

CENTRAL DARLING SHIRE COUNCIL



Plant & Fleet

Asset Management Plan



Draft Version 1.0

March 2021

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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan (AM Plan) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 20 year planning period. The AM Plan will link to a Long-Term Financial Plan which typically considers a 10 year planning period.

1.2 Asset Description

This plan covers the infrastructure assets that provide plant and fleet services.

The Plant & Fleet assets include:

- Backhoe Loaders – 2
- Excavator – 1
- Forklift - 1
- Generator – 2
- Heavy Truck - 11
- Light Truck - 2
- Loader – 5
- Portable Traffic Lights - 4
- Pressure Cleaner - 1
- Shed – Crib - 4
- Tractor - 3
- Trailer - 14
- Utility -1

This plan does not include Plant items less than \$5,000 in value. These minor plant items total \$46,845 in value and include:

- Small trailers (30 of)
- Mobile toilet
- Pumps (trailer mounted)
- Pressure cleaner
- Compressors
- Tools such as Drill, grinders, saw
- Generator (small)

This plan does not include the provision of light vehicles. Council manages its light vehicle fleet under a leasing agreement. In 2021, the budget for the leasing of light fleet is \$480,000.

The plant assets included in this plan have a total replacement value of \$3,770,999.

1.3 Levels of Service

The allocation in the planned budget is sufficient to continue providing existing services at current levels for the planning period. It is proposed to implement a dedicated Plant fund with Plant Hire Rates and cost recovery, and the funding allocation will be reviewed at that time.

1.4 Future Demand

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

- Increased funding for capital works
- Extreme weather conditions

These demands will be approached using a combination of managing existing plant, upgrading existing plant and preparing a business case to acquire new plant.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AM Plan is the forecast of 10 year total outlays, which for the Plant & Fleet is estimated as \$13,752,279 or \$1,375,228 on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is \$14,870,000 or \$1,487,000 on average per year as per the Long-Term Financial plan or Planned Budget. This is 108% of the cost to sustain the current level of service at the lowest lifecycle cost. The anticipated Planned Budget for Plant & Fleet is adequate. This is shown in the figure below.

Forecast Lifecycle Costs and Planned Budgets

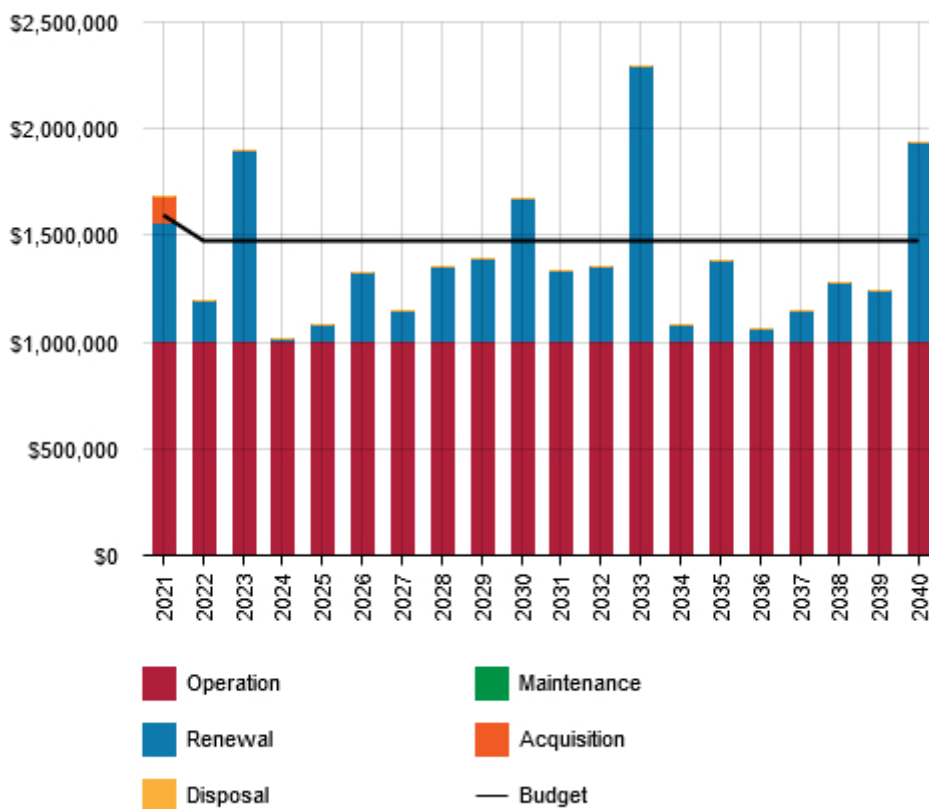


Figure Values are in current dollars.

This plan demonstrates that there is adequate budget allocation to maintain existing plant and to replace plant at the optimal time. The plan will be reviewed when Council implements a dedicated Plant fund with Plant Hire Rates and cost recovery.

1.7 Asset Management Planning Practices

This asset management plan is based on information extracted from Council's "Practical" Asset Management System.

Plant assets requiring renewal are identified from the asset register and from maintenance records.

The Asset Register method was used to forecast the renewal lifecycle costs for this AM Plan.

This AM Plan is based on a medium level of confidence.

1.8 Monitoring and Improvement Program

The next steps resulting from this AM Plan to improve asset management practices are to Implement a dedicated Plant fund with Plant Hire Rates using the IPWEA Plant & Vehicle Management Manual as a guideline:

2.0 Introduction

2.1 Background

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

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

- CDSC Community Strategic Plan 2017 - 2027
- CDSC Operational Plan 2020 - 2021

The assets covered by this AM Plan include the provision of Plant to support the delivery of infrastructure services for Central Darling Shire Council. For a detailed summary of the assets covered in this AM Plan refer to Table in Section 5.

