MIDCOAST council

# ASSET MANAGEMENT PLAN

## Water Assets

## 2024

**Acknowledgement of Country**

We acknowledge the traditional custodians of the land on which we work and live, the Gathang-speaking people and pay our respects to all Aboriginal and Torres Strait Islander people who now reside in the MidCoast Council area. We extend our respect to Elders past and present, and to all future cultural-knowledge holders.

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# EXECUTIVE SUMMARY

# Executive Summary

### The Purpose of the Plan

MidCoast Council (Council) manage an extensive network of water infrastructure assets to provide water services to the population of the region's Local Government Area (LGA). This Asset Management Plan (AMP) provides the guiding objectives, strategies and programs of work to manage the water infrastructure in a prudent and cost-effective manner. This AMP aligns to the standards of both NAMS+ and the Institute of Asset Management (IAM), to ensure a good practice approach is maintained by Council across all of its asset classes.

### Asset Description

The water infrastructure in scope of this plan consists of five primary asset groups, which include potable water reticulation, reservoirs, dam, water treatment plants and pump stations. Collectively, the assets hold a total current cost of $909.7 million[1], in FY25 figures. The state of the portfolio at the time of developing this AMP is depicted in Figure 1, where the size of the bubble represents the replacement value of the asset group and the position along the curve represents the weighted useful life expired and condition of the assets.

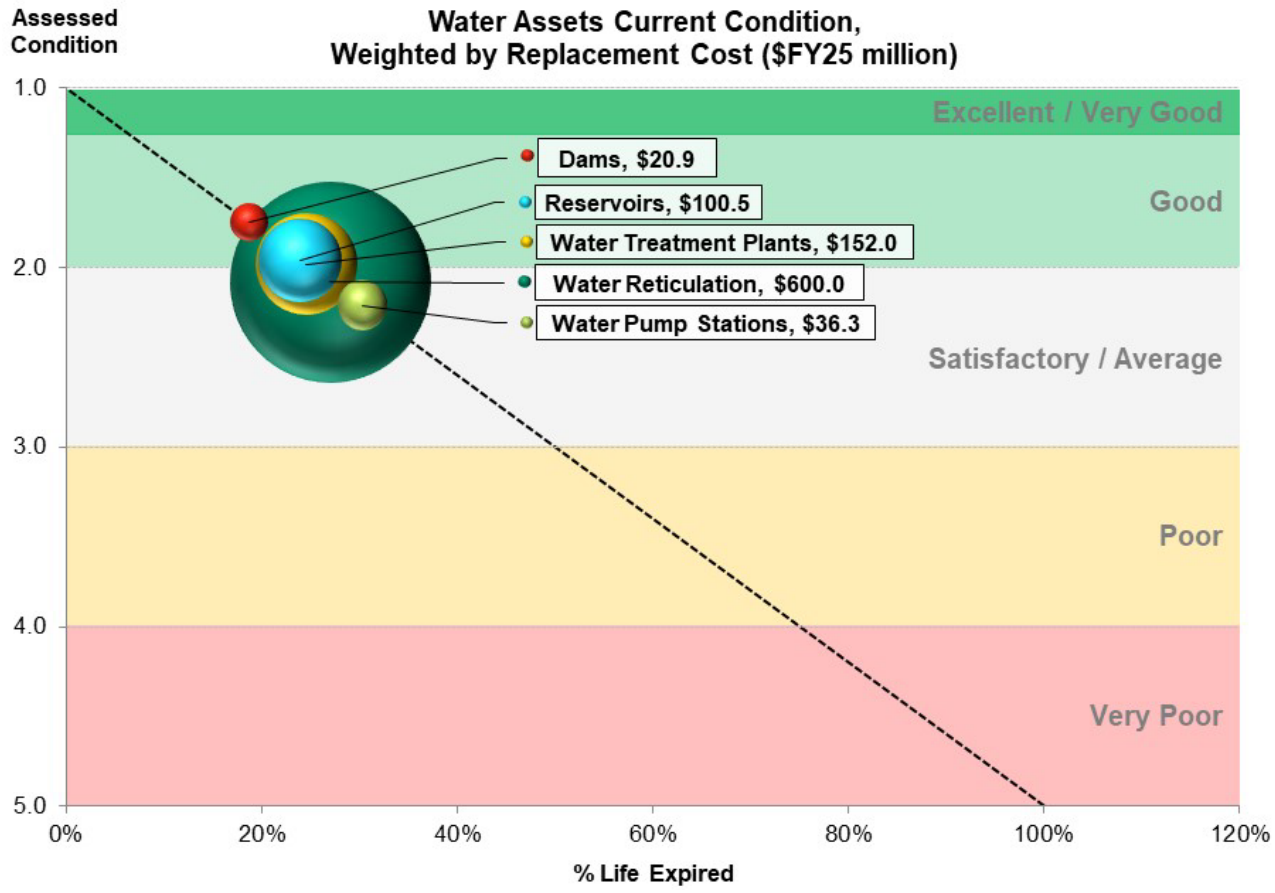


Figure 1 Water Assets Current Condition, Weighted by Replacement Cost

[1] Current cost (replacement cost) figure ($909.7 million) is sourced from Council's '2023-24 Water Assets' Register, for alignment with the capital modelling. This current cost figure is indexed to FY25 dollars by the current CPI rates as at the time of developing this AMP.

The dashed line presents the relationship between Council's condition ratings and the corresponding percentage of life expired for the assets. It does not represent the path of deterioration.

The bulk of the water assets are in a 'Good' condition state at roughly 25% through the assets expected life. This condition is acceptable, according to the IAM's consideration of prudent asset management, for managing the level of risk Council can tolerate for potential asset failure and can be managed through routine maintenance and capital planning. However, the MidCoast Council Asset Management Strategy[2], states that a condition state of 2 ('Good') is defined as satisfactory. As such, an initial investment into capital renewal is required to address an existing backlog and increase the weighted mean condition of the portfolio into a condition state of 2 ('Good').

**Levels of Service**

The water infrastructure under Council ownership and management, facilitates water services for a population of roughly 99,000 people. The level of service (LoS) expectations for all stakeholders of these assets have been defined through consultation with both internal and external representatives of Council, and refined during development of this AMP. Detailed service levels are provided in this report and include the following categories for customer expectations:

- Quantity
- Supply of service
- Responsiveness
- System reliability
- Customer satisfaction
- Asset reliability
- Compliance
- Safety
- Environmental
- System capacity

[2] MidCoast Council, Asset Management Strategy 2022-2032

## Financial Summary

Council operates with constrained budgets across each of its asset classes and apply a risk-based approach to prioritising works (Section 5.2.1). The budget which has informed the schedule of works (Scenario 2) in this AMP has been informed by Council's 30-year planned capital projections[3]. Figure 2 presents the 10-year projection of capital expenditure with a total spend over the period of $101 million, in FY25 dollars.

The solid line represents the weighted mean condition of the water portfolio in a scenario without capital expenditure, whereas the dashed line represents the weighted condition of the portfolio in a scenario where the capital expenditure equals what is shown by the column values.

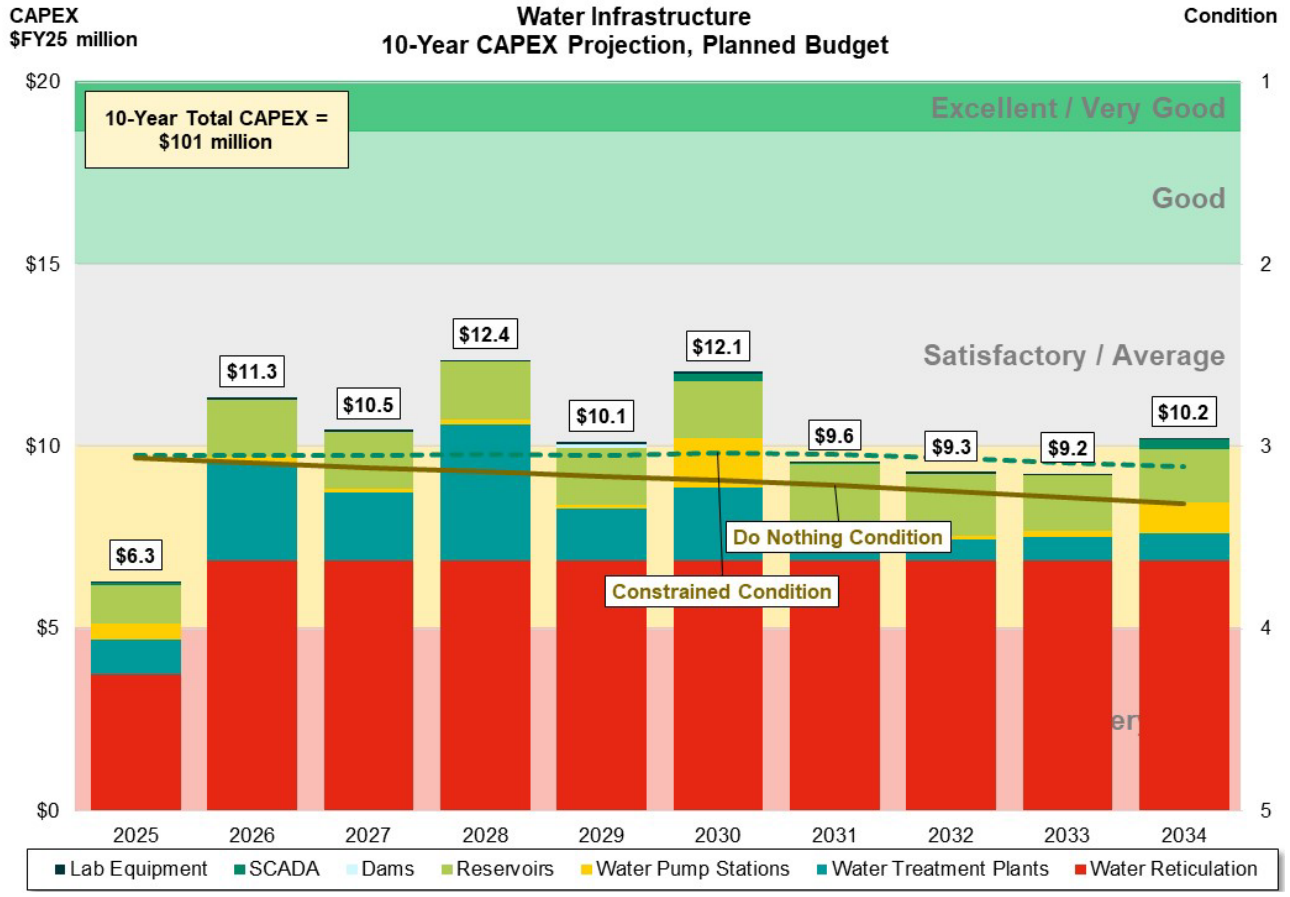


Figure 2 10-Year CAPEX Projection, Planned Budget

Following the planned budget constraints, the weighted mean condition state of the water portfolio is expected to sustain a condition slightly below 'Satisfactory'. The 'Satisfactory' condition (rating of 3) represents the highest acceptable level of risk the assets may take on for the potential of failure. Any additional constraints to delivering capital works, beyond the planned budgets used in this funding scenario, would result in the assets steady decline towards a poor condition state, at which point Council would be taking on excessive risk to delivery of its essential water services. This is assuming that works captured in this scenario are able to be completed as and when scheduled.

[3] 30-Year CAPEX Projects, October 2024

This AMP provides additional funding strategies to illustrate the impact that various amounts of funding would have on the mean weighted condition of the portfolio. Figure 3 shows the four funding scenarios considered in this AMP. Section 6.3.6 details the impact of each scenario and the lifecycle assumptions which form the basis of each level of required funding.

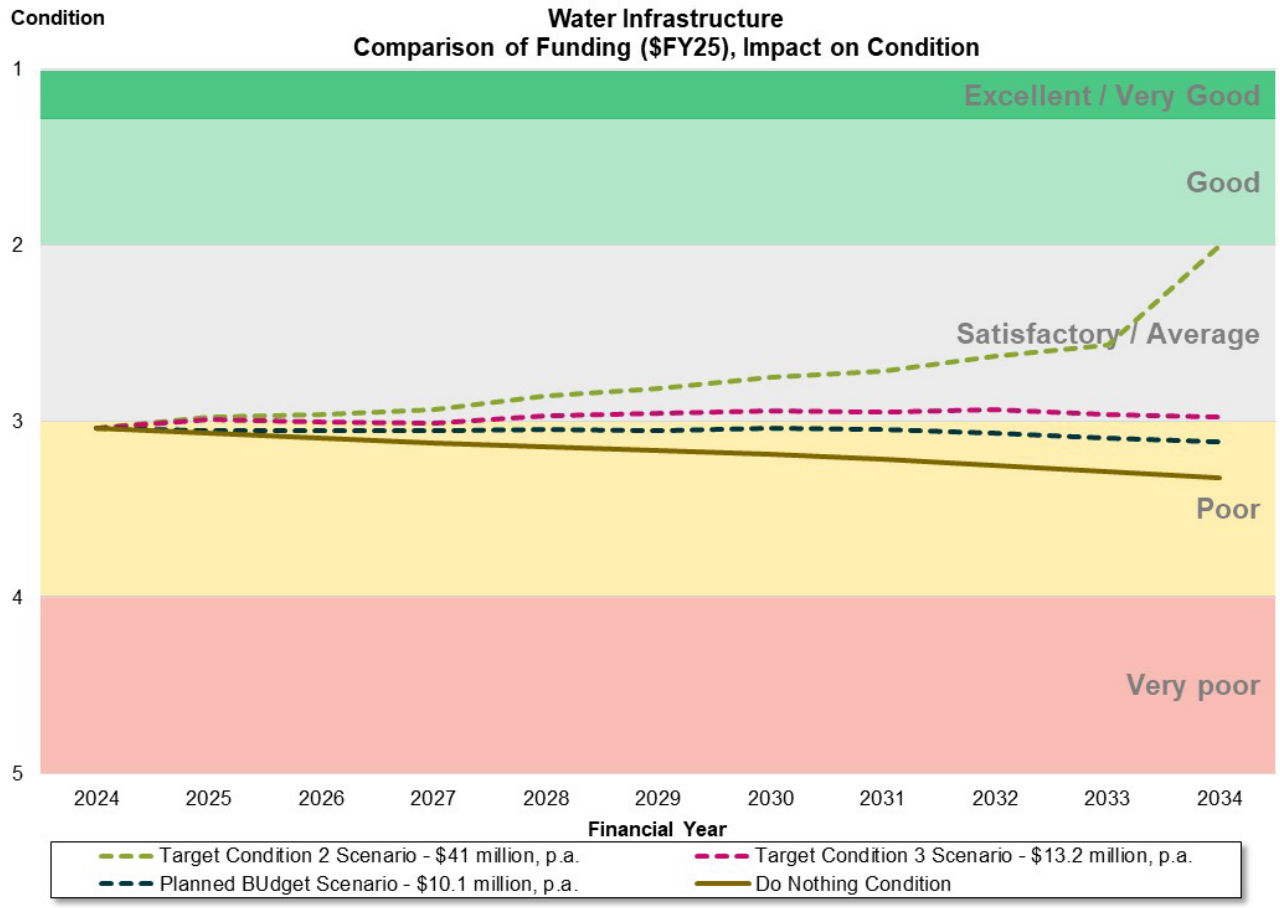


Figure 3 Comparison of Funding, Impact on Condition

## Maintenance

Maintenance for the water assets has been projected over the next 10-years by indexing historic values to FY25 figures, assuming planned and unplanned maintenance will remain consistent. Figure 4 shows values as nominal figures in thousands, separated by asset group. New maintenance requirements are sourced projections from the 30-year planned capital budgets.

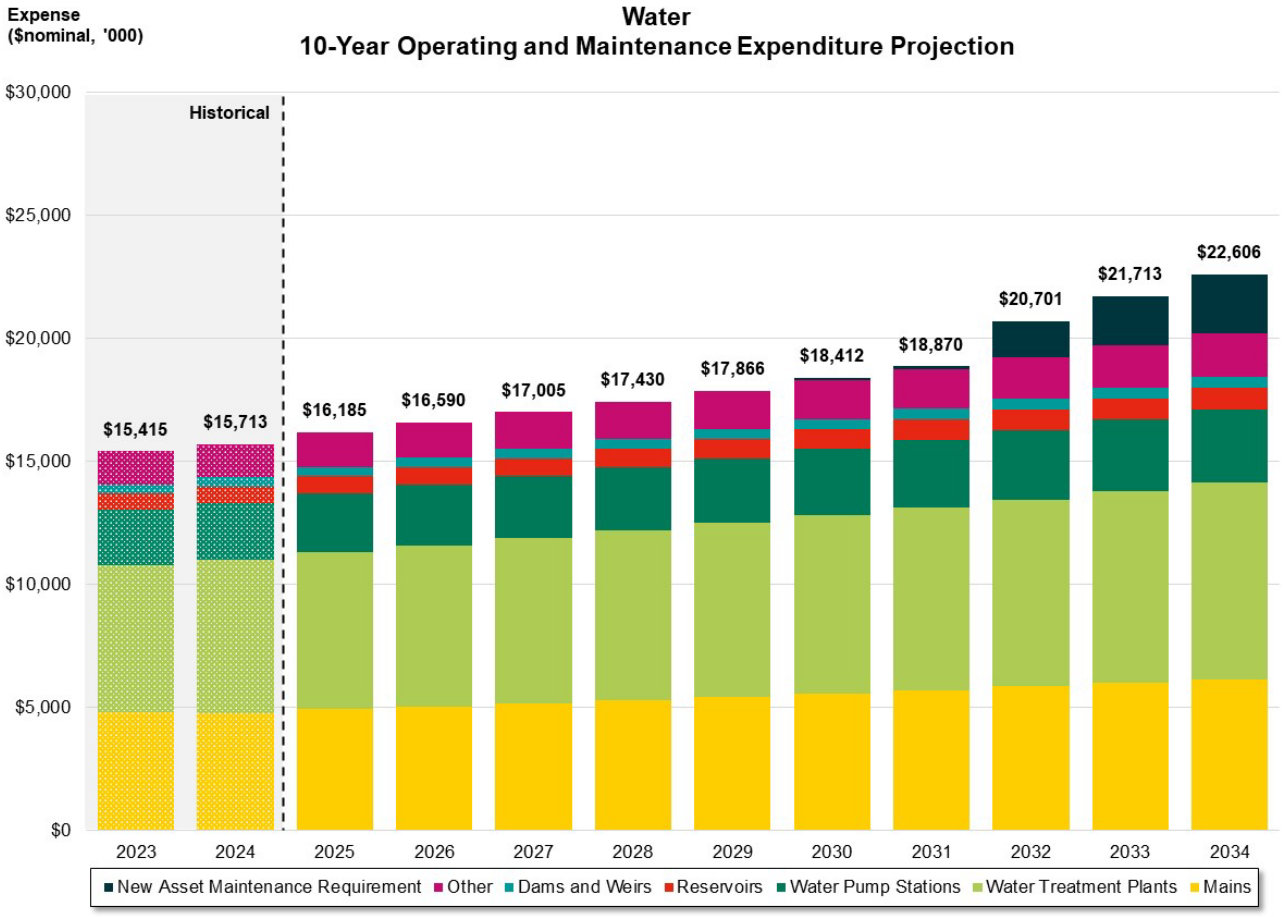


Figure 4 10-Year Operating and Maintenance Projection, by Asset Group

Section 6.4 of this AMP provides operating and maintenance expenditure benchmarks against a selection of comparable regional Councils[4].

Section 6.3.4 presents the Infrastructure Asset Performance Indicators, as a reporting requirement of Council. The maintenance ratio reported in this AMP considers both 'actual' maintenance values sourced from the FY24 Water Supply Income Statements (FDR), and 'required' maintenance values sourced from the Asset Management Strategy (Draft) produced by Morrison Low.

This maintenance ratio presents different values to that provided in the Asset Management Strategy as it considers both operational and maintenance expenditure benchmarked to the National Performance Reporting (Bureau of Meteorology) 2022-23 (NPR).

The approach taken for developing this AMP remains consistent across both Water and Sewer portfolios.

[4] Benchmark figures provided in this AMP are sourced from the Australian Government Bureau of Meteorology, Urban NPR 2022-23 Complete Dataset

### Managing the Risks

Risk management for the water infrastructure is assessed in accordance with the MidCoast Council Risk Management Framework. For the development of this AMP, Council has completed several internal workshops to assess risk across the various facilities in the water portfolio. As a result of these workshops, several significant risks have been identified and presented in Table 1. Significant asset related risks are considered those with a residual risk rating of High or greater.

Table 1 Significant Asset Specific Risks

| Risk Category | Risk Description | Residual Risk Rating |
|---|---|---|
| Asset/Facility Failure | BO WTP 01 – Water Treatment Plant | **High – 12** |
| Asset/Facility Failure | GL WTP 01 – Gloucester Water Plant | **High – 12** |

Further asset operational risks are captured in this AMP with a full risk register provided in Appendix D.

### Monitoring and Improvement Program

The actions captured in Table 2 are recommended for Council to develop and implement over the suggested timing to improve its maturity and capabilities in asset management. These improvement actions surmise the key improvement activities, identified throughout the development of this AMP, recommended to occur over the next 3-years. A full schedule of improvement opportunities is detailed in Table 26.

Table 2 Key Continuous Improvement Actions

| Improvement Area | Description | Timing |
|---|---|---|
| Delivery of works | There may be opportunities to package works to reduce the overall cost of delivery. Creating work packages will reduce the upfront supplier cost. | Ongoing |
| Asset failure data | MidCoast Council should seek to record asset failure data to better inform its ability to predict future failure (this is achieved through Weibull Curve plotting for major asset classes – a method which applies the Weibull mathematical calculation for predictive future failure based on historical intervals). Further failure data, such as type of failure, component which failed, timing since last failure, etc. would improve predictive ability and better enable a clear linking of quantitative levels of service to asset life. | Ongoing |
| Technical Levels of Service | Development of this AMP identified a number of existing performance measures which do not align with the capabilities and capacity of current Council. These KPI's require updating to provide achievable targets which management and relevant staff can work towards attaining.<br>KPI's should constantly be reviewed and adjusted to reflect the current operational capacity and capabilities of Council. | Within 1-Year |

| Improvement Area | Description | Timing |
|---|---|---|
| Condition standard | Council has defined its target (satisfactory) condition state for all asset classes to be at a rating of 2. While this condition rating would effectively allow the assets to meet their service expectations and eliminate most risks of potential asset failure, it is considered excessive and unrealistic for the water and sewer assets.<br><br>Due to the nature of this asset class, primarily being buried, non-public facing or used infrastructure, the water infrastructure can sufficiently provide all service requirements and maintain a tolerable degree of risk, according to Council's Risk Management Framework, when sustained at a condition rating of 3.<br><br>For this reason, it would be considered more prudent and cost effective for Council to reassess its objective condition ratings across each asset class.<br><br>Council are to engage with the community for consultation and feedback on the potential change to its Condition Standards. | Within 1-Year |
| Operational Asset Management Plans | Council is to prepare operationally focussed asset management plans to enable to efficient delivery of works, and provide line of sight between the organisational objectives, asset management plans and operational activities required of the assets. | Within 1-Year |
| Asset hierarchy | Hierarchical structuring of asset information is necessary for Council to categorise, analyse and report on not only its Water assets but all asset classes within the organisation. Ongoing development of the current asset hierarchy is underway and further improvements and standardisation of this information shall be completed over the suggested time period. | Within 2-Years |
| Criticality | At the time of development for this AMP, criticality has been assessed at the facility level across the major asset groups. Council is to continue to assess criticality at the more granular asset category and sub-category levels, to improve prioritisation across the schedule of works. | Within 2-Years |
| Maintenance Strategy | Development of a Maintenance Strategy to detail the planned maintenance requirements for each of the tasks listed in this AMP. Inclusive of detailed tasks, number of impacted assets, resource requirements, timing and delivery methods. | Within 2-3 Years |
| OPEX benchmarking | A detailed benchmarking exercise for the operational and maintenance expenditure of other water utilities and regional councils of comparative size, would prove beneficial for understanding current and expected expenditure. Benchmarking would consider a selection of organisations, and analyse the annual expenditure levels across operational expenses, planned and unplanned maintenance for both water and sewerage utilities. The results of this exercise would inform future iterations of this AMP and the Strategic Business Plan. | Within 3-Years |

| Improvement Area | Description | Timing |
|---|---|---|
| Buildings | The buildings associated with water assets are currently included in both this AMP and the Buildings AMP. The information contained within this AMP should be consolidated into the Buildings AMP when the maturity of the data contained within that AMP is sufficient. | Within 3-Years |
| Roads | The roads associated with sewer assets require recognition in their respective transport asset planning documentation. | Within 3-Years |
| Asset management maturity | Council identifies the objective of achieving a core level of asset management maturity by 2023 in its Asset Management Strategy 2022-32. Council should reassess its maturity following the completion of this AMP to review performance of this targeted KPI, and update this AMP accordingly. | Within 3-Years |

This AMP is to be updated every 4-years (or to align with the Integrated Planning and Reporting timeframes) to ensure currency and accuracy of asset data and information which has been used to create the programs of works across planned and unplanned maintenance.

# INTRODUCTION

# 1.0 Introduction

This section outlines the background, objectives, and function of the water system owned and managed by MidCoast Council (Council). It includes a summary of the assets that enable the services provided by Council.

## 1.1 Background

MidCoast Council was formed in 2016 through an amalgamation of several regional councils and a water utility. The Council's local government area (LGA) covers a geographical footprint of over 10,000 km$^2$, with a current population of roughly 99,000 residents. Council owns and operates a portfolio of over $5.80 billion[5] worth of infrastructure, of which roughly $909.7 million (FY25) is made up by the water infrastructure assets.

To effectively supply water throughout the region, Council manages six water schemes across the network, which are shown in Figure 5.


Figure 5 Map of Water Scheme Network

[5] MidCoast Council, Financial Statement 2023-24

The water network includes 1,200 km of pipeline, six Water Treatment Plants (WTP), two bore fields, 45 reservoirs and 25 Water Pump Stations (WPS)[6] . These supply systems service over 90% of the region's population including roughly 42,000 households and businesses. The summary of the properties serviced by this network is provided in Table 3.

