2022-2031

Asset Management Plan
Kerb and Gutter

Randwick City Council
a sense of community

June 2022

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

Asset Management planning is a comprehensive process to ensure infrastructure benefits are optimised to meet community needs in a financially sustainable manner.

This Kerb and Gutter Asset Management Plan (Kerb and Gutter AMP) details information about kerb and gutter 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 funding requirements over the 10-year planning period. The Kerb and Gutter AMP funding model supports the development of the Long-Term Financial Plan and overall Resourcing Strategy of the Integrated Planning and Reporting Framework.

1.2 Asset Description

This AMP covers Randwick City Council's Kerb and Gutter network which comprises of various components including:

- Integral kerb and gutter
- Separated Kerb and Gutter (e.g. Sandstone K&G)
- Roll kerb
- Dish drain
- Edge restraints

The Randwick City Council kerb and gutter assets have a replacement value estimated at $139,826,431.

1.3 Levels of Service

The allocation in the planned funding model for kerb and gutter assets is sufficient to maintain these assets at agreed levels of service for the planning period.

The main objectives of the planned funding are:

- There is sufficient budget allocated for renewal of assets as they reach the end of life.
- There is sufficient budget in maintenance and operations with minor increase in the future years.
- There is sufficient budget to acquire new assets to meet community needs.

1.4 Future Demand

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

- Desire to construct kerb and gutter to complete missing links along roads and new kerb and gutter along laneways to improve drainage and streetscape
- New development to accommodate a projected increase in population of 23% by 2036 as estimated by the NSW Department of Planning, Industry and Environment

These demands will be met by managing existing assets, upgrading existing assets and constructing new assets. Demand management practices may also include a combination of non-asset solutions including insuring against risks and managing failures. To manage demand effectively, consideration must be given to:

- Balancing priorities for infrastructure with what the community is prepared to pay
- Assessing capacity to fund current and improved levels of service
- Timing of renewal projects with acquisition projects through effective project management

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this Kerb and Gutter AMP include operation, maintenance, renewal, acquisition, and construction of new assets. This AMP has been developed to inform the Long-Term Financial Plan over a period of 10 years. The 10-year forecast total funding requirement for the kerb and gutter asset class is estimated at $9,517,202 or an average of $951,720 per year.

Kerb and gutter is an asset with a long life. The age profile of this asset class results in the requirement for only a small amount of renewal work during the 10-year planning period.

Overall, our kerb and gutter assets are depreciating by $1,067,858 annually which is more than the proposed average annual funding over the AMP planning period.

This means that more funding will need to be allocated in the planning period beyond this AMP to sustainably manage kerb and gutter assets.

1.6 Financial Summary

1.6.1 What we will do

The forecast required annual funding for the 10-year period is $952,109. This figure is 100% of the required funding over the 10 year period to sustain the current level of service at the lowest lifecycle cost.

To manage infrastructure, we can only manage assets based on what is funded in the long-term financial plan. The Informed decision making depends on the Kerb and Gutter AMP emphasising the consequences of planned funding on the service levels provided and risks.

The planned funding budget for kerb and gutter assets is an annual average of the total forecast costs over the life of the AMP. The forecast costs vary from year to year with some difference to the funding budget. This is shown in the figure below.

It is proposed that the forecast budget amount be included in the Long-Term Financial Plan for the kerb and gutter asset class.

Forecast Lifecycle Costs and Planned Budgets

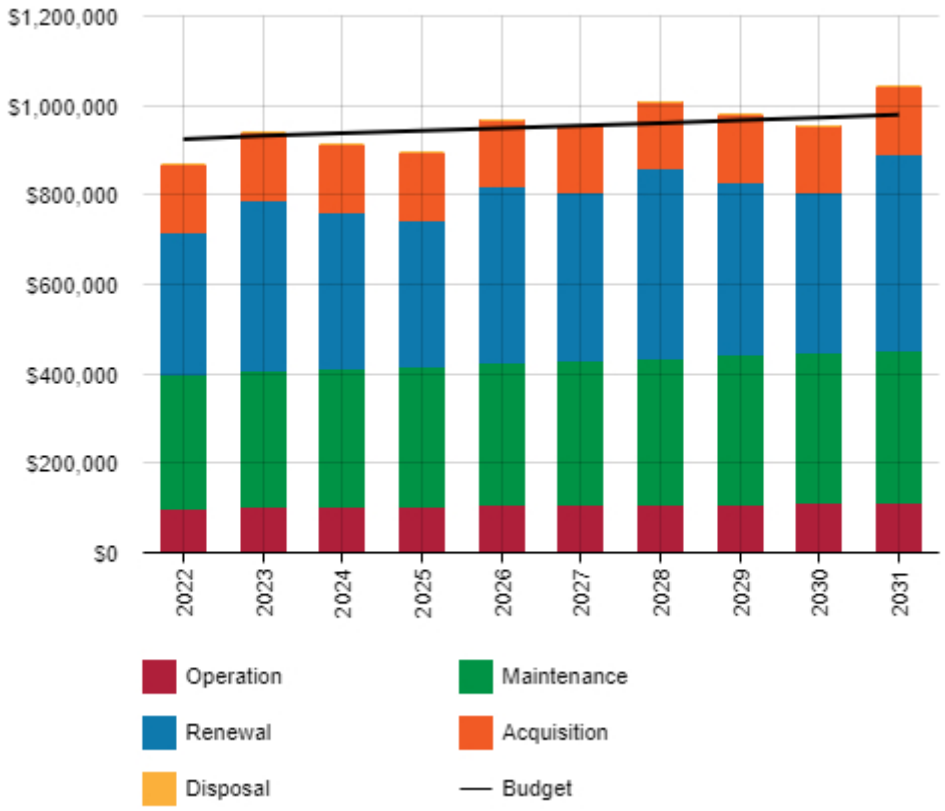


Figure Values are in current dollars.

We plan to provide funding for kerb and gutter assets to undertake:

- Operation, maintenance, renewal and acquisition of kerb and gutter assets to meet service levels.
- 3 major town centre upgrades within the 10-year planning period.
- Construct new kerb and gutter for surface drainage requirements based on needs assessments

1.6.2 What we cannot do

We currently do **not** allocate funding to exceed service levels or expand the network as an accelerated program. Works and services that cannot be provided under present funding levels are:

- Expansion of the kerb and gutter network faster than the currently planned rate
- Betterment of existing kerb and gutter prior to the forecast renewal date.

1.6.3 Managing the Risks

Our present forecast funding levels are sufficient to continue to manage risks in the medium term. The main risks associated with this asset class are:

- Council staff unable to meet service levels due to inadequate funding
- Dilapidated kerb and gutter assets due to lack of planning
- Public safety risks arising from lack of maintenance

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

- Ensuring asset management practices are followed as set-out by this AMP
- Funding requirements are appropriately allocated, and programs developed
- Continual focus on asset condition assessment and validation
- Ongoing dialogue and consultation with the community.

1.7 Asset Management Planning Practices

Key assumptions made in this Kerb and Gutter AMP are:

- Asset values and dimensions are correct
- 100% of Council's kerb and gutter assets have been inspected
- The estimates used for current rates of renewal will remain constant
- Assets requiring renewal are identified from the asset register method.

The Asset Register was used to forecast the renewal lifecycle costs for this AMP.

This Kerb and Gutter AMP is based on a highly reliable confidence level of information.

1.8 Monitoring and Improvement Program

The next steps to improve asset management practices for the Kerb and Gutter AMP are:

- Improve asset register data confidence.
- Review resilience of service delivery
- Include priority weighting methodology in maintenance and operation of assets. The four categories include: Condition, Functionality, Usage and Criticality
- Improve proactive maintenance planning and reporting mechanisms
- Improve Council staff awareness of asset management principle

2.0 Introduction

2.1 Background

This Kerb and Gutter AMP details the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to meet community needs over the 10-year planning period.

The AMP is to be read in conjunction with the Randwick City Council planning documents. This should include the Asset Management Policy and Asset Management Strategy, along with other key planning documents including:

- Randwick City Plan - Community Strategic Plan (CSP)
- Informing Strategies – Arts and Culture, Economic Development, Environment, Housing, Inclusive Randwick, Integrated Transport and Open Space and Recreation
- Randwick Local Environmental Plan
- Randwick Council Resourcing Strategy including the Asset Management Strategy, Long Term Financial Plan, Workforce Management Plan and Digital Strategy
- Delivery Plan and Annual Operational Plans
- Asset Management Plans
- Randwick City Council Community Consultation Principles and Consultation Planning Guide.

The infrastructure assets covered by this AMP include kerb and gutter constructed using various materials and methods including but not limited to concrete, sandstone, brick, asphalt and timber. The kerb and gutter also comprises dish drain.

These assets are used to provide an interface and edge between the carriageway and the footway. However, more importantly, kerb and gutter allows the collection and conveyance of stormwater along a road to a drainage inlet.

The kerb and gutter infrastructure assets included in this plan have a total replacement value of $139,826,431.

