

Sunshine Coast Council  
Asset Management Plan  
2017/18 - 2022/23

**Coastal and Environmental Infrastructure**



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#### **Acknowledgements**

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# 1 Executive Summary

## 1.1 What council provides

Sunshine Coast Council as a local government authority is in the business of providing a range of services to the community. Some of these services are in relation to the maintenance of both coastal infrastructure and management services of a fully developed environmental reserve network.

The management of both of these classes of assets will be covered by the Coastal and Environmental Infrastructure Asset Management Plan (the Plan).

The Environmental infrastructure network includes natural areas allocated as conservation reserves, environmental visitor education facilities, waterways, wetlands, various constructed lakes systems, fire and recreation trails and associate supporting infrastructure. The service comprises of the management of natural assets complimented by a range of constructed assets including boardwalks, paths, shelters, barbecues, shade structures, interpretative displays and amenities. There are also a number of smaller assets that are not included in this Plan such as bollards, garden edging, landscaping, signage, furniture and taps and the like.

Coastal infrastructure asset planning covers the range of services required to maintain a large number of pieces of coastal infrastructure (e.g. revetment walls, locks & weirs, sand pipelines, canals, jetties, boat ramps) and also beach/ foreshore amenity and access issues (e.g. beach accesses, beach amenity sand profiles, dune fencing).

Sunshine Coast Council has an obligation to its ratepayers to manage these physical assets so that an acceptable level of service is maintained and improvement initiatives implemented in an efficient and cost-effective manner. In addition, council has the obligation to manage assets in an environmentally friendly and sustainable way.

To fulfil this role and responsibility of providing a long-term cost effective management of the assets covered by this Plan, council must develop an asset management plan, to an intermediate level, to be the vehicle by which council can provide a long-term management framework. The Plan links long-term investment to council's strategic goals and desired day-to-day service levels.

This Plan is also consist with council's organisational Asset Management (AM) Policy and Strategy as reviewed and adopted by the Executive Team each year. This AM Policy dictates council's expectations in terms of the environmental and coastal functional area in relation to resources, responsibilities, action plans and timeframes. Coastal and Environment's major assets value is currently \$63,937,000 Financial Asset Information Management (FAIM) which includes (but not limited to):

- 60 kilometres of beaches
- Three major river systems the Maroochy and Mooloolah Rivers and the Pumicestone Passage (>3,700km)
- 25 boat ramps
- Two lock and weir systems
- 27 jetties and pontoons
- 22 groynes protecting the beaches
- 58 kilometres of beach dune fencing
- 57 kilometres of canals
- 255 beach accesses

- 96 constructed waterbodies
- 2 sand pipeline nourishment systems
- 5,700 Ha of Environmental Reserves
- 3 Environmental Visitor Information Centres
- 2 Visitor Interpretative Displays
- 78.5 km's of Fire Trails
- 52 km's of Recreational Trail.

## 1.2 What does it cost?

There are two key indicators of cost to provide the service:

- The life cycle cost being the average cost over the life cycle of the asset, and
- The total maintenance and capital renewal expenditure required to deliver existing service levels in the next 10 years covered by council's long term financial plan.

The life cycle cost to provide the Coastal and Environmental infrastructure service is estimated at \$13 million. Council's planned life cycle expenditure for year one of the Plan is \$14 million which gives an estimated life cycle sustainability index of 1.08

## 1.3 Plans for the future

Council plans to operate and maintain the Coastal and Environmental infrastructure network to achieve the following strategic objectives:

1. Ensure the Coastal and Environmental infrastructure is maintained to a safe and functional standard as set out in this Plan
2. Comply with current legislative requirements
3. Continuing to provide ecological services while further exploring the capture of green assets through the asset management process
4. Is consistent with customers' expectations and needs analysis
5. Achieves organisational sustainability index requirements while still taking in to account demand forecasts based on previous trends and future demand factors

## 1.4 Measuring our performance

### 1.4.1 Quality

Assets within the Coastal and Environmental infrastructure network will be maintained in a safe and usable condition. See AMP maintenance response service levels for details of defect prioritisation and response time.

### 1.4.2 Function

Our intent is that an appropriate Coastal and Environmental network is maintained in partnership with other levels of government, community and other stakeholders. This will provide ecological and coastal protection services that will enable sustainable and where possible an improved contribution to global biodiversity, with sustainable recreation opportunities (beach amenity, trail network) dependant on the location and its natural values.

The service provided must also be consistent with the needs and expectations of council's customers. While this is currently principally provided by the organisations 2016 Community Satisfaction Survey, further analysis is required in this area.

### 1.4.3 Safety

Coastal and Environmental assets will be maintained in line with legislative requirements where required, otherwise at a safe level and associated signage and equipment will be provided as needed to ensure public safety.

We inspect all Coastal and Environmental assets regularly and prioritise and repair defects in accordance with our inspection schedule to ensure they are safe and useable.

## 1.5 Next steps

The actions resulting from this Plan are contained within Section 8 of this document and include:

- Implementing and monitoring identified service levels
- Reviewing Coastal and Environmental assets capital works program
- Further community satisfaction surveys and needs analysis to be undertaken
- A range of demand scenario planning and mathematical analysis of demand forecasts



## 2. INTRODUCTION

### 2.1 Background

This Plan is to demonstrate responsive management of Coastal and Environmental infrastructure assets (and services provided from these assets), compliance with regulatory requirements, and to communicate funding required to provide the required levels of service. Modelling within this plan is completed to represent a ten year planning period, with a full revision of the plan every five years as a minimum and an update of financial elements completed annually.

