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STORMWATER NETWORK

ASSET MANAGEMENT PLAN

CESSNOCK CITY COUNCIL

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Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan (AM Plan) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 10 year planning period. The AM Plan will link to a Long-Term Financial Plan which typically considers a 10-year planning period.

1.2 Asset Description

This plan covers the infrastructure assets that provide stormwater and drainage.

The Stormwater network comprises:

- 55 Culverts
- 191km pipe
- 8256 Pits/headwalls

The above infrastructure assets have replacement value estimated at **$240,466,431**

1.3 Levels of Service

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

The main service consequences of the Planned Budget are:

- A decrease in level of service
- Assets not meeting capacity

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Population changes
- Changes in demographics
- Climate change
- Vehicle ownership rates
- Consumer expectations
- Technological changes
- Economic factors
- Environmental awareness

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AM Plan is the forecast of 10-year total outlays, which for stormwater assets is estimated as $59,061,156 or $5,906,115 on average per year.

1.6 Financial Summary

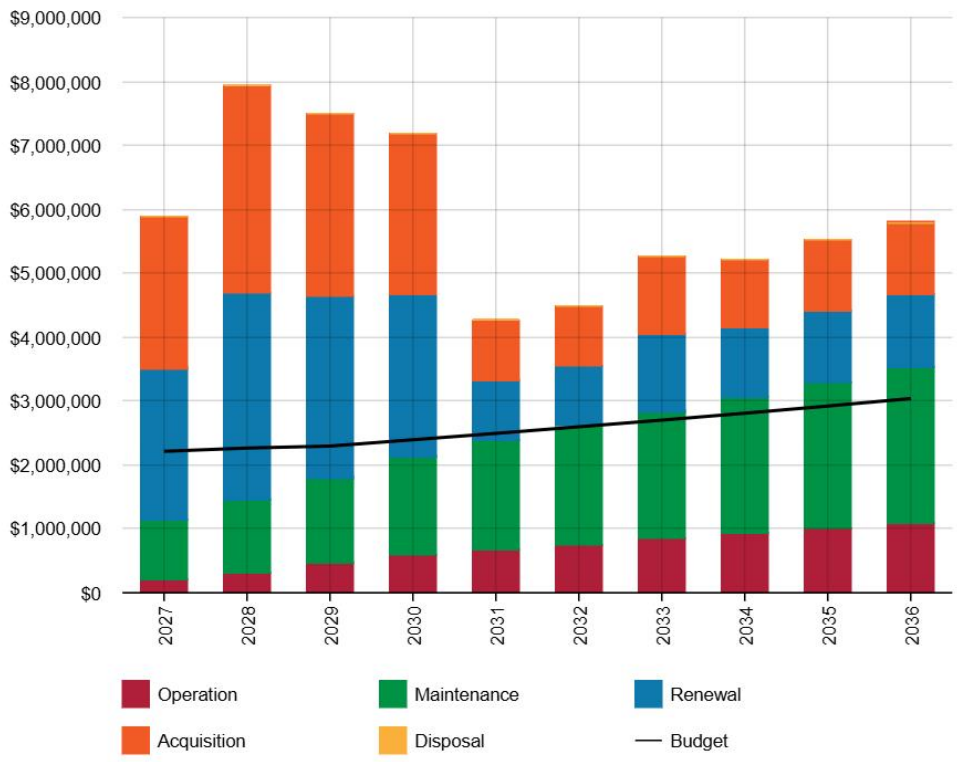
1.6.1 What we will do

Estimated available funding for the 10 year period is $25,736,426 or $2,573,642 on average per year as per the Long-Term Financial plan or Planned Budget. This is 43.58% of the cost to sustain the current level of service at the lowest lifecycle cost.

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

The anticipated Planned Budget for stormwater and drainage leaves a shortfall of $3,332,473[1] on average per year of the forecast lifecycle costs required to provide services in the AM Plan compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below. This is shown in the figure below.

Forecast Lifecycle Costs and Planned Budgets



[1] Includes maintenance, operational, renewal and upgrade costs not accounted for in current budgets

We plan to provide the following:

- Operation, maintenance, renewal and acquisition of stormwater and drainage assets to meet service levels set by Cessnock City Council in annual budgets.

1.6.2 What we cannot do

We currently do **not** allocate enough budget to improve the current level of service or to provide ongoing lifecycle costs for future dedications.

1.6.3 Managing the Risks

Our present budget levels are insufficient to continue to manage risks in the medium term. Short term risk management includes actions such as proactive inspections.

1.7 Asset Management Planning Practices

Key assumptions made in this AM Plan are:

- Asset data is accurate within the register as at 30/6/2025.
- Relying on revaluation data from 24/25 - the current asset class is currently under assessment for revaluation and is likely to have adjusted figures after the endorsement of this plan.
- No changes are made to the adopted operation and capital works program during the life of the plan.

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

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

The Alternate Method was used to forecast the renewal lifecycle costs for this AM Plan.

This AM Plan is based on a reliable level of confidence information.

1.8 Monitoring and Improvement Program

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

- Review and further develop the critical asset management plan within this AMP and further define critical assets
- Undertake further community consultation to allow a full review of service levels.
- Finalise desired levels of service by establishing current performance and setting performance targets. Have these Levels of Service adopted by Council
- Ensure forecasts within the AMP are the driver of LTFP budgets and CW amounts. Allowance to be made for dedicated assets and ongoing lifecycle costs.
- Improve response to climate change impacts
- A full review of useful lives
- Develop asset Hierarchies

2.0 Introduction

2.1 Background

This AM Plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the planning period.

The AM Plan is to be read with the Cessnock City Council planning documents. This should include the Asset Management Policy and Asset Management Strategy, where developed, along with other key planning documents:

- Cessnock City Council Stormwater Waterways and Floodplain Strategy
- Cessnock 2036 – Cessnock Community Strategic Plan
- Cessnock City Council Operational and Delivery Plan
- Cessnock City Council LTFP
- Cessnock City Council Annual Reports
- 2024-2025 Infrastructure Asset Revaluation Manual – currently under review
- NSW OLG Integrated Planning Guidelines and manual
- Cessnock City Council 2023 Resident Satisfaction Survey Results
- Cessnock City Council 2021 Resident Satisfaction Survey Results
- Cessnock City Council 2016 Resident Satisfaction Survey Results
- Cessnock City Council 2015 Asset Management Research Satisfaction Survey Results

Cessnock City Council Asset Management maturity is considered to be ‘core’.

The infrastructure assets covered by this AM Plan include stormwater pits, pipes and culverts. For a detailed summary of the assets covered in this AM Plan refer to Table in Section 5.

These assets are used to provide stormwater drainage services and flooding prevention.

The infrastructure assets included in this plan have a total replacement value of **$240,466,431.**