Table 3 Summary of Water Schemes

| Water Supply Scheme | Total Property Connections | % of Total Connections |
|---|---|---|
| Manning | 35,000 | 85.5% |
| Tea Gardens | 3,000 | 7.3% |
| Gloucester | 1800 | 4.4% |
| Bulahdelah | 600 | 1.5% |
| Stroud | 500 | 1.2% |
| North Karuah | 40 | 0.1% |

## 1.2 Goals and objectives of asset ownership

Council is committed to managing its infrastructure assets in a manner that is sustainable, cost effective and is informed by defined service levels and performance standards. This is to ensure Council meets service expectations and provides quality service to the community. To achieve this, Council has outlined key objectives in its Asset Management Strategy, which include:

- Ensuring compliance with relevant legislation and regulatory requirements and consideration of social, political and economic environments in management of Council's assets.
- Implementation of systematic asset management and good practice to be consistent across Council's asset portfolio.
- Ensuring plans are informed by community consultation, technical stakeholders, financial planning and reporting.
- Ensuring defined services levels are developed and future service levels are informed by engagement and consultation with the community.
- Development of programs for each asset class to include routine inspections, maintenance and repairs that are carried out to meet agreed service levels and identify asset renewal priorities.
- Ensure renewal plans are informed by service levels, risk and asset condition.
- Maintaining future lifecycle costs reporting and ensure consideration in all decisions pertaining to new services and assets as well as upgrading existing services and assets.
- Ensuring operational capabilities and resources are available when necessary and AM responsibilities are appropriately assigned.

[6] Midcoast.nsw.gov.au, Water and sewer services – Water supplies

This AMP is intended to provide a roadmap for making informed decision-making in line with these objectives and is developed in accordance with NAMS+ and ISO55001:2024 standards. This is to ensure a prudent approach to asset management is achieved across Council's entire portfolio of assets.

## 1.3 Water services overview

### 1.3.1 Description of services

The water network provides a service to the region, which is facilitated through key infrastructure systems and processes. Table 4 provides a summary of the systems that supply water throughout the network.

Table 4 Service Descriptions

| Asset System | Service Description |
|---|---|
| On-river storages | Council manages on-stream storage weirs at Bulahdelah, which sources water from Crawford River and Stroud, which extracts water from Karuah River. |
| Off-river storages | Council manages and monitors Bootawa Dam that extracts water from Manning River. The dam serves as an off-river storage system and is used to facilitate water quality management and currently supplies water to the majority of the Council's region. |
| Bores | Council uses groundwater sources as the primary supply of water to Tea Gardens and Hawks Nest. The water is extracted from an aquifer borefield and is treated at Tea Gardens WTP. |
| River extraction systems | Council utilises extraction systems to supply treated water to local reservoirs in Gloucester, Stroud and Bulahdelah areas. |
| Water treatment plants (WTP) | Council operates six WTP including Bootawa, Bulahdelah, Stroud, Tea Gardens, Gloucester and Nabiac. Bootawa is the major WTP that treats water extracted from Manning River and pumps treated water to reservoirs in Manning and Great Lakes for distribution to households. This WTP forms part of the supply scheme that services over 80% of Council's customers. |
| Reservoirs | Council manages various reservoirs within the network of supply, with the major reservoirs being Manning and Great Lakes. The water stored in these reservoirs supply water directly to homes and businesses. Water which is supplied to approximately 40 properties in North Karuah is sourced from Hunter Water, however distributed via the Karuah Reservoir. |
| Water pump stations | Council operates pump stations across the water network that support distribution of water to households and businesses. |
| Water mains (distribution and reticulation) | The mains infrastructure distribute water from the WTP to the reservoirs and facilitate potable water delivery through the network of pipes to households. |
| Water valves and hydrants | Council operates approximately 7,500 valves and 10,000 hydrants. These assets are incorporated along the distribution and reticulation networks. |

| Asset System | Service Description |
| --- | --- |
| Water meters and services | Council is responsible for managing the customer water meters and connection services for customers. This also includes monitoring of water use and services as outlined in Council's Customer Service Charter. |

### 1.3.2 Asset summary

The assets included in this AMP are summarised in Figure 6. The hierarchy provides a method of categorisation, against which the criticality, risk, life expectancy and condition of the assets can best be allocated at varying levels of granularity. The water asset hierarchy consists of six levels of categorisation, with the first three depicted in the figure below.

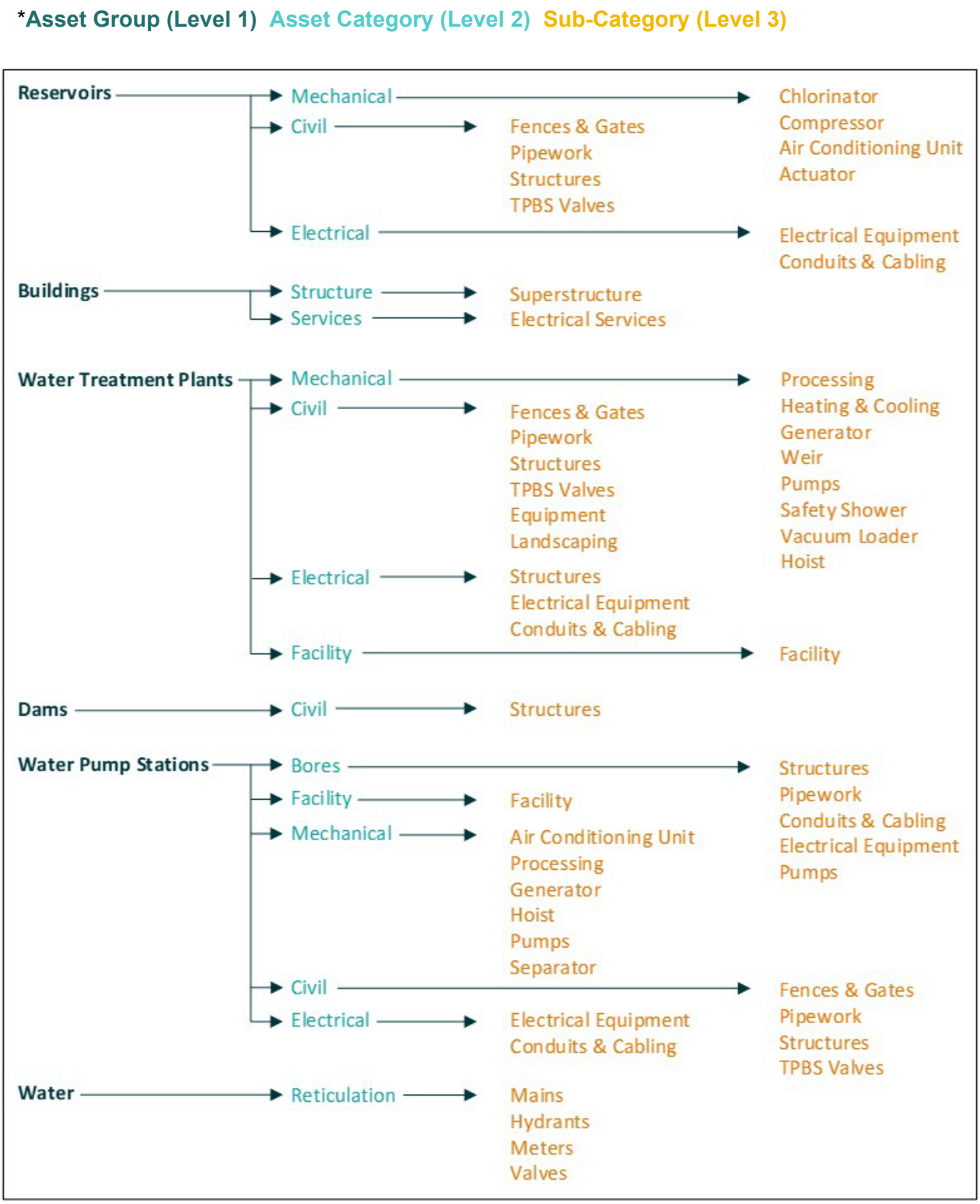


Figure 6 Asset Hierarchy

Furthermore, classifying the water assets in this hierarchy allows future use of the asset data to be efficiently located despite the extensive scale of the database and granularity of data available for these assets.

### 1.3.3 Portfolio valuation

The assets considered within the water asset class for Council has a total current cost of approximately $909.7 million, in FY25 dollars. The figures provided in Table 5 have been sourced from the Council's asset register[7] and expressed in thousands.

Table 5 Asset Replacement Valuation

| Asset Classification Type | Asset Sub-Class | Current Asset Cost ($FY25, '000) |
|---|---|---|
| **Facilities** | Facility | $1,450 |
| **Network** | Water | $600,037 |
| **Treatment Processing & Bulk Storage** | Civil | $216,683 |
| | Mechanical | $40,035 |
| | Electrical | $51,544 |
| **Grand Total** | | **$909,748** |

#### 1.3.3.1 Buildings

All buildings associated with the water assets are operated and maintained as part of the water assets portfolio. Consequently, any capital costs associated with these buildings are included in this AMP. These assets are also considered in Council's Buildings AMP to ensure consistency of management principles, but their costs are specifically reflected in this AMP.

[7] Councils 2023-24 Water Assets

# LEVELS OF SERVICE

# 2.0 Levels of Service

This section defines the service level expectations of the Council from its stakeholders, the strategic goals that underpin the management of water supply assets, and the regulatory requirements that operations and management of these assets must adhere to.

Levels of service establish a standard of performance for an organisation to deliver, through the provision of its services which are facilitated by the assets. Assets are then managed in a cost effective and prudent manner to ensure risks are suitably managed.

## 2.1 Customer research and expectations

### 2.1.1 Research and customer feedback

The Council utilised an external research provider to facilitate and ascertain community feedback regarding the provision of services in March 2020. The results of the research are documented in the Community Satisfaction & CSP Research[8] report. Water quality outperformed most other services provided by Council, meeting customer satisfaction levels.

The report indicates customer satisfaction levels for water quality of approximately 89%. Furthermore, water quality was captured among the top five most important services and/or facilities provided by Council. The results of this research, while dated over three years prior to the development of this AMP, supports the importance of clearly defined service levels and expectations for Council's water assets.

The levels of service for Council's water assets have largely been informed by the IWCM[9]. Community consultation, as indicated in Figure 11 of the Strategy[10]. This has involved numerous community workshops, engagement activities through youth and school programs, and strategic reviews with regulators and specialists.

### 2.1.2 Stakeholder expectations

Council has several stakeholders with varying levels of interest and investment. The stakeholders' service expectations are provided in Table 6, for the assets in scope of this AMP. These have been informed by both internal and external consultation.

[8] MidCoast Council, Community Satisfaction & CSP Research, 2020
[9] Our Water Our Future 2050, Integrated Water Cycle Management Strategy, MidCoast Council
[10] Our Water Our Future 2050, Integrated Water Cycle Management Strategy, Figure 11: Our community engagement

Table 6 Stakeholder Expectations

| Stakeholder | Stakeholder expectations |
|---|---|
| Customers / Rate payers | • Supply of service – water is supplied seamlessly with minimal disruptions.<br>• Quality – water is safe and clean for use.<br>• Quantity – water services are available as and when needed.<br>• Responsiveness – enquiries are promptly responded to.<br>• System reliability – minimal disruptions to water services are incurred.<br>• Asset reliability – assets function as intended.<br>• Customer satisfaction – the needs and expectations of customers are maintained.<br>• Compliance – assets comply with all relevant legislation and regulatory requirements.<br>• Environment – assets are managed in an environmentally responsible manner. |
| MidCoast Council (Leadership) | • Quantity – supply of water sufficiently meets the needs of stakeholders.<br>• Quality – water supplied is safe, clean, and meets regulatory requirements.<br>• Customer satisfaction – the needs and expectations of customers are maintained.<br>• Compliance – assets comply with all relevant legislation and regulatory requirements. |
| Department of Planning and Environment (DPE) | • Quantity – water services are available as and when needed.<br>• Quality – water supplied is safe, clean, and meets regulatory requirements.<br>• Compliance – assets comply with all relevant legislation and regulatory requirements.<br>• Environment – assets are managed in accordance with relevant environment standards and Council's sustainability targets.<br>• System capacity – water system satisfies current demand and considers future demand. |
| External Contractors | • Safety – assets are safe to use and maintain.<br>• Asset reliability – assets function as intended. |

| Stakeholder | Stakeholder expectations |
|---|---|
| Water Operations and Maintenance Team | • Supply of service – water services are available as and when needed.<br>• Responsiveness – enquiries are responded to promptly<br>• System reliability – the system provides dependable and continuous services.<br>• Asset reliability – assets function as intended.<br>• Safety – assets are safe to use and maintain.<br>• Customer satisfaction – ability to meet the needs and expectations of its stakeholders.<br>• Compliance – assets comply with all relevant legislation and regulatory requirements.<br>• Environment – assets are managed in accordance with relevant environment standards and Council's sustainability targets.<br>• System capacity – water system satisfies current demand and considers future demand. |
| Planning and Assets | • Asset reliability – assets function as intended.<br>• Compliance – assets comply with all relevant legislation and regulatory requirements.<br>• Environment – assets are managed in accordance with relevant environment standards and Council's sustainability targets.<br>• System capacity – ability to meet the current and future water demand. |
| Capital Delivery | • Compliance – assets comply with all relevant legislation and regulatory requirements.<br>• Environment – assets are managed in accordance with relevant environment standards and Council's sustainability targets.<br>• System capacity – water system satisfies current demand and considers future demand.<br>• System reliability – the system provides dependable and continuous services.<br>• Asset reliability – assets function as intended.<br>• Supply of service – continuous reliability and availability of the water utility and infrastructure providing the service.<br>• Responsiveness – timely response to stakeholders needs, concerns, and issues promptly and efficiently. |

| Stakeholder | Stakeholder expectations |
|---|---|
| Water Management and Treatment | • Compliance – assets comply with all relevant legislation and regulatory requirements.<br>• Environment – assets are managed in accordance with relevant environment standards and Council's sustainability targets.<br>• System capacity – water system satisfies current demand and considers future demand.<br>• System reliability – the system provides dependable and continuous services.<br>• Asset reliability – assets function as intended.<br>• Supply of service – continuous reliability and availability of the water utility and infrastructure providing the service.<br>• Responsiveness – timely response to stakeholders needs, concerns, and issues promptly and efficiently. |
| Regulators | • Compliance –assets comply with all relevant legislation and regulatory requirements.<br>• Quantity – water services are available as and when needed.<br>• Quality – water supplied is safe, clean, and meets regulatory requirements.<br>• System reliability – the system provides dependable and continuous services.<br>• Asset reliability – assets function as intended. |
| NSW Fire and Rescue | • Safety – assets are safe to use and maintain. |
| Energy Authority | • Safety – assets are safe to use and maintain. |
| Customer Services | • Customer satisfaction – services provided by the assets meet the needs and expectations of its stakeholders.<br>• Asset reliability – assets are maintained at an acceptable level in order to provide quality and uninterrupted services.<br>• Responsiveness – enquiries are responded to promptly. |
| Public | • Safety – assets are safe to use and maintain. |

## 2.2 Strategic and corporate goals

Council's objectives in the management of its water supply assets are described in the Asset Management Strategy[11]. The key objectives include:

1. Protection of public health
2. Protection of the environment
3. Maintain service availability
4. Operate in a financially sustainable manner

The Council also sets out its community objectives in the Community Strategic Plan[12], which outlines the community expectations of Council along with identified strategies to achieve these goals.

## 2.3 Legislative requirements

There are several key legislative requirements that must be considered in the management of Council's water supply assets. Management of the assets, including maintenance activities and future acquisition of new assets, is done so in accordance with:

- Australian Drinking Water Quality Guidelines 2011
- Environment Protection Act 1994
- NSW Local Government Act 1993
- NSW Best-practice management of Water Supply and Sewerage Guidelines, 2007
- Plumbing and Drainage Act 2011
- Public Health Act 2010
- Water Management Act 2000
- Work Health and Safety Act 2011
- Plumbing Code of Australia (PCA)
- Water Industry Competition Amendment Act, 2021

[11] MidCoast Council, Asset Management Strategy, 2022-2032
[12] Community Strategic Plan, 2022-2032

## 2.4 Customer values

Service levels are derived from the customer values and establish the expectations that Council stakeholders demand from the assets.

Customer values are driven by:

- Identification of the service attributes that hold significance for the customer.
- Assessment of the perceived value in the current service offerings.
- Prediction of future trends based on socioeconomic state of the LGA and competitive landscape across comparative Councils.

The customer levels of service is further detailed in Section 2.5, whilst the technical levels of service (TLoS) are described in Section 2.6.

## 2.5 Customer levels of service

Council's commitment to upholding the customer levels of service is documented in the Customer Charter[13], which describes the responsibilities Council has to its customers.

The water assets managed by Council must be adequately maintained to enable and support the delivery of water supply services. Council's responsibility to its customers, as defined in the Charter, includes:

Minimise interruption to water services, or variation to water quality

Respond to issues in the water network as soon as practicable

Provide a pressure of not less than 150kPa to your water meter

Minimise water losses from our network

[13] MidCoast Council Customer Charter (Draft), 2023

Bill you quarterly for the water you use

Give you >48 hours' notice for planned interruption to services

Service responsibilities, which define the role of Council for each of the service levels described in the Customer Charter, are provided in Table 7.

Table 7 Customer Service Levels

| Customer Service Level | Service Responsibilities |
|---|---|
| Information and Privacy | • Ethical, fair and honest treatment of customer information<br>• Protection of customer information to third parties<br>• Contact with customers only between 7:00am to 4:30pm weekdays<br>• Make available information requested by customers, within reason |
| Enquiries and complaints | • Provision of convenient options to lodge complaints and enquiries<br>• Resolve complaints as soon as reasonable possible<br>• Deal with customer complaints efficiently and fairly<br>• Keep customers advised of progress / changes to their enquiries<br>• Discuss any and all associated costs prior to undertaking any action<br>• Provide reasons for all decisions<br>• Learn from feedback for continual improvement<br>• Treat all customers with courtesy and respect |
| Water services and water meters | • Provision of 24-hour emergency phone service for reports of interruptions<br>• Read meters on a quarterly basis<br>• Respond as soon as practicable when notified of water network issues<br>• Minimise interruptions to water services or quality<br>• Minimise losses from the water network<br>• Provision of at least two (2) business days written notice before planned interruptions. Registered life support properties will be contacted directly. |
| Water pressure | • Provision of a pressure no less than 15 meters (150 kPa) at your water meter |
| Backflow prevention | • Maintain a record of all properties backflow hazard rating |

| Customer Service Level | Service Responsibilities |
|---|---|
| Water and sewer pipe protection spaces | • Provision of 48-hours' notice to access pipes on properties for planned maintenance (excluding emergency situations)<br>• Work on premises will be returned to a similar condition (unless the process of restoring will interfere with water infrastructure)<br>• Advise where assets are located and where customers can build and landscape |
| Building, renovation, landscaping | • Process applications for landscape, building and renovation within 40 business days<br>• Provision of information requested regarding water assets |
| Entry to your property | • Provide written notice, 48-hours before entering a property for planned maintenance (exclusions for emergency)<br>• Attendance to appointments no more than 30-minutes late (one hour notice to be given if later than 30-minutes)<br>• Provide 24-hours' notice to cancel an appointment<br>• Property to be returned to a similar condition where work is undertaken<br>• Employees and contractors to carry identification that will be shown to customers |
| Your Account | • Provision of account for water services at least every 120-days (unless otherwise agreed)<br>• Accounts to contain all information required by the Local Government Act 1993<br>• Accounts reflect any rebates and concessions<br>• Notification of any change to schedule of charges<br>• Provision of convenient options for customer to pay their accounts<br>• Provision of account information upon request (relating to the previous 12-months)<br>• Water usage to be based on a reading of customers water meter (unless unable to obtain reading, in which case account based on an estimated consumption)<br>• Overcharges to be credited to customer and informed once aware<br>• Undercharges to be recovered based on sums incurred during the 12-months prior customers last account |

## 2.6 Technical levels of service

Technical levels of service (TLoS) provide measurable performance requirements which the assets must achieve, in order to satisfy the service levels and stakeholder expectations. The detailed TLoS for Council's water assets are provided in Table 8, and have been sourced from the IWCM[14].

Table 8 Technical Levels of Service

| Service Level | TLoS | Key Performance Measure | Target Performance | Current Performance | Meeting Target |
|---|---|---|---|---|---|
| Quantity | Quantity of treated water supplied to communities meets agreed upon levels. | Average annual residential water demand. Total supply to communities, expressed as kL/property (based on average across related communities). | Less than 205kL per property/yr | 131.2 kL per property/yr | Yes |
| Quantity | Quantity of treated water supplied to customers meets agreed upon levels. | Peak daily water demand. Total supply to properties, expressed as kL/d/property (based on highest recorded usage day in the year). | Less than State Median 1.08 kL/d/property | 0.73 kL/d/property | Yes |
| Quantity | Quantity of treated water produced meets agreed upon levels. | Non-revenue Water. Total treated water delivered from the various WTP's, expressed as a percentage. | Less than 10% | 11.3%[15] | No |
| Quality | Water quality continuously in line with all legislative and standard guideline. | Water quality to meet 2011 Australian Drinking Water Guidelines (ADWG). | E.coli 100%<br>Chemical 95% | E.coli 100%<br>Chemical 98.5% | Yes |

[14] Our Water Our Future 2050, Integrated Water Cycle Management Strategy, MidCoast Council
[15] Data submitted for 2023-24 Performance Monitoring Report NSW

| Service Level | TLoS | Key Performance Measure | Target Performance | Current Performance | Meeting Target |
|---|---|---|---|---|---|
| Supply of service | Notice ahead of planned service interruption is provided within the expected timeframe. | 24-hour notice prior to any planned service interruption. | 24 hours | <24 hours | Yes |
| Supply of service | Unplanned interruptions to properties are responded to within a timely manner. | Number of Properties that will experience an unplanned interruption of more than 5 hours in a financial year. | No more than 1,000 properties a year | Unknown | Unknown |
| Supply of service | Mains breaks are promptly managed in line with maintenance plans. | Quantity of mains breaks and/or faults. | Less than State Median 12.35/100km | 10.15/100km[16] | Yes |
| Responsiveness | All interruptions to services be attended to within nominated timeframe. | Response time to attend service interruption. | 4 hours | 4 hours | Yes |
| Responsiveness | Installation of new water meters within the agree timeframe. | Duration of install. | <10 working days after receipt of payments | 10 working days | Yes |
| System reliability | Redundancy measures are in place for main pump systems. | Main pumps with standby facilities. | 100% standby over 22-hour pumping per day | All have standby | Yes |

[16] Data submitted for 2023-24 Performance Monitoring Report NSW

| Service Level | TLoS | Key Performance Measure | Target Performance | Current Performance | Meeting Target |
|---|---|---|---|---|---|
| Safety | Fire hydrants perform to the expected standard. | Fire flow measured in L/s for all hydrants. | Fire flows of 10 L/s can be supplied to all hydrants (20 L/s to commercial and industrial outlets. | > 95% of hydrants meet flow standards for commercial and industrial | Yes<br>Commercial 95.5%<br>Industrial 99.5% |
| Safety | Assets are safe to operate and maintain. | Risks are managed in accordance with the MidCoast Council Risk Management Framework. | No risk exceeds tolerance levels untreated. | Significant risks prioritised in work order. | Yes |
| Customer satisfaction | Community is satisfied with current water services. | Community feedback surveys and customer satisfaction research[17]. | Result of customer satisfaction survey as a percentage of overall satisfaction | 84.5%[18] | Yes |
| Customer satisfaction | Minimal number of customer complaints. | Number of complaints made by customers as detailed in the SoE. | 9.5/1000 customers state median | 1.64/1000 customers | Yes |
| Customer satisfaction | Suitable response and record maintained of customer complaints. | Log customer complaints in CRM system and report annually. | 9.5/1000 customers state median | 1.64/1000 customers | Yes |

[17] Community Survey, completed in 2020, indicated that most customers are satisfied with sewerage services, water quality and water service. The community satisfaction survey confirmed that both sewer and water services are of high importance with water quality rated as one of the most important services provided by Council. – Micromex Community Survey 2020

[18] Average result for water service and water quality

| Service Level | TLoS | Key Performance Measure | Target Performance | Current Performance | Meeting Target |
|---|---|---|---|---|---|
| Customer satisfaction | Residential cost of water supply maintains a reasonable price point. | Typical residential water service bill based on 200kL/yr ($/yr). | $728/yr weighted State Median ( (2022-23 Performance Monitoring Report NSW) | $1,099/yr. | No |
| Compliance | Assets are designed, maintained and operated to meet legislative requirements and standards. | Number of non-compliances. | Unknown | Unknown | Unknown |
| Environment | Manage assets with consideration for Council's sustainability objectives. | Progress against sustainability targets. | Unknown | Unknown | Unknown |
| System capacity | Future demand is assessed and to be considered in future capacity requirements. | Demand is considered within asset planning processes. | 5-10-10 rule restrictions would apply for no more than 5% of the time, with a probability of restrictions being required in any one year being 10% (one in 10 years). The reduction in supply would be no greater than 10%) | Process is underway. | Yes |

# FUTURE DEMAND

# 3.0 Future Demand

The environment within which an asset operates largely determines the functional requirements of the asset and rate at which the asset degrades. This environment is ever-changing due to demand pressures. Assessing demand and the future state scenarios in which an organisation is expected to be operating its assets within, will better allow it to plan accordingly.

## 3.1 Demand drivers

The current water system services more than 40,000 properties throughout Council's LGA. This is estimated to increase to roughly 60,000 properties by 2050, by which time the network of assets must be sufficient to sustain the growth in demand and capacity.

Changes in demand on the network is primarily driven by several factors provided in Table 9.

Table 9 Factors Driving Demand for Water Supply Assets

| Demand Driver | Description |
|---|---|
| Population growth | Growth in population and size directly influences the demand for water services. As the number of residents, households and businesses grow, there is increased need for services provisioned by Council |
| Climate change | Changes in climate conditions will have a direct impact on water supply and resilience of existing network infrastructure in the provision of water supply. Demand may be exacerbated as unfavourable weather conditions persist, including droughts. |
| Primary industries | The type of industry and the activities supported that rely on heavy consumption of water can drive overall demand for water supply by Council. |
| Regulatory and legislative changes | Changes in regulations can either prompt changes in standards necessitating compliance of existing assets and/or a need to build new infrastructure. |

## 3.2 Demand projection

According to projections by MidCoast Council, the population growth across the region is projected to increase from approximately 99,000 people in 2023 to 116,000 by 2036, a 18% increase over this timeframe. It is projected that the population serviced by Council's water and sewer infrastructure will grow by an estimated 48% by 2051.

Figure 7 illustrates the projected population, depicted by the blue columns and the annual change rate, depicted by the yellow line. As demonstrated, the population will experience a steady increase in growth over the next 10 years, however the pace of growth is anticipated to gradually decline, which is attributed to factors such as interstate migration and changes in demographics.

