SHEPHERD
asset management solutions

Cootamundra-Gundagai Regional Council

Asset Management Plan – Water

May 2025

COOTAMUNDRA-GUNDAGAI REGIONAL COUNCIL

shepherdservices.com.au

Cootamundra-Gundagai Regional Council

Asset Management Plan – Water

May 2025

Table of Contents

DOCUMENT CONTROL

Document ID: Cootamunda-Gundagai Shire Council – Water Asset Management Plan

Version No	Date	Revision Details	Typist	Author	Verifier	Approver
0.1	10/2/2025	Document Development	KM	KM	PM	PM
1.0	15/4/2025	Draft Document for Review	KM	KM	PM	PM
2.0	14/5/2025	Final Document	KM	KM	SF	SF

Version Control Protocol:

1. Primary number changes to Versions (e.g. V1.00 to V2.00) apply when the document undergoes its regular review and/or when significant changes are made.
2. Secondary number changes to Versions (e.g. V1.00 to V1.01) apply to minor amendments that do not materially impact the documents and are intended only to clarify or update issues.

Abbreviations

ABS	Australian Bureau of Statistics
AMP	Asset Management Plan
AMS	Asset Management System
AO	Audit Office of New South Wales
CAPEX	Capital Investment Expenditure
CRC	Current replacement cost
DA	Depreciable amount
FWP	Forward Works Plan
CGRC	Cootamundra–Gundagai Regional Council
GIS	Geographic Information System
IRI	International Roughness Index
KIM	Knowledge Information Mapping
KPI	Key Performance Indicator
LCE	Life Cycle Expenditure
LCC	Life Cycle Cost
LGIP	Local Government Infrastructure Plan
LoF	Likelihood of failure
LOS	Levels of Service
RUL	Remaining Useful Life
RV	Residual value
SL	Service Level

Executive Summary

1.1 The Purpose of the Plan

This Water Asset Management Plan (AMP) details information about infrastructure assets with actions required to be undertaken to provide an agreed level of service to the community, in the most cost-effective manner (while outlining associated risks).

The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 10 year planning period. The AM Plan will link to a Long-Term Financial Plan which typically considers a 10 year planning period.

Water Supply assets provide a critical service to the community by facilitating safe access to properties and businesses throughout the region.

1.2 Asset Description

This plan covers the assets that provide Water Supply Infrastructure including:-

Table 1 - Asset Class

Water Supply Asset Classes					
Water Treatment Plants	Pump Stations	Stop Valves Hydrants	Reservoirs	Water Mains / Pipeworks	Water Meters

The above water assets have replacement value estimated at $39.6M as at the last comprehensive valuation.

1.3 Levels of Service

The allocation in the planned budget is sufficient to continue providing existing services at current levels for the planning period.

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery. These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AM Plan is the forecast of 10 year total outlays, which for the Water asset class is estimated as $3.3M on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is $10.7M or $1.07M on average per year as per the Long-Term Financial plan or Planned Budget.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The Informed decision making depends on the AM Plan emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for Water Asset Class leaves a shortfall of $758K on average per year of the forecast lifecycle costs required to provide services in the AM Plan compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below.

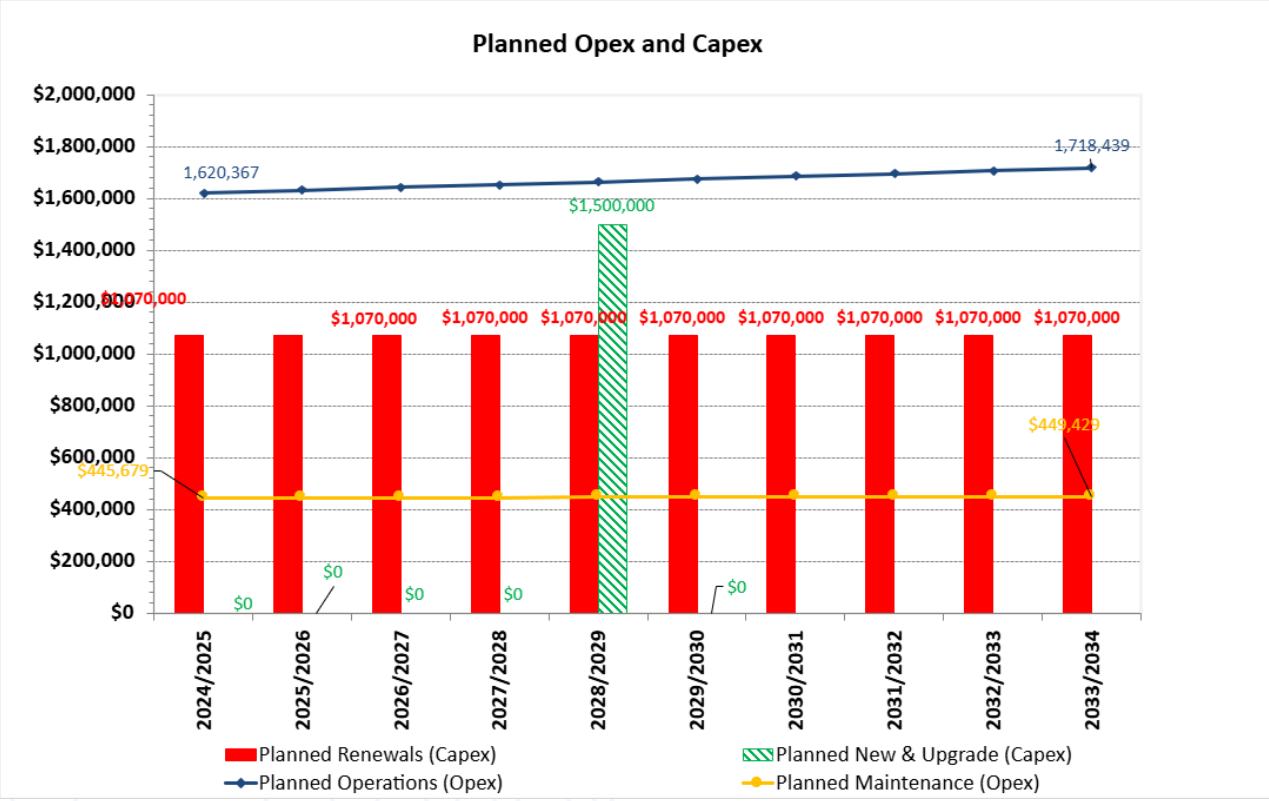

Figure 1 -Planned Budgets

(Figure Values are in current dollars).

We plan to provide Water services for the following:

- Operation, maintenance, renewal and acquisition of Water assets to meet service levels set by CGRC in annual budgets.

1.7 Asset Management Planning Practices

Key assumptions made in this AM Plan are:

- Current historic expenditure will cover the technical levels of service
- Remaining useful life in the financial exports depicts the forecast renewals

Assets requiring renewal are identified from either the asset register or an alternative method.

- The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems and may be supplemented with, or based on, expert knowledge.

The remaining useful life was used to forecast the renewal lifecycle costs for this AMP.

1.8 Monitoring and Improvement Program

The next steps resulting from this AM Plan to improve asset management practices are:

Table 2 – Improvement Program

Task	Task	Responsibility	Resources Required	Timeline
1	Organisational decision and communication of 'one place of truth' for asset data storage and management.	Deputy General Manager - Operations	All Council staff	1/8/2025
2	Updated condition data to drive future works renewal program. Utilisation of this condition to verify the renewals required as real project (backbone of the renewal program)	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	1/7/26 Ongoing Budget timeframes (March each year)
3	Continued focus on the development of a comprehensive GIS system (and documented business processes and training of the system) of water assets should be a priority, across both operational bases of the Council (Cootamundra and Gundagai Offices). Checks on data accuracy to be undertaken in parallel. This is to include asset attributes, such as location, asset attributes and condition score. This data is to be collated through - Undertaking inspections of each water asset category.	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	1/7/2026

Task	Task	Responsibility	Resources Required	Timeline
	- Complete analysis of map data and audit asset date. - Ensure all infrastructure is captured and added into the GIS, when new assets are found or added into the water asset class. Note: Each asset is to be aligned to an operational base within the GIS asset attributes, to allow GIS data to be easily split, and broken into separate GIS data sets, should 'deamalgation' processes be activated.			
4	System to manage and collate data which captures completed works (including documented workflows, and As-Con/Asset Team/Finance Team completion process). Clarification of financial and non-financial asset process(based on thresholds).	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	1/7/2026
5	Defining ownership of various asset types (including clarification of budget allocations for each asset types).	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	31/12/2026
6	Clarification of each asset type including financial and non-financial assets with their inclusion into the Enterprise system.		Both Team Leads – Engineering Cootamundra and Engineering	31/12/2026

Task	Task	Responsibility	Resources Required	Timeline
			Gundagai	
7	Inspection system (condition) based on 3-year valuation process.	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	Ongoing
8	Consistent work processes and procedures is key across both offices of the CGRC, especially in the event de-merging does not occur. The support of change management processes throughout the Council operations is warranted to ensure the amalgamated Council operates across the two distinct operational bases to obtain operational benefits through sharing information, knowledge and experience to further develop asset management culture within the organisation. The use of a Change Management support organisation should be considered, to support this activity across Councils organisational operational base.	Deputy General Manager - Operations	All Council Staff	1/5/2025
9	Identify and document existing operational strategies and practices	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra	1/9/2025

Task	Task	Responsibility	Resources Required	Timeline
	Council uses to manage assets and deliver services.		and Engineering Gundagai	

BACKGROUND

2.1 Purpose of the Plan

The purpose of this Water AMP is to assist Council in two principal ways. The first purpose is to document asset management information in regards to Councils' Water assets. The second purpose, which is unique to Cootamundra Gundagai Regional Council, is that this AMP will be ustilised to support Council navigation through any potential 'de-amalgamation' process, should it be approved.