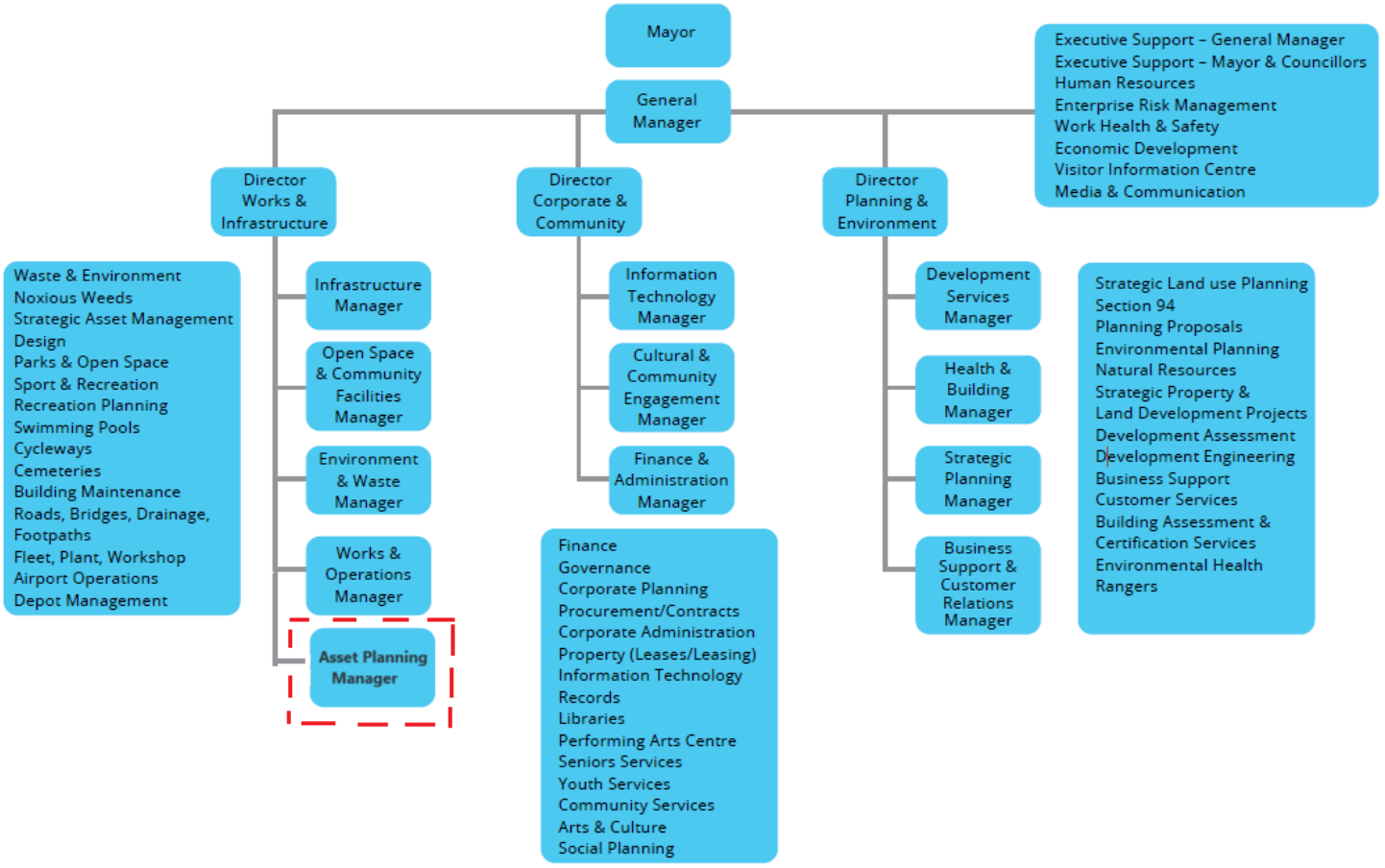
Key stakeholders in the preparation and implementation of this AM Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Councillors	• Represent needs of the community, • Allocate resources to meet the organisation's objectives in providing services while managing risks, • Ensure the organisation is financially sustainable. • Provide stewardship by ensuring the protection of assets for current and future generations.
General Manager	• Ensure the development and implementation of Council's Asset Management Policy, Plans and Processes and for their integration with Council's Integrated Planning and Reporting Framework under the Local Government Act. Report on the status and effectiveness of Asset Management within Council.
Council Staff	• Development and implementation of Council's Asset Management Plans and Processes and for their integration with Council's Integrated Planning and Reporting Framework under the Local Government Act. • Ensure integration and compliance of the Asset Management Policy and Strategy with other policies and business processes of Council. • Ensure compliance with legal obligations. • Ensure sound business principles are reflected in the Asset Management strategies and plans that are developed. • Implementation of activities in the Plans. • Engage up to date technologies, methodologies and continuous improvement processes. Facilitate "Best Appropriate Practice in Asset Management".
Community	• Provides input into the services required and the cost the community is prepared to pay • Set expectation levels

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

Our Organisational Structure



2.2 Goals and Objectives of Asset Ownership

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

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service – specifies the services and levels of service to be provided,
- Risk Management,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual
- ISO 55000[2]

A road map for preparing an AM Plan is shown below.

[2] ISO 55000 Overview, principles and terminology

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2020, IIMM, Fig 3.6.2.1

3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

Cessnock Council engaged Micromex Research in 2023[3] to undertake community research. In the telephone survey conducted residents were contacted to discuss their expectations in the delivery of existing infrastructure assets. Table 3.1 summarises the results from our Customer Satisfaction Survey.

Table 3.1: 2023 Customer Satisfaction Survey Levels

Service/Facility	Importance (mean ratings)		Satisfaction (mean ratings)	
	Phone	Online	Phone	Onlin
Stormwater drainage	4.29	4.09	2.72	2.11
Roadside drainage	4.34	4.04	2.61	2.02

Table 3.1.1: Historical Customer Satisfaction Survey Results

Performance Measure	Importance	Satisfaction	Performance Gap 2021	Performance Gap 2019
Stormwater drainage	4.24	3.09	1.15	1.56
Roadside drainage	4.25	2.79	1.46	1.71

The most recent survey has shown a performance gap for stormwater infrastructure of approximately 1.74 (averaged), which indicates within the past two years the community have continued to see the importance of such infrastructure, however a decrease in satisfaction in its provision.

Council also engaged Micromex Research in 2015 to determine what the community finds as an acceptable condition state of the assets. The concluding evidence from this survey found: *"The majority of residents indicated that 'Condition 3 or better' was the acceptable condition for all assets*". The online component of the 2023 survey suggested the community would prefer (66%) that the Council concentrate on maintaining existing assets in condition 4 & 5.

3.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of Cessnock City Councils' vision, mission, goals and objectives.

Our vision is:

"Cessnock - Creating a Resilient, Sustainable and Diverse Community".

The Delivery Program has five desired outcomes as identified in the Community Strategic Plan. They are:

1. **Live**
2. **Thrive**
3. **Protect**
4. **Move; and**
5. **Lead.**

[3] Survey to contribute to the Community Strategic Plan. Scale where 1 is not satisfied and 5 is very satisfied.

Relevant community desired outcomes and strategic directions, and how these are addressed in this asset management plan are:

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

Goal	Objective	How Goal and Objectives are addressed in the AM Plan
4.3 Ensure our transport and freight networks limit impacts on our environment	4.3.1 Ensure our transport planning is integrated with land use planning	Compliance with Councils' current Engineering Standards for all Subdivision Releases. Programs have been developed to undertake investigation and implementation of flood mitigation measures in the coming four-year program.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the stormwater assets are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long-term financial plan supported by asset management plans for sustainable service delivery. The purposes of this Act are as follows: (a) to provide the legal framework for an effective, efficient, environmentally responsible and open system of local government in New South Wales, (b) to regulate the relationships between the people and bodies comprising the system of local government in New South Wales, (c) to encourage and assist the effective participation of local communities in the affairs of local government, (d) to give councils: • the ability to provide goods, services and facilities, and to carry out activities, appropriate to the current and future needs of local communities and of the wider public; • the responsibility for administering some regulatory systems under this Act; • a role in the management, improvement and development of the resources of their areas (e) to require councils, councillors and council employees to have regard to the principles of ecologically sustainable development in carrying out their responsibilities.

Legislation	Requirement
Local Government Act Annual Report Section 428(2)(d)	(d) A report of the condition of the public works (including public buildings, public road and water sewerage and drainage works) under the control of council as at the end of that year; together with (i) An estimate (at current values) of the amount of money required to bring the works up to a satisfactory standard; and (ii) An estimate (at current values) of the annual expense of maintain the works at that standard; and (iii) The Council's programme for maintenance for that year in respect of the works.
Civil Liabilities Act	*Part 5 - liability of public and other authorities*; covers Councils' obligation to provide a duty of care to its residents within their available funding and/or resources.
Public Works Act	Sets out the role of Council in the planning and construction of new assets.
Environmental Planning and Assessment Act	An Act to institute a system of environmental planning and assessment for the State of New South Wales. Among other requirements the Act outlines the requirement for the preparation of Local Environmental Plans (LEP), Development Control Plans (DCP), Environmental Impact Assessments (EIA) and Environmental Impact Statements.
Work Health and Safety Regulations	Sets out roles and responsibilities to secure the health, safety and welfare of persons at work and covering injury management, emphasising rehabilitation of workers particularly for return to work. Council is to provide a safe working environment and supply equipment to ensure safety.
Threatened Species Conservation Act	An Act to conserve threatened species, populations and ecological communities of animals and plants.
Protection of the Environment Operations Act	Council is required to exercise due diligence to avoid environmental impact and among others are required to develop operations emergency plans and due diligence plans to ensure that procedures are in place to prevent or minimise pollution.
Road Transport (Safety and Traffic Management) Act	Facilitates the adoption of nationally consistent road rules in NSW, the Australian Road Rules. It also makes provision for safety and traffic management on roads and road related areas including alcohol and other drug use, speeding and other dangerous driving, traffic control devices and vehicle safety accidents.
Road Transport (General) Act	Provides for the administration and enforcement of road transport legislation. It provides for the review of decisions made under road transport legislation. It makes provision for the use of vehicles on roads and road related areas and also with respect to written off and wrecked vehicles.
Roads Act	Sets out rights of members of the public to pass along public roads, establishes procedures for opening and closing a public road, and provides for the classification of roads. It also provides for declaration of the RMS and other public authorities as roads authorities for both classified and

Legislation	Requirement
	unclassified roads, and confers certain functions (in particular, the function of carrying out roadwork) on the RMS and other roads authorities. Finally, it provides for distribution of functions conferred by this Act between the RMS and other roads authorities, and regulates the carrying out of various activities on public roads.
Disability Discrimination Act	The Federal Disability Discrimination Act (D.D.A.) provides protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people.
Native Vegetation Act	This Act regulates the clearing of native vegetation on all land in NSW, except for excluded land listed in Schedule 1 of the Act. The Act outlines what landowners can and cannot do in clearing native vegetation.
AS 1742	Australian Standard 1742 which refers to a variety of road and traffic issues.
NSW Road Rules	A provision of road rules that are based on the Australian Road Rules so as to ensure that the road rules applicable in this State are substantially uniform with road rules applicable elsewhere in Australia.
NSW Government Flood Prone Land Policy – Floodplain Development Manual	Council's obligations in relation to the management of flood liable land in accordance with Section 733 of the Local Government Act, 1993.

