



SEWERAGE SYSTEM

ASSET MANAGEMENT PLAN



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The Institute of Public Works Engineering Australia.

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ABBREVIATIONS

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

GLOSSARY

Annual service cost (ASC)

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 operating, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

Asset class

Grouping of assets of a similar nature and use in an entity's operations (AASB 166.37).

Asset condition assessment

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

Asset management

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

Assets

Future economic benefits controlled by the entity as a result of past transactions or other past events (AAS27.12).

Property, plant and equipment including infrastructure and other assets (such as furniture and fittings) with benefits expected to last more than 12 month.

Average annual asset consumption (AAAC)*

The amount of a local government's asset base consumed during a year. This may be calculated by dividing the Depreciable Amount (DA) by the Useful Life and totalled for each and every asset OR by dividing the Fair Value (Depreciated Replacement Cost) by the Remaining Life and totalled for each and every asset in an asset category or class.

Brownfield asset values**

Asset (re)valuation values based on the cost to replace the asset including demolition and restoration costs.

Capital expansion expenditure

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

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 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

Capital new expenditure

Expenditure which creates a new asset providing a new service to the community that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operating and maintenance expenditure.

Capital renewal expenditure

Expenditure on an existing asset, which returns the service potential or the life 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 has no impact on revenue, but may reduce future operating and maintenance expenditure if completed at the optimum time, e.g. 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. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital upgrade expenditure

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 operating and maintenance expenditure in the future because of the increase in the council's asset base, e.g. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

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

An individual part of an asset which contributes to the composition of the whole and can be separated from or attached to an asset or a system.

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, plus any costs necessary to place the asset into service. This includes one-off design and project management costs.

Current replacement cost (CRC)

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

Current replacement cost "As New" (CRC)

The current cost of replacing the original service potential of an existing asset, with a similar modern equivalent asset, i.e. the total cost of replacing an existing asset with an as NEW or similar asset expressed in current dollar values.

Cyclic Maintenance**

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

Depreciable amount

The cost of an asset, or other amount substituted for its cost, less its residual value (AASB 116.6)

Depreciated replacement cost (DRC)

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

Depreciation / amortisation

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

Economic life

See useful life definition.

Expenditure

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

Fair value

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

Greenfield asset values **

Asset (re)valuation values based on the cost to initially acquire the asset.

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 of the entity or of another entity that contribute to meeting the public's need for access to major economic and social facilities and services, e.g. roads, drainage, footpaths and cycle ways. 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 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 (AASB 140.5)

Level of service

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

Life Cycle Cost **

The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual maintenance and asset consumption expense, represented by depreciation expense. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure **

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

Loans / borrowings

Loans result in funds being received which are then repaid over a period of time with interest (an additional cost). Their primary benefit is in 'spreading the burden' of capital expenditure over time. Although loans enable works to be completed sooner, they are only ultimately cost effective where the capital works funded (generally renewals) result in operating and maintenance cost savings, which are greater than the cost of the loan (interest and charges).

Maintenance and renewal gap

Difference between estimated budgets and projected expenditures for maintenance and renewal of assets, totalled over a defined time (e.g. 5, 10 and 15 years).

Maintenance and renewal sustainability index

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

Maintenance expenditure

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

Materiality

An item is material if its omission or misstatement could influence the economic decisions of users taken on the basis of the financial report. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances.

Modern equivalent asset.

A structure similar to an existing structure and having the equivalent productive capacity, which could be built using modern materials, techniques and design. Replacement cost is the basis used to estimate the cost of constructing a modern equivalent asset.

Non-revenue generating investments

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

Operating expenditure

Recurrent expenditure, which is continuously required excluding maintenance and depreciation, e.g. power, fuel, staff, plant equipment, on-costs and overheads.

Pavement management system

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

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.

PMS Score

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

Rate of annual asset consumption*

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

Rate of annual asset renewal*

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

Rate of annual asset upgrade*

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

Reactive maintenance

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

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 operating and maintenance expenditure.

Recurrent funding

Funding to pay for recurrent expenditure.

Rehabilitation

See capital renewal expenditure definition above.

Remaining life

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

Renewal

See capital renewal expenditure definition above.

Residual value

The net amount which an entity expects to obtain for an asset at the end of its useful life after deducting the expected costs of disposal.

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, e.g. 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 capacity to provide goods and services in accordance with the entity's objectives, whether those objectives are the generation of net cash inflows or the provision of goods and services of a particular volume and quantity to the beneficiaries thereof.

Service potential remaining*

A measure of the remaining life of assets expressed as a percentage of economic life. 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 (DRC/DA).

Strategic Management Plan (SA) **

Documents Council objectives for a specified period (3-5 yrs.), the principle activities to achieve the objectives, the means by which that will be carried out, estimated income and expenditure, measures to assess performance and how rating policy relates to the Council's objectives and activities.

Sub-component

Smaller individual parts that make up a component part.

Useful life

Either:

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

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

Value in Use

The present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life. 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 new cash flows, where if deprived of the asset its future economic benefits would be replaced.

Source: DVC 2006, Glossary

Note: Items shown * modified to use DA instead of CRC
Additional glossary items shown **

1. EXECUTIVE SUMMARY

What Council Provides

Council provides a sewerage network in each of its four townships to enable the efficient collection, treatment and disposal of waste water.

This asset management plan covers the following infrastructure assets:

Sewerage infrastructure for the townships of Barooga, Berrigan, Finley and Tocumwal

Table 2.1. Assets covered by this Plan

Asset category	Dimension	Replacement Value (\$M)
Gravity Mains including Manholes and Property Connections	76.0 km	\$19,298,861
Rising Mains	41.5 km	\$4,394,597
Pump Stations	51 No.	\$12,318,288
Treatment Works	4 No.	\$3,541,048
Storage Ponds	6 No.	\$1,193,472
TOTAL		\$40,746,266

What does it Cost?

There are two key indicators of cost to provide the sewerage service.

The life cycle cost being the average cost over the life cycle of the asset, and

The total maintenance and capital renewal expenditure required to deliver existing service levels in the next 10 years covered by Council's long term financial plan.

The annual average life cycle cost for the services covered in this asset management plan is \$1,858,000.

The life cycle expenditure at the start of the plan is \$1,646,000.

The life cycle gap for services covered by this asset management plan is \$-212,000 per annum. The life cycle sustainability index is 0.89

The total maintenance and capital renewal expenditure required over the 10 years is \$13,076,000. This is an average expenditure of \$1,307,600.

Estimated maintenance and capital renewal expenditure over the 10 years is \$17,301,000 This is an average expenditure of \$1,730,100 this would give a 10 year sustainability index of 1.32.

Plans for the Future

Council plans to operate and maintain the sewerage network to achieve the following strategic objectives.

1. Ensure the sewerage network is maintained at a safe and functional standard as set out in this asset management plan.
2. Ensure sufficient funds are raised through fees and charges to provide for sewer asset renewal over the life of the assets.
3. Meet or exceed community expectations in relation to sewer services.

Measuring our Performance

Quality

Sewer assets will be maintained in a reasonably usable condition. Defects found or reported that are outside our service standard will be repaired. See our maintenance response service levels for details of defect prioritisation and response time.

Function

Our intent is that an appropriate sewerage network is maintained in partnership with other levels of government and stakeholders to collect, treat and dispose of waste water from the townships of Barooga, Berrigan, Finley and Tocumwal.

Sewer asset attributes will be maintained at a safe level and associated signage and equipment be provided as needed to ensure public safety. We need to ensure key functional objectives are met:

- Waste water is efficiently and effectively collected from properties, conveyed to the sewer treatment plants, treated and re used or disposed of.
- The operation of the sewerage system does not result in an adverse impact on the environment.

The main functional consequence of ensuring the sewerage network is maintained at a safe and functional standard as set out in this asset management plan is the continued provision of sewerage services to the four townships within the Berrigan Shire at a level acceptable to the community and other stakeholders.

Safety

We inspect all sewerage infrastructure regularly and prioritise and repair defects in accordance with our inspection schedule to ensure they are safe.

- Complete the Improvement Plan as set out in Table 8.2
- Make provision for the completion of the Capital Works Program attached as Appendix C
- Carry out community consultation

The Next Steps

The actions resulting from this asset management plan are:

• **Table 8.2** *Improvement Plan*

Task No	Task	Responsibility	Resources Required	Timeline
1.	Condition Rating of assets including CCTV survey of gravity mains	EE	Staff	June 2020
2.	Review of remaining life of assets following condition ratings	EE	Staff	June 2020
3.	Componentisation of point assets such as pumping stations and treatment plants including review of unit costs	EE, TOA	Staff	March 2021
4.	Document methodology and procedures for asset useful lives, asset unit costs, condition rating and depreciation calculations	DTS, DCS	Staff	June 2019
5.	Develop chart of accounts to allow separation of operation costs and maintenance costs and to split the maintenance costs into reactive, planned and cyclic and to separate capital expenditure into renewal, new and upgrade works.	FM	Staff	June 2019
6.	Carry out community consultation to allow the development of Desired Levels of Service when this plan is reviewed in 2022	DCS	Staff/External	March 2022
Task No	Task	Responsibility	Resources Required	Timeline

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 required to provide the required levels of service.