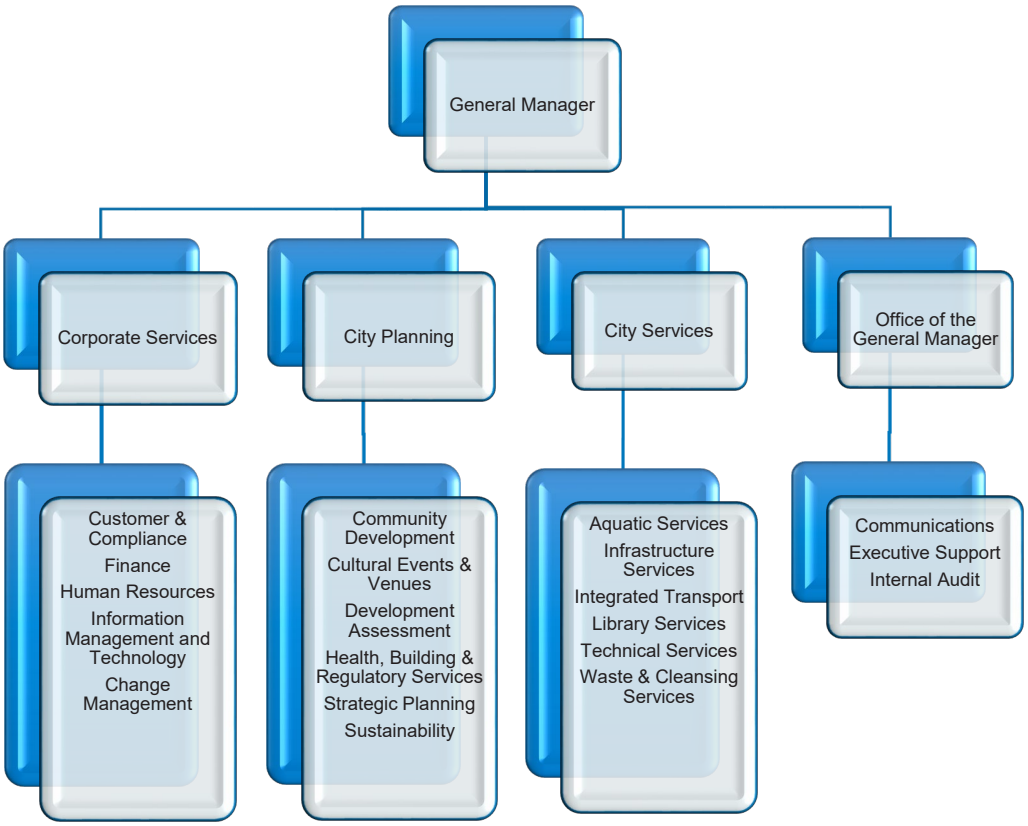
Key stakeholders in the preparation and implementation of this Kerb and Gutter AMP are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Council Representatives	Represent needs of community/shareholders. Allocate resources to meet planning objectives in providing services while managing risks. Ensure service is sustainable.
Council Officers	Manage kerb and gutter assets over their lifecycle. Ensure level of service provided meets needs of residents and visitors. Implement the components identified in the Kerb and Gutter AMP.

Key Stakeholder	Role in Asset Management Plan
Residents	Core users of kerb and gutter assets. Their needs, wants and expectations are conveyed to the Council and should be reflected in desired levels of service.
Visitors	Second largest users of kerb and gutter assets. Their needs, wants and expectations drive the replacement in areas of the highest visitor usage and commercial areas.
Insurers	Insurers have interest in implementation of systems which allow Council to gain better knowledge of the condition of their assets. Systems should be reflected in the number of claims made against each asset group.

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



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 – utilise Council's Risk Management Framework to effectively mitigate risks,
- 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:

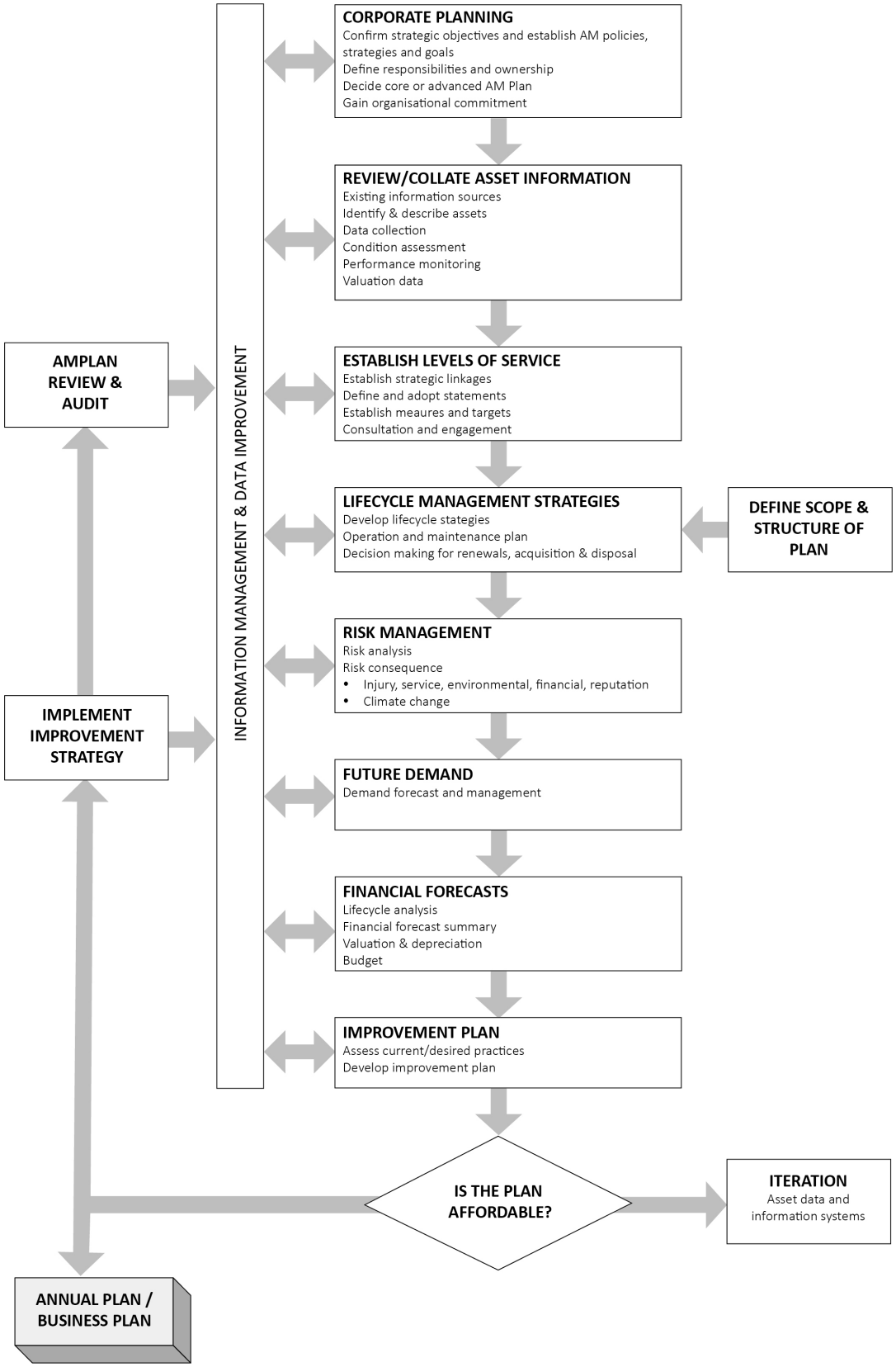
- International Infrastructure Management Manual 2015 [1]
- ISO 55000[2]

[1] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13

[2] ISO 55000 Overview, principles and terminology

A road map for preparing an Asset Management Plan is shown below.

Road Map for preparing an Asset Management Plan
Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



3.0 LEVELS OF SERVICE

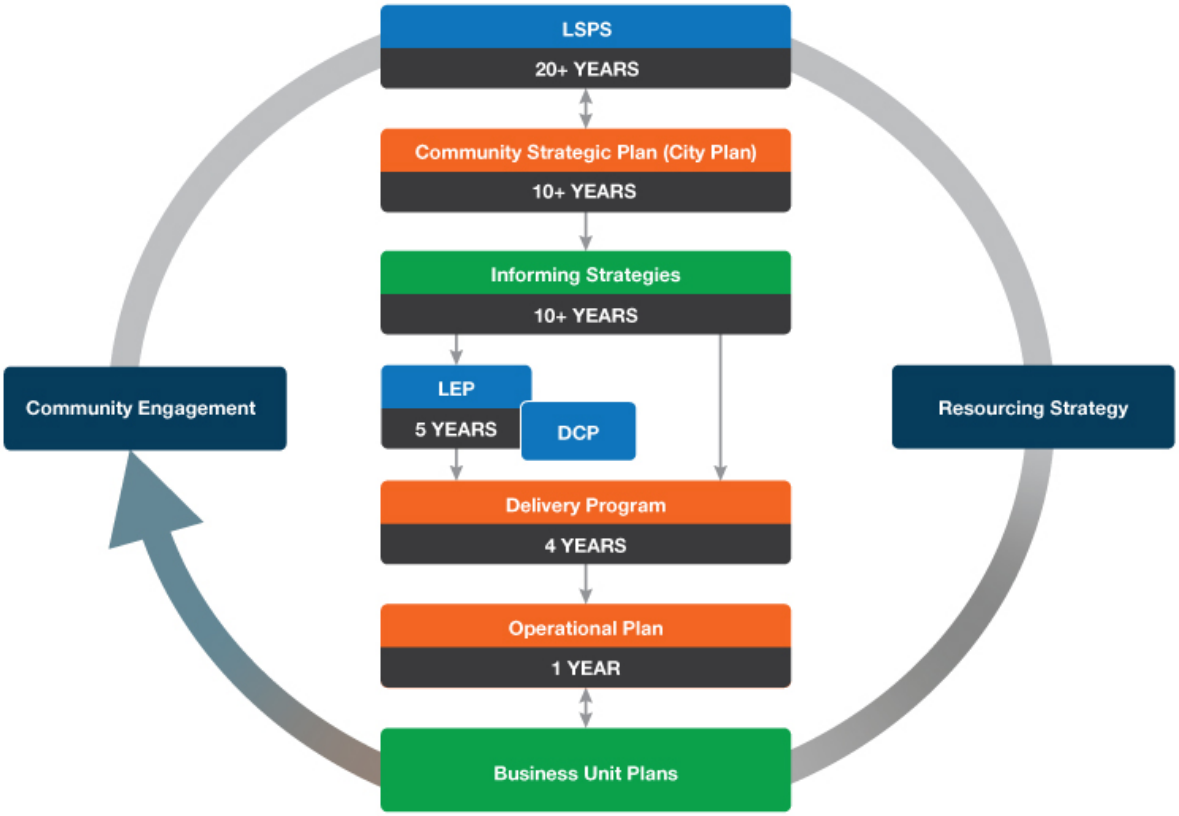
3.1 Customer Research and Expectations

Levels of service should be developed in consultation with the community. Future revisions of the AMP will incorporate customer consultation on service levels and costs of providing the service. This will assist the Councillors and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service.