3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- what aspects of the service is important to the customer,
- whether they see value in what is currently provided, and
- the likely trend over time based on the current budget provision

Table 3.4: Customer Values

Service Objective: 3.1 Protecting and enhancing the natural environment and rural character of the area

Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
3.1.5 Our waterways and catchments are maintained and enhanced	Community Satisfaction Survey	3.09[4]	Maintain

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Condition How good is the service…what is the condition or quality of the service?

Function Is it suitable for its intended purpose…Is it the right service?

Capacity/Use Is the service over or under used…do we need more or less of these assets?

In Table 3.5 under each of the service measures types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective.

[4] Where 5 is completely satisfied and 0 is completely unsatisfied

Table 3.5: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Assets are in "fair/3" condition or better	Asset data surveyed 4 yearly	30 Pipes 104 pits and 97 lintels	Improve
	Confidence levels		Medium	Medium
Function	Flooding of private property is minimised.	Flooding of residences	14,356 properties are subject to flood related development controls based on existing flood studies.	Maintain
	Confidence levels		Medium	Medium
Capacity	Stormwater system is able to convey all flows in a minor storm event	Customer service requests relating to inadequate capacity	16 flood management requests received Jan-Dec 2024. 3 overdue.	Improve
	Confidence levels		High	Medium

*High - (Professional Judgement supported by extensive data), Medium - (Professional judgement supported by data sampling), Low (Professional Judgement with no data evidence)

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- **Acquisition** – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).
- **Operation** – the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, etc.
- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. road patching, unsealed road grading, building and structure repairs),

- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.[5]

Table 3.6 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	New or upgraded stormwater infrastructure	All new or upgraded drainage assets are built to meet current engineering and capacity requirements.	Meeting	Meeting
		Budget	$775,000	$2,383,055
Operation	Keeping stormwater assets operational	Customer requests for blocked drainage responded in allocated timeframes	16 flood management requests received Jan-Dec 2024. 3 overdue (81%).	Improve (90% target meeting timeframes)
		Budget	$196,393	$322,477[6]
Maintenance	Maintaining stormwater assets to achieve their level of service and function	Customer requests for pits not meeting capacity or functionality responded in allocated timeframes	1 Customer Request received in 2024 of which all met the service timeframe.	Maintain 100% response rate.
		Budget	$467,264	$1,132,008
Renewal	Renewing stormwater infrastructure that has declined in service level/capacity /functionality	80% of the capital works program delivered in its applicable year (where project isn't projected to run over multiple years) [7]	not measured	Meet measure**
		Budget	$775,000	$3,243,000
Disposal	Removing assets from	Nothing identified	NA	NA

[5] IPWEA, 2020, IIMM, Chap. 2.2.
[6] Operation and maintenance forecast increases are included to cater for development contributions.
[7] Tracking percentage complete needs improvement**

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
	service that no longer provide a service or have reach the end of the service period			

Note: *Current activities are related to Planned Budget.
****Expected performance related to forecast lifecycle costs.**
It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

4.0 FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

4.3 Demand Impact and Demand Management Plan

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

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

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

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population	70,765 as at 30/06/2023[8]	The projected population for 2041 is 107,375. As part of State Government policy higher density developments will be encouraged in the Hunter Valley Area. The current levels of growth are anticipated to continue	Population growth and consequential development will increase stormwater runoff.	Review Engineering Guidelines to ensure high quality infrastructure is dedicated through development. The review should also highlight capacity issues that need addressing.
Demographics	Approximately 3% of the residents are from non-English speaking backgrounds	An increase of migrants settling in Cessnock LGA from non-English speaking backgrounds, are expected to increase.	Better Traffic Management Devices are Required, and Clearer Signage	Review Engineering Guidelines to ensure interpretive signage is a requirement.

[8] Source: Home | Cessnock City Council | Community profile based on most current Census data

Demographics	Over 39% of the population have a long term health condition, of which over 7.8% would need assistance in their day-to-day lives.	Expect to see an increase in demand for services due to the ageing population	Increase in demand for DDA compliant Infrastructure, Services and Equitable Access	Engage with the community to identify justifiable community needs from other expectations and consider only community needs consistent with Council's charter. New projects will need to be assessed with a balance between competing demands for compliance and regulation, renewing existing infrastructure, as well as providing expenditure for new infrastructure assets.
Demand driver	**Current position**	**Projection**	**Impact on services**	**Demand Management Plan**
Climate Change	Scientific evidence supporting the notion of climate change.	Increase severity of weather events.	Stormwater Infrastructure will need to adapt to new climate risks to ensure appropriate infrastructure investment decisions are made to reduce long-term costs.	Investigate alternative treatments to lower life cycle costs, and combat climate impacts i.e. design capacity exceeding flood level requirements

Residential Development	Increase in demand for residential land and infrastructure.	Increase in population (see above)	Increase in demand for maintenance of stormwater assets.	Implement enhanced quality control measures for donated assets. Leadership to consider the recommendations of funding to meeting ongoing ops and maintenance requirements.
Changes in Land use	Changes in land use will result from rezoning and higher density developments.	As part of State Government policy higher density developments will be encouraged in the Hunter Valley Area. The current levels of growth are anticipated to continue.	Higher density development will increase stormwater runoff.	Review Engineering Guidelines to ensure high quality infrastructure is dedicated through development. The review should also highlight capacity issues that need addressing

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit the Cessnock City Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

4.5 Climate Change Adaptation

The impacts of climate change may have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process climate change can be considered as both a future demand and a risk.

How climate change impacts on assets will vary depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.[9]

Council currently has an adopted Climate Change Resilience Plan, which can be found on their website. This document sets out the climate change impacts on Council and the Councils' response and resilience to climate change.

Risk and opportunities identified to date are shown in Table 4.5.1

Table 4.5.1 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
More frequent flood events	Existing assets not meeting capacity	Could result in assets out of service. Flooding threat to private property	Continue undertaking flood studies and flood mitigation measures
Increase in bush fires	Threat of damage to existing infrastructure	Could result in assets out of service	Should see focus towards the drainage infrastructure in these areas and material resilience in such events

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience can have the following benefits:

- Assets will withstand the impacts of climate change;
- Services can be sustained; and
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

Table 4.5.2 summarises some asset climate change resilience opportunities.

[9] IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact These assets?	Build Resilience in New Works
New/upgraded stormwater assets	Increase in flooding events raises capacity requirements in certain locations	Continue flood mitigation programs, “overdesign” in flood prone areas
Fire Resistant Infrastructure	Increase in bush fire damage	Should see focus towards the drainage infrastructure in these areas and material resilience in such events.

The impact of climate change on assets is a complex discussion and further opportunities will be developed in future revisions of this AM Plan.

5.0 LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

The stormwater assets covered by this AM Plan are shown in Table 5.1.1.

Table 5.1.1: Assets covered by this Plan

Asset Category	Dimension/Quantity
Stormwater Pipes	217 km
Stormwater Pits	8859
Minor Culverts	252

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Open Swales	Earth swales in old subdivisions are now under-capacity and no longer meet the functional requirement of the stormwater network required in these areas
Connection of network	Areas identified where links of stormwater pipework have not been completed, causing overflow into private property
Capacity	Pit, pipe, culvert under capacity for the required runoff/overflow
GPT	Location and identification of size/type of GTP's is unknown and requires urgent review.

The above service deficiencies were identified from inspections.

5.1.3 Asset condition

Condition is currently monitored four yearly. Council has recently invested in surveillance equipment to aid in the condition audit of the infrastructure.