The Plan is to be read with the following associated planning documents:

- SCC Corporate Plan 2017/21
- SCC Operational Plan 2017/21
- SCC Financial Sustainability Plan
- SCC 10 year Capital Works Program 2016/2017 - 2026/27
- Biodiversity Strategy 2010 - 2020
- Open Space Strategy 2011
- Waterways and Coastal Management 2011-2021
- Sunshine Coast Local Government Area Pest Management Plan
- Recreation Trails Guideline
- Environmental Operations Branch Plan
- Environmental Operations Service Level documentation

#### 2.1.1 Coastal

This Plan covers the following coastal assets:

**Table 2.1 Coastal assets\* covered by this Plan**

Combined Arc10 GIS and FAIM Asset data

Asset category	Dimension	Replacement value (\$M)
Beach access	255	2.537
Beach fencing	58km	.672
Groynes (including drainage protection)	22	3.00
Dredge pipelines	2	.834
Locks & weirs	2 systems	9.834
Revetment walls (inclusive of rock walls and seawalls)	102km	10.212
Scour protection	106km	22.796
Boat ramps	25	1.25
Jetties and pontoons	27	1.85
<b>TOTAL</b>		<b>52.985</b>

\*\* Assets and costs not currently captured in FAIM

Note while a range of Water Sensitive Urban Design (WSUD) and freshwater Constructed Water Bodies (CWB's) are covered by this functional area they are not included in this Plan. These assets are covered by the separate CWB AMP subplan) but will have capital expenditure (renewal/new) drawn from the capital programs associated with this AMP.

Asset quantities and values used in this Plan have been developed using data extracted from council's financial asset information module (FAIM). Key stakeholders in the preparation and implementation of this Plan are:

- Queensland Transport - State Government Department responsible for state marine infrastructure (e.g. boat ramps and jetties) which influences both maintenance and expansion of regional boating assets
- Council Environment & Sustainability Policy Branch – responsible for the development of a number of key management documents such as the SCC Shoreline Erosion Management Plan – 2014 and Foreshore/ Coastal Management Policies
- Council Parks and Gardens Branch responsible for the development of the Landscape Infrastructure Manual
- Department of Environment and Heritage Protection (DEHP) –State Government Department responsible for coastal management legislation, policies and permits
- Maritime Safety Queensland - State Government Department responsible for navigational aids, waterway/ canal management
- Department of Agriculture & Fisheries (DAF) – State Government Department responsible for fish habitat management legislation, policies and permits

### 2.1.2 Environmental

This Plan covers the following environmental infrastructure assets that are part of the environment reserve estate and waterways and water bodies:

- Access facilities –boardwalks and decks, pavements, paths, steps, pedestrian / cycle ramps, pedestrian / cycle bridges
- Furniture – seats, picnic tables, bin enclosures, cigarette butt bins, bike racks, flag poles, tree protection
- Shelters – shade structures, shelters
- Fire Trails
- Recreational Trails
- Barbecues – gas
- Signage – signs, notice/display boards, plaques
- Fencing – bollards, retaining walls, fences, balustrade / hand rails, safety fencing, walls
- Water facilities – irrigation, taps, showers, drinking fountains, pumps, water feature
- Lighting – natural areas
- Features – artwork, memorial, entry statement
- Interpretation displays
- Miscellaneous – power switchboard
- Playgrounds – natural areas
- Soft and hard bank stabilisation works

**Table 2.1b Environment infrastructure assets covered by this Plan**

Combined Arc10 GIS and FAIM Asset data

<b>Asset category</b>	<b>Dimension</b>	<b>Replacement Value (\$M)</b>
Artwork	Various	0.139
Barbecues and bins	Regional	0.033
Bio retention (open drains, subsoil, pipe)	various	0.037
Boardwalk, Decks	Various	1.983
Fencing & Bollards	Regional	0.474
Furniture	Regional	0.070
Other assets – gates, monuments, drink ftn, walls	Regional	2.227
**Park improvements	2	0.050
Plant equipment	Various	0.350
Steps	Various	0.210
Shelters	Various	0.544
Signs	Various	0.231
Watertanks	2	0.051
Shed	1	0.142
Subsoil drains	2	0.026
Trails	Various	1.060
<b>TOTAL</b>		<b>7.670m</b>

\*\* Assets and costs not currently captured in FAIM

Key stakeholders in the preparation and implementation of this Plan are:

- Department of National Parks, Recreation Sport and Racing - DNPRSR is responsible for state managed areas such as national parks adjoining council reserves. These areas will be directly impacted by land management decisions made on council land and vice versa. Communication is essential to effective management outcomes.
- Council's Environment & Sustainability Policy Branch - linking to implementation of strategies including Biodiversity Strategy 2011, Open Space Strategy 2011 and the Recreational Trail Plan 2012 and environmental levy programs.
- Councils Development Services Branch Ensuring contributed assets are of the quality and standard to meet sustainable outcomes
- Councils Parks and Gardens Branch responsible for the development of the Landscape Infrastructure Manual
- Reserve neighbours and volunteers - service levels are delivered and understood and partnerships established to contribute to maintaining identified values and objectives

## 2.2 Goals and objectives of asset management

Council exists to provide services to its community. Some of these services are provided through the provision of 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>

This Plan is prepared under the direction of council's vision, mission, goals and objectives.

Council's vision is:

**“To be Australia’s most sustainable region – healthy, smart, creative”.**

Relevant council goals and objectives and how these are addressed in this Plan are outlined in Table 2.2.

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<sup>1</sup> IIMM 2011 Sec 1.1.3, p 1.3

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

Goal	Objective	How goal and objectives are addressed in AMP
A new economy	Providing the regional policy, regulatory settings and identity that shape a globally competitive economy	Build alliances and partnerships to develop the economy of the region with businesses and government agencies
An enviable lifestyle and environment	Maintaining and enhancing the region's natural assets, liveability and environment credentials	<p>Maintain and improve the quality of our natural assets in the region.</p> <p>Ensure new developments meet high standards of ecological sustainability and urban design.</p> <p>Review council infrastructure plans, design standards and procurement policies to maximise sustainable outcomes of newly created assets.</p>
A strong community	Supporting an engaged, resilient and inclusive community that embraces diversity	<p>Support community programs and infrastructure that encourage interaction, contribute to place making and a sense of community.</p> <p>Specific focus groups will be established as required, to assist Council in developing levels of service for specific assets.</p>
Service excellence	Providing value-for-money services responsive to the needs of the community	<p>Maintain and renew council assets to agreed standards.</p> <p>Develop long term asset management plans which are linked to financial management plans.</p> <p>Develop and implement ten year term rolling capital works programs according to strategic priorities.</p> <p>Determine the types and levels of services provided by council.</p> <p>Develop long term asset management plans which are linked to financial management plans.</p> <p>Maintain and renew council's assets to agreed standards.</p>
A public sector leader	Delivering a high performance organisation, supported by good governance and robust decision-making	<p>Establish strong partnerships with all levels of government and create alliances with peak bodies and the community.</p> <p>Develop long term financial plans and indicators to achieve optimum use of resources and alignment to strategic priorities.</p> <p>Manage environmental assets to maximise resource use efficiency and minimises risks and life cycle costs.</p>