We currently have historic understanding of customer expectations. Community satisfaction information has been used in developing the 10-year Randwick City Plan and in the allocation of resources in the budget.

3.2 Strategic and Corporate Goals

This AMP is prepared under the direction of the 10-year Community Strategic Plan and Informing Strategies within the Integrated Planning and Reporting (IPR) framework. This AMP forms part of the Resourcing Strategy.



Strategic goals have been set in the Randwick City Plan (CSP). The relevant goals and objectives and how these are addressed in this AMP are summarised in Table 3.2.

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

Randwick City Plan Outcome	Direction	Objective	How goals and objectives are addressed in the AMP
Outcome 1. Leadership in Sustainability	Direction 1a: Council has a long-term vision based on sustainability.	Ensure financial strategies underpin Council's asset management policies and strategic vision.	The Kerb and Gutter Asset Management Plan aligns with Council's Resourcing Strategy, including the Asset Management Strategy, Workforce Plan and Long-Term Financial Plan
Outcome 6: A Liveable City	Direction 6a: Our public infrastructure and assets are planned, managed, and funded to meet the community expectations and defined levels of service.	Plan asset renewals and construct or accept dedication of new assets in accordance with adopted service levels.	The Kerb and Gutter Asset Management Plan includes funding for renewal and new assets including provisions for performance monitoring against adopted service level.
Outcome 6: A Liveable City	Direction 6c: The safety of our community is paramount and is acknowledged and supported through proactive policies, programs, and strategies.	Conduct programmed maintenance and minor reactive maintenance management in accordance with adopted service levels.	Conduct regular condition assessment to plan maintenance Respond to customer requests within service level agreements. Identify High and Extreme risk locations and increase frequency of inspections Develop an operational and maintenance plan and allocate funding to carry out remediation work as required.

3.3 Legislative Requirements

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

Table 3.3: Legislative Requirements

Legislation	Requirement
NSW Local Government Act 1993	Sets out role, purpose, responsibilities, and powers of local government including the preparation of a long-term financial plan supported by asset management plans for sustainable service delivery.

Legislation	Requirement
Disability Discrimination Act 1992	Provides protection for everyone in Australia against discrimination based on disability, in the areas of provision of goods, facilities, services and land.
Civil Liability Act 2002 and Civil Liability Amendment (Personal Responsibility) Act 2002	Protects the Council from civil action by requiring the court to consider the financial resources, the general responsibilities of the authority and the compliance with general practices and applicable standards.
Workplace Health and Safety Act 2011	Protecting Works and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work.
Australian Accounting Standard	Reporting on asset condition and consumption to Councillors, management, and the community.
Native Vegetation Act	To manage native vegetation, to prevent broad scale clearing, to protect native vegetation, to improve native vegetation and to encourage revegetation of land.
AS 1742 – Manual of uniform traffic control devices	The AS1742 suite provides a set of Australian Standards to help regulate, guide and warn drivers about road conditions.
Australian Road Rules	To ensure compliance and uniformity with road rules in the state and elsewhere in Australia.
Protection of the Environment Operations Act 1997	A state legislation to protect, restore and enhance the environment in NSW. They provide both the framework for Council decisions that affect the environment and the means of adopting Australia-wide environment protection measures set by the National Environment Protection Council.

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: Kerb and Gutter network that is fit for purpose, maintained in a safe and operational manner			
Customer Values	**Customer Satisfaction Measure**	**Current Feedback**	**Expected Trend Based on Planned Budget**
Kerb and gutter that is safe to walk on	Customer satisfaction rating (for maintaining local roads).	Customer satisfaction survey in 2021 indicated a 3.34score, up from 3.08 in 2014	Number of claims is reducing
A well-performing Kerb and gutter network	Satisfaction survey results	Based on assessment of customer feedback, about 5 cases per year when the kerb and gutter has some contribution to flooding	Reduced flood incidents due to kerb and gutter design and upgrades
A well-maintained Kerb and gutter	Customer satisfaction rating (for maintaining local roads).	Customer satisfaction survey in 2021 indicated a 3.34score, up from 3.08 in 2014	Increase in satisfaction score

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Condition A condition 3 (scale 1 to 5) kerb and gutter is the minimum acceptable service level;

Function The kerb and gutter must be fit for purpose and the intention of kerb and gutter assets shall be well defined;

Safety The kerb and gutter network is built to safety standards;

Capacity/Use Kerb and gutter should be able to cater for stormwater flows and footway levels to meet standards at the time;

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.

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	Provide quality kerb and gutter assets free from obvious defects	Customer satisfaction survey results	81% satisfied in 2021, up from 71% in 2014)	Increase in customer satisfaction survey results

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
	Routinely inspect kerb and gutter network	20% of the network to be inspected annually	Achieved	Maintain current approach
	Confidence levels		High	Low
Function	Kerb and gutter in town centres is swept mechanically daily with litter pick up in the afternoon.	Town Centre kerb and gutter is maintained free of litter and weeds	3.34 satisfaction survey in 2021, up from 3.08 in 2014	Increase in customer satisfaction survey results
	Continue to improve the kerb and gutter network to meet community needs	Design and construct kerb and gutter assets to Council and Australian Standards	Kerb and Gutter construction works are designed and funded under the capital works program	Maintain current approach
	Confidence levels		Medium	High

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and achieve 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.[3]

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.

[3] IPWEA, 2015, IIMM, p 2|28.

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Provide kerb and gutter where the need exists	Ongoing construction of missing sections of kerb and gutter as part of Capital Works Programs	The upgrade or new kerb and gutter assets are funded under the project budget	Maintain current approach
	Provide upgrade of kerb and gutter services where the need is identified and prioritised	Provide upgrade of services - changing kerb and gutter profile to help channel surface water or use a better performing material	The upgrade or new kerb and gutter assets are funded under the budget	Maintain current approach
		Budget	$150,000	$150,000
Operation	Apply a risk management approach to kerb and gutter inspections	20% of the networks to be inspected annually	20% inspected annually	Maintain current approach
		Budget	$106,027	$106,027
Maintenance	Replacement of segments of kerb and gutter as required	Respond to CRMs within SLA timeframe	97% of Service Requests actioned within allocated time frames.	Proactive repairs achieved
		Budget	$321,082	$321,082
Renewal	Renew existing kerb and gutter that is in poor condition	Condition assessment	Kerb and gutter assets renewed as required as part of capital works projects	Satisfied with Current performance
		Budget	$375,000	$374,611

Note: * Current activities 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 AMP.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population	154,265 (As per Randwick Housing Strategy 2021	NSW Department of Planning and Environment projects a 23% increase in population by 2036 within the Randwick Local Government Area	An increase in population will require an increase in community and infrastructure services. Existing services may require amendment to cater for changes in use or increased patronage	This AMP allows Council to construct new kerb and gutter as required to help meet future demands As new developments are completed, there will also be donated assets to help meet the demand created

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Demographics	Randwick City Council has: -18% over 60 YO -43% in the 20-45 YO group (As of 30th June 2016, ABS estimated resident population – whole of Randwick Council area).	Greater proportion of 10-20 YO (>35% growth) Greater proportion of over 60 YO (>45% growth) Low proportion of 25-45 YO (<10% growth)	Greater need for aged and disability access. Increase in population will require improvements to public transport infrastructure and accessible recreational infrastructure	This AMP allows Council to budget for various connectivity improvement projects Renewal priority criteria has built-in mechanisms to ensure that Council's kerb and gutter network is built to appropriate standards where practicable
Technology Changes	Material used for the kerb and gutter network is typically concrete	Seek to reduce environmental impact, improve constructability, relatively affordable and longer asset life with reduced maintenance requirements.	Potential to reduce maintenance and resource requirements	New and emerging technologies should be assessed for both performance, abilities to improve service and whole of life costs

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 Randwick 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.[4]

As a minimum, we have considered how to manage our existing assets given potential climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1.

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

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
Increased Rainfall Intensity	Higher Chances of flash flooding	Inundated low level kerb and gutter leads to overland flow spill onto nature strip, low level footpath or in worst case scenario, flooding neighbouring properties	Kerb and gutter assets are designed with consideration of flood models conducted by Council. Appropriate profile and grading to cater for increased overland flow
More extreme weather events	Increase in rain intensity, longer drought period	More extreme heat on kerb and gutter, materials like asphalt will start to melt and become sticky at high 30°C	Transition to the use of concrete where possible for longer asset life expectancy. Ensure kerb and gutter is constructed with appropriately spaced shrinkage and expansion joints.
Need to be carbon neutral	Civil works are high carbon emitting activities. Seek to reduce carbon emission from civil works	Maintain or reduce the energy required to undertake kerb and gutter asset construction activities	Utilise low carbon concrete, recycled material, and other new technologies to assist in reduction of greenhouse gas emissions. Reduce maintenance activities and extend asset life span, thus reducing the occurrence of asset renewal.
Provide more green space in the urban setting	Increase the number of native trees and gardens planting	Longer drought period may make it harder for plants to survive. Available space for kerb and gutter is reduced due to the need for green spaces	Choose to plant native and drought tolerant trees and plants to green spaces. Consider root uplifting impacts to kerb and gutter when choosing tree species

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 summarises some asset climate change resilience opportunities.

Table 4.5 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact to assets	Build Resilience in New Works
Concrete Kerb and Gutter	Salt attack from sea breeze	Inspect every 5 years from construction, assess if applying concrete sealant may extend asset life
Asphaltic Concrete Kerb and Gutter	Hot days can melt asphaltic binder	Utilise concrete for kerb and gutter assets wherever possible. Only use asphalt where there is no other choice

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this asset management plan.

