

# **The Flinders Ranges Council**



The Flinders  
Ranges Council

## **Community Wastewater Management Systems**

### **INFRASTRUCTURE AND ASSET MANAGEMENT PLAN**





# INFRASTRUCTURE AND ASSET MANAGEMENT PLAN

## COMMUNITY WASTEWATER MANAGEMENT SYSTEMS

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## ABBREVIATIONS

<b>AAAC</b>	Average Annual Asset Consumption
<b>ABP</b>	Annual Business Plan
<b>ARI</b>	Average Recurrence Interval
<b>BOD</b>	Biochemical (biological) Oxygen Demand
<b>CRC</b>	Current Replacement Cost
<b>CWMS</b>	Community Wastewater Management Systems
<b>DA</b>	Depreciable Amount
<b>DoH</b>	Department of Health
<b>IAMP</b>	Infrastructure and Asset Management Plan
<b>IIMM</b>	International Infrastructure Management Manual
<b>IRMP</b>	Infrastructure Risk Management Plan
<b>LTFP</b>	Long Term Financial Plan
<b>MMS</b>	Maintenance Management System
<b>RV</b>	Residual Value
<b>SMP</b>	Strategic Management Plan
<b>SS</b>	Suspended Solids
<b>WDCRC</b>	Written Down (Depreciated) Current Replacement Cost

## GLOSSARY

### Annual service cost (ASC)

An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operating, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

### Asset class

Grouping of assets of a similar nature and use in an entity's operations (AASB 166.37).

### Asset condition assessment

The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

### Asset management

The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

### Assets

Future economic benefits controlled by the entity as a result of past transactions or other past events (AAS27.12). Property, plant and equipment including infrastructure and other assets (such as furniture and fittings) with benefits expected to last more than 12 month.

### Average annual asset consumption (AAAC)\*

The amount of a local government's asset base consumed during a year. This may be calculated by dividing the Depreciable Amount (DA) by the Useful Life and totalled for each and every asset OR by dividing the Fair Value (Depreciated Replacement Cost) by the Remaining Life and totalled for each and every asset in an asset category or class.

### Brownfield asset values\*\*

Asset (re)valuation values based on the cost to replace the asset including demolition and restoration costs.

### Capital expansion expenditure

Expenditure that extends an existing asset, at the same standard as is currently enjoyed by residents, to a new group of users. It is discretionary expenditure, which increases future operating, and maintenance costs, because it increases council's asset base, but may be associated with additional revenue from the new user group, e.g. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

### Capital expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal,

expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

### Capital funding

Funding to pay for capital expenditure.

### Capital grants

Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

### Capital investment expenditure

See capital expenditure definition

### Capital new expenditure

Expenditure which creates a new asset providing a new service to the community that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operating and maintenance expenditure.

### Capital renewal expenditure

Expenditure on an existing asset, which returns the service potential or the life of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it has no impact on revenue, but may reduce future operating and maintenance expenditure if completed at the optimum time, e.g. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

### Capital upgrade expenditure

Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operating and maintenance expenditure in the future because of the increase in the council's asset base, e.g. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

### Carrying amount

The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

### Class of assets

See asset class definition

### **Component**

An individual part of an asset which contributes to the composition of the whole and can be separated from or attached to an asset or a system.

### **Cost of an asset**

The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, plus any costs necessary to place the asset into service. This includes one-off design and project management costs.

### **Current replacement cost (CRC)**

The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

### **Current replacement cost "As New" (CRC)**

The current cost of replacing the original service potential of an existing asset, with a similar modern equivalent asset, i.e. the total cost of replacing an existing asset with an as NEW or similar asset expressed in current dollar values.

### **Cyclic Maintenance\*\***

Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

### **Depreciable amount**

The cost of an asset, or other amount substituted for its cost, less its residual value (AASB 116.6)

### **Depreciated replacement cost (DRC)**

The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset

### **Depreciation / amortisation**

The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

### **Economic life**

See useful life definition.

### **Expenditure**

The spending of money on goods and services. Expenditure includes recurrent and capital.

### **Fair value**

The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arm's length transaction.

### **Greenfield asset values \*\***

Asset (re)valuation values based on the cost to initially acquire the asset.

### **Heritage asset**

An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

### **Impairment Loss**

The amount by which the carrying amount of an asset exceeds its recoverable amount.

### **Infrastructure assets**

Physical assets of the entity or of another entity that contribute to meeting the public's need for access to major economic and social facilities and services, e.g. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no market value.

### **Investment property**

Property held to earn rentals or for capital appreciation or both, rather than for: (a) use in the production or supply of goods or services or for administrative purposes; or (b) sale in the ordinary course of business (AASB 140.5)

### **Level of service**

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

### **Loans / borrowings**

Loans result in funds being received which are then repaid over a period of time with interest (an additional cost). Their primary benefit is in 'spreading the burden' of capital expenditure over time. Although loans enable works to be completed sooner, they are only ultimately cost effective where the capital works funded (generally renewals) result in operating and maintenance cost savings, which are greater than the cost of the loan (interest and charges).

### **Maintenance and renewal gap**

Difference between estimated budgets and projected expenditures for maintenance and renewal of assets, totalled over a defined time (e.g. 5, 10 and 15 years).

#### **Maintenance and renewal sustainability index**

Ratio of estimated budget to projected expenditure for maintenance and renewal of assets over a defined time (e.g. 5, 10 and 15 years).