## **2.3 Plan framework**

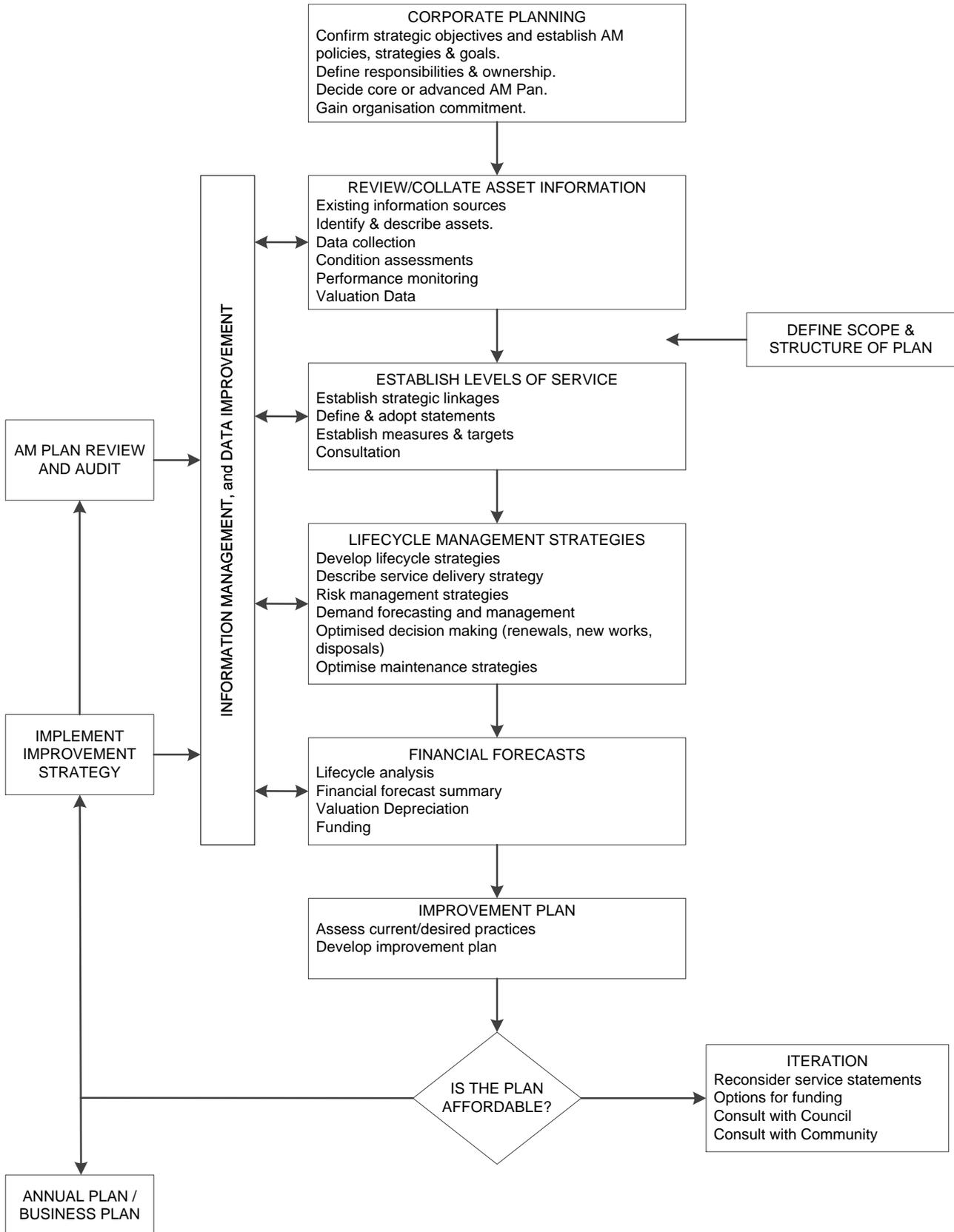
Key elements of the Plan are:

- 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

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

**Road map for preparing an asset management plan**

Source: IIMM Figure 1.5.1, p.1.11



## **2.4 Asset management – step by step approach**

This Plan is prepared with the intent of progressing asset management for the functional area to an 'intermediate' asset management plan in accordance with the International Infrastructure Management Manual (IIMM) 2015. It is prepared to meet legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting.

The intent of this Plan will be to follow a step by step approach as provided by IIMM 2015 Fig 1.4.1 The Maturity Index for Asset Data Management.

This approach provides that this current Core Plan which is described as generally having 'sufficient information to complete asset valuation and support prioritisation of investment program' will move to an Intermediate Plan which will provide for 'a reliable register of physical, financial and risk attributes recorded in an information system with data analysis and reporting functionality.

Guidance for the transition of this Plan to an Intermediate AMP will be principally via Section 8 – Plan Improvement and Monitoring of this Plan.

### 3. LEVELS OF SERVICE

#### 3.1 Customer research and expectations

Council undertook an external performance analysis – Community Satisfaction Survey in 2016 measuring 29 focus areas. For this Plan the particular focus areas listed below are applicable.

Note further customer demand analysis/ consultation is required to refine service levels for all asset classes associated with this Plan.