This plan does not include the provision of light vehicles. Council manages its light vehicle fleet under a leasing agreement. In 2021, the budget for the leasing of light fleet is \$480,000.

The plant assets included in this plan have a total replacement value of \$3,770,999.

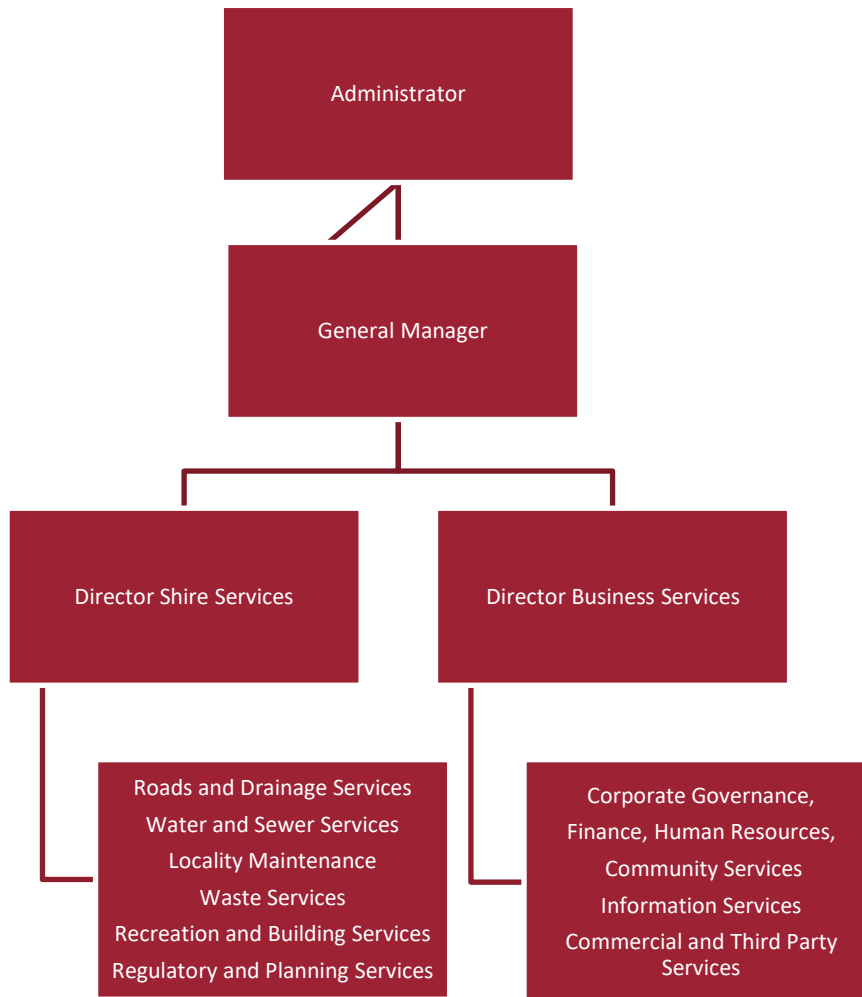
Key stakeholders in the preparation and implementation of this AM Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Councillors/ Administrator	Represent needs of community/shareholders, Allocate resources to meet the organisation's objectives in providing services while managing risks, Ensure organisation is financial sustainable.
General Manager	Endorse the development of asset management plans and provide the resources required to complete this task. Set high level priorities for asset management development and raise the awareness of this function among staff and contractors. Support the implementation of actions resulting from this plan and prepared to make changes to a better way of managing assets and delivering services. Support for an asset management driven budget and LTFP.
Finance Section	Consolidating the asset register and ensuring the asset valuations are accurate. Development of supporting policies such as capitalisation and depreciation. Preparation of asset sustainability and financial reports incorporating asset depreciation in compliance with current accounting standards.
Operational (Outdoor) Staff	Provide local knowledge level detail on all the plant and fleet assets. Verify the type, attributes and condition of assets. They can describe the maintenance standards deployed and the ability to meet technical and customer levels of service.
Asset Management Consultants	Provide support for the development of asset management plans and the implementation of effective asset management principles within Council.
External Parties	Community residents & businesses; Tourist and Visitors (as occasional users);

Key Stakeholder	Role in Asset Management Plan
	Neighbouring Council's; Emergency services; Utility companies; Local Businesses and; Federal and State Government authorities & agencies

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



2.2 Goals and Objectives of Asset Ownership

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

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and

- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

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

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

- International Infrastructure Management Manual 2015 ¹
- ISO 55000²

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

² ISO 55000 Overview, principles and terminology

3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

During the development of the Community Strategic Plan in 2017, a Community Engagement Strategy was prepared and implemented by Council. The main source of engagement and feedback were hardcopy and online surveys, contacting key stakeholders and leaders in each community. Widespread distribution of surveys was available in common locations and advertising was conducted using various media outlets. A total of 52 surveys were received as part of the process.

Respondents were asked to rank in order of priority the services or facilities that were most important to them. The overall five high ranking services and facilities were:

1. Water
2. Youth facilities
3. Road construction and maintenance
4. Provision of aged care facilities
5. Waste management

The provision of plant and fleet services supports Council's operations in providing the above service priorities.

3.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of the Central Darling Shire vision, mission, goals and objectives.

Our vision is:

Central Darling will be a great place to live and visit.

Our mission is:

Realising quality opportunities for all in the Central Darling Shire through:

- *Effective leadership*
- *Community development through involvement, participation, partnership, ownership and collaborative approach*
- *Facilitation of services*
- *Community ownership*
- *Delivery of consistent, affordable and achievable services and facilities.*

Strategic goals have been set by Council and are outlined in the Draft Operational Plan 2020-21.

Strategic goals have been set by the Central Darling Shire Council. The relevant goals and objectives and how these are addressed in this AM Plan are summarised in Table 3.2.