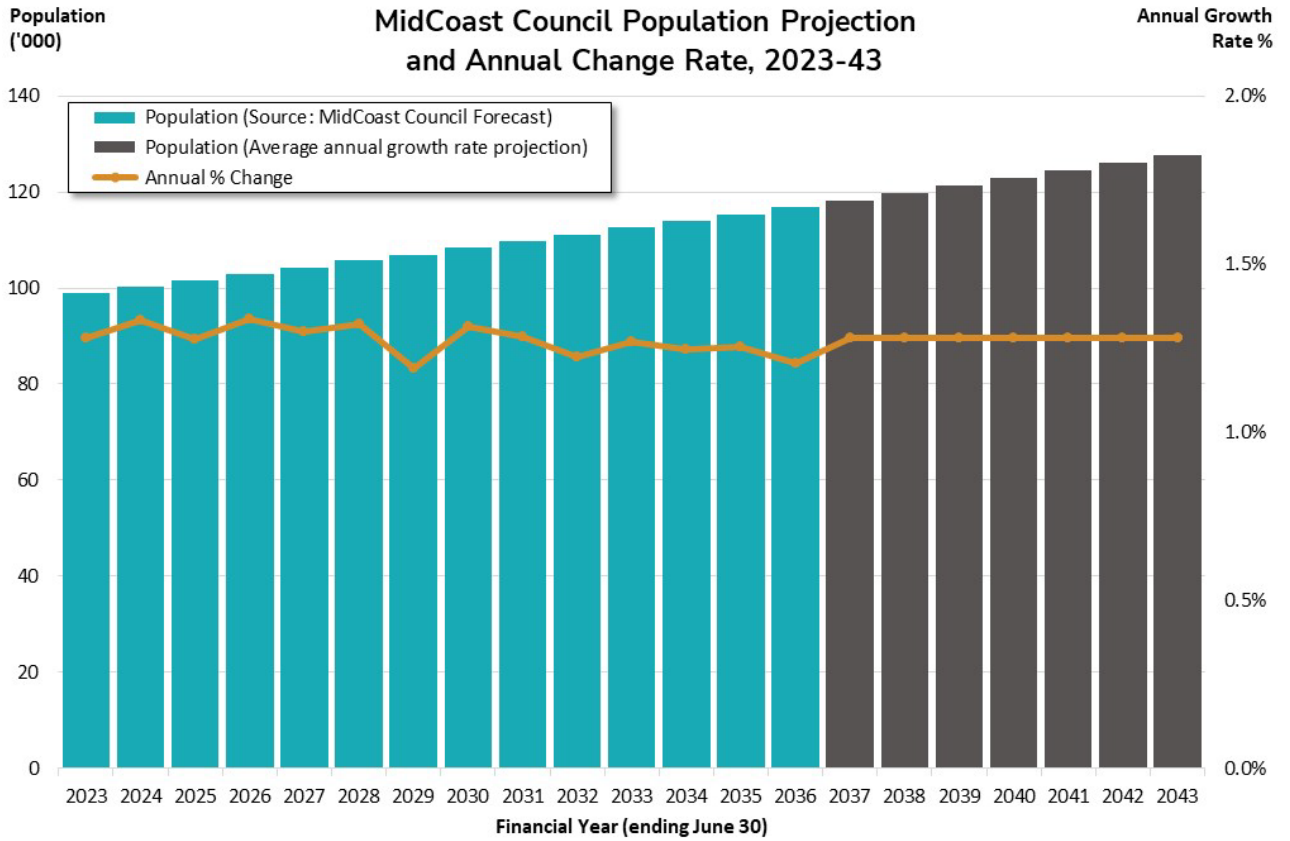


Figure 7 MidCoast Council Population Projection

## 3.3 Demand impact and demand management plan

The demand for water supply services across the MidCoast Council is subject to change over time, influenced by various factors. Table 10 outlines the relevant driving factors, the implications for Council's management of assets and the potential management response to these challenges.

Table 10 Key Demand Drivers and Implications for Demand Management

| Key Demand Driver | Demand Impact | Management Response |
|---|---|---|
| Population Growth | Asset operating at maximum capacity, with inability to accommodate increased throughput to water supply network. Increased maintenance and service requirements. Council anticipates further growth in the community and certain challenges in its management of delivery of water supply as increased pressure on water infrastructure may continue to grow in line with expected population growth. | Asset acquisition and expansion to water supply network (increased capital requirements). |

| Key Demand Driver | Demand Impact | Management Response |
|---|---|---|
| Changes in Climate Conditions | Council has highlighted in its IWCM that another key driver of water infrastructure assets is climate uncertainty and unpredictability. As the existing infrastructure is reliant on the climate as a source for water, changes in climate conditions will have a direct impact on water supply. Reduced water supply poses certain challenges in meeting current demand, exacerbating pressure on existing infrastructure. Management of water supply and the resilience of the existing network is fundamental to ensuring continued supply to meet current and future demand. | Expansion to water supply network.<br>Investment in climate-resilient infrastructure and or assets (to be consistent with NSW net zero objectives).<br>Investment in alternative sources of water supply infrastructure or assets. |
| Industrial Practices | As highlighted in the Local Strategic Planning Statement[19], prominent industries in the region are agriculture, oyster farming, forestry, and mining. Demand for water supply may be driven by these industries and practices. | Predictive maintenance.<br>Optimisation of asset utilisation.<br>Periodic condition assessments. |
| Regulatory and legislative changes | These changes can also impact the way in which services are delivered by Council and therefore impact demand for Council's provision of water services and assets. | Periodic audits and assessments.<br>Implementation of best practice asset management planning, compliance and adherence. |

## 3.4 Asset programs to meet demand

The Council will continue to manage current and future levels of demand for water supply through its management of its existing assets to either upgrade or renew. The Council has an adaptive plan[20] to address demand challenges in future. These include:

- **Peg Leg Creek Off-Stream Storage:** this pathway includes the potential of identifying a second storage option for the Manning Scheme.
- **Off-stream storages:** this option considers options for concrete storage that will be located on a plot of land at three potential locations including Bulahdelah, Gloucester and Stroud.
- **Purified Recycled Water:** this pathway considers the use of a water treatment facility and technology to purify waste water for drinking water.
- **Exploration of Groundwater:** another option considered in the plan is the exploration of an aquifer to pump out groundwater that will be treated and redistributed.

[19] Local Strategic Planning Statement, MidCoast Council, 2020.
[20] Our Water Our Future 2050, Integrated Water Cycle Management Strategy, MidCoast Council

Council also considers further opportunities to be:

- The increased use of recycled water for public space and irrigation and agriculture purposes
- Potential generation of green energy such as hydropower or solar at key sites

## 3.5 Climate change adaptation

Council's Climate Change Strategy[21] identifies potential risks to the operation of its assets including extreme weather conditions such as heat, storms and flooding, bushfires, droughts and sea level rise. In recognising these risks to the management of its assets, Council has considered incorporation of key day-to-day activities to address these risks including:

- Considering the impact of sea level rise in review of land and develop planning.
- Sourcing alternative power supply options to ensure non-interruption to services.
- Improvement to emergency response planning and enabling knowledge sharing and decision-making during emergencies.
- Further opportunities also include the use of solar panels on critical assets and pumped hydropower.

Council is committed to achieving Net Zero by 2040 and ensures any measure taken to respond to changes in demand and climate change is progressing towards its renewable energy targets. Actions highlighted in the Asset Management Strategy to reduce Council emissions and the impacts of climate change include:

- Larger investment in renewable energy
- Becoming more energy efficient
- Sequestering carbon
- Transitioning to more sustainable transportation options
- Reducing waste to landfill

[21] MidCoast Council Climate Change Strategy, 2021

# RISK MANAGEMENT PLANNING

# 4.0 Risk Management Planning

The application of a risk-based approach to asset management allows an organisation to manage its exposure to potential and residual risk in a cost-effective manner to drive better business decisions. Risk information is used to categorise the criticality of particular works in relation to its ability to mitigate hazards that have the potential to interfere with service delivery.

This section refers to the risk management framework which is used by Council to assess its asset related risks and presents the suitable actions necessary to mitigate those risks which have been identified as significant, through the development of this AMP.

## 4.1 Critical assets

Critical assets are recognised as those where failure would create significant impact on Council and its ability to meet agreed service levels to the community / customers.

A criticality assessment workshop was held in consultation with relevant internal asset stakeholders. The workshop assessed individual assets against a Consequence of Failure (COF) and Likelihood of Failure (LOF) criterium. This assessment assigned a criticality rating for specific water assets. The assessment included the following asset groups:

- Water Treatment Plants (WTP)
- Dams, Reservoirs, Bores
- Water Pump Stations (WPS)
- Communication Infrastructure (COT)

Further assessment of critical components within each of the above asset groups will be undertaken with the review of Council's Asset Management Strategy due for completion June 2025. However, during the criticality workshops the following components were identified as critical for overall operations and continual service delivery:

- Switchboards
- Large Pumps

The facilities and assets which are highlighted above as critical are ranked highest in priority order within the entire water portfolio. This approach ensures any and all works (maintenance and renewals) against these assets are scheduled first in the works list. By doing so, the allocation of limited resources will firstly ensure the highest criticality assets are treated first before those with a lower impact on the overall operation of the water infrastructure and service

Water reticulation and provision of potable drinking water to the communities within MidCoast Council LGA is recognised as one of the critical services managed by Council. These assets have been individually assessed and assigned a criticality rating by a separate process facilitated through a Satellite AI program (Rezatec Satellite AI) which allows for the prioritisation of renewal works.

The methodology for assessing critical assets applies Council's Risk Management Framework[22], to determine the consequence of failure against the seven organisational and operational categories. The criteria for assessment is provided in Table 11, with the complete Risk Management Framework provided in Appendix C.

Table 11 Risk Consequence Criteria

| Risk Categories<br>What could be the consequences if the risk occurs? | | | Consequence Rating | | | | |
|---|---|---|---|---|---|---|---|
| | | | Insignificant | Minor | Moderate | Major | Severe |
| | | | 1 | 2 | 3 | 4 | 5 |
| Organisational & Operational | Financial | Risks that have a financial impact on the organisation (revenue, expenses, assets, liabilities, reserve) | Negligible financial loss < $10,000 | Minor financial loss $10,000 - $100,000 | Substantial financial loss $100,000 - $500,000 | Significant financial loss $500,000 - $3million | Major financial loss >$3million |
| | Worker health & wellbeing | Risks that impact the health and safety of staff, as well as contractors & volunteers | Insignificant injury; no first aid required; no impact on staff morale / performance | Minor injury; first aid required; minor impact on individual staff morale / performance | Injury or illness requiring medical attention; several days leave; short term impact on staff morale / performance | Long term illness or injury; extensive medical attention and leave required; medium term impact on staff morale/ performance within multiple business areas | Fatality; permanent disability, illness or disease; long term impact on staff morale/performance across organisation |
| | Public health & wellbeing | Risks that impact the health and safety of the community | Insignificant injury; no medical treatment required | Short term isolated incidents of illness or injury; first aid required | Medium term illness or injury; medical attention required; health impacts in single Council locality | Long term illness or injury; long term medical attention required; health impacts in multiple Council localities | Fatality; permanent disability; illness or disease; widespread health impacts across LGA |
| | | | Water & sewerage operations | | | | |
| | | | Results indicating poor performance leading to non-conformance.<br>No effect on public health | Some customers (neighbouring households) exposed to contaminated drinking water | Customers in multiple streets within a suburb/town exposed to contaminated drinking water or sewage | Illness affecting customers in many streets within a suburb/ town attributable to drinking water contamination or sewage exposure | One or more fatalities and/or a widespread illness (multiple suburbs/towns) attributable to drinking water contamination or sewage exposure |
| | Service delivery & infrastructure | Risks that impact the ability to deliver internal and external services (includes assets and technology) | Isolated, insignificant impact on service delivery; minimal inconvenience to customers | Short term minor impact on service delivery; some inconvenience & customer dissatisfaction | Medium term disruption to delivery of several services; moderate inconvenience & increased customer dissatisfaction | Long term disruption to delivery of several services, incl. some key services; significant inconvenience & high level customer dissatisfaction | Ongoing inability to deliver key services; widespread customer dissatisfaction; threat to viability of organisation |
| | | | Water & sewerage operations | | | | |
| | | | Continuity of supply: disruption to an individual customer for 4 hours:<br>OR<br>Continuity of operations: insignificant and/or short term (days) effects on an element of operations | Continuity of supply: disruption to multiple customers (approx. 20 neighbouring households) for 4 hours; OR Continuity of operations: minor and/or short term (days) effects on an element of operations | Continuity of supply: disruption to multiple of customers (many streets) for 4 hours;<br>OR<br>Continuity of operations: moderate and/or short-medium term (weeks/months) effects on an element of operations | Continuity of supply: disruption to <5% of customers for 4 hours;<br>OR<br>Continuity of operations: major and/or medium term (weeks) effects on an element of operations | Continuity of supply: disruption to >5% of customers for 4 hours;<br>OR<br>Continuity of operations: Long term (months) effects on an element of operations |
| | Compliance | Risks that impact compliance with legislation and regulatory requirements | Isolated non-compliance of minimal significance; minor fine; internal staff warning | Minor breach of legal obligations; improvement notice; minor fine / penalty | Substantial breach of legal obligations; adverse finding; substantial fine / penalty | Significant breach of legal obligations; adverse finding with long term significance; significant fine / penalty | Major breach of legal obligations; adverse findings against Council and / or individuals; major fines or penalties (>$1mil); possible imprisonment; dismissal of Council |
| | Environment | Risks that impact the natural environment | Insignificant, immediately reversible impacts on the environment | Limited short to medium term, quickly reversible impacts on the environment | Potentially significant medium term reversible impacts on the environment | Severe, medium to long term potentially irreversible impacts on the environment | Critical, long term irreversible impacts on the environment |
| | Reputation | Risks that impact Council's reputation in the community and media, as well as with the government | Isolated complaints from members of the community; one off insignificant enquiries from local media and/or on social media | Minor unfavourable local and/or social media attention; heightened concern and criticism from narrow group/s within the community | Short-term adverse local and / or social media attention; moderate community dissatisfaction; potential government agency concern | Significant adverse local / state media attention; public outcry and community dissatisfaction across multiple Council localities; potential government agency enquiry | Sustained adverse local, state and/or national media attention; severe widespread dissatisfaction and loss of community trust; potential loss of Government support & adverse intervention |

For the purposes of developing this AMP, criticality has been assessed at the facility level across the major asset groups. As a continual improvement, Council will assess criticality at the asset sub-category level for a more targeted prioritisation of works in the capital expenditure schedule.

[22] MidCoast Council Risk Management Framework, 2021

## 4.2 Risk assessment

Council has assessed risk in accordance with its Risk Management Framework (Appendix C). Risk considers both the consequence and likelihood of an identified risk event. An internal workshop with relevant stakeholders of the water infrastructure was undertaken to assess risk at the facility level. Further workshops are to be completed by Council for a more granular assessment of risk. Risk information is used to inform the prioritisation of all works which are associated within a facility or asset which has been assessed as significant.

In addition to the asset specific (asset failure) risks, several operational and planning risks have been captured from Council's Operational Risk Management Report[23], to provide a holistic view across risk for the water asset portfolio.

A summary of the significant asset specific risks (those with a rating of 'High' or 'Extreme') is provided in Table 12. The residual risk ratings consider current mitigation strategies in place to address the inherent risk.

Table 13 provides a summary of the significant asset related operational risks. The complete register of these risks can be found in the Risk Management Reports respectively.

Table 12 Significant Asset Specific Risks

| Risk Category | Risk Description | Residual Risk Rating |
|---|---|---|
| Asset/Facility Failure | BO WTP 01 - Water Treatment Plant | **High - 12** |
| Asset/Facility Failure | GL WTP 01 - Gloucester Water Plant | **High - 12** |

The full register of asset related risks can be viewed in more detail in Appendix D.

Table 13 Significant Asset Related Operational Risks

| Risk Category | Risk Description | Residual Risk Rating |
|---|---|---|
| SCADA | Inadequate management, advancement and implementation of SCADA strategy and security | **High - 10** |
| Planning and Assets | Planned renewal and capital works cannot be delivered in accordance with program and strategies not achievable | **High - 10** |

[23] Operational Risk Profile – Risk Management Report, v 3.0, 2024 (Last updated November 2024)

Several organisational response strategies are applied by Council to manage both the likelihood and consequence of identified risks. A summary of these mitigation strategies is provided in Table 14.

Table 14 Risk Mitigation Strategies

| Mitigation Strategy | Description |
|---|---|
| Asset renewal or refurbishment (capital works) | Works to renew, replace or refurbish assets that are likely to fail can help mitigate the risks to service levels. Undergoing asset condition inspections to identify required works. |
| New assets or asset enhancement (capital works) | Works designed to enhance the capacity of assets can help mitigate risk to future service levels. I.e., assets in its current state will result in service failures due to increasing capacity requirements. |
| Maintenance (operational) | Planned and preventative maintenance strategies maintain assets in a state of good repair. This helps to keep the risk of asset failure low and enable Council to meet its levels of service (LoS) and legislative requirements. |
| Operational procedures (operational) | Operating procedures provide protocols on how assets should be operated to maximise the life of the asset and maintain acceptable levels of risk. Following operating procedures reduces the risk of asset failure and non-compliance with legislative requirements. |

## 4.3 Infrastructure resilience approach

The MidCoast Council region has faced several climate related challenges detailed in Section 3.5. Council also faces several social changes such as urban sprawl, population growth, pollution and the loss of biodiversity. All of which contribute to the adaptive capabilities and pressures on the water network.

Establishment of proactive strategies to manage the resilience of the infrastructure is essential. Council has taken an adaptive planning approach that is intended to build flexibility and enable ease of change. This approach is detailed in Figure 12 of Council's IWCM[24]. The diagram maps out Council's preferred strategy alongside trigger points that connect to alternative scenarios that can be adopted if the preferred points in the strategy are no longer feasible.

## 4.4 Service and risk trade-offs

Effective asset management balances the trade-off between the organisation's required levels of service and tolerance for risk to ensure benefits are maximised with the resources available. Ensuring optimal balance between such factors within the constraints of resources means inherent trade-off to service and or risk. The implications are summarised below.

[24] Our Water Our Future 2050, Integrated Water Cycle Management Strategy, MidCoast Council

### 4.4.1 What we cannot do

Council is unable to significantly reduce service levels due to its authority as a Local Government entity, responsible for providing essential services to the community. The confines of labour and financial resource availability may limit Councils ability to deliver the full schedule of works and future developments it outlines in the IWCM.

### 4.4.2 Service trade-off

Access to sufficient resources to carry out the required works for maintenance and operations of the water infrastructure assets is critical to sustained service delivery. Where works cannot be carried out due to limitations in resources, this may result in trade-off to the service capability, and the consequences that may occur include:

- Reduced water quality
- Increased downtime of the service
- Increased time to complete required works
- Increased staff fatigue
- Adverse effects to health of workers
- Increase to costs of replacements
- Longer lead times for procurement of materials and assets
- Infrastructure deterioration
- Reduced capacity to meet community needs and expectations.

### 4.4.3 Risk trade-off

Inability to carry out the required works due to constraints in resources can lead to further escalation of existing risks and or result in risks exceeding the tolerance of Council. Response strategies to excessive risk may impact the standard of service.

# LIFECYCLE MANAGEMENT PLAN

# 5.0 Lifecycle Management Plan

## 5.1 Background

This section details the lifecycle management plan and Council's approach to the management and operation of water infrastructure assets to ensure they sustain required levels of service.

### 5.1.1 Physical parameters

The extent of Council's responsibility for its water network includes all processes and assets involved from the sourcing of water to the connection point at property boundaries. As such, Council must provide sufficient notice in advance of works required on customer properties, in accordance with the timing indicated in Section 2.5.

The physical parameters around location of assets, expansion to the network and access to existing infrastructure is mostly unavoidable. That is, the sourcing locations for water and disposal locations of effluent are dependent upon the natural water systems through the Manning river and ancillary river networks.

Access to the existing infrastructure to undertake inspections and works is limited due to the bulk of the linear assets being buried, and in many cases located beneath customer and community properties. Where these parameters exist, it is more efficient and prudent for Council to reroute new sections of mains through available open routes, and leave obsolete assets insitu.

### 5.1.2 Asset capacity and performance

The capacity and performance of the water network, informed by Council stakeholders, currently meets the service expectations of customers. However, water storage solutions that are soon to be operating at capacity have been identified. These are highlighted in Council's IWCM[25], as water security is recognised as a key priority.

To ensure continuity of its service performance and anticipation of growing capacity requirements, Council provides forward planning strategies in the IWCM as detailed in Section 3.4.

### 5.1.3 Asset condition

Assets are expected to deteriorate at a rate equivalent to their nominal service life. Routine condition assessments help to adjust the expected condition and remaining life of these assets to that which is actually observed. The water infrastructure assets are rated in accordance with Council's condition assessment criteria provided in Table 15.

[25] Our Water Our Future 2050, Integrated Water Cycle Management Strategy, MidCoast Council, Section 6

Table 15 Council Asset Condition Matrix

| Condition Rating | Description |
|---|---|
| **1 – Excellent / Very Good** | New or as new condition. Only planned cyclic inspection and routine maintenance required. |
| **2 – Good** | Good condition with minor defects. Minor routine maintenance along with planned cyclic inspection and maintenance. |
| **3 – Satisfactory / Average** | Average / fair condition with some significant defects requiring regular maintenance on top of planned cyclic inspections and maintenance. |
| **4 – Poor** | Poor condition with asset requiring significant renewal / rehabilitation, or higher levels of inspection and substantial maintenance to keep the asset serviceable. |
| **5 – Very Poor** | Very poor condition. Asset physically unsound and / or beyond rehabilitation. Renewal required. |

Figure 8 presents the current state condition of the assets, categorised by asset group. The position of the bubble indicates the current condition (weighted by replacement cost) and percentage of service life expired, while the size of the bubble represents the relative replacement cost of the asset group.

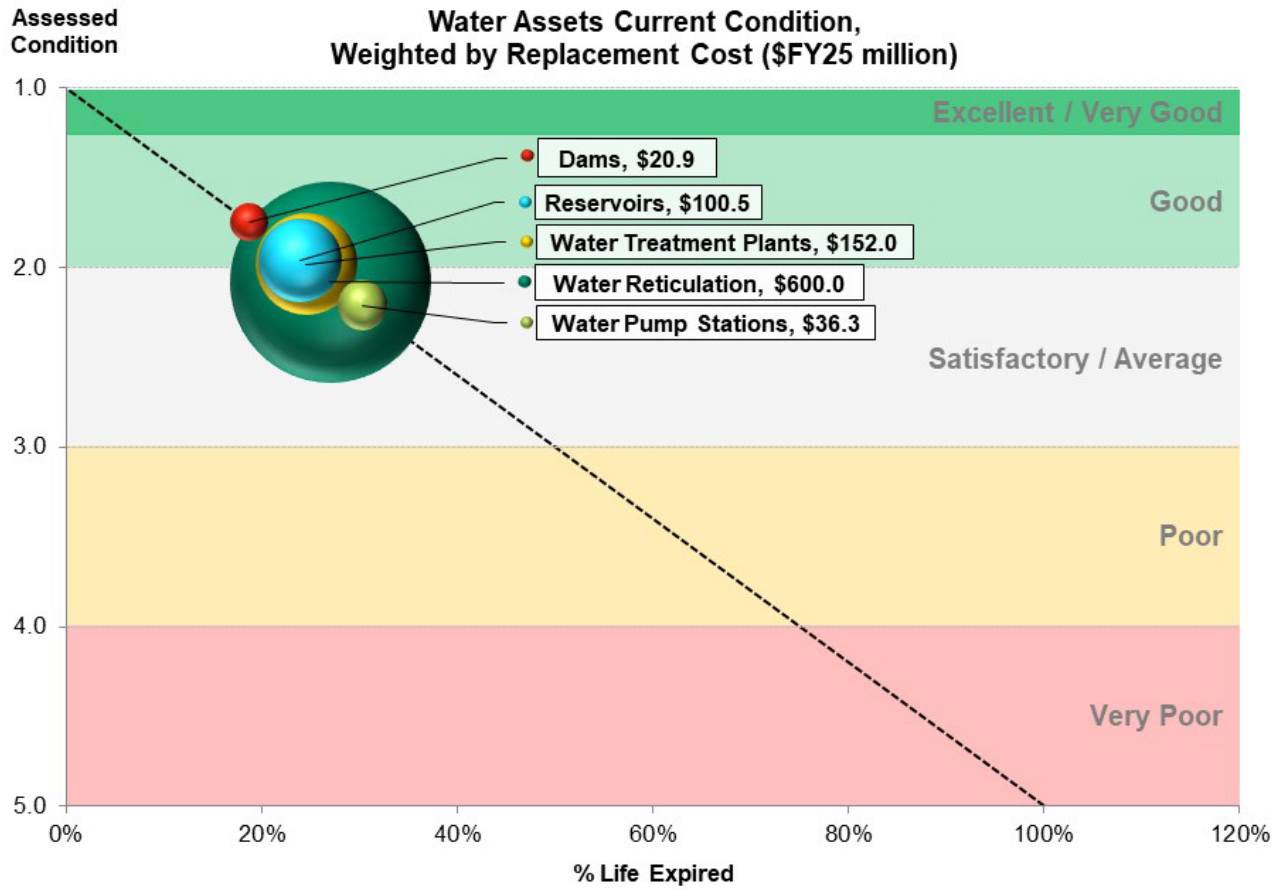


Figure 8 Water Assets Current Condition, Weighted by Replacement Cost

The dashed line presents the relationship between Council's condition ratings and the corresponding percentage of life expired for the assets. It does not represent the path of deterioration. Asset deterioration is unique for each asset type and is ideally developed using a large quantity of historical failure data to predict future asset failure. Where insufficient historical data is available to develop such curves, a standard decay curve is adopted to model an assets lifecycle. This decay curve is presented in Section 5.3.

The bulk of the water assets are in a 'Good' condition state while reservoirs have been assessed as 'Satisfactory', however are relatively long-lived assets and do not require immediate investment. This condition is considered to be acceptable for managing the level of risk Council face for potential asset failure and can be managed through routine maintenance and capital planning.

Condition data and the associated valuations for each asset group has been sourced from the water assets register[26].

## 5.2 Lifecycle management approach

### 5.2.1 Prioritisation

Asset renewal timings are scheduled according to the criticality of the assets. A description on how criticality is calculated is provided in Section 4.1.

Unplanned works are scheduled in line with Section 5.3.2, then assigned a priority rating in line with the risk rating of the works. In addition to this, where unplanned works have the same priority rating as asset renewal works, the unplanned works will take priority.

This logic is used to provide a schedule of prioritised works containing both asset renewals, such as refurbishments or replacements, and unplanned works.

In an unconstrained budget model, all projects are expected to have the necessary funds available according to the specified timeline they are scheduled to occur. This model assumes no budget limitations are in place and all works can be completed as and when they occur in the cycle.

In a constrained budget model, projects are scheduled based on their priority, with the highest priority projects scheduled first each year within the allocated budget. Projects that exceed the available budget are rescheduled for the following year and reassessed along with that year's scheduled projects, in terms of priority.

This process applies across the entire projection period. As a result, a backlog of projects that cannot be scheduled due to budget constraints is generated, serving as the capital shortfall.