The documentation of asset management planning information for Water Supply Assets for the council is undertaken through:

- Documenting its current management approach of Water Supply assets;
- Demonstrating responsible management;
- Understanding and managing significant risks;
- Identifying opportunities to improve the management of Water Supply assets; and
- Identifying opportunities to support the separation of Water Supply assets in the event of initiation of potential de-amalgamation activities.

This AMP plan documents asset management planning information for the Water Supply assets for the Council. This includes a review of strategic trends facing the Council and potential impacts on the asset stock, asset condition and performance against key indicators, long term financial forecasts, risk register, and an improvement plan for managing the assets. Financial implications for providing the required levels of service into the future are also provided based on the associated separate spreadsheet model for the AMP.

The potential benefits are:

- Enables Council to satisfy more community needs at less cost allowing the resources saved to be deployed to provide more services;
- Enables Council to know where to spend funds to get the best cost benefit ratio;
- Protects Council from industry regulators, Audit Office (AO) etc.;
- Protects Council against potential litigation;
- Documented asset management processes make it easier for existing and new staff;
- Enables Council to avoid waste and the associated unfavorable publicity; and
- Financial Sustainability.

2.2 Council's Vision, Aims, Outcomes and Strategies

The key vision for Council to work towards meeting their corporate strategies are:

- Providing a defined level of service and monitoring performance (as amended from time to time),
- Linking to a Long-Term Financial Plan (including renewal, maintenance and operational funding) which identifies required, affordable forecast costs and how it will be allocated.
- Taking a life cycle approach;
- Developing cost-effective management strategies for the long term;
- Identifying, assessing and appropriately controlling risks,
- Review our services to ensure they meet our customer needs within the financial constraints of Council;
- Sustainable use of physical resources; and
- Continuous improvement in asset management practices.

Key elements of the planning framework are

- Levels of service – specifies the services and levels of service to be provided,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Risk Management – how to manage these risks, and
- Asset management improvement plan – how we increase asset management maturity across the organization.

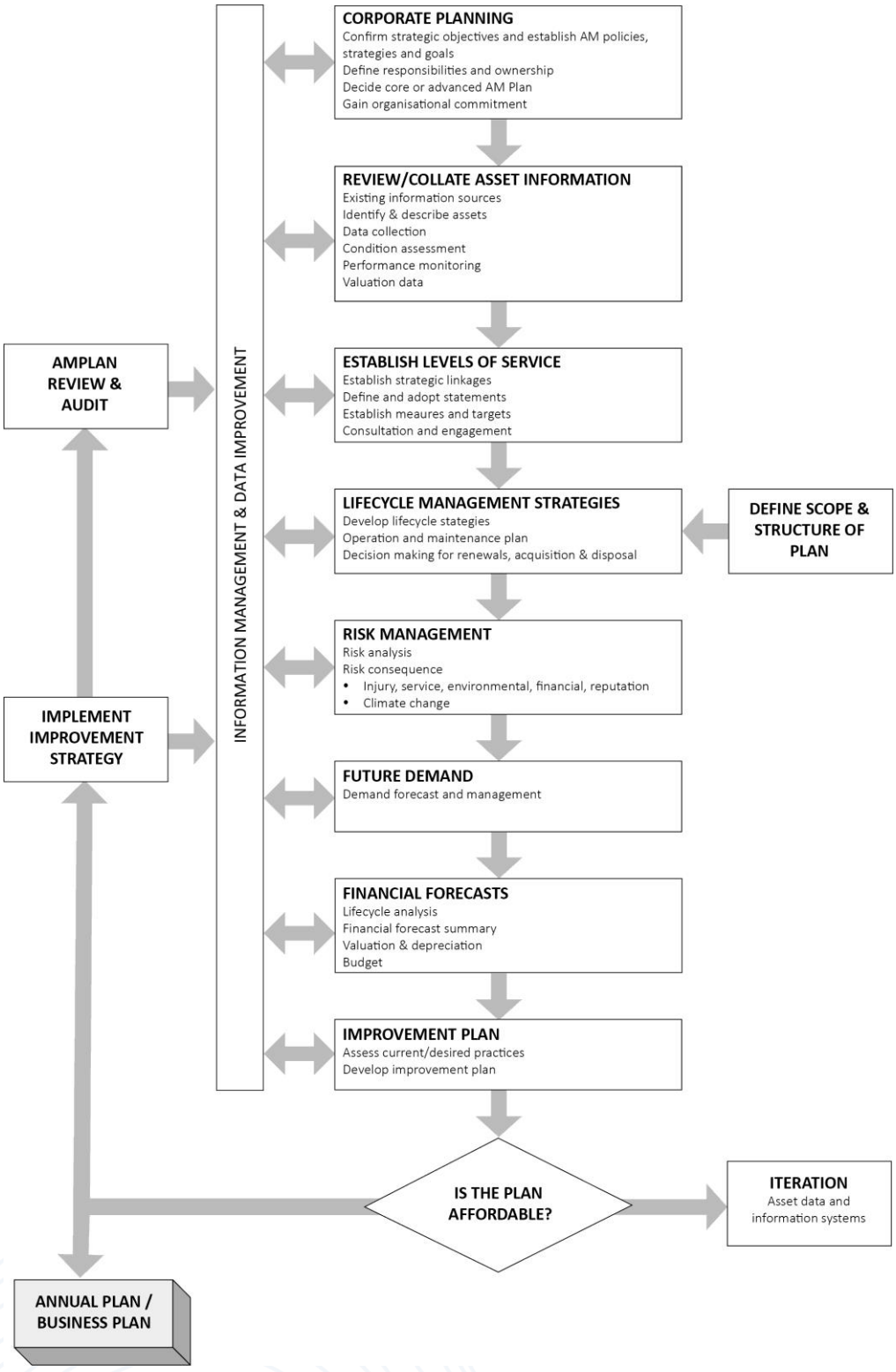

Figure 2 - Road Map for preparing an Asset Management Plan *(IPWEA, 2006)*

2.3 Key Stakeholders

Good asset management requires the alignment of resources with all people understanding the objectives and then playing their respective roles in the management of assets and the delivery of services to the community. Table 3 outlines the roles and responsibilities for asset management within CGRC.

Table 3 - Key Stakeholders and Roles

Role	Who	Responsibilities
Strategic Direction	Councillors	• Represent needs of community and service level expectations; • Endorsement of the asset management policy; • Ensure Council is financially sustainable; and • Approval of allocation of resources.
Operational Decision Making	Executive Management Team	• Overall responsibility for developing an asset management policy, plans and procedures and reporting on the status and effectiveness of asset management within Council; • Allocate resources to meet the organisation's objectives in providing services while managing risks; • Ensuring Council is financially sustainable. • Provision of sound organisation structure • Lead the organisations culture • Managing risks in accordance with adopted appetite • Manage Statutory Requirements • Develop and Administer Policies • Provide Service Strategy • Asset management objectives
Strategic Alignment/ Organisational Alignment	Asset Management Working Group	• Custodian of the corporate asset register and ensuring the asset valuations are accurate; • Preparation of asset sustainability and financial reports incorporating asset depreciation in compliance with current Australian accounting standards; • Asset Management System development and administration;

Role	Who	Responsibilities
		• Develop 10-Year Capital Works Plans and budgeting; • Ensure funds are invested appropriately to ensure best value for money is delivered to the community; and • Develop the maintenance standards deployed and Council's ability to meet technical and community levels of service. • Championing promotion of adequate resourcing for asset management • Whole of Council asset performance monitoring • Demonstrate whole of organisation support for sustainable asset management • Wider accountability for achieving and reviewing sustainable asset management practices • Encourage buy-in and responsibility; • Coordinate strategic planning, information technology and asset management activities • Promote uniform and fit for purpose asset management practices across the organisation • Information sharing across IT hardware and software • Pooling of corporate expertise • Championing of asset management improvement initiatives
Tactical / Operational	Asset Custodians Maintenance Managers Service Managers	• Service delivery • Asset data capture • Operational risk management • Alignment of service levels to budgets • Asset Management Plan Development • Development of renewal and upgrade plans • Asset specific condition monitoring • Asset and resource optimisation • Asset Maintenance and Operations

Role	Who	Responsibilities
		• Identification of asset disposal opportunities • Identification of service efficiency opportunities
Tactical / Operational	Staff	• Verify the size, location, and condition of assets; • Provide local knowledge detail on all infrastructure assets; • Capital Works, Operation and Maintenance management to meet agreed levels of service; and • Liaison internally with the Senior Management Team regarding asset prioritisation and planning.
	Community (residents, businesses, property owners)	• End users of services provided by assets; • Aware of service levels and costs; • Participate in consultation processes; and • Provide feedback on services.
	Consultants	• Engineering expertise input.
	Utility Service Providers	• Interaction in service delivery.
	State and Federal Government	• Provision of various grants and subsidies; • Provide Leadership in promoting Best Practice Asset Management; • Facilitate Training and Education; • Recognising the importance of LG Assets to community and provide funding; and • Other assistance to sustain.

