Bridge construction & reconstruction Capitalise if value >$10,000

Required changes to accounting financial systems arising from this AM Plan

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

- Develop reporting on expenditures, with separation of costs for operations as opposed to maintenance and improved reporting on capital expenditures as renewal or upgrade/new,

- Continued input and development of a single corporate asset register, in which financial calculations including calculation of annual depreciation can be undertaken by council.
- Linking of the customer service system/work orders to the corporate asset register to link requests to asset records,
- Improved project cost accounting to record costs against the asset component and develop valuation unit rates.

7.1.2 Asset management system

There is no dedicated asset management system.

Asset registers

Asset data is managed and stored with:

- GIS Mapping
- Electronic Spread sheets
- Civicview Local Government Software Programme

Linkage from asset management to financial system

There is no seamless link between the asset and financial management systems. Capitalisation and updates are managed via a manual process.

Accountabilities for asset management system and data maintenance

Works, Infrastructure and Finance Services

Required changes to asset management system arising from this AM Plan

- Review the accuracy and currency of asset related data,
- Continued development of a single technical asset register as the corporate asset register, in which financial valuation calculations including annual depreciation can be undertaken at an individual asset component level.
- Development of a works costing and maintenance management system to improve works planning and cost recording, in particular to identify expenditure type (operations, maintenance, capital renewal and capital new/upgrade)
- Improved project cost accounting to record costs against the asset component and develop valuation unit rates.

7.2 Improvement Program

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

Table 7.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	**Asset Register** Assess the Remaining Life of all assets on a priority basis and align with up to date performance data and knowledge.	Corporate (Technical & Financial)	Existing budget Staff time	Dec 2015
2	**Forward Projections** Ensure funding models reflect the resources required meeting the timely renewal of existing assets and those identified and implemented under the Strategic Plan.	Corporate (Technical & Financial)	Existing budget Staff time	Dec 2015
3	Increase confidence and prioritise renewal and upgrade/new estimates based on risk.	Corporate (Technical & Financial)	Existing budget Staff time	Dec 2015
4	**Levels of Service** Develop and confirm current and desired levels of service to understand and report on a sustainable service delivery model.	Corporate (Technical & Financial)	Existing budget Staff time	Dec 2015
5	**AM Plan** Maintain an annual review of the plan incorporating an update of service level performance, financial projections and risk.	Corporate (Technical & Financial)	Existing budget Staff time	Dec 2015
6	Implement a continuous improvement strategy to assess and report on the performance of JSC controlled assets.	Corporate (Technical & Financial)	Existing budget Staff time	Dec 2015
7				
8				
9				
10				

7.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The AM Plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the organisation's long term financial plan.

The AM Plan has a life of 4 years (Council election cycle) and is due for complete revision and updating within 6 months of each Council election.

7.4 Performance Measures

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

The degree to which the required projected expenditures identified in this asset management plan are incorporated into the organisation's long term financial plan,

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 existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the organisation's Strategic Plan and associated plans,

The Asset Renewal Funding Ratio achieving the target of 1.0.

8. REFERENCES

IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney, http://www.ipwea.org/IIMM

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Jerilderie Shire Council, 'Annual Plan and Budget',

Jerilderie Shire Council, 'Community Strategic Plan 2013 – 2023',

Jerilderie Shire Council, 'Long-term Financial Plan 2013 – 2023'.

9. APPENDICES

Appendix A Scenario 2 - Projected 10 year Capital Works Program

Appendix B Scenario 3 - Projected 10 year Capital Works Program (LTFP)

Appendix C Budgeted Expenditures Accommodated in LTFP

Appendix D Abbreviations

Appendix E Glossary

Appendix A Scenario 2 - Projected 10 year Capital Works Program

Scenario 2 - Capital Works Forecast (i.e. what we would like to do to sustain current service levels - x% in poor/very poor condition)												
			2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Categor	Project/Program	Work Type	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000	
Water	Water Main Renewal	Renewal	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	**$500**
Water	Pump Renewal	Renewal											**$0**
Water	Reservoir Renewal - water tank recoa	Renewal	$30										**$30**
Water	Treatment Plant Renewal - backwash	Renewal	$30										**$30**
Water	Sprinkler Timers	Upgrade/New	$5	$5	$5	$5	$5	$5	$5	$5	$5	$5	**$50**
Water	Raw Water Control Systems	Upgrade/New	$50	$50	$6								**$106**
Water	Reservoir for Treatment Plant	Upgrade/New			$325	$325							**$650**
			$165	**$105**	**$386**	**$380**	**$55**	**$55**	**$55**	**$55**	**$55**	**$55**	**$1,366**

Appendix B Scenario 3 - Projected 10 year Capital Works Program (LTFP)

Scenario 3 - Capital Works Forecast (i.e. what is funded in the Long-term Financial Plan)												
			2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Categor	Project/Program	Work Type	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000	
Water	Water Main Renewal	Renewal	$50	$20	$22	$20	$20	$20	$20	$22	$30	$70	**$294**
Water	Pump Renewal	Renewal											**$0**
Water	Reservoir Renewal - water tank recoa	Renewal	$15										**$15**
Water	Treatment Plant Renewal - backwash	Renewal	$14										**$14**
Water	Sprinkler Timers	Upgrade/New	$5	$5	$5	$5	$5	$5	$5	$5	$5	$5	**$50**
Water	Raw Water Control Systems	Upgrade/New	$50	$50	$6								**$106**
Water	Reservoir for Treatment Plant	Upgrade/New			$325	$325							**$650**
			$134	**$75**	**$358**	**$350**	**$25**	**$25**	**$25**	**$27**	**$35**	**$75**	**$1,129**