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

Goal	Objective	How Goal and Objectives are addressed in the AM Plan
Civic Leadership Goal 4 - A consultative and professional organisation providing a high standard and efficient delivery of service	Effective strategic and business planning processes	This asset management plan is a strategic business planning document which details how Council is going to strive to achieve better management of its plant and fleet assets.
	Improved management and delivery of Council services	By describing current and target levels of service for the plant and fleet network, this management plan provides Council with a structured framework for improvement.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the Plant & Fleet services however are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act, 1993	This is the Act that provides for local government in NSW. It provides the legal framework for an effective, environmentally responsible and open system of local government in the State.
Work Health and Safety Act 2011	This Act aims to secure and promote the health, safety and welfare of people at work and to protect people at a place of work against risks to health or safety arising out of the activities at work.

3.4 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

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

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

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

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

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

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	Plant is safe and efficient to operate	Plant hours and usage	Plant is replaced at the optimal times	Plant is replaced at the optimal times.
	Confidence levels		Medium	Confidence levels will improve when council implements a dedicated Plant fund with Plant Hire Rates.
Function & Capacity	Plant Capabilities are fit for purpose	Plant utilisation and maintenance requirements	Plant utilisation varies across a remote and distant community.	Plant utilisation varies across a remote and distant community
	Confidence levels		Low	Confidence levels will improve when council implements a dedicated Plant fund with Plant Hire Rates.

3.5 Technical Levels of Service

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

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

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

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.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	New plant is acquired when supported by a business case to improve efficiency of service delivery.	Plant Utilisation Rates and Charge out Rates	Not Measured	Confidence levels will improve when council implements a dedicated Plant fund with Plant Hire Rates.
		Budget	\$120,000	\$120,000
Operation	Plant is operated in an efficient manner to provide the service required.	Plant Utilisation Rates and Charge out Rates	Not Measured	Confidence levels will improve when council implements a dedicated Plant fund with Plant Hire Rates.
		Budget (includes \$480,000 for Leasing of Light Fleet)	\$1,010,000	\$1,010,000
Maintenance	Plant is maintained in an efficient manner to provide the service required	Plant maintenance schedules	Not Measured	Confidence levels will improve when council implements a dedicated Plant fund with Plant Hire Rates.
		Budget	\$0 Included in operational budget	\$0 Included in operational budget
Renewal	Plant is renewed at the optimal time	Analysis of Plant Maintenance costing trends, depreciation and replacement costs to analyse the optimal time to renew Plant.	Based on professional judgement of staff	Confidence levels will improve when council implements a dedicated Plant fund with Plant Hire Rates.
		Budget	\$465,000	\$353,228
Disposal	Plant is disposed in the most cost effective manner	Analysis of Plant Maintenance costing trends, depreciation and replacement costs to analyse the optimal time to dispose of Plant.	Based on professional judgement of staff	Confidence levels will improve when council implements a dedicated Plant fund with Plant Hire Rates.
		Budget	\$0	\$0

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 AM Plan.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Increase in extreme weather events	Current Weather Patterns	Increased demand for Plant usage during extreme weather events	Increased demand on services	Monitor weather events and ensure Plant remains fit for purpose and ready to respond when needed
Increased grant funding for capital works	Current funding levels	Increased demand for Plant usage if workload increases	Reduced reliability and availability for existing plant	Prepare business case to acquire more plant or to renew plant earlier if usage increases beyond the capability of existing plant.

4.4 Asset Programs to meet Demand

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

Acquiring new assets will commit the Central Darling Shire 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

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

As a minimum we consider 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

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
Extreme weather conditions (severe drought or flood)	Anticipated that extremes of weather will increase	Potential for additional demands on Plant in adverse conditions.	Monitor weather trends and ensure that Plant purchases have the capability to handle extreme weather events. Ensure Plant is fit for purpose and serviced.

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

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

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact These assets?	Build Resilience in New Works
New Plant purchases	Capability to ensure Plant can be used in extreme weather events	Ensure new plant purchases have the capability to handle extreme weather events

