

<b>SPECIAL BUDGET MEETING</b>  <b>25 JUNE 2018</b>	<b>1</b>
--	----------

ADOPTION OF THE CAIRNS REGIONAL COUNCIL ASSET MANAGEMENT STRATEGY 2018-28

B Gardiner | 1/3/21-20 | #5755502

**RECOMMENDATION:**

**That Council endorses the Asset Management Strategy 2018-28.**

**EXECUTIVE SUMMARY:**

Council carries out asset management activities on behalf of the community for assets with a replacement cost in excess of \$5 Billion. The *Local Government Act 2009* requires Council to develop and adopt a long-term (10-year) asset management plan that defines and articulates how asset management is undertaken. Council is specifically required to estimate operating and capital renewal/replacement budgets over a 10-year period.

The long-term asset management plan was last adopted by Council at the Special Budget meeting in June 2017 titled the Cairns Regional Council Asset Management Strategy 2017-27. This document has been reviewed and updated in preparation for Council to re-adopt the Strategy for the period 2018 to 2028.

The Asset Management Strategy needs to be a dynamic document requiring regular review as the asset base grows and ages, and as service level expectations from the community change. To ensure that the Asset Management Strategy remains current, the intention is to review and update the document on an annual basis for adoption at the Special Budget Meeting each year.

The Asset Management Strategy contains the following information:

- Assets owned by Council and their condition
- The framework used to determine the Levels of Service to be provided by the assets
- Future population growth and the strategies in place to deal with growth
- Lifecycle management of the assets from planning, creation, asset operations and maintenance, through to disposal
- Financial forecasts for operations, maintenance and renewal of assets for input into the 10 Year Financial Plan
- Corporate risks associated with Asset Management and critical assets
- The systems employed to manage information on our assets
- Areas of improvement that are planned to be addressed in the future.

## **BACKGROUND:**

The Asset Management Strategy 2018-2028 has been developed to meet the planning and accountability requirements of the *Local Government Act 2009* and the *Local Government Regulation 2012* which require Council to develop and adopt a Long Term Asset Management Plan.

The Asset Management Strategy is underpinned by 9 individual Asset Management Plans (AMPs) which have been developed for the following asset classes and sub-classes:

*Table 1: Asset Classes and Lead Department responsible*

<b>Asset classes</b>	<b>Lead Department(s)</b>
Property & Buildings	Community Sport & Cultural Services Infrastructure Services
Parks, Leisure and Natural Areas	Community Sport & Cultural Services
Drainage and Marine Infrastructure	Infrastructure Services
Transport Network	Infrastructure Services
Wastewater Assets	Water & Waste
Water Assets	Water & Waste
Waste Assets	Water & Waste
Fleet & Equipment	Infrastructure Services
Information Technology	Finance

Each of the AMPs provides details on the following topics:

1. The assets covered by the particular AMP
2. Levels of service definitions and categorisation of assets based on the defined level of service
3. Critical assets
4. Asset condition ratings
5. Maintenance strategies for the asset class including:
  - a. Inspection frequency
  - b. Preventative maintenance activities including any specified intervention levels
  - c. Reactive maintenance response times
6. Estimated annual operational expenditure on asset maintenance activities
7. Estimated costs of new and renewal assets over the next 10 years.
8. Asset Management Improvement Plans – details of key actions that will be undertaken to improve asset management practices relative to the asset class.

## **COMMENT:**

The Asset Management Strategy sets out the asset management principles to be employed across the Council and assigns roles and responsibilities for asset management tasks. The Asset Management Policy, which is included in the Strategy, defines a Governance Framework to ensure alignment of asset management activities to Council's Corporate Plan and objectives.

**OPTIONS:**

1. That Council endorses the Asset Management Strategy 2018-2028.
2. That Council advises of amendments required to the Asset Management Strategy.

**CONSIDERATIONS:****Risk management:**

There are 5 risks together with existing systems and controls listed in Council's Corporate Risk Register relating to infrastructure and asset management as follows:

- Risk C2 - The delivery of infrastructure services does not meet the needs and expectations of the community
- Risk C3 - Planning for infrastructure does not meet the needs and expectations of the community.
- Risk E1 - The financial position of Council does not allow the continued provision of infrastructure and services expected by the community.
- Risk EN1 - The built and natural environments of the Cairns region are perceived as undesirable and un-safe.
- Risk G1 - Major loss of critical technology infrastructure, business systems and data

Areas for improvement have been identified in each of the individual AMPs. Progress in addressing these areas for improvement will be monitored by the Asset Management Steering Committee.

**Financial**

The replacement cost of Council's assets is in excess of \$5 Billion.

The AMPs include estimated forecast capital expenditure for creation of new and renewal of existing assets. Over the next ten years the forecast capital expenditure requirements are \$1.6 Billion.

Council has currently the following capital funds allocated in the 10-year financial model:

	<b>\$'000</b>
Renewal Capex	820,976
Upgrade Capex	322,083
New Capex	489,598
Total	<u>1,632,657</u>

The AMPs also include current day and estimated operations and maintenance expenditure up to 2028. These expenses are estimated to increase from the current \$136.0 Million to \$169.8 Million in 2028.

Council's long term financial forecast adopted as part of the 2018/19 Budget is underpinned by reasonable increases in rates and depicts a strong financial position throughout the forecast period. The forecast indicates that Council can accommodate estimated asset capital expenditure as well as operational and maintenance expenditure for the assets covered by the AMPs as well as that of additional asset classes.

#### Corporate and Operational Plans:

The Asset Management Strategy and supporting AMPs support the following strategic goals in Council's Corporate Plan:

- Natural assets
- Liveability
- Serving the Community

#### Statutory:

The Asset Management Strategy has been prepared to meet the requirements of the Legislation governing asset management. Specifically, section 167 of the Local Government Regulation states that:

- (1) A local government must prepare and adopt a long-term asset management plan.
- (2) The long-term asset management plan continues in force for the period stated in the plan unless the local government adopts a new long-term asset management plan.
- (3) The period stated in the plan must be 10 years or more.

Within the Local Government Act 2009 S104, the "*system of financial management by the local government*" must include the following:

- (i) A 5-year corporate plan that incorporates community engagement;
- (ii) A long-term asset management plan (this Strategy document);
- (iii) A long-term financial forecast;
- (iv) An annual budget including revenue statement;
- (v) An annual operational plan.

Within the Local Government Regulation, a *long-term asset management plan* is a document that must:

- (a) Provide for strategies to ensure the sustainable management of the assets mentioned in the local government's asset register and the infrastructure of the local government; and

- (b) State the estimated capital expenditure for renewing, upgrading and extending the assets for the period covered by the plan; and
- (c) Be part of, and consistent with, the long-term financial forecast.

