



Asset Management Plan

Kerb and Gutter

2018-28

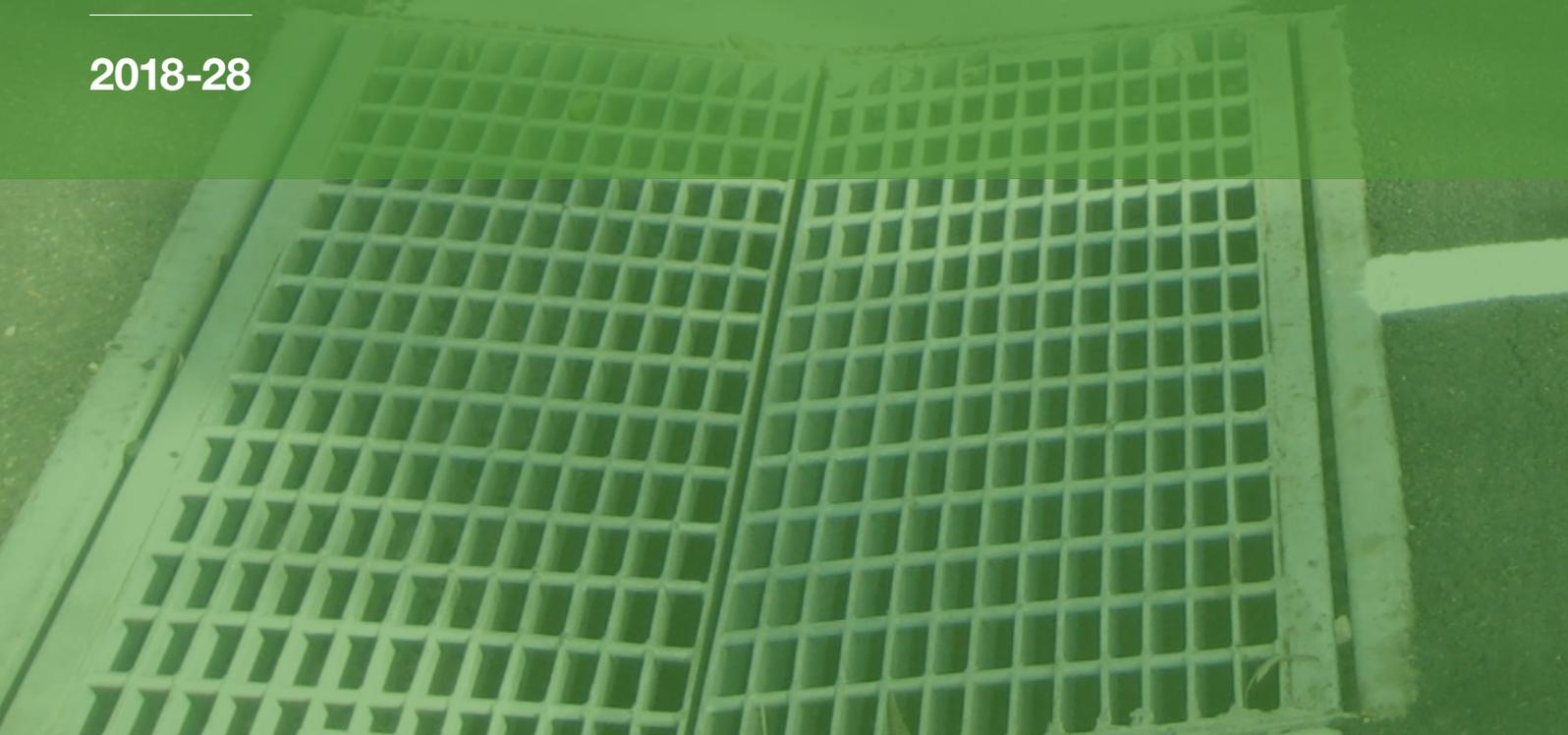


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1 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

This asset management plan details information about infrastructure assets including 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 the services over a 10-year planning period.

This plan covers Council's kerb and gutter assets.

1.2 Asset Description

The kerb and gutter network comprises:

- Dish Gutter;
- Layback;
- Barrier Kerb and Gutter;
- Edge Strip;
- Roll Top;
- Kerb only;
- Composite Kerb and Gutter;
- Integral Kerb and Gutter.

These infrastructure assets have significant value estimated at \$133,333,000.

1.3 Levels of Service

Our present funding levels are sufficient to continue to provide existing services at current levels in the medium term.

If sufficient funding levels are not maintained, the main services consequences are:

- Reduce performance of Kerb and Gutter as a drainage structure;
- Reduce visual amenity;
- Potential pavement deterioration.

1.4 Future Demand

The main demands for new services are created by:

- Population;
- Demographics;
- Community aspirations.

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

Demand management practices for Council's kerb and gutter assets include:

- Effective management of existing infrastructure via regulation, education and influencing stakeholders on the use of assets;
- Upgrade infrastructure and provide new infrastructure to meet the demand.

1.5 Lifecycle Management Plan

What does it Cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets. Over the 10-year planning period, the funding required is \$6,127,000 or \$613,000 on average per year of which \$193,000 relates to projected renewal.

Kerb and gutter are long life assets and the age profile of this asset class results in the requirement for only a small amount of renewal work during the planning period. Overall, our kerb and gutter assets are depreciating at \$1,333,280 annually and budget allocation over and above the projected renewals covered by this Asset Management Plan is required to ensure the future sustainability of this asset class beyond the 10-year planning period.

1.6 Financial Summary

What we will do

Estimated available funding for this period is \$17,674,000 or \$1,767,000 on average per year as per the long-term financial plan or budget forecast. This is 288 Per cent of the cost to sustain the current level of service at the lowest lifecycle cost over the 10-year planning period.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The emphasis of the Asset Management Plan is to communicate the consequences that this will have on

the service provided and risks, so that decision making is “informed”.

The allocated funding provides a surplus of \$1,155,000 on average per year over the projected expenditure required to provide services in the AM Plan. This is shown in the figure below.

The surplus should be set aside to cover the difference between annual depreciation and renewals over the planning period. This will ensure that the existing levels of service can be maintained beyond the 10-year planning period and for the life of the assets. This effectively returns the sustainability ratio to 1 across the life of the assets.

Projected Operating and Capital Expenditure

Randwick CC - Projected and Budget Expenditure for (Kerb and Gutter_S3_V1)

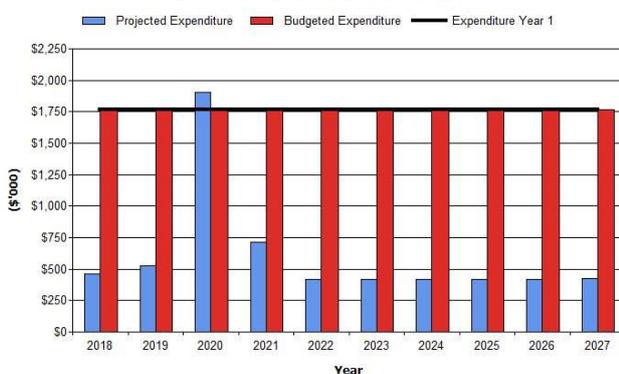


Figure values are in current (real) dollars.

We plan to provide services for the following:

- Operation, maintenance, renewal and upgrade of kerb and gutter to meet service levels set by in annual budgets.
- Asset renewals and upgrades within the 10-year planning period.

Managing the Risks

Our present funding levels are sufficient to continue to manage risks in the medium term.

There are risks associated with providing the service and not being able to complete all identified activities and projects. We have identified major risks to road pavement due to deformed and severely cracked kerb and gutter.

The main risk consequences are:

- Increase risk of pavement damage;
- Increase risk of property damage;
- Reputational risks.

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

- Inspecting 20 percent of the network each year;
- Use inspection outcomes to identify assets at risk and prioritise and include those assets into capital works programs.

1.7 Asset Management Practices

Our systems to manage assets include:

- Technology One;
- GIS (ESRI Arcmap);
- Photographs;
- Electronic data capturing tools (ESRI Arc Collector);
- Risk management techniques and tools.

Assets requiring renewal/replacement are identified from condition assessment surveys undertaken annually to approximately 20% of the network. The asset register is updated to include data from the inspections allowing future works programs to be projected.

1.8 Monitoring and Improvement Program

The next steps resulting from this asset management plan to improve asset management practices include:

- The procurement of a Strategic Asset Management System to allow sophisticated modelling, forecasting and risk management. (*Key Asset Management Strategy 7*)
- The formation of an Asset Management Steering Group to ensure a consistent asset centric approach across the organisation that is consistent with the Asset Management Policy and Strategy. (*Key Asset Management Strategy 2*)
- Further identification and refinement of costs associated with managing this asset class. (*Key Asset Management Strategy 4*)

These next steps are aligned with Key Strategies identified in Council’s Asset Management Strategy 2018-28.

2. INTRODUCTION

2.1 Background

This asset management plan communicates the actions required for the responsive management of assets (including services provided from assets), compliance with regulatory requirements and funding needed to provide the required levels of service over a 10-year planning period.