Condition is measured using a 1 – 5 grading system[10] as detailed in Table 5.1.3. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the AM plan results are translated to a 1 – 5 grading scale for ease of communication.

[10] IPWEA, 2020, IIMM, Sec 2.5.4, p 2|80.

Table 5.1.3: Condition Grading System

Condition Grading	Description of Condition
1	**Very Good**: free of defects, only planned and/or routine maintenance required
2	**Good**: minor defects, increasing maintenance required plus planned maintenance
3	**Fair**: defects requiring regular and/or significant maintenance to reinstate service
4	**Poor**: significant defects, higher order cost intervention likely
5	**Very Poor**: physically unsound and/or beyond rehabilitation, immediate action required

The condition profile of our assets is shown in Figure 5.1.3.

Figure 5.1.3a: Asset Condition Profile – Stormwater Pits

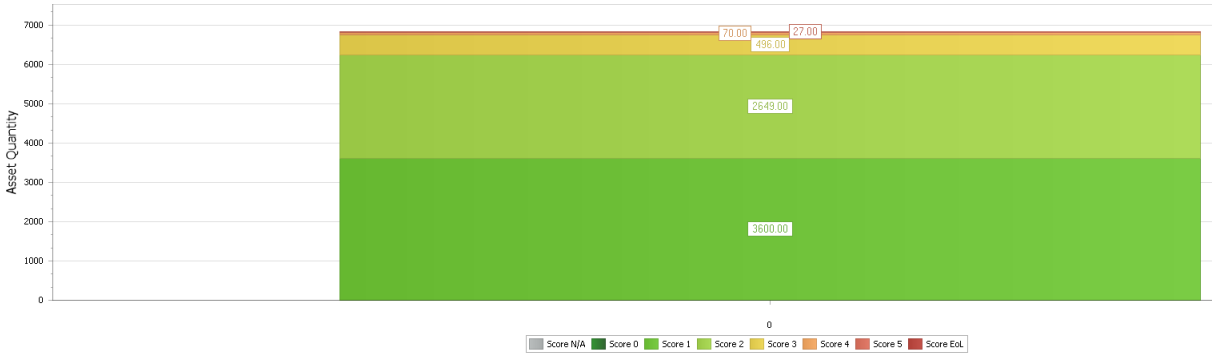


Figure 5.1.3b: Asset Condition Profile – Stormwater Pipes

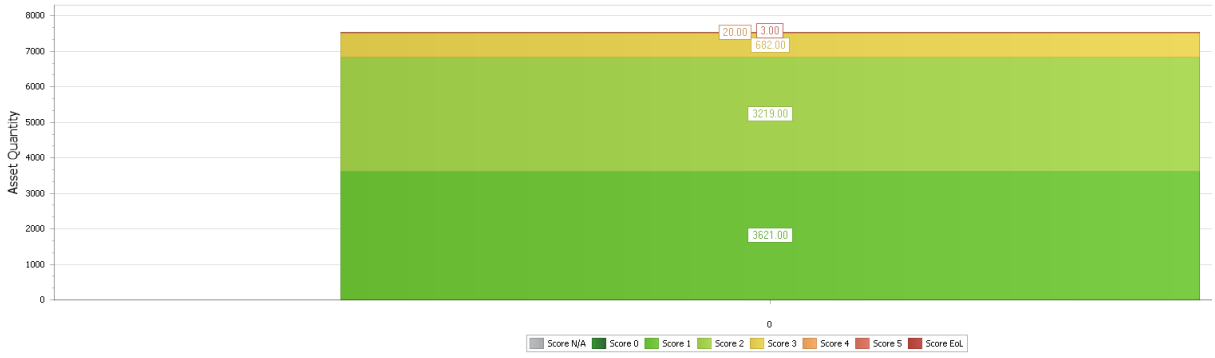
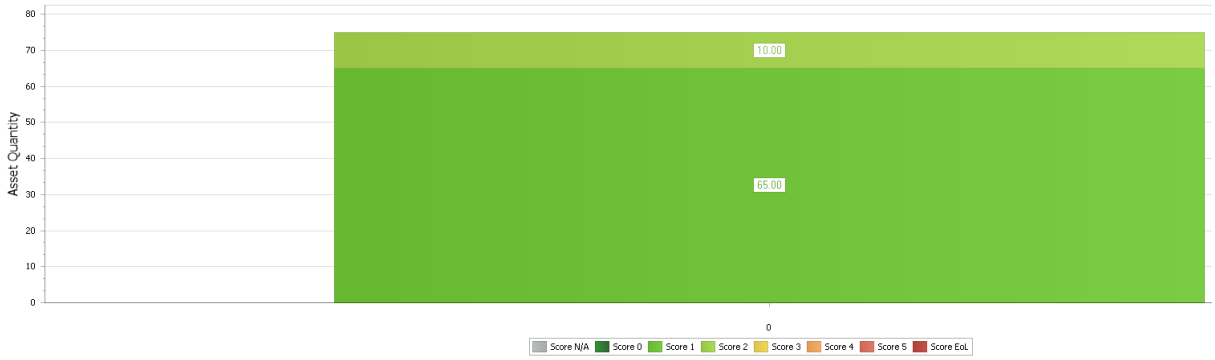


Figure 5.1.3c: Asset Condition Profile – Minor Culverts



5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, asset inspection, and utility costs.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include pipe repairs, asphalt patching, and equipment repairs.

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Year	Maintenance Budget $
2022	$363,000
2023	$330,010
2024	$493,846
2025	$448,000

Maintenance budget levels are sustaining current service levels, however will require future injection to improve such standards. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

Assessment and priority of reactive maintenance is based on current adopted service standards currently under review.

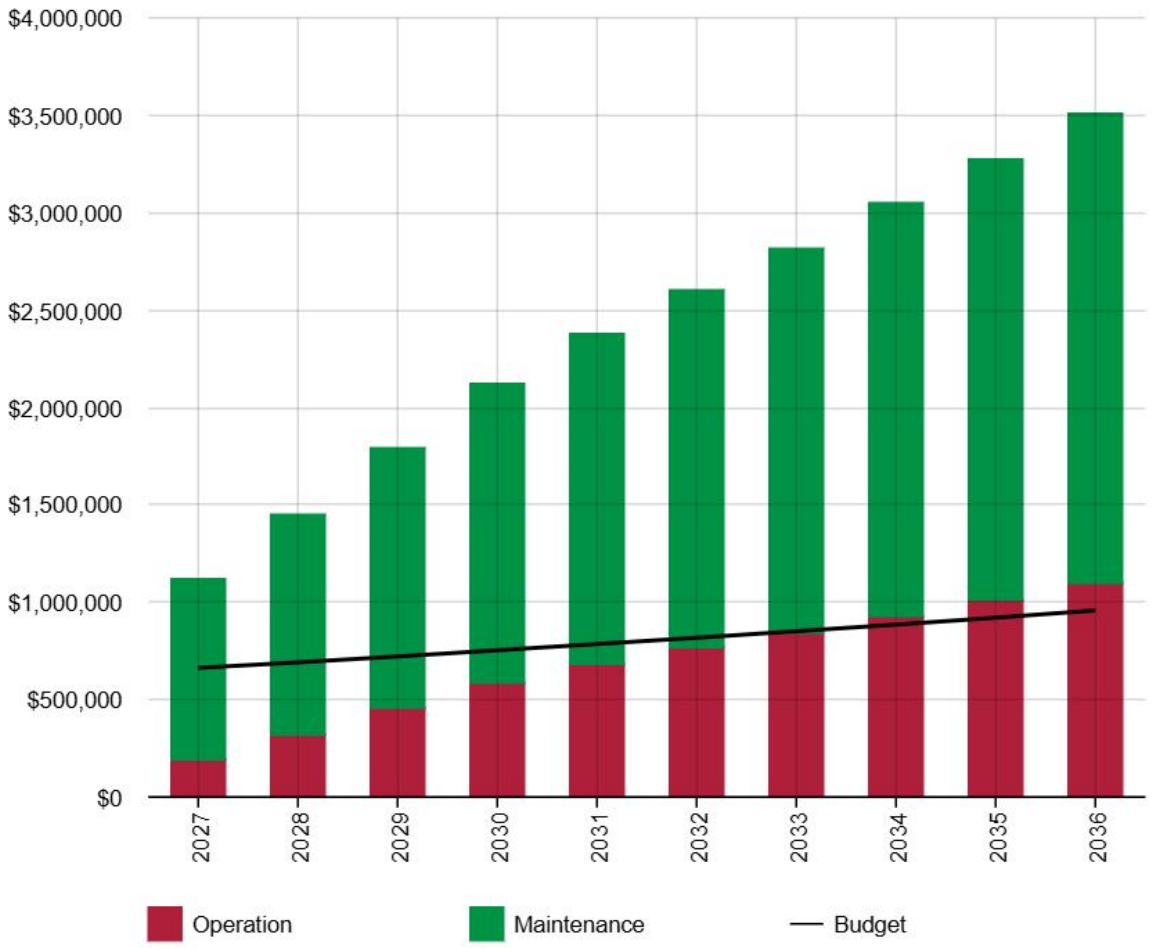
Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery. Council is still in the process of developing hierarchies for its stormwater network and these will be incorporated into the improvement plan.

Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 5.2: Operations and Maintenance Summary



Forecast operations and maintenance costs are estimated to need increases to accommodate for asset dedications.

5.3 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives are currently under review.

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
All concrete pipes, pits, headwalls, lintels and culverts	100 years*

*Currently under review

The estimates for renewals in this AM Plan were based on the alternate Method.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. increasing pipe diameter in pipe replacement to increase drainage volumes), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g., spalling within a concrete pipe).[11]

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.[12]

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1. The detail around the scoring in this can be found in Stormwater Waterway and Floodplain Strategy on Councils website. Refer to appendix G for more detail on this.

[11] IPWEA, 2020, IIMM, Sec 3.4.2
[12] IPWEA, 2020, IIMM, Sec 3.5.3

Table 5.3.1: Renewal and Replacement Priority Ranking Criteria

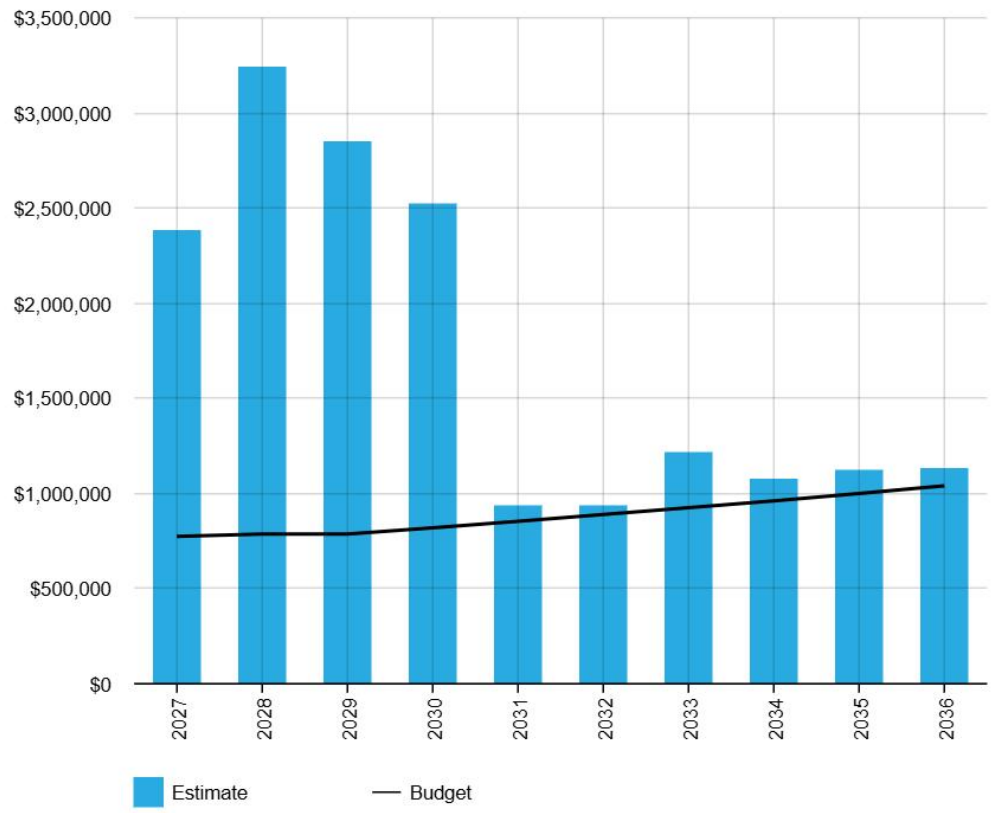
Criteria	Weight	Score	Weighted Score
Risk to life	3		
Risk to property	2		
Risk to infrastructure	2		
Risk to environment	1		
Known priority area flooding problem	2		
Pipe / structure condition	1		
Known priority erosion hazard	2		
Maintenance hotspot	1		
Customer Request	1		
Priority Score			

* Page 19 of Stormwater Waterway and Floodplain Management Strategy

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time as the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4.1: Forecast Renewal Costs



The budget for renewal works is sufficient to sustain the assets in the agree service standards for the life of this plan.

5.5 Acquisition Plan

Acquisition reflects new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to Cessnock City Council.

5.5.1 Selection criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to the Entities needs.

Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programmes. Most new assets are dedicated through development or where required as part of a road upgrade/reconstruction. Where stormwater assets are identified for upgrade, the following priority ranking criteria is utilised from Table 5.5.1.

Table 5.5.1: Upgrade Assets Priority Ranking Criteria

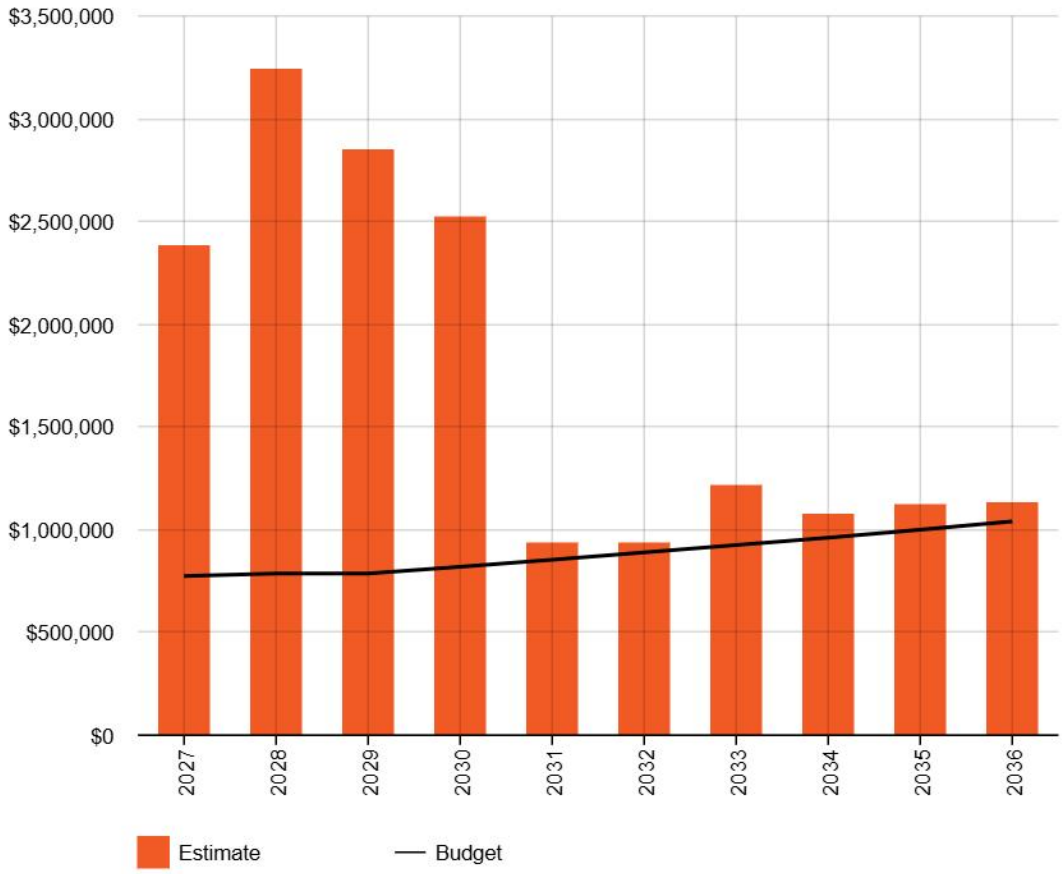
Criteria	Weight	Score	Weighted Score
Risk to life	3		
Risk to property	2		
Risk to infrastructure	2		
Risk to environment	1		
Known priority area flooding problem	2		
Pipe / structure condition	1		
Known priority erosion hazard	2		
Maintenance hotspot	1		
Customer Request	1		
Priority Score			