Policy:

This Strategy is consistent with the Council's adopted Asset Management Policy.

**CONSULTATION:**

The Executive Team has been actively involved in the development of this Strategy through the Asset Management Steering Committee. The Asset Coordination Group has also been consulted extensively in the development of this Strategy.

**ATTACHMENTS:**

Asset Management Strategy 2018 – 2028 – (DM#5735224)



Bruce Gardiner  
General Manager Infrastructure Services



John Andrejic  
Chief Executive Officer



## Asset Management Strategy 2018 – 2028



# Table of Contents

Asset Management Policy .....	i
1. INTRODUCTION .....	6
1.1. Purpose of This Strategy .....	6
1.2. Legislative Requirements .....	6
1.3. Assets Owned by Council .....	6
1.4. State of Our Assets .....	7
1.4.1. Property and Buildings .....	8
1.4.2. Parks Leisure and Natural Areas .....	8
1.4.3. Transport Network .....	8
1.4.4. Drainage and Marine Infrastructure .....	9
1.4.5. Wastewater Assets .....	9
1.4.6. Water Assets .....	9
1.4.7. Waste Assets.....	10
1.4.8. Fleet and Equipment.....	10
1.4.9. Information Technology .....	10
1.5. Our Asset Management Journey.....	11
2. LEVELS OF SERVICE .....	12
3. FUTURE DEMAND .....	14
3.1. Introduction .....	14
3.2. Population Forecasts .....	14
3.3. Demand Management.....	14
4. LIFECYCLE MANAGEMENT .....	15
4.1. Asset Planning.....	15
4.2. Asset Acquisition and Renewal.....	17
4.3. Operations and Maintenance .....	17
4.3.1. Asset Condition and Performance Assessment .....	17

4.3.2.	Programmed and Reactive Maintenance .....	18
4.3.3.	Asset Disposal .....	19
5.	FINANCIAL FORECASTS.....	20
5.1.	Forecast Capital Expenditure .....	20
5.2.	Forecast Operations and Maintenance Expenditure.....	21
5.3.	Key Assumptions for Financial Forecasts.....	21
6.	RISK MANAGEMENT .....	22
6.1.	Corporate Risk Register .....	22
EN1	The built and natural environments of the Cairns region are perceived as undesirable and un-safe. ....	23
	Existing Systems & Controls .....	23
7.	ASSET INFORMATION MANAGEMENT .....	25
8.	ASSET MANAGEMENT IMPROVEMENT PLANS.....	26

# Asset Management Policy

## Asset Management Principles

Cairns Regional Council is committed to implementing a systematic asset management methodology to ensure that all Council assets are planned, created, operated, maintained, replaced and disposed of in accordance with Council's priorities for service delivery.

The following principles are embedded in Council's Asset Management Policy:

- Council supports a consistent corporate asset management approach across all asset classes.
- A 10-year Asset Management Strategy will be prepared, reviewed and adopted annually by Council which articulates how Council carries out asset management activities.
- The Asset Management Strategy will summarise the following:
  - The condition status of the assets
  - The levels of service framework to be applied to assets
  - How future demand for assets will be met
  - The lifecycle management of assets from planning through to asset disposal
  - Financial forecasts for operations and maintenance expenditure
  - Financial forecasts for capital renewal and construction of new assets
- Asset Management Plans will be prepared and reviewed annually for all core asset classes.
- Asset Management Plans will identify:
  - Specific levels of service for the assets
  - The condition status of the assets
  - Critical assets
  - Asset maintenance strategies
  - Future operational budget requirements
  - Capital budget requirements for renewal and construction of new assets so that the assets are capable of effectively providing the required levels of service
  - Any asset management improvement actions that will be implemented
- Asset management data from the Asset Management Plans shall be used to inform the Long-term financial plan for Council.
- Asset renewals identified from the Asset Management Plans should be considered as the baseline for future capital planning.
- Council will ensure that all employees are appropriately trained in asset management principles, practices and processes in order to effectively deliver asset management objectives.
- Relevant legislative requirements and political, social and economic environments are to be taken into account in asset management decision making.
- All asset renewal, upgrade or new projects are to include full lifecycle costs including maintenance as part of the project evaluation phase.
- Systematic and cyclic reviews will be undertaken for all asset classes to ensure that the assets are managed, valued, and depreciated in accordance with appropriate good practice and applicable Australian Standards.
- Council's Asset Management System will be overseen by an Asset Steering Committee comprised of Executive Management or their delegates.

## Roles and Responsibilities

**Councillors** adopt the Asset Management Policy and Asset Management Strategy and ensure sufficient resources are applied to manage the assets.

**Chief Executive Officer** has overall responsibility for developing asset management business processes, systems, organisational policies and procedures and reporting on the status and effectiveness of asset management within Council.

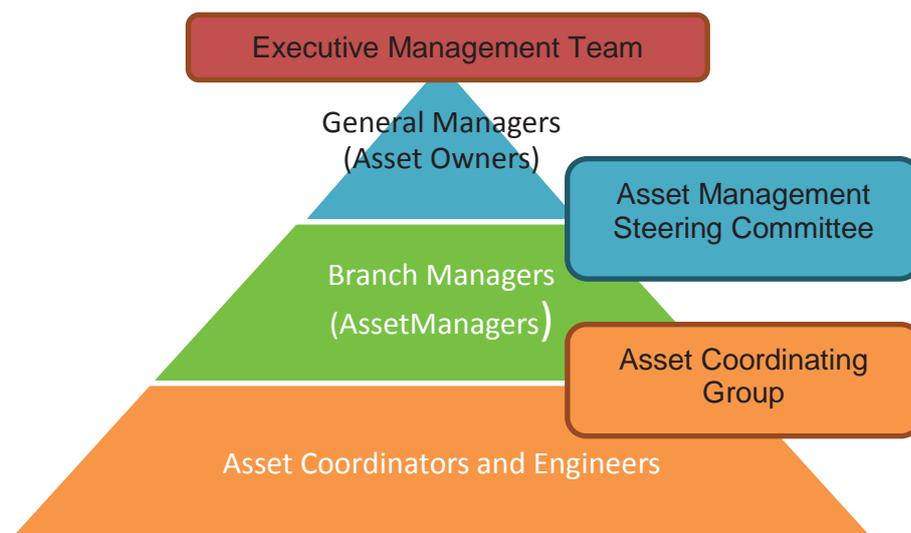
**General Managers** and **Branch Managers** are responsible for developing asset management plans, implementing asset management business processes, systems, organisational policies and procedures.

**Employees** with management or supervisory responsibilities will ensure the appropriate level management is applied to assets within their areas of responsibility as determined under the asset management plans.