**Table 3.1 Community Satisfaction Survey Levels**

Survey Activity	Importance	Satisfaction
Improving water quality	Higher importance	Lower satisfaction
Conservation and maintenance of beaches and foreshores	Higher importance	Higher satisfaction
Conservation and maintenance of natural bushland and wildlife	Higher importance	Lower satisfaction
Provision of recreation parks, trails and facilities	Higher importance	Higher satisfaction
Control of declared pests	Lower importance	Lower satisfaction

#### 3.2 Legislative requirements

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

**Table 3.2 Legislative requirements**

Legislation	Requirement
Convention on Wetlands of International Importance (Ramsar Convention)	Objective is to 'develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the maintenance of their ecosystem components, processes and benefits/services'.
Environment Protection and Biodiversity Conservation Act 1999	Provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places — defined in the EPBC Act as matters of national environmental significance.
National Water Quality Management Strategy	Provides a national approach to improving water quality in Australia's waterways.
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.

Legislation	Requirement
Fisheries Management Act 1994	Aims to protect Queensland's Fisheries
Environmental Protection Act 1994 and regulations	Aims to protect Queensland's environment while allowing for ecologically sustainable development.
Transport Operations (Marine Safety) Act 1994	Asset provision and maintenance
Nature Conservation Act 1992 and Regulations	Protection of listed flora and fauna and identification of protected area categories
Sustainable Planning Act 2009	Aims to achieve ecological sustainability by managing development and its effects and coordinating and integrating planning processes. Asset provision and maintenance
Queensland Heritage Act 1992	Aims to provide for the conservation of Queensland's cultural heritage for the benefit of the community and future generations. Asset provision and maintenance
Coastal Protection and Management Act 1995	Aims to provide for the protection, conservation, rehabilitation and management of the coast, including its resources and biological diversity. Asset provision and maintenance
Iconic Queensland Places Act 2008 and regulation	Aims to protect particular places in Queensland with iconic characteristics or qualities. Asset provision and maintenance
Canal Act 1958/1979 amend	Aims to make provision for the regulation and control of the construction, maintenance and use of canals
Disability Discrimination Act 1992	Asset provision and maintenance
Various Australian Standards	Asset provision and maintenance
Environmental Protection (Water) Policy 2009	The purpose of this policy is achieved by identifying environmental values and management goals for Queensland waters; and stating water quality guidelines and water quality objectives to enhance or protect the environmental values. Providing a framework for making consistent, equitable and informed decisions about Queensland waters; and monitoring and reporting on the condition of Queensland waters.
Sunshine Coast Draft Waterways and Coastal Management Strategy 2011 – 2021	The Draft Waterways and Coastal Management Strategy 2011-2021 intends to provide a framework for managing the Sunshine Coast's natural rivers, wetlands and lakes, its constructed ponds, lakes and canals and its coastline, over the next 10 years. The Strategy outlines key values, challenges and strategic directions for Waterways and coastal foreshores. The Strategy aims to improve and protect the health of our natural waterways and coastal foreshores as well as address the management of constructed water bodies on the Sunshine Coast, to maximise resource use efficiency and minimise risks and life cycle costs.
Queensland Coastal Management Plan	The Coastal Management Plan provides non-regulatory policy guidance to coastal land managers
SEQ Healthy Waterways Strategy (2007 -2012)	Aim is to achieve significant reductions in both urban and non-urban diffuse source pollution and point source pollution, protect and

Legislation	Requirement
	conserve high ecological value waterways, improve catchment health, combat coastal algal blooms, and refine the Ecosystem Health Monitoring Program.
South East Queensland Natural Resource Management Plan 2009 - 2031	<p>To complement and inform preparation and review of the SEQ State of the Region Report and the SEQ Regional Plan.</p> <p>To inform the preparation of local government planning schemes and policies, state government policy, government and non-government corporate plans and property plans.</p> <p>To inform the preparation of planning and investment associated with yearly and long-term business cycles at regional, sub-regional and property levels to ensure funding and community actions contribute to the achievement of regional targets.</p> <p>To advise state agencies and local governments in the assessment of development applications and activities that may significantly constrain the achievement of regional natural resource targets.</p>
South East Queensland Regional Plan 2009 – 2031 (currently under review)	<p>Aim is to ensure that communities are safe, healthy, accessible and inclusive, there are diverse employment, opportunities and quality, infrastructure and services, including education and health. Urban and rural areas are mutually supportive and collaborative in creating wealth for the community, development is sustainable and well designed, and where the subtropical character of the region is recognised and reinforced Ecological and culturally significant landscapes are valued, celebrated, protected and enhanced. The community has access to a range of quality, open space, recreational opportunities.</p>
Our Plan, the South East Queensland Traditional Owner Cultural Resource Management Plan (2008)	<p>Purpose of this plan is to –</p> <p>Complement and inform preparation and review of the SEQ State of the Region Report and the SEQ Regional Plan.</p> <p>Inform the preparation of local government planning schemes and policies, state government policy, government and non-government corporate plans, property plans.</p> <p>To inform the preparation of planning and investment associated with yearly and long-term business cycles at regional, sub-regional and property levels to ensure funding and community actions contribute to the achievement of regional targets.</p> <p>To advise state agencies and local governments in the assessment of development applications and activities that may significantly constrain the achievement of regional natural resource targets.</p>
Aboriginal Cultural Heritage Act 2003	<p>The main purpose of this Act is to provide effective recognition, protection and conservation of Aboriginal cultural heritage.</p> <p>Asset provision and maintenance.</p>
Water Act 2000	<p>The purpose of this Act is to advance sustainable management and efficient use of water and other resources.</p> <p>Asset provision and maintenance.</p>
Permanent Water Conservation Measures	<p>The aims of these measures are to advance sustainable management and efficient use of water.</p>
Electrical Safety Act 2002	<p>This Act is directed at eliminating the human cost to individuals, families and the community of death, injury and destruction that can be caused by electricity.</p> <p>Asset provision and maintenance.</p>
Sustainable Planning Act, 2009	<p>Physical land protection / biodiversity / fire management.</p>