** Page 19 of Stormwater Waterway and Floodplain Management Strategy*

Summary of future asset acquisition costs

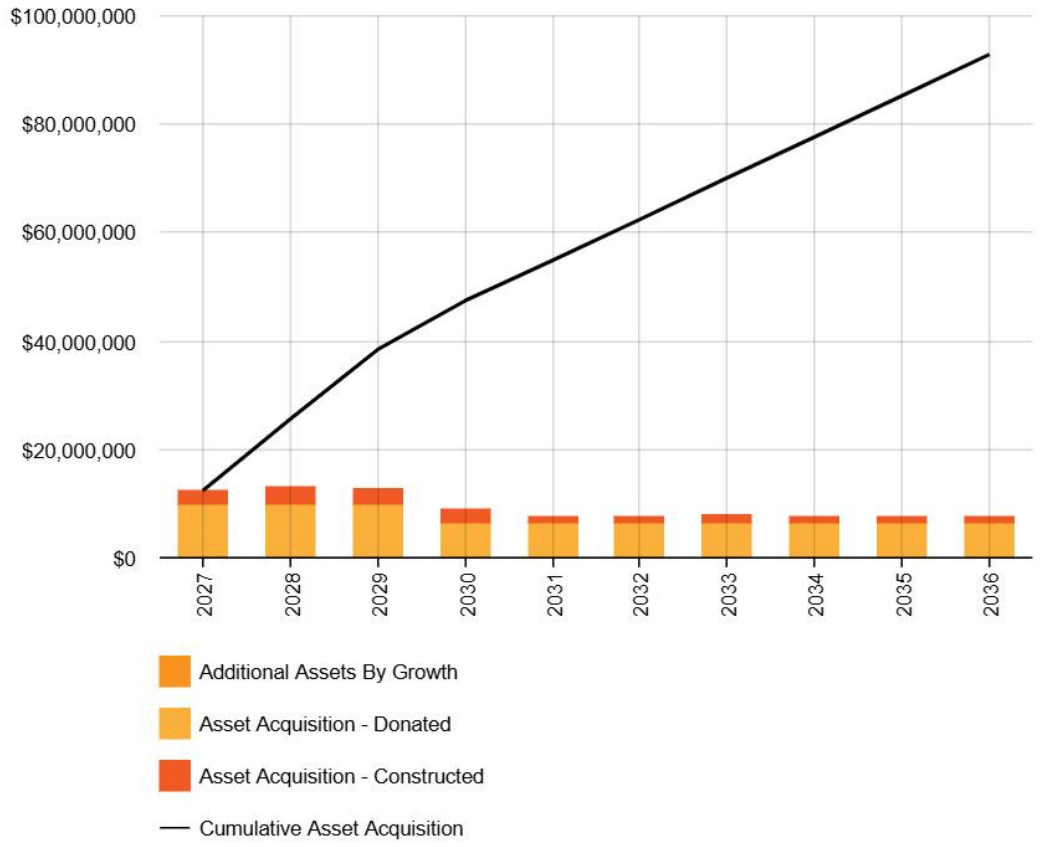
Forecast acquisition asset costs are summarised / summarized in Figure 5.5.1 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

Figure 5.5.1: Acquisition (Constructed) Summary



When an Entity commits to new assets, they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by the Entity. The cumulative value of all acquisition work, including assets that are constructed and contributed shown in Figure 5.5.2.

Figure 5.5.2: Acquisition Summary



Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

The current budget does not allow for the impact that dedicated assets has on lifecycle cost increases and this is reflected by the forecasts.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

Table 5.6: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
Various	As part of reconstruction works	Over the planning period		$0 – replaced with others

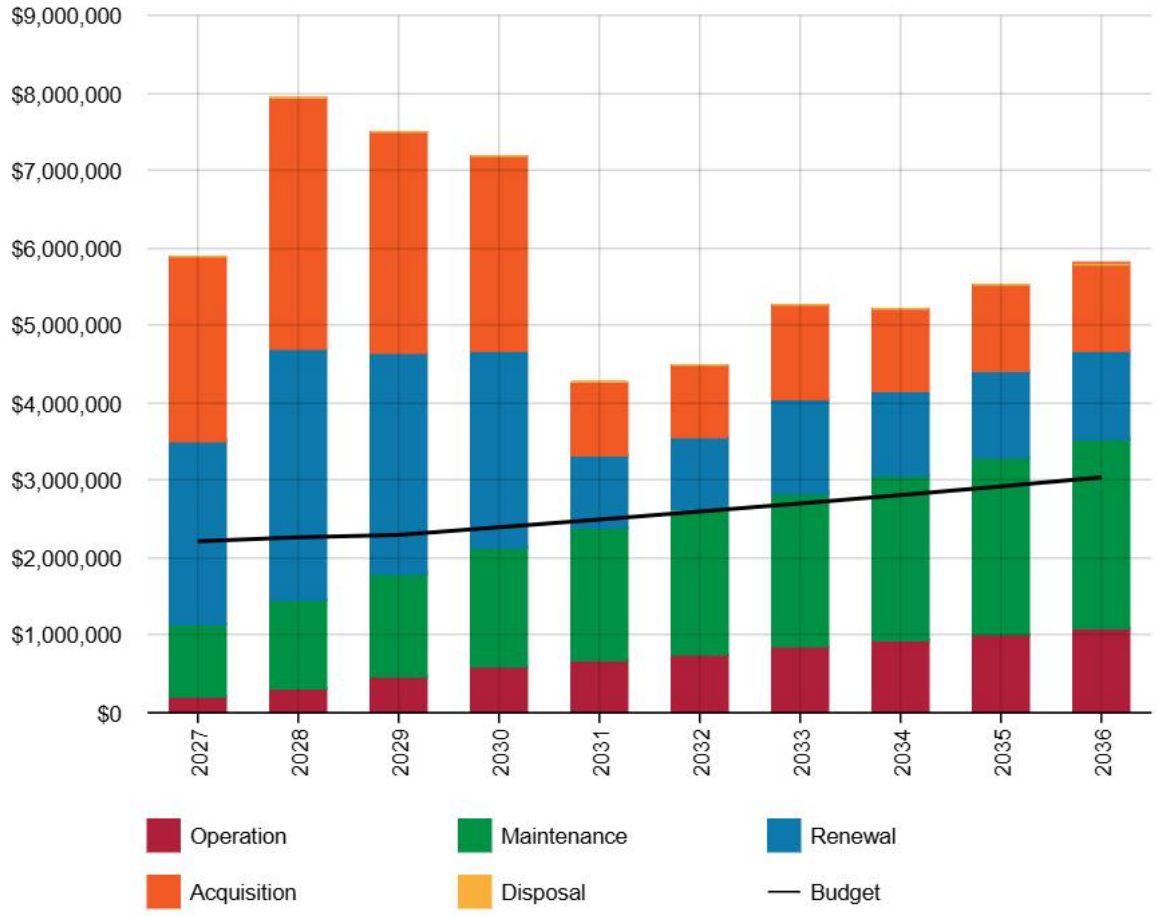
The progress of the disposal plan within this AMP is to be reported to the Asset Management Steering Group, and where deadlines for commitments cannot be met; reported on and updated accordingly.

5.7 Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.7.1. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 5.7.1: Lifecycle Summary



The current budget does not allow for the impact that dedicated assets have on lifecycle cost increases and this is reflected by the estimated forecasts.

6.0 RISK MANAGEMENT PLANNING

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

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'[13].

An assessment of risks[14] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Stormwater Pipes, culverts, pits	Structural Failure	Risk to property or life.
Pipes and Culverts	Washout	Risk to property or life.
Detention Basins[15]	Dam Collapse failure	Flooding to surrounding properties.