**Employees** will be tasked based on the relevant Asset Management Plans and will be responsible for the timely completion of activities contained within these plans.

## Governance Framework

A governance structure is established to ensure alignment of asset related activities to Council's Corporate Plan and objectives through the asset management framework. The governance structure is as follows:



# 1. INTRODUCTION

## 1.1. Purpose of This Strategy

This overall purpose of this strategy is to define and articulate how Cairns Regional Council carries out asset management activities for the over \$5 billion of assets we manage on behalf of the community. This Strategy is underpinned by more detailed Asset Management Plans (AMP) for specific classes of assets managed by Council. This strategy summarises the following:

- Assets owned by Council and their condition
- The framework used to determine the Levels of Service to be provided by the assets from an asset management perspective
- Predicted population growth and the strategies in place to deal with growth
- Lifecycle management of the assets from planning for assets, creating assets, asset operations and maintenance, and disposal of assets
- Financial forecasts for operations, maintenance and renewal of assets for input into the 10 year Financial Plan
- Corporate risks associated with Asset Management and critical assets
- The systems employed to manage information relating to our assets
- Opportunities for improvement that are planned to be addressed in the future.

## 1.2. Legislative Requirements

This Strategy has been prepared to meet the requirements of the Legislation governing asset management. Specifically, section 167 of the Local Government Regulation 2012 states that:

- (1) A local government must prepare and adopt a long-term asset management plan.
- (2) The long-term asset management plan continues in force for the period stated in the plan unless the local government adopts a new long-term asset management plan.
- (3) The period stated in the plan must be 10 years or more.

Within the Local Government Act 2009 S104, the “*system of financial management by the local government*” must include the following:

- (i) A 5-year corporate plan that incorporates community engagement;
- (ii) A long-term asset management plan (this Strategy document);
- (iii) A long-term financial forecast;
- (iv) An annual budget including revenue statement;
- (v) An annual operational plan.

Within the Local Government Regulation, a *long-term asset management plan* is a document that must:

- (a) Provide for strategies to ensure the sustainable management of the assets mentioned in the local government’s asset register and the infrastructure of the local government; and
- (b) State the estimated capital expenditure for renewing, upgrading and extending the assets for the period covered by the plan; and
- (c) Be part of, and consistent with, the long-term financial forecast.

## 1.3. Assets Owned by Council

Cairns Regional Council owns assets with a replacement value estimated at over \$4.9 billion. These assets have been categorised into core asset classes and individual AMPs prepared for each asset class. Table 1 provides details of the AMPs including a summary of the content of each Plan. Table 2 provides some key financial data relating to the value of each asset class.

*Table 1: Asset Classes and Lead Department responsible for Asset Management*

<b>Asset classes</b>	<b>Lead Department(s)</b>
Property & Buildings	Infrastructure Services
Parks, Leisure and Natural Areas	Infrastructure Services Community Sport & Cultural Services
Drainage and Marine Infrastructure	Infrastructure Services
Transport Network	Infrastructure Services
Wastewater Assets	Water & Waste
Water Assets	Water & Waste
Waste Assets	Water & Waste
Fleet & Equipment	Infrastructure Services
Information Technology	Finance

*Table 2: Financial Summary*

<b>Asset Class</b>	<b>Replacement Cost (\$ Million)</b>	<b>WDV (\$ Million)</b>
Property & Buildings	513.60	363.81
Parks, Leisure and Natural Areas	164.85	110.99
Drainage and Marine Infrastructure	701.31	602.30
Transport Network	1,555.81	1,268.15
Wastewater Assets	965.81	643.57
Water Assets	1,081.38	505.35
Waste Assets	20.71	11.70
Fleet & Equipment	52.02	27.72
Information Technology	17.52	5.88
<b>Total</b>	<b>5,073.02</b>	<b>3,539.46</b>

## 1.4. State of Our Assets

The following tables provide summaries of asset condition by asset class based on the current known status of Council's assets. More details on asset condition are included in the individual AMP for each asset class. The condition rating criterion definitions are provided in section 4.3.1 of this Strategy. Condition 1 means the assets are considered as new, while condition rating 5 means that the asset is in a very poor state and requires immediate maintenance, renewal, or disposal. The percentage of assets in each condition rating category is based on asset value unless otherwise specified.

### 1.4.1. Property and Buildings

Council has undertaken condition assessment inspections of the majority of building assets over the last 2 years. This has resulted in a revised condition rating of building assets where the majority of buildings sit in the condition rating 3 category.

<b>Asset Inventory</b>	Cemeteries			5
	Community Facilities			40
	Corporate offices			2
	Cultural and exhibition facilities			27
	Depot facilities			117
	Disaster management facilities			14
	Libraries			8
	Parks foreshores and natural reserves			17
	Public service facilities			11
	Public toilets			82
	Residential buildings			3
	Sport and leisure facilities			214
<b>Network Analysis</b>	Condition 1 & 2	Condition 3	Condition 4 & 5	
	8%	82%	10%	

### 1.4.2. Parks Leisure and Natural Areas

The condition of assets in this category has remained relatively stable over the last 12 months.

<b>Asset Inventory</b>	Caravan parks and campgrounds			5
	Park facilities			564
	Sporting facilities			72
	Aquatic facilities			7
	Tracks and trails			3
<b>Network Analysis</b>	Condition 1 & 2	Condition 3	Condition 4 & 5	
	65%	25%	10%	

### 1.4.3. Transport Network

The condition of assets in this category has remained relatively stable over the last 12 months.

<b>Asset Inventory</b>	Road network			1260km
	Road drainage (kerb & channel)			1427km
	Footpaths and cycleways			485km
	Road bridges and major culverts			94
	Foot bridges			178
	Street lights			2060
	Traffic signals			51
	Roundabouts			156
	Medians and traffic islands			332,845m <sup>2</sup>
	Guardrail			21km
	Bus shelters			241
	Speed humps			48
<b>Network Analysis</b>	Condition 1 & 2	Condition 3	Condition 4 & 5	
	53%	19%	28%	

#### 1.4.4. Drainage and Marine Infrastructure

Council is undertaking CCTV inspections of underground drainage assets over the next 3 years. This has resulted in a decrease in the percentage of drainage assets that are in condition 1 and 2 from 92% to 78%. The percentage of assets that are condition 3 has increased from 2% to 19%. As the CCTV condition inspections continue there may be further changes to the condition rating of some of the drainage assets.