The asset management plan is to be read in conjunction with the Asset Management Policy, The Asset Management Strategy and the Randwick City Plan. The Asset Management Policy and Asset Management Strategy 2018-2028 have been developed along with other key planning documents:

- The Randwick City Plan;
- Delivery Plan 2018-21 and annual Operational Plans;
- Asset Management Policy;
- Asset Management Strategy 2018-28;
- Long Term Financial Plan 2018-28;
- Resourcing Strategy-Workforce Plan 2018-28;
- ICT Digital Strategy 2018-28;
- Randwick City Council Community Consultation Principles and Consultation Planning Guide.

This plan aligns with the Asset Management Strategy 2018-28 and covers a 10-year planning period. Figures within the plan extend beyond the 10-year planning period for the purpose of projecting asset management challenges beyond the life of the plan.

The infrastructure assets covered by this asset management plan are shown in Table 2.1.

Table 2.1: Assets covered by this Plan

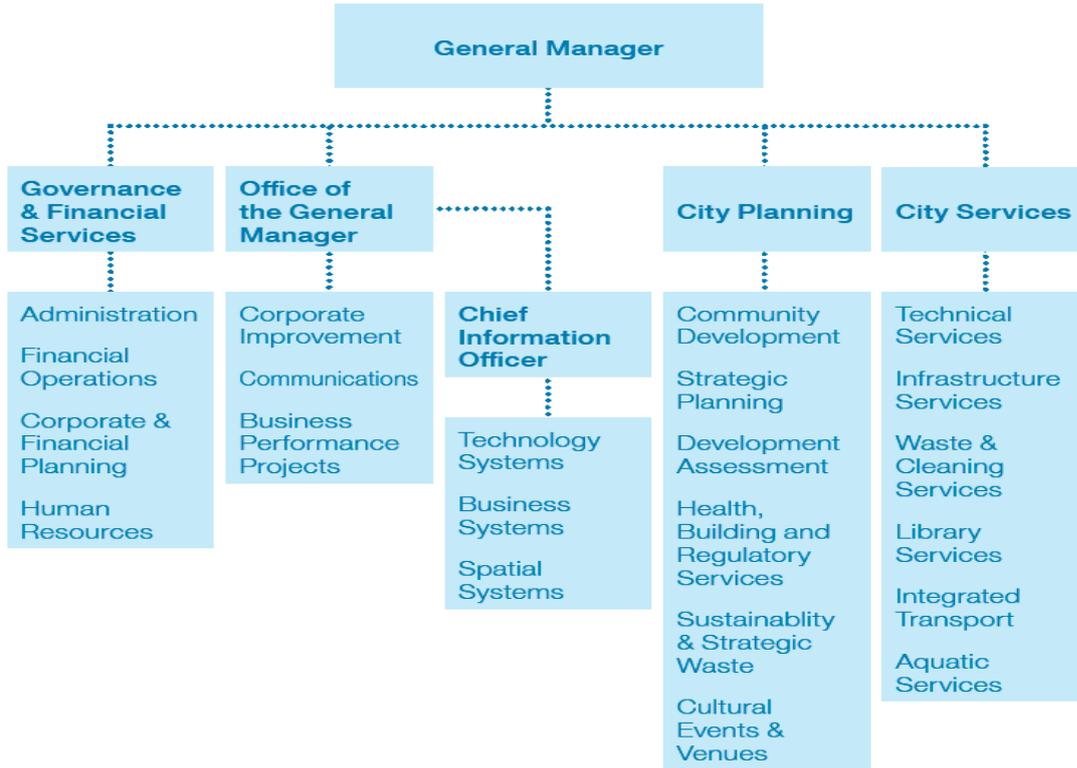
Asset Category	Quantity	Replacement Value
Kerb and Gutter	611,422m	\$133,332,881
	TOTAL	\$133,332,881

Table 2.1.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Council Representatives (Includes Councillors and the Mayor)	<ul style="list-style-type: none"> • Represent needs of community/shareholders. • Allocate resources to meet the organisation's objectives in providing services while managing risks. • Ensure organisation is financially sustainable.
Council Officers	<ul style="list-style-type: none"> • Manage Kerb and Gutter Assets. • Ensure level of service provided meets needs of residents and visitors. • Implement the components identified in the Kerb and Gutter asset management plan.
Residents	<ul style="list-style-type: none"> • Core beneficiaries of functional kerb & gutter assets. • Their needs, wants and expectations are conveyed to the Council and should be reflected in desired levels of service.
Visitors	<ul style="list-style-type: none"> • Beneficiaries of Kerb and Gutter assets. • Their needs, wants and expectations drive the development in areas of the highest visitor usage and also commercial areas.

Insurers	<ul style="list-style-type: none"> • 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.
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The organisational structure for service delivery of infrastructure assets is detailed below.



2.2 Goals and Objectives of Asset Ownership

Our goal in managing infrastructure assets is to meet the defined levels 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;
- Linking to a long-term financial plan which identifies required, affordable expenditure and how it will be allocated.

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

- International Infrastructure Management Manual 2015;¹
- ISO 55000.²

2.3 Plan Framework

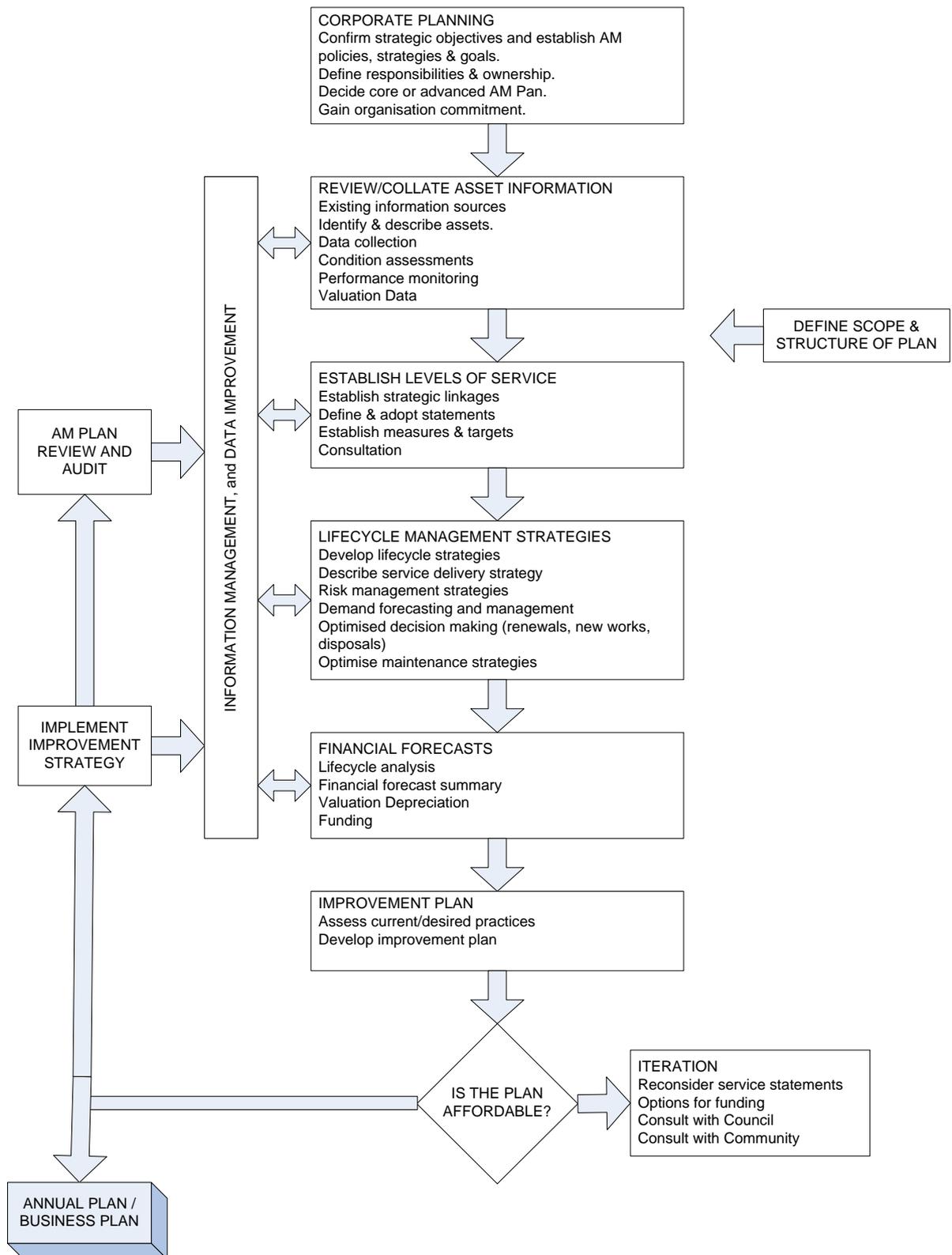
Key elements of the plan are:

- Levels of service – specifies the services and levels of service to be provided by the organisation;
- Future demand – how this will impact on future service delivery and how this is to be met;
- Lifecycle management – how Council will 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;
- Monitoring – how the plan will be monitored to ensure it is meeting organisation's objectives;
- Asset management improvement plan.

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

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

² ISO 55000 Overview, principles and terminology



2.4 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan over a 10-year planning period in accordance with the International Infrastructure Management Manual³. Core asset management is a 'top down' approach where analysis is applied at the system or network level. An 'advanced' asset management approach uses a 'bottom up' approach for gathering detailed asset information for individual assets.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

In 2014, Council commissioned a community satisfaction survey conducted by Micromex Research^A. The survey was administered by a computer aided telephone system to a sample of 1,000 residents. The most recent customer satisfaction survey reported satisfaction levels for the following services.