### 5.2.2 Lifecycle assumptions

Lifecycle optimisation for discreet assets (valves, pumps, equipment, etc) is done by timing renewals considering asset criticality. Critical asset renewals are scheduled ahead of their expected end-of-life, while non-critical assets are scheduled at or beyond expected end-of-life as these assets can afford to be run to failure.

For linear assets (mains, electrical cabling, etc) such as water reticulation, it is more realistic to adopt an ongoing rolling program of works for the replacement of sections of the network. By adopting this approach year-on-year, replacements will trend towards a steady state of repair.

[26] Councils 2023-24 Water Assets

## 5.3 Asset lifecycle plan

This section defines the activities which occur over the lifecycle of the assets. These definitions are further defined in Section 9.1.

Assets may last longer or degrade faster than expected, due to influencing factors such as duty factor, operating conditions, maintenance upkeep and the local environment. Inspection of asset condition at regular intervals will help to confirm or adjust this condition expectation and therefore enables re-assessment of the asset's remaining useful life, which may in turn affect asset renewal planning and funding requirements.

It should be noted that an asset renewal can be triggered by performance, beyond simply the condition of the assets. This would occur, for example, if the minimum service level was increased and the existing assets, despite being in a good condition, can no longer meet the service requirements. At present, condition is representing performance, however this could change in the future if Council was to adopt new levels of service and performance standards.

Figure 9 below provides an example of how condition is used to adjust the remaining useful life of an asset. The blue curve shows the expected deterioration of the asset, which has a nominal service life of 30 years. At 35 years, industry experience suggests that the asset would be expected to be in condition 4.5, beyond useful life. If the asset is inspected and assessed to be in a condition state closer to 3 (as the green box indicates), the implication is that the asset is deteriorating less quickly than expected. The remaining life would therefore be adjusted so that the asset reaches end-of-life at 44 years instead of 30.

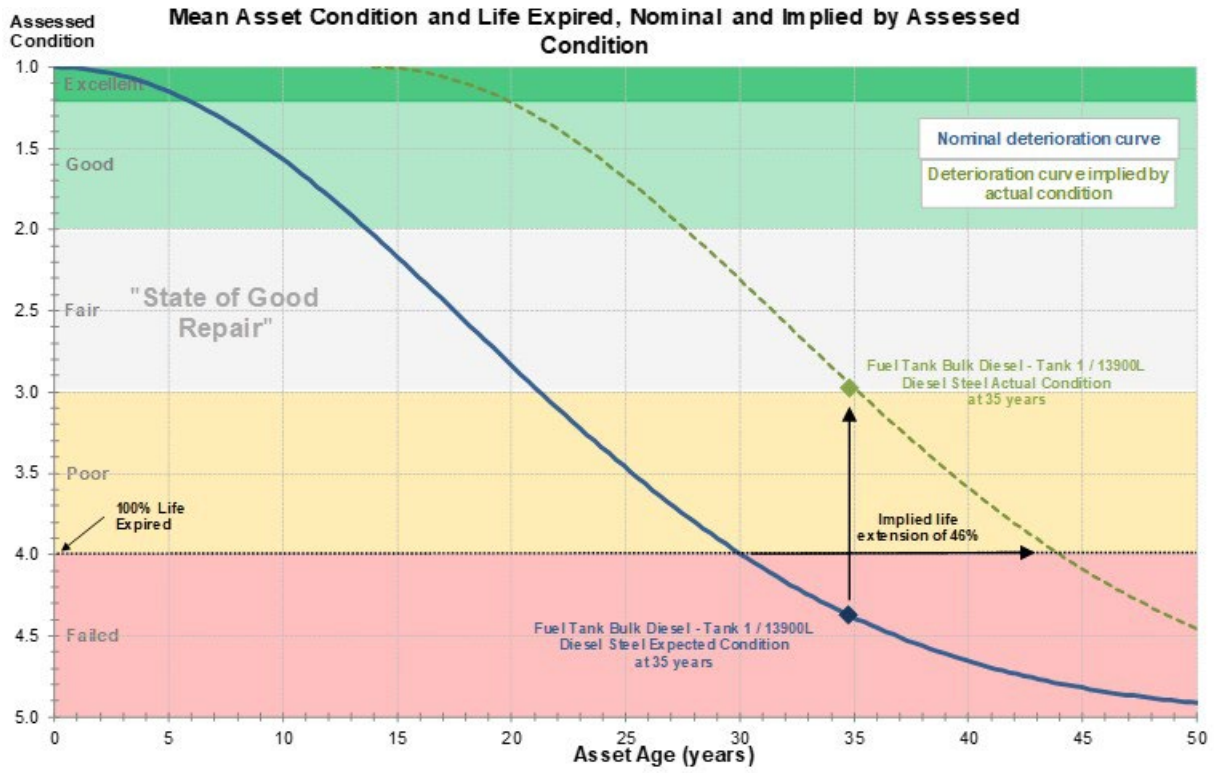


Figure 9 Asset Condition and Life Expired (Example)

### 5.3.1 Planned maintenance

Planned maintenance activities and the timing of these works are established to sustain the rate of deterioration of the assets while mitigating risks to service levels. Intervals between planned maintenance activities are often informed by standard practice to align with compliance requirements, and typically detailed in a Maintenance Strategy. Planned maintenance activities summarised in this AMP are not specified on a location basis, and provided in Appendix B.

Detailed maintenance schedules specific to each facility location can be found in the MCC PM Schedules[27].

### 5.3.2 Unplanned maintenance

Unplanned maintenance works respond to unexpected asset failures, to return the assets to an adequate state of repair and reduce the risk of condition related incidents. Unplanned works are completed as and when identified if the cost of repair and resources are readily available. Where unplanned works require unavailable resources or are of large scope, they will be scheduled for renewal.

### 5.3.3 Asset renewals

Renewal of water infrastructure assets involves refurbishment or replacement of failed assets with assets that are of equivalent capacity, or in some instances with upgrades to deliver the required service. Identification of assets for renewal is achieved through regular inspections and maintenance, whilst development of renewal plans is based on service levels, asset criticality, conditions, and risk.

Several significant capital works are scheduled to occur over the next 10-years and presented in Table 16. These works are sourced from the 30-Year planned capital projections schedule of projects and considers significant works as those with a capital value greater than one million dollars and a scope exceeding one year. A more detailed schedule of works which aligns with the capital projections provided in this AMP is included in Appendix A.

[27] Current PM Schedules - Water

Table 16 Significant Capital Works ($FY25, '000)

| Asset Group | Project Details | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 | 2029/30 | 2030/31 | 2031/32 | 2032/33 | 2033/34 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Water Reticulation | GE-WRT-00 Renewals Program (400134 - Water Mains - Renewals) | 2,062 | 3,583 | 5,010 | 5,022 | 6,367 | 4,697 | 4,975 | 4,975 | 5,323 | 5,323 |
| Water Reticulation | GE Smart Meter Installation Program | 77 | | | | | 1,547 | 1,547 | 1,547 | 1,160 | 1,160 |
| Water Reticulation | HR-WRT Replacement | | 1,005 | 1,508 | | | | | | | |
| Water Reticulation | HR-WRT-00 Harrington Rd to Coopernook Res. (Lansdowne Main Augmentation) | 516 | | | | | | | | | |
| Water Reticulation | WG-WRT-00 Wingham Res to Bungay Res | | | | 1,186 | | | | | | |
| Water Treatment Plant | GE-WTP-00 Renewals Program | 258 | 2,833 | 2,709 | | | 2,833 | 2,833 | 2,833 | 2,678 | 2,472 |

| Asset Group | Project Details | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 | 2029/30 | 2030/31 | 2031/32 | 2032/33 | 2033/34 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Water Treatment Plant | GL-WTP-01 Upgrade/ Replacement | | | 124 | 2,887 | 2,887 | | | | | |
| Reservoir | GE-RES-00 Renewals Program | 928 | 244 | 930 | | 79 | 785 | | | 1,625 | 1,625 |
| Reservoir | GL-RES & WRT Upgrade | | | | | | | | | | |
| Reservoir | FO-RES-02 Forster Reservoir major works | | | | 1,650 | 516 | | | | | |
| Reservoir | NA-WTP-01 Nabiac WTP Reservoir 1 major works | | | | | 1,031 | | | | | |
| Reservoir | WG-RES - Wingham Reservoirs Combined - additional 14 ML required - 2031 | | | | | | | 1,392 | 1,392 | | |

### 5.3.4 New assets

New assets, created or acquired, are to be made in accordance with Council's *Procurement Policy*[28] and relevant NSW government procurement legislation. Future capital projects pertaining to development or installation of new assets are captured in Council's IWCM. These asset acquisitions are detailed in Table 17.

The schedule of new assets expecting acquisition or creation over the next 5-years has been sourced from the 30-year planned capital projections[29]. Several programs of work transposed into Table 17, have allocated a percentage of the overall project value towards new assets. For this reason, project details which denote a 'replacement' or 'renewal' consider only the percentage which is aimed towards new assets.

Table 17 New Assets – 5-Year Schedule ($FY25, '000)

| Asset Group | Project Details | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 |
|---|---|---|---|---|---|---|
| SCADA & Electrical | CM-COT-01 Comboyne Communication Tower New | 129 | | | | |
| SCADA & Electrical | GL-COT-01 Asset Acquisition | | 52 | | | |
| Dams, Weirs & Aquifers | Peg Leg Creek Dam | 108 | 1,547 | 928 | 928 | 309 |
| Dams, Weirs & Aquifers | Gloucester Off River Storage | 93 | | | | |
| Dams, Weirs & Aquifers | Bulahdelah Off River Storage - 100ML | 93 | | | | |
| Water Reticulation | GE-WRT-00 New Mains (400133 - Water Mains - New or Extensions) | 309 | 309 | 309 | 309 | 309 |
| Water Reticulation | GE-WRT-00 Water filling stations | 412 | 412 | | | |
| Water Reticulation | HR-WRT Replacement | | 335 | 503 | | |
| Water Reticulation | TA-WRT-00 Figtree on Manning New Main & Pioneer St/Bligh | | 516 | | | |
| Water Treatment Plant | GL-WTP-01 Upgrade/ Replacement | | | 93 | 2,165 | 2,165 |

[28] MidCoast Council Procurement Policy, 2019
[29] 30-Year CAPEX Projects, October 2024

| Asset Group | Project Details | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 |
|---|---|---|---|---|---|---|
| Water Treatment Plant | NA-WTP-01 Stage 2A | 4,511 | | | | |
| Water Treatment Plant | TG-WTP-01 Tea Gardens WTP - Stage 2 Upgrade | | | | 2,062 | 2,062 |
| Water Pump Stations | GL-WPS Jacks Road PS relocation & upgrade | | 21 | 82 | 41 | |
| Water Pump Stations | KO-WPS-01 Kolodong Pump & Electrical Upgrade & Renewals | 21 | 144 | | | |
| Water Pump Stations | LC-WPS-01 Lantana Crossing to future Four Mile Reservoir (2026) | | | 1,176 | | |
| Water Pump Stations | NA-WPS-00 Nabiac Borefield Stage 2B | 3,196 | | | | |
| Reservoir | KO-RES-03 - duplicate reservoir 9 ML -prior to 2031 | | | | | 2,268 |
| Reservoir | KR-RES-01 - Duplicate reservoir required 0.5ML (Krambach) - 2026 | | 603 | 603 | | |
| Reservoir | Four Mile Reservoir - new reservoir (~10 ML) | | | | 3,866 | 3,866 |
| Reservoir | Irkanda Reservoir No. 02 - duplicate (7 ML or 14ML for Brimbin) | | | | | 3,866 |

The complete 30-schedule of asset acquisitions, as sourced from the most recent version of Council's 30-year planned capital works projections[30], is provided in Appendix E.

[30] 30-Year CAPEX Projects, October 2024

### 5.3.5 Disposals and decommissioning

Assets which are scheduled for decommissioning or disposal, are to be processed in accordance with Council's Asset Disposal Policy[31] and NSW Treasury Guidelines for Disposals[32]. Assets which are currently identified by Council for decommission include:

- Decommission of Coopernook Reservoir (take offline only)
- KO-RES-01 (Koorainghat) Decommission
- Chatham (Taree) Reservoir
- Cundletown Reservoir No. 30230806
- Red Head – RH RES 01 No. 30005672
- Hallidays Point (Black Head) Reservoir No. 30230808
- GL RES 01 – Tyrell Street Reservoir Asset No. 30237299
- GL RES 02 - Ravenshaw Reservoir. No. 30237300 (will become redundant with the GL upgrade PJ)

[31] MidCoast Council Disposal Policy, 2024
[32] NSW Treasury, TPP19-07 Asset Management Policy, 2019

# FINANCIAL SUMMARY

# 6.0 Financial Summary

Capital and operational expenditure is necessary to maintain assets as they deteriorate to an eventual point of failure. Asset interventions can be projected by using available information to model the lifecycle of the assets, which enables the organisation to proactively manage, respond and treat associated risks and continue the provision of services.

This section provides an overview of both the capital projections and maintenance projections over a 10-year period. All projections are made with the available asset data and are subject to a level of accuracy and assumptions, further defined below.

## 6.1 Financial sustainability and projections

Long-term financial sustainability is highlighted in Council's Strategic Business Plan[33] as a key objective for the ongoing positive financial positioning of Council funds. Since 2017, Council has actioned strategic constraints to capital expenditure for its water infrastructure, however, financial pressures persist as an ongoing concern for management of these water services.

To ensure the financial position of Council is improved over the projected time period, this plan has been developed with consideration for financial sustainability by informing budgets over the next 30-years from the processes embedded throughout the planned capital projections and IWCM. Asset renewals which are presented in this AMP are targeted to ensure costs are accurately incorporated from the 30-year planned capital projections and modelled for affordability.

### 6.1.1 Sustainability of service delivery

In line with the IWCM strategy, this financial plan has been developed with a focus on sustainable and cost-effective options to help Council meet the challenges of a growing population and the impacts of climate change. This considers the economic well-being of MidCoast Council as well as the environmental impact of its assets and asset management activities, and the evaluation of performance, risk and cost of the assets across whole-of-life.

[33] Water & Systems Strategic Business Plan, February 2023

## 6.2 Funding strategy

This AMP provides four funding strategies for both comparative and scheduling purposes. The four funding scenarios include:

**Target Condition 3** – This scenario projects capital expenditure assuming that no budget restrictions are in place and assets are replaced or refurbished when required, in line with its criticality and Council's risk appetite. Under the assumptions applied in this scenario, all scheduled works are assumed to be completed on time.

**Planned Budget** – This scenario adopts the annual budget allocations which have been provided in the 30-year planned capex projections[34] across each of the asset groups. This scenario schedules works in order of priority until the annual budget is reached, at which point, incomplete works are rolled into the following year. This process is repeated until the entire projection period is scheduled. Due to the constraint in funding, a progressive backlog of works that are unable to be funded in their originally scheduled years will accumulate.

**Target Condition 2** – This scenario considers Council's targeted satisfactory condition state to be sustained at a rating of 2 ('Good'). This scenario schedules works, in order of priority, with no budgetary constraints, however, lifecycle assumptions are adjusted to allow for early asset renewals to achieve a 'Satisfactory' weighted mean condition rating of the portfolio. These adjusted lifecycle assumptions are defined in Section 6.5.

**Do Nothing** – A 'Do Nothing' scenario is projected to establish the lower bounds for impact on the portfolio's condition, should no capital expenditure be made. The condition of the portfolio will decline under this scenario to an estimated point in time when Council can expect asset failure.

While these funding strategies are provided to inform this AMP and Council's operational requirements, it is recommended, following good practice in asset management, to maintain the water infrastructure within the condition state of 'Satisfactory / Average', which is considered the optimal amount of funding necessary to maintain the assets while still meeting service obligations.

[34] 30-Year Capex Projects, October 2024

## 6.3 Capital expenditure projections

### 6.3.1 Target condition 3 funding

The Target Condition 3 funding strategy assumes no budgetary or resource constraints on the ability to deliver works, as and when they are scheduled to occur, under the lifecycle assumptions described in Section 5.2.2. This strategy improves and sustains asset condition at the satisfactory condition state or a rating of 3. Figure 10 presents this funding strategy, where the dashed line represents the weighted mean condition of the portfolio post investment, and the solid line represents the weighted mean condition assuming no capital funding. Following this strategy, the 10-year total capital expenditure amounts to $131.5 million, in FY25 dollars.

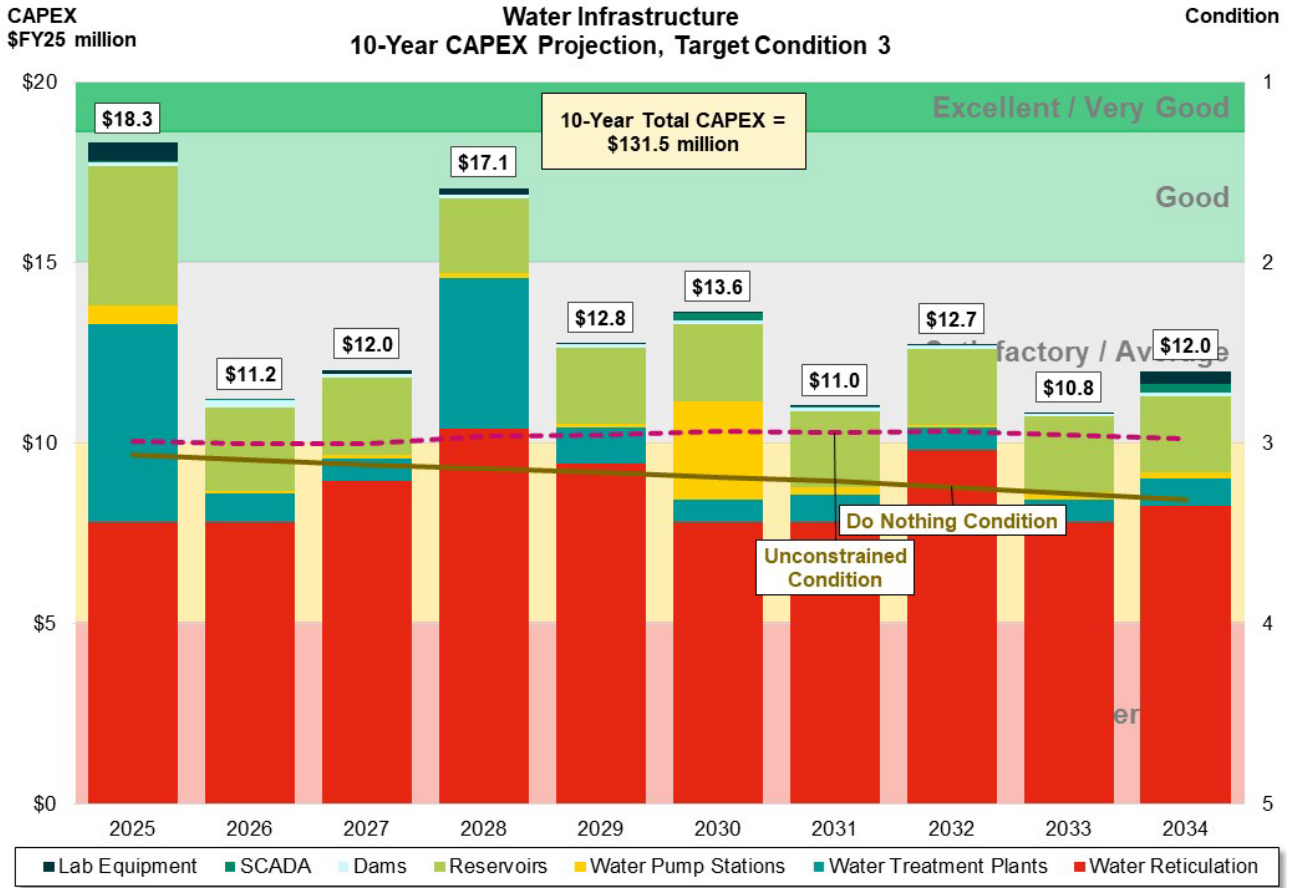


Figure 10 10-Year CAPEX Projection, Target Condition 3

The condition of the active water assets, post investment, is sustained to a ‘Satisfactory’ condition state. At this condition, the risk of unexpected asset failure is tolerable according to the MidCoast Council Risk Management Framework, and there should be minimal increase to operational expenditure due to unplanned maintenance.

### 6.3.2 Planned budget funding

Figure 11 presents the 10-year capital expenditure projections aligned with the budgets which have been modelled in the 30-year planned capital projections[35], applied as annual constraints. The dashed line in the figure represents the weighted mean condition of the water portfolio post investment for each year of the projection. The total expenditure of this scenario amounts to $101 million, in FY25 dollars.

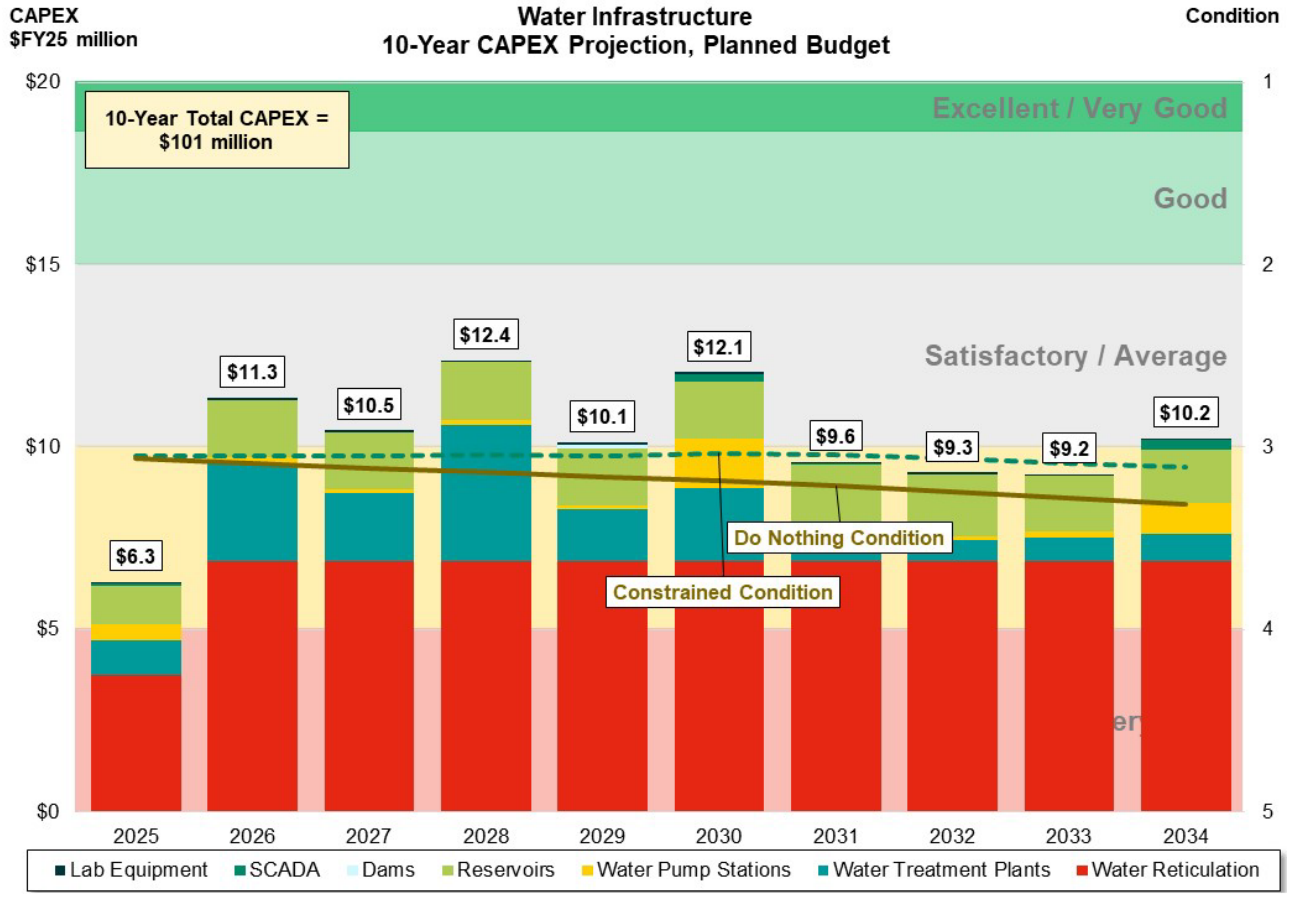


Figure 11 10-Year CAPEX Projection, Planned Budget

Despite budgetary constraints, capital expenditure is still sufficient to maintain the portfolio to a similar condition as the Target Condition 3 scenario. Best practice asset management is expected to deliver an optimal trade-off of asset-related risk (to minimum acceptable levels of service) and cost. A common target is a weighted mean asset condition sustained above 3 on the standard asset condition scale, which is generally assumed to avoid 'gold-plating' of assets (over-expenditure) but keep risk of failure at an acceptable level (the proportion of the assets projected to be in or close to an end-of-life state, being a condition rating close to or below 4 on the standard asset deterioration chart). This target is often referred to as the 'state of good repair'.

A lower level of investment than this optimum will allow the assets to deteriorate and increase the risk of failure to provide the services required, and a higher level of investment will reduce the risk of failure further. The impact of varying levels of investment is shown in Figure 17.

The complete schedule of works following the constrained planned budgets is provided in Appendix A.

[35] 30-Year CAPEX Projects, October 2024

### 6.3.3 Target condition 2 funding

The Target Condition 2 scenario assumes a capital funding profile to improve the weighted mean condition of the water assets to a condition rating of 2. To improve, and sustain, the assets to this condition rating, which aligns to Council's target condition state defined in its Asset Management Strategy, more aggressive lifecycle assumptions must be adopted, as defined in Section 6.5. Figure 12 represents this funding scenario, where the dashed line illustrates the weighted mean condition improving towards a rating of 2 over the 10-year projection period. Total capital funding required over this period amounts to $409.8 million, in FY25 dollars.

It is noted, however, that once the targeted condition state is reached, annual funding to sustain at a condition rating of 2 would reduce to the average annual requirement outlined in the Target Condition 3 scenario.