<b>Asset Inventory</b>	<b>DRAINAGE</b>		
	Underground drainage -pipes		589km
	Underground drainage - culverts		49km
	Open channel drainage (lined & unlined channels)		197km
	Pump stations		3
	Detention basins		4
	Gross pollutant traps		185
	Levee walls (major)		4
	<b>MARINE</b>		
	Boat ramps (owned by DTMR, managed by CRC)		16
	Jetties (2 owned by DTMR, 2 owned by CRC)		4
Pontoons (owned by DTMR, managed by CRC)		2	
Sea walls		11	
Beaches (Crown Land, managed by CRC)		11	
<b>Network Analysis</b>	Condition 1 & 2	Condition 3	Condition 4 & 5
	78%	19%	3%

#### 1.4.5. Wastewater Assets

There has been minimal change in the condition rating allocated to the wastewater assets since the last version of the Asset Management Plan in 2017. The Asset Management Strategy adopted by Council in 2017 included incorrect figures and these have been corrected below. At the time of writing this Strategy, detailed condition assessments were being undertaken for wastewater treatment plants which may result in changes to condition ratings in future.

<b>Asset Inventory</b>	Treatment plants		6
	Underground sewer network		1,106km
	Sewer pump stations		182
<b>Network Analysis</b>	Condition 1 & 2	Condition 3	Condition 4 & 5
	31%	51%	18%

#### 1.4.6. Water Assets

There has been minimal change in the condition rating allocated to the water assets since the last version of the Asset Management Strategy was adopted by Council in 2017.

<b>Asset Inventory</b>	Reservoirs		68
	Water pump stations		49
	Water intakes		14
	Treatment Plants		2
	Water mains		2,202km
	Dams		1
<b>Network Analysis</b>	Condition 1 & 2	Condition 3	Condition 4 & 5
	26%	42%	32%

### 1.4.7. Waste Assets

There has been a change in the condition of the waste assets from the 2017 Asset Management Strategy through degradation and refurbishment of assets. The percentage of assets with condition rating 1 & 2 has decreased from 44% to 24%, and the percentage with rating 4 & 5 has increased from 3% to 16%. The majority (60%) of assets now have condition rating of 3.

<b>Asset Inventory</b>	Transfer stations			5
	Material recovery facility			1
	Landfills (closed but monitored)			6
<b>Network Analysis</b>	Condition 1 & 2	Condition 3	Condition 4 & 5	
	24%	60%	16%	

### 1.4.8. Fleet and Equipment

There have been minor changes in the condition rating of fleet assets with the percentage with condition rating 1 and 2 reducing from 44% to 39%, condition rating 3 from 27% to 22%, and condition rating 4 and 5 from 29% to 39%. These changes reflect a gradual deterioration of fleet assets over time.

<b>Asset Inventory</b>	SES vehicles			15
	Passenger vehicles			38
	Light commercials			219
	Trucks			154
	Plant – Heavy			55
	Plant - light			363
<b>Network Analysis</b>	Condition 1 & 2*	Condition 3	Condition 4 & 5	
	39%	22%	39%	

*\*condition assessment is by quantity of fleet assets*

### 1.4.9. Information Technology

<b>Asset Inventory</b>	CCTV cameras			250
	CRC fibre network			90km
	CRC wireless access points			107
	Data storage			562TB
	Desktop computers			906
	Desktop phones			984
	Laptops			240
	Mobile devices			1185
	Printers			268
	Servers			157
	Switches and routers			358
	Uninterruptible power supplies			70
	Zero clients			423
<b>Network Analysis</b>	The condition of Technology assets is a function of currency and capability and are therefore not calculated on a percentage basis as per the other asset classes.			

## 1.5. Our Asset Management Journey

The Asset Management journey for Cairns Regional Council began in 2002 with the development and subsequent adoption of an Asset Management Strategy. This initial strategy resulted in some improvements in asset management practices but consistency in asset management practices across the organisation was not effectively achieved. In mid-2006 the establishment of a centralised team to guide the implementation of asset management across Council was considered resulting in the creation of the Asset Management Development Project (AMDP) Team.

In response to legislative reform under the Local Government Act 2009, individual Core AMPs were developed by the AMDP Team for core asset classes and summarised into Council's first Corporate AMP – Long Term AMP. The Corporate AMP provided an overview of Council's performance in Asset Management and summarised the following:

- *Services provided and AMP alignment to Corporate Goals and Objectives*
- *Financial status*
- *Current processes and areas for improvement including maintenance management and risk management*
- *Benefits, risks, and future challenges.*

The AMDP Team facilitated the delivery of asset management strategic objectives until June 2011 when the centralised team was disbanded and replaced by the Asset Management Group. The Asset Management Group (AMG) was comprised of key Managers and asset management staff from across the Council. The AMG provided the ongoing mechanism to implement and continuously improve Asset Management until 2014. The AMG reported on progress directly to the Executive Management Team who acted as the Asset Management Steering Committee (AMSC).

In 2014 the governance framework was revised and the current Asset Management Policy was adopted. The revised framework includes the AMSC with refined membership including 3 Departmental General Managers and the CFO, and the Asset Coordinating Group (ACG) which includes key asset managers from across the Council. The AMSC and ACG are responsible for oversight of asset management processes across Council and report directly to the Executive Team on a regular basis.

The AMSC oversees an annual review of the individual AMPs which leads to an annual review of the Asset Management Strategy. The Council is responsible for annually adopting the Asset Management Strategy for a 10-year period. This is normally done at time of the adoption of the annual budget in June each year.

## 2. LEVELS OF SERVICE

Level of service can be defined in many different ways depending on the intended purpose of author, and there are multiple examples of approaches taken to levels of service in Council asset management plans across Australia. For example, there may be customer service standards, technical service standards, or legislated standards which need to be met. In addition there are a range of factors that determine the level of service that is provided including the costs of providing the service, community expectations, and political desires.

Further, the level of service in the eyes of the community may also differ depending on the profile of the asset. For example, a park in a high profile foreshore area that is visited frequently by locals and visitors will have a different level of service expectation to a small park in a more remote location.

Asset managers across Council have in the past not consistently applied a common framework to develop levels of service for each asset class. The levels of service framework was reviewed in 2016 which has resulted in a simple and streamlined framework focusing on levels of service from an asset management perspective as opposed to customer service or technical service standards approach.

The approach now adopted across Council is to define the levels of service in terms of a 5-star rating system similar in principle to that used for classifying hotels. Applying this framework, 5-star rated assets are assets that are very important to the community and have a high profile, high usage, or have a high risk rating if they fail. The commensurate expectation of the community is that a 5-star asset is always presented in top condition and is able to support a high level of service.

A 5-star asset requires a high frequency of inspections and a proactive level of maintenance to ensure the asset remains at a 5-star rating. At the other end of the spectrum, 1-star assets which are not very critical or important to the community would receive less frequent inspections and only reactive minimal maintenance. The majority of Council's assets are considered to be 3-star rated.