#### **Maintenance expenditure**

Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

#### **Materiality**

An item is material if its omission or misstatement could influence the economic decisions of users taken on the basis of the financial report. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances.

#### **Modern equivalent asset.**

A structure similar to an existing structure and having the equivalent productive capacity, which could be built using modern materials, techniques and design. Replacement cost is the basis used to estimate the cost of constructing a modern equivalent asset.

#### **Non-revenue generating investments**

Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, e.g. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

#### **Operating expenditure**

Recurrent expenditure, which is continuously required excluding maintenance and depreciation, e.g. power, fuel, staff, plant equipment, on-costs and overheads.

#### **Pavement management system**

A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

#### **Planned Maintenance\*\***

Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

#### **PMS Score**

A measure of condition of a road segment determined from a Pavement Management System.

#### **Rate of annual asset consumption\***

A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

#### **Rate of annual asset renewal\***

A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

#### **Rate of annual asset upgrade\***

A measure of the rate at which assets are being upgraded and expanded per annum expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

#### **Reactive maintenance**

Unplanned repair work that carried out in response to service requests and management/supervisory directions.

#### **Recoverable amount**

The higher of an asset's fair value less costs to sell and its value in use.

#### **Recurrent expenditure**

Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operating and maintenance expenditure.

#### **Recurrent funding**

Funding to pay for recurrent expenditure.

#### **Rehabilitation**

See capital renewal expenditure definition above.

#### **Remaining life**

The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining life is economic life.

#### **Renewal**

See capital renewal expenditure definition above.

#### **Residual value**

The net amount which an entity expects to obtain for an asset at the end of its useful life after deducting the expected costs of disposal.

#### **Revenue generating investments**

Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, e.g. public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

#### **Risk management**

The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

#### **Section or segment**

A self-contained part or piece of an infrastructure asset.



### **Service potential**

The capacity to provide goods and services in accordance with the entity's objectives, whether those objectives are the generation of net cash inflows or the provision of goods and services of a particular volume and quantity to the beneficiaries thereof.

### **Service potential remaining\***

A measure of the remaining life of assets expressed as a percentage of economic life. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (DRC/DA).

### **Strategic Management Plan (SA)\*\***

Documents Council objectives for a specified period (3-5 years), the principle activities to achieve the objectives, the means by which that will be carried out, estimated income and expenditure, measures to assess performance and how rating policy relates to the Council's objectives and activities.

### **Sub-component**

Smaller individual parts that make up a component part.

### **Useful life**

Either:

- (a) the period over which an asset is expected to be available for use by an entity, or
- (b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the council. It is the same as the economic life.

### **Value in Use**

The present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate new cash flows, where if deprived of the asset its future economic benefits would be replaced.

Source: DVC 2006, Glossary

Note: Items shown \* modified to use DA instead of CRC

Additional glossary items shown \*\*



## 1. EXECUTIVE SUMMARY

### What Council Provides

Council provides a Community Wastewater Management System (CWMS) network to enable a safe and cost effective environment for the disposal of town wastewater.

### Plans for the Future

Council plans to operate and maintain the other assets to achieve the following strategic objectives.

1. Ensure the CWMS network is maintained at a safe and functional standard as set out in this infrastructure and asset management plan.
2. To provide quality and cost effective services in meeting current and future needs of the community.
3. To be a rural council recognised as innovative in delivering cost effective services to its communities.

### Measuring our Performance

#### Quality

CWMS assets will be maintained in useable and a reasonable condition fit for use. Defects found or reported that are outside our service standard will be repaired. See our maintenance response service levels for details of defect prioritisation and response time.

#### Function

Our intent is that the CWMS network is maintained in partnership with other levels of government and stakeholders to provide quality and cost effective services in meeting current and future demands.

CWMS asset attributes will be maintained at a safe level and associated signage and equipment will be provided as needed to ensure public safety. We need to ensure key functional objectives are met.

#### Safety

Inspect all CWMS infrastructure regularly to prioritise and repair defects in accordance with the inspection schedule to ensure they are safe and usable.

### Community Consultation

This CWMS infrastructure and asset management plan needs a community consultation process to explain the proposed service levels, costings and impact on all people that use the CWMS.

The proposed consultation process is to:

1. Prepare a discussion paper that outlines Council's plant and equipment infrastructure and asset management plan (IAMP) setting out the impact of infrastructure and asset management plan on different users.
2. Issue the draft IAMP for comment.
3. Consider community comment and finalise IAMP.

## 2. INTRODUCTION

### 2.1 Background

This infrastructure and asset management plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding required to provide the required levels of service.

The infrastructure and asset management plan is to be read with the following associated planning documents:

- Asset Management Policy
- Infrastructure Risk Management Plan

This infrastructure and asset management plan covers the following infrastructure assets:

***Table 2.1 - Assets covered by this Plan***

Asset category	Areas	Replacement Value (\$)
Ponds	South Quorn	\$ 2,858,926
Mains		
Pump stations	Hawker	\$ 1,266,002
Plant		
<b>TOTAL</b>		<b>\$ 4,124,928</b>

Key stakeholders in the preparation and implementation of this infrastructure and asset management plan are:

- Community Groups
- Residents
- Ratepayers
- Council Staff
- Council Members

### 2.2 Objectives and Strategies of Asset Management

The Council exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by purchase, by contract, construction by council staff and by donation of assets constructed by developers and others to meet increased levels of service. Council's goal in managing infrastructure assets is to meet the required level of service in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined level of service and monitoring performance,
- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,
- Continuous improvement in asset management practices.<sup>1</sup>

<sup>1</sup> IIMM 2006 Sec 1.1.3, p 1.3

This infrastructure and asset management plan is prepared under the direction of Council's vision, objectives and strategies.