The asset management plan is to be read with the following associated planning documents:

Berrigan Shire Council Integrated Planning and Reporting Documents

- Community Strategic Plan: Berrigan Shire 2027
- Resourcing Strategy 2017 – 2027
- Long Term Financial Plan 2017 – 2027
- Workforce Development Plan 2017 – 2021
- Asset Management Strategy 2017 – 2027
- Delivery Program 2017 – 2021
- Annual Operational Plans

Water and Sewerage Strategic Business Planning Review, *DPWS*, 2001

Water and Sewerage Strategic Business Planning Review, *BSC*, 2004

Berrigan Shire Council – State of Environment Report, 2008

Berrigan Shire Council – Local Environmental Plan, 2013

This asset management plan covers the following infrastructure assets:

Sewerage infrastructure for the townships of Barooga, Berrigan, Finley and Tocumwal

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Treatment Works	4 No.	\$3,541,048
Storage Ponds	6 No.	\$1,193,472
TOTAL		\$40,746,266

Key stakeholders in the preparation and implementation of this asset management plan are:

State local members	Represent community interest
NSW Office of Water	State authority responsible for management of sewerage services
Department of Finance, Services and Innovation	Service provider for technical support
NSW Environment Protection Authority	Pollution prevention Protection of environmental values Legislative requirements are met
Murray Irrigation Ltd	Protection of irrigation canals and drainage channels from polluting discharges
Local Land Services NSW	Coordinate management strategies within the Murray Catchment for the sustainable use of its natural resources
NSW Ministry of Health	Advice on public health issues and monitoring of water quality for re-used effluent.
Berrigan Shire Council	Meet expectations of the customers with respect to levels of service
The General Public	Comply with EPA directive Improved recreational opportunities Improved visual amenity Maximise property values Reduction of flooding disruption

Tocumwal Golf Club	Utilisation of treated effluent for irrigation of greens and fairways
Finley Golf Club	Utilisation of treated effluent for irrigation of greens and fairways
Berrigan Race Club	Utilisation of treated effluent for irrigation of greens and fairways
Local businesses	Efficient disposal of waste water Improve recreational opportunities and visual amenity
Sewer Customers	Efficient disposal of waste water Improve recreational opportunities and visual amenity

2.2 Goals and Objectives of Asset Management

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

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

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined level of service and monitoring performance,
- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,
- Continuous improvement in asset management practices.¹

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

Council's vision is:

Vision

A sustainable and responsive integrated water system that adds to the liveability of our towns and the health of our natural landscapes

Principles

¹ IIMM 2006 Sec 1.1.3, p 1.3

- 💧 **Improve the quality of potable supplies through the implementation of a Risk-Based Drinking Water Management System**
- 💧 **Optimise use of reticulated water through the implementation of the Berrigan Shire Demand Management Plan**

Support the Liveability and Economic Prosperity of our towns

- 💧 ***Affordable and cost-effective water and sewer services responsive to changing needs of our communities***
- 💧 ***Optimise the efficiency and effectiveness of water consumed 'greening' community assets and public space***
- 💧 ***Support economic prosperity through timely investment in infrastructure needed to promote residential, business and water-based tourism industry growth***

Protect our natural and built landscapes

- 💧 **Active stewardship of our water resources**
- 💧 **Minimise the environmental impact and risks associated with urban development, flood and drought on our natural and built landscape**

Strategic Planning

- 💧 **Actively participate with other levels of government and the water industry in the development and planning of regional and local projects**
- 💧 **Ensure that planning and service levels continues to be informed by active engagement with customers and other levels of government and the water industry**

2.3 Plan Framework

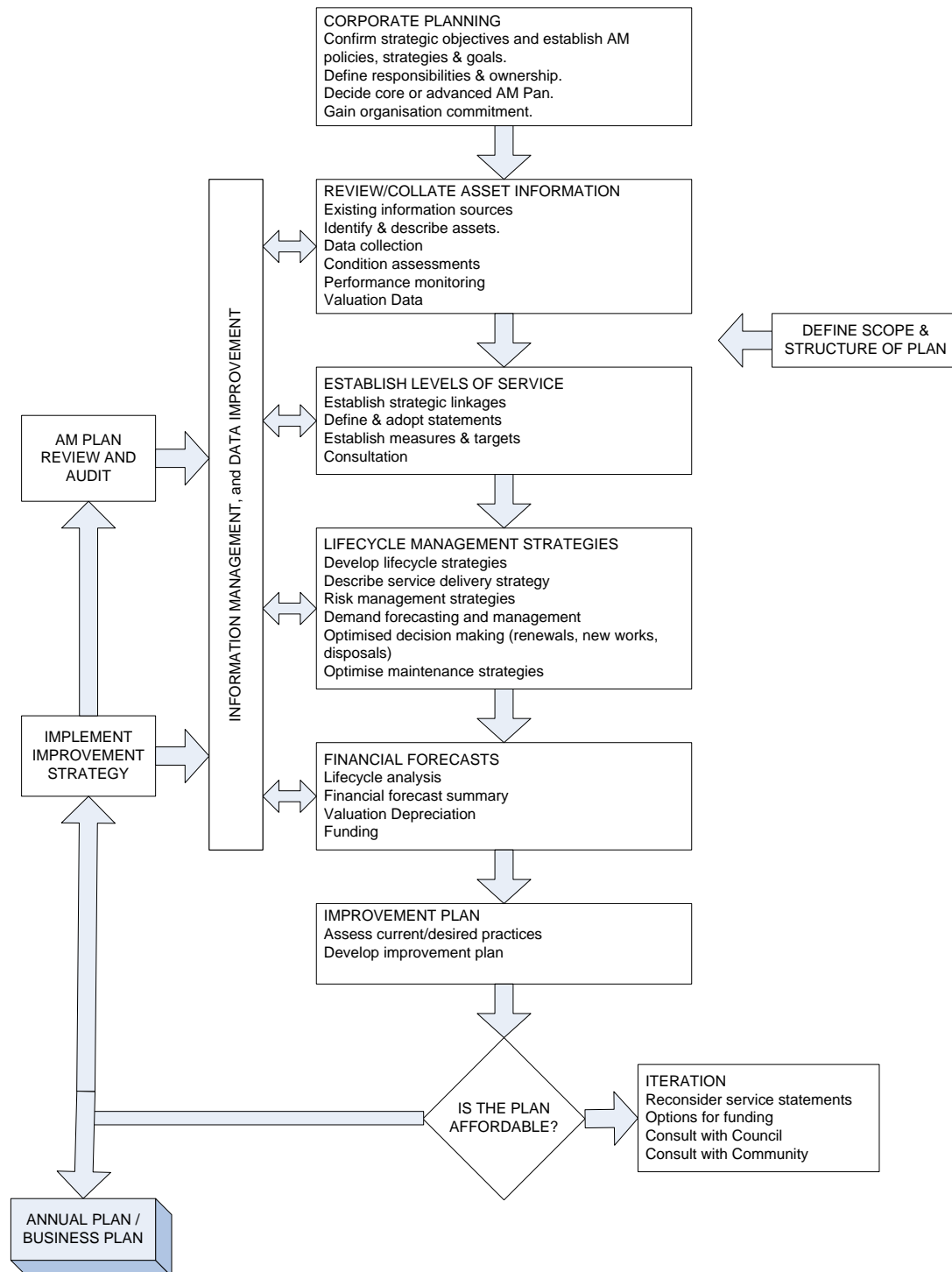
Key elements of the plan are

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

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

Road Map for preparing an Asset Management Plan

Source: 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 in accordance with the International Infrastructure Management Manual. 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.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

Council has not carried out any research on customer expectations. Levels of service for previous plans have been determined from consultation with internal stakeholders i.e. Council Staff. A formal system of complaints/requests is maintained with proforma sheets being distributed to all property owners with their annual rates notices. This system has not identified any obvious short falls in the current levels of service. A more formal research program to determine customer expectations will be investigated for future updates of the asset management plan.

3.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. These include:

Table 3.2. Legislative Requirements

Legislation	Requirement
Local Government Act 1993	<ul style="list-style-type: none">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.
Environmental Planning and Assessment Act 1979 & Environmental Planning and Assessment Amendment Act 2008	<ul style="list-style-type: none">Requirement for Local Environmental Plans and Development Control Plans.Provides for Council control of development of towns and approval of infrastructure expansion.
Local Land Services Act 2013	<ul style="list-style-type: none">Requirement for ongoing management plan.Promotes the coordination of activities within catchment areas.Under the provision of this Act, Local Catchment Management Authorities oversee this process in the region.
Soil Conservation Act 1938	<ul style="list-style-type: none">Preservation of water course environment.
Public Health Act 2010	<ul style="list-style-type: none">Protection of public health from handling and treatment of waste water including effluent reuse.
Public Works Act 1912	<ul style="list-style-type: none">Provides authority for the Department of Water and Energy to construct sewerage works within the Council's area and regulates activities concerning the acquisition of land for sewerage works.
Water Act 1912 & Water Management Act 2000 & Water Management Amendment Act 2008	<ul style="list-style-type: none">Water rights, licenses, allocations and determination of developer charges.
Subordinate Legislation Act 1989	<ul style="list-style-type: none">Determining developer charges.

Work Health and Safety Act 2011	<ul style="list-style-type: none"> • Impacts all operations in relation to safety of workers and the public. • Council's responsibility to ensure health, safety and welfare of employees and others at places of work.
Independent Pricing and Regulatory Tribunal Act 1992	<ul style="list-style-type: none"> • Gives powers to the Independent Pricing and regulatory Tribunal to inquire into and regulate prices.
Protection of the Environment Operations Act 1997	<ul style="list-style-type: none"> • Need to control wastewater and stormwater disposal. • Control of run-off or escape of contaminants entering water courses. • Regulating pollution activities and issue of licenses as well as the monitoring of and reporting on waste output. • This act includes "Due Diligence requirements, disposal procedures for chemicals and sludge and details penalties for causing environmental impacts.
Native Titles Act	<ul style="list-style-type: none"> • Provides definition of freehold zone-able land.