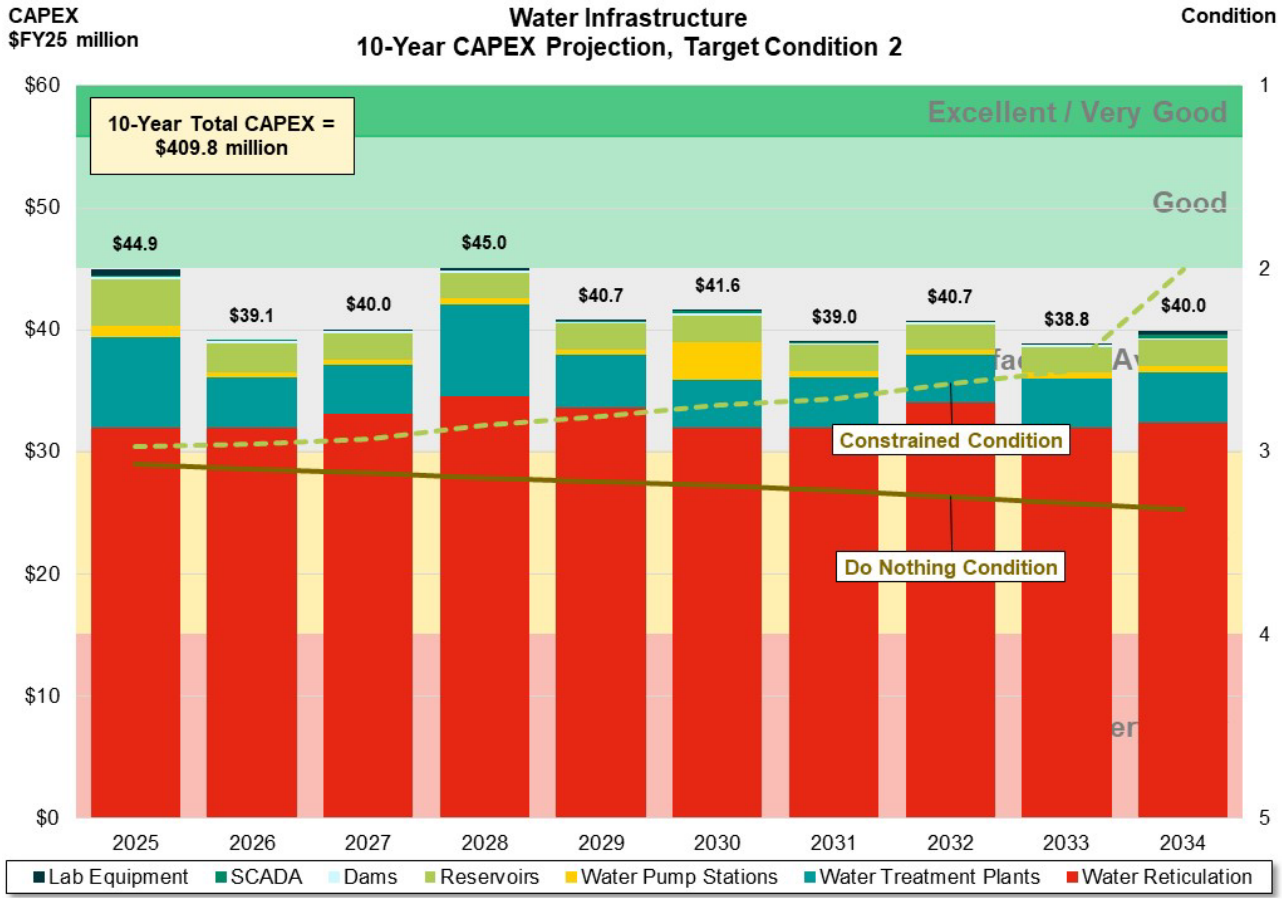


Figure 12 10-Year CAPEX Projection, Target Condition 2

While an improved condition for these assets would reduce any current level of risk for potential service failure, it is recognised as 'gold plating' for an asset class which does not necessarily require such substantial investment to sustain asset performance to the required standard. For this reason, it is recommended this scenario is better used for comparative purposes and rather adopt the funding strategy which aligns to the planned budget.

### 6.3.4 Infrastructure Asset Performance Indicators

The Office of Local Government (OLG) requires several prescribed performance indicators in relation to infrastructure asset management. These measures are designed to assess whether a council is maximising its return on resources and minimising unnecessary burden on the community and local businesses. This includes consideration of whether council is meeting the agreed level and scope of infrastructure for communities as identified through the Integrated Planning and Reporting process. The infrastructure asset performance indicators that will be used include:

1. **Building and Infrastructure Renewal Ratio**

   This ratio assesses the rate at which these assets are being renewed against the rate at which they are depreciating. It is an indicator of whether Council's infrastructure backlog is likely to increase. The benchmark is greater than 100%.

   The renewal ratio is provided in Table 18. The renewals ratio is based on the annual capital expenditure according to the Planned Budget funding strategy. Historical values for FY24, shown in Figure 13, are sourced from Council's 2024 Income Statement[36].

Table 18 Water Assets Renewals Ratio

| Year (FY) | Planned Renewals ($FY25, '000) | Required Renewals (Depreciation*) | Renewal Ratio |
|---|---|---|---|
| 2025 | $6,298 | $15,685 | 40.2% |
| 2026 | $11,343 | $16,329 | 69.5% |
| 2027 | $10,459 | $16,944 | 61.7% |
| 2028 | $12,385 | $17,716 | 69.9% |
| 2029 | $10,121 | $18,603 | 54.4% |
| 2030 | $12,052 | $19,323 | 62.4% |
| 2031 | $9,590 | $20,061 | 47.8% |
| 2032 | $9,299 | $21,035 | 44.2% |
| 2033 | $9,250 | $22,101 | 41.9% |
| 2034 | $10,248 | $23,033 | 44.5% |

**Required renewals aligns to, and sourced from, the Asset Management Strategy (Draft) 2024-34, Section 14.3.*

[36] MidCoast Council, Report on infrastructure assets as at 30 June 2024, Annual Financial Statements, 30 June 2024

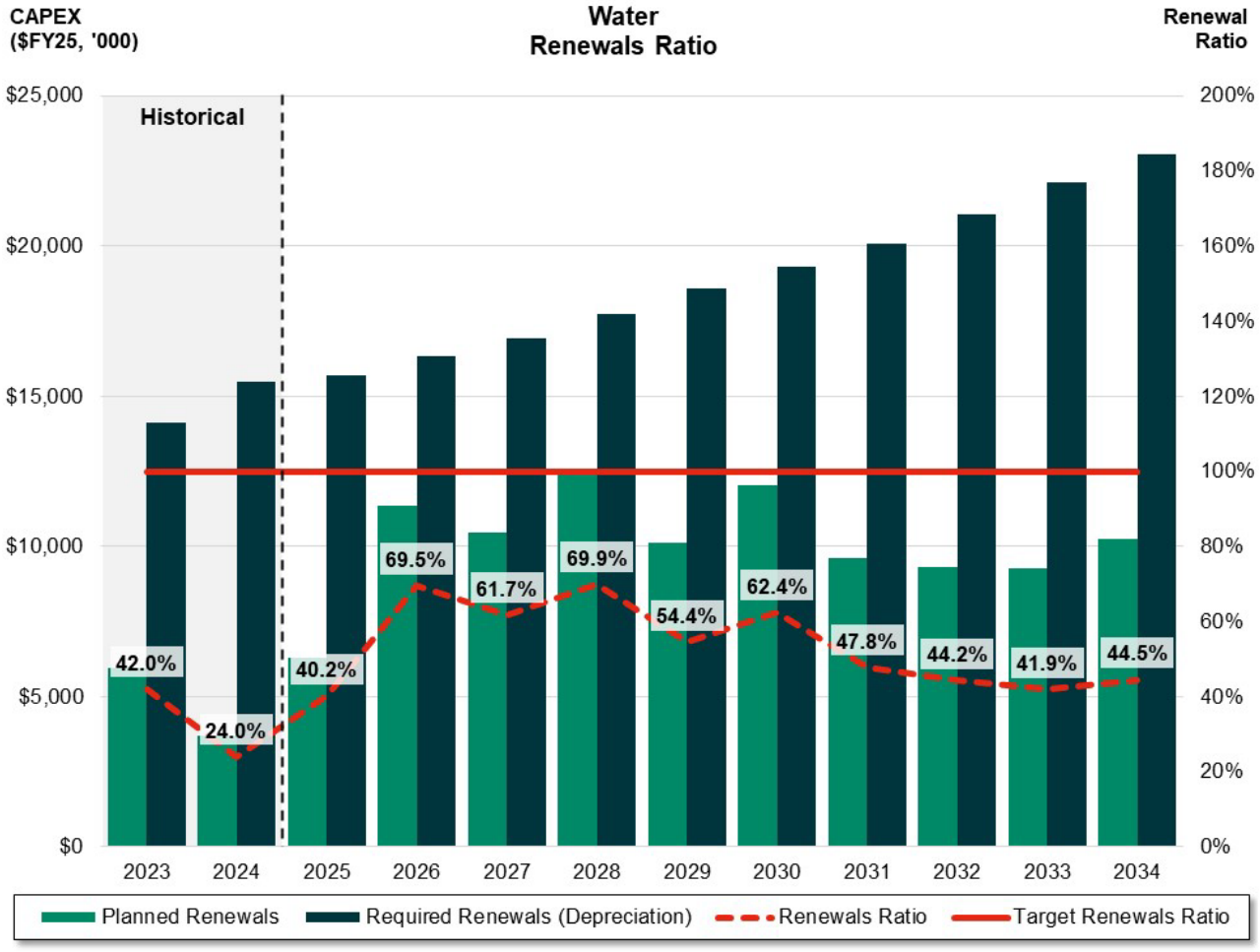


Figure 13 Water Assets Renewals Ratio

2. **Infrastructure Backlog Ratio**
   Refer to Section 6.3.5.

3. **Asset Maintenance Ratio**
   Refer to Section 6.4.

### 6.3.5 Backlog

Backlog calculations are based off the Target Condition 2 scenario funding requirements, as the current standard for condition defined by Council. Over the 10-year projection period, the Planned Budget, Target Condition 3 and Do Nothing scenarios accumulate various backlogs of work. Figure 14 presents the comparative backlog as cumulative totals, where after 10 years, Council can expect roughly $308.7 million (FY25) in backlogged works, following the planned budget, when compared to the required capex funding to reach a weighted average condition rating of 2.

The large backlog is not necessarily required by Council to fund, considering the Planned Budget scenario sufficiently sustains the portfolio to a satisfactory condition. It is recommended that Council reassesses how it establishes target condition states across its asset classes and differentiates between long-lived, high valued assets such as the water infrastructure and those which follow a steady degradation curve and asset replacement cycle more closely. This improvement opportunity is further detailed in Table 26.

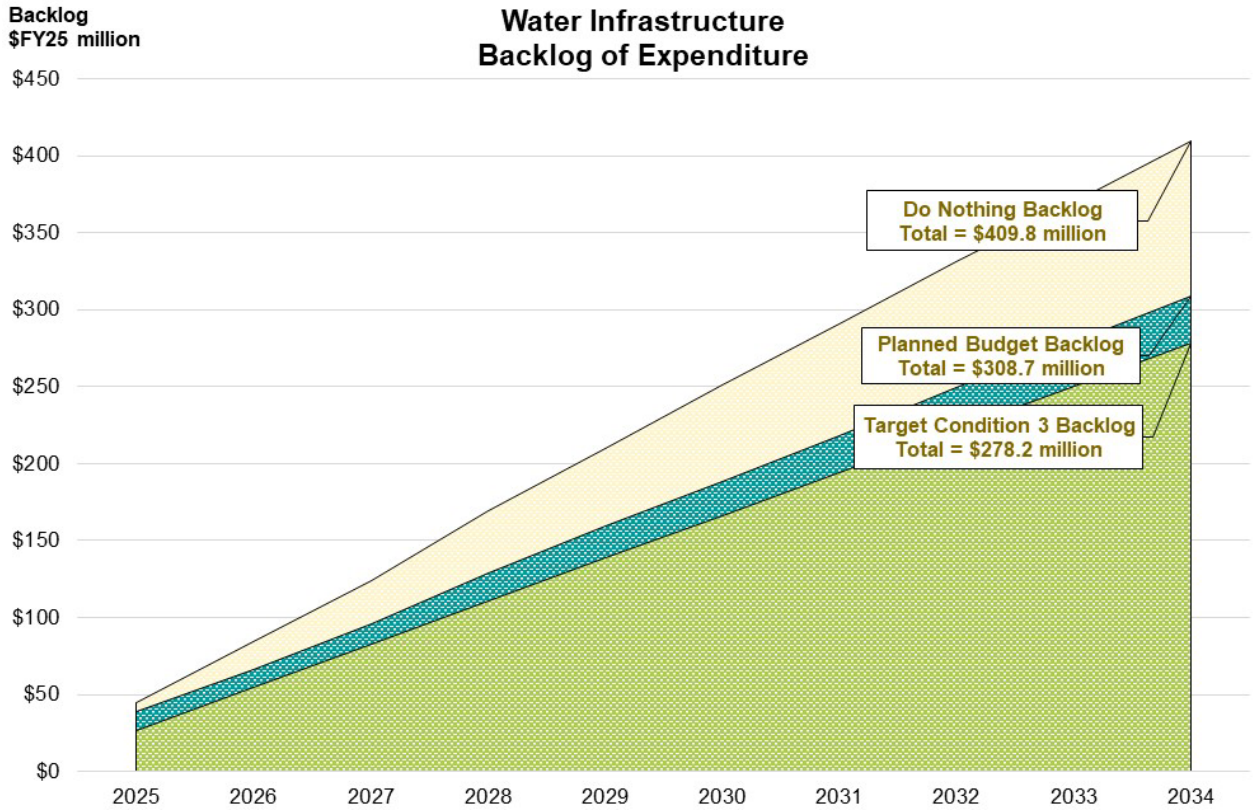


Figure 14 Backlog of Expenditure

### Infrastructure Backlog Ratio

This ratio indicates what proportion the infrastructure backlog is against the total value of the Council's water infrastructure. Increasing backlogs may affect the Council's ability to provide services and remain sustainable. The benchmark is less than 2%. Table 19 presents the backlog ratio over the next 10-years based on the Planned Budget funding scenario.

The amount of capital (backlog) required to achieve Council's targeted satisfactory condition state (rating of 2) is considered the difference between the Planned Budget funding and Target Condition 2 funding scenarios.

Total value figures for the water portfolio considers the Fair Value[37] of the assets and is depreciated by an annual depreciation of $15.9 million (FY25) and accounts for the annual capital investment following the Planned Budget funding scenario.

Table 19 Backlog Ratio (Satisfactory Target Condition 2)

| Financial Year | Estimated cost to bring assets to satisfactory standard ($FY25, '000) | Fair Value($FY25, '000) | Backlog Ratio |
|---|---|---|---|
| 2025 | $38,631 | $610,695 | 6.33% |
| 2026 | $27,800 | $604,469 | 4.60% |
| 2027 | $29,521 | $597,665 | 4.94% |
| 2028 | $32,645 | $592,081 | 5.51% |
| 2029 | $30,601 | $584,969 | 5.23% |
| 2030 | $29,519 | $579,323 | 5.10% |
| 2031 | $29,382 | $571,850 | 5.14% |
| 2032 | $31,383 | $564,131 | 5.56% |
| 2033 | $29,540 | $556,365 | 5.31% |
| 2034 | $29,707 | $549,401 | 5.41% |

The projected backlog ratio is presented graphically in Figure 15.

[37] Fair value represents the replacement cost of the assets minus depreciation. Fair value for 2024 has been sourced from Councils 2023-24 Water Assets register.

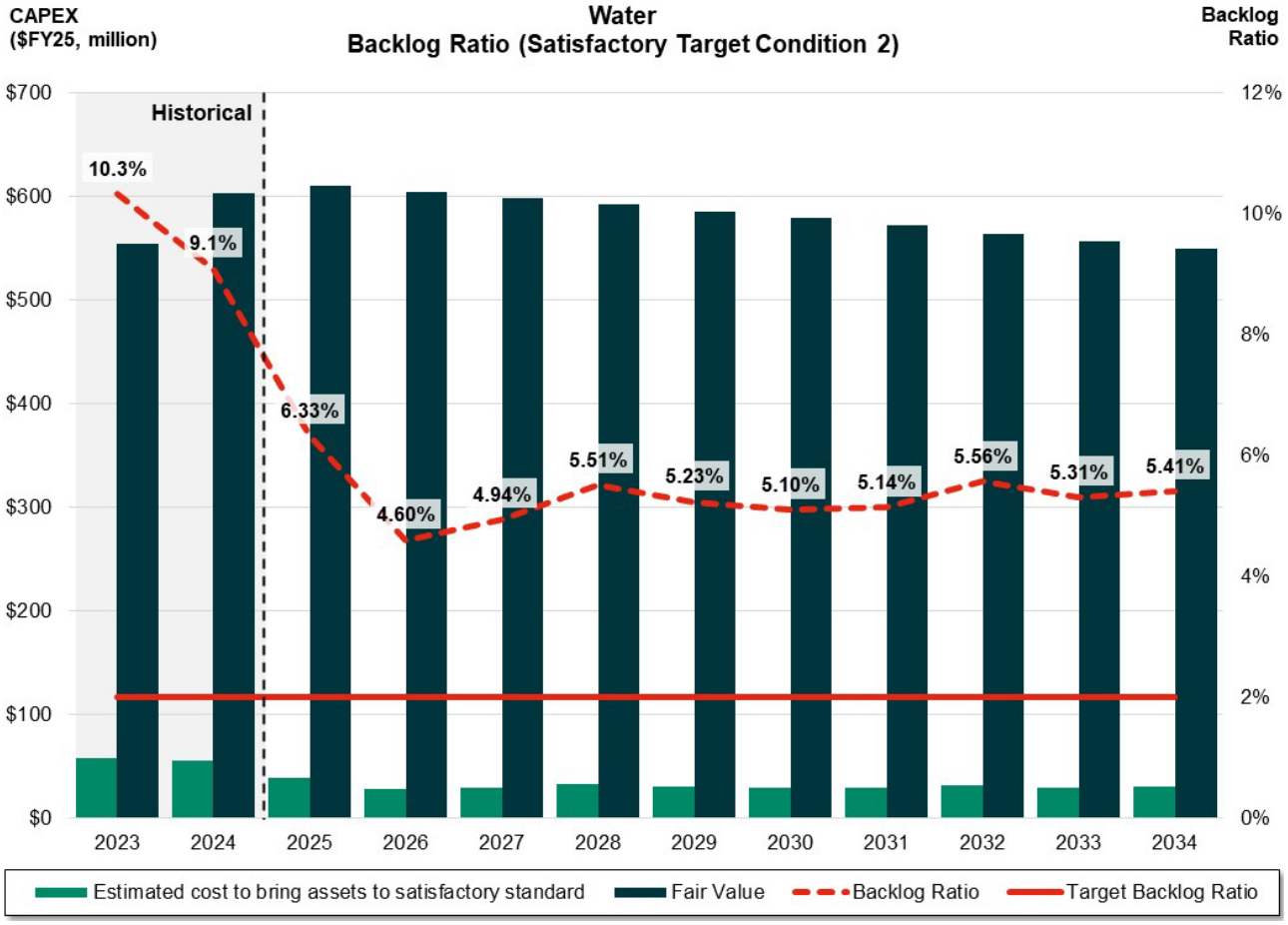


Figure 15 Backlog Ratio, Water Infrastructure (Satisfactory Target Condition 2)

### Comparison of Satisfactory Condition Ratings on the Backlog Ratio

A second backlog ratio has been calculated for the purposes of comparing the impact of various target condition states for the water infrastructure. Should Council adopt the recommended target condition rating of 3, the resulting backlog ratio would reduce within the benchmark of less than 2%. The results of this analysis is provided in Table 20, and the accompanying Figure 16.

Table 20 Backlog Ratio (Satisfactory Target Condition 3)

| Year (FY) | Estimated cost to bring assets to satisfactory standard ($FY25, '000) | Fair Value ($FY25, '000) | Backlog Ratio |
|---|---|---|---|
| 2025 | $12,045 | $610,695 | 1.97% |
| 2026 | -$161 | $604,469 | -0.03% |
| 2027 | $1,561 | $597,665 | 0.26% |
| 2028 | $4,684 | $592,081 | 0.79% |
| 2029 | $2,640 | $584,969 | 0.45% |
| 2030 | $1,558 | $579,323 | 0.27% |
| 2031 | $1,421 | $571,850 | 0.25% |

| Year (FY) | Estimated cost to bring assets to satisfactory standard ($FY25, '000) | Fair Value ($FY25, '000) | Backlog Ratio |
|---|---|---|---|
| 2032 | $3,422 | $564,131 | 0.61% |
| 2033 | $1,580 | $556,365 | 0.28% |
| 2034 | $1,746 | $549,401 | 0.32% |

Figure 16 depicts the backlog ratio considering a target condition rating of 3, against Councils benchmark of <2%.

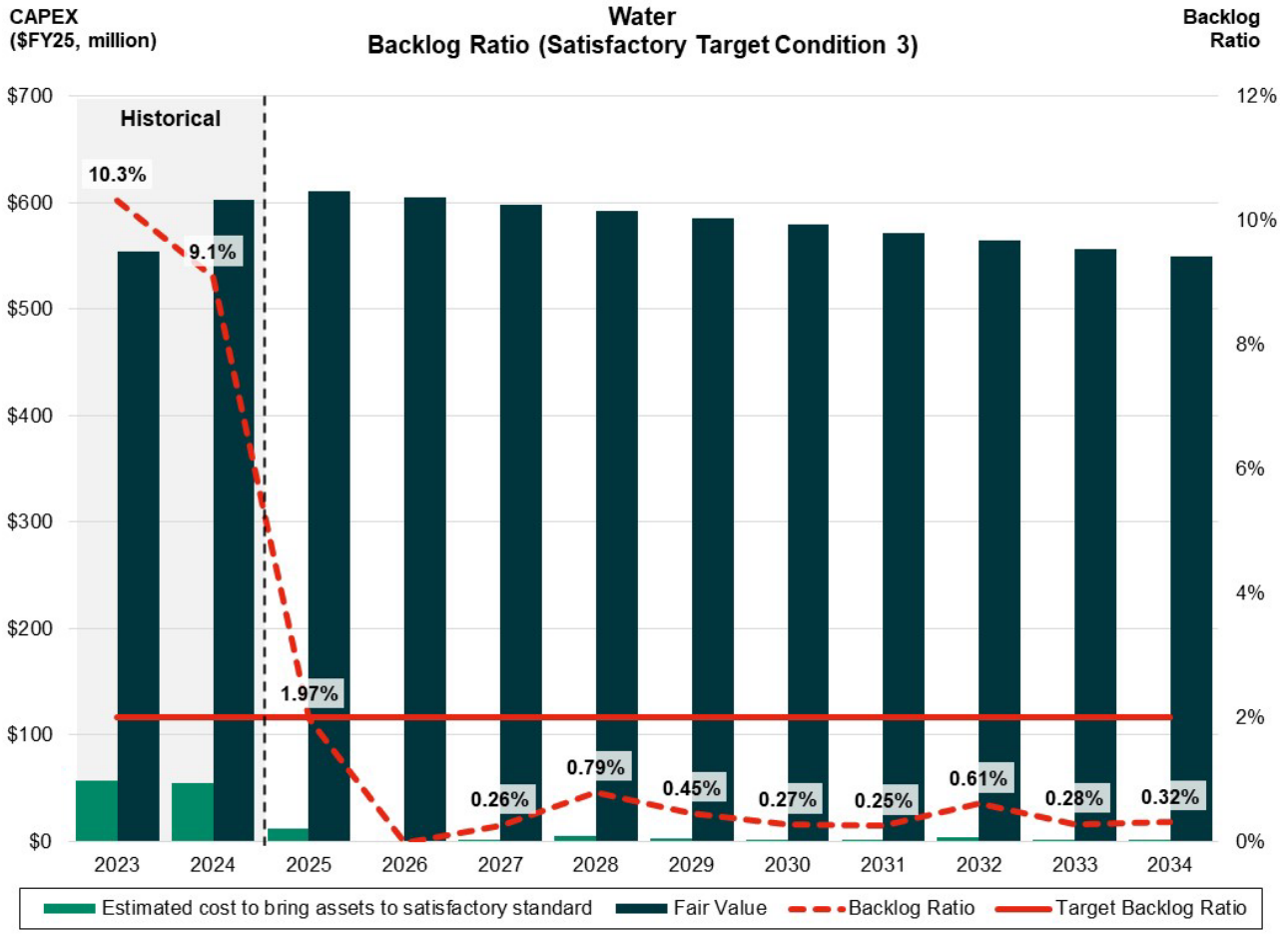


Figure 16 Backlog Ratio, Water Infrastructure (Satisfactory Target Condition 3)

### 6.3.6 Comparison of funding scenarios

The four funding strategies described in Section 6.2 each sustain the water portfolio to varying condition states over the period of the projection. Figure 17 provides a comparison for the impact that each funding profile has on the weighted mean condition of the portfolio.

In accordance with the Asset Management Strategy, Council have defined its satisfactory condition state to a rating of 2 ('Good'). The required capital to achieve this condition, however, is largely excessive for achieving the levels of service that are required from these assets. Following asset management standards such as the IAM and IIMM, it is recommended for Council to rather seek the funding required to sustain the portfolio to a condition state of 3 ('Satisfactory'), for a more prudent and optimal use of capital budgets.

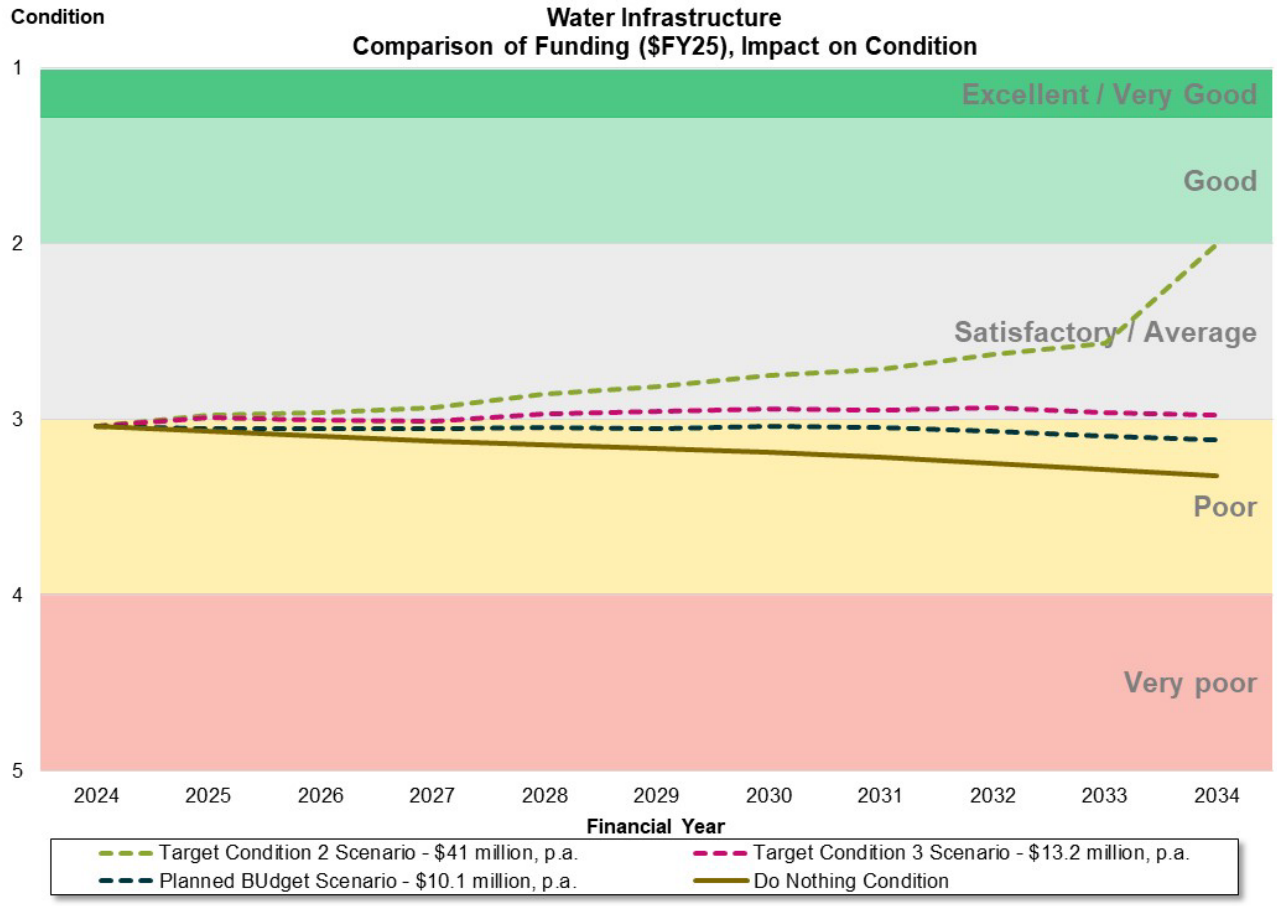


Figure 17 Comparison of Funding, Impact on Condition

Both the Target Condition 3 (dashed red line) and Planned Budget (dashed teal line) scenarios sustain the portfolio to a marginal satisfactory condition state. These two scenarios are both recognised as sustaining a mean condition state which allows the assets to provide their expected service requirements while managing a tolerable degree of risk for potential asset failures or service failure. The slightly lower condition, represented by the planned budget line, can be expected to take on a higher degree of risk. For this reason, it is recommended for Council to reassess the current condition state at routine intervals (3-5 years) to ensure the water assets do not deteriorate at a rate greater than that which is projected in these modelling outputs. The annual mean capital required to achieve Target Condition 3 funding, amounts to $13.2 million (FY25), whereas the Planned Budget scenario would require roughly $10.1 million, averaged annually in FY25 figures.