2.4 Legislative Requirements

The management of assets is often driven by complex legislative arrangements. The Table below provides a list of Legislation, that is relevant to the Water asset class.

Table 4 - Legislation and 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, the acquisition and disposal of assets and requirements for corporate and operational plans. The Local Government (Finance, Plans and Reporting) Regulation is subordinate legislation.
Civil Liability Act 2002	To manage negligence, elements of a claim, duty of care, standard of care and causation and to address the requirements of sections 42 and 45.

Overarching Organisation Structure (as of 30 June 2024) is shown below

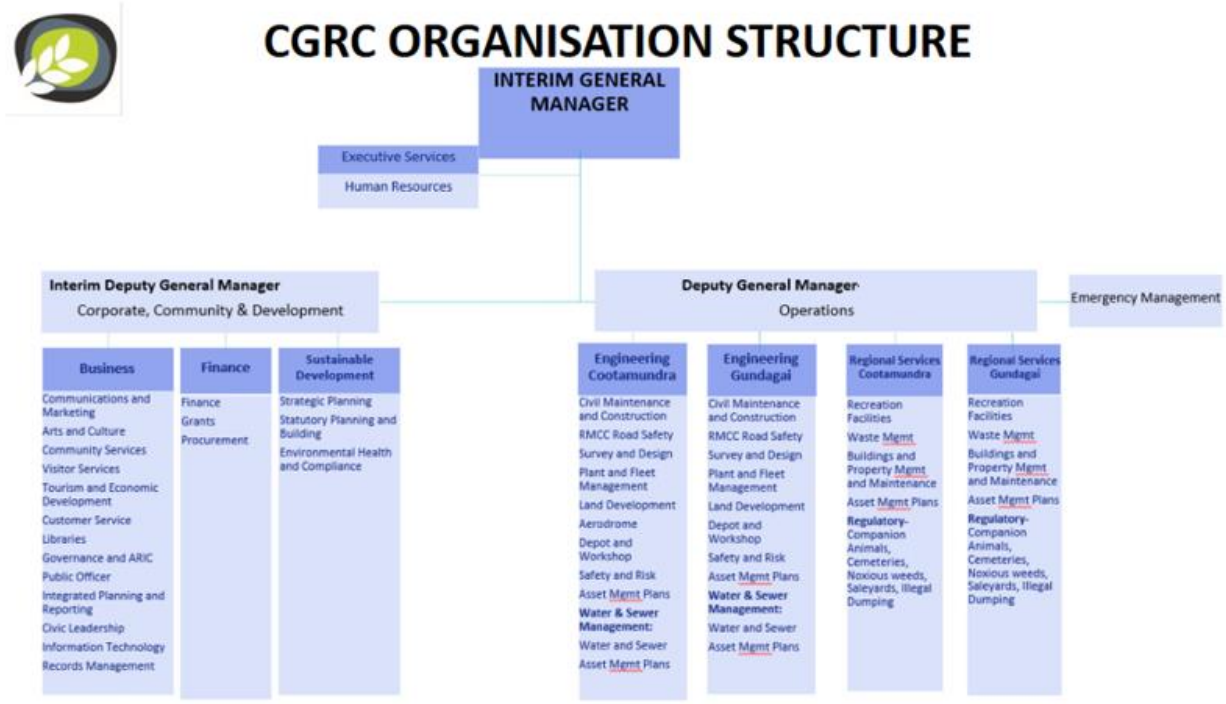

Figure 3 - Councils Organisational Structure

The council itself is currently involved within a review of its overarching body. The outcome of this review may see the council remain as a combined (amalgamated) organisation, or it may see the council be de-amalgamated into its separate components. At the time of production of this AMP document, the outcome of this review is not known. Therefore, this document has been written with both options in mind.

From an asset management perspective, the importance of data management and clear delineation of asset ownership is underlined. In the event, de-amalgation occurs, it is imperative that the necessary split of asset ownership is undertaken cleanly. This could be supported prior to the review being completed, through ensuring asset data systems have a link to asset ownership during the collection/management phase.

ASSET DESCRIPTION

This AMP is for the Council owned Water assets, which includes stormwater drainage assets associated with the Water network assets.

3.1 Physical Parameters

The assets included in this Asset Management Plan are shown in table 5 below, based on data from Council's website and GIS data.

Table 5 - Asset Class

Water Supply Asset Classes					
Water Treatment Plants	Pump Stations	Stop Valves Hydrants	Reservoirs	Water Mains / Pipeworks	Water Meters

3.2 Asset Valuations

Asset valuations for the Water class were completed in 2022 with data still to be loaded into Authority. Table 6 details the value of assets in the Water class based on the asset revaluation for all assets.

Table 6 - Asset Valuations by Asset Type

Location	Asset Type		Current Replacement Value	Written Down Value
Cootamundra Water				
Cootamundra Water	Reticulation	$17,408,647	$8,985,802	
Cootamundra Water	Supply	$2,708,276	$1,739,514	
Gundagai Water				
Gundagai Water	Reticulation	$8,546,201	$2,820,800	
Gundagai Water	Supply	$4,491,197	$2,963,345	
Gundagai Water	Treatment	$6,436,537	$3,030,220	
Grand Total		**$39,590,858**	**$19,539,682**	

3.3 Asset Registers

Council's asset register is maintained in *'Authority'* which is Council's primary ERP (Enterprise Resource Planning) system. This system offers advanced capabilities when it is well configured and data is regularly maintained. There are considerable benefits when data in *'Authority'* and Council's GIS (geographic information system) are linked, and the linkages are

well maintained. In addition, having a single point of truth and linking operational information from field teams to assets also offers benefits if the data is maintained.

Improving organisational understanding of data management, maintenance and reporting principles will help progressively improve the data quality in the asset register. Improving other operational registers in a way that aligns with the GIS and *'Authority'* would also assist in improved reporting capabilities and management of assets.

3.4 Asset Useful Life & Condition

Asset lives for Water assets in Council's asset register vary from 1-99 years. Council's 2022 asset revaluation had useful life ranges from 10 to 180 years (as detailed within their available asset data). Use of the Useful Life, Remaining Useful Life and Expiry Date fields within Authority requires review to improve consistency and reporting. A single point of truth needs to be adopted and all other data that could be misinterpreted should be archived and removed from the GIS and Authority. Table 7 provides details of useful lives from the 2022 asset revaluation.

Table 7 - Useful Life by Asset Type Based on 2022 Asset Revaluation

Asset Type	Average Useful Life
Reticulation-Pipework	78
Supply-Reservoirs	68
Supply-Water Pump Stations	49
Treatment-Waster Treatment Plant	36

3.5 Condition Profile

Condition data for Water assets are shown in figure below where condition:

1 = brand New,

2 = Excellent Good,

3 =Very Good,

4 = Good Overall,

5 = Fair Overall,

6 = fair to poor,

7 = Poor Overall,

8 = Very Poor Overall,

9 = Extremely poor condition,

10 = Failed Assets

Data comes from Council's 2022 asset revaluation for all assets. Assets that shown as NA are not condition assessed.