5.0 LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

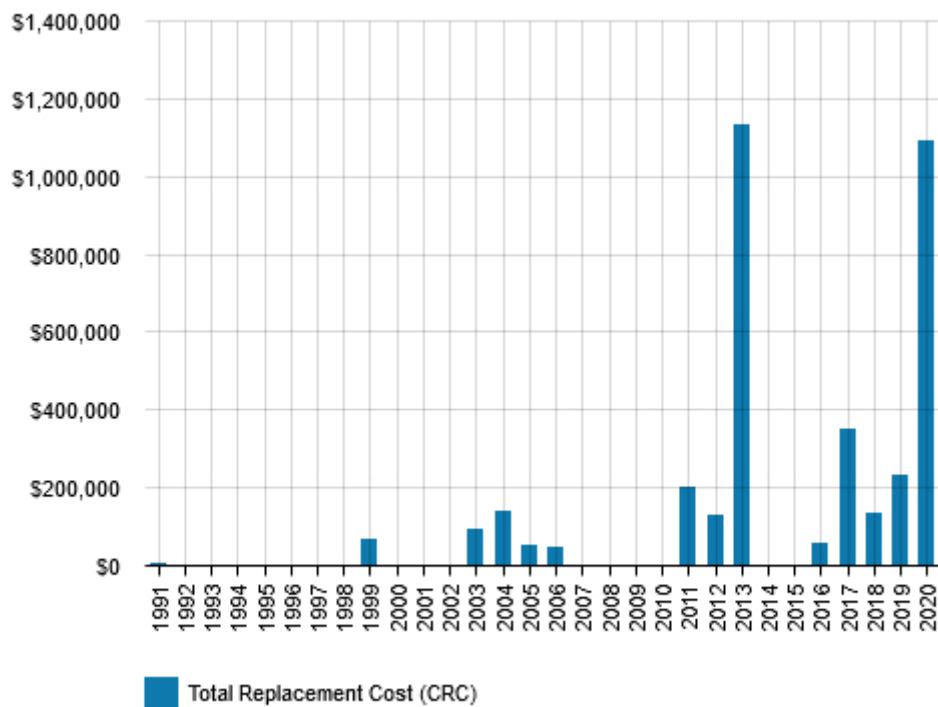
5.1.1 Physical parameters

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

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

Table 5.1.1: Assets covered by this Plan

Asset Category	Number	Replacement Value	Useful Life
Backhoe Loader - Dig Depth >=2.5m - 3.5m	1	\$50,373	10
Backhoe Loader - Dig Depth >=3.5 - 5m	1	\$93,900	7
Excavator - O/Wt >=10t - 15t	1	\$74,000	10
Forklift > 2,000kg	1	\$22,244	15
Generator, Large >25 KVA	2	\$56,603	15
Generator, Medium 10 to <25 KVA	2	\$33,005	Skid Mounted LISTER - 7 Fixed Location HATZ - -10
Heavy Truck - GVM >16,000	1	\$45,995	20
Heavy Truck - GVM 11,000 to <16,000kg	10	\$1,915,083	Range from 7 - 20
Light Truck - GVM 4,500 to <8,000kg	2	\$114,586	10
Loader, Skidsteer - O/ Load >=800kg - 900kg	1	\$70,961	8
Loader, Wheel - O/ Cap >=2.5t - 3t	1	\$38,000	10
Loader, Wheel - O/ Cap >=3.5t - 4t	3	\$223,153	10
Portable Traffic Lights	4	\$81,325	2x TTF – 5 2x A1 Road Lines - 10
Pressure Cleaner - 4,000 - 5,000 PSI	1	\$9,545	10
Shed - Crib	4	\$216,121	6
Tractor - 40 to <80 Eng hp	1	\$70,991	10
Tractor > 100 Eng hp	2	\$128,036	10
Trailer - <=750kg	3	\$95,974	10
Trailer - >2000-4000kg	7	\$239,317	Range from 5 - 10
Trailer - >750-2000kg	4	\$109,541	Range from 7 - 15
Utility	1	\$36,402	10
TOTAL		\$3,725,153	



All figure values are shown in current day dollars.

Plant items less than \$5,000 in value have not been included in this plan. These minor plant items total \$46,845 in value and include:

- Small trailers (30 of)
- Mobile toilet
- Pumps (trailer mounted)
- Pressure cleaner
- Compressors
- Tools such as Drill, grinders, saw
- Generator (small)

This plan does not include the provision of light vehicles. Council manages its light vehicle fleet under a leasing agreement, funded using the budget allocation for light fleet.

5.1.2 Asset capacity and performance

Plant Assets are purchased and maintained to meet design standards where these are available.

5.1.3 Asset condition

Plant condition is monitored through Council’s maintenance servicing schedules.

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.

For plant and fleet assets, the operation and maintenance budget are combined. The trends in operation and maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Year	Light Fleet Budget – Leasing Agreement (\$)	Total Operation and Maintenance Budget (\$), including Light Fleet
2019 (Actual)	382,415	884,096
2020 (Budget)	390,000	917,000
2021 (Budget)	480,000	1,010,000

The total Operation and Maintenance budget, for Plant and Fleet assets has been increasing over the past 3 years, largely impacted by the \$90,000 increase in the light fleet budget in 2021. This plan does not include the provision of light vehicles. Council manages its light vehicle fleet under a leasing agreement funded using the budget allocation for light fleet.

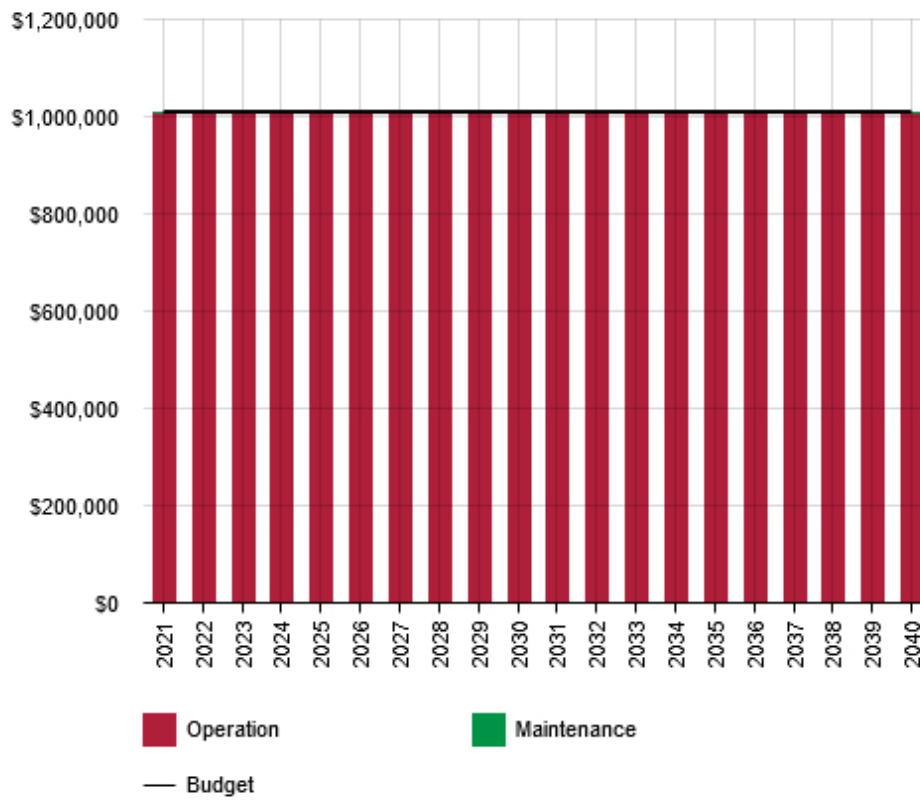
Assessment and priority of maintenance is undertaken by staff using plant operating manuals and experience and judgement.