Table 3.1: Community Satisfaction Survey Levels

Performance Measure	Satisfaction Level*
Overall satisfaction with Council's performance	95%
Council's response time to request for service	78%
Maintaining local roads	72%
Street cleaning	85%
Town centre cleaning	92%

*Based on Top 3 box (percentage of residents indicating they are very satisfied, satisfied, or somewhat satisfied).

Community satisfaction information is used in developing the Strategic Plan and in the allocation of resources in the budget.

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the 10-year Randwick City Plan and within the Integrated Planning and Reporting (IPR) framework.

³ IPWEA, 2015, IIMM.

Integrated Planning and Reporting framework



This plan will guide the delivery of actions by Council to achieve the following City Plan Outcomes:

Outcome 1: Leadership in Sustainability.

Outcome 6: A Liveable City.

Relevant goals and objectives and how these are addressed in this asset management plan are:

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

Randwick City Plan Outcome	Direction	Objective	How Goal and Objectives are addressed in AM Plan
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.	Conduct programmed asset maintenance management in accordance with adopted service levels.	The kerb and Gutter Asset Management Plan includes funding for operations and maintenance and 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 minor reactive maintenance management in accordance with adopted service levels.	<ul style="list-style-type: none"> Respond to customer requests within service level agreements. Identify kerb and gutter along high and extreme risk roads. Planned Inspections for kerb and gutter along high and extreme risk roads. Develop an operational and maintenance plan and allocate funding to carry out remediation work as required.

The Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 6.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. These include:

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.
Local Government (General) Amendment (Stormwater) Regulation 2006 under the NSW Local Government Act 1993	Set out requirements for charges and reporting for stormwater management.
Protection of the Environment Act 1991	Sets out requirements to protect, restore and enhance the quality of the environment and to reduce the risks to human health and prevent the degradation of the environment.
Workplace Health and Safety Act 2011	Protecting workers and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work.
Australian Accounting Standard AASB116	Reporting on asset condition and consumption to Councillors, management and the community.

3.4 Customer Levels of Service

Service levels are defined service levels in two terms, customer levels of service and technical levels of service. These are supplemented by organisational measures.

Customer Levels of Service measure how the customer receives the service and whether value to the customer is provided.

Customer levels of service measures used in the asset management plan are:

Quality 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?*

Safety It is safe for its intended purpose?

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

The current and expected customer service levels are detailed in Tables 3.4 and 3.5. Table 3.4 shows the expected levels of service based on resource levels in the current long-term financial plan.

Organisational measures are measures of fact related to the service delivery outcome e.g. number of occasions when service is not available, condition percentages of Very Poor, Poor/Average/Good, Very Good.

These Organisational measures provide a balance in comparison to the customer perception that may be more subjective.

Table 3.4: Customer Level of Service

	Expectation	Performance Measure Used	Current Performance	Expected Position in 10 Years based on the current budget.
Service Objective: Kerb and gutter serves the needs of the community and is maintained in a safe and operational manner.				
Quality	Provide Kerb and Gutter assets free from obvious defects.	Customer Satisfaction Survey results.	72% satisfied in 2014, up from 70% in 2012).	Increase in customer survey results.
	Routinely inspect kerb and gutter network.	20% of the network to be inspected annually.	Achieved.	Maintain the current position.
	Confidence levels		High	Low
Function	Ensure that kerb and gutter meets user requirements.	Customer satisfaction rating (for maintaining local roads).	3.08 satisfaction survey in 2014, up from 2.9 in 2012.	Increase in customer satisfaction survey results.
	Confidence levels		High	High
Capacity and Use	Ensure construction meets Council standards.	Inspect all works post construction.	Construction works inspected as part of project management of works.	Satisfied with current performance.
	Confidence levels		Medium	Medium

3.5 Technical Levels of Service

Technical Levels of Service - Supporting the customer service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities to best achieve the desired customer outcomes and demonstrate effective performance.

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

- Operations – 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 (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement);
- Upgrade/New – 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).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.⁴

Table 3.5 shows the technical levels of service expected to be provided under this AM Plan. The 'Desired' position in the table documents the position being recommended in this AM Plan.

⁴ IPWEA, 2015, IIMM, p 2 | 28.

Table 3.5: Technical Levels of Service

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **
TECHNICAL LEVELS OF SERVICE				
Operations				
	Identify condition of assets and create risk register.	Routinely inspect kerb and gutter network.	20% of the network inspected annually.	Continue the current performance.
Maintenance				
	Replace segments of kerb and gutter as required.	Respond to customer requests within SLA timeframes.	97% request resolved within SLA time frame.	Continue the current performance.
		Budget	\$317,359	
Renewal				
	Replace kerb and gutter in poor condition.	Condition assessment.	Kerb and gutter assets renewed as required	Satisfied with current performance.
		Budget	\$1,450,000	
Upgrade/New				
	Construct new kerb and gutter where the need exists.	Ongoing construction of missing segments of kerb and gutter on a priority basis as identified and include in the Capital Works Program.	The upgrade or new kerb and gutter assets are funded under the project budget with new assets capitalised into the kerb and gutter register.	Maintain current approach.

It is important to monitor the service levels provided regularly as these will change. The current performance is influenced by work efficiencies and technology, and customer priorities will change over time. Review and establishment of the agreed position which achieves the best balance between service, risk and cost is essential.

4. 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 were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

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

Table 4.3: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Population	140,660 (As at June 30 2016, ABS estimated resident population – whole of Randwick Council area).	NSW Department of Planning and Environment projects a 23% increase in population by 2036 within 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.
Demographics	Randwick City Council has: -18% over 60 YO -43% in the 20-45 YO group. (As at June 30 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.

4.4 Demand Management Plan

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

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be developed in future revisions of this asset management plan.

Table 4.4: Demand Management Plan Summary

Demand Driver	Impact on Services	Demand Management Plan
Population	An increase in population will require an increase in community and infrastructure services.	Balance priorities for infrastructure with what the community is prepared to pay (statutory requirements / standards is the minimum standard).
Demographics	Greater need for accessible infrastructure.	Assess capacity to fund current and/or improved levels of service.
	An increase in development may include a subsequent increase in kerb and gutter dimensions.	New kerb and gutter works should be assessed for asset management requirements prior to works commencing.
Technology Changes	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.

4.5 Asset Programs to meet Demand

The new assets required to meet demand can be acquired, donated or constructed. Additional assets are discussed in Section 5.5. The summary of the cumulative value of additional asset is shown in Figure 1.

Figure 1: Upgrade and New Assets to meet Demand – (Cumulative)

Randwick CC - Upgrade & New Assets to meet Demand (Kerb and Gutter_S3_V1)

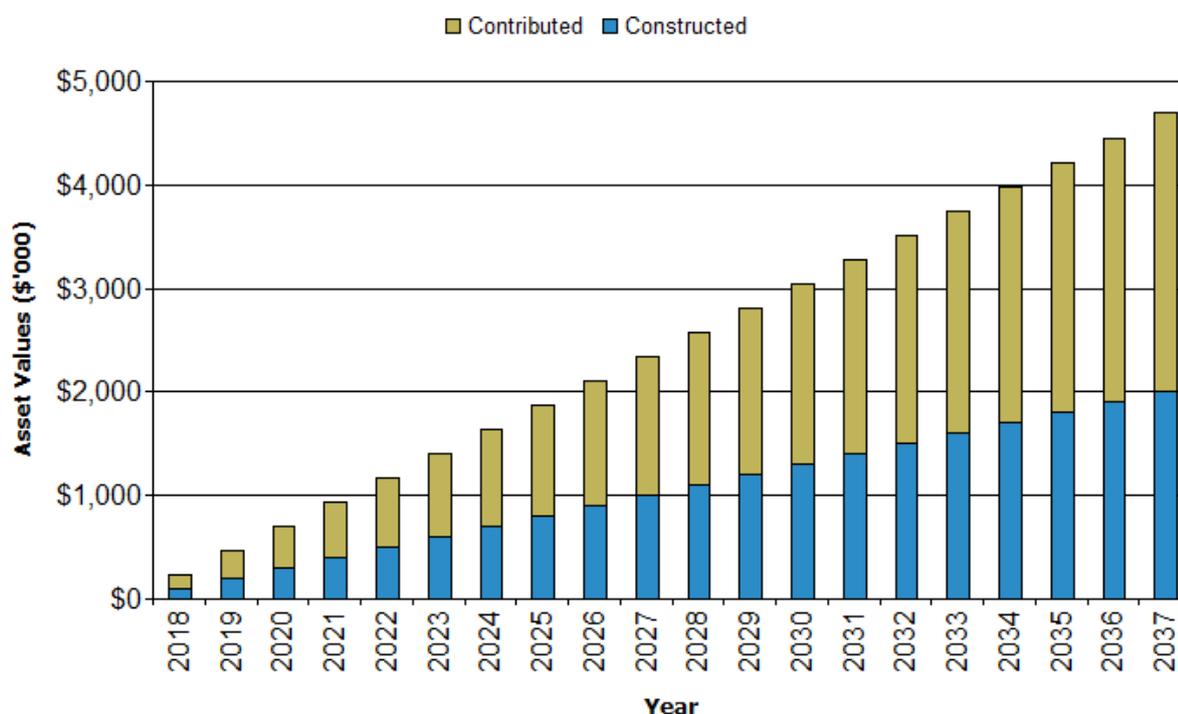


Figure values are in current (real) dollars.