The ‘Do Nothing’ scenario provides a lower bound of asset condition, demonstrating the deterioration rate of the portfolio should no capital investment be made. This scenario (solid brown line) illustrates a slow rate of deterioration due to the water assets primarily being long lived, high value assets. While this scenario does not reach a very poor (failed) state over the period of the projection, Council would be taking on excessive risk of failure as a large portion of the assets would be in a poor to very poor condition, better demonstrated in the backlog figure in Section 6.3.5.

The dashed green line, representing the Target Condition 2 scenario, demonstrates the funding required to improve asset condition to Council’s targeted condition rating of 2. This scenario requires an average annual capital spend of $41 million in FY25 dollars.

## 6.4 Maintenance expenditure projections

Maintenance expenditure is classified by Council as planned and unplanned maintenance. Maintenance activities, as defined in Section 5.6 of the Asset Management Strategy, consider routine activities undertaken by Council to preserve the service capacity or durability of the assets as they age. For this reason, the projection of maintenance presented in Figure 18 shows the portion of both planned and unplanned maintenance. Figure 19 shows the same operational expenditure broken down by asset group. These figures have been sourced from the 2023-24 financial report[38].

Maintenance projections account for future acquisition of new assets as indicated through the 30-year planned capital projections and assumes a required percentage of maintenance for these new assets in-line with current maintenance spend as a percentage of the sewerage portfolio. A more detailed projection which accounts for changes in demand, required maintenance according to the change in condition of the assets and efficiency of the network is recommended to be included in the Asset Maintenance Strategy as a continual improvement.

The data which informs this graph has been assumed to be of nominal values, and as such, indexed against current CPI[39] rates and presented in nominal figures. The 10-year projection assumes past spend will continue over future years due to the nature of the works. Shaded columns in Figure 18 represent historical data and are categorised between planned and unplanned maintenance and operating expenses.

[38] MidCoast Council, Report on infrastructure assets as at 30 June 2024, Annual Financial Statements, 30 June 2024
[39] Reserve Bank of Australia, Statement of Monetary Policy, November 2024

*The dashed lines provide a benchmark range for the mean, 25th and 75th percentile O&M expenses across several comparable Councils (New South Wales – Rural) within a similar range of connected properties. The data which has informed these values is sourced from the Bureau of Meteorology (BoM)[40]. A detailed benchmarking exercise is captured in Table 26 for continual improvement to further assess performance and expenditure for Council against other regional Council's, in addition to water utilities, such as Hunter Water.

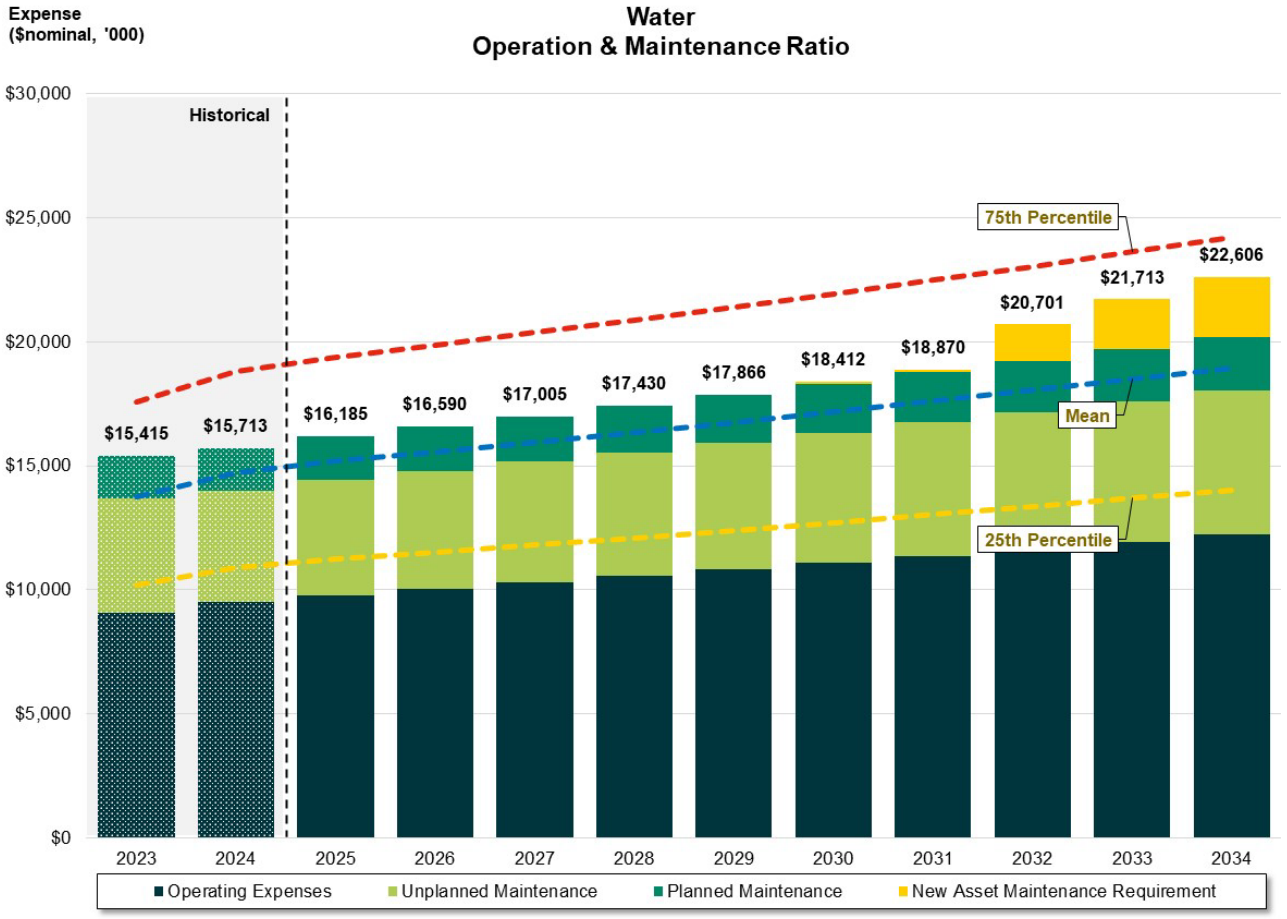


Figure 18 10-Year Operating and Maintenance Projection, by Type of Works

[40] Australian Government Bureau of Meteorology, Urban NPR 2022-23 Complete Dataset

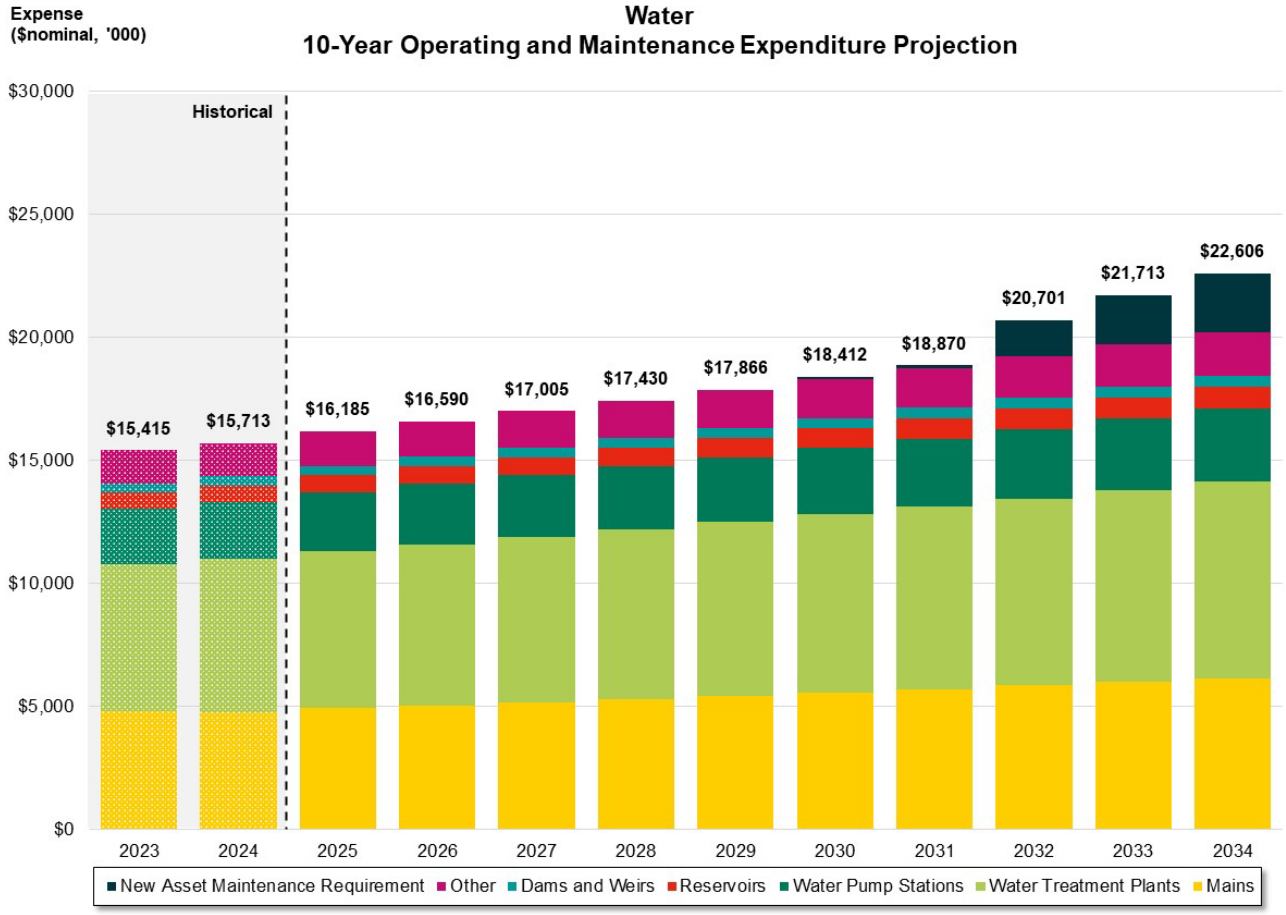


Figure 19 10-Year Operating and Maintenance Projection, by Asset Group

Total maintenance expenditure in FY25 dollars is expected to total $16.2 million, annually for the portfolio of water assets. The creation of new assets and/or decommissioning of existing assets accounts for an additional $6.1 million worth of operating and maintenance expenditure required over the 10 year period, and varies year on year based on the new asset projections estimated in the 30-year planned capital projections.

### Asset Maintenance Ratio

This ratio compares actual versus required annual asset maintenance. It measures whether Council is spending enough on maintaining its assets to avoid increasing its infrastructure backlog.

The maintenance ratio has been calculated assuming continued expenditure of the most recent years operational and maintenance expenses, sourced from the MCC Water Supply Income Statement. The ratio calculates the percentage of actual maintenance over required maintenance. Required maintenance has been informed by the Asset Management Strategy (2024-34). A summary of this ratio over a 10-year projection from FY25-FY34 is provided in Table 21.

The benchmark is greater than 100%.

Table 21 Water Assets Maintenance Ratio

| Year (FY) | Actual Maintenance ($nominal, '000) | Required Maintenance ($nominal, '000) | Maintenance Ratio |
|---|---|---|---|
| 2025 | $16,185 | $12,800 | 126.4% |
| 2026 | $16,590 | $13,325 | 124.5% |
| 2027 | $17,005 | $13,827 | 123.0% |
| 2028 | $17,430 | $14,458 | 120.6% |
| 2029 | $17,866 | $15,181 | 117.7% |
| 2030 | $18,412 | $15,768 | 116.8% |
| 2031 | $18,870 | $16,371 | 115.3% |
| 2032 | $20,701 | $17,166 | 120.6% |
| 2033 | $21,713 | $18,035 | 120.4% |
| 2034 | $22,606 | $18,796 | 120.3% |

Figure 20 graphically presents the values captured in the table above.

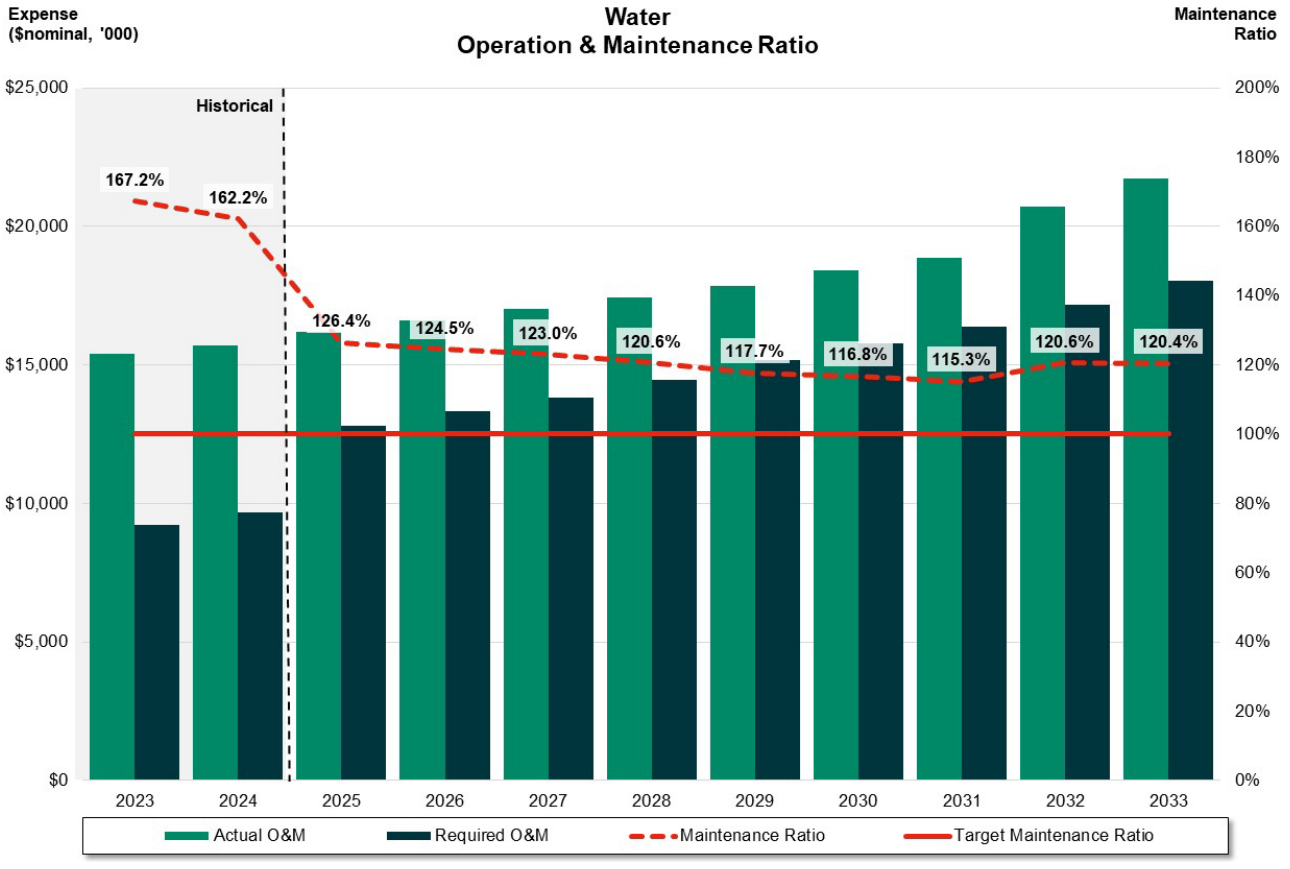


Figure 20 Water Assets Maintenance Ratio

## 6.5 Key assumptions made in financial projections

All costs used for the purposes of financial projections have been assumed current as of the time of developing this AMP. All asset information has been sourced from Council databases, as references in this AMP. Key assumptions made in the financial projections include:

- Indexation of costs applied the CPI rates sourced from the most current RBA inflation tables[41].
- On-costs are assumed included in the valuation figures sourced from the asset register. As such, no further on-costs for PM, contingency etc. have been included in the financial projections.
- Financial projections do not account for changes in demand for the assets which may impact the rate of deterioration and capital enhancements.
- Due to insufficient historical data, financial projections assume a standardised asset deterioration curve.
- A portion of expenditure is not captured in the financial projections due to gaps in asset data. These should be updated once accurate data is captured and updated in the asset register[42].
- Criticality ratings for reticulation assets is sourced from datasets provided by Rezatec Satellite AI. These datasets assign criticality against mains assets only. For this reason, asset categories, excluding mains, within the reticulation asset group, have been attributed the criticality rating of the mains system each asset belongs within. Refer to the works schedule in Appendix B to view the criticality and priority order of all assets.

[41] Reserve Bank of Australia, Statement of Monetary Policy, November 2024
[42] Councils 2023-24 Water Assets

- Lifecycle assumptions for Scenario 3 (Target Condition 2) are more aggressively adjusted, to achieve a condition rating of 2 over the period of the projection. This strategy to achieve a condition rating of 2 represents an unrealistic expenditure profile and does not necessarily represent the expenditure required to deliver the expected service and performance levels. The adjusted lifecycle assumptions are as follows:

    - Rolling replacement percentage assumptions for long lived, high value assets:

| | |
|---|---|
| **Scenario 1 (Target Condition 3) & Scenario 2 (Planned Budget)** | Adopts a steady state allocation of capital funding annually proportional to the useful life of the asset. This can be calculated as $\frac{1}{\text{Useful Life}}$ |
| **Scenario 3 (Target Condition 2)** | Adopts a steadily improving allocation of capital funding. This can be calculated as $\left(\frac{1}{\text{Useful Life}}\right) * 4$ |

    - Lifecycle intervention timing for Critical assets is shown in Table 22.

Table 22 Lifecycle Assumptions, Intervention Timing

| Criticality | Scenario 1 & 2 Intervention (%ULE) | Scenario 3 Intervention (%ULE) |
|---|---|---|
| 5 | 90% | 70% |
| 4 | 100% | 75% |
| 3 | 120% | 80% |
| 2 | 120% | 85% |
| 1 | 120% | 90% |

## 6.6 Projection reliability and confidence

The financial projections provided in this AMP use currently available data for the water assets. The accuracy of the projections is contingent on the reliability and confidence Council has in its data and data sources. Table 23 provides the criteria for assessing level of confidence.

Table 23 Asset Data Confidence Rating

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

The data used to inform this AMP has been assessed to have a confidence Grade B in accuracy and Grade B in completeness. Future iterations of this AMP should seek to continually improve the accuracy and completeness of asset information.

# DELIVERY OF THIS PLAN

# 7.0 Delivery of this Plan

This section describes the approach to be considered when planning for successful delivery of the works schedule. Delivery includes the roles and responsibility of the various levels of governance over the assets, as well as the types of constraints and response actions anticipated to occur when delivering the works.

## 7.1 Governance

Council's governance structure relating to asset management enables effective management of its assets. The daily process of asset management is delivered internally by the operations team, while strategic asset management decision-making, such as capital funding of major works, are co-ordinated by Council management on behalf of the NSW Government.

The roles and responsibilities of the personnel involved in the management of Council's water assets are summarised in Table 24.

Table 24 Asset Management Roles and Responsibilities

| Authority | Asset Management Responsibility |
|---|---|
| MidCoast Council | • Providing leadership and governance<br>• Adopting a corporate asset management policy and strategy<br>• Considering the impact of financial and service level decisions on Council's assets<br>• Ensuring that organisational resources are allocated to safeguard sustainable service delivery |
| MANEX & Extended MANEX (General Manager, Directors and Managers) | • Allocating resources to the implementation of the Asset Management Strategy and Plans<br>• Ensuring that actions identified in the Asset Management Strategy and Improvement Plan are completed within timeframes<br>• Ensuring the integration and compliance with the Asset Management Policy and Strategy with other policies and business processes of the organisation<br>• Developing and implementing maintenance and capital works programs in accordance with the Integrated Planning and Reporting documents<br>• Delivering Levels of Service to agreed risk and cost standards<br>• Ensuring the community is involved and engaged on all key Council matters affecting service delivery<br>• Managing infrastructure assets in consideration of long-term sustainability<br>• Presenting information to Council on lifecycle risks and costs<br>• Approve the Asset Management Plans |

| Authority | Asset Management Responsibility |
|---|---|
| Asset Management Working Group | • Reviewing the Asset Management Policy and Asset Management Strategy and ensuring integration with the Long-Term Financial Plan and other Integrated Planning & Reporting documents<br>• Monitoring the development and implementation of Asset Management Policy, Strategy and Plans<br>• Developing and reviewing policies, processes and practices to ensure effective asset management across the organisation<br>• The implementation of the Asset Management Improvement Plan<br>• Providing professional advice and collaborate with other departments of Council in relation to asset management<br>• Operating within an agreed 'Terms of Reference' |

## 7.2 Delivery

The successful delivery of this plan considers the availability of resources and any constraints which may impede on the ability for Council to carry out the strategies and processes captured in this AMP. Required works are generally organised and packaged by work discipline and / or trade for efficient delivery.

### 7.2.1 Procurement

Procurement of suitable internal resources to enable successful delivery of works should comply with Council's relevant employment policies and guidelines[43]. Similarly, sourcing external contractors, materials and assets where necessary to assist with works delivery, should comply with NSW Government's procurement laws[44] and regulations, in addition to internal Council policy[45].

### 7.2.2 Delivery constraints

Table 25 summarises the various factors which pose potential risks to successful delivery of the works.

[43] MidCoast Council, Equal Employment Opportunity (EEO) Management Plan and Fair Treatment Policy, 2022

[44] Government Procurement Act 2001 and Government Procurement Regulation 2007 / Local Government Act 1993

[45] MidCoast Council, Procurement Policy, 2019

Table 25 Delivery Constraints

| Delivery Constraint | Implication | Response Action |
|---|---|---|
| Presence of hazardous materials at work sites | Handling and disposal of hazardous materials (such as chlorine) must comply with Work Health and Safety 2017 and other standards that apply. This may constrain the delivery of works or increase contractor costs. | Check available chemicals registers of any materials prior to works commencing. Handle, dispose or relocate materials according to relevant controls. Arrange relocation of large quantities of chemicals prior to works, where required. |
| Materials disposal | Local material disposal is limited. Council aims to divert 70% of waste from landfill by 2030. | Material disposal should comply with any NSW Government asset disposal policies. Assets should look to be repurposed where possible to reduce disposals. |
| Outage / scheduling constraints | Service level targets related to service continuity could constrain the ability to interrupt service delivery (outage) and take control of assets (possession) for works. | Provide sufficient notice of planned minor works to customers according to Customer Charter.<br>The design of long-term, major works on critical assets (like the Manning scheme) should include delivery options considering outage constraints. |
| Availability of materials and equipment | The transport costs, biosecurity requirements and approval processes may constrain works delivery especially for unexpected failures of critical assets.<br>Major projects which may occur in the region, unrelated to water infrastructure, create additional impacts on the availability of materials and sourcing times. | Organise material and plant procurement with other projects to minimise transport costs and approval processes. This may require aligning the timing of works with other projects or delivering works that do not require extended sourcing time first. Hold critical spares in-Council for emergency works. |
| Retaining local resources | Where possible, works are to be sourced locally to minimise travel costs, support the local economy and align with the Commonwealth's Indigenous Procurement Policy. This may be difficult if works are infrequent or inconsistent. | Large capital projects are to be delivered in stages to provide consistent work for the local workforce, where the budget allows. |
| Availability of specialist skills and labour | Some works may require specific labour skillsets not available in regional locations. | Work requiring skillsets not found regionally should be scheduled together, where possible. Works may be scheduled with other projects outside of water. |

### 7.2.3 Funding constraints

Funding is assumed to be available for the identified works included in this AMP, however actual available funding may vary in subsequent years. Once funding is made available, Council should schedule works according to priority as indicated in this AMP.

Council should seek suitable funding from Government to enable it to effectively meet all legislative and service requirements. This AMP and subsequent AMPs shall be developed to best achieve this outcome.

# PLAN IMPROVEMENT AND MONITORING

# 8.0 Plan Improvement and Monitoring

Continual improvement is a key aspect of good asset management practices, as detailed in the ISO55001:2024 standard. Assessing an organisation's level of maturity against good practice highlights areas of weakness as well as opportunities to strengthen efficiencies and capabilities within the organisation.

This section summarises the ongoing state of asset management in Council by providing a series of improvement opportunities. They should be routinely reviewed and updated to reflect the current state of the practice.

## 8.1 Status of asset management practices

Asset management maturity at MidCoast Council is assessed at a basic level as of the time of developing this AMP. The most recent maturity assessment was undertaken in 2022, with the objective to reach a core level of asset management maturity by 2023. It is recommended for Council to undertake a more current assessment of maturity to confirm achievement of this target.