Council's vision is:

*"An engaging community which enjoys a sustainable, contemporary lifestyle and flourishing economy within an unspoilt natural environment."*

Relevant Council objectives and strategies and how these are addressed in this infrastructure and asset management plan are:

**Table 2.2 - Council Objectives and how these are addressed in this Plan**

Objective	Strategies
We have the essential infrastructure necessary to grow our communities	Provide a high standard core-business infrastructure services
Our community has equitable access to essential services	Provide a high standard core-business services

## 2.3 Plan Framework

Key elements of the plan are

- Levels of service – specifies the services and levels of service to be provided by council.
- Future demand – how this will impact on future service delivery and how this is to be met.
- Life cycle management – how Council will manage its existing and future assets to provide the required services
- Financial summary – what funds are required to provide the required services.
- Asset management practices
- Monitoring – how the plan will be monitored to ensure it is meeting Council's objectives.
- Asset management improvement plan

## 2.4 Core and Advanced Asset Management

This infrastructure and asset management plan is prepared as a 'core' asset management plan in accordance with the International Infrastructure Management Manual. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

Future revisions of this infrastructure and asset management plan will move towards 'advanced' asset management using a 'bottom up' approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service levels.

Source: IIMM Fig 1.5.1, p 1.11



### 3. LEVELS OF SERVICE

#### 3.1 Customer Research and Expectations

Council has not carried out any research on customer expectations. This will be investigated for future updates of the infrastructure and asset management plan

#### 3.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. These include:

**Table 3.2 - Legislative Requirements**

Legislation	Requirement
<i>Local Government Act 1999 &amp; Regulations</i>	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by infrastructure and asset management plans for sustainable service delivery.
<i>Development Act 1993 &amp; Regulations</i>	Regulate the use and management of land and buildings, and the design and construction of buildings; to make provision for the maintenance and conservation of land and buildings where appropriate; and for other purposes.
<i>South Australian Public Health Act 2011 &amp; Regulations</i>	Addresses public and environmental health.
<i>Work Health &amp; Safety Act 2012 &amp; Regulations</i>	<ul style="list-style-type: none"> <li>to secure the health, safety and welfare of persons at work</li> <li>to eliminate, at their source, risks to the health, safety and welfare of persons at work</li> <li>to protect the public against risks to health or safety arising out of or in connection with the activities of persons at work or the use or operation of various types of plant</li> <li>to involve employees and employers in issues affecting occupational health, safety and welfare</li> <li>to encourage registered associations to take a constructive role in promoting improvements in occupational health, safety and welfare practices and assisting employers and employees to achieve a healthier and safer working environment</li> </ul>

#### 3.3 Current Levels of Service

Council has defined service levels in two terms.

Community Levels of Service relate to how the community receives the service in terms of safety, quality, quantity, reliability, responsiveness, cost/efficiency and legislative compliance.

Supporting the community service levels are operational or technical measures of performance developed to ensure that the minimum community levels of service are met. These technical measures relate to service criteria such as:

**Service Criteria**

Quality  
Quantity  
Availability  
Safety

**Technical measures may relate to**

Fit for purpose  
Assets that are cost effective  
Adequate number available  
Number of incidents

Council's current service levels are detailed in Table 3.3

**Table 3.3 - Current Service Levels – CWMS**

Key Performance Measure	Level of Service	Performance Measure Process
COMMUNITY LEVELS OF SERVICE		
Quality	Provide a safe method of collection and disposal of waste water	Customer Service Requests
Function	Ensure that the CWMS services meet the Health SA approval conditions	Customer service complaints
Safety	Provide safe suitable CWMS services, free from hazards	Number of waste water escapes to the environment
TECHNICAL LEVELS OF SERVICE		
Condition	Provide appropriate CWMS service to meet user requirements	Service Requests
		Service Requests Responses
		Planned and Reactive maintenance
Availability	Ensure CWMS services are available to all occupied properties in townships	Number of properties able to connect to CWMS service
Cost effectiveness	Provide CWMS services in cost-effective manner	CWMS operating and maintenance costs
Safety	Provide safe suitable CWMS services, free from hazards	Insurance claim history

### 3.4 Desired Levels of Service

At present, indications of desired levels of service are obtained from various sources including residents' feedback from Councillors and staff, service requests and correspondence. Council has yet to quantify desired levels of service. This will be done in future revisions of this infrastructure and asset management plan.

## 4. FUTURE DEMAND

### 4.1 Demand Forecast

Factors affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership, consumer preferences and expectations, economic factors, agricultural practices, environmental awareness, etc.

Demand factor trends and impacts on service delivery are summarised in Table 4.1.

**Table 4.1 - Demand Factors, Projections and Impact on Services**

Demand factor	Present position	Projection	Impact on services
Population	1643 (as of 2016)	1% increase over 10 years	Minimal
Demographics	ABS population projections state: "The age composition of Australia's population is projected to change considerably as a result of population aging. By 2051 there will be a much greater proportion of people aged 65 years and over than in 2004, and a lower proportion of people aged under 15 years."		