3.3 Current Levels of Service

Council has defined service levels in two terms.

Community Levels of Service relate to how the community receives the service in terms of safety, quality, quantity, reliability, responsiveness, cost/efficiency and legislative compliance.

Supporting the community service levels are operational or technical measures of performance developed to ensure that the minimum community levels of service are met. These technical measures relate to service criteria such as:

Service Criteria

Quality
Quantity
Availability
Safety

Technical measures may relate to

Smoothness of roads
Area of parks per resident
Distance from a dwelling to a sealed road
Number of injury accidents

Council's current service levels are detailed in Table 3.3.

Table 3.3. Current Service Levels

Key Performance Measure	Level of Service	Performance Measure Process	Performance Target	Current Performance
COMMUNITY LEVELS OF SERVICE				
Quality	No odours	Customer Complaints	0 pa	0
Quality	Provide an effective method of collection and disposal of wastewater	Customer Complaints Re-use of treated effluent	<10 pa 100% of effluent re-used	116 100% in Tocumwal, Finley and Berrigan
Function	No backup of sewage into properties	Customer Complaints	<10 pa	37
	No overflows of sewage onto public places/waterways	Incidents	0 pa	0
Safety	Low level of risk to health in the disposal & re-use of treated wastewater	Incidents of substandard water being discharged/re-used	0 pa	0
TECHNICAL LEVELS OF SERVICE				
Function	Availability of sewerage reticulation in designated areas	% of lots serviced	100%	100%
	Provide an effective method of collection and disposal of wastewater	Failures due to rainfall and deficient capacity	0 pa	0
Condition	Provide appropriate level of operation and maintenance	Breakdowns Main blockage/collapse Age of system Maintenance to be routine	< 2 pa per town < 5 pa per town <5% assets > 95% useful life Planned/Reactive maintenance work value ratio 70%- 30%	0 116 0.25% 71%-29%
System Availability	Response time incidents	Moderate/Major Spill Minor spill/blockage	45 min 12hrs	Within 45min Within 12hrs
Cost Effectiveness	Provide service at reasonable cost	Maintenance Cost	=< previous year + cpi	
Safety	Provide sewerage service with minimal hazards and risks	Reported accidents / incidents / near misses	0 pa	0
Quality	Provide effluent at a quality that satisfies all approval conditions for re-use	Water Quality Parameters	0 incidents of failure to meet parameters	0

INSERT current service levels – See guidelines for examples of levels of service

3.4 Desired Levels of Service

At present, indications of desired levels of service are obtained from various sources including residents' feedback to Councillors and staff, service requests and correspondence. Council has yet to quantify desired levels of service. This will be done in future revisions of this asset management plan.

4. FUTURE DEMAND

4.1 Demand Forecast

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

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

Table 4.1. Demand Factors, Projections and Impact on Services

Demand factor	Present position	Projection	Impact on services
Population	Barooga 1664 (2016)	Barooga 3468 (2048)	Treatment facilities, pump stations and trunk mains will have adequate capacity. New reticulation works will be funded by developers.
	Berrigan 913 (2016)	Berrigan 1138 (2048)	Treatment facilities, pump stations and trunk mains will have adequate capacity. New reticulation works will be funded by developers.
	Finley 1844 (2016)	Finley 1779 (2048)	Treatment facilities, pump stations and trunk mains will have adequate capacity. New reticulation works will be funded by developers.
	Tocumwal 2088 (2016)	Tocumwal 4950 (2048)	Treatment facilities, pump stations and trunk mains will have adequate capacity. New reticulation works will be funded by developers.

4.2 Changes in Technology

Technology changes are forecast to affect the delivery of services covered by this plan in the following areas.

Table 4.2. Changes in Technology and Forecast effect on Service Delivery

Technology Change	Effect on Service Delivery
Trenchless Pipeline Techniques	Should reduce the cost of pipeline maintenance and renewal Will reduce the impact of works on the community and environment.

4.3 Demand Management Plan

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this asset management plan.

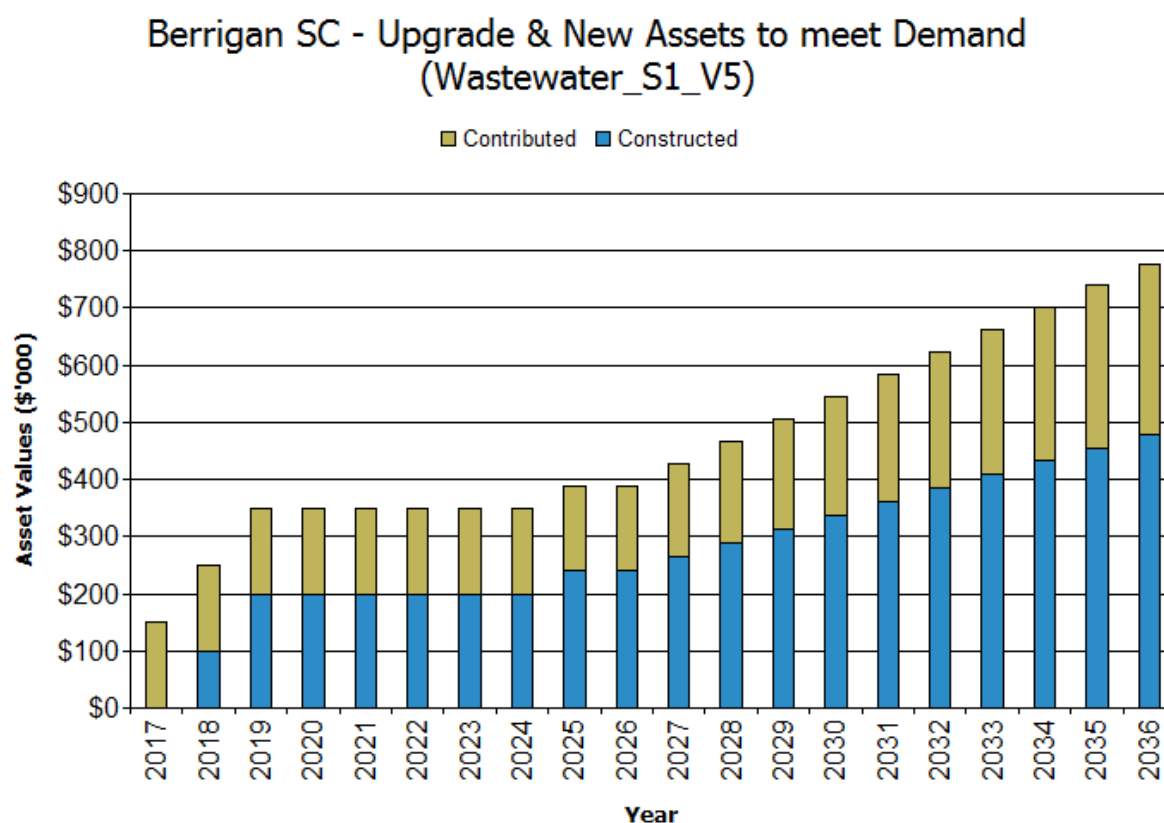
Table 4.3. Demand Management Plan Summary

Service Activity	Demand Management Plan
Expansion of reticulation network to serve new developments.	Reticulation expansion to be provided by developers of new developments.
Re-use of effluent from Barooga STP.	Develop agreement with adjoining property owner to purchase available effluent for agricultural re-use.

4.4 New Assets from Growth

The new assets required to meet growth will be acquired from land developments and constructed by Council. The new asset values are summarised in Fig 1.

Fig 1. New Assets from Growth



Acquiring these new assets will commit council to fund ongoing operations and maintenance 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 operating and maintenance costs.

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan are shown below.

Gravity Mains including Manholes and Property Connections	76.0 km
Rising Mains	41.5 km
Pump Stations	51 No.
Treatment Works	4 No.
Storage Ponds	6 No.

These assets are distributed between four towns (Barooga, Berrigan, Finley and Tocumwal) within the Berrigan Shire. Gravity mains are constructed from a mixture of materials including Asbestos Cement, UPVC, Vitreous Clay and Reinforced Concrete. Rising mains are generally constructed from either UPVC or Asbestos Cement.