Summary of forecast operations and maintenance costs

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

It is planned to maintain the current budget levels for the life of the plan

Figure 5.2: Operations and Maintenance Summary



All figure values are shown in current day dollars.

5.3 Renewal Plan

Renewal is replacement of Plant 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.

Plant requiring renewal is identified from the asset register to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year).

The typical useful lives of assets are shown in Table 5.1.1.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the plant assets to deliver the service it is designed for, or
- To ensure the plants assets are of sufficient quality to meet the service requirements.⁵

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

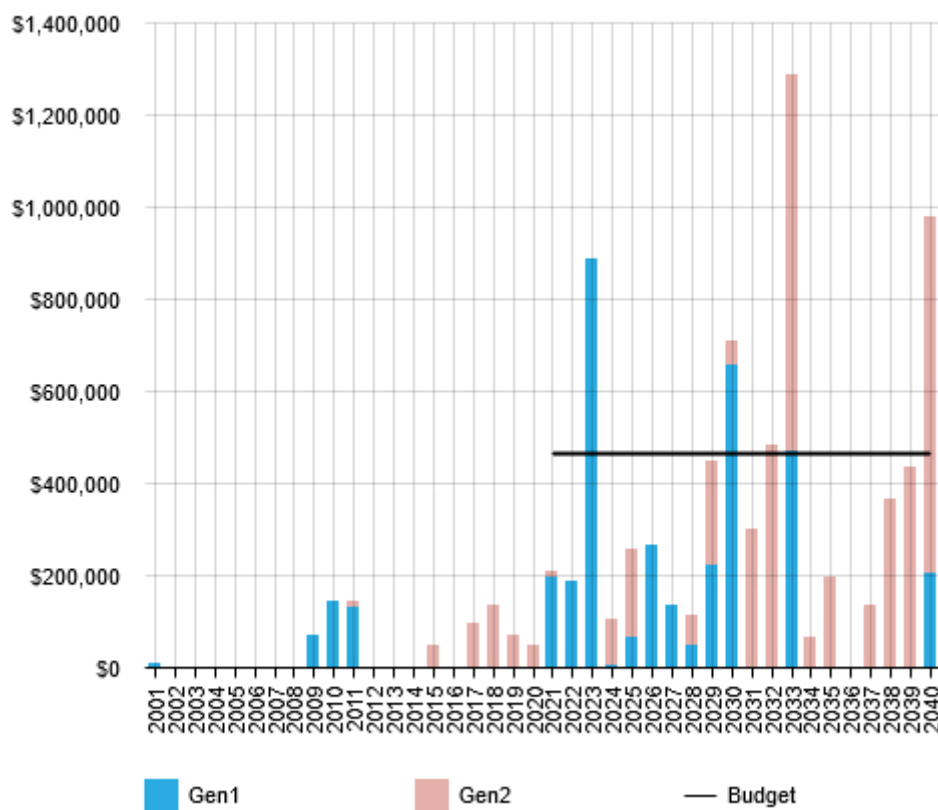
⁵ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.⁶

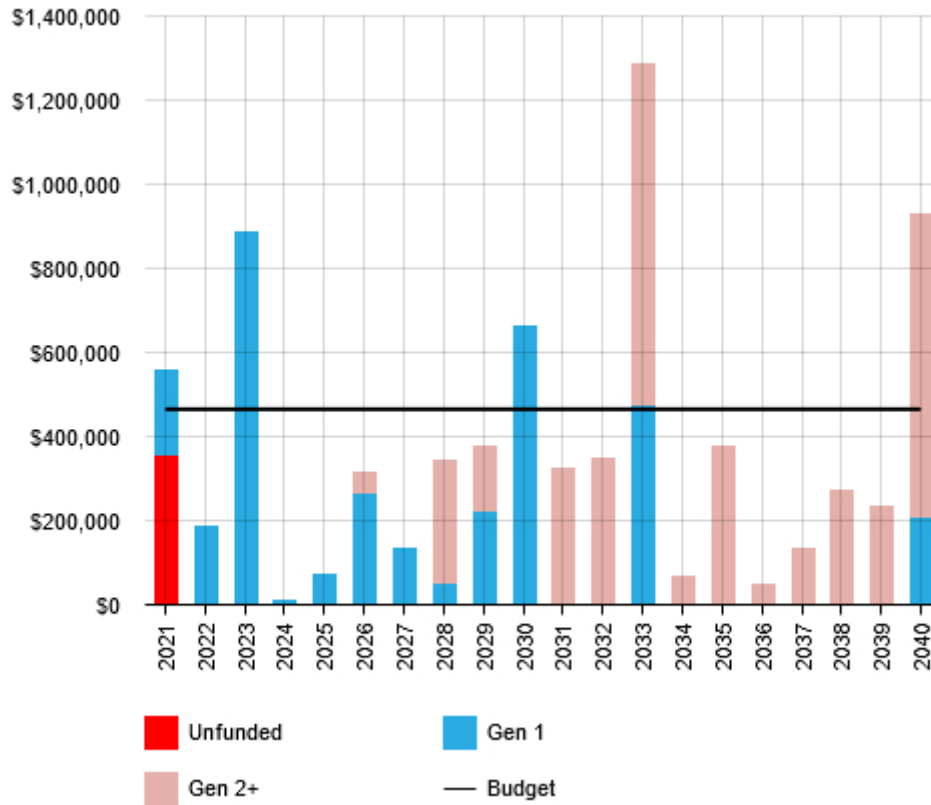
5.4 Summary of future renewal costs

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 in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4.1: Forecast Renewal Costs



⁶ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.