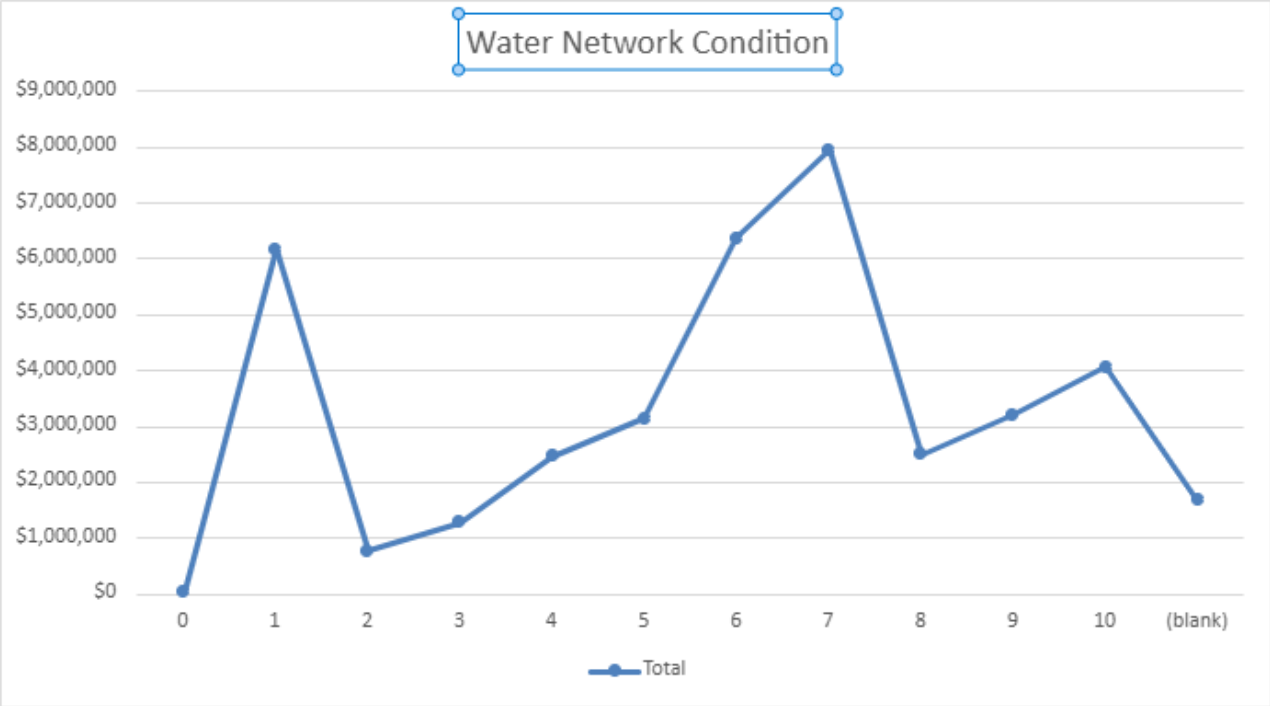

Figure 4 - Asset Condition Profile

LEVELS OF SERVICE

4.1 Background

One of the basic tenets of good asset management practice is to provide the level of service the current and future community want and are prepared to pay for, in the most cost-effective way (NZ NAMS 2007).

4.2 Community Levels of Service

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

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

- **Quality** How good is the service?
- **Function** Does it meet users' needs?
- **Safety** Is the service safe?

Table 8 - Community Level of Service

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Provide safe drinking water	Water quality Complaints.	Satisfactory	90% maintenance request
Function	Drinking water is available all time	Customer service requests relating to breaks, leaks and pressure.	Satisfactory	Medium to High
Capacity	Ensure water quality meets the Australian Drinking Water Guidelines (potable supplies only).	Number of successful incident claims.	Nil	Nil

4.3 Technical Levels of Service

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

Technical service measures are linked to annual budgets covering:

- **Operations** – the regular activities to provide services;
- **Maintenance** – the activities necessary to retain an assets as near as practicable to its original condition;
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally;
- **Upgrade** – the activities to provide a higher level of service (e.g. new pipe network) or a new service that did not exist previously (e.g. adding a section of new network);

Table 9 - Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance
TECHNICAL LEVELS OF SERVICE				
Operation	Water supply assets meet user's needs	Annual condition & defects inspection	Satisfactory	High level of performance
Maintenance	Water supply assets are suitable for purpose	Reactive service requests completed within adopted time frames	Defects made safe within 3 working days Repairs completed within 30 working days	90% of defects and repairs complete in time
		Planned maintenance activities completed to schedule	All planned maintenance activities completed to schedule	90% complete
Renewal	Water supply assets meet user's needs	Condition of rnetwork	<5% with condition 7 and 9	<2%
Upgrade	Upgrade Water supply assets to meet user's need	Customer survey	The upgrade activities that can be done within the current Planned Budget restraints	The upgrade activities within current planned budget

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

4.4 Sustainable Asset Base

Based on the financial position of Council, ensuring that water services are prioritised and provided adequate funding is essential to ensure the ongoing safety of the community and customers across the Council network.

FUTURE DEMANDS

The Cootamundra-Gundagai Regional Council population was 11,403 in the latest ABS Census Data from 2021. The current growth rate is flat (0.75%) and predicted to continue as such or decline further in future years.

It is not expected that future demand (growth) will influence this class of assets over the next 20 years. Any planned upgrades or improvements in the Water asset category will be focused on renewal of existing Water Supply sites. These works will generally be funded through external grants obtained by Council.

5.1 Demand Drivers

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

There are no known or planned large demographical changes across the Council area that would impact on changing Water Supply needs of the community. Some projects are planned (including alternative energy construction and links) but it is expected there to have minimum impacts across the Council network, as their workers would be of a short-term nature, spread across the entire region.

5.2 Technological Changes

Technology changes are forecast to affect the delivery of services covered by this plan. Historically changes in technology have the effect of reducing whole-of-life costs. Changes in technology will be embraced where possible by Council, to reduce future whole of life costs.

5.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 10.

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 can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 10. Further opportunities will be developed in future revisions of this Asset Management Plan.

Table 10 -Demand Drivers

Demand Driver	Current Position	Impact on Services	Demand Management Plan
Population Change	11,403 in 2021	Small incremental increased in water usage across the council network	Continue to manage assets inline with this plan. Continue to apply for available grant funding to

Demand Driver	Current Position	Impact on Services	Demand Management Plan
			support rehabilitation projects across the water network.
Tourism	Planned extension of water network to incorporate 'Dog on the Tuckerbox' rest area, and associated transport support services	Increase in water usage through the increased network linkage. Increase in asset register to incorporate the new pipeline and associated network.	Continue to manage assets inline with this plan. Continue to apply for available grant funding to support construction projects to support installation phase of the development.
Customer Values	Residents and network users are expecting a greater demonstration of consistent water pressure and quality across the network.	Increasing renewal budget demand, to support rectification and maintenance works to the water network and also Councils reservoirs If Council proposes to undertake upgrades to the existing assets or construction of new reservoirs, this leads to increased whole of life costs.	Continue to apply for available grant funding to support rehabilitation projects across the water network (A prioritization system is to be used to develop Councils works program. This prioritization system is to be underpinned through current asset condition data and age data and planned allocated funding available for future years

WHOLE OF LIFECYCLE MANAGEMENT PLAN

6.1 Cootamundra Gundagai Regional Council

6.1.1 Operations and Maintenance Expenditure (Opex)

Historical

3 years of historical maintenance and operations expenditure figures have been taken from Council's financial system and averaged for the purposes of financial modeling. Based on available data which has been reviewed by Councill staff the figures in table 11 represent the best available data for historical maintenance costs.

Table 11 - Historical Operations and Maintenance Costs (2022-2024)

Expenditure Type	$
Operations	$1,476,536
Maintenance	$445,678
Total OPEX (O & M)	**$1,922,215**

Future

For the purposing of this asset management plan the historical average has been used with no annual increase being applied, as well as the inclusion of additional operations and maintenance costs associated with new or upgraded assets.

6.1.2 Capital Expenditure (Capex)

Forward Works and Future Capital Program

Planned renewals total $ 10.7M for the 10 year period based on the forward works program shown in Table 12. Projected renewals total $ 8.9M for the next 10-years to 2033 derived from valuations data for remaining useful lives. Thus, the average amount projected for renewals from valuations is approximately $890K per year (in current dollars).

Table 12 - Planned 10 years Renewals

Program / Project	24/25	25/26	26/27	27/28	28/29	29/30	30/31	30/32	32/33	33/34
Passive Assets-Water Mains	$900,000	900,000	900,000	$900,000	$900,000	$900,000	900,000	$900,000	$900,000	$900,000
Active Assets-Water Treatment Plant	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
Active Assets-Reservoir	$100,000	100,000	100,000	$100,000	$100,000	$100,000	100,000	$100,000	$100,000	$100,000
Active Assets-Water Pump Station	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000

Table 13 - Planned 10 years (New works)

Program/Project	24/25	25/26	26/27	27/28	28/29	29/30	30/31	3/32	32/33	33/34
Passive Assets-Water Mains					$1,500,000					
Active Assets-Water Treatment Plant										
Active Assets-Reservior										
Active Assets-Water Pump Station										