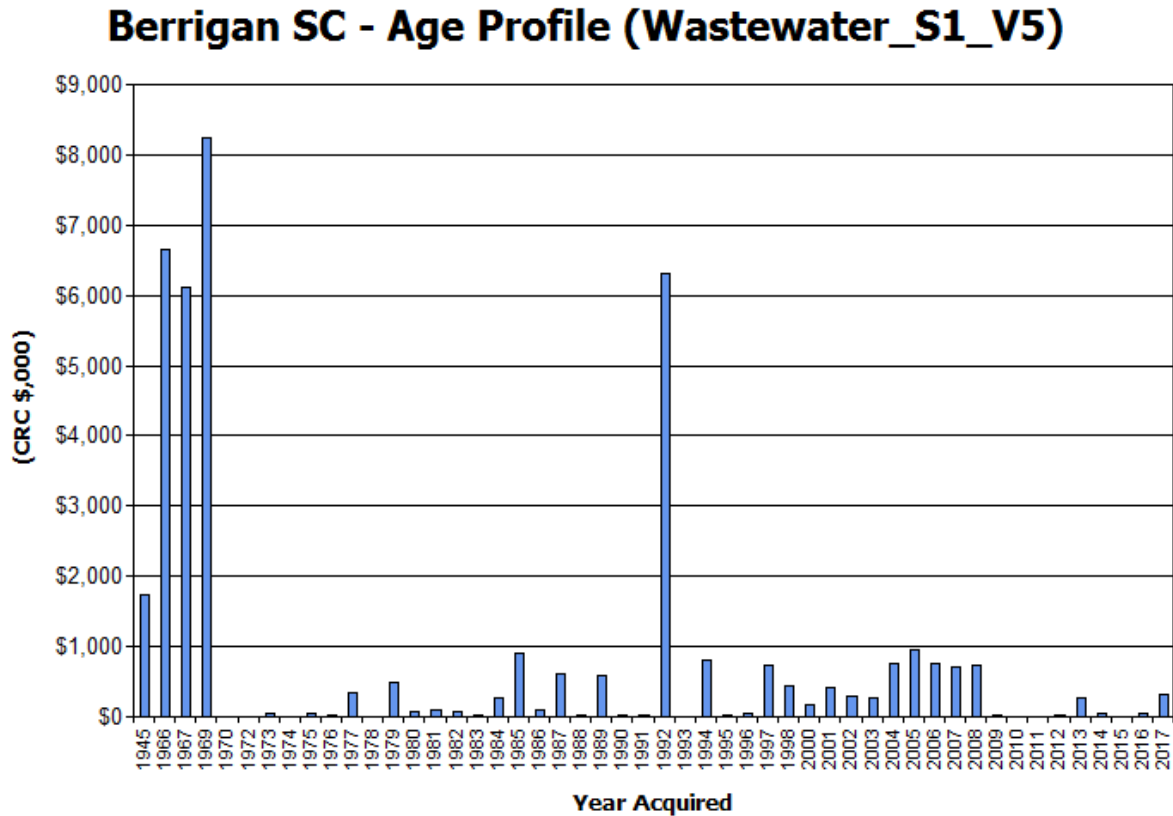
The treatment works for Berrigan, Finley and Tocumwal are conventional sedimentation trickling filter systems with maturation ponds and storage facilities while Barooga is only served by a pond treatment system.

All treatment plants are operating satisfactorily and have sufficient capacity for current loadings. The primary sedimentation tanks at Finley and Tocumwal will need to be monitored as we approach the high end of the projected loadings.

The condition of the gravity mains in Tocumwal, Berrigan and Finley is unknown and CCTV surveys are currently programmed. Barooga is a relatively new system with UPVC pipes.

The age profile of Council's assets is shown below.

Fig 2. Asset Age Profile



Plans of the sewer assets for each town are attached as Appendix A

5.1.2 Asset capacity and performance

Council'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
Berrigan Reticulation	Excessive blockages from tree roots
Finley Reticulation	Excessive blockages from tree roots
Tocumwal Reticulation	Excessive blockages from tree roots
Barooga STP	No provision for effluent re-use.

The above service deficiencies were identified from maintenance records and officers knowledge of systems.

5.1.3 Asset condition

The condition profile of Council's assets is currently unknown and will be determined via inspections of assets to be carried out over the next two years. Reticulation will be inspected using CCTV equipment.

Council's current sewer inventory in the BizeAssets asset management system had a substantial length of asbestos cement sewers with a useful life of all asbestos cement gravity mains have been increased from 55 years to 80 years pending CCTV survey of condition.

Condition data will be included in future updates of this plan.

Condition will be measured using a 1 – 5 rating system.²

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

5.1.4 Asset valuations

The value of assets as at 30th June, 2017 covered by this asset management plan is summarised below. Assets were last revalued at 30th June, 2017. Assets are valued at greenfield rates.

Current Replacement Cost	\$40,746,266
Depreciable Amount	\$40,746,266
Depreciated Replacement Cost	\$24,625,000
Annual Depreciation Expense	\$619,000

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion.

Asset Consumption	1.5%
Asset renewal	0.7%
Annual Upgrade/expansion	0.2%

5.2 Risk Management Plan

An assessment of risks³ associated with service delivery from infrastructure assets has identified critical risks to Council. The risk assessment process identifies credible risks, the likelihood of the risk event

² IIMM 2006, Appendix B, p B:1-3 ('cyclic' modified to 'planned')

³ Berrigan Shire Council 'Core' Infrastructure Risk Management Plan - Sewer – 2018

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 are summarised in Table 5.2.

Table 5.2. Critical Risks and Treatment Plans

Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan
Tocumwal and Finley Golf Courses and Berrigan Racetrack	Poor quality effluent delivered for re-use systems	H	Prepare and implement Operational Environment Management Plans for all sites that receive treated effluent for re-use.
Reticulation Systems	Collapse of pipes or manholes	H	Carry out CCTV inspections of all sewer reticulation and repair all structural defects.

5.3 Routine Maintenance Plan

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

5.3.1 Maintenance plan

Maintenance includes reactive, planned and cyclic 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.

Cyclic maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, etc. This work generally falls below the capital/maintenance threshold.

Maintenance expenditure trends are shown in Table 5.3.1

Table 5.3.1. Maintenance Expenditure Trends

Year	Maintenance Expenditure		
	Reactive	Planned	Cyclic
2014/15	\$140,767	\$617,821	\$3,326
2015/16	\$100,458	\$590,353	\$0
2016/17	\$126,819	\$608,107	\$6,621

Planned maintenance work was 82% of total maintenance expenditure in 2016/17.

Maintenance expenditure levels are considered to be adequate to meet required service levels. Future revision of this asset management plan will include linking required maintenance expenditures with required service levels.

Assessment and prioritisation of reactive maintenance is undertaken by Council staff using experience and judgement.

5.3.2 Standards and specifications

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

WSA 03-2011 Water Supply Code of Australia Version 3.1

Aus-Spec ~~2008~~

AS 3500.1:2003 Water Services

NSW Plumbing Code

Manufacturers' recommendations and requirements

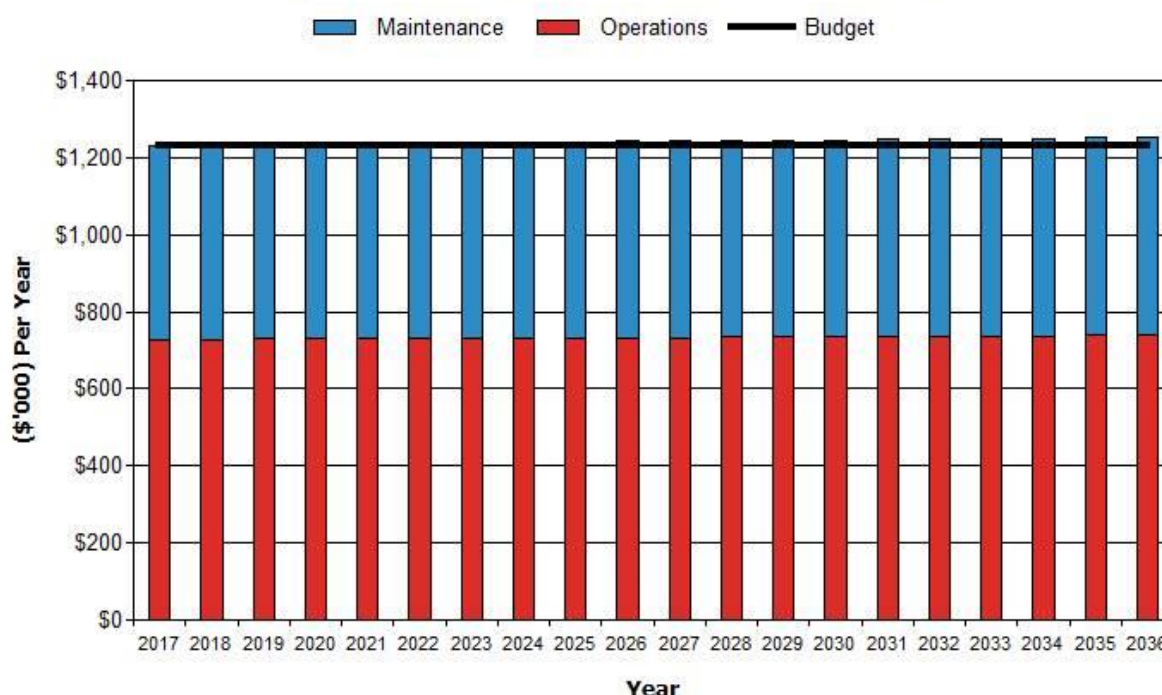
Berrigan Shire Council's specifications, standard operating procedures, Engineering Guidelines for Subdivisions and Development and safe work method statements

5.3.3 Summary of future maintenance expenditures

Future maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Fig 4. Note that all costs are shown in current 2017 dollar values.

Fig 4. Planned Maintenance Expenditure

Berrigan SC - Projected Operations & Maintenance Expenditure (Wastewater_S1_V5)



Maintenance is funded from Council's operating budget and grants where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

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

5.4.1 Renewal plan

Assets requiring renewal are identified from estimates of remaining life obtained from the asset register worksheets on the '*Planned Expenditure template*'. Candidate proposals are inspected to verify accuracy of remaining life estimate 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 in Table 5.4.1.

Table 5.4.1 Renewal Priority Ranking Criteria

Criteria	Weighting
Structural Integrity	30%
Function	30%

Safety	30%
Service	10%
Total	100%

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

Examples of low cost renewal include trenchless technology such as relining of sewer pipes, manholes and pump stations.