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Randwick City Council plans to manage and operate kerb and gutter 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

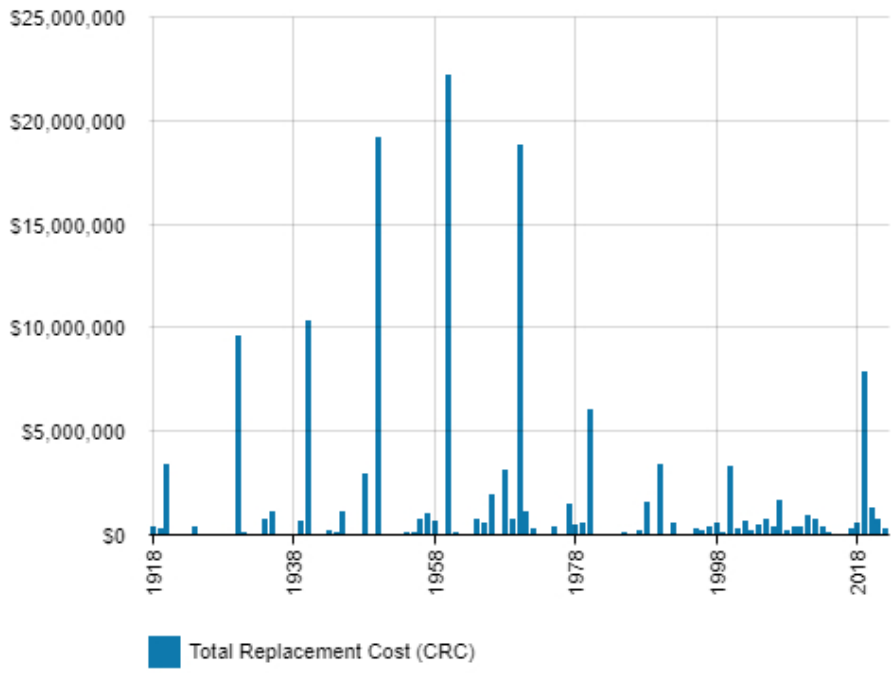
The assets covered by this AMP are shown in Table 5.1.1.

The age profile of the assets included in this AMP are shown in Figure 5.1.1.

Table 5.1.1: Assets covered by this Plan

Asset Components	Dimension (m)	Replacement Value
Dish Drain	9,210	$1,997,192
Edge Restraint	25,324	$4,924,550
Integral Kerb and Gutter	550,703	$116,179,995
Separated Kerb and Gutter	82,714	$16,724,694
TOTAL	**667,951**	**$139,826,431**

Figure 5.1.1: Asset Age Profile



All figure values are shown in current day dollars.

According to Figure 5.1.1, the majority of kerb and gutter has been built between 1948 and 1980 and thus it is anticipated that major renewals will fall between the 2048 to 2080 period.

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
Various	Identify areas where new kerb and gutter is required.

The above service deficiencies were identified from CRMs and inspections.

5.1.3 Asset condition

Condition is currently monitored by inspection of 20 percent of the network every year. The condition assessment of kerb and gutter assets is encompassed within this plan.

Condition is measured using a 1 – 5 grading system[5] from the IIMM. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system is used at Council's asset definition level as detailed in Table 5.1.3. These condition ratings can be easily translated to a 1 – 5 grading scale when reporting to OLG.

Table 5.1.3: Condition Grading System

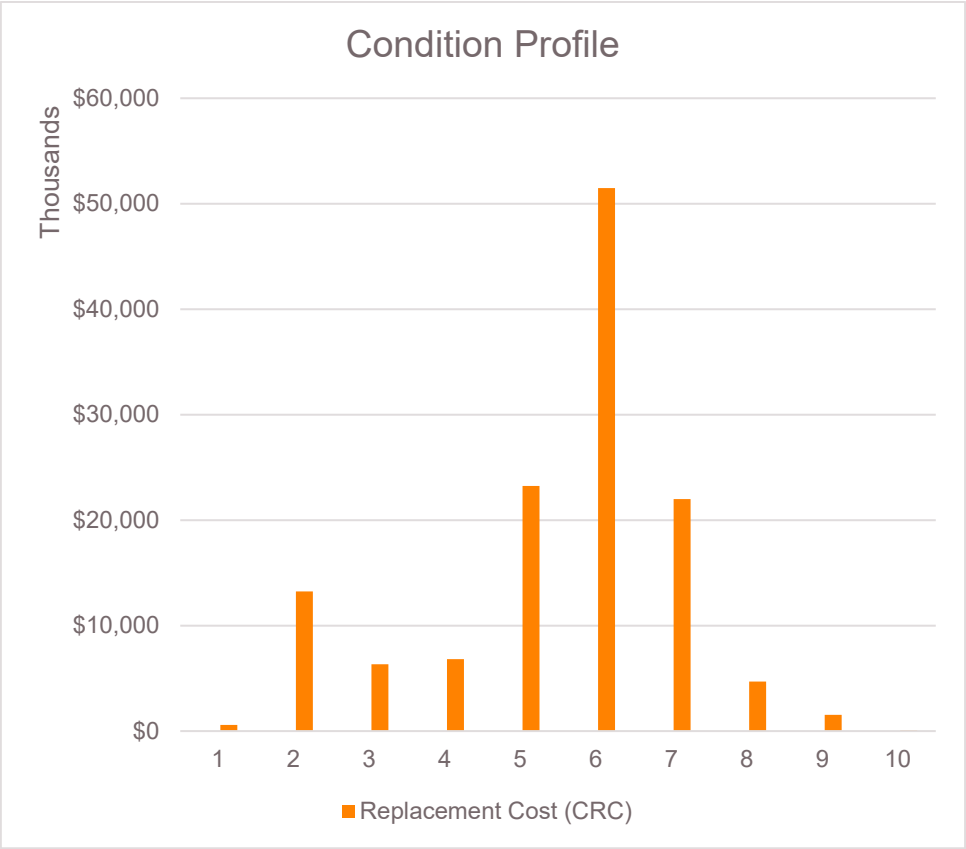
Condition Grading	Condition	Description of Condition
1	New	New
2	Excellent	Discolouration, superficial cracking
3	Very Good	Localised loss of surface cement exposing small aggregates. May show small amounts of wear and tear.
4	Good	Loss of surface cement exposing larger aggregates. Superficial cracks evident. Minor wear and tear in joints and at edges
5	Average	Hairline cracking evident. Cracking in the joints.
6	Satisfactory	Displacement between blocks evident 50mm and rotation >20mm between blocks or broken blocks.
7	Unsatisfactory	Regular cracking of blocks in moderate sections, moderate exposure of aggregates, chipping of joints and broken edges. Displacement 10mm - 20mm. Rotation 50mm and rotation >20mm between blocks or broken blocks.

[5] IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

Condition Grading	Condition	Description of Condition
8	Poor	Frequent cracking of blocks in short sections, high exposure of aggregates, surface crumbling evident. Displacement between broken blocks evident. Displacement 20mm –
9	Consider Reconstruction	Extensive damaged and deformations of kerb and gutter indicated by significant braking of blocks into short sections. Displacement >50mm and rotation >20mm between blocks or broken blocks.
10	Imminent Failure	Completely crushed or broken off.

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

Figure 5.1.3: Asset Condition Profile



All figure values are shown in current (real) dollars.

The overall condition of kerb and gutter is good with most assets at condition 2 or 3. The distribution is skewed towards the new condition (1). As assets age, the condition 2 and 3 assets will eventually deteriorate, lowering the overall condition.

Management of these assets with timely maintenance intervention to extend the life of the asset, may change the asset renewal timeframe. Other options would include to bring forward or delay some of the renewal timeframes based on a risk assessment approach.

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 for kerb and gutter is shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Year	Maintenance Budget $
2020	$321,082
2021	$321,082
2022	$321,082

Maintenance budget levels are adequate to meet projected service levels, which may be less than or equal to current service levels. 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 AMP, and service risks considered in the Infrastructure Risk Management Plan.

Assessment and priority of reactive maintenance is currently undertaken by staff using experience and sound professional judgement. There is an inherent risk in depending on the staff to use experience. This risk is identified in the Section 6 under Risk Management. The improvement plan in Section 8.2 also indicates an improvement on the prioritisation methodology.

5.2.1 Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting, and service level hierarchy used for service planning and delivery.

The service hierarchy is shown is Table 5.2.2.

Table 5.2.2: Asset Service Hierarchy

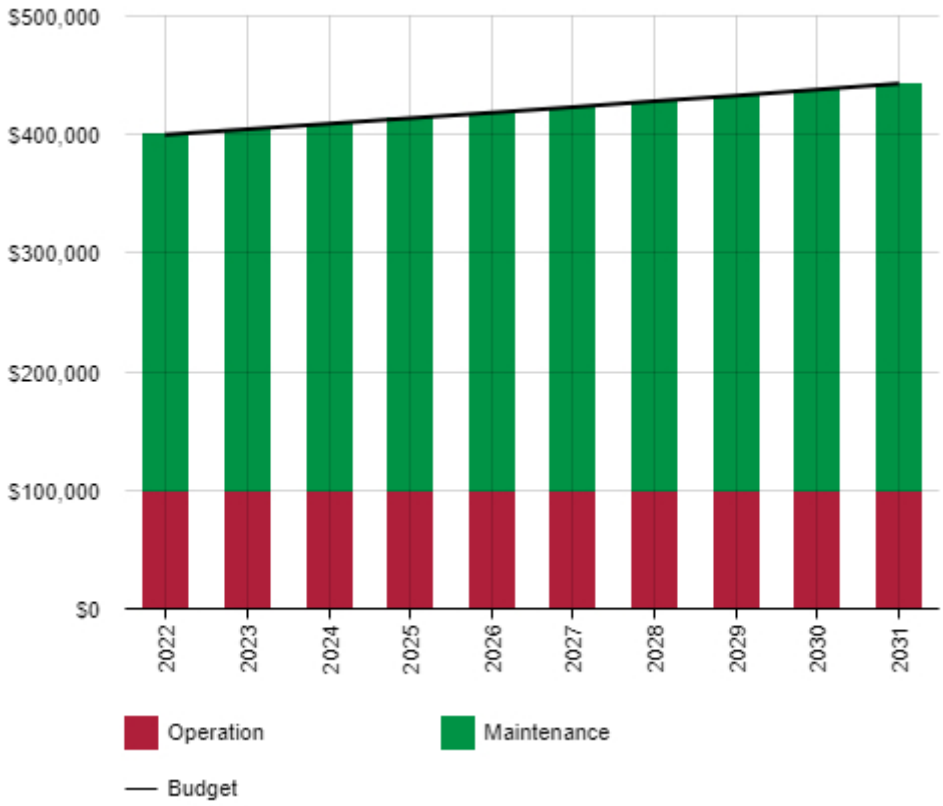
Service Hierarchy	Service Level Objective
Dish Drains	To inspect, assess and make safe the asset within 24 hours of reporting, rectified within the Service Level Agreement timeframe
Kerb and gutter	To inspect, assess and make safe the asset within 24 hours of reporting, rectified within the Service Level Agreement timeframe

Service Hierarchy	Service Level Objective
Private Driveway Layback	To inspect and assess within the Service Level Agreement timeframe and reference appropriately to the corresponding property owner as per Roads Act 1993

5.2.2 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, 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



All figure values are shown in current day dollars.