Due to the diverse nature of the assets managed by Council, the definitions for each of the star rating categories may differ in each of the AMPs but the principle remains the same. An example of the star rating framework used in the AMPs is provided in Table 3.

*Table 3: Example – Level of Service summary*

Star Rating	Definition	Level of Service
5 star	Very high profile Very high utilisation High Economic Value High risk Rating	<ul style="list-style-type: none"> <li>Frequent proactive maintenance undertaken to ensure very high level of presentation and function at all times</li> <li>Reactive maintenance given high priority</li> </ul>
4 star	High Profile High utilisation Medium risk rating	<ul style="list-style-type: none"> <li>Less frequent proactive maintenance to ensure high standard of presentation and function.</li> <li>Reactive maintenance given high priority</li> </ul>
3 star	Medium Profile Medium utilisation Low to medium risk rating	<ul style="list-style-type: none"> <li>Occasional proactive maintenance to satisfactory standard of presentation and function.</li> <li>Reactive maintenance given medium priority</li> </ul>

2 star	Low profile Low utilisation Low risk rating	<ul style="list-style-type: none"> <li>• Some proactive maintenance activities undertaken</li> <li>• Primarily reactive maintenance</li> </ul>
1 star	Very low profile & utilisation	<ul style="list-style-type: none"> <li>• Generally only reactive maintenance</li> </ul>

In assigning a level of service to an asset, the asset managers are required to undertake the following steps:

1. Define the level of service for each of the star categories for the asset class
2. Assign each of the assets in the category a star rating
3. Define the inspection and maintenance strategy required to ensure that the expected levels of service for the asset are achieved.

When determining the inspection and maintenance strategy for each asset category, asset managers take account of the following factors as a minimum:

- Standards set in Council policy or procedures
- Technical or legal standards
- Community expectations.

## 3. FUTURE DEMAND

### 3.1. Introduction

The current residential population of Cairns is approximately 160,285 at the end of 2015. The City has sustained an average population growth of 2.3% over the last 10 years and indications are that this growth will continue into the foreseeable future.

In addition, the region continues to attract over 3 million domestic and international tourists each year. It is anticipated that the tourism market will continue to grow and put further pressure on assets and service levels.

### 3.2. Population Forecasts

The population projections provided in Table 4 have been derived as the basis of forecasting future demand and subsequent impact on infrastructure and associated services.

*Table 4: Projected population increases for Cairns Local Government Area*

18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
1.0%	1.0%	1.25%	1.50%	1.75%	2.00%	2.50%	2.50%	2.50%	2.50%

### 3.3. Demand Management

Demand from future population growth will be managed by:

- Ensuring asset planning is kept up-to-date
- Maintaining existing assets to achieve the maximum life possible
- Upgrading or providing new assets as demand warrants.

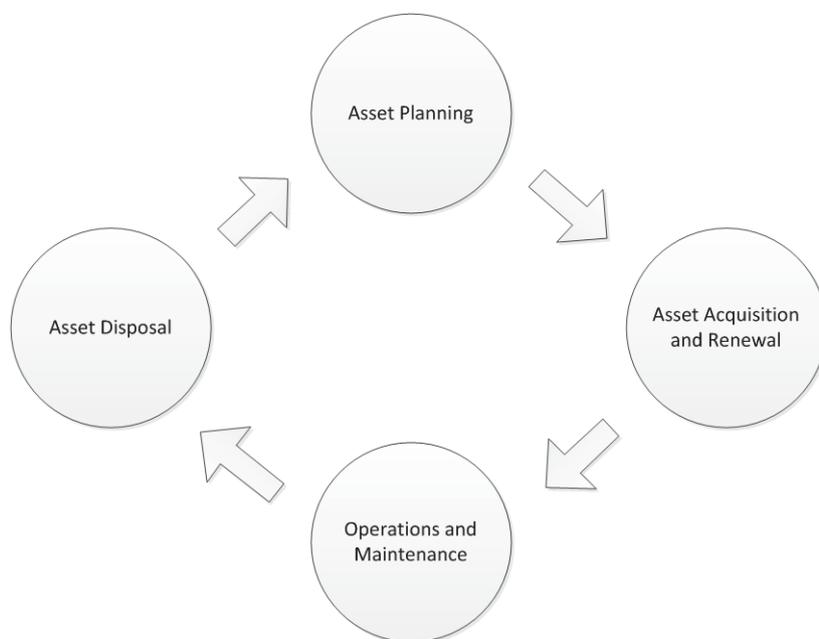
Demand will also be met by conditioning any new Development Approvals to provide appropriate infrastructure to meet the generated demand.

Asset planning will entail monitoring whether assets are able to keep up with the demand for their usage at the desired service level. For example road assets have certain vehicle carrying capacity before congestion increases beyond community accepted levels. Water and sewerage assets have design criteria based on providing for peak day demands. Asset renewal or replacement needs to occur prior to the ability for the asset to meet demand being outstripped.

Demand management will also include non-asset solutions, where applicable, to reduce or defer the need for additional or upgraded assets. Examples include water demand management strategies, increasing public transport usage, and providing walking and cycling infrastructure to reduce the need to expand the transport network.

## 4. LIFECYCLE MANAGEMENT

There are various views in the asset management literature regarding the number of stages in an asset lifecycle. For Cairns Regional Council, the 4 key stages shown in Figure 1 are recognised in the life of assets and are discussed in subsequent sections of this Strategy.



*Figure 1: Asset Lifecycle Stages*

### 4.1. Asset Planning

The asset planning process is where the need for a new or upgraded asset is identified which is generally driven by population growth, aging assets, or new community desires.

CairnsPlan 2016 Version 1.2 is the overarching planning document that sets out Cairns Regional Council's intentions for future development of the region over the next 20 years. It identifies the preferred locations for various types of development and regulates the way land, buildings and structure are used.

CairnsPlan is required by legislation to be underpinned by a Local Government Infrastructure Plan (LGIP). Cairns LGIP was adopted by Council in June 2017 and commenced in July 2017

The purpose of the LGIP is to:

- integrate infrastructure planning with the land use planning identified in CairnsPlan 2016;
- provide transparency regarding Council's intentions for the provision of trunk infrastructure for the Region;
- enable Council to estimate the cost of infrastructure provision to assist its long term financial planning;
- ensure that trunk infrastructure is planned and provided in an efficient and orderly manner; and
- provide a basis for the imposition of conditions about infrastructure on development approvals.

The LGIP identifies trunk infrastructure plans which are available on Council's website for the following five networks that provide essential services for development:

- Water supply;
- Wastewater;
- Stormwater;
- Transport;
- Public parks and land for community facilities.