Acquiring these new assets will commit 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 described further in Section 5.

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan are shown in Table 2.1.

The age profile of the assets included in this AM Plan are shown in Figure 2.

Figure 2: Asset Age Profile

Randwick CC - Age Profile (Kerb and Gutter_S3_V1)

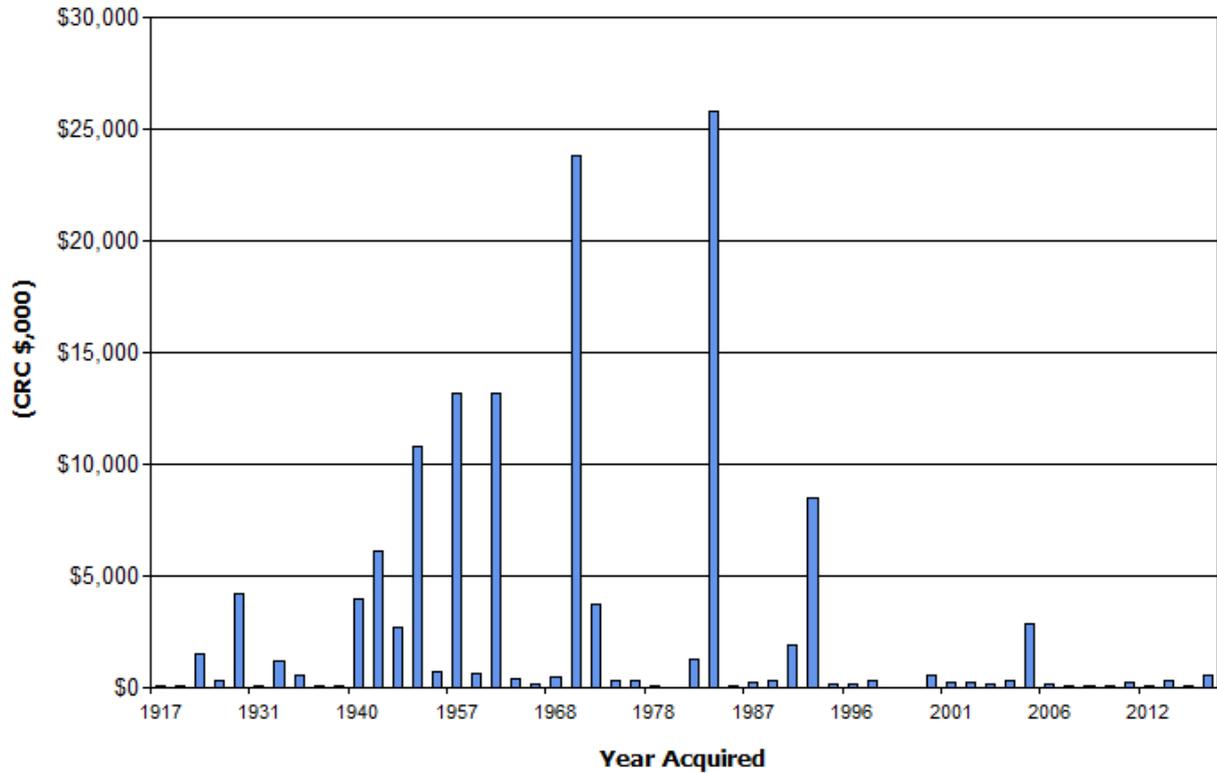


Figure values are in current (real) dollars.

According to Figure 2, the majority of the kerb and gutter was built between 1940 and 1981 and thus anticipated major renewals will fall between the 2040 to 2081 period.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available.

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
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

Council inspects 20 percent of the entire asset network every year. The monitoring of kerb and gutter assets is encompassed within this program.

The condition profile of our assets is shown in Figure 3.

Figure 3: Asset Condition Profile

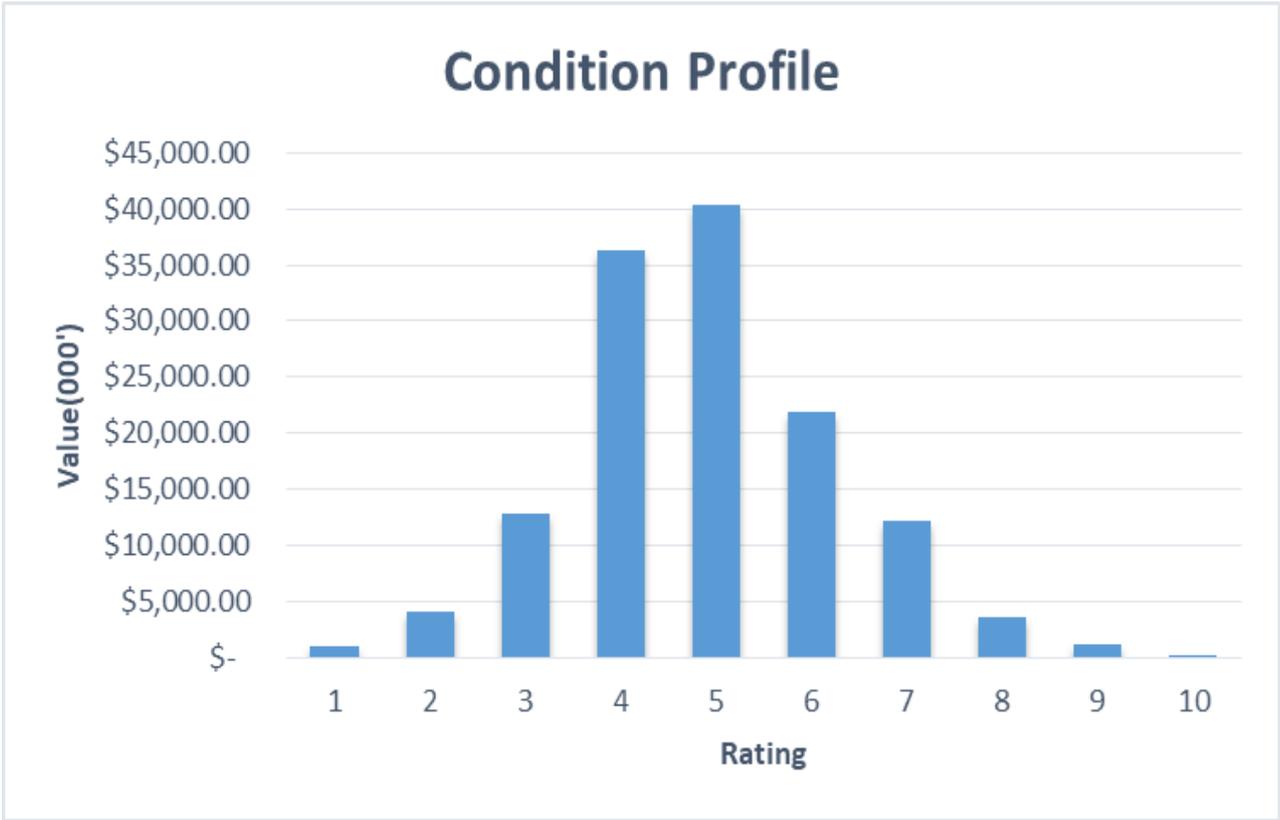


Figure values are in current (real) dollars.

Condition is measured using a 1 – 10 grading system⁵ as detailed in Table 5.1.3.

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

Table 5.1.3: Simple Condition Grading Model

Condition Grading	Condition Index	Description of Condition
1	New	New.
2	Excellent	Discolouration.
3	Very Good	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 <10mm.
7	Unsatisfactory	Regular cracking of blocks in moderate sections, moderate exposure of aggregates, chipping of joints and broken edges. Displacement 10mm - 20mm. Rotation <10mm between blocks.
8	Poor	Frequent cracking of blocks in short sections, high exposure of aggregates, surface crumbling evident. Displacement between broken blocks evident. Displacement 20mm – 50mm between blocks or broken blocks. Rotation 10mm – 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 / Failed:	Completely crushed or broken off.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. cleaning, street sweeping, utilities costs and street lighting.

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

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.

Maintenance expenditure is shown in Table 5.2.1.

Table 5.2.1: Maintenance Expenditure Trends

Year	Maintenance Budget \$
2016	\$248,242
2017	\$317,359
2018	\$317,359

Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels are such that they will result in a lesser level of service, the service consequences and service risks have been identified and highlighted in this AM Plan, and service risks considered in the Infrastructure Risk Management Plan.

5.2.1 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2017 dollar values (i.e. real values).