Legislation	Requirement
	Provides legal status to town planning and development conditions.
Land Act, 1994	Physical land management and protection e.g. trustee arrangements
Vegetation Management Act, 1999 and regulations	<p>The purpose of this Act is to regulate the clearing of vegetation in a way that prevents the loss of biodiversity.</p> <p>A) Conserves:  Remnant endangered ecosystems  Remnant of concern ecosystems  Remnant not of concern ecosystems</p> <p>B) Conserves:  Vegetation in declared areas</p> <p>C) Ensures clearing does not cause land degradation</p> <p>D) Prevents loss of biodiversity</p> <p>E) Maintains ecological processes</p> <p>F) Manages environmental effects of clearing</p> <p>G) Reduces greenhouse gas emissions.</p>
Biosecurity Act, 2014	Declared pests and obligations on landholders
Queensland Fires & Rescue Service Act, 1990	Establishment of fire management structure, posting of fire bans, undertaking risk management programs relating to fire.
Endangered Species Protection Act, 1992	Endangered Species Protection Act, 1992
Workplace Health and Safety Act 1995	<p>The objective of this Act is to prevent a person's death, injury or illness being caused by a workplace, by a relevant workplace area, by work activities, or by plant or substances for use at a relevant place.</p> <p>Asset provision and maintenance</p>

### 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:

Technical measures may relate to:	
Quality	Water quality
Quantity	Length of canals and beaches
Availability	Open to public
Safety	Number of injury accidents

**Table 3.3 Current service levels**

#### Coastal

Key performance measure	Level of service	Performance measure process	Performance target
COMMUNITY LEVELS OF SERVICE			
Quality	Coast and canal assets are suitably embellished and maintained for their intended purpose	Availability, embellishment and maintenance quality of coast and canal assets monitored and reported	Measured by ensuring regular survey of profiles match as constructed data
Function	Coast and canal assets are suitably designed, constructed and maintained for their intended purpose and support a wide range of functions, uses and purposes	Availability, embellishment and maintenance quality of coast and canal assets monitored, audited and reported	Measured through ensuring access is maintained via an active dredging program
Safety	Coast and canal assets are safe to utilise with no hazards or threats	Safety audits	Measured by ongoing asset inspections and a reactive CRM process
Sustainability	Coast and canals are managed with respect to future generations	Continuous improvement design process	Ensuring asset renewal utilising best practice construction details
TECHNICAL LEVELS OF SERVICE			

Maintenance	Coast and canal assets dependant on service levels ranging from fortnightly to annual (Refer to maintenance schedules for details.	Technical maintenance audits undertaken and reported	Measured through documented asset condition inspection process
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### Maintenance Schedule

Asset	Activity	Frequency
Canals	Revetment walls	Annually
	Canal profile	Annually
	Navigational aids	Annually
	Locks and weirs	Fortnightly (as per AMP)
	Tidal exchange systems	Fortnightly (as per AMP)

Asset	Activity	Frequency
Beaches	Scarping	Annually and as required post events
	ICOLs	Annually and as required post events
	Vegetation	Annually
	Beach fencing	Annually and as required post events
	Beach access	6 months and as required post events
	Rubbish and litter	High profile – weekly Others as required

Asset	Activity	Frequency
Rivers and foreshores	Jetties and pontoons	Annually with Queensland Transport
	Boat ramps	Annually with Queensland Transport
	Groynes	Annually
	Rock walls	Annually
	Erosion	Annually

### Environmental infrastructure

Key performance measure	Level of service	Performance measure process	Performance target
Quality	Environmental assets are suitably embellished and maintained for intended purpose	Quality of assets are monitored and reported	90% available as scheduled
Function	Area under active regeneration	Improvement in condition of identified areas under regeneration (according to BOA)	90% of sites under active regeneration move to next condition threshold within 5 years of commencement (e.g. poor to medium)
Safety	All assets are maintained in a safe manner	Risk assessments and safety inspections address outstanding issues	90% of safety issues rectified within dedicated timeframes
Sustainability	Reserves, waterways and facilities are preserved and managed for future generations		Energy efficiency principles, water efficiency principles and waste minimisation principles are incorporated in the design of all new facilities.
Maintenance	Audit of assets to ensure operational	Technical maintenance audits undertaken and reported	90% achieved
Condition	Carry out regular inspection of reserves and constructed assets	Inspection frequency (times per period)	90%
	Defects are repaired within approved response times	% of work orders responded to within approved response times	90%
	Condition of vegetation within B1 & B2 reserves	% of this category of reserves mapped	100% of B1
Function	Facilities are fully operational and available	Inspections and condition/operational defect reporting as per track designation weekly – 6 monthly	< 5 reported defects / month
	Minimal track, facilities closures	inspection and defect monitoring as per track designation weekly – 6 monthly	< 1 reported defects/month
	Unobstructed access	Number of complaints regarding vegetation	< 10 complaints per year

Key performance measure	Level of service	Performance measure process	Performance target
		encroaching onto access ways	
Cost effectiveness	Provide services in cost-effective manner	Maintenance cost \$/facility	Operation costs within budget allocation
Safety	Ensure facilities are safe	No reported injury incidents	0 reported injury incidents

### 3.4 Desired levels of service

Council endorsed service levels in relation to both Coastal and Environment infrastructure in February / March 2012.

The intent will be to review service levels in 2017 along with a number of branch business related documentation e.g. benchmarking, demand forecasts, asset growth.

## 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	317,000 (2014)		508,000 (2031)		Projected population increases will increase pressure on existing assets and increase demand for provision of new assets in high growth areas.
Demographics	Highest growth patterns occurring in central area of region		High growth expectation within southern area of region		Requirement for new services to facilitate the growth area and to ensure facilities within neighbouring developments will cater for overflow.
	16% over 65 years old 1.5% over 85 years old 24% under 18 years old		21.7% over 65 years old 3.2% over 85 years old 21% under 18 years old		Requirement for increased access and equity focus during design of buildings and facilities. Provision of suitable facilities to meet the needs of the ageing population.
	Migration patterns have seen net gains of young families and retirees from interstate and a net loss of young people to other parts of Queensland		Current patterns predicted to continue		Review of current and future buildings and facilities to ensure the community's changing requirements are met. Established buildings and facilities may require refurbishment to align current use with desired use/s.
Number persons/household	23%	1 person	23%	1 person	Greater demand for individual activity based recreation opportunities Less demand for group activity demand Less demand for active sports field type parks
	40%	2 person	40%	2 person	
	15%	3 person	15%	3 person	
	15%	4 person	15%	4 person	
	6%	5 person	6%	5 person	

## 4.2 Changes in technology

Technology changes are forecast to affect the delivery of services covered by this Plan outlined in Table 4.2. Delivery of these changes will be undertaken via the IS/ ICTS Strategy.