5.4.2 Renewal standards

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

WSA 03-2011 Water Supply Code of Australia Version 3.1

Aus-Spec ~~2008~~

AS 3500.1:2003 Water Services

NSW Plumbing Code

Manufacturers' recommendations and requirements

Berrigan Shire Council's specifications, standard operating procedures, Engineering Guidelines for Subdivisions and Development and safe work method statements

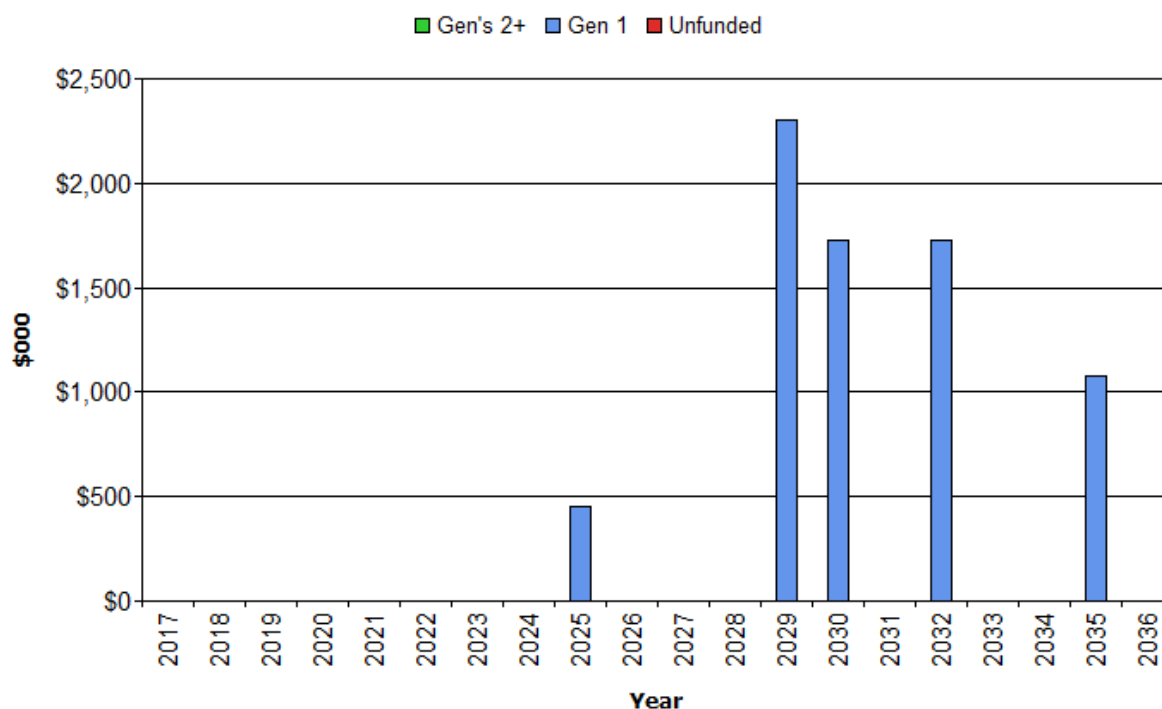
5.4.3 Summary of future renewal expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Fig 5. Note that all costs are shown in current 2010 dollar values.

The projected capital renewal program is shown in Appendix B.

Fig 5. Projected Capital Renewal Expenditure

Berrigan SC - Projected Capital Renewal Expenditure (Wastewater_S1_V5)



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

Renewals are to be funded from Council's capital works program and grants where available. 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 Council 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
Inadequate capacity	50%
Increased re-use quantities	30%
Improved amenity	20%

5.5.2 Standards and specifications

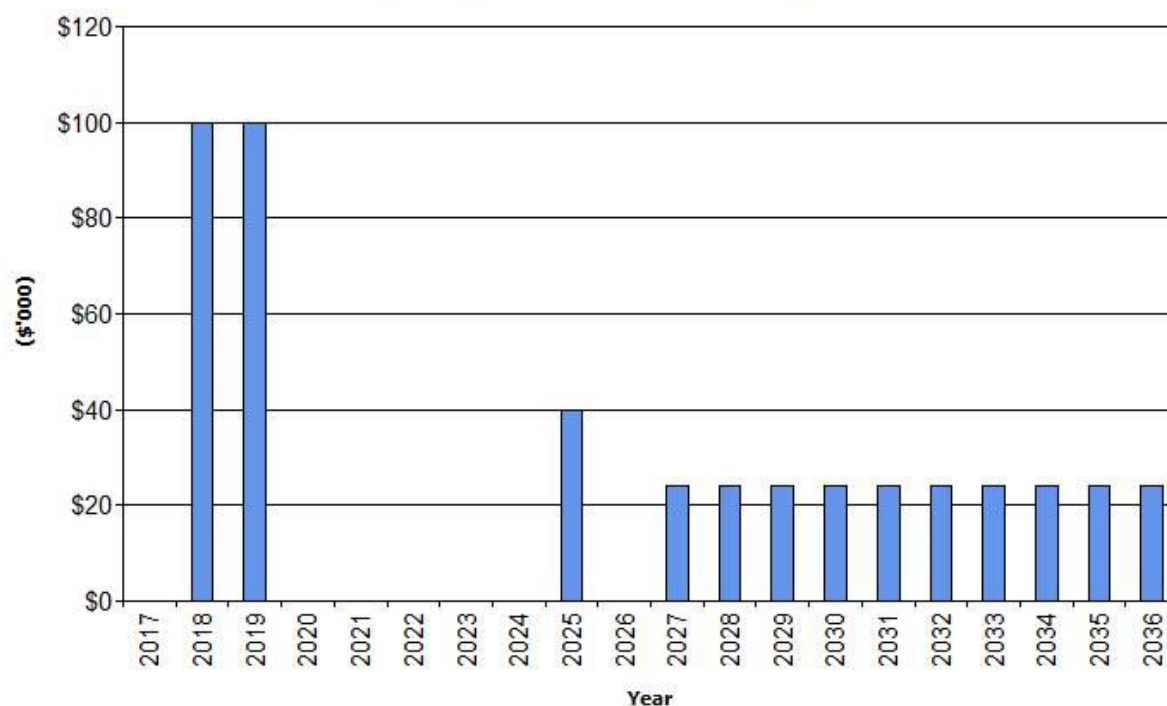
Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

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 C. All costs are shown in current 2017 dollar values.

Fig 6. Projected Capital Upgrade/New Asset Expenditure

Berrigan SC - Projected Capital Upgrade/New Expenditure (Wastewater_S1_V5)



New assets and services are to be funded from Council's capital works program and grants where available. 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. There have been no assets identified for possible decommissioning and disposal at this time.

6. FINANCIAL SUMMARY

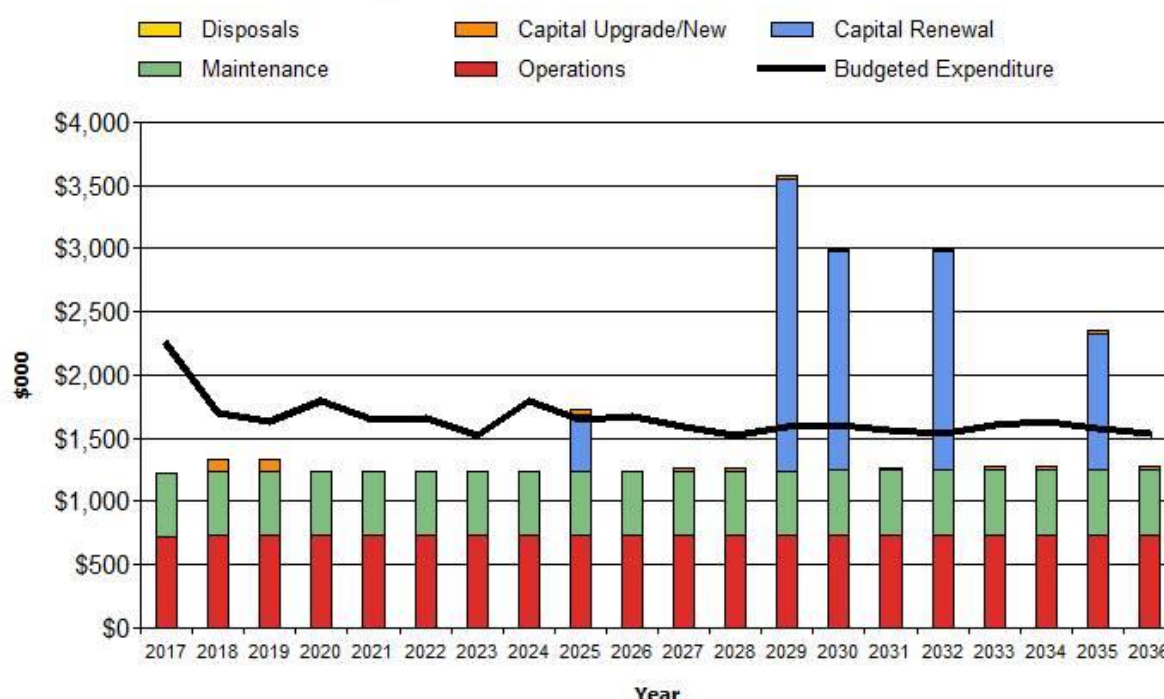
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

6.1 Financial Statements and Projections

The financial projections are shown in Fig 7 for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

Fig 7. Projected Operating and Capital Expenditure

Berrigan SC - Projected Operating and Capital Expenditure (Wastewater_S1_V5)



Note that all costs are shown in current 2017 dollar values.

6.1.1 Sustainability of service delivery

There are two key indicators for financial sustainability that have been considered in the analysis of the services provided by this asset category, these being long term life cycle costs and medium term costs over the 10 year financial planning period.

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 longest asset life. Life cycle costs include maintenance and asset consumption (depreciation expense). The annual average life cycle cost for the services covered in this asset management plan is **\$1,858,000**.