Council is committed to growing its capabilities and efficiency in asset management through developing and updating related strategies and documentation. It intends to drive organisational change through a cohesive understanding for the importance of asset management and the importance that each stakeholder at every level plays in driving forward this vision.

### 8.1.1 Accounting and financial data sources

Council currently maintains an extensive register of asset information for accounting and book purposes. This database is maintained to a substantial level of granularity for improved accuracy and quality of the financial figures. The financial database provides the source of information for annual budgetary reporting purposes and for the capture of the water asset portfolio's valuation, as presented in this AMP. The source of financial data informing this AMP has come from Councils Water Asset Register[46].

### 8.1.2 Asset management data sources

Asset information which contains the unique attributes specific to asset performance, condition, criticality and life expectancy, for asset management purposes is maintained in a separate register to that of financial use. This collation of asset information is maintained to the same level of granularity as the book database to allow cross referencing and reporting. The same hierarchy is applied across both registers for this same purpose. The source of asset data informing this AMP has come from the Water Asset Register[47].

[46] Councils 2023-24 Water Assets
[47] Councils 2023-24 Water Assets

## 8.2 Asset management improvement plan

A number of improvement opportunities to enhance the maturity, accuracy and operational efficiencies of the asset management practice within MidCoast Council has been identified through the development of this AMP. These actions are summarised in Table 26 with indicative timings for their implementation.

Table 26 Improvement Plan

| Improvement Area | Description | Timing |
|---|---|---|
| Delivery of works | There may be opportunities to package works to reduce the overall cost of delivery. Creating work packages will reduce the upfront supplier cost. | Ongoing |
| Asset failure data | Asset decay is influenced by a range of environmental factors. MidCoast Council should seek to record asset failure data to better inform its ability to predict future failure (this is achieved through Weibull Curve plotting for major asset classes – a method which applies the Weibull mathematical calculation for predictive future failure based on historical intervals). Further failure data, such as type of failure, component which failed, timing since last failure, etc. would improve predictive ability and better enable a clear linking of quantitative levels of service to asset life. | Ongoing |
| Collaboration and Engagement | Council's operational and technical teams aim to improve asset management processes, to ensure that decisions are based on current asset information, and that staff understand why improvements in asset management are needed, and are motivated to make this shift. This improvement is sourced and in line with the Water & Systems Strategic Business Plan[48]. | Ongoing |
| Technical Levels of Service | Development of this AMP identified a number of existing performance measures which do not align with the capabilities and capacity of current Council. These KPI's require updating to provide achievable targets which management and relevant staff can work towards attaining.<br>KPI's should constantly be reviewed and adjusted to reflect the current operational capacity and capabilities of Council. | Within 1-Year |

[48] Water & Systems Strategic Business Plan, February 2023

| Improvement Area | Description | Timing |
|---|---|---|
| Condition Standard | Council have defined its target (satisfactory) condition state for all asset classes to be at a rating of 2. While this condition rating would effectively allow the assets to meet their service expectations and eliminate most risks of potential asset failure, it is considered excessive and unrealistic for the water and sewer assets.<br>Due to the nature of this asset class, primarily being buried, non-public facing or used infrastructure, the water infrastructure can sufficiently provide all service requirements and maintain a tolerable degree of risk, according to Council's Risk Management Framework, when sustained at a condition rating of 3.<br>For this reason, it would be considered more prudent and cost effective for Council to reassess its objective condition ratings across each asset class.<br>Council are to engage with the community for consultation and feedback on the potential change to its Condition Standards. | Within 1-Years |
| Operational Asset Management Plans | Council are to prepare operationally focussed asset management plans to enable to efficient delivery of works, and provide line of sight between the organisational objectives, asset management plans and operational activities required of the assets. | Within 1-Year |
| Asset Hierarchy | Hierarchical structuring of asset information is necessary for Council to categorise, analyse and report on not only its Water assets but all asset classes within the organisation. Ongoing development of the current asset hierarchy is underway and further improvements and standardisation of this information shall be completed over the suggested time period. | Within 2-Years |
| Criticality | At the time of development for this AMP, criticality has been assessed at the facility level across the major asset groups. Council is to continue to assess criticality at the more granular asset component level, to improve prioritisation across the schedule of works. | Within 2-Years |
| Maintenance Strategy | Development of a Maintenance Strategy to detail the planned maintenance requirements for each of the tasks listed in this AMP. Inclusive of detailed tasks, number of impacted assets, resource requirements, timing and delivery methods. | Within 2-3 Years |
| Buildings | The buildings associated with water assets are currently included in both this AMP and the Buildings AMP. The information contained within this AMP should be consolidated into the Buildings AMP when the maturity of the data contained within that AMP is sufficient. | Within 3-Years |
| Roads | The roads associated with sewer assets require recognition in their respective transport asset planning documentation. | Within 3-Years |

| Improvement Area | Description | Timing |
|---|---|---|
| Asset Management Maturity | Council identify the objective of achieving a core level of asset management maturity by 2023 in its Asset Management Strategy 2022-32. Council should reassess Maturity following the completion of this AMP to review performance of this targeted KPI, and update this AMP accordingly. | Within 3-Years |
| Asset Planning and Creation Processes | Improvement to the asset planning and creation processes, including policy development, along with education to enhance the use of systems to support project managers, asset managers and accountants. | Within 3-Years |
| Asset Naming Convention | The asset naming convention is an established and well accepted location hierarchy which provides further classification and ordering of Council's assets by location, type and component. Following the completed review of the Asset Hierarchy, the naming convention information should be aligned to provide consistent and documented attribute information of the Water portfolio. This improvement opportunity is recommended to occur following the standardisation of the asset hierarchy. | Within 4-Years |
| Digital Capability | Council aim to move towards being a digital utility by introducing new and mobile technologies that supports planned maintenance decisions and allows operational staff to record, review and update asset information out in the field. This real-time capture of current asset data will improve data confidence and the accuracy of future updates to this AMP. This improvement is sourced and in line with the Water & Systems Strategic Business Plan. | Within 5-Years |

## 8.3 Monitoring and review procedures

This AMP is a live document that should be reviewed annually to support the strategy adopted by Council in the Asset Management Strategy 2023. In addition to annual reviews, a complete update to the AMP should occur every 4-years (or to align with the Integrated Planning and Reporting timeframes) to ensure accuracy and currency of asset information. The review of asset management planning includes:

- Assessment of asset condition – The frequency of inspections for critical assets should increase as the asset approaches its expected end of life state. The frequency of inspections for non-critical assets should reflect an acceptable level of risk. Condition data which is acquired from inspections should be used to support this AMP and validate projected works.

- Update to capital availability – Constrained scenarios presented in this AMP are aligned to indicative budgetary figures informed by Council. These figures should be updated to reflect any changes to capital availability for subsequent years in the projection.

## 8.4 Performance measures

The performance of Council's asset management system can be determined through the ability to meet and sustain service level requirements through the performance KPI's, indicated in Section 2.6. Measurements of performance should reflect the current requirements of the assets and be updated as these service level targets shift.

### 8.4.1 Industry Performance Indicators

NSW Department of Environment, Climate Change and Water[49] (DECCW - formerly Department of Planning and Environment) collects data for regional local water utilities for performance monitoring and reporting of water supply and sewerage data annually. This information is collected as part of the Regulatory and assurance framework for local water utilities which provides analysis of performance trends and measures of performance relative to other local water utilities. The monitoring and reporting information and analysis is used to:

- target regulatory effort and inform risk-based approach to regulation and assurance of local water utilities,
- take proactive action to drive improvements in risk management and performance and help local water utilities achieve their regulatory objectives.
- inform applications for local water utilities to develop new infrastructure.
- identify performance trends and strengthen local water utilities' responses to those changes.
- publish information to facilitate local water utilities' understanding of performance, including compared to other local water utilities, and opportunities to improve.
- provide information to customers and the community about the performance of local water utilities.

In 2022, the then Town Water Risk Reduction Program reviewed the department's approach to collecting, and reporting on, annual performance of local water utilities and committed to rationalising the department's indicator set in consultation with key stakeholders. The department sought feedback on:

- the proposed additional, NSW-specific indicators that are part of the full list of NSW performance indicators.
- the proposed list of key performance indicators for focused reporting and benchmarking products on key performance information for utilities and their customers.

The new full list of NSW performance indicators is to replace the annual indicator set the department currently uses for all local water utilities from the 2024 to 2025 reporting year, to align with the introduction of the revised National Performance Report indicator set, and to give utilities sufficient notice. The aim of these new indicators is to focus performance reporting and benchmarking for local water utilities on key performance information.

A full set of these indicators is attached in Appendix E.

[49] NSW Department of Planning and Environment Regulatory and assurance framework for local water utilities, July 2022

Water Services Association of Australia (WSAA) is the peak industry body representing the urban water industry. Its members provide water and sewerage services to over 24 million customers in Australia and New Zealand and many of Australia's largest industrial and commercial enterprises. WSAA was formed in 1995 as a non-profit organisation to foster the exchange of information between industry, government, and the community to promote sustainable water resource management. WSAA's demonstrated success in the standardisation of industry policy and practices, improving industry performance and establishing benchmarks and industry leading practices for water service processes and fostering the exchange of information on education, training, research, water and waste water management and treatment and other matters of common interest.

Every four years since 2004, WSAA has run an international asset management process benchmarking project, with the aim of improving the standard of asset management performance within the international water sector through the identification and promotion of leading practice.

In 2016, the WSAA Asset Management Customer Value (AMCV) benchmarking process reflected recent global trends in asset management. The assessment and scoring process was aligned with the principles of ISO55001:2024 that reflect customer-centric and value management approaches to deliver services. Participants from Australia, New Zealand, United States of America, Canada, United Kingdom and Japan participated. The AMCV 2016 outcomes provide an international perspective on asset management processes and activities across sectors that encompass organisational leadership, customer focus, and value optimisation as well as more traditional asset management areas.

MidCoast Council's Water & Systems business unit (formerly MidCoast Water) participated in the 2016 project. The AMCV assessed the following function areas of each participating organisation:

1. Organisational Management
2. Asset Capability and Forward Planning
3. Asset Acquisition
4. Asset Operation
5. Asset Maintenance
6. Asset Renewal
7. Asset Management Applications

WSAA has initiated the 2024 iteration of the AMCV project to assist local water utilities in prioritising their asset management focus. MidCoast Council is a participant of this project, and the results will be included in future AMPs as improvement opportunities.

# DEFINITIONS & REFERENCES

# 9.0 Definitions and References

## 9.1 Definitions

The following definitions provide the reader with an understanding of the terminology used in this AMP, in the context of asset management. Definitions are in accordance with those provided in the Asset Management Policy[50]. Use of this terminology outside the context of asset management may consider alternative meanings.

**Asset**

A physical item owned by Council that has economic value and enables services to be provided.

**Asset Lifecycle**

The life of an asset, from its acquisition to disposal.

**Asset Management Information System**

An asset management information system is a combination of processes, data and software applied to provide the essential outputs for effective asset management such as reduced risk and optimum infrastructure investment.

**Asset Management**

Asset management (AM) is a systematic process to guide the planning, acquisition, creation, operation and maintenance, renewal and disposal of assets.

**Asset Management Plan**

A plan developed for the management of an asset class that combines multi-disciplinary management techniques (including technical and financial) over the life cycle of the asset, in the most cost-effective manner to provide a specified level of service.

**Asset Management Strategy**

The Asset Management Strategy is a component of the Resourcing Strategy. It demonstrates how our assets support service delivery in consultation with the community and within available funding.

**Asset Register**

A record of asset information including inventory, historical, financial, condition, construction, technical, and financial details.

**Infrastructure Asset**

Infrastructure assets are typically large, interconnected networks or portfolios of composite assets, comprising components and sub-components.

**Level of Service**

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

[50] MidCoast Council, Asset Management Policy, 2020

**Lifecycle Cost**

The total cost of an asset throughout its useful life.

**Useful Life**

Either the period over which an asset or component is expected to be available for use by an entity, or the number of production or similar units expected to be obtained from the asset or component by the entity.

**Critical asset**

Asset/s having potential to significantly impact on the achievement of the organisation's objectives.

**Asset life**

Period from asset creation to asset disposal or decommissioning.

**Remaining service life**

The remaining service life is based on the current exposure conditions with no major rehabilitation works or interventions being assumed to occur.

**Prioritisation**

The approach to selecting which activity is to be completed ahead of another when faced with constraints on delivery.

**End of life**

The point in an asset's service life where it can no longer provide its intended service to the organisation or system.

**Capital maintenance**

Maintenance that improves the condition of the asset beyond its originally assessed standard of performance or capacity.

**Condition-based maintenance**

Preventive maintenance which includes a combination of condition monitoring and/or inspection and / or testing, analysis and the ensuing maintenance actions.

**Unplanned (reactive) maintenance**

Unplanned maintenance carried out to put an asset into a state in which it can perform a required function.

**Planned (routine) maintenance**

All actions necessary for retaining an asset as near as practicable to its original condition, excluding rehabilitation or renewal.

**Preventative maintenance**

Maintenance carried out at predetermined intervals, or corresponding to prescribed criteria, and intended to reduce the probability of failure or the degradation in performance of an item.

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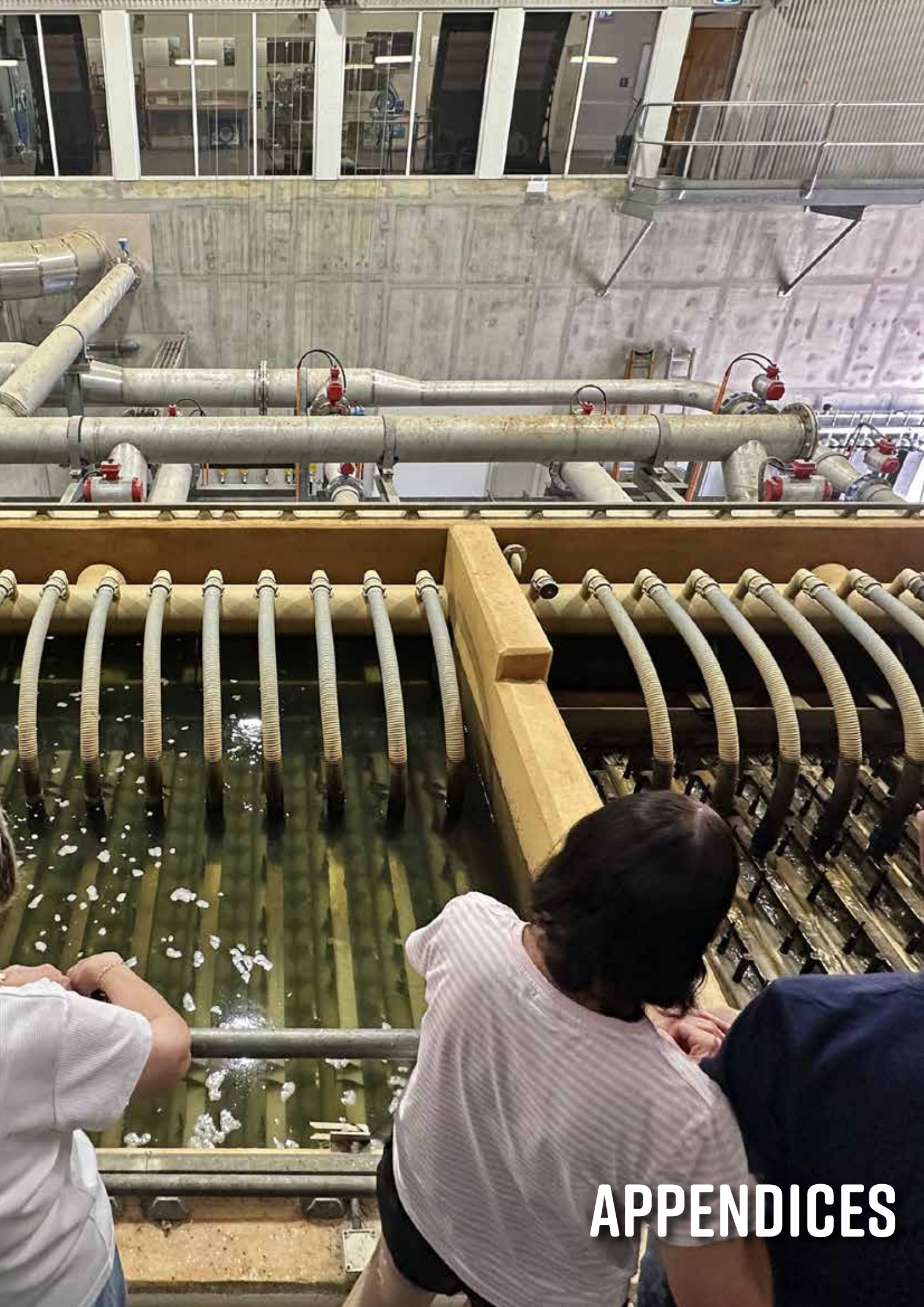
- NSW Department of Planning and Environment Regulatory and assurance framework for local water utilities, July 2022
- MidCoast Council, Asset Management Policy, 2020



# APPENDICES

# Appendix A- Capital Works Schedule

**Capital Project Schedule (Basis for this Plan)**
MidCoast Council, 30 yr CAPEX projects.xlsx (October 2024)
**Capital Project Schedule (Latest Version)**
M:\Water Asset Planning\LONG TERM FINANCIAL MODELLING\Financial Plan\30 yr CAPEX projects - Oct 2024

# Appendix B- Planned Maintenance

Table 27 Planned Maintenance Schedule

| Description of works | Frequency |
|---|---|
| 11 kV Switchboard Minor Service | 1 Year |
| 3.3 kV Switchboard Minor Service | 1 Year |
| Access Structures Safety Inspection | 1 Year |
| Aeration Tower Mechanical Inspection | 1 Month |
| AfterCooler Inspection | 6 Months |
| Air Compressor Major Service | 1 Year |
| Air Compressor Minor Service | 6 Months |
| Air Conditioning Service | 6 Months |
| Air Dryer Mechanical Service | 3 Months |
| Air Header Pressure Switch Function Test | 2 Years |
| Air Pulse and Extraction Fan Inspection | 1 Year |
| Air Receiver Condensate Drain Service | 6 Months |
| Air Scour Blower Temp Trans Verification | 2 Years |
| Alum Filter Inspection | 1 Year |
| Analyser Inspection | 1 Month |
| Annual Dam Safety Report | 1 Year |
| Annual Electrical Inspection | 1 Year |
| Annual Operator Service | 1 Year |
| Arkal Filter Unit Service | 1 Year |
| Automatic Control Valve Inspection | 6 Months |
| BAC Filter Quality Check | 1 Year |
| Backup Generator Test Run | 1 Month |
| Battery Charger Minor Service | 2 Years |
| Bermad Flow Control Valve Inspection | 1 Month |
| Bilge Pump (Sump Pump) 1 Inspection | 6 Months |
| Blower Electrical Inspection | 2 Years |
| Blower Mechanical Inspection | 3 Months |
| Bridge Structural Inspection | 10 Years |
| Building Inspection and Gutter Clean | 1 Year |
| Building Structural Inspection | 10 Years |
| Bund Integrity Test | 5 Years |
| BW Pump Isolation Valve Exercising | 1 Year |

| Description of works | Frequency |
|---|---|
| BW Pump Unit Lubrication | 6 Months |
| Cable Pit Inspection | 2 Years |
| Cabling IR test | 10 Years |
| Cabling Visual Inspection | 1 Year |
| Catalytic Destructor Checks | 1 Year |
| Cathodic Protection Inspection | 2 Months |
| Centrifuge Mechanical Inspection | 2 Years |
| Centrifuge Minor Service | 1 Month |
| Chemical Dosing Pump Test | 3 Months |
| Chlorinator Online Chlorine | 1 Year |
| Chlorine Booster – Hypo | 1 Month |
| Chlorine Dosing Mechanical Service | 1 Year |
| Chlorine Gas System Service | 1 Month |
| Chlorine Injector Mechanical Service | 6 Months |
| Chlorine Leak Detector Calibration | 1 Year |
| Chlorine Leak Detector Function | 1 Month |
| Chlorine Scale Service | 1 Year |
| CIP Hot Water Pump | 1 Year |
| Clarifier Bearing Greasing | 3 Months |
| Clarifier Cleaning and Inspection | 1 Year |
| Clarifier Impeller & Rake Lubrication | 1 Month |
| Clarifier Sludge Level Check | 1 Year |
| Clarifier Structural inspection | 5 Years |
| Clarifier Waste Valve Manual Bypass | 1 Year |
| Clear Water Tank Clean & Inspection | 2 Years |
| Clear Water Tank Diver Inspection | 5 Years |
| CO2 System Inspections | 1 Year |
| Coag Dosing Pump Mechanical Inspection | 1 Year |
| Comms Tower Inspection | 5 Years |
| Compliance Air + Inert Gas PSV Test | 5 Years |
| Compliance Appliance Test and Tag | 6 Months |
| Compliance Boiler + Corrosive PSV Test | 1 Year |
| Compliance Crane Major Inspection | 3 Years |
| Compliance Crane Routine Service | 3 Months |

| Description of works | Frequency |
|---|---|
| Compliance Crane Third Party Inspection | 1 Year |
| Compliance Emergency Light Inspection | 1 Year |
| Compliance External Vessel Inspection | 2 Years |
| Compliance Fall Arrest Device Inspection | 6 Months |
| Compliance Fire Exting Service (1 year) | 1 Year |
| Compliance Fire Exting Service (5 year) | 5 Years |
| Compliance Fire Exting Service (6-month) | 6 Months |
| Compliance Fire Hydrant Service (1 year) | 1 Year |
| Compliance Fire Hydrant Service (1-month) | 1 Month |
| Compliance Fire Hydrant Service (5 year) | 5 Years |
| Compliance Fire Hydrant Service (6-month) | 6 Months |
| Compliance Flotation Devices Inspection | 6 Months |
| Compliance Internal Vessel Inspection | 4 Years |
| Compliance Lifting Structure Inspection | 2 Years |
| Compliance Major Inspection | 7 Years |
| Compliance RCD Operating Time Testing | 1 Year |
| Compliance RCD Push Button Testing | 6 Months |
| Compliance Safety Showers Service | 1 Year |
| Compliance Safety Valve Inspection | 1 Year |
| Compressed Air Dryer Minor Service | 1 Year |
| Compressor Belt Check | 1 Year |
| Compressor Mechanical Inspection | 6 Months |
| Cooling Fan Bearing Greasing | 1 Month |
| Cooling Fan Mechanical Inspection | 3 Months |
| Dam Inlet Tower Valve Exercising | 1 Year |
| Dam Inspection A | 5 Years |
| Dam Inspection B | 1 Month |
| Dam Pipe Check | 1 Year |
| Dam Surface Mixer Gearbox Service | 1 Year |
| Distribution Board Inspection | 1 Year |
| Diver Inspection of Dam Inlet | 1 Year |
| Diver Internal Inspection | 2 Years |
| Dosed Water pH Analyser Calibrate | 6 Months |
| DSEP Emergency Exercise | 3 Years |

| Description of works | Frequency |
|---|---|
| Dust Extractor Functional Check | 1 Year |
| Earth Grid Spec Service | 6 Months |
| Earthing Protection System Inspection | 1 Year |
| Eductor Nozzle Check | 3 Months |
| Effluent Drainage Service | 1 Year |
| Electrical Cabling | 1 Year |
| Electrical Cabling Pits | 2 Years |
| Electrical Inspection | 1 Year |
| Electrical Reticulation Function | 1 Year |
| Electrical Service | 6 Months |
| Elevator Service | 6 Months |
| E-stop Function Checks | 1 Year |
| E-Stop, Isolator Panel Electrical Checks | 1 Year |
| External Operator Inspection | 1 Month |
| Fence Security Inspection | 3 Months |
| Filter Element Service | 6 Months |
| Filters Access Safety Inspection | 1 Year |
| Filtrate Pump Efficiency Test | 3 Years |
| Filtrate Pump Unit Lubrication | 1 Month |
| Filtration Tank Inspection | 3 Months |
| Flash Mixer Gear Box Oil Change | 2 Years |
| Flow Switch Inspect and Function Check | 1 Year |
| Flowmeter Verification and Inspection | 1 Year |
| Fluoride Bag Unloader Filter Inspection | 1 Year |
| Fluoride Bund Level Sensor Test | 6 Months |
| Fluoride Hopper Slide Gate Exercising | 1 Year |
| Fluoride PPE Inspection | 1 Month |
| Fluoride Tank Inspection | 1 Year |
| Gantry and Scraper Drive Lubrication | 6 Months |
| Gearbox Service | 2 Years |
| Grounds & Site Maintenance | 6 Months |
| Grounds General Security Inspection | 6 Months |
| Hand Valve Discharge Functional Check | 1 Year |
| High Level Switch Function Test | 1 Year |

| Description of works | Frequency |
|---|---|
| High Lift Pump Mechanical Service | 6 Months |
| Hot Water Pump Mechanical Check | 6 Months |
| HV and Substation Electrical Testing | 10 Years |
| HV Motor Lubrication Service | 1 Year |
| HV Switchyard Inspection | 1 Year |
| Hygiene Inspection of Clear Water Tanks | 5 Years |
| Hypo Bund Hydro Test | 5 Years |
| Impeller & Rake Mechanical Service | 2 Years |
| Impressed Current Device Inspection | 6 Months |
| Instrument Calibration and Inspection | 1 Month |
| Int. Dam Surveillance Report | 2 Years |
| Isolation Valve Inspection | 1 Year |
| ISV & PRV Inspection and Exercise | 1 Year |
| IT Comms Equipment Service | 1 Year |
| Large Manual Iso Valve Functional Checks | 1 Year |
| LCP Inspection | 1 Year |
| Level Switch and Alarm Functional Check | 1 Year |
| Lime Hopper Valve Checks | 6 Months |
| Lime Silo Weight Scale Calibration | 1 Year |
| Lime Slurry Pump Mechanical Inspection | 6 Months |
| Lime Slurry Tank Clean | 6 Months |
| Lime Storage Structural Inspection | 10 Years |
| Load Cells Calibration | 2 Years |
| Low Level Switch Function Test | 1 Year |
| Major Dam Surveillance Report | 5 Years |
| Major Electrical Inspection | 2 Years |
| Major Operator Inspection | 2 Years |
| Manual Valve Gearbox Check | 1 Year |
| Mechanical Service | 6 Months |
| Media Filter Inspection | 1 Month |
| Media Filter Structural Inspection | 5 Years |
| Mem Filter Man Iso Valve Exercising | 2 Years |
| Mixer Mechanical Service | 2 Years |
| Monthly External Operator Inspection | 1 Month |