Appendix C Budgeted Expenditures Accommodated in LTFP

NAMS.PLUS2 Asset Management **Jerilderie SC**

IPWEA INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA JRA

Water_2014_S2_V1 Asset Management Plan

First year of expenditure projections **2014** (financial yr ending)

Water_2014

Asset values at start of planning period

Current replacement cost	$8,215	(000)	Calc CRC from Asset Register $0 (000)
Depreciable amount	$8,215	(000)	This is a check for you.
Depreciated replacement cost	$3,556	(000)	
Annual depreciation expense	$120	(000)	

Operations and Maintenance Costs for New Assets

	% of asset value
Additional operations costs	
Additional maintenance	
Additional depreciation	

Planned renewal budget (information only)

You may use these values calculated from your data or overwrite the links.

Planned Expenditures from LTFP

20 Year Expenditure Projections Note: Enter all values in current **2014** values

Financial year ending	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000
Expenditure Outlays included in Long Term Financial Plan (in current $ values)										
Operations										
Operations **budget**	$185	$185	$185	$185	$185	$185	$185	$185	$185	$185
Management **budget**	$144	$124	$104	$104	$104	$104	$104	$104	$104	$104
AM systems **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total operations	$329	$309	$289	$289	$289	$289	$289	$289	$289	$289
Maintenance										
Reactive maintenance **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Planned maintenance **budget**	$122	$127	$122	$127	$122	$127	$122	$127	$122	$127
Specific maintenance items **budget**	$0	$5	$0	$5	$0	$5	$0	$5	$0	$5
Total maintenance	$122	$132	$122	$132	$122	$132	$122	$132	$122	$132
Capital										
Planned renewal **budget**	$79	$20	$22	$20	$20	$20	$20	$22	$30	$70
Planned upgrade/new **budget**	$55	$55	$336	$330	$5	$5	$5	$5	$5	$5
Non-growth contributed asset value	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Asset Disposals										
Est Cost to dispose of assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Carrying value (DRC) of disposed assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)										
Additional Expenditure Outlays required and not included above	2014 $000	2015 $000	2016 $000	2017 $000	2018 $000	2019 $000	2020 $000	2021 $000	2022 $000	2023 $000
Operations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Maintenance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)									
Capital Upgrade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
User Comments #2										

Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)	2014 $000	2015 $000	2016 $000	2017 $000	2018 $000	2019 $000	2020 $000	2021 $000	2022 $000	2023 $000
Forecast Capital Renewal from Forms 2A & 2B	**$110**	**$50**	**$50**	**$50**	**$50**	**$50**	**$50**	**$50**	**$50**	**$50**
Forecast Capital Upgrade from Form 2C	**$55**	**$55**	**$336**	**$330**	**$5**	**$5**	**$5**	**$5**	**$5**	**$5**

Appendix D Abbreviations

AAAC	Average annual asset consumption
AM	Asset management
AM Plan	Asset management plan
ASC	Annual service cost
CRC	Current replacement cost
DA	Depreciable amount
DRC	Depreciated replacement cost
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
LTFP	Long term financial plan
RV	Residual value
SoA	State of the Assets
WDCRD	Written down current replacement cost

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 category

Sub-group of assets within a class hierarchy for financial reporting and management purposes.

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 hierarchy

A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be based on asset function or asset type or a combination of the two.

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.

Asset renewal funding ratio

The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

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.

Core asset management
Asset management which relies primarily on the use of an asset register, maintenance management systems, job resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long-term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised decision- making).

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.

Critical assets
Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than noncritical assets.

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.

Deferred maintenance
The shortfall in rehabilitation work undertaken relative to that required to maintain the service potential of an asset.

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 outlays.

Expenses
Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or increases in liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

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

Financing gap
A financing gap exists whenever an entity has insufficient capacity to finance 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 financing gap means service levels have already or are currently falling. A projected financing 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 average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. 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 average operations, maintenance and capital renewal expenditure accommodated in the long term financial plan over 10 years. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of affordability of projected service levels when considered with asset age profiles.

Loans / borrowings
See borrowings.

Maintenance
All actions necessary for retaining an asset as near as practicable to an appropriate service 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.
- **Specific 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 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 organisation, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations
Regular activities to provide services such as public health, safety and amenity, eg street sweeping, grass mowing and street lighting.

Operating 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.

Operating expenses
Recurrent expenses continuously required to provide a service, including power, fuel, staff, plant equipment, maintenance, depreciation, on-costs and overheads.

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

Operations, maintenance and renewal gap
Difference between budgeted expenditures in a long term financial plan (or estimated future budgets in absence of a long term financial plan) and projected expenditures for operations, maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Pavement management system (PMS)
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 *
The ratio of annual asset consumption relative to the depreciable amount of the assets. It measures the amount of the consumable parts of assets that are consumed in a period (depreciation) expressed as a percentage of the depreciable amount.

Rate of annual asset renewal *
The ratio of asset renewal and replacement expenditure relative to depreciable amount for a period. It measures whether assets are being replaced at the rate they are wearing out with capital renewal expenditure expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade/new *
A measure of the rate at which assets are being upgraded and expanded per annum with capital upgrade/new expenditure 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).

Specific Maintenance
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, 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.

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.

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 organisation.

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, AIFMG Glossary

Additional and modified glossary items shown *