**Table 4.2 Changes in technology and forecast effect on service delivery**

Technology change	Effect on service delivery
Improved purpose-built software/ hardware technology	Faster and more accurate asset data collection and processing
Access and use of purpose-built mobile computing software technology by general operational staff	Faster and more accurate asset data collection and processing
Regional integration of purpose-built software asset data collection systems	More accurate data collection and processing. More accurate reporting capacity on the type, number and condition of assets

Historically changes in technology have had the effect of reducing whole-of-life costs. Changes in technology will be embraced where possible to reduce future whole-of-life costs.

## 4.3 Demand management plan

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

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this Plan.

**Table 4.3 Demand management plan summary**

### Coastal

Service Activity	Demand management plan
Maintenance of locks and weirs	<ul style="list-style-type: none"> <li>Individual asset management plans</li> <li>Council's Waterways and Coastal Management Strategy 2011 – 2021</li> </ul>
Maintenance of beaches	<ul style="list-style-type: none"> <li>Council's Waterways and Coastal Management Strategy 2011 - 2021</li> </ul>
Maintenance of rivers and Foreshores	<ul style="list-style-type: none"> <li>Coast and canals recurrent maintenance programme</li> <li>Council's Waterways and Coastal Management Strategy 2011 - 2021</li> </ul>

### Environmental infrastructure

Service activity	Demand management plan
Provision of natural areas recreational facilities	Planning Scheme SCC Corporate Plan 2017-21 SCC Budget SCC 10 year Capital Works Program Environmental Levy Policy
Provision of WSUD devices	Planning Scheme

Service activity	Demand management plan
Maintenance of constructed assets and natural assets	SCC Corporate Plan 2017-21 SCC Operational Plans SCC Budget

#### 4.4 Demand Scenario Planning

A requirement of an Intermediate Asset Management Plan is to refine demand planning beyond the more robust projection of primary demand factors as provided above.

As part of the improvement plan for this asset plan further demand forecasts are to be progressed based both on mathematical analysis of past trends and primary demands factors.

In addition a range of demand scenarios will be developed (high/ medium/ low) which will include risk assessments and mitigation actions.

#### 4.5 New assets from growth

The new assets required to meet growth will be acquired from land developments, land acquisitions and as constructed by council. Uncertainty regarding the type of assets which may be provided through major developments such as Caloundra South and Palmview, has the potential to greatly increase whole-of-life costs into the future depending on the type and number of assets which council will acquire. Further work needs to be undertaken here to gain a greater understanding of the type, quantity and quality of assets to be acquired.

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.

**Table 4.4 New assets from growth**

##### Coastal

Asset	Capital value
Mooloolaba Beach nourishment/ seawall	\$500,000
Maroochy Boulevard lake salinity and revetments	\$2 million
Golden Beach revetment walls	\$2 million
Alex to Maroochy Surf Club beach nourishment/ seawall	\$7 million
Maroochy CBD Constructed Lake assets	Unknown
Brightwater Constructed Lake Assets	Unknown
Lake Kawana Assets	Unknown
Palmview Development Area	Unknown

Asset	Capital value
Caloundra South Assets	Plus of 40 constructed devices and systems

Environmental infrastructure

Asset	Capital value
<u>Natural Areas</u>	
Various land acquisitions / contributions	Ongoing
Interpretative Display	\$650,000
Trails (Fire and Public Access)	Unknown
Visitor access infrastructure	Unknown
<u>Constructed waterways</u>	
Various bioretention basins, wetlands	Unknown

## 5. LIFE CYCLE MANAGEMENT PLAN

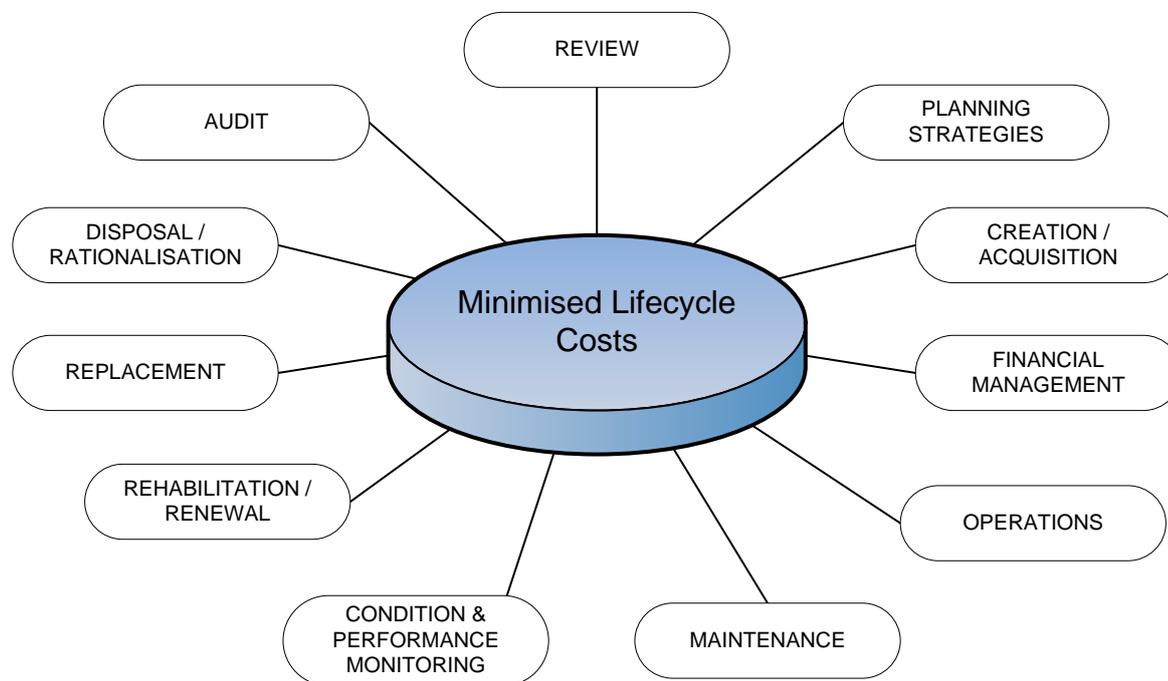
The life cycle management plan details how council plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while minimising life cycle costs.