Current infrastructure is estimated to be capable of supporting a population base of 3,000 people

### 4.2 Changes in Technology

Technology changes are forecast to have little effect on the delivery of services covered by this plan.

### 4.3 New Assets from Growth

The new assets required to meet growth will be acquired and constructed by Council. Acquiring these new assets will commit council to fund ongoing operations and maintenance 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 operating and maintenance costs.



## 5. LIFECYCLE MANAGEMENT PLAN

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

### 5.1 Background Data

#### 5.1.1 Physical parameters

The assets covered by this infrastructure and asset management plan are shown below.

##### ***CWMS network locations:***

- South Quorn
- Hawker

#### 5.1.2 Asset capacity and performance

Council's services are generally provided to meet design standards where these are available.

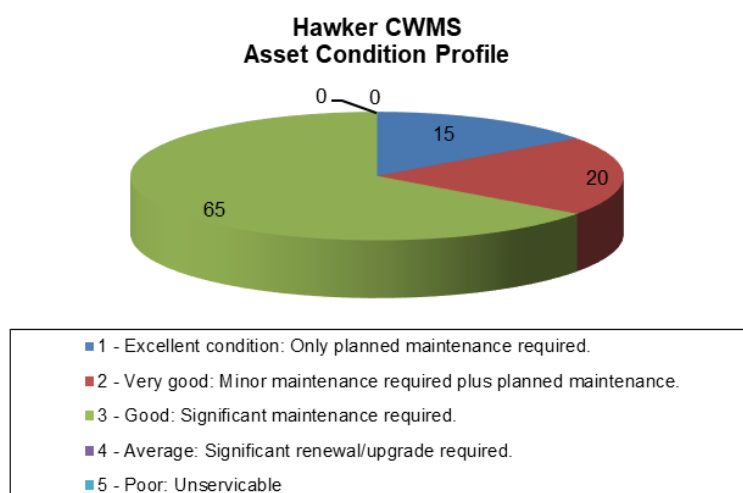
#### 5.1.3 Asset condition

Condition is measured using a 1 – 5 rating system.<sup>2</sup>

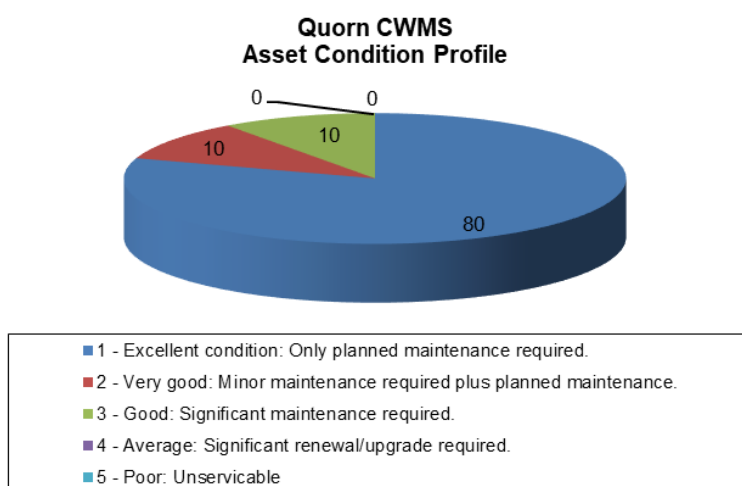
Rating	Description of Condition
1	Excellent condition: Only planned maintenance required.
2	Very good: Minor maintenance required plus planned maintenance.
3	Good: Significant maintenance required.
4	Average: Significant renewal/upgrade required.
5	Poor: Unserviceable.

The condition profile of Council's assets in 2018 is shown below.

**Fig 3 - Asset Condition Profile**



<sup>2</sup> IIMM 2006, Appendix B, p B:1-3 ('cyclic' modified to 'planned')



#### 5.1.4 Asset valuations

The value of assets as at 30 June 2018 covered by this infrastructure and asset management plan is summarised below. Assets were last revalued at 30 June 2017. Assets are valued at brownfield rates

Current Replacement Cost	\$ 4,124,928
Depreciated Replacement Cost	\$ 2,676,787
Annual Depreciation Expense	\$ 72,354

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion. As at 30 June 2018 the following ratios applied:

Asset Sustainability Ratio  
All Assets – 97%

## 5.2 Risk Management Plan

An assessment of risks associated with service delivery from infrastructure assets has identified critical risks to Council. 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.

Council is in the process of implementing procedures and processes to assess risk in conjunction with the South Australian Local Government Mutual Liability Scheme.

## 5.3 Routine Maintenance Plan

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.

### 5.3.1 Maintenance plan

Maintenance includes reactive and planned maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions.