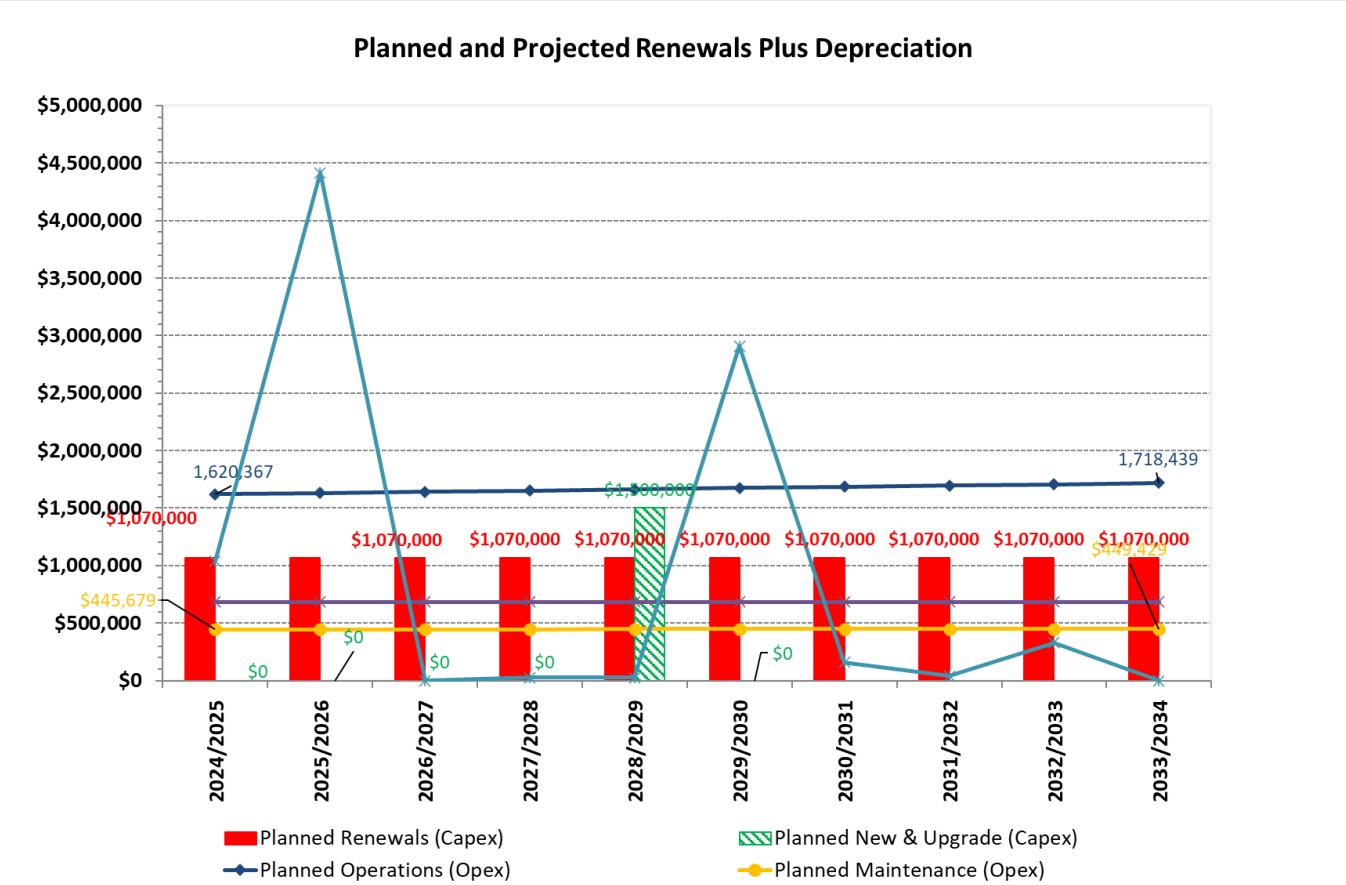

Figure 5 - Planned and Projected Renewals and Depreciation

6.2 Asset Sustainability Ratio

A financial measure of satisfactory levels of expenditure on asset replacements is the Asset Sustainability Ratio - the net capital expenditure on replacements as a percentage of the depreciation. It indicates whether the amount of replacement exceeds or is less than the amount of depreciation, that is, whether assets are being replaced at the rate they are wearing out. Although not a true reflection of the required long-term funding, depreciation does indicate the rate of consumption of assets. The New South Wales Audit Office sets a target for renewals that is equal to or greater than 90% of depreciation.

The current total annual depreciation is $682K per annum. A 90% target equates to $ 613 K per annum. Projected renewals over the next 10 years average $ 839 K per year which indicates a significant shortfall. Planned renewals average $ 1.07 M per year which also indicates a significant shortfall.

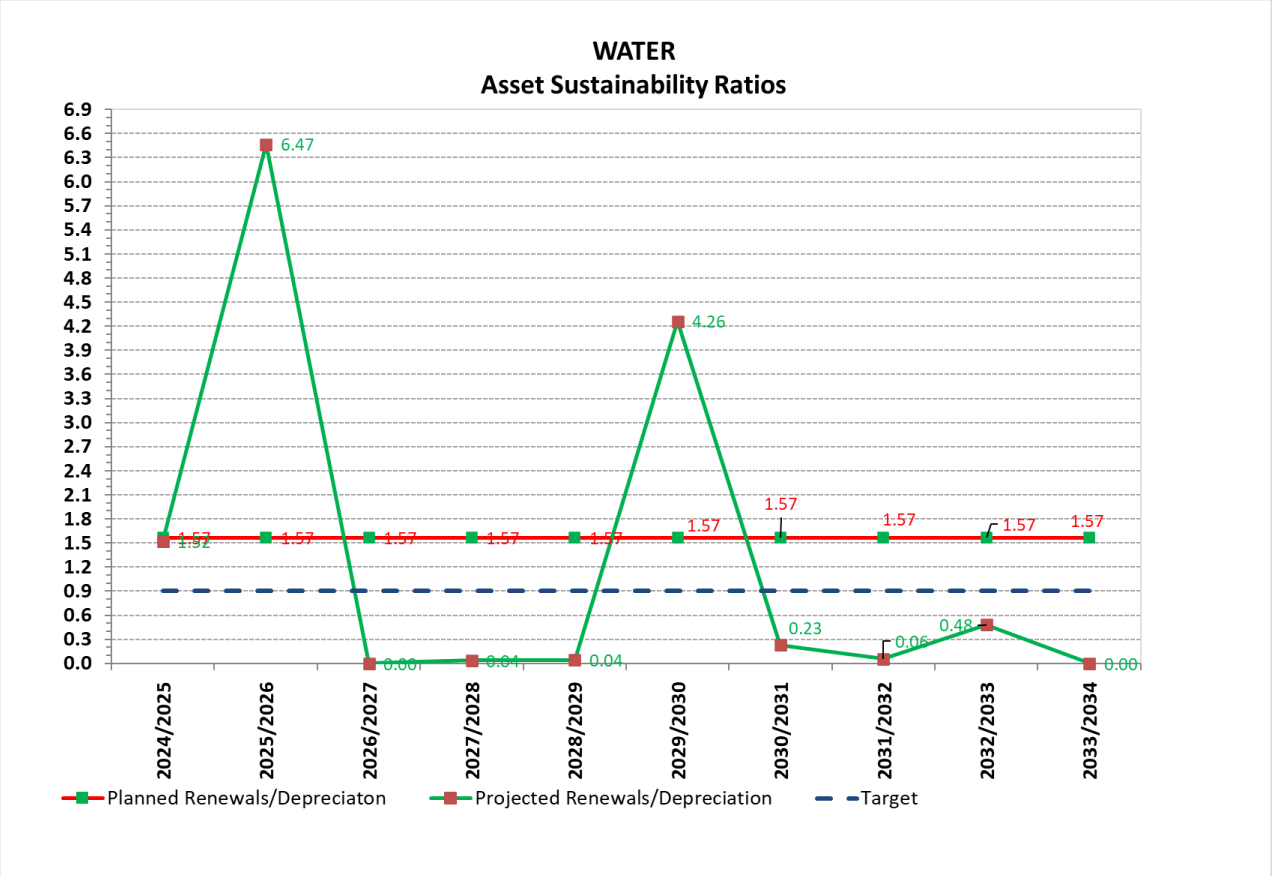

Figure 6 - Asset Sustainability Ratios

6.3 Cootamundra Component

6.3.1 Operations and Maintenance Expenditure (Opex)

Historical

3 years of historical maintenance and operations expenditure figures have been taken from Council's financial system and averaged for the purposes of financial modeling. Based on available data which has been reviewed by Councill staff the figures in table 13 represent the best available data for historical maintenance costs.

Table 14 - Historical Operations and Maintenance Costs (2022-2024)

Expenditure Type	$
Operations	$1,251,781
Maintenance	$194,107
Total OPEX (O & M)	$1,445,889

Future

For the purposing of this asset management plan the historical average has been used with no annual increase being applied, as well as the inclusion of additional operations and maintenance costs associated with new or upgraded assets.

6.3.2 Capital Expenditure (Capex)

Forward Works and Future Capital Program

Planned renewals total $ 6.5M for the 10 year period based on the forward works program shown in Table 14. Projected renewals total $ 8.5 M for the next 10-years to 2033 derived from valuations data for remaining useful lives. Thus, the average amount projected for renewals from valuations is approximately $850K per year (in current dollars).

Table 15 -Table 6.a: Planned 10 years Renewals

Program/Project	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
Passive Assets-Water Mains	$600,000	$600,000	$600,000	$600,000	$600,000	$600,000	$600,000	$600,000	$600,000	$600,000
Active Assets-Reservoir	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000

Figure 7 – Planned and Projected Renewal (and Depreciation)

6.4 Asset Sustainability Ratio

A financial measure of satisfactory levels of expenditure on asset replacements is the Asset Sustainability Ratio - the net capital expenditure on replacements as a percentage of the depreciation. It indicates whether the amount of replacement exceeds or is less than the amount of depreciation, that is, whether assets are being replaced at the rate they are wearing out. Although not a true reflection of the required long-term funding, depreciation does indicate the rate of consumption of assets. The New South Wales Audit Office sets a target for renewals that is equal to or greater than 90% of depreciation.