### 5.1 Background data

Life cycle asset management takes account of the whole-of-life implications for acquiring, operating, maintaining and disposing of park assets. The objectives of life cycle planning are to:

- Establish the total cost of an asset over its useful life
- Establish a sound basis on which asset management decisions are made
- Plan for the impact of refurbishment, maintenance and renewal; and
- Increase the service delivery capacity for the asset

The standard asset's life cycle costs are depicted in the following diagram:



### 5.1.1 Physical parameters

The assets covered by this Plan are shown below:

#### Coastal

**Table 5.1.1 Coastal assets covered by this Plan**

Asset category	Asset quantity	Asset description
Beach access	255	Council has 255 beach accesses that cover the whole coastal region. These assets were designed and constructed by two separate regions prior to amalgamation, and therefore were maintained and replaced at different intervention levels. Typically across the region most accesses are in good condition
Dune fencing	58kms	Beach fences across the region are in a moderate state and extra funds have been allocated to maintain these assets
Beaches	60kms	Of the 604kms of beaches throughout the region, two have replenishment strategies (Mooloolaba Spit, Maroochydore Beach) in place to address sand renourishment, other high profile beaches are reliant on back passing to replenish beach profiles while lower priority beaches are replenished naturally.
Boat ramps	25	These boat ramps are both Council and Queensland Transport assets. However, council has a legislative responsibility to maintain all these assets
Canals	57kms	Canals are to be maintained under the Coastal Protection and Management Act 1995 Dredging activities: Maroochydore and Mooloolaba canals are serviced between three and five years, and Minyama canals are serviced between three and five years. All canals are to be maintained to the profile in which they were developed.
Locks and weirs	2	There are two locks and weirs in the region. Both have asset management plans that ensure the locks and weirs perform efficiently and usual whole of life costs are 30 years. Locks and weirs also form part of the individual lake management plans
Jetties and pontoons	27	Jetties and pontoons assets are similar in nature to boat ramps. A number belong to Queensland Transport.
River foreshore Scour protection Groynes Revetment / retaining walls	106km 22 102km	River and foreshores, revetment walls, groynes and scour protection assets are maintained to ensure public safety and amenity, and most of these foreshores are now covered under a Department of Environment and Heritage Protection (DEHP) permit to allow council to perform maintenance activities.

## Environmental infrastructure

**Table 5.1.1A Environmental assets covered by this Plan**

<b>Asset category</b>	<b>Asset quantity</b>	<b>Asset description</b>
<b>Total Natural Area Estate</b>	5,782ha	
Environmental reserves	4,665ha	Property associated with reserve network
Beach and dunal	240ha	Property associated with coastal reserve network
Botanic gardens and iconic reserves	132ha	Property associated with reserve network, including recreational assets and interpretative displays
Riparian	635ha	Property associated with reserve network
Amenity reserve – undeveloped	110ha	Smaller reserves generally <1ha
Interpretative displays	2	Static, electronic displays relating to environmental stories and values associated with reserves
Walking trails	78.5 km	Sealed and unsealed trails supporting recreational use
Fire trails	52 km	Graded, drained gravel trails
Visitor infrastructure	Multiple	Shelters, BBQ's, signage, seating and fencing
<b>Waterways, water sensitive urban design (WSUD) and water bodies</b>		
Major streams	>3,700kms	Natural waterways throughout the region
Lakes and wetlands	>96 lakes	Both constructed and natural
WSUD devices	>35	
Coastal lakes	4	

Environmental assets are distributed across the Sunshine Coast region within a variety for vegetation communities which have different management response requirements given environmental conditions frequently impact operational maintenance approaches.

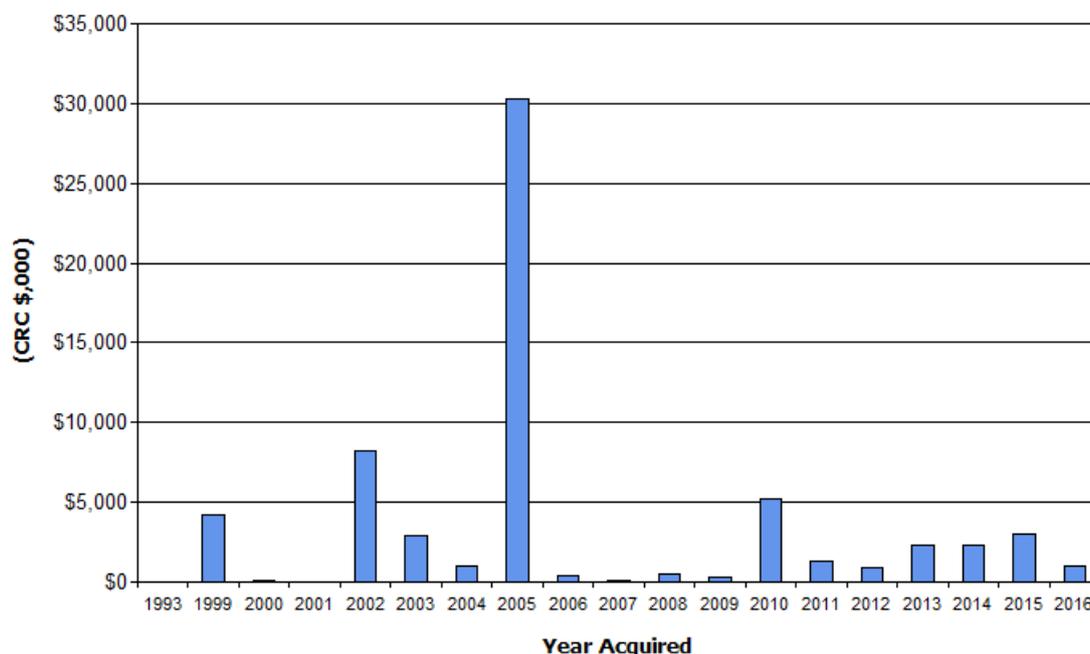
Changing climatic conditions pose a risk in the ability to address expected changes within the supporting and protective infrastructure that maybe required to minimise impacts on these assets and our adjoining neighbours (e.g. bank stabilisation from flooding or high rainfall events and fire trails and fuel reduced zones in relation to increased future fire events).