All figure values are shown in current day dollars. Council’s renewal budget in most years is sufficient to meet the anticipated renewal costs. There are however spikes in 2023, 2030, 2033 and 2040 that Council will need to manage, possibly by bringing some renewals forward.

5.5 Acquisition Plan

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

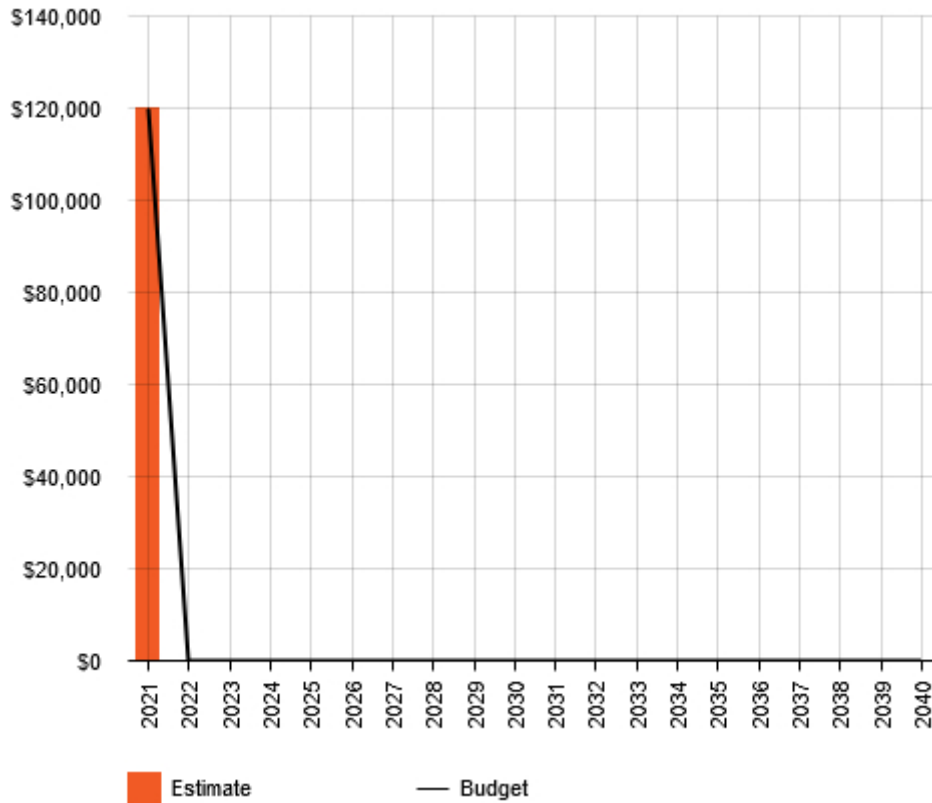
5.5.1 Selection criteria

Proposed acquisition of new Plant is undertaken on the merits of a business case.

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised / summarized in Figure 5.4.1 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.

The acquisitions planned for 2021 include:

- Caravan (\$75,000)
- Jetpachter (\$45,000 hire cost). This item is under evaluation. If acquired, the hire cost will be an ongoing operational expense.

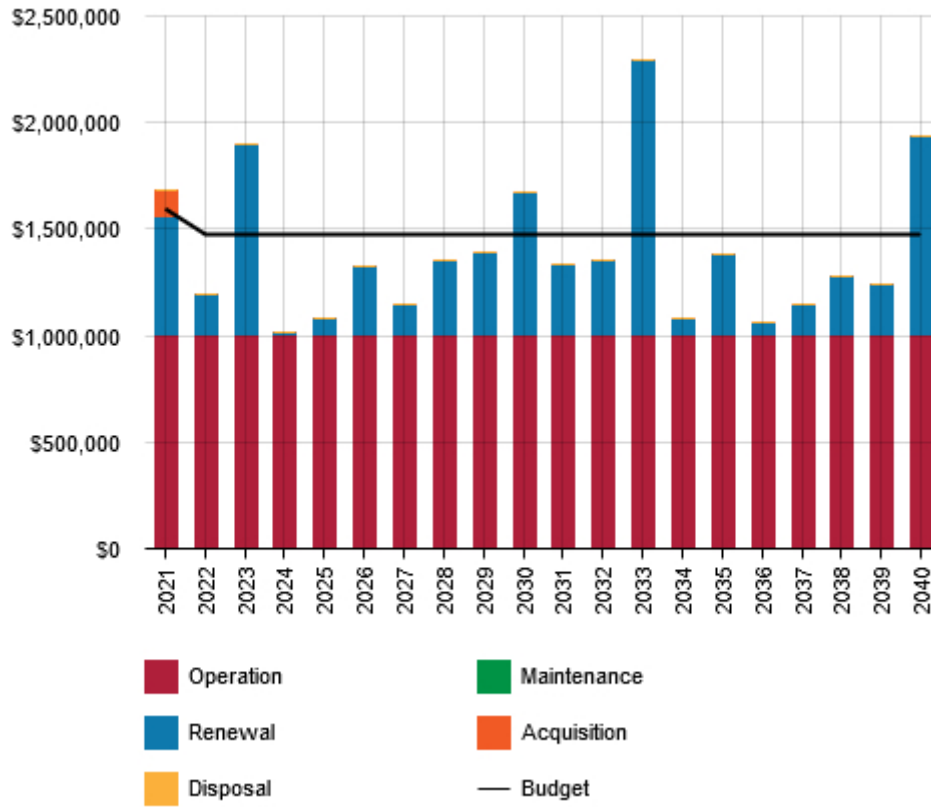
When new plant assets are acquired, Council must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. Expenditure on new plant assets will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.4.3. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

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

Figure 5.5.3: Lifecycle Summary



All figure values are shown in current day dollars.

5.6 Disposal Plan

Plant disposal is undertaken in the most cost effective way when replacement occurs.