The forecast operations and maintenance costs are in line with the proposed operations budget. However, with the growing cost of material, labour, and new acquisitions, it is likely that the budget for future operations and maintenance will require review every 5 years to keep up with the growing cost. The increase in maintenance cost while insignificant, will create deferred maintenance items causing increased deterioration rate and a shorter lifespan of assets.

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 were last reviewed on 30 June 2021.[6]

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Concrete Kerb and Gutter	100 years
Asphalt Kerb and Gutter	25 years
Sandstone Kerb and Gutter	80 years
Brick Kerb and Gutter	40 years
Concrete Layback	100 years
Concrete Dish Drain	100 years
Edge Restraint	80 years

The estimates for renewals in this AMP were based on the asset register 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. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).[7]

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

[6] D03483347

[7] IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.[8]

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

Table 5.3.1: Renewal Priority Ranking Criteria

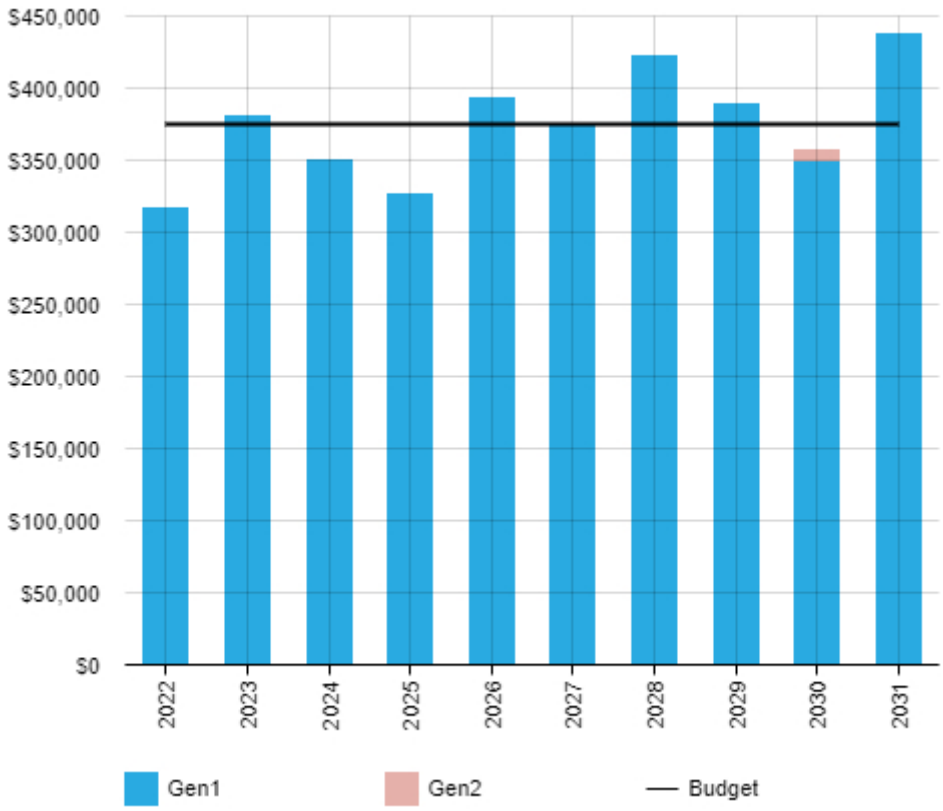
Criteria	Weighting
Community – Function	30%
Community – Quality	5%
Technical – Condition	15%
Technical – Risk of Failure	40%
Technical – Operating/Maintenance and lifecycle costs	10%
Total	**100%**

5.4 Summary of future renewal costs

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

[8] Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

Figure 5.4.1: Forecast Renewal Costs



All figure values are shown in current day dollars.

The forecast renewal costs are generally below the proposed renewal budget. As an average, this is an indicator that there is sufficient funding for renewal of assets in the next 10 years. However, the surplus captured under renewal is not sufficient to cater for large scale upgrade projects outside of the planned works beyond the next 10 years.

5.5 Acquisition Plan

Acquisition reflects how 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 / dedicated to Randwick 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 programs. The priority ranking criteria is detailed in Table 5.5.1.

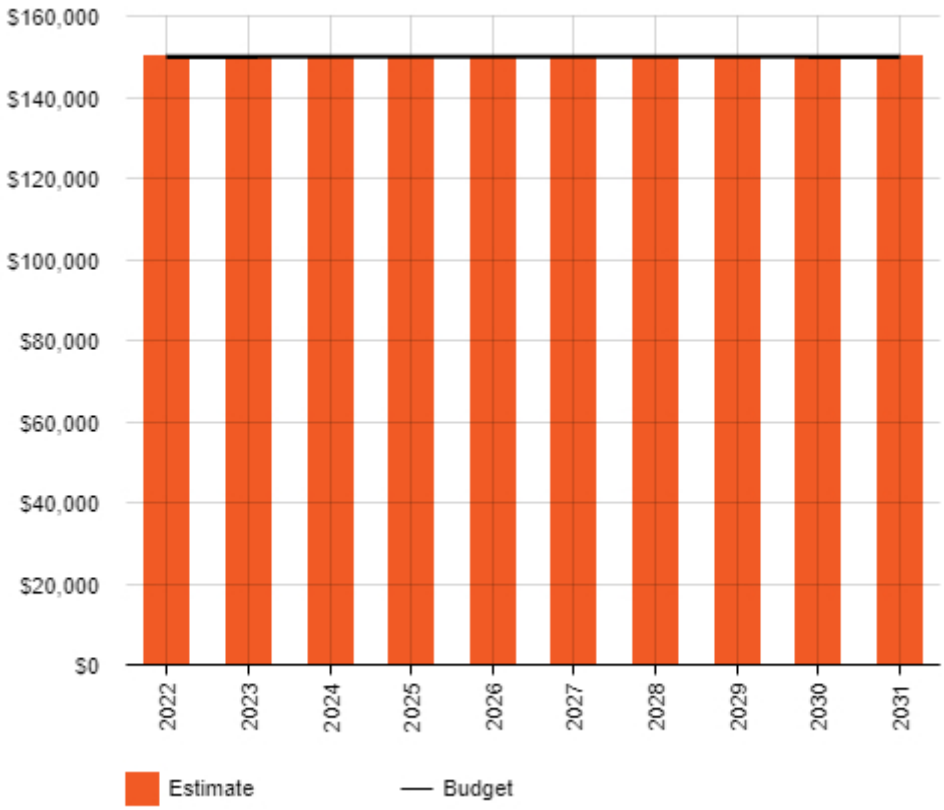
Table 5.5.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Requirement to manage stormwater flow	50%
Community Expectation	15%
Lifecycle Cost	25%
Community Benefits (Usage, population, future development)	25%
Total	100%

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised 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

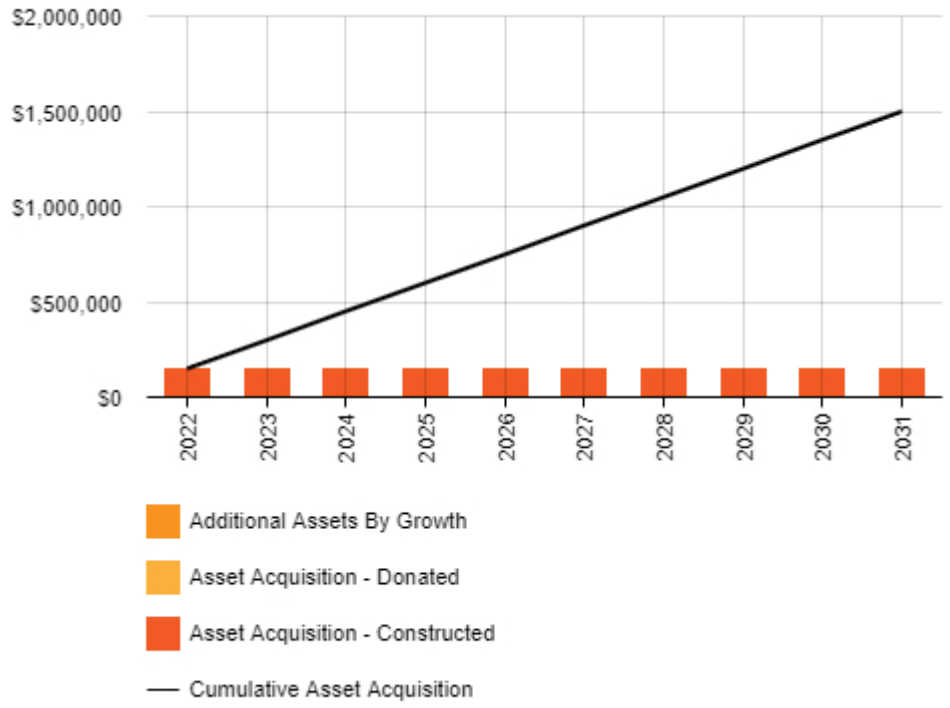


All figure values are shown in current day dollars.

When Council commits to new assets, we must be prepared to fund future operations, maintenance and renewal costs. We 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 Council. The cumulative value of all acquisition work, including assets that are constructed and contributed are shown in Figure 5.5.2.

Figure 5.5.2: Acquisition Summary



All figure values are shown in current dollars.