Life cycle costs can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes maintenance plus capital renewal expenditure. Life cycle

expenditure will vary depending on the timing of asset renewals. The life cycle expenditure at the start of the plan is \$1,646,000.

A gap between life cycle costs and life cycle expenditure gives an indication as to whether present consumers are paying their share of the assets they are consuming each year. The purpose of this Sewer asset management plan is to identify levels of service that the community needs and can afford and develop the necessary long term financial plans to provide the service in a sustainable manner.

The life cycle gap for services covered by this asset management plan is \$-212,000 per annum. The life cycle sustainability index is 0.89

Medium term – 10 year financial planning period

This asset management plan identifies the estimated maintenance and capital expenditures required to provide an agreed level of service to the community over a 20 year period for input into a 10 year financial plan and funding plan to provide the service in a sustainable manner.

This may be compared to existing or planned expenditures in the 20 year period to identify any gap. In a core asset management plan, a gap is generally due to increasing asset renewals.

Fig 8 shows the projected asset renewals in the 20 year planning period from the asset register. The projected asset renewals are compared to planned renewal expenditure in the capital works program and capital renewal expenditure in year 1 of the planning period as shown in Fig 8. Table 6.1.1 shows the annual and cumulative funding gap between projected and planned renewals.

Fig 8. Projected and Planned Renewals and Current Renewal Expenditure

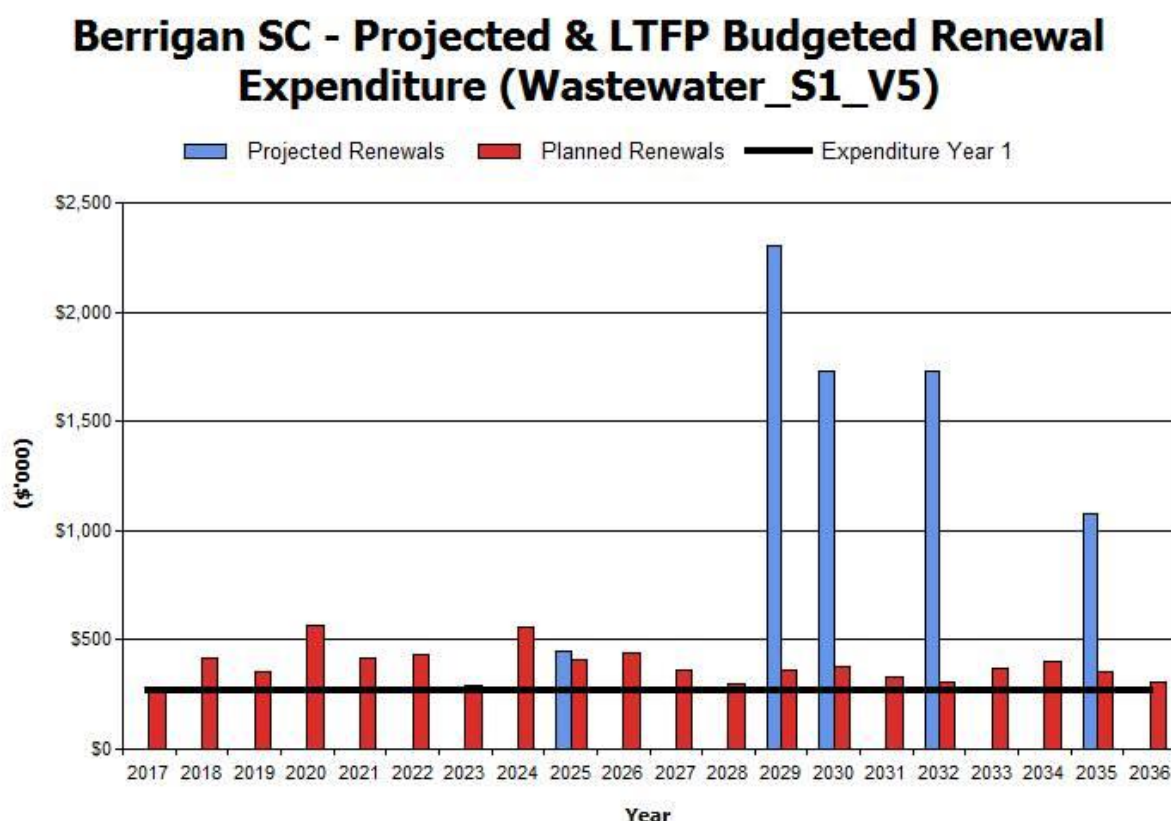


Table 6.1.1 shows the gap between projected and planned renewals.

Table 6.1.1 Projected and Planned Renewals and Expenditure Gap

Year	Projected Renewals	Planned Renewals	Renewal Funding Gap	Cumulative Gap
2017	\$0	\$270	\$270	\$270
2018	\$0	\$420	\$420	\$690
2019	\$0	\$350	\$350	\$1,040
2020	\$0	\$565	\$565	\$1,605
2021	\$0	\$420	\$420	\$2,025
2022	\$0	\$430	\$430	\$2,455
2023	\$0	\$290	\$290	\$2,745
2024	\$0	\$560	\$560	\$3,305
2025	\$449	\$410	\$-39	\$3,266
2026	\$0	\$440	\$440	\$3,706
2027	\$0	\$360	\$360	\$4,066
2028	\$0	\$300	\$300	\$4,366
2029	\$2,304	\$360	\$-1,944	\$2,422
2030	\$1,728	\$380	\$-1,348	\$1,074
2031	\$0	\$330	\$330	\$1,404
2032	\$1,728	\$310	\$-1,418	\$-14
2033	\$0	\$370	\$370	\$356
2034	\$0	\$400	\$400	\$756
2035	\$1,080	\$350	\$-730	\$26
2036	\$0	\$310	\$310	\$336

Report 4 - Table 7.1.1 Projected and LTFP Budgeted Renewals and Financing Shortfall (Wastewater_S1_V5)

Providing services in a sustainable manner will require matching of projected asset renewals to meet agreed service levels with planned capital works programs and available revenue.

A gap between projected asset renewals, planned asset renewals and funding indicates that further work is required to manage required service levels and funding to eliminate any funding gap. The quantum of the gap will be greatly impacted by any changes in the useful life of assets and in particular the sewer reticulation pipes. As many of these pipes are reaching the end of their nominal useful life it is imperative that CCTV inspections be carried out for these pipes to allow an estimation of their remaining useful life.

Council 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 by inspecting the pipe network to estimate the remaining useful life of these assets. Once this work is complete it will be necessary to review this plan.

Council's long term financial plan covers the first 10 years of the 20 year planning period.

The total maintenance and capital renewal expenditure required over the 10 years is \$13,076,000. This is an average expenditure of \$1,307,600.

Estimated maintenance and capital renewal expenditure over the 10 years is \$17,301,000 This is an average expenditure of \$1,730,100 this would give a 10 year sustainability index of 1.32.

6.2 Funding Strategy

Projected expenditure identified in Section 6.1 is to be funded from Council's operating and capital budgets. The funding strategy is detailed in the Council's 10 year long term financial plan (Attached as Appendix D) and this allows for the build-up of reserve funds to balance projected renewal costs over the life of the assets.

Maintaining the current level of fees and charges should see sufficient funds raised to cover the long term sustainability of all sewer assets. Within the 10 year time frame a surplus of \$12.8m will be accumulated over the proposed expenditure and this compares to a \$16.1m surplus over this period if only projected renewal works are completed. This surplus will be quickly eroded in the following 10 year cycle as there are significant renewal works projected.

Achieving the financial strategy will require the maintenance of current levels of fees and charges for sewerage services in real terms and the smoothing of asset renewal expenditure by prioritising renewals in line with criteria set out in Table 5.4.1.

Figure 8.1 shows the proposed projected expenditure and budgeted expenditure for water for the next 10 years