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’⁷.

An assessment of risks⁸ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

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

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Road Maintenance Equipment	Mechanical Breakdown	Failure to respond to incidents. Failure to meet service standards

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

6.2 Risk Assessment

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

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

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

⁷ ISO 31000:2009, p 2

⁸ REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

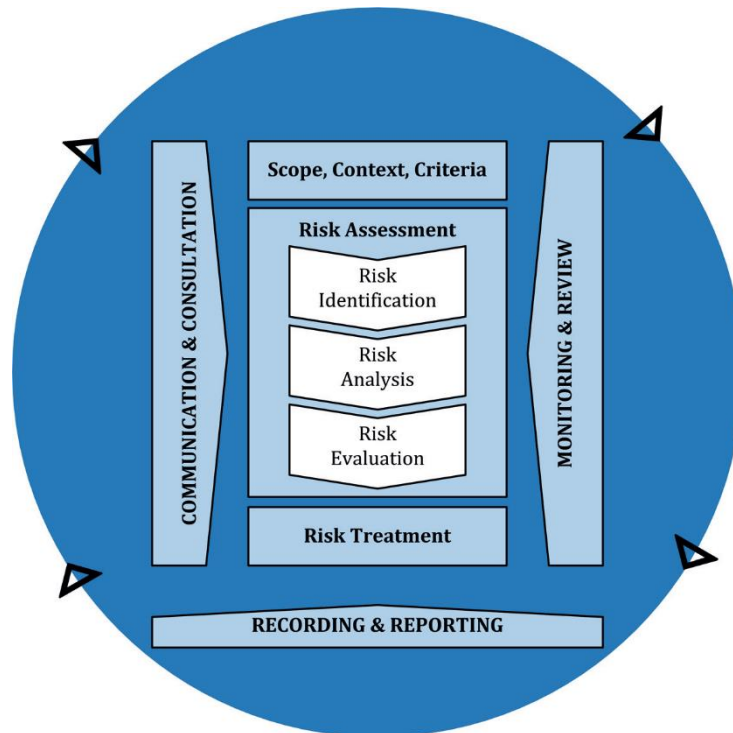


Fig 6.2 Risk Management Process – Abridged
 Source: ISO 31000:2018, Figure 1, p9

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 risks⁹ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences.

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

Table 6.2: Risks and Treatment Plans

⁹ REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Road Maintenance Plant	Breakdown, Inability to service in an emergency situation	High	Maintenance Systems	Low	Included in existing operational budgets
Dangerous failure of assets that are poorly maintained and/ or in poor condition	Injury or death of staff or member of the public	Medium	Regular asset inspection and maintenance	Low	Included in existing operational budget

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

6.3 Infrastructure Resilience Approach

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

Council is yet to assess resilience for plant and fleet infrastructure. This will be included in future iterations of the AM Plan.

6.4 Service and Risk Trade-Offs

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

This plan demonstrates that there is adequate budget allocation to maintain existing plant and to replace plant at the optimal time.

7.0 FINANCIAL SUMMARY

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

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

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

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

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹⁰ 131.64%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 131.64% 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 AM Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

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

The forecast operations, maintenance and renewal costs over the 10 year planning period is \$1,363,228 average per year.

The proposed (budget) operations, maintenance and renewal funding is \$1,475,000 on average per year giving a 10 year funding surplus of \$111,772 per year. This indicates that 108.2% of the forecast costs needed to provide the services documented in this AM Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the AM Plan 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 7.1.3 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan.

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

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

Forecast costs are shown in 2021 dollar values.

¹⁰ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

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

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2021	120,000	1,010,000	0	553,726	0
2022	0	1,010,000	0	187,251	0
2023	0	1,010,000	0	885,896	0
2024	0	1,010,000	0	7,599	0
2025	0	1,010,000	0	70,961	0
2026	0	1,010,000	0	315,174	0
2027	0	1,010,000	0	133,424	0
2028	0	1,010,000	0	339,921	0
2029	0	1,010,000	0	377,818	0
2030	0	1,010,000	0	660,509	0
2031	0	1,010,000	0	323,240	0
2032	0	1,010,000	0	347,670	0
2033	0	1,010,000	0	1,285,928	0
2034	0	1,010,000	0	66,359	0
2035	0	1,010,000	0	376,086	0
2036	0	1,010,000	0	50,000	0
2037	0	1,010,000	0	133,424	0
2038	0	1,010,000	0	269,854	0
2039	0	1,010,000	0	232,218	0
2040	0	1,010,000	0	929,919	0

7.2 Funding Strategy

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

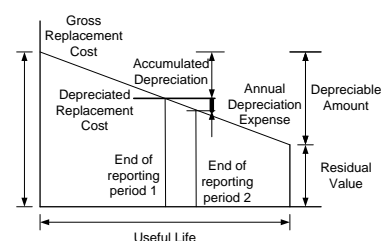
The financial strategy of the entity determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at 30 June 2020:

Replacement Cost (Current/Gross)	\$3,770,999
Depreciable Amount	\$3,770,999
Depreciated Replacement Cost ¹¹	\$1,857,334
Depreciation	\$388,412



7.3.2 Valuation forecast

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

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

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

7.4 Key Assumptions Made in Financial Forecasts

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

The information in this asset management plan is based on the data in Council’s asset registers stored on the “Practical “ Asset management System.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale¹² 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%
C. Medium	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Low	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E. Very Low	None or very little data held.

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

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

Data	Confidence Assessment	Comment
Demand drivers	B	
Growth projections	B	
Acquisition forecast	C	Acquisition forecasts are dependent upon the outcomes of a business case
Operation forecast	C	Operational costs

¹² IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

Maintenance forecast	C	Maintenance costs are included in operational costs
Renewal forecast		
- Asset values	C	Renewal forecasts are based on an estimate of plant replacement costs
- Asset useful lives	B	Asset useful lives reflect a realistic assessment of known condition
- Condition modelling	C	
Disposal forecast	C	

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

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹³

8.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is 2021 budgetary information prepared in April 2020.