The LGIP contains Desired Standards of Service (DSS) for the above networks. These DSS direct the form and scale of infrastructure networks to be constructed and are expressed in terms of planning and design criteria based on quantitative and qualitative standards. The DSS are different to the Levels of Service defined for each asset class discussed in this Strategy.

Underpinning the LGIP are Schedules of Works for the future trunk assets required by the LGIP. These Schedules of Works provide a guide as to when trunk assets will need to be constructed. This is generally undertaken by developers and the assets are then donated to Council.

In addition to the LGIP, Council has prepared and routinely updates asset specific plans that identify the future need for upgrading or building new assets. These plans are listed in Table 5 and cover both trunk and non-trunk assets and inform the capital works program.

*Table 5: Key asset planning documents*

<b>Asset classes</b>	<b>Planning document</b>
Property & Buildings	Parks and Recreation Strategic Plan 2010-2015 CRC Cultural Services Strategic Plan 2015-2020 Cairns Libraries Strategic Plan 2011-2016 Community Development Strategic Plan 2012-2017 Cairns Regional Council Strategy for Culture and the Arts 2022 Draft Public Toilet Strategy
Parks, Recreation and Natural Areas	Parks and Recreation Strategic Plan 2010-2015 CRC
Drainage and Marine Infrastructure	Various Drainage Management Plans prepared for drainage catchments
Transport Network	Council's Ultimate Road Hierarchy (Cairns Plan) Cairns Walking & Cycling Strategy Cairns Transport Network Plan
Wastewater Assets	Various Catchment Planning Studies generally revised every 5 years Strategic Plan for Recycled Water Use
Water Assets	Water Supply Strategy Catchment Planning Studies generally revised every 5 years Drought Management Plan
Waste Assets	Waste Reduction and Recycling Strategy 2018-2018
Information Technology	Projects Portfolio Summary

## 4.2. Asset Acquisition and Renewal

The main reasons for creating a new asset or upgrading an existing one are to:

- Meet the demand from new users
- Satisfy or improve the level of service, or
- Provide a commercial return.

Council's planning documents identify the predicted timing for new assets based on growth. The need for improved levels of service is generally identified from customer feedback or driven by customer complaints.

Assets requiring renewal are identified through inspections of assets as identified in the Asset Management Plan for each asset class. Asset condition ratings determined during these inspections guide the timing of when renewal of the asset is required.

Council also has a fixed asset register (FAR) which contains estimates of the remaining useful life of assets. This data is used as a guide as to when assets may need to be renewed. Candidate assets are inspected to verify the accuracy of the remaining life estimate and asset renewal plans developed accordingly.

Once the need for a new asset or asset renewal is identified, capital works submissions are prepared for evaluation and consideration in the development of Council's capital works program. Council maintains a high-level 10-year capital works program and a detailed 3-year rolling program. The 3-year program is considered on an annual basis at budget consideration time and adopted by Council generally in June each year.

Council has recently developed a corporate-wide Project Management Framework (PMF) with a view to establishing consistent project management processes across the organisation. The PMF will continue to be developed and implemented across Council as the framework matures.

The main methods of acquisition or delivery of assets are either by:

- Council staff internally
- Outsourcing to external contractors
- A combination of both of the above.

For development driven trunk infrastructure identified in the LGIP, infrastructure charges are levied against developers and Council constructs the assets, or the developers deliver the equivalent infrastructure and Council reimburses the cost of the infrastructure to developers. Non-trunk assets associated with urban development such as access road and park infrastructure are also routinely donated to Council.

## 4.3. Operations and Maintenance

Once assets have been brought into service, they need to be operated and maintained to maintain optimal asset performance. Council needs to ensure that budget allocations are provided in the long-term to allow assets to be maintained to community expectations.

### 4.3.1. Asset Condition and Performance Assessment

All assets need to be regularly monitored or inspected to ascertain whether they are in a suitable condition to ensure that the desired Level of Service can be maintained. The frequency of inspections is determined by the type, criticality, age and known condition of an asset. For example, for relatively new buried stormwater assets, inspections may occur every 5 years. For high profile 5-star buildings, inspections should be every year at a minimum. Inspections can be either undertaken physically or, in the case of mechanical assets, these may be remotely monitored via telemetry and corrective maintenance undertaken as needed.

The inspection frequency is generally identified in the AMP for each asset class. In addition to the defined inspection frequency, additional inspections may be undertaken for assets that are critical, have a high risk of failure, or have high community profile.

Condition assessment outcomes are based on a scale of 1 to 5 with 1 being an asset in very good condition, and 5 being an asset in very poor condition close to failure (see Table 6). Due to the diverse nature of the different assets Council manages, different asset classes may use slightly different terminology when establishing the 5 condition levels but the principle remains the same.

Assets found to have condition ratings 1 or 2 generally require little maintenance. However, for 4 or 5-star assets, maintenance needs to be at a level so the assets retain condition ratings 1 or 2. Assets found to have condition ratings 3 to 5 are entered onto the capital works program for consideration for future renewal, replacement or upgrade.

Maintenance items identified during inspections are recorded and maintenance scheduled according to priority and as resources allow. Any defects that are considered high risk are dealt with as soon as practical while issues with lower risk are programmed into future maintenance schedules.

*Table 6: General Condition Rating Criterion*

Condition Rating	Definition	Outcome or action
1	<i>Asset as new:</i> asset is in very good condition or near new	No action required – continue with routine maintenance inspections
2	<i>Asset in good condition:</i> asset is reliable and operates as intended	No action required – continue with routine maintenance inspections
3	<i>Fair Condition:</i> Asset is reliable but requires some additional maintenance	Undertake required repairs/maintenance and ensure asset renewal is on future Capex program
4	<i>Poor condition:</i> Asset still operates but does not meet intended duty or does not appear sound	Take immediate action as appropriate to the defects e.g. temporary supports  Undertake risk assessment and risk mitigation actions as required.  Schedule appropriate action which may include rehabilitation and/or renewal in the short term.
5	<i>Very poor condition:</i> Asset needs immediate attention	Take immediate action as appropriate  Immediately undertake risk assessment and risk mitigation actions as required.  Renew/replace or dispose of asset.

#### **4.3.2. Programmed and Reactive Maintenance**

Asset maintenance includes proactive and reactive maintenance activities which support an asset in reaching its full life potential. Asset maintenance strategies for each asset class are contained in the relevant AMP and these may be supplemented by additional detailed work schedules and specific maintenance activities. These maintenance strategies are designed to ensure the star rating Level of Service for the individual assets are maintained.