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 planned acquisition will be constructed kerb and gutter from Council's capital works program and some donated / dedicated assets from large developments undertaken in the LGA.

The value of donated assets is estimated based on the data collected from the amount of asset handovers from development applications in Council. Other potentially significant projects where assets may be donated to council could be state funded significant projects. The urban setting of Randwick City Council would mean that the majority of these donated assets are treated as renewals of current assets at no capital cost to Council.

5.6 Disposal Plan

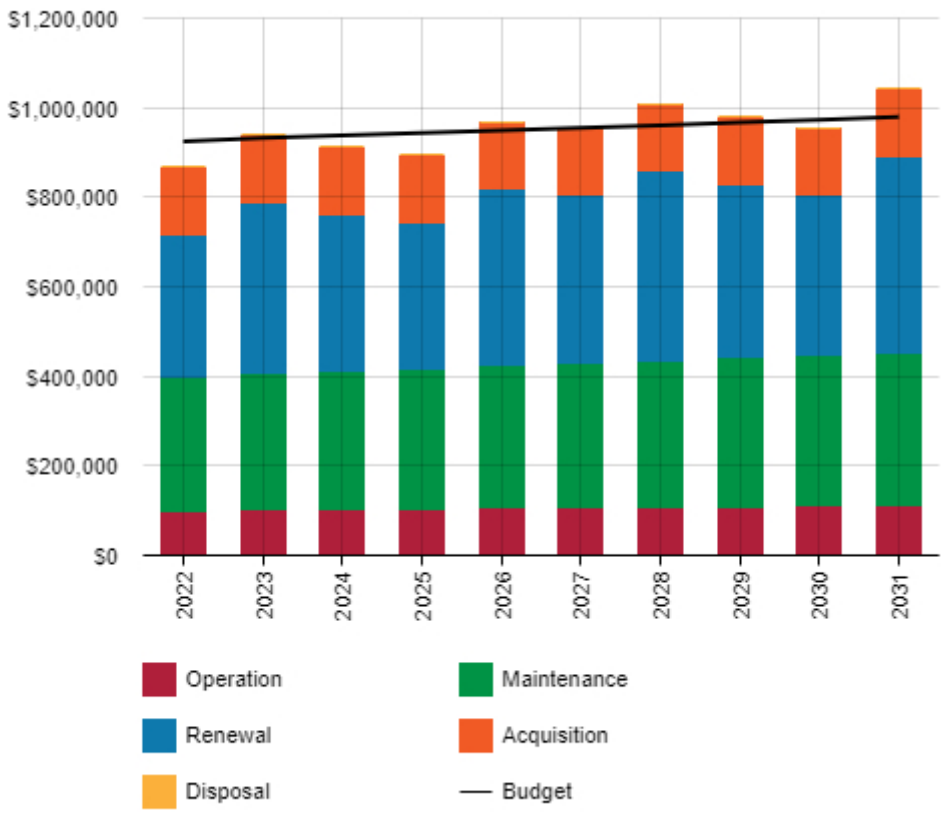
Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition, or relocation. There are currently no assets being identified for possible decommissioning and disposal. Costs incurred from early disposal of assets were not included in this asset management plan. The cost incurred will be the residual values of the assets being renewed prior to the end of life. Depending on the performance of such assets, their values can be fully actualised prior to the end of life.

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 forecast funding (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 required 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



All figure values are shown in current day dollars.

The forecast costs of the asset are generally in line or below the proposed budget which caters for fluctuations in yearly cost variations. The model shows that the budget is currently sustainable. The yearly surplus can be placed in infrastructure reserves in preparation for Town Centre Upgrades in the near future.

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'[9].

An assessment of risks[10] 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 summarised in Table 6.1 along with their typical failure mode and the impact on service delivery. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Kerb and gutter	Displacement, damage, or distresses	Loss or reduction of service, restricted access, injuries to users or property damage
Dish Drain	Displacement, damage, or distresses	Loss or reduction of service, restricted access, injuries to users or property damage
Driveway Layback	Displacement, damage, or distresses	Loss or reduction of service, restricted access, casualties to users or property damage

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.

[9] ISO 31000:2009, p 2

[10] D03410905 RCC Enterprise Risk Management Framework

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.

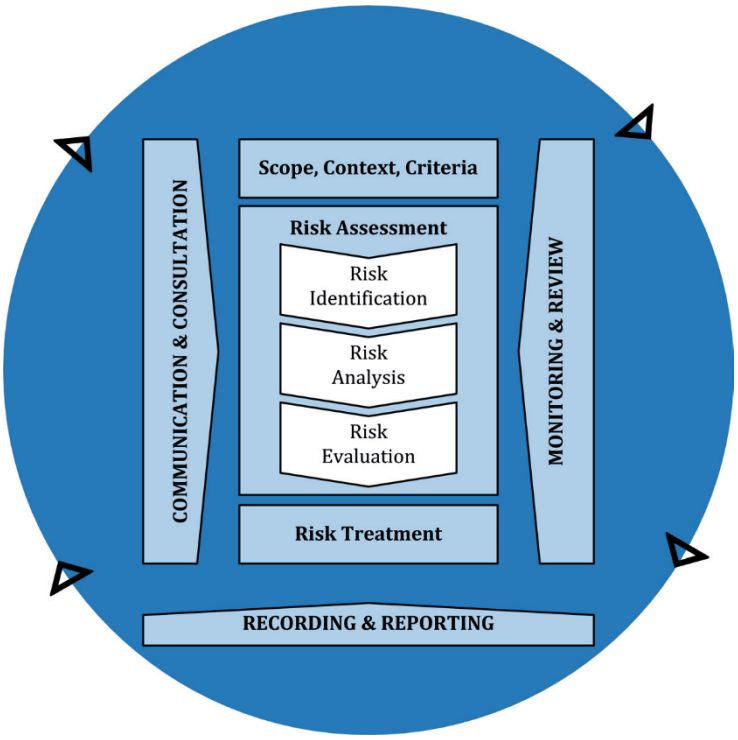


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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[11] 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 6.2.1. It is essential that these critical risks and costs are reported to management and the Council.

[11] D03410905 RCC Enterprise Risk Management Framework

Table 6.2.1: Risks and Treatment Plans

Risk Assessment

Risk Factors	Consequence	Likelihood
Personal Injury		*Please note likelihood is based on condition assessment*
Financial Implications		
Environmental		
Political		

Consequence	Risk Descriptions
Catastrophic	Death, toxic release off site with detrimental effect, huge financial loss (>$100,000), sustained comprehensive negative national media coverage with major loss in community trust
Major	Extensive injuries, loss of production capability, off site release with no detrimental effects, major financial loss (>$50,000 & <$100,000), Ongoing negative media coverage in local and metro press with minimal community trust
Moderate	Medical treatment required, on-site release contained with outside assistance, high financial loss (>$10,000 & <$50,000), Short period negative media coverage with rigorous community discussion
Minor	First aid treatment, on-site release immediately contained, medium financial loss (>$1000 & <$10,000), little or no impact on community's perception of Council
Insignificant	No injuries, low financial loss (<$1000), no effect to normal operations

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

Table 6.2.2: Risks Matrix

	CONSEQUENCE				
LIKELIHOOD	Insignificant (2)	Minor (3)	Moderate (7)	Major (13)	Catastrophic (20) Major (13)
Almost Certain (5)	Medium (10)	High (15)	High (35)	Extreme (65)	Extreme (100)
Likely (4)	Medium (8)	Medium (12)	High (28)	High (52)	Extreme (80)
Possible (3)	Low (6)	Medium (9)	High (21)	High (39)	Extreme (60)
Unlikely (2)	Low (4)	Low (6)	Medium (14)	High (26)	High (40)
Rare (1)	Low (2)	Low (3)	Medium (7)	Medium (13)	High (20)

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.

We do not currently measure our resilience in service delivery. This will be included in future iterations of the AMP.

6.4 Service and Risk Trade-Offs

The decisions made in adopting this AMP 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:

- We cannot continually undertake reactive maintenance only
- We cannot expand the current kerb and gutter network beyond the proposed rate of increase

6.4.2 Service trade-off

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

- Council staff unable to meet service level agreements
- Dilapidated kerb and gutter assets
- Reduced public safety to users of the kerb and gutter

6.4.3 Risk trade-off

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

- Risk of causing harm to pedestrians from dilapidated kerb and gutter assets e.g. trip and fall, low slip resistant kerb and gutters and inaccessible kerb ramps for wheelchairs
- Extended time that kerb and gutter assets are 'not in use', causing impact to passengers alighting from vehicles which could lead to an accident with travelling motor vehicles or cyclists

These operation and maintenance activities are considered and included in the forecast costs, and where developed, 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 AMP. 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 AMP for this service area. The two indicators are:

- 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[12] 100.1%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years, we expect to have 100.1% of the funds required for the optimal renewal of 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 AMP 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 an average of $801,720 per year.

The proposed funding (budget) for operations, maintenance and renewal is $802,109 on average per year over the 10 year plan. This figure indicates that 100.1% of the forecast costs needed to provide the services documented in this AMP 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 1.0 (100%) for the first years of the AMP and ideally over the 10 year life of the Long-Term Financial Plan.

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

Table 7.1.2 shows the forecast costs required for consideration in the 10 year long-term financial plan.

[12] 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.

Forecast costs are shown in 2021-22 dollar values.

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

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2022	$150,000	$100,000	$300,000	$316,539	0
2023	$150,000	$102,500	$304,500	$381,231	0
2024	$150,000	$103,525	$309,068	$350,456	0
2025	$150,000	$104,560	$313,704	$325,860	0
2026	$150,000	$105,606	$318,409	$393,249	0
2027	$150,000	$106,662	$323,185	$373,938	0
2028	$150,000	$107,729	$328,033	$421,986	0
2029	$150,000	$108,806	$332,953	$388,555	0
2030	$150,000	$109,894	$337,948	$357,011	0
2031	$150,000	$110,993	$343,017	$437,286	0

7.2 Funding Strategy

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

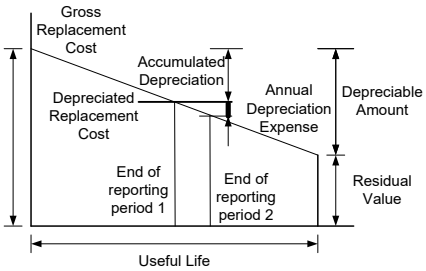
The financial strategy of the entity determines how funding will be provided, whereas the AMP communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AMP are shown below. The assets are valued using fair value to determine cost to replace service capacity:

Replacement Cost (Current/Gross)	$139,826,431
Depreciable Amount	$544,748,842
Depreciated Replacement Cost[13]	$84,936,608
Depreciation	$1,067,858



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

7.3.2 Valuation forecast

Asset funding costs and values are forecast to increase as additional assets are added to the asset class.