| Description of works | Frequency |
|---|---|
| Motor Bearing Lubrication | 6 Months |
| Motor Electrical Testing | 3 Months |
| Non Return Valve External Inspection | 6 Months |
| Nozzle Inspection | 10 Years |
| NRV Mechanical Service | 1 Year |
| O&M Plan Update | 5 Years |
| Online Chlorine | 1 Year |
| Operator Service | 6 Months |
| OSS Pontoon & Screens Inspection | 2 Years |
| Ozone Diffuser Grid | 1 Year |
| Ozone Generator Service | 3 Months |
| Ozone Tank Diver Inspection | 1 Year |
| Panel Electrical Inspection | 1 Year |
| Performance Readings and Pump Service | 6 Months |
| PFCU Major | 2 Years |
| PFCU Minor | 1 Year |
| pH Analyser Calibration | 3 Months |
| Pipework Inspection | 10 Years |
| Pit Structural Inspection | 1 Year |
| Planned Pest Control Contract | 6 Months |
| PLC Battery Service | 3 Years |
| PLC Inspection | 1 Year |
| Polymer Dosing Pump Mechanical Checks | 6 Months |
| Polymer Hopper Inspection | 2 Years |
| Power Generator Specialist Service | 1 Year |
| Pressure Indicator Functional Check | 1 Year |
| Pump Condition Monitoring (Vibration) | 3 Months |
| Pump Mechanical Inspect and Lubrication | 6 Months |
| Pump Performance Test | 3 Months |
| Pump Structural Inspection | 1 Month |
| Raw Water 900 Butterfly Valve Exercising | 1 Year |
| Raw Water Screens and DestratD | 1 Year |
| Raw Water to Clarifier Inflow Meter | 6 Months |
| Raw Water Trunnion Winch Inspection | 1 Year |

| Description of works | Frequency |
|---|---|
| Raw Water Valves Mechanical Service | 1 Year |
| Raw Wtr PSTN Controls Verifications | 2 Years |
| Raw Wtr PSTN Penstock Exercising | 2 Years |
| Raw Wtr PSTN Valve Exercising | 2 Years |
| Recirculation Pump Service | 6 Months |
| Refrigerant Dryer Mechanical Checks | 1 Year |
| Relief Valve Mechanical Inspection | 3 Months |
| RES 1M Operator External Inspection | 1 Month |
| RES 1Y Operator Inspection | 1 Year |
| RES 1Y Roof Structural Inspection | 1 Year |
| Reservoir Scour | 1 Year |
| RES-WPS Diver Internal Inspection | 4 Years |
| Reuse Pond Inspection | 1 Year |
| Review Dam Safety Management | 1 Year |
| Review of DSEP Contact Informa | 1 Year |
| Rising Main Inspection | 1 Year |
| Rising Main Ultrasound Inspection | 10 Years |
| Roller Door Maintenance & Operational Check | 1 Year |
| ROM Central Water Mains Inspection | 1 Year |
| ROM North Water Mains Inspection | 1 Year |
| Roof Inspection and Clean | 6 Months |
| Roof Structural Inspection | 1 Year |
| Rotary Valve and Bin Activator Service | 6 Months |
| Rotating Drum Screen Mechanical Inspection | 3 Months |
| Rotork Actuator Battery Replacement | 5 Years |
| RPZ/Backflow Device Annual Inspections | 1 Year |
| RTU Functional Test/Cubicle Inspection | 1 Year |
| RWPS Delivery Valve Exercising | 1 Year |
| RWPS Pipework Inspection | 1 Year |
| RWPS Road Bridge Pipework Inspection | 1 Year |
| RWPS Telemetry | 1 Year |
| Safety Valve Service | 1 Year |
| Sand Filter Inspection | 1 Year |
| SCADA Server Cubicle Inspection & Service | 1 Year |

| Description of works | Frequency |
|---|---|
| SCBA01 Contract Servicing | 6 Months |
| Security Inspection | 6 Months |
| Security System Cameras Inspection | 1 Year |
| Silo Vibrator Functional Check | 1 Year |
| Site Fencing Inspection | 4 Months |
| Site Security Service | 1 Year |
| Sludge Lagoon Inspection | 6 Months |
| Slurry Mixing Tank Inspection and Service | 3 Months |
| Slurry Pump Hose Replacement | 2 Years |
| Slurry Pump Mechanical Service | 1 Year |
| Slurry Tank Level Switch Check | 1 Year |
| Static Mixer Inspection | 1 Year |
| Stop Valve External Inspection | 6 Months |
| Strainer Inspection | 6 Months |
| Structural Inspection | 5 Years |
| Submersible Mixer Service | 1 Year |
| Submersible Pump Electrical Testing | 1 Year |
| Submersible Pump Mechanical Inspection | 1 Year |
| Sump Pump Functional Check | 3 Months |
| Sump Pump Inspection | 1 Year |
| Switch Function Check and Inspection | 1 Year |
| Switchboard Electrical Examination | 5 Years |
| Switchboard Electrical Inspection | 1 Year |
| SWRI Screen Clean & Inspection | 2 Years |
| Tank Access Safety Inspection | 1 Year |
| Tank Clean and Instrumentation Check | 6 Months |
| Tank External Inspection | 1 Year |
| Tank Inspection and Bund Test | 5 Years |
| Tank Level Indicator Functional Check | 1 Year |
| Tank Structural Inspection | 5 Years |
| Telemetry Battery Replace | 3 Years |
| Telemetry Equipment Service | 1 Year |
| Timber Comm Pole Inspection | 2 Years |
| Transformer External Inspection | 1 Year |

| Description of works | Frequency |
|---|---|
| Transformer Major Service | 2 Years |
| Transformer Minor Service | 1 Year |
| Treated Water Level Transmit | 1 Year |
| Turbidity Meter Check | 2 Years |
| TW Disch Flow Switch Inspection | 2 Years |
| TWR Chlorine Analyser Service | 1 Month |
| TWR Fluoride Analyser Service | 1 Month |
| TX Oil Check | 2 Years |
| TX Relay Functional Check and Calibration | 1 Year |
| TX Service | 6 Months |
| UPS Battery Replacement | 3 Years |
| UPS Functional Testing | 1 Year |
| Vacuum Regulator Operating Test | 6 Months |
| Valve Exercising and Inspection | 1 Year |
| Valve Mechanical Inspection | 1 Year |
| Valve Pit Operator Service | 6 Months |
| VSD Electrical Inspection | 6 Months |
| VSD Filter Service | 6 Months |
| Warm Water Tank Level Sensor Function Check | 1 Year |
| Warm Water Tank Temp Validation | 1 Year |
| Waste Water Pump Service | 1 Year |
| Waste water Pump Mechanical Inspection | 1 Year |
| Weighbridge Calibration | 1 Year |
| Wells and Pits Cleaning and Inspection | 1 Year |
| Wells and Pits Cover Safety Inspection | 2 Years |
| Wells and Pits Structural Inspection | 10 Years |
| Wet well level indicator | 2 Years |
| WW Pump Operational Check | 1 Month |
| Yaypo Dam Water Meter Check | 1 Year |

# Appendix C - Risk Management Framework

MIDCOAST council

## ORGANISATIONAL
## Risk Assessment Criteria

**Risk rating = consequence rating x likelihood rating**

| Risk Rating = C x L | | Consequence rating: Financial (impact on the organisation) | Worker health & wellbeing | Public health & wellbeing | Service delivery & infrastructure | Compliance | Environment | Reputation | Likelihood rating: The event may occur but only in exceptional circumstances; no past event history. <2% | The event could occur at some time, no event history. 2-20% | The event might occur at some time; some past warning signs or previous event history 21-60% | The event will probably occur in most circumstances in the current environment; some recurring past event history. 61-90% | The event is expected to occur in most circumstances in the current environment; frequent past event history. >90% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Risks that have a financial impact on the organisation (revenue, expenses, assets, liabilities, reserve) | Risks that impact the health and safety of staff, as well as contractors & volunteers | Risks that impact the health and safety of the community | Risks that impact the ability to deliver internal and external services (includes assets and technology) | Risks that impact compliance with legislation and regulatory requirements | Risks that impact the natural environment | Risks that impact Council's reputation in the community and media, as well as with the government | Rare | Unlikely | Possible | Likely | Almost Certain |
| | | | | | | | | | 1 | 2 | 3 | 4 | 5 |
| Severe | 5 | Major financial loss >$3million | Fatality; permanent disability, illness or disease; long term impact on staff morale/performance across organisation | Fatality; permanent disability; illness or disease; widespread health impacts across LGA<br>**Water & sewerage ops**<br>One or more fatalities and/or a widespread illness (multiple suburbs/towns) attributable to drinking water contamination or sewage exposure | Ongoing inability to deliver key services; widespread customer dissatisfaction; threat to viability of organisation<br>**Water & sewerage ops**<br>Continuity of supply: disruption to >5% of customers for 4 hours; **OR** Continuity of operations: Long term (months) effects on an element of operations | Major breach of legal obligations; adverse findings against Council and / or individuals; major fines or penalties (>$1mil); possible imprisonment; dismissal of Council | Critical, long term irreversible impacts on the environment | Sustained adverse local, state and/or national media attention; severe widespread dissatisfaction and loss of community trust; potential loss of Government support & adverse intervention | Medium (5) | High (10) | High (15) | Extreme (20) | Extreme (25) |
| Major | 4 | Significant financial loss $500,000 - $3million | Long term illness or injury; extensive medical attention and leave required; medium term impact on staff morale/performance within multiple business areas | Long term illness or injury; long term medical attention required; health impacts in multiple Council localities<br>**Water & sewerage ops**<br>Illness affecting customers in many streets within a suburb/town attributable to drinking water contamination or sewage exposure | Long term disruption to delivery of several services, incl. some key services; significant inconvenience & high level customer dissatisfaction<br>**Water & sewerage ops**<br>Continuity of supply: disruption to <5% of customers for 4 hours; **OR** Continuity of operations: major and/or medium term (weeks) effects on an element of operations | Significant breach of legal obligations; adverse finding with long term significance; significant fine / penalty | Severe, medium to long term potentially irreversible impacts on the environment | Significant adverse local / state media attention; public outcry and community dissatisfaction across multiple Council localities; potential government agency enquiry | Low (4) | Medium (8) | High (12) | High (16) | Extreme (20) |
| Moderate | 3 | Substantial financial loss $100,000 - $500,000 | Injury or illness requiring medical attention; several days leave; short term impact on staff morale / performance | Medium term illness or injury; medical attention required; health impacts in single Council locality<br>**Water & sewerage ops**<br>Customers in multiple streets within a suburb/town exposed to contaminated drinking water or sewage | Medium term disruption to delivery of several services; moderate inconvenience & increased customer dissatisfaction<br>**Water & sewerage ops**<br>Continuity of supply: disruption to multiple of customers (many streets) for 4 hours; **OR** Continuity of operations: moderate and/or short-medium term (weeks/months) effects on an element of operations | Substantial breach of legal obligations; adverse finding; substantial fine / penalty | Potentially significant medium term reversible impacts on the environment | Short-term adverse local and / or social media attention; moderate community dissatisfaction; potential government agency concern | Low (3) | Medium (6) | Medium (9) | High (12) | High (15) |
| Minor | 2 | Minor financial loss $10,000 - $100,000 | Minor injury; first aid required; minor impact on individual staff morale / performance | Short term isolated incidents of illness or injury; first aid required<br>**Water & sewerage ops**<br>Some customers (neighbouring households) exposed to contaminated drinking water | Short term minor impact on service delivery; some inconvenience & customer dissatisfaction<br>**Water & sewerage ops**<br>Continuity of supply: disruption to multiple customers (approx. 20 neighbouring households) for 4 hours; **OR** Continuity of operations: minor and/or short term (days) effects on an element of operations | Minor breach of legal obligations; improvement notice; minor fine / penalty | Limited short to medium term, quickly reversible impacts on the environment | Minor unfavourable local and/or social media attention; heightened concern and criticism from narrow group/s within the community | Low (2) | Low (4) | Medium (6) | Medium (8) | High (10) |
| Insignificant | 1 | Negligible financial loss < $10,000 | Insignificant injury; no first aid required; no impact on staff morale / performance | Insignificant injury; no medical treatment required<br>**Water & sewerage ops**<br>Results indicating poor performance leading to non-conformance.<br>No effect on public health | Isolated, insignificant impact on service delivery; minimal inconvenience to customers<br>**Water & sewerage ops**<br>Continuity of supply: disruption to an individual customer for 4 hours: **OR** Continuity of operations: insignificant and/or short term (days) effects on an element of operations | Isolated non-compliance of minimal significance; minor fine; internal staff warning | Insignificant, immediately reversible impacts on the environment | Isolated complaints from members of the community; one off insignificant enquiries from local media and/or on social media | Low (1) | Low (2) | Low (3) | Low (4) | Medium (5) |

Risk Rating Matrix

MIDCOAST council

# ORGANISATIONAL
# Risk Assessment Criteria

## Control effectiveness rating table

Use this table to rate how effectively existing controls manage or reduce risk likelihood and/or consequence.

| Effectiveness rating | Description | Quantification |
|---|---|---|
| Effective | Control is mostly reliable, efficient and effective; will significantly reduce the risk likelihood and/or consequences; fully documented processes and well communicated. | up to 99% effective |
| Somewhat effective | Control is somewhat effective; will have some effect on reducing risk likelihood and/or consequences; additional action required to improve existing controls and/or possibly implement some additional controls; improved documentation and/or communication of controls required. | up to 60% effective |
| Ineffective | Control is not reliable, efficient or effective; will not reduce the risk likelihood and/or consequence; reliable, effective and efficient controls to be developed and implemented; controls need to be documented and communicated. | 0% effective |

| Likelihood Rating | | Description | Estimated Probability |
|---|---|---|---|
| Almost Certain | 5 | The event is expected to occur in most circumstances in the current environment; frequent past event history | >90% |
| Likely | 4 | The event will probably occur in most circumstances in the current environment; some recurring past event history | 61-90% |
| Possible | 3 | The event might occur at some time; some past warning signs or previous event history | 21-60% |
| Unlikely | 2 | The event could occur at some time, no event history | 2-20% |
| Rare | 1 | The event may occur but only in exceptional circumstances; no past event history | <2% |

## Preferred risk treatment & escalation rating table

Use this table to evaluate your risks against your risk analysis - is your risk acceptable or is additional treatment or escalation necessary?

| Residual Risk Rating | Preferred risk treatment options | **Escalation:** minimum reporting / escalation level for decision to cease activity, continue or take other necessary actions |
|---|---|---|
| Extreme | **Preferred treatment options: Prevent, Avoid**<br>→ Cease activity, process or task until further directed.<br>→ Requires immediate escalation and active management through additional and effective treatment measures to reduce risk before proceeding<br>→ Detailed planning required in consultation with the Director (and/or MANEX/GM) to prepare a risk management plan | **Director**<br>(escalate MANEX / GM as deemed necessary) |
| High | **Preferred Treatment Options: Prevent, Avoid, Transfer or Mitigate**<br>→ Subject to discussions with Manager (and/or Director), consider ceasing activity, process or task temporarily to consider alternative options or review risk treatment strategies to enhance adequacy and effectiveness.<br>→ Consider implementation of additional or improved controls to reduce the risk<br>→ Continue to monitor control effectiveness | **Manager**<br>(escalate to Director as deemed necessary) |
| Medium | **Preferred Treatment Options: Prevent, Mitigate or Accept**<br>→ Subject to discussions with Supervisor, Co-ordinator or Team Leader (and/or Manager), review risk treatment strategies to determine their adequacy and effectiveness.<br>→ Consider implementation of additional or improved controls to reduce the risk<br>→ Continue to monitor control effectiveness | **Supervisor, Co-ordinator or Team Leader**<br>(escalate to Manager as deemed necessary) |
| Low | **Preferred Treatment Options: Accept and identify corrective action**<br>→ Manage by existing routing procedures and work practices<br>→ Continue to monitor control effectiveness | **Responsible staff**<br>(escalate as deemed necessary) |

# Appendix D - Risk Register

Table 28 Water Assets Risk Register

| Asset Group | Facility (asset failure) | Condition | Residual Risk Rating |
|---|---|---|---|
| Reservoir | PP RES 01 - Elizabeth Beach RES 1 | Poor | Low |
| Reservoir | BU RES 01 - Bulahdelah RES 1 | Very Poor | Medium |
| Reservoir | BU RES 02 - Bulahdelah Reservoir 2 | Good | Low |
| Reservoir | BU RES 03 - Bulahdelah Reservoir 3 | Good | Low |
| Reservoir | CH RES 01 - Crowdy Head Reservoir 1 | Poor | Medium |
| Reservoir | FO RES 01 - Forster Reservoir 1 | Poor | Medium |
| Reservoir | FO RES 02 - Forster Reservoir 2 | Satisfactory | Medium |
| Reservoir | HR RES 01 - Harrington Reservoir 1 | Poor | Medium |
| Reservoir | KR RES 01 - Krambach RES 1 | Poor | Medium |
| Reservoir | LA RES 01 - Lansdowne Reservoir 1 | Poor | Medium |
| Reservoir | NA RES 01 - Nabiac Reservoir 1 | Poor | Medium |
| Reservoir | OB RES 01 - Old Bar Reservoir 1 | Satisfactory | Medium |
| Reservoir | SL RES 01 - Smiths Lake Reservoir 1 | Satisfactory | Medium |
| Reservoir | ST RES 01 - Stroud Reservoir 1 | Poor | Medium |
| Reservoir | ST RES 02 - Stroud Reservoir 2 | Satisfactory | Medium |
| Reservoir | SR RES 01 - Stroud Road Reservoir 1 | Satisfactory | Medium |
| Reservoir | TG RES 01 - Tea Gardens Reservoir 1 | Poor | Medium |
| Reservoir | TG RES 02 - Tea Gardens Reservoir 2 | Satisfactory | Low |
| Reservoir | TG RES 03 - Tea Gardens Reservoir 03 | Good | Low |
| Reservoir | WG RES 01 - Wingham Reservoir 1 | Very Poor | Medium |
| Reservoir | WG RES 02 - Wingham Reservoir 2 | Very Poor | Medium |
| Reservoir | WG RES 03 - Wingham Reservoir 3 | Poor | Medium |
| Reservoir | WG RES 04 - Wingham Reservoir 4 | Good | Medium |

| Asset Group | Facility (asset failure) | Condition | Residual Risk Rating |
|---|---|---|---|
| Reservoir | IR RES 01 - Irkanda Reservoir 1 | Satisfactory | Medium |
| Reservoir | KG RES 01 - Kolodong Reservoir 1 | Poor | Medium |
| Reservoir | KG RES 02 - Kolodong Reservoir 2 | Poor | Low |
| Reservoir | KG RES 03 - Kolodong Reservoir 3 | Poor | Medium |
| Reservoir | LC RES 01 - Lantana Crossing Reservoir 1 | Satisfactory | High |
| Reservoir | BI RES 01 - Bishops Balance Tank 1 | Poor | Low |
| Reservoir | BI RES 02 - Bishops Balance Tank 2 | Good | Low |
| Reservoir | BY RES 01 - Bungay Road Reservoir 1 | Satisfactory | Low |
| Reservoir | MI RES 01 - Mitchells Island Reservoir 1 | Satisfactory | Low |
| Reservoir | CO RES 02 - North Coopernook RES 2 | Good | Medium |
| Reservoir | KO RES 01 - Kooraingha Reservoir 1 | Poor | Medium |
| Reservoir | DA RES 01 - Darawank Reservoir 1 | Good | Low |
| Reservoir | RF RES 01 - Rainbow Flat Reservoir 1 | Good | Low |
| Reservoir | TW RES 01 - Tallwoods Reservoir Facility | Good | Low |
| Reservoir | RH RES 02 - Red Head Reservoir 2 | Good | Low |
| Reservoir | GL RES 03 - Cemetery Road Reservoir | Very Good | Medium |
| Dams | Bootawa Dam | Very Good | Medium |
| Water Treatment Plant | ST WTP 01 - Water Treatment Plant | Good | Medium |
| Water Treatment Plant | BU WTP 01 - Facility | Poor | Medium |
| Water Treatment Plant | BO WTP 01 - Water Treatment Plant | Very Good | High |
| Water Treatment Plant | GL WTP 01 - Gloucester Water Plant | Satisfactory | High |
| Water Treatment Plant | TG WTP 01 - Tea Gardens Water Treatment | Very Good | Medium |
| Water Treatment Plant | NA WTP 01 - Water Treatment Plant | Very Good | Medium |
| Water Treatment Plant | ST WTP 01 - Water Treatment Plant | Good | Medium |
| Water Treatment Plant | BU WTP 01 - Facility | Poor | Medium |

| Asset Group | Facility (asset failure) | Condition | Residual Risk Rating |
|---|---|---|---|
| Water Treatment Plant | BO WTP 01 - Water Treatment Plant | Very Good | High |
| Water Treatment Plant | GL WTP 01 - Gloucester Water Plant | Satisfactory | High |
| Water Treatment Plant | TG WTP 01 - Tea Gardens Water Treatment | Very Good | Medium |
| Water Treatment Plant | NA WTP 01 - Water Treatment Plant | Very Good | Medium |
| Bore | NA WPS 01A - Bore Pump | Good | Low |
| Bore | NA WPS 02 - Bore Pump | Good | Low |
| Bore | NA WPS 03 - Bore Pump | Good | Low |
| Bore | NA WPS 04 - Bore Pump | Good | Low |
| Bore | NA WPS 05 - Bore Pump | Good | Low |
| Bore | NA WPS 06 - Bore Pump | Good | Low |
| Bore | NA WPS 07 - Bore Pump | Good | Low |
| Bore | NA WPS 08 - Bore Pump | Good | Low |
| Bore | NA WPS 09 - Bore Pump | Good | Low |
| Bore | NA WPS 10 - Bore Pump | Good | Low |
| Bore | NA WPS 11 - Bore Pump | Good | Low |
| Bore | NA WPS 12 - Bore Pump | Good | Low |
| Bore | NA WPS 13 - Bore Pump | Good | Low |
| Bore | NA WPS 14 -Bore Pump | Good | Medium |
| Bore | NA WPS 20 - Bore Pump | Very Good | Medium |
| Bore | NA WPS 21 - Bore  Pump | Good | Low |
| Bore | NA WPS 22 - Bore Pump | Very Good | Low |
| Bore | NA WPS 23 - Bore Pump | Very Good | Low |
| Bore | NA WPS 24 - Bore Pump | Very Good | Low |
| Bore | NA WPS 25 - Bore Pump | Very Good | Low |
| Bore | NA WPS 32 - Bore Pump | Very Good | Low |

| Asset Group | Facility (asset failure) | Condition | Residual Risk Rating |
|---|---|---|---|
| Bore | NA WPS 33 - Bore Pump | Very Good | Low |
| Bore | NA WPS 35 - Bore Pump | Very Good | Low |
| Bore | TG WPS 02 - Bore Pump 1 | Very Good | Low |
| Bore | TG WPS 02 - Bore Pump 2 | Good | Low |
| Bore | TG WPS 02 - Bore Pump 3 | Good | Low |
| Bore | TG WPS 02 - Bore Pump 4 | Good | Low |
| Bore | TG WPS 02 - Bore Pump 5 | Good | Low |
| Bore | TG WPS 02 - Bore Pump 7 | Good | Low |
| Bore | TG WPS 02 - Bore Pump 8 | Good | Low |
| Bore | TG WPS 02 - Bore Pump 12 | Good | Low |
| Bore | TG WPS 02 - Bore Pump 17 | Good | Low |
| Bore | TG WPS 02 - Bore Pump 18 | Good | Low |
| Water Pump Station | NA WPS 01 - Water Pump Station | Poor | Medium |
| Water Pump Station | BO WPS 1A - Bootawa River WPS 1A | Satisfactory | Medium |
| Water Pump Station | BO WTP 01 - Koorainghat Pump 1 Water Pump Station 2B | Very Good | Medium |
| Water Pump Station | Bo WTP 01 - Koorainghat Pump 2 Water Pump Station 2B | Very Good | Medium |
| Water Pump Station | BO WTP 01 - Wingham Pump 1 Water Pump Station 2B | Very Good | Medium |
| Water Pump Station | BO WTP 01 - Wingham Pump 2 Water Pump Station 2B | Very Good | Medium |
| Water Pump Station | BO WTP 01 - Lantana Pump 1 Water Pump Station 2B | Very Good | Medium |
| Water Pump Station | BO WTP 01 - Lantana Pump 2 Water Pump Station 2B | Very Good | Medium |
| Water Pump Station | BO WTP 01 - Lantana Pump 3 Water Pump Station 2B | Very Good | Medium |
| Water Pump Station | KG WPS 01 - Kolodong WPS 1 | Very Poor | Medium |

| Asset Group | Facility (asset failure) | Condition | Residual Risk Rating |
|---|---|---|---|
| Water Pump Station | LC WPS 01 - Lantana WPS 1 | Poor | High |
| Water Pump Station | ST WPS 01 - Stroud Road WPS 1 | Satisfactory | Medium |
| Water Pump Station | ST WTP 01 - Clear Water Pump 1 | | Low |
| Water Pump Station | ST WTP 01 - Clear Water Pump 1 | | Low |
| Water Pump Station | ST WTP 01 - Raw Water Pump 1 | Satisfactory | Medium |
| Water Pump Station | ST WTP 01 - Raw Water Pump 2 | Satisfactory | Medium |
| Water Pump Station | ST WPS 03 - Stroud High Press Zone WPS 3 | Satisfactory | Low |
| Water Pump Station | GL WPS 05 - Gloucester Booster Pump Station | Satisfactory | Medium |
| Water Pump Station | GL WPS 06 - Gloucester Booster Pump Station | Satisfactory | Medium |
| Water Pump Station | MI WPS 01 - Mitchells Island WPS 1 | Satisfactory | Low |
| Water Pump Station | BU WPS 03 - Bulahdelah RES Pump Station | Poor | Low |
| Water Pump Station | TG WPS 01 - Tea Gardens RES Booster Pump Station 1 | Very Poor | Low |
| Water Pump Station | BU WPS 01 - Bulahdelah River WPS 1 | Poor | Medium |
| Water Pump Station | DA WPS 01 - Darawank WPS 1 | Good | Medium |
| Communications | TW RES 01 - Northern Communication Tower | Very Good | Low |
| Communications | TA Depot - Communications Tower | Good | Low |
| Communications | FO RES 01 - Comms Tower Structure | Good | Medium |
| Communications | HP STP 01 - Communication Tower | Good | Medium |
| Communications | TG RES 01 - Comms Tower Structure | Good | Medium |
| Communications | Carey's Mountain - Comms Tower | Good | Medium |
| Communications | BO WTP 01- Communication Tower | Good | Medium |
| Communications | ST COT 01 - Peppers Mountain Communications Tower | Good | Medium |

| Asset Group | Facility (asset failure) | Condition | Residual Risk Rating |
|---|---|---|---|
| Communications | GL COT 01 - Communication Facility Cemetery Road | Good | Low |

# Appendix E - Infrastructure NSW Performance Indicators

The proposed indicator set has not yet been finalised upon development of this AMP. Refer to the Department of Planning and Environment (dpie.sw.gov.au), Performance indicators for local water and sewer utilities, August 2023 for context on the current state of this development.

This appendix should be updated upon release of the final indicator set.

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