Reactive maintenance is unplanned work generally driven by service requests, customer complaints, or breakdowns. Council staff may also identify reactive maintenance items during routine work activities. Reactive work requests are prioritised based on risk and other criteria, entered into work schedules, and attended to in accordance with set response times or when resources allow.

Community members generally make service requests through Council's Customer Call Centre. These requests are managed via Council's Customer Response Management (CRM) system.

### **4.3.3. Asset Disposal**

Infrastructure assets may need to be disposed of as they reach the end of their useful life, or alternatively if Council has determined that a particular service provided by an asset is no longer to be provided. Assets may simply be retired from service, re-deployed for another purpose, or sold to external parties. Assets identified for disposal are generally identified during the annual capital works development process. The process for disposal of assets is governed by the Local Government Act and Regulations.

Assets reaching their useful life will be identified from asset registers and/or through condition assessment and maintenance inspections. As Council manages the assets on behalf of the community, consultation with stakeholders may be needed to identify opportunities to retire or sell assets.

## 5. FINANCIAL FORECASTS

Council needs to ensure that it has Long term financial sustainability requires Council to ensure it has adequate funds available to maintain existing assets to desired service levels and to fund its proposed new and renewal capital programs. The types of expenditure on assets are shown graphically in Figure 2. This section of the Strategy forecasts future capital, operations and maintenance expenditure for the next 10 years. These funding requirements need to be considered in Council's Long Term Financial Plan.

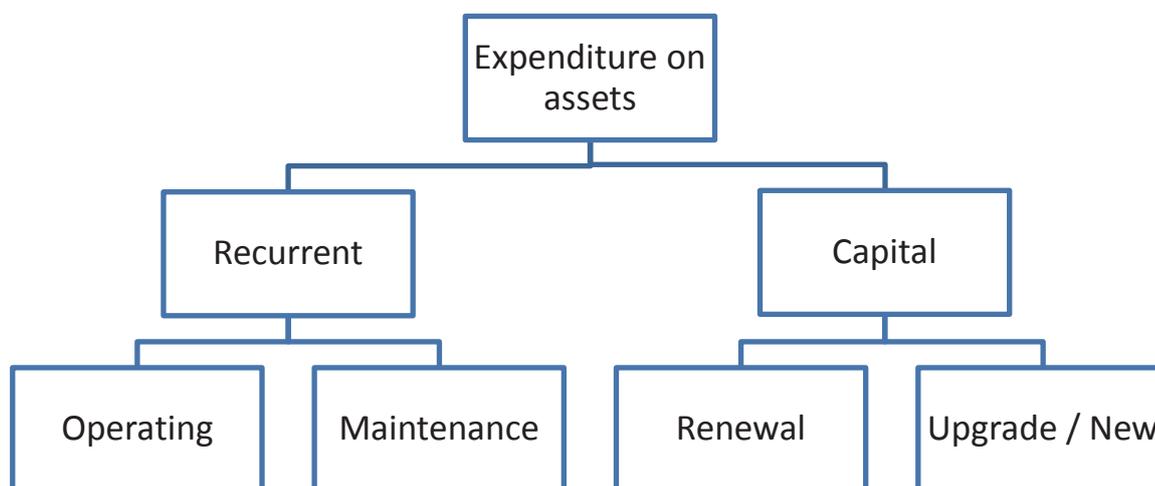


Figure 2: Council expenditure on assets

### 5.1. Forecast Capital Expenditure

One of the main objectives of developing a long-term asset management plan is to inform the 10 year capital works program and therefore Council's Long Term Financial Plan. Estimates of future capital expenditure are made from the remaining useful life and replacement cost data contained in Council's Financial Asset Register (FAR). It is acknowledged that the FAR data may not reflect the actual replacement cost of assets but is an estimate only of the consumption of the assets. True costs of asset replacement will need to be established at the actual time of project development and funding strategies identified.

Estimated future capital costs for each asset class over the next 10 years are provided in Table 7. Further details of annual capital expenditure for each asset class are included in the AMPs for each asset class.

Table 7: Projected 10-year Capital Expenditure

Asset Class	Total (\$ Million)
Property & Buildings	138.7
Parks, Leisure and Natural Areas	185.9
Drainage and Marine Infrastructure	62.2
Transport Network	384.1
Wastewater Assets	258.3
Water Assets	437.7
Waste Assets	33.7
Fleet & Equipment	64.1
Information Technology	67.9
<b>Total</b>	<b>1,632.6</b>

## 5.2. Forecast Operations and Maintenance Expenditure

Operations and maintenance expenditure includes those costs expended to keep an asset functioning to meet the desired Level of Service. They include items such as utility charges, labour, consumables, cleaning and repairs. As the asset base grows, so too will the need for additional operations and maintenance expenditure. Council needs to provide for these costs in future operational budgets or Levels of Service may decline. Current operations and maintenance expenditure and estimated expenditure through to year 10 year assuming no change in operational processes or service level is estimated in Table 8.

*Table 8: Current and Estimated Future Annual Service Costs*

AMP	Annual Maintenance Expenditure	
	2018/19 (\$ Million)	2027/28 (\$ Million)
Property & Buildings	20.54	25.65
Parks, Leisure and Natural Areas	31.81	39.73
Drainage and Marine Infrastructure	4.52	5.65
Transport Network	16.04	20.03
Water & Wastewater Assets	38.25	47.77
Waste Assets	9.75	12.18
Fleet & Equipment	3.56	4.44
Information Technology	11.49	14.35
<b>Total</b>	<b>135.96</b>	<b>169.80</b>

## 5.3. Key Assumptions for Financial Forecasts

In some cases Council's Financial Asset Register (FAR) has been used as the initial source of data to establish asset renewal requirements. For accounting purposes, asset values held in the FAR are either based on original cost (plant and equipment including fleet), replacement cost (infrastructure assets, buildings, other structures and land improvements) or market value (freehold land). Assets held at replacement cost are comprehensively revalued every 4-5 years in line with Council's rolling revaluation schedule.

A comprehensive revaluation requires a stocktake, condition assessment (including a review of useful lives and remaining useful lives), and unit rate review to be undertaken. In years where a comprehensive revaluation is not undertaken, the valuations of the assets classes are reviewed based on the movement in relevant indexes and costs.

The FAR is therefore considered to be an appropriate data source for estimating asset renewal requirements for long-term financial planning. However, it is acknowledged that the actual renewal costs at the time of renewal may differ from the FAR due to market conditions prevailing at the time.

## 6. RISK MANAGEMENT

Council has developed an Enterprise Risk Management Framework (ERMF) to ensure that risk management is an integral part of strategic planning, management and day to day activities of the organisation. The ERMF and Council's Risk Management Policy are consistent with the Australian/New Zealand Standard ISO 31000:2009.