The current total annual depreciation is $270 k per annum. A 90% target equates to $ 243 k per annum. Projected renewals over the next 10 years average $ 858 k per year which indicates a significant shortfall. Planned renewals average $ 650 K per year which also indicates a significant shortfall. While on face value this ratio is below the target Council should consider the following:

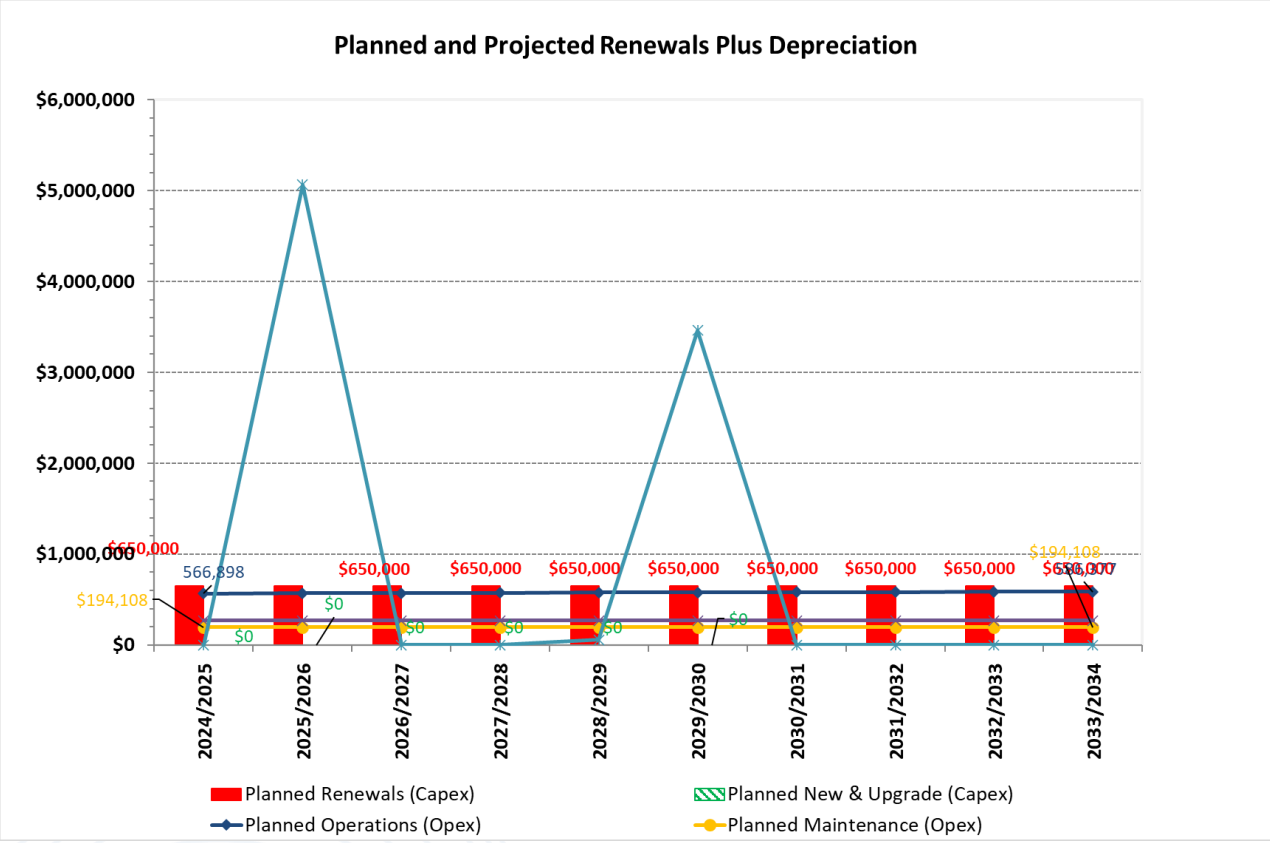

Figure 8 - Asset Sustainability Ratios

6.5 Gundagai Component

6.5.1 Operations and Maintenance Expenditure (Opex)

Historical

3 years of historical maintenance and operations expenditure figures have been taken from Council's financial system and averaged for the purposes of financial modeling. Based on available data which has been reviewed by Councill staff the figures in table 15 represent the best available data for historical maintenance costs.

Table 16 - Historical Operations and Maintenance Costs (2022-2024)

Expenditure Type	$
Operations	$337,133
Maintenance	$226,351
Total OPEX (O & M)	$563,484

Future

For the purposing of this asset management plan the historical average has been used with no annual increase being applied, as well as the inclusion of additional operations and maintenance costs associated with new or upgraded assets.

6.5.2 Capital Expenditure (Capex)

Forward Works and Future Capital Program

Planned renewals total $ 4.2M for the 10 year period based on the forward works program shown in Table 16. Projected renewals total $3.6 M for the next 10-years to 2033 derived from valuations data for remaining useful lives. Thus, the average amount projected for renewals from valuations is approximately $360K per year (in current dollars).

Table 17 - Planned 10 years Renewals

Program/Project	24/25	25/26	26/27	27/28	28/29	29/30	30/31	3/32	32/33	33/34
Passive Assets-Water Mains	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000
Active Assets-Water Treatment Plant	$50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Active Assets-Reservoir	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
Active Assets-Water Pump Station	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000

6.6 Asset Sustainability Ratio

A financial measure of satisfactory levels of expenditure on asset replacements is the Asset Sustainability Ratio - the net capital expenditure on replacements as a percentage of the depreciation. It indicates whether the amount of replacement exceeds or is less than the amount of depreciation, that is, whether assets are being replaced at the rate they are wearing out. Although not a true reflection of the required long-term funding, depreciation does indicate the rate of consumption of assets. The New South Wales Audit Office sets a target for renewals that is equal to or greater than 90% of depreciation.

The current total annual depreciation is $360K per annum. A 90% target equates to $ 324K per annum. Projected renewals over the next 10 years average $360K per year which indicates a slight shortfall. Planned renewals average $300K per year. While on face value this ratio is below the target Council should consider the following:

Undertaking a comprehensive condition assessment of the network, concentrating on assets that appear to be expiring soon.

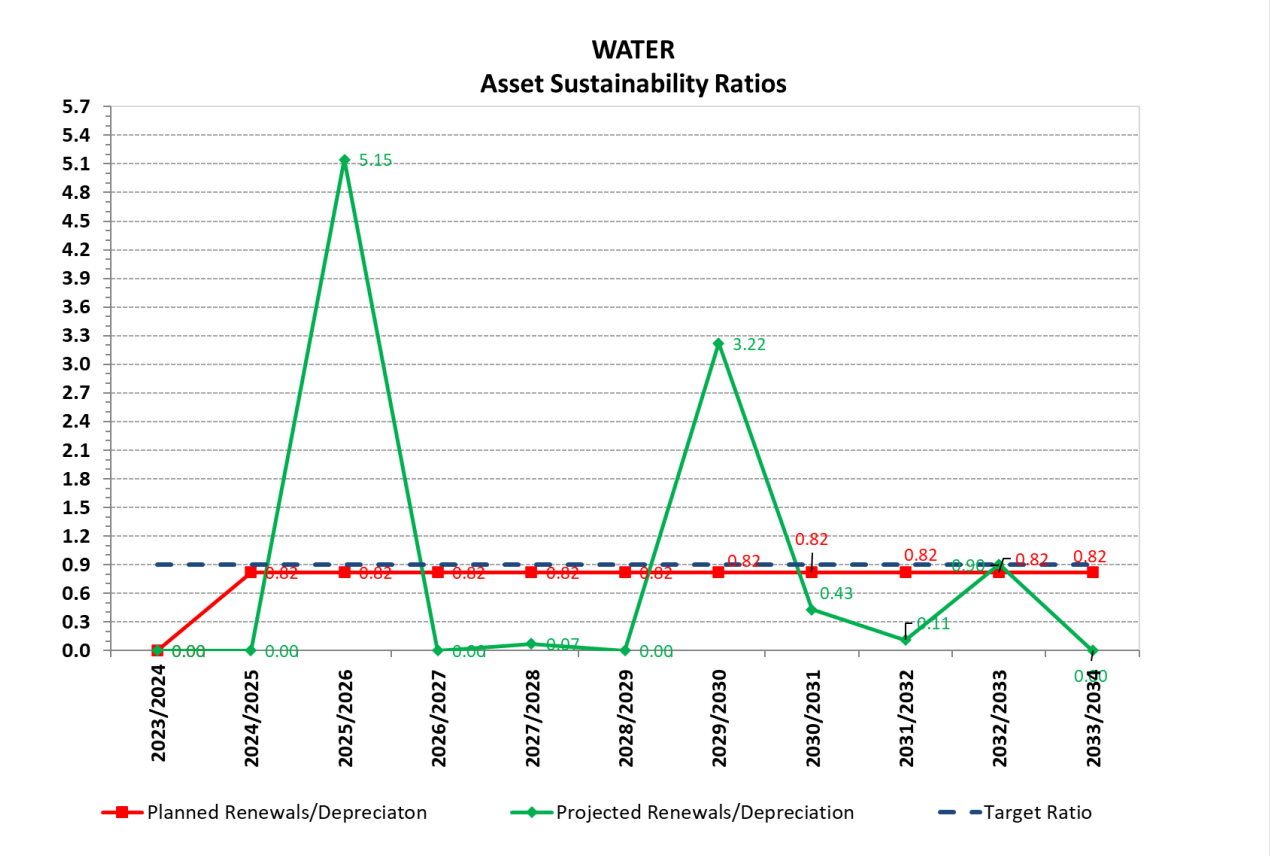

Figure 9 - Asset Sustainability Ratios

FINANCIAL SUMMARY

7.1 Summary Financial Projections

The Life Cycle Cost (LCC) shown in Figure 10 is the average projected cost to provide the service over the longest asset life cycle. It comprises required annual maintenance based on benchmarks and asset consumption expense, represented by depreciation expense. The average LCC over the forward 10 years to provide the Water Supply network is estimated at approximately $3.2M per annum.