Figure 4: Projected Operations and Maintenance Expenditure

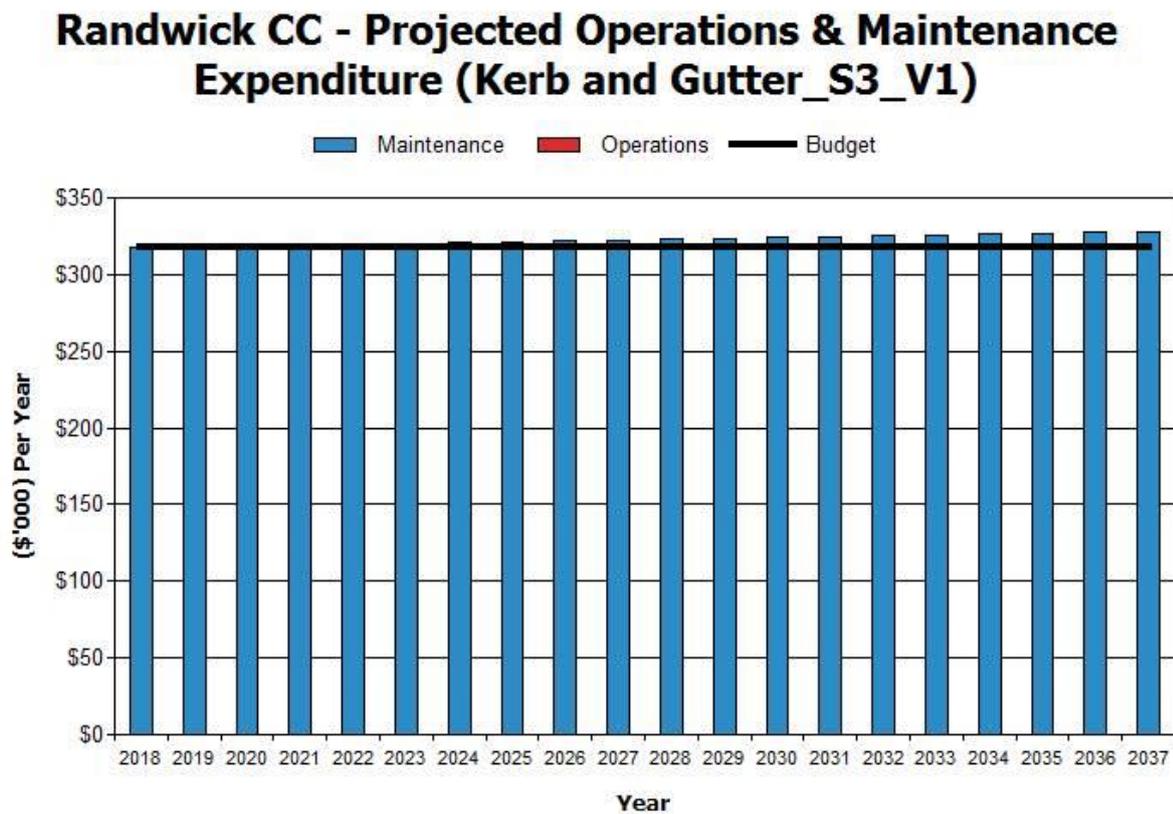


Figure values are in current (real) dollars.

Currently, Council is maintaining sufficient funding levels for kerb and gutter maintenance and operations.

Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analysis in the infrastructure risk management plan.

Maintenance is funded from the operating budget where available. This is further discussed in Section 7.

5.3 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset’s design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an upgrade/expansion or new work expenditure resulting in additional future operations and maintenance costs.

Assets requiring renewal/replacement are identified from a combination of 5 annual condition inspections and community requests.

5.3.1 Renewal ranking criteria

Asset renewal and replacement 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);
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. roughness of a road).⁶

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure;
- Have high use and subsequent impact on users would be greatest;
- Have a total value representing the greatest net value;
- Have the highest average age relative to their expected lives;
- Are identified in the AM Plan as key cost factors;
- Have high operational or maintenance costs;
- Have replacement with a modern equivalent asset that would provide the equivalent service at a savings.⁷

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

Table 5.3.1: Renewal and Replacement Priority Ranking Criteria

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

5.3.2 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time when the asset stock increases. The expenditure required is shown in Figure 5. Note that all amounts are shown in current (real) dollars.

The projected capital renewal and replacement program is shown in Appendix B.

⁶ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

⁷ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

Figure 5: Projected Capital Renewal and Replacement Expenditure

Randwick CC - Projected Capital Renewal Expenditure (Kerb and Gutter_S3_V1)

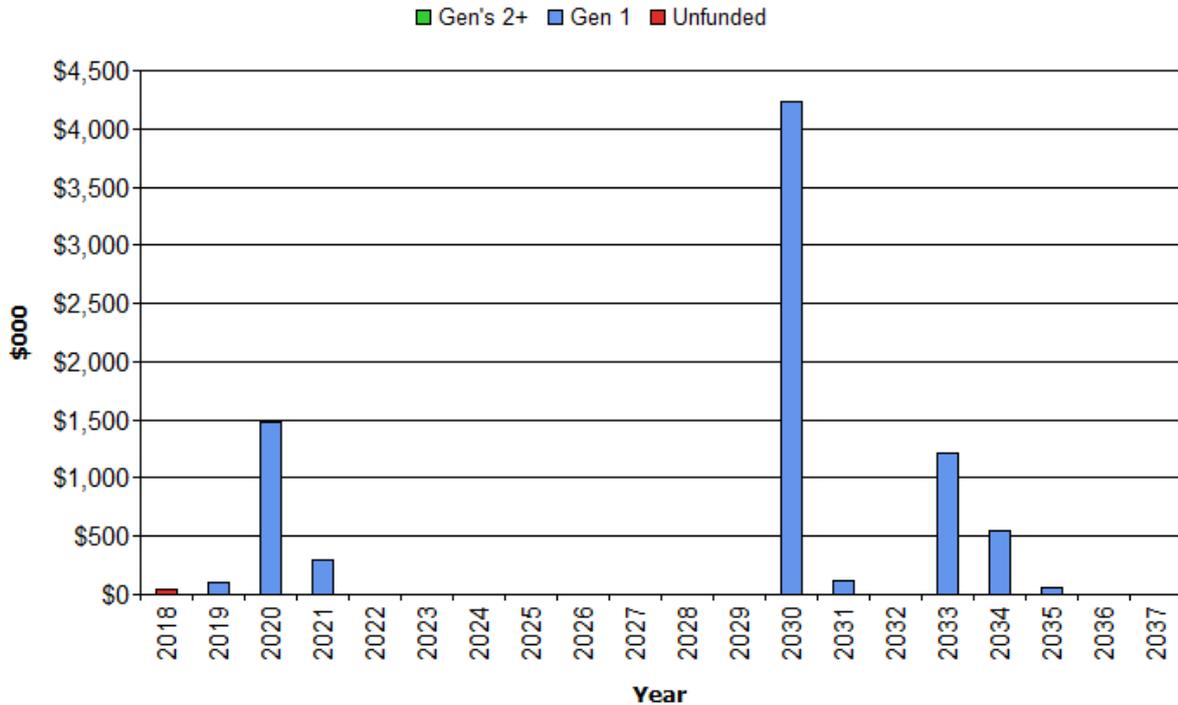


Figure values are in current (real) dollars.

It is expected that significant renewal expenditure required for 2030 could also be spaced out under current budget levels between 2022 and 2031.

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

Renewals and replacement expenditure in the capital works program will be accommodated in the long-term financial plan. This is further discussed in Section 7.

5.4 Creation/Acquisition/Upgrade Plan

New works are those that create a new asset that did not previously exist, or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost. These additional assets are considered in Section 4.4.

5.4.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

Table 5.4.1: New Assets Priority Ranking Criteria

Criteria	Weighting
Requirement to manage stormwater flow	50%
Community Expectation	15%
Lifecycle Costs	25%
Community Benefits (Usage, population, future development)	10%
Total	100%

5.4.2 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Figure 6. The projected upgrade/new capital works program is shown in Appendix C. All amounts are shown in real values.