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

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

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

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

[13] ISO 31000:2009, p 2
[14] DOC2015/012452 Asset Management _ CCC NAMS PLUS Advanced Infrastructure Risk Management Plan _ 20-3-2015 _ Michelle Watson
[15] Detention basins currently have insufficient data recorded for them and work is to be undertaken here to improve

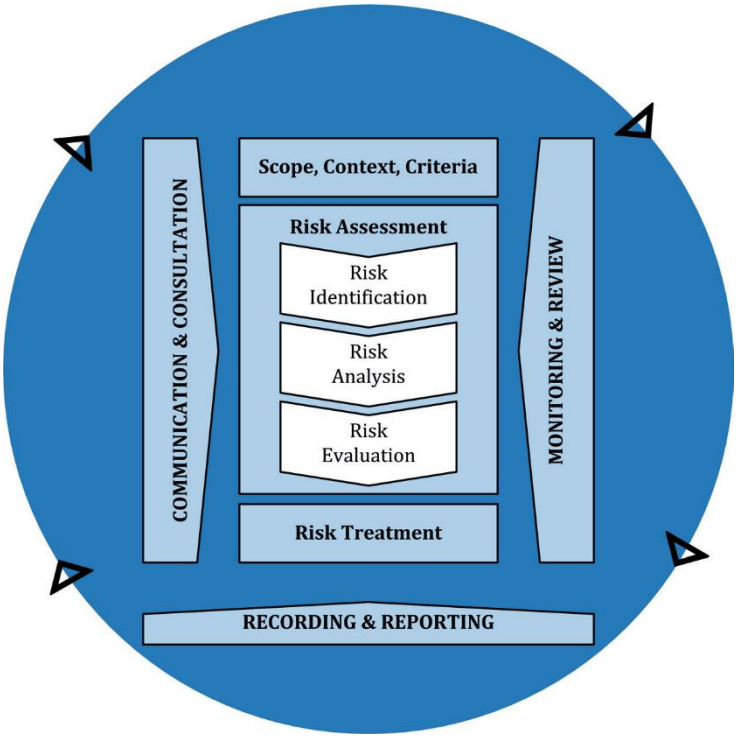


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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

An assessment of risks[16] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and Council.

[16] DOC2015/012452 Asset Management _ CCC NAMS PLUS Advanced Infrastructure Risk Management Plan _ 20-3-2015 _ Michelle Watson

Table 6.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Stormwater Pipes, culverts, pits	Damage, collapse or compromised capacity of assets due to poor quality, age, unknown condition, tree root intrusion and/or inadequate funding for renewal or maintenance of assets.	Medium	Regular inspections & maintenance. Continual improvement of condition inventory in asset register, and locating through GPS.	Medium	Mitigated in current budgets.
Stormwater Pipes, culverts, pits	Blockage from debris in stormwater network, flooding, inadequate controls on development.	Medium	Regular inspections & maintenance. Clear blockages through reactive maintenance.	Medium	Mitigated in current budgets.
Stormwater Pipes, culverts, pits	Insufficient capacity resulting in flooding due to climate change, development, aged infrastructure.	Medium	Undertake flood management studies	Medium	Mitigated in current budgets.

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

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

Resilience recovery planning, financial capacity, climate change risk assessment and crisis leadership.

Our current measure of resilience is shown in Table 6.3 which includes the type of threats and hazards and the current measures that the organisation takes to ensure service delivery resilience.

Table 6.3: Resilience Assessment

Threat / Hazard	Assessment Method	Current Resilience Approach
Insufficient capacity resulting in flooding	Regular inspections & maintenance. Undertake flood management studies	Medium
Damage, collapse or compromised capacity of assets.	Regular inspections & maintenance. Continual improvement of condition inventory in asset register, and locating through GPS.	Medium

6.4 Service and Risk Trade-Offs

The decisions made in adopting this AM Plan are based on the objective to achieve the optimum benefits from the available resources.

6.4.1 What we cannot do

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

- Increase current levels of service
- Meet ongoing lifecycle costs for dedicated assets

6.4.2 Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- A decrease in levels of service across all Council area to cater for dedications.

6.4.3 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. At this stage there are no works identified that cannot be undertaken.

The above actions and expenditures are considered and included in the forecast costs, and the Risk Management Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this AM Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the AM Plan for this service area. The two indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- medium term forecast costs/proposed budget (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[17] 50.82%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 50.82% of the funds required to maintain the current level of service for drainage assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall, is illustrated in Appendix D.

Medium term – 10-year financial planning period

This AM Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10 year planning period is $4,152,128 average per year.

The proposed (budget) operations, maintenance and renewal funding is $1,689,432 on average per year giving a 10 year funding shortfall of $2,462,696 per year. This indicates that 40.69% of the forecast costs needed to provide the services documented in this AM Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 40.69% the first years of the AM Plan.

7.1.2 Forecast Costs (outlays) for the long-term financial plan

Table 7.1.3 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan.

[17] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the long-term financial plan.

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the AM Plan (including possibly revising the long-term financial plan).

We will manage the 'gap' by developing this AM Plan to provide guidance on future service levels and resources required to provide these services in consultation with the community.

Forecast costs are shown in current dollar values.

Table 7.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2027	$2,383,055	$196,393	$933,370	$2,383,055	$0
2028	$3,243,000	$322,477	$1,128,293	$3,243,000	$0
2029	$2,848,788	$457,093	$1,335,692	$2,848,788	$0
2030	$2,518,564	$588,343	$1,539,962	$2,518,564	$0
2031	$936,774	$683,602	$1,697,173	$936,774	$0
2032	$937,691	$764,012	$1,835,377	$937,691	$0
2033	$1,213,633	$844,600	$1,974,298	$1,213,633	$0
2034	$1,070,000	$927,963	$2,118,506	$1,070,000	$0
2035	$1,115,535	$1,010,366	$2,262,831	$1,115,535	$0
2036	$1,130,556	$1,093,621	$2,409,713	$1,130,556	$0

7.2 Funding Strategy

The proposed funding for assets is outlined in the Entity's budget and Long-Term financial plan.

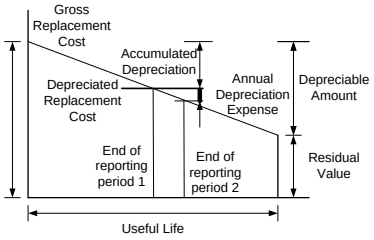
The financial strategy of the entity determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at fair value at cost to replacement.

Replacement Cost (Current/Gross)	$240,466,431
Accumulated Depreciation	$29,286,597
Depreciated Replacement Cost[18]	$211,179,834
Depreciation	$1,914,655



[18] Also reported as Written Down Value, Carrying or Net Book Value.

7.3.2 Valuation forecast

Asset values are forecast to increase as additional assets are added in service.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this AM Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AM plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this AM Plan are:

Key Assumptions	Risks of Change to Assumptions
Use of existing inventory and condition data as at 30 June 2025	Condition data was last compiled during the revaluation exercise undertaken 24/25 FY.
Use of 2024/25 Asset Revaluation Manual.	This Asset Management Plan is based on asset revaluation undertaken in 2024/25.
Planned expenditure values obtained from current budgets and Council's four-year delivery program and Council's updated LTFP.	The four-year Delivery Program and LTFP may change in the future. Any changes in funding, planned capital and maintenance will be reflected in future asset management plans.
Maintenance and Ops forecast budget utilising historic shortfalls for "required" amount.	Very low risk of any dramatic change in overruns in budgets. Change to annual review of plans will mitigate any dramatic increases or decreases.
Contribution/acquisition budgets and percentages have been based on current budgets as a percentage of the replacement cost of the asset class, and also considering previous years contribution values as a percentage of the current total replacement value of the asset class.	There is medium risk that value of contributions will change in the short – medium term. The implementation of annual review of the plan will mitigate the implication this has on utilising forecast budgets for forward planning.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale[19] in accordance with Table 7.5.1.

[19] IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Table 7.5.1: Data Confidence Grading System

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 estimated confidence level for and reliability of data used in this AM Plan is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	A	ABS data
Growth projections	A	ABS data
Acquisition forecast	B	Dedications estimated base on historic pattern.
Operation forecast	B	Historic budgets reviewed and dedication impact estimated.
Maintenance forecast	B	Historic budgets reviewed and dedication impact estimated.
Renewal forecast - Asset values	B	Historic data utilised against condition modelling to establish any shortfalls.
- Asset useful lives	B	Under review
- Condition modelling	B	Asset data accuracy audit is required.
Disposal forecast	B	Typically not known until removed through reconstruction programs. However, are generally reinstated

The estimated confidence level for and reliability of data used in this AM Plan is considered to be medium to high.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[20]

8.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is from Councils' corporate finance register Civica Authority and asset register Brightly MyData.

8.1.2 Asset management data sources

This AM Plan also utilises asset management data. The source of the data is from Councils' corporate asset register Brightly MyData.

8.2 Improvement Plan

It is important that an entity recognise areas of their AM Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this AM Plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Item no.	Task	Responsibility	Resources Required	Timeline
1.	Undertake further community consultation to allow a full review of service levels.	Infrastructure, Assets	In-house, external	When resourcing permits
2	Stakeholder review of critical assets	Assets	In-house	Next Adoption
3	Develop asset hierarchies	Assets	In-house	Next Adoption
4.	Finalise desired levels of service by establishing current performance and setting performance targets. Have these Levels of Service adopted by Council	Works & Infrastructure/Assets /Finance	In-house	When resourcing permits
5.	Improvement of data around open channels, detention/retention basins and GPT's.	Works & Infrastructure/Assets	In-house	Ongoing

8.3 Monitoring and Review Procedures

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

The AM Plan will be reviewed and updated annually at desktop level to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are

[20] ISO 55000 Refers to this as the Asset Management System

incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The AM Plan has a maximum adoption life of 4 years and is due for complete revision and update 12 months from a Council Election and/or as part of a new Operational Plan cycle.