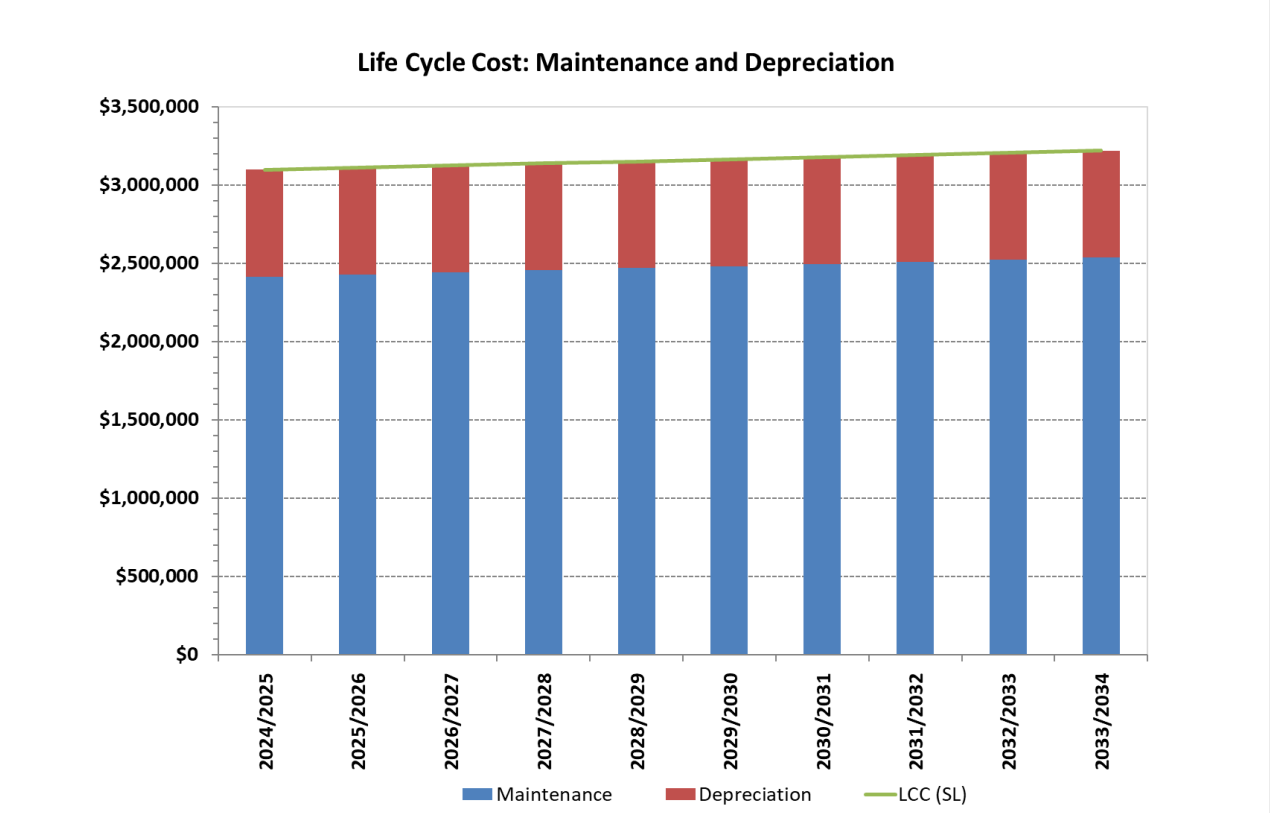

Figure 10 - Life Cycle Cost

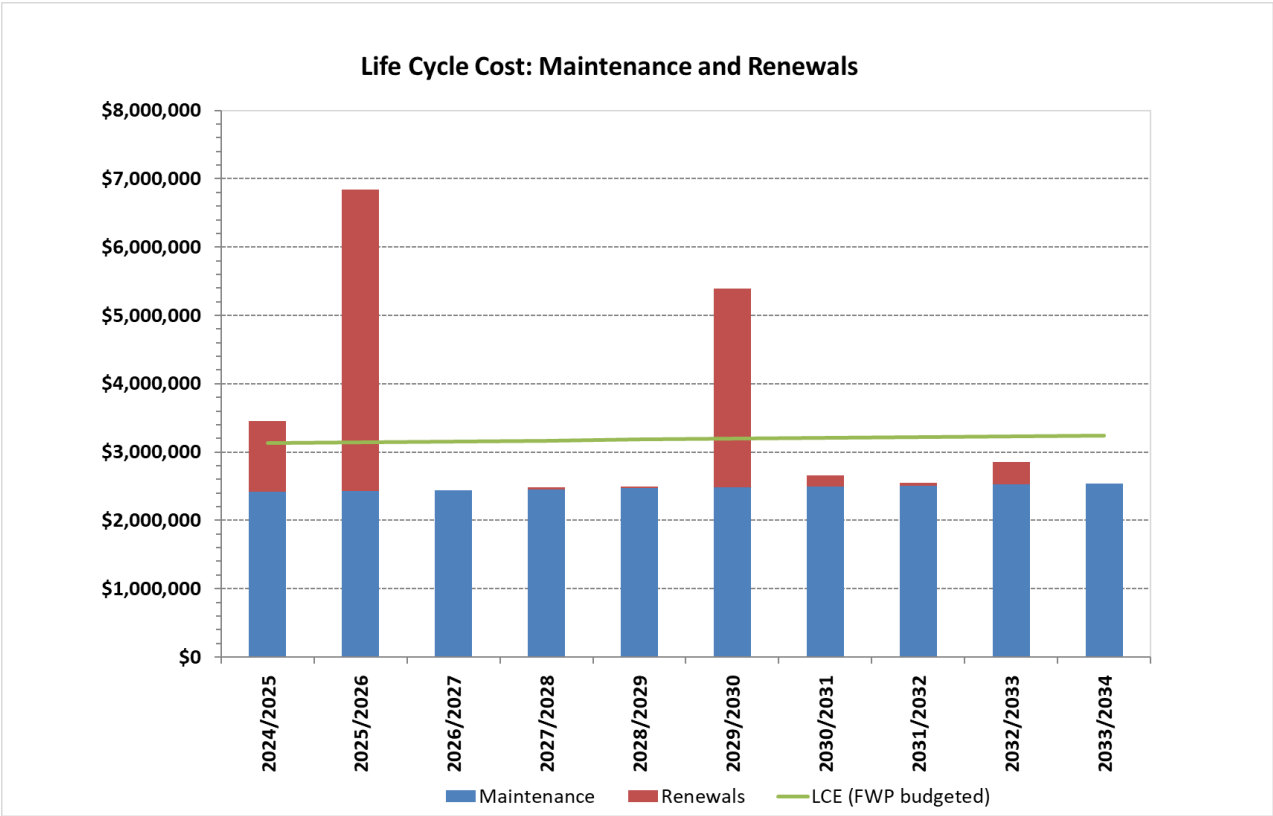

Figure 11 - Life Cycle Expenditure

7.2 Future Valuations

Over the next 10-years escalation in the cost of materials, labour and services will increase the value of Council's asset based and annual depreciation. Current escalation rates in the Water Supply class are relatively high as the class has assets that relate to both civil and building indices. Figure 11 shows projected asset valuations for the Water Supply class, to present a balanced forecast annual no indexation has been adopted.

Due to the size of Council's Water Supply network, the costs associated with the asset class are somewhat significant. With indexation, significant increases to the value of the asset class in future years which will increase the challenge to the fund depreciation expense associated with the class in the long term. This demonstrates the importance of ensuring upgrades to the Water Supply network will create significant benefit as the community will struggle to fund the Water Supply class in the long term.

7.3 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:

- Unplanned events such as natural disasters (such as flood),or vandalism impacting on the assets are not considered in the asset lifecycles;

- Information within the Water Supply register and values are based on current and available knowledge made available at the time of the AMP production;
- Maintenance and operations allocations are largely based on available budget levels, not based on asset condition data; and
- Depreciation has been calculated on a straight-line basis,
- Forward works budgets are accurate.

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

- Provision of a detailed 1-3 year forward work plan based on condition data obtained during condition inspections (Council should then consider extending the plan to 5-10 years however shifting from year to year budgeting to 1-3 year budgeting will take significant focus but is achievable);
- Ensure condition assessment data from Asset Inspector is used to progressively update data;
- Improved asset revaluation processes that incorporate operational information, increased focus on assets nearing end of life and industry benchmarks to better inform 10 year renewal plans;
- Full Implementation of a single Asset Register that is linked to the GIS; and
- Maintaining the Asset Register and GIS integrity, over time.
- Sharing of training and knowledge in relation to asset data collection, and maintenance is shared across the entire CGRC organization.

RISK MANAGEMENT

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

8.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 17. Failure modes may include physical failure, collapse or essential service interruption.