Figure 6: Projected Capital Upgrade/New Asset Expenditure

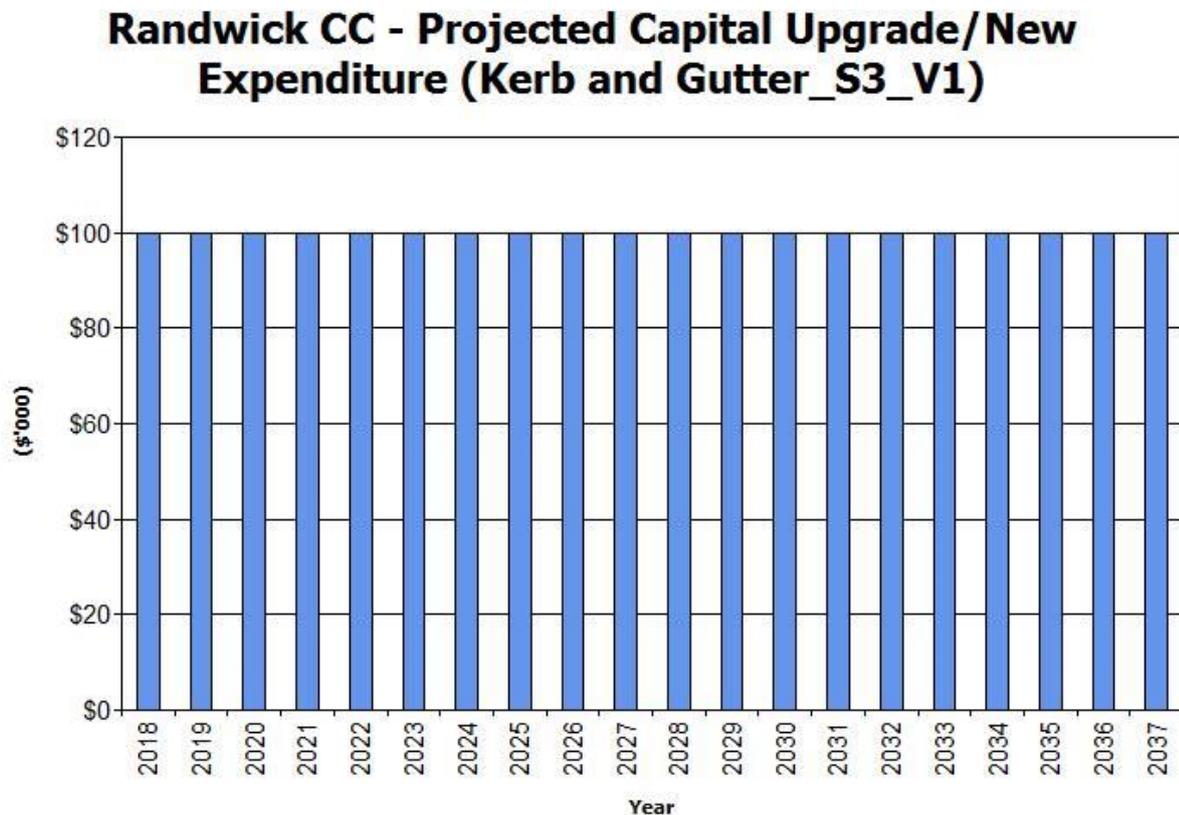


Figure values are in current (real) dollars.

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 of the available funds.

Acquiring these new assets will commit the funding of ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required.

5.4.3 Summary of asset expenditure requirements

The financial projections from this asset plan are shown in Figure 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.

The bars in the graphs represent the anticipated budget needs required to achieve lowest lifecycle costs, the budget line indicates what is currently available. The gap between these informs the discussion on achieving the balance between services, costs and risk to achieve the best value outcome.

Figure 7: Projected Operating and Capital Expenditure

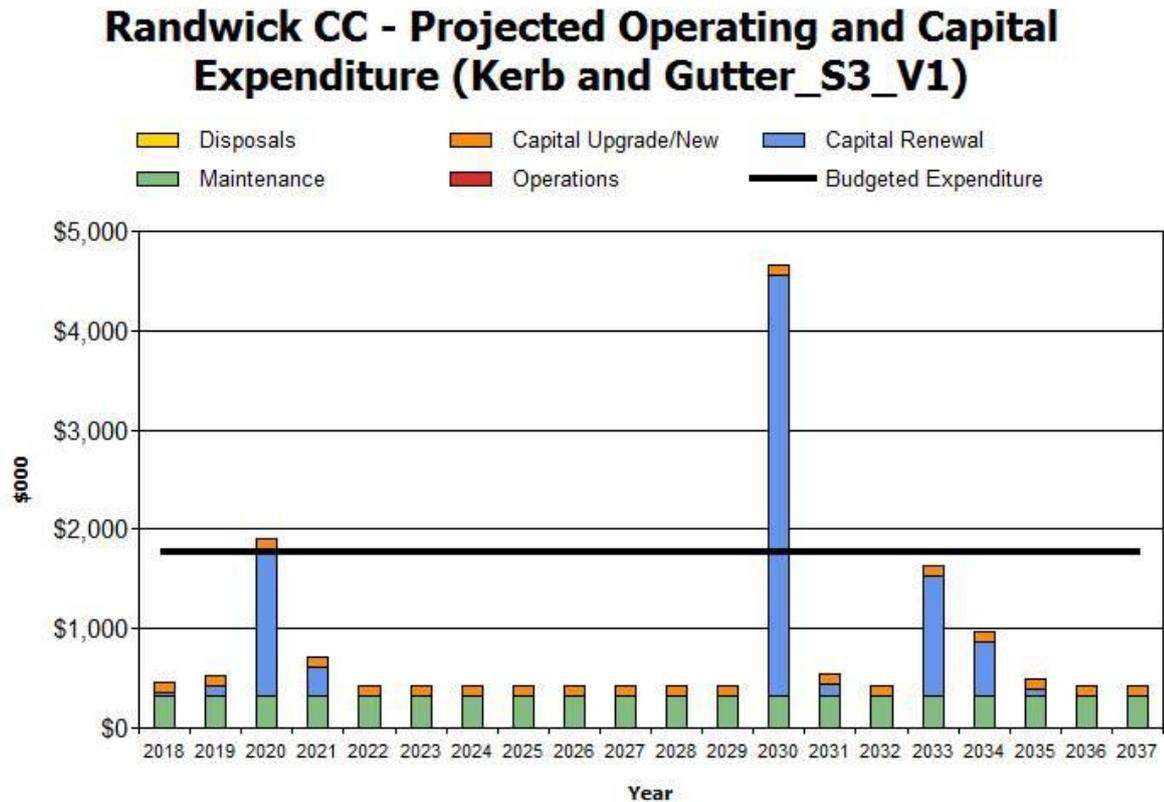


Figure values are in current (real) dollars.

According to figure 7, Council allocates sufficient funding for operating and capital works required to maintain the current kerb and gutter service levels.

6. RISK MANAGEMENT PLAN

The purpose of infrastructure risk management is to document the results 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 31000:2009 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2009 as: ‘coordinated activities to direct and control with regard to risk’⁸.

An assessment of risks⁹ associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a ‘financial shock’. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Similarly, critical failure modes are those which have the highest consequences.

Critical assets have been identified and their typical failure mode and the impact on service delivery are as follows:

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, casualties to users or property damage.

By identifying critical assets and failure modes, investigative activities, condition inspection programs, maintenance and capital expenditure plans can be targeted to the critical areas.

6.2 Risk Assessment

Currently, Council is carrying out annual kerb and gutter visual inspections to determine the following;

- Overall condition;
- Identify severely damaged kerb and gutter.

During this inspection, risk assessment is carried out for each asset as shown in the following figure 6.2.1.

⁸ ISO 31000:2009, p 2

⁹ 4.3.1 Hazard/Risk Identification, Assessment and Control

Fig 6.2 Risk Management Process – Kerb and Gutter

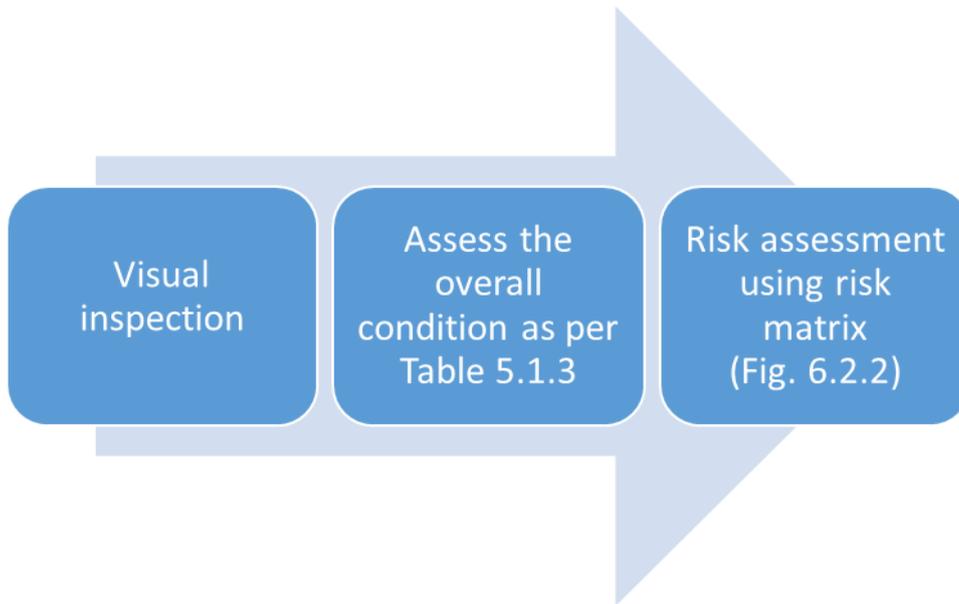


Figure 6.2.2-Risk table

Risk Assessment

Risk Factors	Consequence	Likelihood
Personal Injury		<i>Please note likelihood is based on condition assessment</i>
Financial Implications		
Environmental		
Political		

Consequence	Risk Descriptions
<i>Catastrophic</i>	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
<i>Major</i>	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
<i>Moderate</i>	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
<i>Minor</i>	First aid treatment, on-site release immediately contained, medium financial loss (>\$1000 & <\$10,000), little or no impact on community's perception of Council
<i>Insignificant</i>	No injuries, low financial loss (<\$1000), no effect to normal operations

Figure 6.2.3- Risk matrix

	CONSEQUENCE				
LIKELIHOOD	Insignificant	Minor	Moderate	Major	Catastrophic
	-2	-3	-7	-13	-20
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)

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

An assessment of risks¹⁰ associated with service delivery from infrastructure assets has identified the critical risks that will result in significant loss, 'financial shock' or a reduction in service.

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 cost after the selected treatment plan is implemented is shown in Table 6.2. These risks and costs are reported to management and Council.

Table 6.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Community Consultation Risk	Community will not have involvement in kerb and gutter service standards.	Medium	Ongoing community consultation.	Low	Staff time and contractor cost.
Health and Safety	Flooding as a result inadequate kerb and gutter assets.	Medium	Continued programme of upgrading or creating assets where identified.	Low	Staff time, material and/or contractor cost, media coverage.
Environmental Impact	By products / run off as a result of construction, maintenance or dumping.	High	Enforcement of environmental conditions and guidelines with continuous supervision of kerb and gutter works.	Low	Staff resources, material and/or contractor cost, media coverage.