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.

Under the AASB requirements, Council is required to revaluate assets at a rate of minimum once every 4 years. This will help align the values of the existing assets with the addition of the acquired assets to a current day value.

7.4 Key Assumptions Made in Financial Forecasts

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

Key assumptions made in this AMP are:

- Asset values and dimensions are correct; Changes to asset values and dimensions will have an effect on resources required to operate, maintain and renew kerb and gutter assets.
- 100% of Council's kerb and gutter assets have been inspected and the kerb and gutter asset conditions have been updated accordingly. Monitoring of change of condition may show change in the asset's useful life which may have a subsequent impact on funding required to maintain level of service.
- The estimates used for current rates of renewal will remain constant at the current 2021-22 values for the next 10 years. Any increase to the renewal costs may reduce the amount of work budgeted with possible reduction in the kerb and gutter service level.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AMP 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 an A - E level scale[14] in accordance with Table 7.5.1.

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%

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

Confidence Grade	Description
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 AMP 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	B. High	The demand drivers are based on needs for stormwater management assessments
Growth projections	B. High	The demand drivers are based on customer requests, condition assessment and ongoing development requirements.
Acquisition forecast	B. High	This data has been a trend for Randwick City Council for the past 5 years.
Operation forecast	B. High	This data has been a trend for Randwick City Council for the past 5 years.
Maintenance forecast	B. High	This data has been a trend for Randwick City Council for the past 5 years.
Renewal forecast - Asset values	B. High	The data is based on a recent revaluation of assets after a Council wide kerb and gutter audit.
- Asset useful lives	B. High	The data is based on a recent revaluation of assets after a Council wide kerb and gutter audit.
- Condition modelling	B. High	The data is based on a recent revaluation of assets after a Council wide kerb and gutter audit.

The estimated confidence level for and reliability of data used in this AMP is considered to be High.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[15]

8.1.1 Accounting and financial data sources

In 2010 Council implemented the financial system, Technology One. This system contains a Works and Assets Module in which works orders or tasks can be raised and costing tracked against a particular asset.

Council's finance system is managed by its Finance section. The system is used for reporting which is audited annually. The audited report is present to Council, who then refers the report onto the Office of Local Government.

Council's Asset Management team provides input into the asset registers including condition, useful life, unit rates, capitalisation data and physical attributes.

8.1.2 Asset management data sources

Randwick Council's Asset Register is currently located within the Technology One software package. This dataset contains information to physically describe the asset including its makeup, age, condition, useful life, CRC and other financial data. The register is also linked to other systems including GIS.

The Technology One software used for asset management is currently controlled/managed by Council's Finance section.

Data maintenance is undertaken by Council's Asset Management team who review data/assets on an annual program and advise the Finance team of any updates, new or disposed assets as they arise.

Council is currently reviewing options for a new Strategic Asset Management System.

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

Task	Task	Responsibility	Resources Required	Timeline
1	Improve asset register data confidence	Asset Management Services	Asset Team	Ongoing
2	Review resilience of service delivery	Asset Management Services	Asset Team	The next AMP
3	Include priority weighting methodology in maintenance and operation of assets. The four categories include: Condition, Functionality, Usage and Criticality	Infrastructure Services	Asset Team	The next AMP

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

Task	Task	Responsibility	Resources Required	Timeline
4	Improve proactive maintenance planning and reporting mechanism	Infrastructure Services	Asset Team	Ongoing
5	Improve asset management principles awareness within Council staff	Asset Management Services	Asset Team	Ongoing

8.3 Monitoring and Review Procedures

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

The AMP has a maximum life of 4 years and is due for complete revision and updating within 6 months of each Council election.

8.4 Performance Measures

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

- The degree to which the required forecast costs identified in this AMP 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 AMP,
- 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

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- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
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- Randwick City Plan 2018 – 2028,
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10.0 APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

The acquisition forecast includes 1.0km p.a. new kerb and gutter to meet increased local demands from:

- New planned sections of kerb and gutter.
- Three major Town Centre CBD Upgrade projects at Clovelly Road, Maroubra Junction and Matraville Town Centre.
- A new state government administered grant funded cycleway project stretching from Alison Road, Randwick to Kingsford Light Rail Terminal.

A.2 – Acquisition Forecast Summary

Table A3 - Acquisition Forecast Summary

Year	Constructed	Donated	Growth
2022	$150,000	0	0
2023	$150,000	0	0
2024	$150,000	0	0
2025	$150,000	0	0
2026	$150,000	0	0
2027	$150,000	0	0
2028	$150,000	0	0
2029	$150,000	0	0
2030	$150,000	0	0
2031	$150,000	0	0

Appendix B Operation Forecast

B.1 – Operation Forecast Assumptions and Source

Operational forecast is assumed to be increasing yearly due to the increase of material and labour cost. Additional operation forecast increase is due to the increase in the acquisition forecast.

B.2 – Operation Forecast Summary

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2022	$100,000	0	$100,000
2023	$102,500	0	$102,500
2024	$103,525	0	$103,525
2025	$104,560	0	$104,560
2026	$105,606	0	$105,606
2027	$106,662	0	$106,662
2028	$107,729	0	$107,729
2029	$108,806	0	$108,806
2030	$109,894	0	$109,894
2031	$110,993	0	$110,993

Appendix C Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

Maintenance forecast is assumed to be increasing yearly due to the increase of material and labour cost, and also due to the increase in acquisition forecast.

C.2 – Maintenance Forecast Summary

Table C2 - Maintenance Forecast Summary

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2022	$300,000	0	$300,000
2023	$304,500	0	$304,500
2024	$309,068	0	$309,068
2025	$313,704	0	$313,704
2026	$318,409	0	$318,409
2027	$323,185	0	$323,185
2028	$328,033	0	$328,033
2029	$332,953	0	$332,953
2030	$337,948	0	$337,948
2031	$343,017	0	$343,017

Appendix D Renewal Forecast Summary

D.1 – Renewal Forecast Assumptions and Source

Renewal forecast is based on the asset register, the general assumption of the asset register is that the condition of the assets are assessed appropriately and that the physical data of the asset are correct.

D.2 – Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2022	$321,287	$375,000
2023	$386,948	$375,000
2024	$355,712	$375,000
2025	$330,748	$375,000
2026	$399,147	$375,000
2027	$379,546	$375,000
2028	$428,314	$375,000
2029	$394,385	$375,000
2030	$362,368	$375,000
2031	$443,845	$375,000

D.4 –Renewal Plan

Projected 10 Year Capital Renewal and Replacement Works Program

Asset ID	Sub Category	Street Name	From Street	To Street	Proposed Renewal Yr
FR006799	TWOPIECE	Day Ave	Houston Ln	Anzac Pde	2022
FR006840	TWOPIECE	Inglethorpe Ave	Tedwin Ave	The End	2022
FR007056	TWOPIECE	St Marks Rd	91 St Marks Rd	Alison Rd	2022
FR007175	TWOPIECE	Villiers St	Addison St	Todman Ave	2022
FR007894	TWOPIECE	Charman Ave	Width Change	Percival St	2022
FR008037	TWOPIECE	Mermaid Ave	Malabar Rd	Lurline St	2022
FR008189	TWOPIECE	Baird Ave	Beauchamp Rd	Baird Ln South	2022
RD013934	TWOPIECE	Winburn Ave	Tunstall Ave	Eastern Ave	2022
FR008341	RETANEDG	Mckenzie Ave	6 Mckenzie Ave	Anzac Pde	2022
RD003552	RETANEDG	Kelso Ln	Cowper St	The End	2022
FR005705	STANDARD	Clovelly Rd	Market St	St Marks Ln	2022
FR005747	STANDARD	Eastern Ave	Winburn Ave	Goodrich Ave	2022
FR005764	STANDARD	Eastern Ave	Day Ave	Winburn Ave	2022
FR006032	STANDARD	Pitt St	Albert St	The End	2022
FR006227	STANDARD	Gardeners Rd	Anzac Pde	Gardeners Rd	2022
FR006334	STANDARD	Pauling Ave	Ritchard Ave	Alison Rd	2023
FR006346	STANDARD	Mount St	15 Mount St	Marcel Ave	2023
FR006667	STANDARD	Ritchard Ave	Mount St	Pauling Ave	2023
FR006750	STANDARD	Leeton Ave	The End	Alison Rd	2023
FR006965	STANDARD	Hardiman Ave	St Pauls St	The End	2023
FR006999	STANDARD	Pauling Ave	Ritchard Ave	Alison Rd	2023
FR007033	STANDARD	Abbott St	Mount St	Melody St	2023
FR007055	STANDARD	Division St	Brook St	Mount St	2023
FR007105	STANDARD	Tedwin Ave	Inglethorpe Ave	Tunstall Ave	2023
FR007122	STANDARD	Anzac Pde	Darling St	Doncaster Ave	2023
FR007173	STANDARD	Prince St	King St	Cowper St	2023
FR007192	STANDARD	Arden St	Clovelly Rd	Quail St	2024