Fig 8.1. Projected and Budget Expenditure

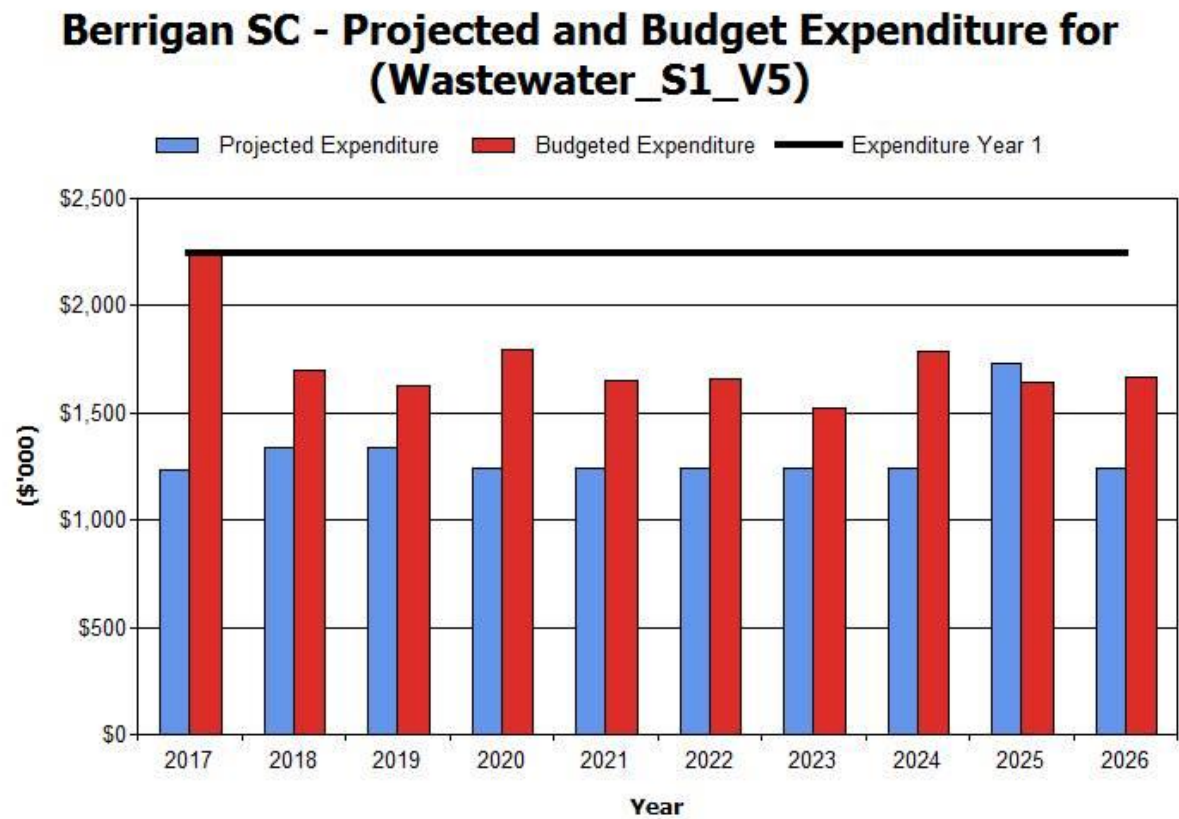
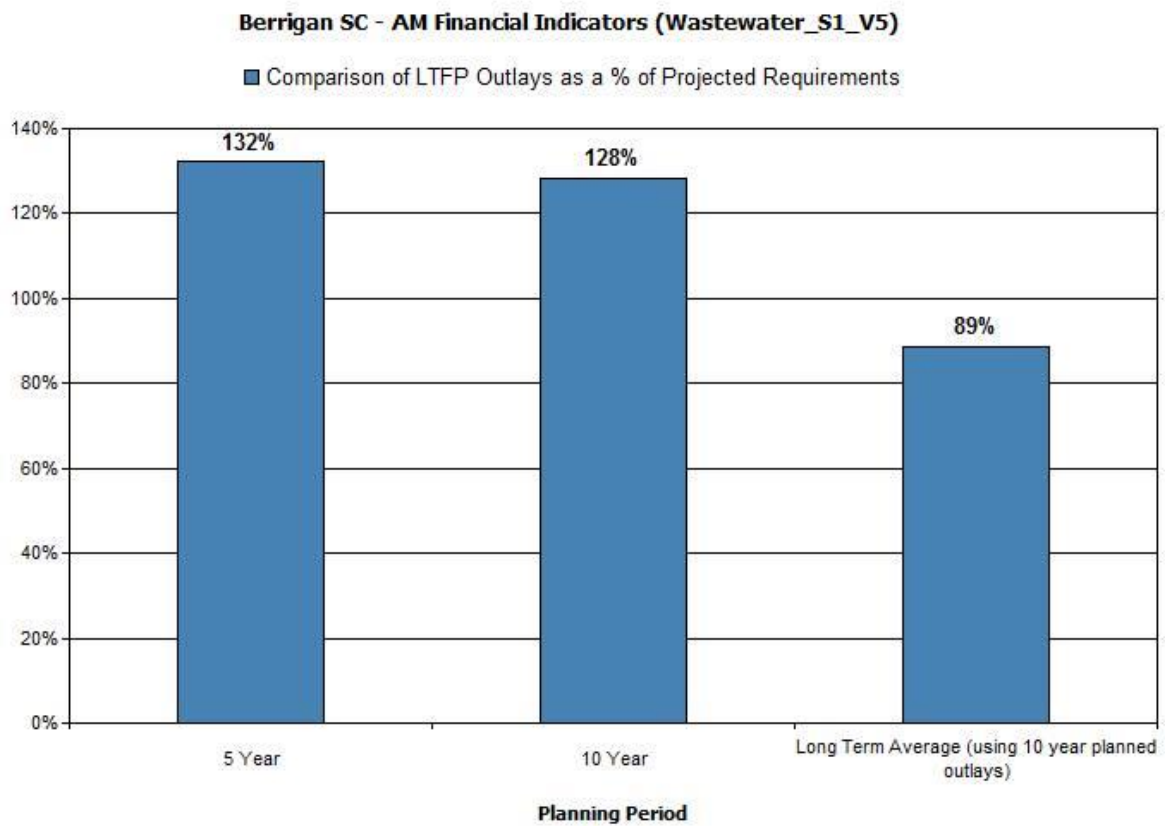


Figure 8.2 shows the asset management financial indicators for water as a comparison of LTFP outlays as a % of Projected Requirements

Fig 8.2. Comparison of LTFP outlays as a % of Projected Requirements

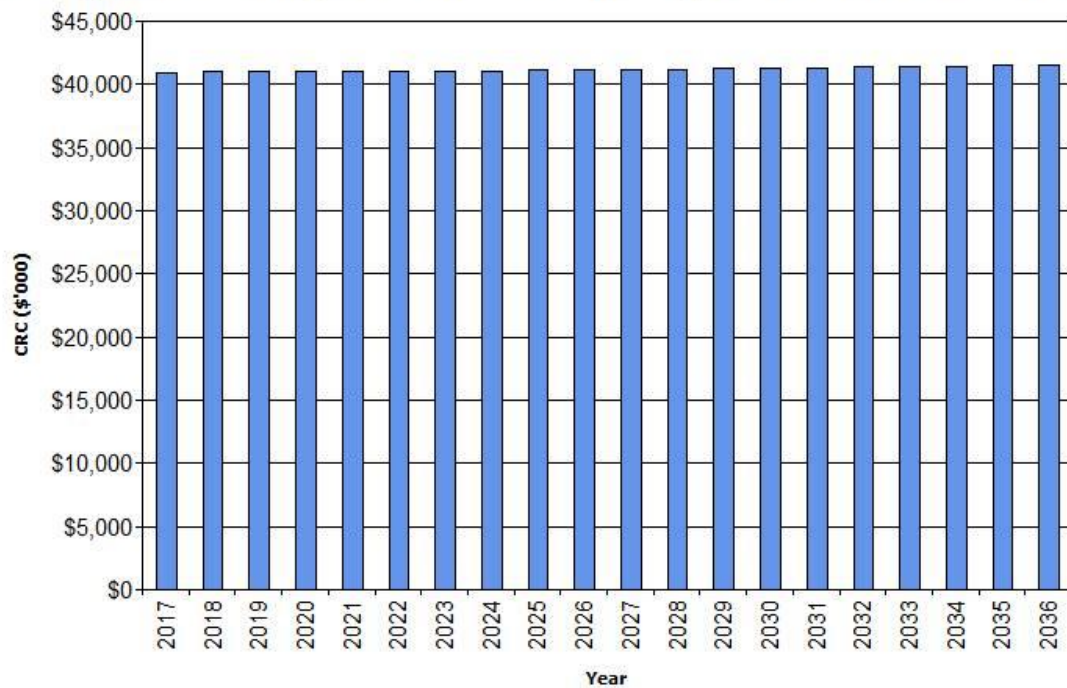


6.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Fig 9 shows the projected replacement cost asset values over the planning period in current 2017 dollar values.

Fig 9. Projected Asset Values

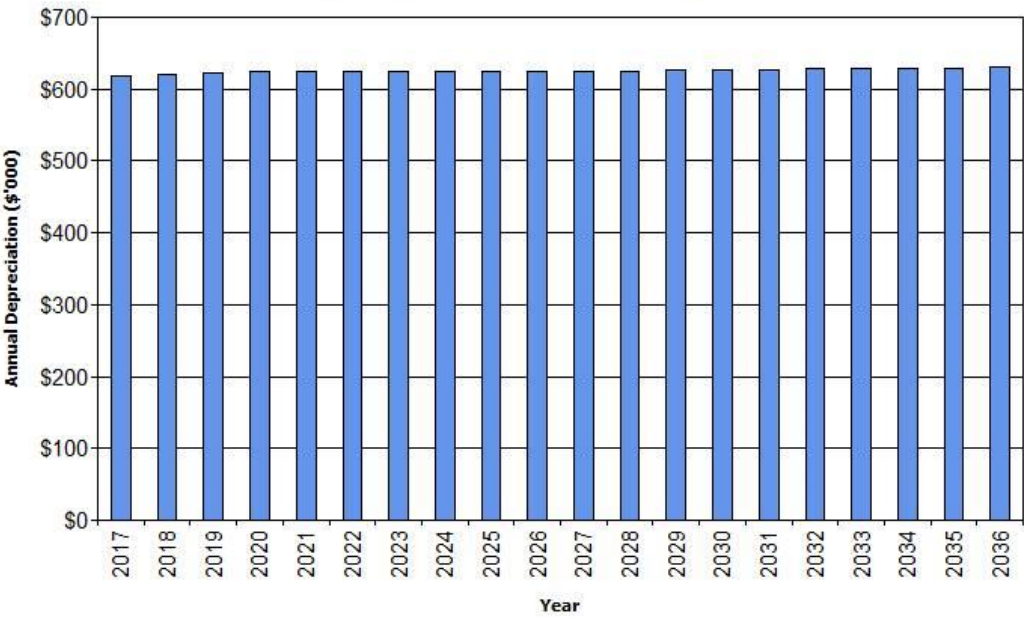
Berrigan SC - Projected Asset Values (Wastewater_S1_V5)



Depreciation expense values are forecast in line with asset values as shown in Fig 10.