¹⁰ 4.3.1 Hazard/Risk Identification, Assessment and Control

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Damage to property	Flooding as a result inadequate kerb and gutter assets.	Medium	Continued programme of lifecycle replacement of kerb and gutter assets. Continued planned preventative maintenance regime.	Low	Staff resources, material &/or contractor cost. Capital Works Program.
Lack of qualified resources	Risk that qualified resources will not be available.	Low	Established commitment from internal and external resources for kerb and gutter.	Low	Staff resources.

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

7. FINANCIAL SUMMARY

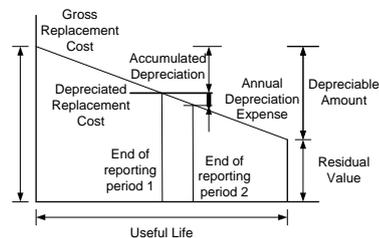
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

7.1 Financial Statements and Projections

7.1.1 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. Assets are valued at fair value at cost to replace service capacity.

Gross Replacement Cost	\$133,333,000
Depreciable Amount	\$133,333,000
Depreciated Replacement Cost ¹¹	\$88,177,000
Annual Average Asset Consumption	1 Percent



7.1.2 Sustainability of service delivery

Two key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the:

- asset renewal funding ratio;
- medium-term budgeted expenditures/projected expenditure (over 10 years of the planning period).

¹¹ Also reported as Written Down Value, Carrying or Net Book Value.

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹² 641 Percent

The Asset Renewal Funding Ratio is the most important indicator and indicates that over the next 10-years of the financial forecasting that we expect to have 641% of the funds for the optimal renewal and replacement of assets.

Medium term – 10-year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures 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.

These projected expenditures may be compared to budgeted expenditures in the 10-year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10-year planning period is \$513,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$1,667,000 on average per year giving a 10-year funding surplus of \$1,155,000 per year. This indicates 325 percent of the projected expenditures will be provided the services documented in the asset management plan. This excludes upgrade/new assets.

Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the asset management plan and ideally over the 10-year life of the Long-Term Financial Plan.

7.1.3 Projected expenditures for long-term financial plan

Table 7.1.3 shows the projected expenditures for the 10-year long-term financial plan.

Expenditure projections are in 2017 real values.

Table 7.1.3: Projected Expenditures for Long Term Financial Plan (\$000)

Year	Operations (\$000)	Maintenance (\$000)	Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2018	\$0	\$317	\$43	\$100	\$0
2019	\$0	\$318	\$106	\$100	\$0
2020	\$0	\$318	\$1,487	\$100	\$0
2021	\$0	\$319	\$293	\$100	\$0
2022	\$0	\$320	\$0	\$100	\$0
2023	\$0	\$320	\$0	\$100	\$0

¹² AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Year	Operations (\$000)	Maintenance (\$000)	Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2024	\$0	\$321	\$0	\$100	\$0
2025	\$0	\$321	\$0	\$100	\$0
2026	\$0	\$322	\$0	\$100	\$0
2027	\$0	\$322	\$0	\$100	\$0
2028	\$0	\$323	\$0	\$100	\$0
2029	\$0	\$323	\$0	\$100	\$0
2030	\$0	\$324	\$4,239	\$100	\$0
2031	\$0	\$325	\$115	\$100	\$0
2032	\$0	\$325	\$0	\$100	\$0
2033	\$0	\$326	\$1,207	\$100	\$0
2034	\$0	\$326	\$544	\$100	\$0
2035	\$0	\$327	\$58	\$100	\$0
2036	\$0	\$327	\$0	\$100	\$0
2037	\$0	\$328	\$0	\$100	\$0

7.2 Funding Strategy

Funding for assets is provided from the budget and long-term financial plan.

The financial strategy of the entity determines how funding will be provided, whereas the asset management plan communicates how and when this will be spent, along with the service and risk consequences of differing options.

7.3 Valuation Forecasts

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

Additional assets will generally add to the operations and maintenance needs in the longer term, as well as the need for future renewal. Additional assets will also add to future depreciation forecasts.

7.4 Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan are outlined in Table 7.4.

Table 7.4: Key Assumptions made in AM Plan and Risks of Change

- Asset values and dimensions are correct. Change to asset values and dimensions will have an effect on resources required to operate, maintain and renew the kerb and gutter assets;
- 20 Per cent of Council’s Kerb and Gutter assets will be inspected annually (100 Per cent every 5 years) and kerb and gutter asset condition updated accordingly. Monitoring of change of condition may show change in the asset’s useful life which may have a subsequent change of funding required to maintain level of service;
- The estimates used for current rates of renewal will remain constant at current 2017 values for the next 10 years. Possible increase in renewal costs may reduce level of works budgeted with possible reduction in the kerb and gutter service level.

7.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale¹³ in accordance with Table 7.5.

Table 7.5: Data Confidence Grading System

Confidence Grade	Description
A Highly reliable	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 \pm 2%.
B Reliable	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 \pm 10%.
C Uncertain	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 \pm 25%.
D Very Uncertain	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 \pm 40%.
E Unknown	None or very little data held.

The estimated confidence level for, and reliability of data used in this AM Plan is considered to be Highly reliable.

¹³ IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

8. PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹⁴

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 work orders or tasks can be raised and costings tracked against a particular asset.

Council's finance system is managed by its Finance section. The system is reported on and audited annually. The audited report is present to Council, who then refers the report onto the Department of Local Government.

Council's Engineering Services 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 (Tech 1) software package. This dataset contains all of the 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 Tech 1 software used for asset management is currently controlled/managed by Council's Finance section.

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

Council is currently reviewing options for Strategic Asset Management Systems. The selected system will draw information from the Tech 1 asset registers.

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.1.

Table 8.1: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Update newly segmented kerb + gutter asset data into Technology One.	Engineering Services.	Asset team and Finance team.	2017-2018
2	Complete 20% kerb and gutter condition audit yearly.	Engineering Services.	Asset team and contractors.	Annually
3	Conduct Kerb and Gutter revaluation.	Engineering Services.	Asset team and Finance team.	As required

8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to show any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

¹⁴ ISO 55000 Refers to this the Asset Management System

The AM Plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the long-term financial plan.

The AM Plan has a life of 4 years and is due for complete revision and updating within the financial year of each Randwick Council election.

8.4 Performance Measures

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

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into the long-term financial plan;
- The degree to which 1-5 year detailed works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the asset management plan;
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the Strategic Plan and associated plans;
- The Asset Renewal Funding Ratio achieving the target of 1.0.

9. REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2012 LTFP Practice Note 6 PN Long Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney

10. APPENDICES

Appendix A Projected 10-year Capital Renewal and Replacement Works Program

Appendix B LTFP Budgeted Expenditures Accommodated in AM Plan

Appendix A Projected 10-year Capital Renewal and Replacement Works Program

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Useful Life (Years)
KGR042AB	Kerb And Gutter	Asher St	2 Asher St	Havelock Ave	-1	100
KGR090AB	Kerb And Gutter	Blenheim St	Botany St	Clara St	-1	100
KGR388AA	Kerb And Gutter	Hooper Ln	Darley Rd	Pine St	-1	100
KGR635EB	Kerb And Gutter	Rainbow St	Hendy Ave	Mount St	-1	100
KGL020JA	Kerb And Gutter	Alison Rd	Botany St	Bradley St	1	100
KGR020JA	Kerb And Gutter	Alison Rd	Church St	Botany St	1	100
KGL020IA	Kerb And Gutter	Alison Rd	Elizabeth St	Botany St	1	100
KGL102HB	Kerb And Gutter	Botany St	Bradley Ln	Alison Rd	1	100
KGR102HD	Kerb And Gutter	Botany St	Elizabeth Ln	Alison Rd	1	100
KGR102HC	Kerb And Gutter	Botany St	Silver St	Elizabeth Ln	1	100
KGL110AA	Kerb And Gutter	Bradley St	Alison Rd	Bradley Ln	1	100
KGR267AA	Kerb And Gutter	Elizabeth St	Alison Rd	Elizabeth Ln	1	100
KGL008BB	Kerb And Gutter	Addison St	Villiers St	Anzac Pde	2	100
KGR020JB	Kerb And Gutter	Alison Rd	Botany St	Tram Ln	2	100
KGR031AA	Kerb And Gutter	Anzac Pde	Alison Rd	Boronia St	2	100
KGL031AA	Kerb And Gutter	Anzac Pde	Alison Rd	Tay St	2	100
KGR031AE	Kerb And Gutter	Anzac Pde	Ascot St	Duke St	2	100
KGR031FA	Kerb And Gutter	Anzac Pde	Borrodale Rd	Gardeners Rd	2	100
KGR031CA	Kerb And Gutter	Anzac Pde	Doncaster Ave	176 Anzac Pde	2	100
KGL031FA	Kerb And Gutter	Anzac Pde	Meeks St	Rainbow St	2	100
KGL039AA	Kerb And Gutter	Arthur St	Wansey Rd	Arthur St	2	100
KGR039AA	Kerb And Gutter	Arthur St	Wansey Rd	Botany St	2	100
KGR042BA	Kerb And Gutter	Asher St	Havelock Ave	Dudley St	2	100
KGL060FA	Kerb And Gutter	Barker St	Kennedy St	Norton Ln	2	100
KGL101AA	Kerb And Gutter	Botany Ln	76 Botany Ln	Middle St	2	100
KGR101BB	Kerb And	Botany Ln	Centre Ln	Meeks St	2	100