Asset management data sources

This AM Plan also utilises asset management data. The source of the data is the 2018 asset register, and condition assessment information prepared in 2017.

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
Improvement Actions Identified during the 2021 Asset Management Maturity Assessment				
1	Develop a consolidated, integrated, up to date asset register with appropriate components and the required functionality to ensure security and data integrity, which includes all information about each asset sorted by asset group.	Director Shire Services	CDSC Staff	
2	Define and document internal procedures for determining asset replacement and treatment unit rates, not dependent on third parties. Unit rates to be determined by Council to suit local conditions.	Director Shire Services	CDSC Staff	
3	Document methodologies used to carry out consistent asset condition surveys and defect identification assessments, in a Condition Rating Assessment Manual, for each asset class. Asset condition assessment should not be limited to the small sample of assets inspected by the third parties every four years for accounting compliance purposes.	Director Shire Services	CDSC Staff	
Improvement Actions specific to Plant and Fleet				
4	Implement a dedicated Plant fund with Plant Hire Rates using the IPWEA Plant & Vehicle Management Manual as a guideline.	Director Business Services	CDSC Staff	
5	Separate the light fleet budget (managed under a leasing agreement) and the plant operation and maintenance budget	Director Business Services	CDSC Staff	

¹³ ISO 55000 Refers to this as the Asset Management System

8.2 Monitoring and Review Procedures

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

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

The AM Plan has a maximum life of 4 years and is due for complete revision and updating within 2 years of each Council election..

Performance Measures

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

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

9.0 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
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- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
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- IPWEA, 2018, Practice Note 12.1, 'Climate Change Impacts on the Useful Life of Assets', Institute of Public Works Engineering Australasia, Sydney
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- IPWEA, 2014, Practice Note 8 – Levels of Service & Community Engagement, Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn8>
- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Central Darling Shire Community Strategic Plan 2017-2023
- Central Darling Shire Delivery Program 2018-21 and Draft Operational Plan 2020-21

10.0 APPENDICES

Appendix A Acquisition Forecast

Table A3 - Acquisition Forecast Summary

Year	Constructed	Donated	Growth
2021	120,000	0	0
2022	0	0	0
2023	0	0	0
2024	0	0	0
2025	0	0	0
2026	0	0	0
2027	0	0	0
2028	0	0	0
2029	0	0	0
2030	0	0	0
2031	0	0	0
2032	0	0	0
2033	0	0	0
2034	0	0	0
2035	0	0	0
2036	0	0	0
2037	0	0	0
2038	0	0	0
2039	0	0	0
2040	0	0	0

Appendix B Operation Forecast

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2021	1,010,000	0	1,010,000
2022	1,010,000	0	1,010,000
2023	1,010,000	0	1,010,000
2024	1,010,000	0	1,010,000
2025	1,010,000	0	1,010,000
2026	1,010,000	0	1,010,000
2027	1,010,000	0	1,010,000
2028	1,010,000	0	1,010,000
2029	1,010,000	0	1,010,000
2030	1,010,000	0	1,010,000
2031	1,010,000	0	1,010,000
2032	1,010,000	0	1,010,000
2033	1,010,000	0	1,010,000
2034	1,010,000	0	1,010,000
2035	1,010,000	0	1,010,000
2036	1,010,000	0	1,010,000
2037	1,010,000	0	1,010,000
2038	1,010,000	0	1,010,000
2039	1,010,000	0	1,010,000
2040	1,010,000	0	1,010,000

NOTE: The operational forecasts include \$480,000 for leasing of light fleet.

Appendix C Maintenance Forecast

Table C2 - Maintenance Forecast Summary

Plant maintenance is included in operation costs.

Appendix D Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2021	553,726	465,000
2022	187,251	465,000
2023	885,896	465,000
2024	7,599	465,000
2025	70,961	465,000
2026	315,174	465,000
2027	133,424	465,000
2028	339,921	465,000
2029	377,818	465,000
2030	660,509	465,000
2031	323,240	465,000
2032	347,670	465,000
2033	1,285,928	465,000
2034	66,359	465,000
2035	376,086	465,000
2036	50,000	465,000
2037	133,424	465,000
2038	269,854	465,000
2039	232,218	465,000
2040	929,919	465,000

Appendix E Disposal Summary

Disposals are scheduled at the time of plant renewal, in a cost-effective manner.

Appendix F Budget Summary by Lifecycle Activity

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2021	120,000	1,010,000	0	465,000	0	1,595,000
2022	0	1,010,000	0	465,000	0	1,475,000
2023	0	1,010,000	0	465,000	0	1,475,000
2024	0	1,010,000	0	465,000	0	1,475,000
2025	0	1,010,000	0	465,000	0	1,475,000
2026	0	1,010,000	0	465,000	0	1,475,000
2027	0	1,010,000	0	465,000	0	1,475,000
2028	0	1,010,000	0	465,000	0	1,475,000
2029	0	1,010,000	0	465,000	0	1,475,000
2030	0	1,010,000	0	465,000	0	1,475,000
2031	0	1,010,000	0	465,000	0	1,475,000
2032	0	1,010,000	0	465,000	0	1,475,000
2033	0	1,010,000	0	465,000	0	1,475,000
2034	0	1,010,000	0	465,000	0	1,475,000
2035	0	1,010,000	0	465,000	0	1,475,000
2036	0	1,010,000	0	465,000	0	1,475,000
2037	0	1,010,000	0	465,000	0	1,475,000
2038	0	1,010,000	0	465,000	0	1,475,000
2039	0	1,010,000	0	465,000	0	1,475,000
2040	0	1,010,000	0	465,000	0	1,475,000