Planned maintenance is repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown

experience, prioritising, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

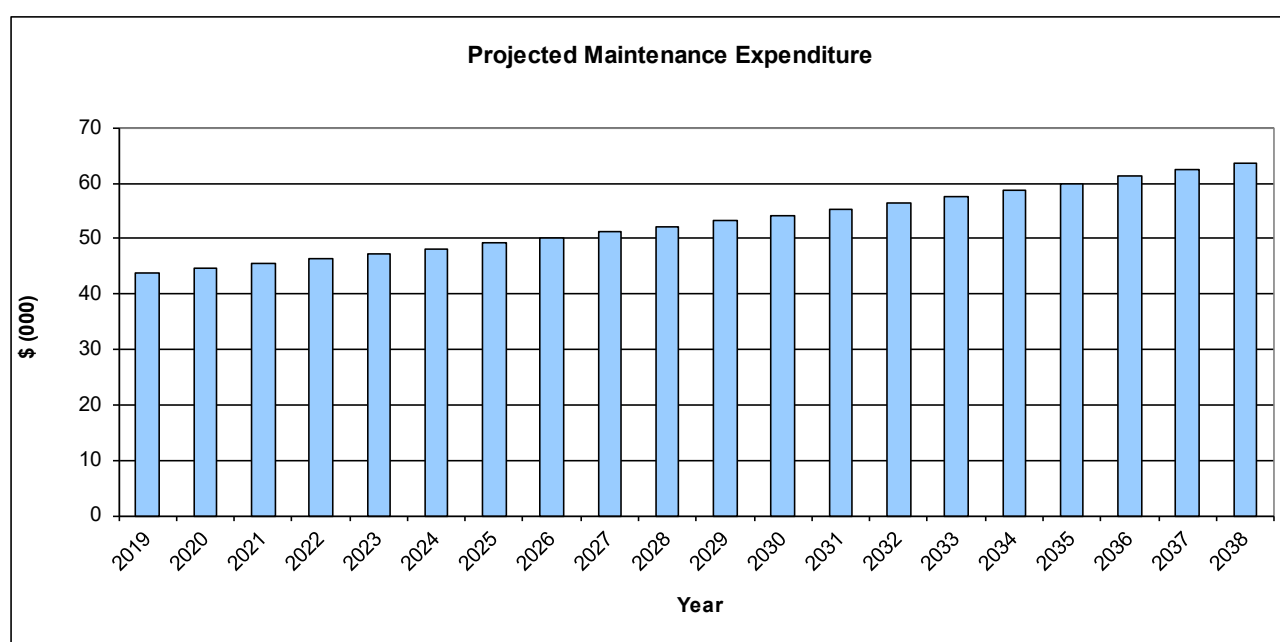
Maintenance expenditure levels are considered to be **adequate** to meet required service levels. Future revision of this infrastructure and asset management plan will include linking required maintenance expenditures with required service levels.

Assessment and prioritisation of reactive maintenance is undertaken by Council staff using experience and judgement.

### 5.3.2 Summary of future maintenance expenditures

Future maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Fig 4. Note that all costs are shown in current dollar values.

**Fig 4 - Projected Maintenance Expenditure**



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

Maintenance is funded from Council's operating budget and grants where available. This is further discussed in Section 6.2.

## 5.4 Renewal/Replacement Plan

Renewal 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 upgrade/expansion or new works expenditure.

### 5.4.1 Renewal plan

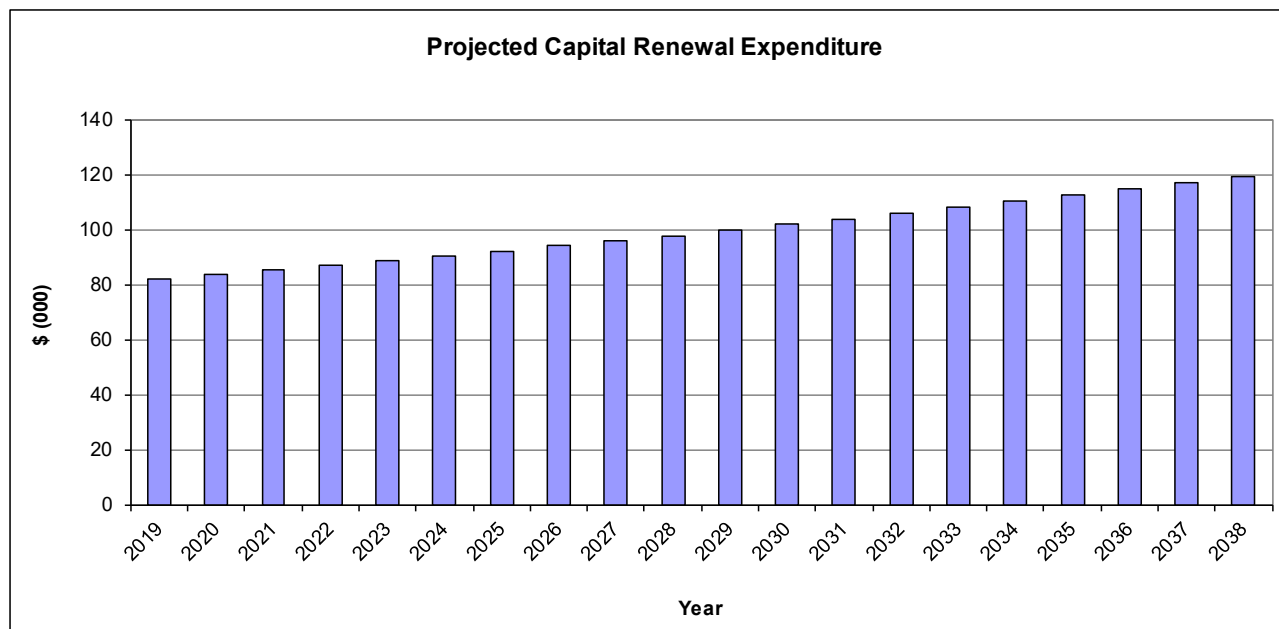
Assets requiring renewal are identified from estimates of remaining life obtained from the asset register through the '*Renewal Model*'. Candidate proposals are inspected to verify accuracy of remaining life estimate and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes.

Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost.

#### 5.4.2 Summary of future renewal expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Fig 5. Note that all costs are shown in current dollar values

**Fig 5 - Projected Capital Renewal Expenditure**



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

Renewals are to be funded from Council's capital program and grants where available. This is further discussed in Section 6.2.

#### 5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs.

##### 5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor or community requests, proposals identified by strategic plans or partnerships with other organisations. 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.

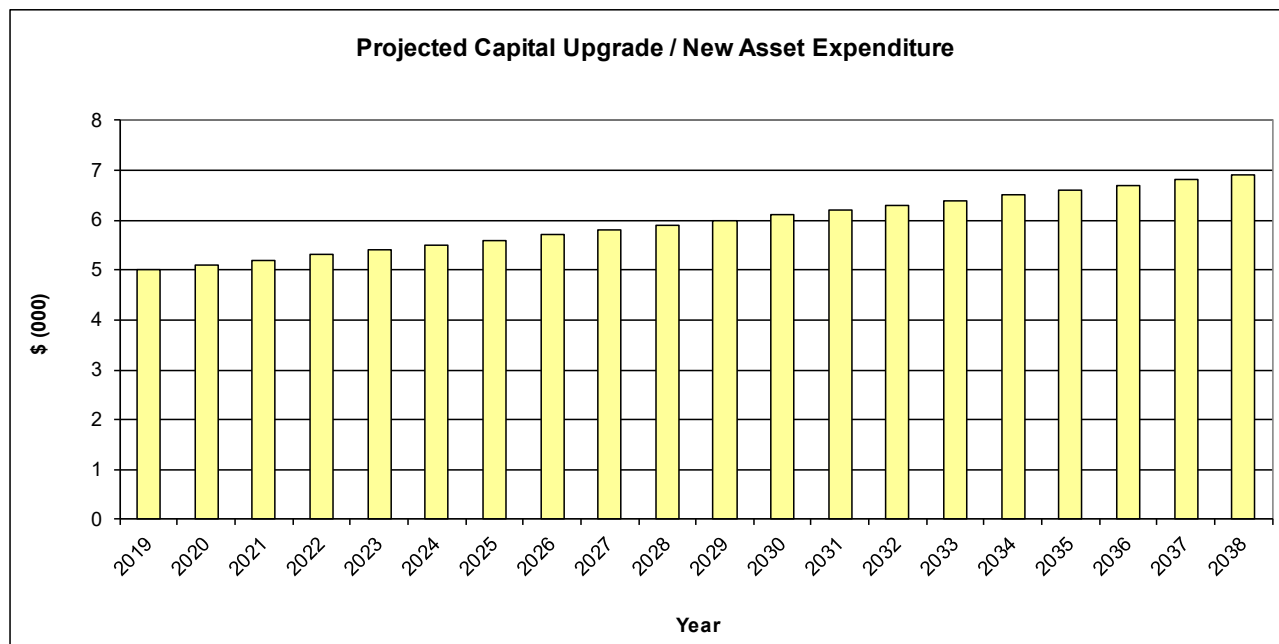
##### 5.5.2 Standards and specifications

Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

##### 5.5.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Fig 6. All costs are shown in current dollar values.

**Fig 6 - Projected Capital Upgrade/New Asset Expenditure**



New assets and services are to be funded from Council's capital program and grants where available. This is further discussed in Section 6.2.

## 5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets for disposal will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any.

## 6. FINANCIAL SUMMARY

This section contains the financial requirements resulting from all the information presented in the previous sections of this infrastructure and 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.

### 6.1 Financial Statements and Projections

Note that all costs are shown in current dollar values.

#### 6.1.1 Life Cycle Costs

Life cycle costs (or whole of life costs) are the average annual costs that are required to sustain the service levels. Life cycle costs include maintenance and asset consumption (depreciation) expense.

This can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes maintenance plus capital renewal expenditure. Life cycle expenditures will vary depending on the timing of asset renewals.

A gap between life cycle costs and life cycle expenditure gives an indication as to whether present consumers are paying their share of assets they consume. The purpose of this infrastructure and asset management plan is to identify levels of service that the community needs and can afford and develop the necessary funding plans to provide the services.