KGR101BA	Gutter Kerb And Gutter	Botany Ln	Middle St	Centre Ln	2	100
KGL102FD	Kerb And Gutter	Botany St	59 Botany St	High St	2	100
KGL102EA	Kerb And Gutter	Botany St	Barker St	Middle St	2	100
KGL102DB	Kerb And Gutter	Botany St	Meeks St	Middle St	2	100
KGR110AB	Kerb And Gutter	Bradley St	11 Bradley St	21 Bradley St	2	100
KGR110AC	Kerb And Gutter	Bradley St	21 Bradley St	The End	2	100
KGL110AB	Kerb And Gutter	Bradley St	Bradley Ln	The End	2	100
KGL161IA	Kerb And Gutter	Carrington Rd	Hooper St	32 Carrington Rd	2	100
KGL967AA	Kerb And Gutter	Centre Ln	Botany Ln	58 Centre Ln	2	100
KGR967AA	Kerb And Gutter	Centre Ln	Botany Ln	93 Centre Ln	2	100
KGL217AA	Kerb And Gutter	Dangar St	King St	Govett St	2	100
KGR240BF	Kerb And Gutter	Doncaster Ave	176 Doncaster Ave	Anzac Pde	2	100
KGL277AA	Kerb And Gutter	Eurimbla Ave	High St	The End	2	100
KGL303CB	Kerb And Gutter	Forsyth St	63 Forsyth St	Rainbow St	2	100
KGR377AE	Kerb And Gutter	High St	38 High St	Botany St	2	100
KGL377AD	Kerb And Gutter	High St	77 High St	Wansey Rd	2	100
KGR377AA	Kerb And Gutter	High St	Anzac Pde	330 High St	2	100
KGR377AA	Kerb And Gutter	High St	Anzac Pde	330 High St	2	100
KGL377AA	Kerb And Gutter	High St	Anzac Pde	Wansey Rd	2	100
KGR377AB	Kerb And Gutter	High St	High St	Entry High St	2	100
KGL377AC	Kerb And Gutter	High St	Track Entry High S	77 High St	2	100
KGL377AB	Kerb And Gutter	High St	Track Entry High S	Track Entry High S	2	100
KGL377AE	Kerb And Gutter	High St	Wansey Rd	Botany Rd	2	100
KGL385AA	Kerb And Gutter	Holkham Ave	Prince St	The End	2	100
KGR435DA	Kerb And Gutter	Kennedy St	Middle St	Meeks St	2	100
KGL435BC	Kerb And Gutter	Kennedy St	Norbar Ln	Barker St	2	100
KGL435BD	Kerb And Gutter	Kennedy St	Norbar Ln	Barker St	2	100
KGL435BA	Kerb And Gutter	Kennedy St	Norton St	Norbar Ln	2	100

KGL435AA	Gutter Kerb And Gutter	Kennedy St	Oval Ln	Norton St	2	100
KGR336AA	Kerb And Gutter	Kenneth Ln	Kennedy St	Botany Ln	2	100
KGL336AA	Kerb And Gutter	Kenneth Ln	Kennedy St	Botany Ln	2	100
KGL442BB	Kerb And Gutter	King St	Dangar St	2 King St	2	100
KGL523EB	Kerb And Gutter	Middle St	Botany Ln	Botany St	2	100
KGR523EB	Kerb And Gutter	Middle St	Botany Ln	Botany St	2	100
KGR523DB	Kerb And Gutter	Middle St	Kennedy Ln	Kennedy St	2	100
KGL523DB	Kerb And Gutter	Middle St	Kennedy Ln	Kennedy St	2	100
KGR575AA	Kerb And Gutter	Norton St	Botany St	Norton Ln	2	100
KGL626BB	Kerb And Gutter	Prince St	29 Prince St	Frances St	2	100
KGL626BC	Kerb And Gutter	Prince St	Frances St	Tram Ln	2	100
KGR626BB	Kerb And Gutter	Prince St	Holkham Ave	Alison Rd	2	100
KGL635AC	Kerb And Gutter	Rainbow St	Forsyth St	Willis Ln	2	100
KGL635AB	Kerb And Gutter	Rainbow St	Harbourne St	Forsyth St	2	100
KGL635AD	Kerb And Gutter	Rainbow St	Willis Ln	Willis St	2	100
KGL635AE	Kerb And Gutter	Rainbow St	Willis St	32 Rainbow St	2	100
KGL650AC	Kerb And Gutter	Roma Ave	Lorne Ave	Doncaster Ave	2	100
KGR690AA	Kerb And Gutter	Stephen St	Wentworth St	Monmouth St	2	100
KGL755AC	Kerb And Gutter	Wansey Rd	Arthur St	High St	2	100
KGL755AB	Kerb And Gutter	Wansey Rd	Arthur St	High St	2	100
KGL756AA	Kerb And Gutter	Waratah Ave	Botany St	Arthur Ln	2	100
KGL773AB	Kerb And Gutter	Willis Ln	65 Willis Ln	63 Willis Ln	2	100
KGL773AA	Kerb And Gutter	Willis Ln	Rainbow St	65 Willis Ln	2	100
KGR773AA	Kerb And Gutter	Willis Ln	Rainbow St	74 Willis Ln	2	100
KGR772DC	Kerb And Gutter	Willis St	74 Willis St	Rainbow St	2	100
KGL004AB	Kerb And Gutter	Abbott St	Mount St	Melody St	3	100
KGR060IE	Kerb And Gutter	Barker St	Dine Ln	Dine Ln	3	100
KGL950BA	Kerb And	Centennial Ave	2 Centennial	The End	3	100

KGR191CA	Gutter Kerb And Gutter	Clovelly Rd	Ave Avoca St	Market St (R)	3	100
KGR1024AB	Kerb And Gutter	Curie Street	Pine Avenue	Fleming Street	3	100
KGR232AA	Kerb And Gutter	Dick St	Carrington Rd	Dick St	3	100
KGR241AB	Kerb And Gutter	Don Juan Ave	Mears Ave	The End	3	100
KGL289AA	Kerb And Gutter	Figtree Ave	Pine St	The End	3	100
KGL377BB	Kerb And Gutter	High St	Clara St	62 High St	3	100
KGL546HC	Kerb And Gutter	Mount St	12 Mount St	Moira Cres	3	100
KGR546FA	Kerb And Gutter	Mount St	Dolphin St	The End	3	100
KGR645AB	Kerb And Gutter	Pauling Ave	Ritchard Ave	Alison Rd	3	100
KGL794AA	Kerb And Gutter	Young St	Barker St	The End	3	100

Appendix B Budgeted Expenditures Accommodated in LTFP

NAMS.PLUS3 Asset Management																				Randwick CC																																							
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Kerb and Gutter_S3_V1										Asset Management Plan										IPWEA INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA										JRA																													
Kerb and Gutter																				Operations and Maintenance Costs for New Assets																																							
First year of expenditure projections 2018 (financial yr ending) Asset values at start of planning period Current replacement cost \$133,333 (000) Depreciable amount \$133,333 (000) Depreciated replacement cost \$88,177 (000) Annual depreciation expense \$1,333 (000)																				Calc CRC from Asset Register \$133,333 (000) This is a check for you. Additional operations costs 0.00% Additional maintenance 0.24% Additional depreciation 1.00% Planned renewal budget (information only) You may use these values calculated from your data or overwrite the links.																				Existing %ages calculated from data in worksheet 0.00% of CRC (10 yr average) 0.24% of CRC (10 yr average) 1.00% of Dep Amt 1.01% of CRC (Year 1 comparison)																			
Planned Expenditures from LTFP																				20 Year Expenditure Projections																																							
Note: Enter all values in current 2018 values																																																											
Financial year ending	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	Average of first 10 year Expenditure Outlays from LTFP																																						
																				\$000																																							
Expenditure Outlays included in Long Term Financial Plan (in current \$ values)																				Average of first 10 year Expenditure Outlays from LTFP																																							
Operations																																																											
Operations budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																			
Management budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																				
AM systems budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																					
Total operations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																					
Maintenance																																																											
Reactive maintenance budget	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48																					
Planned maintenance budget	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270	\$270																					
Specific maintenance items budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																					
Total maintenance	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317	\$317																					
Capital																																																											
Planned renewal budget	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350	\$1,350																						
Planned upgrade/new budget	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100																					
Non-growth contributed asset value	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																					
Asset Disposals																																																											
Est Cost to dispose of assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																					
Carrying value (DFRC) of disposed assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																					
Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)																				Average of first 10 years Expenditure Outlays required from IRMP																																							
Additional Expenditure Outlays required and not included above																																																											
Operations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																					
Maintenance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																					
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)																																																										
Capital Upgrade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																					
User Comments #2																																																											
Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)																				Average of first 10 years Capital Renewal & Upgrade Forecasts																																							
Forecast Capital Renewal from Forms 2A & 2B																																																											
Forecast Capital Upgrade from Form 2C	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100																					

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