Application of the ERMF has resulted in the establishment of a Corporate Risk Register to ensure that strategic risks requiring treatment at a corporate level are managed accordingly, and Departmental risk registers which include operational risks managed at the Departmental or Business Unit level.

### 6.1. Corporate Risk Register

The Corporate Risk Register has 5 identified risks related specifically to infrastructure and Asset Management. These risks and existing systems and controls are summarised below.

#### **Risk C2 The delivery of infrastructure services does not meet the needs and expectations of the community**

Cairns Regional Council fails to adequately maintain and/or operate the wide range of infrastructure based services that are essential to the ongoing daily operation of a modern community, support public health and protect the environment.

#### **Existing Systems & Controls**

- Asset Management Strategy and Asset Management Plans for core assets
- Star-rating system in place to identify desired service levels of individual assets
- Monitoring of system Key Performance Indicators (KPIs) and customer complaints/service requests
- Systems maintained to minimise likelihood of environmental harm occurring and response plans delivered if incidents occur
- Quality management systems are maintained (where appropriate) to ensure desired outcomes are achieved e.g. drinking water quality
- Management of hazardous chemicals and wastes to minimise risk to staff and public
- Appropriate financial resources are budgeted for and applied to allow for the ongoing delivery of the services to the desired standard
- Supply chains for materials and resources (including power) are managed and monitored to ensure continuity of service can be achieved
- Business Continuity Plans (BCP's) in place to respond to failure of critical assets, failure of supply chains and natural disasters, including drought and cyclone.
- Condition monitoring, annual assessment and community engagement for Copperlode Dam per EAP requirements.

#### **Risk C3 Planning for infrastructure does not meet the needs and expectations of the community.**

Cairns Regional Council fails to undertake the robust planning required to ensure that the capacity and capability of infrastructure is sufficient to provide for growth, any anticipated level of service changes and the required level of asset renewals. Allied to this is the risk that the delivery of the projects arising is not aligned with available funding and/or the project is not delivered in the required timeframe.

#### **Existing Systems & Controls**

- Asset Management Strategy and Asset Management Plans for core assets
- Generation of robust 10 year Capital Work forecasts aligned with ability to fund and alignment with the Local Government Infrastructure Plan
- Generation of robust 10 year Capital Works forecast to inform 10 year plan

- Local Government Infrastructure Plan for trunk infrastructure developed and submitted to state for approval
- Delivery of Capital Works Program
- Comprehensive identification of assets employed, their desired level of service, current condition are criticality assessed.
- Statutory and/or licence obligations are identified and met
- Development and adoption of Customer Service Standards where appropriate
- Continuation of robust planning processes to identify capacity and assets required to accommodate future growth
- Maintain comprehensive design standards for infrastructure.

### **Risk E1 Financial Position**

The financial position of Council does not allow the continued provision of infrastructure and services expected by the community. This involves heeding the short term expectations of the community with respect to immediate costs passed to them by Council and balancing this with the longer term needs including infrastructure upgrades and capacity increases.

#### **Existing Systems & Controls**

- Targeting (and achieving) a balanced budget and low levels of Council debt
- 10 Year Capital Works program with alignment with the Local Government Infrastructure Plan
- 10 Year Financial modelling is undertaken on an annual basis
- Asset lifecycles including maintenance, expansion and renewal are managed through Asset Management Plans.

### **EN1 The built and natural environments of the Cairns region are perceived as undesirable and unsafe.**

Cairns Regional Council fails to create a community where people can visit and live comfortably and safely and delivers a high standard of amenity in the built and natural environments. A lack of collaboration between Council and community members, service providers and governments results in poor community perception of safety and crime prevention.

#### **Existing Systems & Controls**

- Natural Disaster Mitigation Strategies improve community safety and resilience
- Implementation of security programs across key sites
- CitySafe CCTV monitoring
- Infrastructure design specifications ensure an appropriate standard of infrastructure is provided
- Continued implementation of crime prevention initiatives through partnerships
- Implementation of CairnsPlan 2016.

### **Risk G1 Major loss of critical technology infrastructure, business systems and data**

The loss of critical technology infrastructure, business systems or data would severely impact Council's ability to effectively provide infrastructure and services expected by the community.

#### **Existing Systems & Controls**

- Published Technology Plan defining standards relating to software and hardware currency

- Resourced and actioned asset management plans that ensure software and hardware currency
- Ongoing capacity planning and management
- Business Continuity Plan, reviewed annually, including training and testing
- Improved IT Disaster Recovery capability implemented.
- Data and software duplicated across two data centre (Spence Street and Woree). Additional back-ups and archives in place.
- Appropriate physical and systems access controls in place ; Regular review of key system access
- Effective change management process for all system changes
- Records Management Strategy in place including replication of electronic records to offsite data store, digitisation of microfilm / fiche and historical documents, archival of most electronic records to disk based systems reducing risk of tape degradation
- Annual review and update the Business Continuity Plan, including training and testing.

## 7. ASSET INFORMATION MANAGEMENT

Effective asset management relies on having quality and accurate data and information relating to assets. It is therefore critical that Council has reliable information management systems to provide data that assists asset managers in decision making. Council currently uses the major systems listed in Table 9 for the management of asset related data. At the time of writing this document, Council had embarked on an IT Core Platform replacement program which may alter or replace some of the current data management systems.

*Table 9: Current systems used for asset management related data*

<b>System</b>	<b>Purpose</b>
Oracle Projects	Project Management (Capital & Operating)
Oracle Fixed Assets	Store and maintain Fixed Asset Register. Including revaluation and depreciation calculations
Matman	Maintenance Management, Purchasing & Inventory
CRM	Customer request management
Reflect	Prioritisation of maintenance activities
iAuditor	Maintenance inspections of assets
SAM	Strategic Asset Management. Used to project future 'interventions' on existing or future assets
Munsys	Used to analyse As-Con/AutoCAD drawings and provide asset details
Mapinfo	GIS system for spatial mapping of assets.
SCADA	Telemetry system used primarily for monitoring and control of water and wastewater assets
ServiceNow	IT Configuration Management Database (CMDB) – IT Asset Management repository

## **8. ASSET MANAGEMENT IMPROVEMENT PLANS**

As indicated in this Strategy, asset management is a continual journey as new assets are created, existing assets age, new technology becomes available and customer expectations continually change. Asset management practices need to continually evolve to keep pace with these changes. Each of the AMP created for core asset classes includes an Asset Management Improvement Plan which outlines the key improvement activities that will be undertaken in the next 12 months including timeframes and responsible persons. Progress against these actions is monitored by the Asset Management Steering Committee.