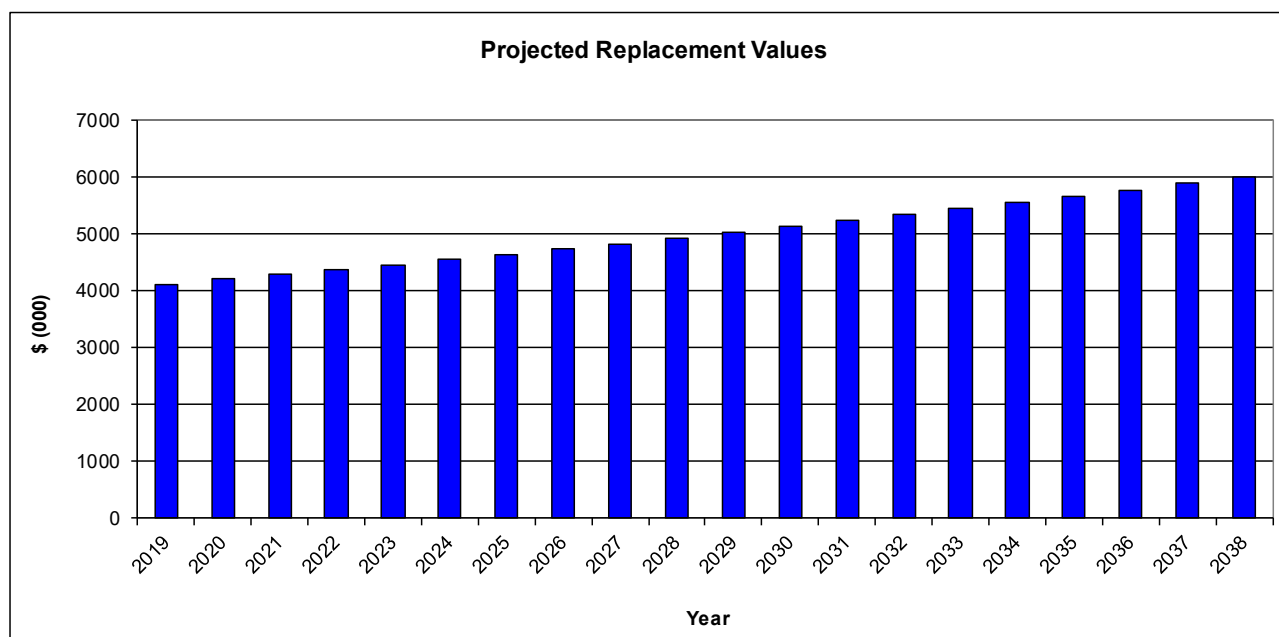
### 6.2 Funding Strategy

Projected expenditure identified in Section 6.1 is to be funded from Council's operating and capital budgets. The funding strategy is detailed in the Council's Long Term Financial Plan.

### 6.3 Valuation Forecasts

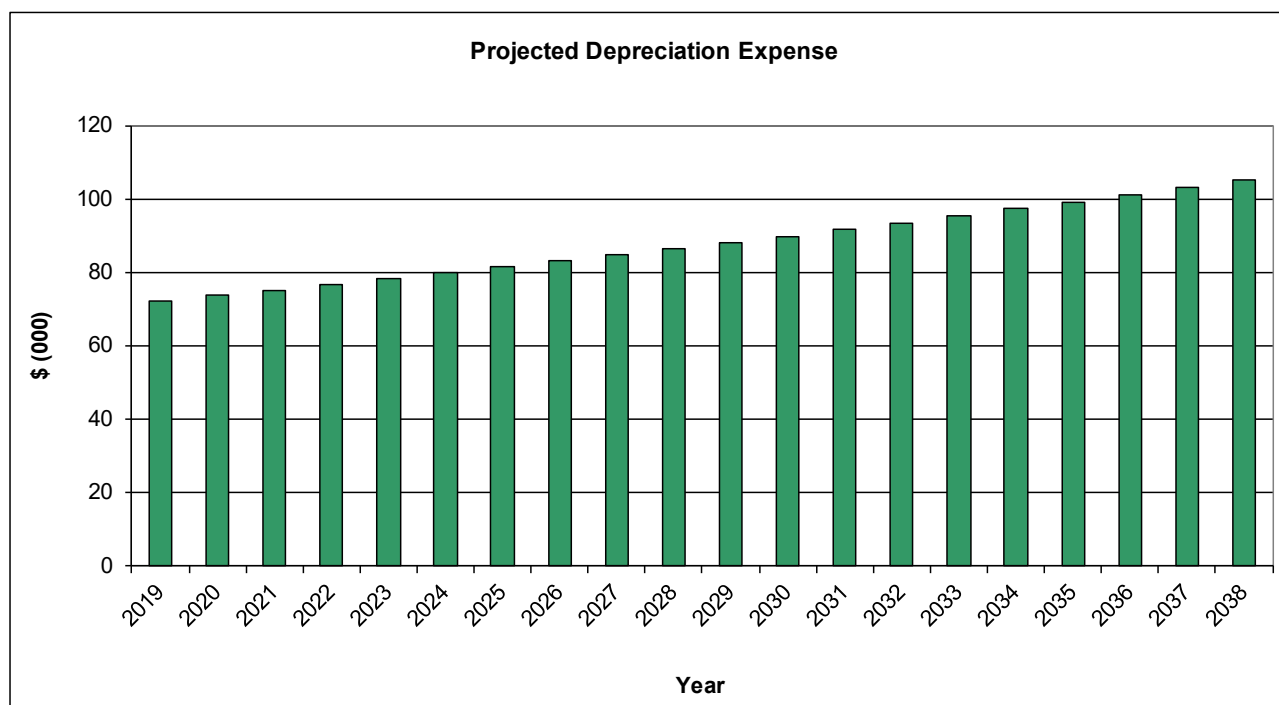
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Fig 7 shows the projected replacement cost asset values over the planning period in current dollar values.