8.4 Performance Measures

The effectiveness of this AM Plan can be measured in the following ways:

- The degree to which the required forecast costs identified in this AM Plan are incorporated into the long-term financial plan,
- The degree to which the 1-5-year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the AM Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 – 100%).

9.0 REFERENCES

- IPWEA, 2020, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2024, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
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- Cessnock 2036 – Cessnock Community Strategic Plan
- Cessnock City Council Operational and Delivery Plan
- Cessnock City Council LTFP
- Cessnock City Council Annual Reports
- Infrastructure Asset Revaluation Manual 2024/25
- NSW OLG Integrated Planning Guidelines and manual
- Cessnock City Council 2023 Resident Satisfaction Survey Results
- Cessnock City Council 2021 Resident Satisfaction Survey Results
- Cessnock City Council 2016 Resident Satisfaction Survey Results
- Cessnock City Council 2015 Asset Management Research Satisfaction Survey Results

10.0 APPENDICES

Appendix A - Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

Future dedications are from historic amounts.

Table A3 - Acquisition Forecast Summary

Year	Constructed	Donated	Growth
2027	2383055	10000000	0
2028	3243000	10000000	0
2029	2848788	10000000	0
2030	2518564	6500000	0
2031	936774	6500000	0
2032	937691	6500000	0
2033	1213633	6500000	0
2034	1070000	6500000	0
2035	1115535	6500000	0
2036	1130556	6500000	0

Appendix B - Operation Forecast

B.1 – Operation Forecast Assumptions and Source

Operation forecasts including provision for dedications, and shortfall determined from historic overspend.

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2027	196393	117639	196393
2028	204838	125809	322477
2029	213646	122063	457093
2030	222832	85676	588343
2031	232414	70649	683602
2032	242176	70658	764012
2033	252105	73280	844600
2034	262189	71915	927963
2035	272677	72348	1010366
2036	283584	72348	1093621

Appendix C - Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

Maintenance forecasts including provision for dedications, and shortfall determined from historic overspend.

Table C2 - Maintenance Forecast Summary

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2027	467264	154788	933370
2028	487356	165538	1128293
2029	508313	160610	1335692
2030	530170	112732	1539962
2031	552967	92960	1697173
2032	576192	92971	1835377
2033	599816	96420	1974298
2034	623809	94625	2118506
2035	648761	95194	2262831
2036	674711	95194	2409713

Appendix D - Renewal Forecast Summary

D.3 – Renewal Forecast Summary
The current renewal budget is seen to be meeting the ongoing level of service requirement for the asset class.

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2027	2383055	775000
2028	3243000	787500
2029	2848788	787500
2030	2518564	820000
2031	936774	854440
2032	937691	889472
2033	1213633	925051
2034	1070000	962053
2035	1115535	1000535
2036	1130556	1040557

Appendix E - Disposal Summary

E.1 – Disposal Forecast Summary
NIL forecasted.

Table E3 – Disposal Activity Summary

Year	Disposal Forecast	Disposal Budget
2025	0	0
2026	0	0
2027	0	0
2028	0	0
2029	0	0
2030	0	0
2031	0	0
2032	0	0
2033	0	0
2034	0	0

Appendix F - Budget Summary by Lifecycle Activity

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2027	775000	196393	467264	775000	0	2213657
2028	787500	204838	487356	787500	0	2267194
2029	787500	213646	508313	787500	0	2296958
2030	820000	222832	530170	820000	0	2393003
2031	854440	232414	552967	854440	0	2494262
2032	889472	242176	576192	889472	0	2597312
2033	925051	252105	599816	925051	0	2702023
2034	962053	262189	623809	962053	0	2810104
2035	1000535	272677	648761	1000535	0	2922508
2036	1040557	283584	674711	1040557	0	3039408

Appendix G - Project Selection Criteria Further Scoring

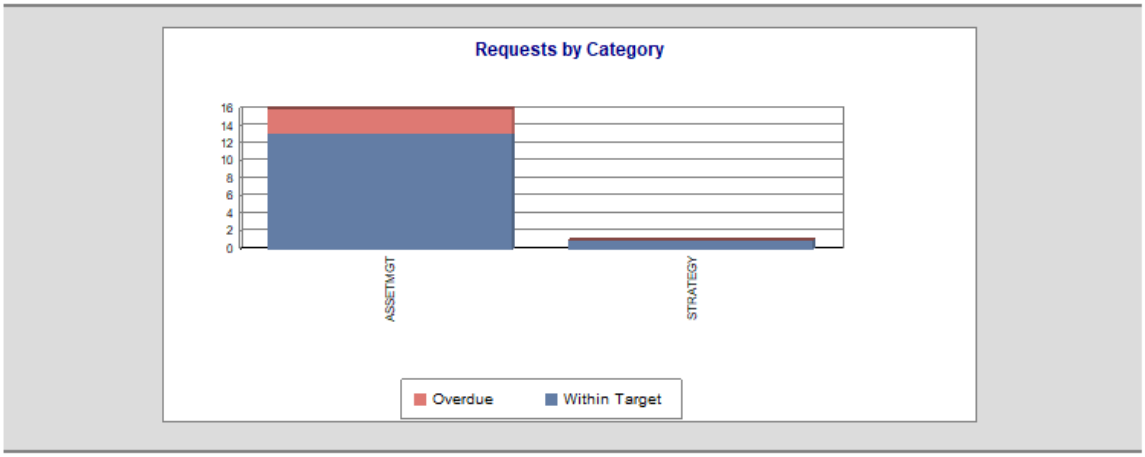
Table 2: Criteria Significance Score

Criteria Significance	Significance	Score
Risk Significance		
Significant impact	Immediate attention required	4
Possible Impact	Amelioration and monitoring required	2
Acceptable Impact	Handled through standard operating procedures	1
No impact	No immediate risk	0
Known Flooding Problem		
Yes	Has previous history of flooding	2
May be	Potential flooding problem	1
No	No previous history of flooding	0
Asset Condition Rating		
Excellent	Only planned maintenance required	1
Good	Minor maintenance required plus planned maintenance	2
Average	Significant maintenance required	3
Below Average	Significant renewal/upgrade required	4
Poor	Unserviceable	5
Known Priority Erosion Hazard Risk		
Yes	Is a known erosion hazard	2
May be	Potential erosion hazard	1
No	No previous history of erosion	0
Maintenance Hotspot		
Yes	Is a known maintenance hotspot	2
May be	Potential on-going maintenance requirements	1
No	No previous history maintenance	0
Customer Requests		
Frequent	High incidence of requests, long-term issue, media, Councillor involvement	2
Infrequent	Occasional or one off customer request	1
No	No previous customer request	0

Risk Significance - Further Explanatory Example	
Significant Impact	The likelihood of the event is expected to occur in most circumstances and the consequence is significant and irreparable impact and loss.
Possible Impact	The likelihood of the event is that it may occur at some time and the consequence is medium environmental or life/property/infrastructure impact, loss of some habitat, some potential criticism of organisation.
Acceptable Impact	The likelihood of the event is that it could occur at some time but is not anticipated and the consequence is minimal or small environmental or life/property/infrastructure impact, loss of un-listed vegetation, impact easily remedied.

**Page 20 of the Stormwater Waterway and Floodplain Strategy*

Appendix H – Customer Request Response Times



Closed Request Statistics
by Category

All Document Types
1/01/2024 to 17/12/2024

Double click onto the Minor Category to access Request detail

LIVE 7.1

17/12/2024 8:31:08AM
Action Officer: **All Officers**
Department: **Works & Infrastructure - Asset Plannin**
Category Code **All Categories**
Workflow: **Drainage Infrastructure Enq**

Major / Minor Category	*New*	*Closed*	*C/F Open*	*Within Tgt*	*%*	*Overdue*	*%*
Asset Management	**16**	**16**	**0**	**13**	**81%**	**3**	**19%**
Asset Management - Flood Management/Drainage	16	16	0	13	81%	3	19%
Strategic Asset Planning	**1**	**1**	**0**	**1**	**100%**	**0**	**0%**
(OLD) Drainage Infrastructure / Flood Enquiries (no	1	1	0	1	100%	0	0%
GRAND TOTAL	17	17	0	14	82%	3	18%

CESSNOCK
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