Asset ID	Sub Category	Street Name	From Street	To Street	Proposed Renewal Yr
FR007197	STANDARD	Varna St	Fern St	Douglas St	2024
FR007239	STANDARD	Allan Ave	Keith St	The End	2024
FR007362	STANDARD	Rainbow St	Rainbow St	Arden St	2024
FR007914	STANDARD	Marjorie Cres	Eastmore Pl	Storey St	2024
FR007924	STANDARD	Hannan St	Runic Ln	Runic Ln	2024
FR007941	STANDARD	Rainbow St	Marian St	Brook St	2024
FR008132	STANDARD	Garden St	Green St	Maroubra Rd	2024
FR008186	STANDARD	Murrabin Ave	Bunnerong Rd	The End	2024
FR008191	STANDARD	Dundas St	Oberon St	Rainbow St	2024
FR008227	STANDARD	Dundas St	Oberon St	Rainbow St	2024
FR008528	STANDARD	Moorina Ave	Moona Ave	Partanna Ave	2024
FR008625	STANDARD	Anzac Pde	Anzac Pde	Pozieres Ave	2024
FR008824	STANDARD	Moorina Ave	Bunnerong Rd	Moona Ave	2025
RD001988	STANDARD	Bona Vista Ave	Bond St	Maroubra Rd	2025
RD006431	STANDARD	Frances St	The Avenue	Avoca St	2025
RD006898	150MMINT	Gipps Avenue	Grose Street	Dwyer Avenue	2025
RD007887	STANDARD	Bunnerong Rd	Frost Ave	Little Bay Rd	2025
RD009631	STANDARD	Marjorie Cres	The End	Eastmore Pl	2025
RD009632	STANDARD	Marjorie Cres	The End	Eastmore Pl	2025
RD009692	STANDARD	Maroubra Rd	Flower St	Cooper St	2025
RD009702	STANDARD	Maroubra Rd	Cooper St	Maroubra Rd	2025
RD010425	STANDARD	Moorina Ave	Bunnerong Rd	Partanna Ave	2025
RD010681	STANDARD	Murrabin Ave	Bunnerong Rd	The End	2026
RD012018	STANDARD	Rainbow St	Mount St	Brook St	2026
RD012019	STANDARD	Rainbow St	Mount St	Marian St	2026
RD012169	STANDARD	Ritchard Ave	Mount St	Pauling Ave	2026
RD013023	STANDARD	Tedwin Ave	Inglethorpe Ave	Tunstall Ave	2026
FR005621	TWOPIECE	Alison Rd	Arcadia Ln	Brook St	2026
FR005622	TWOPIECE	Dolphin St	Arden St	Hill St	2026

Asset ID	Sub Category	Street Name	From Street	To Street	Proposed Renewal Yr
FR005633	TWOPIECE	Mount St	96 Mount St	Coogee Bay Rd	2026
FR005649	TWOPIECE	Farnham Ave	Alison Rd	The End	2026
FR005660	TWOPIECE	Arcadia St	Hill St	Brook St	2026
FR005666	TWOPIECE	Cottenham Ave	Koorinda Ave	Roma Ave	2027
FR005679	TWOPIECE	Darley Rd	Govett St	Evans St	2027
FR005685	TWOPIECE	Brook St	Arcadia St	Alison Rd	2027
FR005717	TWOPIECE	Darley Rd	Govett St	Evans St	2027
FR005724	TWOPIECE	Day Ave	Tunstall Ave	Eastern Ave	2027
FR005728	TWOPIECE	Winburn Ave	Tunstall Ave	Eastern Ave	2027
FR005743	TWOPIECE	Borrodale Rd	Day Ln	Houston Rd	2027
FR005754	TWOPIECE	Day Ave	Cottenham Ave	Mooramie Ave	2027
FR005762	TWOPIECE	Tunstall Ave	Day Ave	Tedwin Ave	2027
FR005765	TWOPIECE	Houston Rd	See Ln	89 Houston Rd	2027
FR005771	TWOPIECE	Darley Rd	2 Darley Rd	Govett St	2028
FR005775	TWOPIECE	Anzac Pde	176 Anzac Pde	Day Ave	2028
FR005818	TWOPIECE	Grovesnor St	Kensington Rd	Lorne Ave	2028
FR005823	TWOPIECE	Kensington Rd	2 Kensington Rd	Cottenham Ave	2028
FR005825	TWOPIECE	Roma Ave	115 Roma Ave	Doncaster Ave	2028
FR005830	TWOPIECE	Milroy Avenue	Lenthall Street	The End	2028
FR005836	TWOPIECE	Todman Ave	Carminya St	Baker St	2028
FR005860	TWOPIECE	Arden St	Dans Ave	Division St	2028
FR005865	TWOPIECE	Kensington Rd	Grosvenor St	Roma Ave	2028
FR005873	TWOPIECE	Rainbow St	Forsyth St	53 Rainbow St	2028
FR005911	TWOPIECE	Barker St	213 Barker St	227 Barker St	2028
FR005939	TWOPIECE	Magill St	The End	Botany St	2029
FR005956	TWOPIECE	Botany St	59 Botany St	High St	2029
FR005973	TWOPIECE	Mount St	Clifford St	Dudley St	2029
FR006001	TWOPIECE	Carrington Rd	Little Nathan St	Brighton Rd	2029

Asset ID	Sub Category	Street Name	From Street	To Street	Proposed Renewal Yr
FR006012	TWOPIECE	Coogee St	28 Coogee St	6 Coogee St	2029
FR006040	TWOPIECE	Mears Ln	Ada Ln	Ada St	2029
FR006048	TWOPIECE	Darley Rd	Clovelly Rd	Wentworth St	2029
FR006055	TWOPIECE	Darley Rd	Clovelly Rd	Avoca St	2029
FR006056	TWOPIECE	Koorinda Ave	143 Koorinda Ave	Doncaster Ave	2029
FR006077	TWOPIECE	Douglas St	Raby Ln	Fern St	2029
FR006081	TWOPIECE	Cowper St	The Avenue	80 Cowper St	2029
FR006086	TWOPIECE	Koorinda Ave	Mooramie Ave	15 Koorinda Ave	2029
FR006091	TWOPIECE	Bradley St	21 Bradley St	The End	2029
FR006092	TWOPIECE	Cowper St	Wentworth St	Randwick St	2029
FR006093	TWOPIECE	Cowper St	Barden Ln	Wentworth St	2029
FR006098	TWOPIECE	Roscrea Ave	Frenchmans Rd	Gilderthorpe Ave	2029
FR006103	TWOPIECE	Waratah Ave	Arthur Ln	Belmore Rd	2030
FR006114	TWOPIECE	Church St	23 Church St	Frances St	2030
FR006116	TWOPIECE	Frances St	Frances Ln	Cook St	2030
FR006120	TWOPIECE	Frenchmans Rd	Roscrea Ave	Searle Ave	2030
FR006122	TWOPIECE	Pine St	Hooper Ln	Bella St	2030
FR006125	TWOPIECE	Gilderthorpe Ave	Park Ave	47 Gilderthorpe Ave	2030
FR006126	TWOPIECE	Avoca St	Rae St	Alison Rd	2030
FR006138	TWOPIECE	Day Ave	32 Day Ave	Mooramie Ave	2030
FR006141	TWOPIECE	Cook St	25 Cook St	7 Cook St	2030
FR006149	TWOPIECE	Cottenham Ave	Day Ave	Koorinda Ave	2030
FR006152	TWOPIECE	Cottenham Ave	Day Ave	Koorinda Ave	2030
FR006164	TWOPIECE	Villiers St	Addison St	Todman Ave	2030
FR006170	TWOPIECE	Balfour Rd	Sherwood St	Addison St	2030
FR006172	TWOPIECE	Villiers St	20 Villiers St	Todman Ave	2030
FR006179	TWOPIECE	Milroy Ave	Carminya St	Winkurra St	2030

Asset ID	Sub Category	Street Name	From Street	To Street	Proposed Renewal Yr
FR006180	TWOPIECE	Balfour Rd	Balfour Ln	Duke St	2030
FR006191	TWOPIECE	Todman Ave	Baker St	End Propnum 95	2031
FR006193	TWOPIECE	Salisbury Rd	Kensington Rd	Balfour Rd	2031
FR006197	TWOPIECE	Kensington Rd	Balfour Ln	Duke St	2031
FR006213	TWOPIECE	William St	Alison Rd	King St	2031
FR006217	TWOPIECE	Milroy Ave	Winkurra St	Baker St	2031
FR006223	TWOPIECE	Beach St	Quail St	Clovelly Rd	2031
FR006241	TWOPIECE	Allan Ave	Keith St	The End	2031
FR006243	TWOPIECE	Keith St	Surfside Ave	Clovelly Rd	2031
FR006274	TWOPIECE	Kara St	Avoca Ln	Barker St	2031
FR006280	TWOPIECE	Soudan St	St Pauls Ln	Perouse Rd	2031
FR006282	TWOPIECE	Avoca St	Albert St	Milford St	2031
FR006320	TWOPIECE	Byron St	Carr St	Coogee Bay Rd	2031
FR006325	TWOPIECE	Carrington Rd	Mcanally Ln	Coogee Bay Rd	2031
FR006326	TWOPIECE	Dudley St	Carr St	284 Dudley St	2031
FR006329	TWOPIECE	Clovelly Rd	Searle Ave	Clovelly Rd	2031
FR006335	TWOPIECE	St Luke St	Queen St	Gray St	2031
FR006341	TWOPIECE	Wood St	25 Wood St	Eulalie Ave	2031
FR006349	TWOPIECE	Church St	Church Ln	Cowper St	2031

Appendix E Budget Summary by Lifecycle Activity

The planned budget for the relevant lifecycle activities is sufficient. There is no disposal cost considered as the assets will be renewed.

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2022	$150,000	$100,000	$300,000	$375,000	$0	$925,000
2023	$150,000	$102,500	$304,500	$375,000	$0	$932,000
2024	$150,000	$103,525	$309,068	$375,000	$0	$937,593
2025	$150,000	$104,560	$313,704	$375,000	$0	$943,264
2026	$150,000	$105,606	$318,409	$375,000	$0	$949,015
2027	$150,000	$106,662	$323,185	$375,000	$0	$954,847
2028	$150,000	$107,729	$328,033	$375,000	$0	$960,762
2029	$150,000	$108,806	$332,953	$375,000	$0	$966,759
2030	$150,000	$109,894	$337,948	$375,000	$0	$972,842
2031	$150,000	$110,993	$343,017	$375,000	$0	$979,010

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