Fig 10. Projected Depreciation Expense

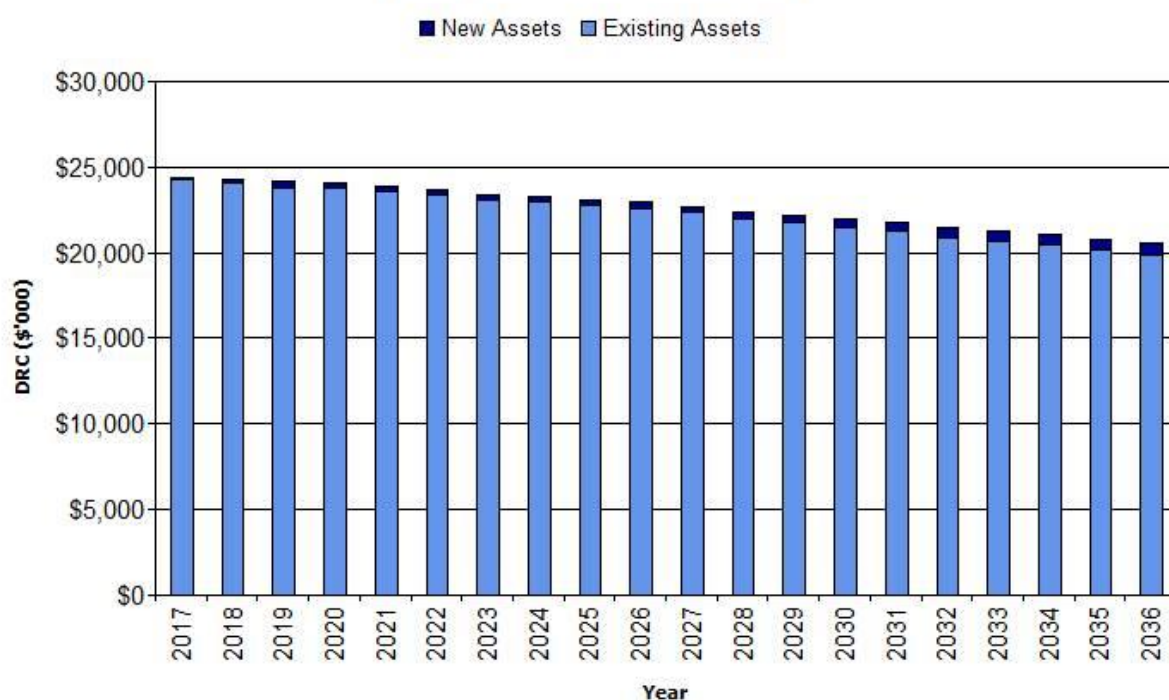
**Berrigan SC - Projected Depreciation Expense
(Wastewater_S1_V5)**



The depreciated replacement cost (current replacement cost less accumulated depreciation) 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 Fig 11.

Fig 11. Projected Depreciation Replacement Cost

Berrigan SC - Projected Depreciated Replacement Cost (Wastewater_S1_V5)



Depreciated Replacement Cost

d

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 are:

- Renewal costs for gravity mains are 80% of current replacement value as the mains would be relined rather than replaced
- Assets have been given nominal useful life values on the basis of guidelines produced by the NSW Department of Local Government.
- The useful life of all asbestos cement gravity mains have been increased from 55 years to 80 years pending CCTV survey of condition.

Accuracy of future financial forecasts may be improved in future revisions of this asset management plan by the following actions.

- Condition assessments to be carried out for all assets to estimate remaining life and subsequently reassess the useful life values.
- The expected distribution of revised useful life values will allow for a smoothing of projected renewal costs and a more accurate forecast of renewal cost projections.
- The completion of CCTV surveys of all gravity mains in Tocumwal, Finley and Berrigan is essential to provide accurate financial forecasts.
- Construction costs need to be monitored to ensure the replacement costs being used in the plan are realistic.

7. ASSET MANAGEMENT PRACTICES

7.1 Accounting/Financial Systems

The accounting/financial system used by Berrigan Shire is Civica PCS and the costing accounts for sewer are basically broken into maintenance and capital. The chart of accounts has been further developed to enable the clear separation of operation costs and maintenance costs and to split the maintenance costs into reactive, planned and cyclic. The capital expenditure is split in the financial reporting into renewal and new works.

The financial system is controlled by the Finance Manager with assistance from the Finance Officer. The Finance Manager is accountable for configuration and maintenance of the system. Area managers are responsible for the timely provision of data to be input into the system and various officers subordinate to the Finance Manager are responsible for the accurate and timely input of data to the system.

The following accounting standards/regulations/guidelines shall be complied with:

- Australian Accounting Standards and Australian Accounting Interpretations;
- the Local Government Act 1993 (NSW) and Regulations
- the Local Government Code of Accounting Practice and Financial Reporting.

Where work is carried out on an asset that will increase its useful life and is greater than the specific asset group capitalisation threshold in value it will be considered a capital improvement.

The chart of accounts clearly separates the operation costs and maintenance costs and splits the maintenance costs into reactive, planned and cyclic. Capital expenditure is split in the financial reporting between renewal and new works.

7.2 Asset Management Systems

Sewer assets are managed using the BizeAsset system. This system is map based using MapInfo for inventory and special records. The sewer asset inventory is complete at the global level, however, it could be improved by separating assets such as pumping stations and treatment works into smaller components. The BizeAsset system also provides modelling tools for asset replacement, however, these have not been used to this point as the emphasis has been on inputting inventory data.

Currently neither of these systems is directly linked to the Civica PCS accounting/financial system, however, such a link would be desirable to provide accuracy and consistency of information between the systems. Depreciation calculations are completed using BizeAsset and the results then transferred to Civica PCS.

The asset management system is controlled by the Director Technical Services with assistance from the Engineering Services Manager and Assets Technical Officer. Data input and validation of data is carried out by the Technical Officer – Assets with security of the system being the responsibility of the IT Officer.

It is proposed that the asset management system will change within the life of this plan as we are looking to implement a new system with increased capacity for data capture and more functionality for closer integration the accounting/financial system.

7.3 Information Flow Requirements and Processes

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

- The asset register data on size, age, value, remaining life of the network;
- The unit rates for categories of work/material;
- The adopted service levels;
- Projections of various factors affecting future demand for services;
- Correlations between maintenance and renewal, including decay models;
- Data on new assets acquired by council.

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

- The assumed Works Program and trends;
- The resulting budget, valuation and depreciation projections;
- The useful life analysis.

These will impact the Long Term Financial Plan, Strategic Business Plan, annual budget and departmental business plans and budgets.

The financial reports generated by BizeAsset including valuations, depreciation calculations etc. are provided to the Finance Manager for input into Civica PCS financial system. Actual construction costs for capital works are provided by financial services staff to the Technical Officer – Assets for input into BizeAsset.

New assets constructed by Council are captured by the Technical Officer – Assets from the adopted works program with confirmation of construction from the Environmental Engineer. Actual construction costs for capital works are provided by financial services staff to the Technical Officer – Assets for input into BizeAsset.

New assets gifted to Council by developers are captured by the Technical Officer – Assets from 'As Constructed' drawings and cost estimates submitted by developers. These plans and estimates are checked and signed off by the Environmental Engineer as correct.

7.4 Standards and Guidelines

The standards and guidelines relevant to this plan are set out below:

AASB 116 Property Plant & Equipment

AASB 13 Fair Value Measurement

AASB 136 Impairment Considerations

AASB 1051 Land under Roads

AIFMM Australasian Infrastructure Financial Management Guideline 2015

Financial Code of Accounting Practice and Financial Reporting (Update 25)

Berrigan Shire Council Long Term Financial Management Plan 2017-2027

Berrigan Shire Council Asset Management Strategy 2017-2021

8. PLAN IMPROVEMENT AND MONITORING

8.1 Performance Measures

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

- The degree to which the required cash flows identified in this asset management plan are incorporated into council's long term financial plan and Strategic Management 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;

8.2 Improvement Plan

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

Table 8.2 Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1.	Condition Rating of assets including CCTV survey of gravity mains	EE	Staff	June 2020
2.	Review of remaining life of assets following condition ratings	EE	Staff	June 2020
3.	Componentisation of point assets such as pumping stations and treatment plants including review of unit costs	EE, TOA	Staff	March 2021
4.	Document methodology and procedures for asset useful lives, asset unit costs, condition rating and depreciation calculations	DTS, DCS	Staff	June 2019
5.	Develop chart of accounts to allow separation of operation costs and maintenance costs and to split the maintenance costs into reactive, planned and cyclic and to separate capital expenditure into renewal, new and upgrade works.	FM	Staff	June 2019
6.	Carry out community consultation to allow the development of Desired Levels of Service when this plan is reviewed in 2022	DCS	Staff/External	March 2022

8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget preparation and amended to recognise any changes in service levels and/or resources available to provide those services as a result of the budget decision process.

The Plan has a life of 4 years and is due for revision and updating within 2 years of each Council election.

REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
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- IPWEA, 2012 LTFP Practice Note 6 PN Long Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney

Berrigan Shire Council – State of Environment Report, 2008

Berrigan Shire Council – Local Environmental Plan, 2013

APPENDICES

Appendix A Plans of Sewer Reticulation for Barooga, Berrigan, Finley and Tocumwal

G:\AUDIT\Assets\Asset Management Plans\Sewer\2017\Sewer Reticulation - Berrigan

Sewer Reticulation - Finley

Sewer Reticulation - Barooga

Sewer Reticulation - Tocumwal

Appendix B Projected 10 year Capital Renewal Works Program

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Appendix C Planned Upgrade/Exp/New 20 year Capital Works Program

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2018_2038 S3 Matts

Appendix D 10 Year Long Term Financial Plan

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