**Fig 7 - Projected Replacement Values**



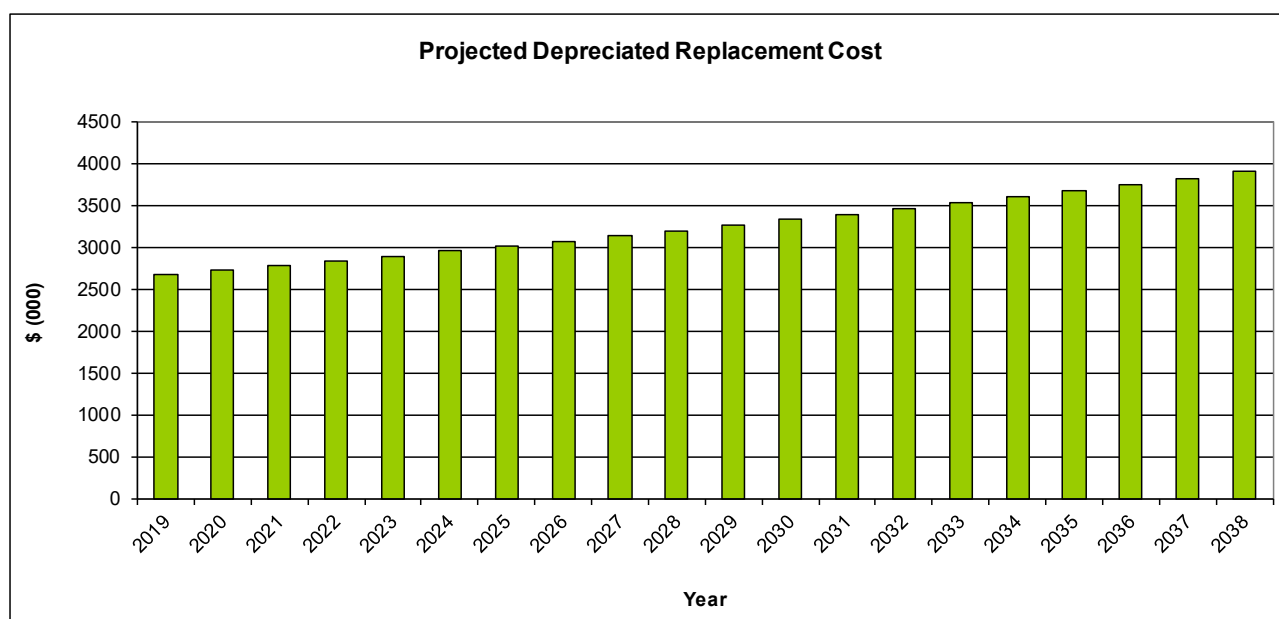
Depreciation expense values are forecast in line with asset values as shown in Fig 8.

**Fig 8 - Projected Depreciation Expense**



The depreciated replacement cost (current replacement cost less accumulated depreciation) will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Fig 9.

**Fig 9 - Projected Depreciated Replacement Cost**





#### 6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this infrastructure and asset management plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. 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 infrastructure and asset management plan are:

- Inflation at 2%
- Minimal population growth (1% over 10 years)
- Current level of Government Grants, increased by inflation
- Service levels remaining constant

Accuracy of future financial forecasts may be improved in future revisions of this infrastructure and asset management plan by the following actions.

- Data verification
- Council Policy Decisions

## **7. ASSET MANAGEMENT PRACTICES**

### **7.1 Accounting/Financial Systems**

LG Systems Inc. /LGE Package which has the necessary standards contained in software

### **7.2 Asset Management Systems**

LG Systems Inc. / LGE Package which has the necessary standards contained in software

### **7.3 Information Flow Requirements and Processes**

The key information flows *into* this infrastructure and asset management plan are:

- The asset register data on size, age, value, remaining life of the network;
- The unit rates for categories of work/material;
- The adopted service levels;
- Projections of various factors affecting future demand for services;
- Correlations between maintenance and renewal, including decay models;
- Data on new assets acquired by council.

The key information flows *from* this infrastructure and asset management plan are:

- The assumed Works Program and trends;
- The resulting budget, valuation and depreciation projections;
- The useful life analysis.

These will impact the Long Term Financial Plan, Strategic Management Plan, Annual Business Plan & budget and departmental business plans and budgets.

## 8. PLAN IMPROVEMENT AND MONITORING

### 8.1 Performance Measures

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

- The degree to which the required cashflows identified in this Infrastructure and Asset Management Plan are incorporated into council's Long Term Financial Plan and Strategic Management Plan;
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the infrastructure and asset management plan;

### 8.2 Improvement Plan

The asset management improvement plan generated from this infrastructure and asset management plan is shown in Table 8.2.

**Table 8.2 - Improvement Plan**


Task No	Task	Responsibility	Resources Required	Timeline
1.	Verify Database	CEO / CFO	Staff	Completed
2.	Write Policies	CEO / CFO	Staff	Jun 2018
3.	Establish Risk Profiles	WHS Co-ordinator	Staff	Mar 2018
4.	Implement Policies	CEO / CFO	Staff	Dec 2018

A complete independent valuation of all Council assets was undertaken in first half of 2017 with a revaluation date of 30 June 2017.

### 8.3 Monitoring and Review Procedures

This Infrastructure and Asset Management Plan (IAMP) will be reviewed during the Annual Business Plan preparation and amended to recognise any changes in service levels and/or resources available to provide those services as a result of the decision process. This IAMP should be read in conjunction with the Strategic Management Plan and the Long Term Financial Plan.

This IAMP will also be reviewed during any review of the Strategic Management Plan.

	<b>INFRASTRUCTURE AND ASSET MANAGEMENT PLAN</b>  <b>COMMUNITY WASTEWATER MANAGEMENT SYSTEMS</b>	Version Number Issued Review GDS	6 November 2018 July 2019 7.7.1.4
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## REFERENCES

The Flinders Ranges Council, 'Strategic Management Plan 2012-2022',

The Flinders Ranges Council, 'Annual Business Plan and Budget 2017-2018',

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