Table 18 - Critical Assets

Critical Asset(s)	Failure Mode	Impact
Treatment Plants	Equipment failure.	Loss of supply.
Reservoirs	Equipment Failure.	Loss of supply.
Trunk Water Mains	Mains Failure caused by age, damage by 3rd parties, floods.	Loss of Supply.
Bulk Water Availability	Failure River and/and Res. /Power interruption	Loss of Supply (half a day available)
Water Quality	Impacts from surround environments or external influences	Loss of access to water feeds.

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

8.2 Risk Assessment

The risk management process used is shown in Figure 12 below.

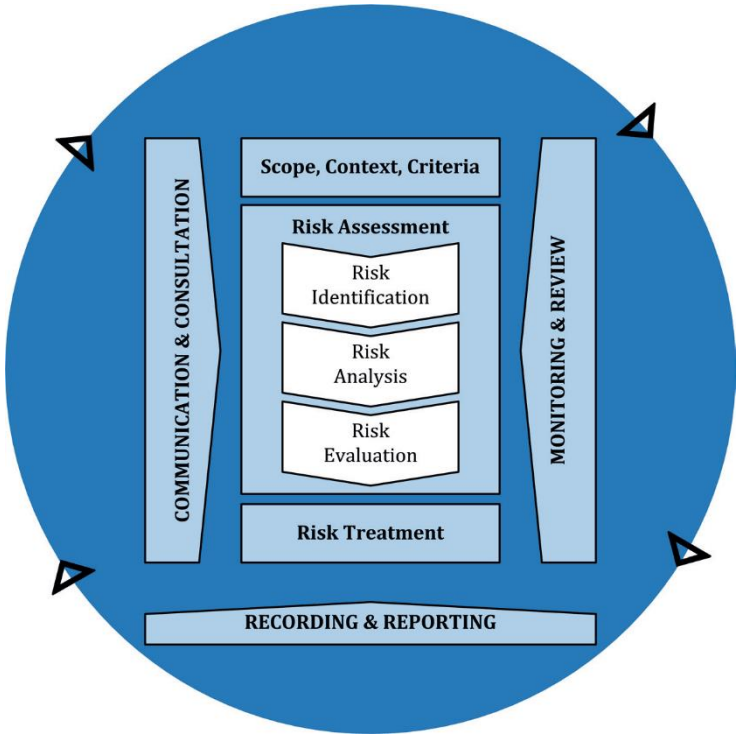

Figure 12 - *Risk Management Process (ISO 31000:2018)*

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected

treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the Western Downs Regional Council.

Table 19 - Risk Management

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *
Reticulation network	Main burst.	Almost certain	High	Prioritised action required.
Reticulation network	Water leakage from reticulated network.	Almost certain	High	Prioritised action required.
Trunk water mains	Mains Failure.	Almost certain	High	Immediate corrective action.
Treatment Plants	Water supply plant and equipment failures of leading to loss of water supply, or inability at access site in flooding events	Possible	Very High	Prioritised action required, to document management processes on actions to take in this event (including documented agreement with emergency personnel to support access of Council staff across floodwaters to plant.
Reservoir, including roof structure.	Unable to store or supply water.	All most certain	High	Prioritised action required.
SCADA	Loss of control and coordination of water supply system.	Possible	Medium	Planned action required.
potable ground water supply	Supply limited from bulk water operator (Golden Fields Council).	Possible	Medium	Planned action required, including documented management processes to be activated, if this was to occur.

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

IMPROVEMENT PROGRAM AND MONITORING

9.1 Improvement Program

Asset Improvement Plan is intended to provide improvements in the knowledge of our assets and their management. This plan will ensure that acceptable progress is made on improving asset management processes and procedures and that progress can be verified and quantified. This improvement plan should ensure asset management progresses at an acceptable pace and moves in the "right" direction - that is "improvement" is embedded in the process.

Focus areas for Water assets are related to better understanding the condition of assets so that renewals can be effectively planned into the future.

Figure 19 provides a list of improvements that Council should pursue in the Water asset class.

Table 20 -: Improvement Program

Task	Task	Responsibility	Resources Required	Timeline
1	Organisational decision and communication of 'one place of truth' for asset data storage and management.	Deputy General Manager - Operations	All Council staff	1/8/2025
2	Updated condition data to drive future works renewal program. Utilisation of this condition to verify the renewals required as real project (backbone of the renewal program)	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	1/7/26 Ongoing Budget timeframes (March each year)
3	Continued focus on the development of a comprehensive GIS system (and documented business processes and training of the system) of water assets should be a priority, across both operational bases of the Council (Cootamundra and Gundagai Offices). Checks on data accuracy to be undertaken in parallel. This is to include asset attributes, such as location, asset attributes and condition score. This data is to be collated through - Undertaking inspections of each water	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	1/7/2026

Task	Task	Responsibility	Resources Required	Timeline
	asset category. - Complete analysis of map data and audit asset date. - Ensure all infrastructure is captured and added into the GIS, when new assets are found or added into the water asset class. Note: Each asset is to be aligned to an operational base within the GIS asset attributes, to allow GIS data to be easily split, and broken into separate GIS data sets, should 'deamalgation' processes be activated.			
4	System to manage and collate data which captures completed works (including documented workflows, and As-Con/Asset Team/Finance Team completion process). Clarification of financial and non-financial asset process(based on thresholds).	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	1/7/2026
5	Defining ownership of various asset types (including clarification of budget allocations for each asset types).	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	31/12/2026
6	Clarification of each asset type including financial and non-financial assets with their inclusion into the Enterprise system.		Both Team Leads – Engineering Cootamundra and Engineering Gundagai	31/12/2026
7	Inspection system (condition) based on 3-year valuation process.	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	Ongoing

Task	Task	Responsibility	Resources Required	Timeline
8	Consistent work processes and procedures is key across both offices of the CGRC, especially in the event de-merging does not occur. The support of change management processes throughout the Council operations is warranted to ensure the amalgamated Council operates across the two distinct operational bases to obtain operational benefits through sharing information, knowledge and experience to further develop asset management culture within the organisation. The use of a Change Management support organisation should be considered, to support this activity across Councils organisational operational base.	Deputy General Manager - Operations	All Council Staff	1/5/2025
9	Identify and document existing operational strategies and practices Council uses to manage assets and deliver services.	Deputy General Manager - Operations	Both Team Leads – Engineering Cootamundra and Engineering Gundagai	1/9/2025

9.2 Monitoring and Review Procedures

This AM Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AM Plan will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The AM Plan has a maximum life of 5 years and is due for complete revision and updating in line with comprehensive revaluation cycles.

9.3 Performance Measures

No data on asset management performance measures was available at the time of preparation of this Asset Management Plan. Council should develop performance measures which can include:

- The degree to which the required forecast costs (and necessary cashflows) are incorporated into the long-term financial plan as identified within this AMP.
- The degree to which works as recommended by Councils 1-5 year detailed works programs, budgets, business plans and corporate structures are considered within this AM Plan,
- The incorporation of service levels, risks mitigation strategies and improvement tasks are incorporated into Councils Financial Planning processes and Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 – 100%).

REFERENCES

- IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMG.
- IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM.
- ISO 55000 Asset Management Standards, Australian Standards Board
- Accounting Standards, Australian Accounting Standards Board

SHEPHERD
asset management solutions

APPENDICES

APPENDIX A

Definitions

Appendix A: Definitions

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.
Asset Management Plan	A plan developed for the management of one or more infrastructure assets that combines multi-disciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost effective manner to provide specified level of service. A significant component of the plan is a long term cash flow projection for the activities.
Asset Renewal	Replacement or rehabilitation to original size and capacity of a road or drainage asset or the component of the asset. Renewals are "capitalised", so that the cost can be depreciated over the future life of the asset.
Core Asset Management	Asset management which relies primarily on the use of an asset register, maintenance management systems, job/resource management, condition assessment and defined levels of service, in order to establish alternate treatment options and long term cash flow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than risk analysis and optimised renewal decision making).
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.
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 Cost to give an initial indicator of life cycle sustainability.
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).
Performance Measure	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.
Reactive Maintenance	Unplanned repair work carried out in response to service requests and management/supervisory directions.
Scheduled Maintenance	Maintenance carried out in accordance with a routine maintenance schedule e.g. scheduled maintenance grading.
Planned Maintenance	Repair work that is identified and managed through the customer requests system (Dataworks). These activities include inspections, assessing the condition against failure/breakdown experience, prioritising, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.
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/ depreciable amount).
Reactive Maintenance	Unplanned repair work carried out in response to service requests & management / supervisory directions.
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.
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 (also useful life).
Renewal Expenditure	Major works which do not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential.
Upgrade/Expansion Expenditure	Work over and above restoring an asset to original service potential.

Useful Life (also economic 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.
New Assets	Activities that create a road or drainage asset that did not exist previously or extend an asset beyond its original size or capacity. New assets are also "capitalised", but they increase the asset base rather than restore its capacity to perform.

GPO Box 422, Brisbane Q 4001

P: (07) 4911 2716

E: info@shepherdservices.com.au

W: shepherdservices.com.au

Shepherd Services Pty Ltd ACN 611 140 946