Waterway assets and focus is primarily within the coastal and floodplain zones of the region. This follows development of the region in areas closest to the coast.

## Combined Asset Age Profile

The age profile of council's assets, based on council's financial asset register, is shown in Figure 2.

## Sunshine Coast RC - Age Profile (Enviro Ops and Coastal\_S1\_V2)



**Figure 2 Asset age profile**

Acquisition dates of assets and financial asset write on processes need to be reviewed as a part of the improvement plan, especially for the year 2005. It is evident that a large quantity of existing assets were entered into the financial asset management system in this period, this appears to be based on the asset recognition date and not the date that the assets were constructed.

### 5.1.2 Asset capacity and performance

Council's services are generally provided to meet design standards where these are available. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

**Table 5.1.2 Known service performance deficiencies**

#### Coastal

Location	Service deficiency
Lock and weir systems	Knowledge of system functions and repairs very limited
Rock revetment walls	Age and condition
Beach accesses	Age and condition
Beaches	Climate change and storm events
Dune fencing	Age and condition
Canals	De-silting and canal floor settlement
Geotextile containers	Need replacing every 15 years depending on location

## Environmental infrastructure

Location	Service deficiency
Environmental Reserve	Weed and tree management
Recreational and Fire trail network	Surface and drainage elements.
Recreational Visitor infrastructure (signage)	Condition and age

Note the above service deficiencies were identified from ongoing condition assessments.

### 5.1.3 Asset condition

The condition profile of council's assets is shown below.

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

**Table 5.1.3: Simple Condition Grading Model**

Condition Grading	Description of Condition
1	Very Good: only planned maintenance required
2	Good: minor maintenance required plus planned maintenance
3	Fair: significant maintenance required
4	Poor: significant renewal/rehabilitation required
5	Very Poor: physically unsound and/or beyond rehabilitation

### 5.1.4 Asset valuations

The value of assets as at 30 June 2016 covered by this Plan is summarised below. Assets were last revalued at 30 June 2015. Assets are valued at Greenfield rates.

#### Coastal & Environmental Infrastructure

Current replacement cost	\$63.937 million
Depreciable amount	\$63.937891 million
Depreciated replacement cost	\$51.891 million
Annual depreciation expense	\$1.379 million

## 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

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<sup>2</sup> IPWEA, 2011, IIMM, Sec 2.5.4, p 2|79

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.

Critical risks, being those assessed as 'very high' (VH) - requiring immediate corrective action, and 'high' (H) – requiring prioritised corrective action, identified in the infrastructure risk management plan are summarised in Table 5.2.

Reporting of risks is undertaken via the organisational risk register which is managed by the organisations Governance Branch.

For this Plan the register has highlighted and reported on those risks associated with underfunding asset renewal programs consistent with this Plan.

**Table 5.2 Critical risks and treatment plans**

Coastal

Asset at risk	What can happen	Risk rating (VH, H)	Risk treatment plan
Beaches and beach access	Erosion, infrastructure damage	VH	Beach reports by Lifeguards, condition inspections and post event inspections
Boat ramps	Trip fall hazards, damage to boats	VH	Regular inspections by Queensland Transport and SCC staff as per Coastal's Recurrent Maintenance Programme
Canals	Revetment walls falling down, damage to property	VH	Canal inspections by SCC staff as per Coastal's Recurrent Canal Maintenance Programme
Locks and weirs	Breakdown of locks leaving no access for boats	VH	Fortnightly inspections by experienced contractors with the specific knowledge for these systems
Jetties and pontoons	Trip fall hazards, splintering, rotten timber	VH	Inspections as per Coastal's Recurrent Maintenance Programme
River foreshores	Erosion	VH	Inspections as per Coastal's Recurrent Maintenance Programme
Scour protection	Erosion	VH	Inspections as per Coastal's Recurrent Maintenance Programme
Dune fencing	Splintering and rusty wiring	VH	Annual inspection
Groynes	Erosion , depleted rock	H	Inspections as per Coastal's Recurrent Maintenance Programme
Revetment walls	Undermining and erosion	VH	Inspections as per Coastal's Recurrent Maintenance Programme

## Environmental infrastructure

Asset at Risk	What can happen	Risk rating (VH, H)	Risk treatment plan
Shelters	Structural failure due to vandalism or life cycle	VH	Regular inspections by SCC staff as per Natural Area Service Levels
Walking trails surface	Slip, trip fall Hazards, injury to person	VH	Regular inspections by SCC staff as per Natural Area Service Levels
Walking trails drainage	Erosion silt and debris causing, damage to property and waterways	H	Regular inspections by SCC staff as per Natural Area Service Levels
Fire trails	Erosion leading to inaccessible trail, staff and property at risk	VH	Regular inspections by SCC staff as per Natural Area Service Levels
Natural waterways embankments and foreshores – stabilisation works	Erosion property and environmental risks	H	Regular inspections by SCC staff as per Natural Area Service Levels
Signage	Unreadable, failure, vandalism injury to users, lost walkers	H	Regular inspections by SCC staff as per Natural Area Service Levels
WSUD assets	Large number of assets reaching end of life or requiring significant renewal	H	Development of CWB strategic asset and investment plan. Further WSUD assets to follow e.g. swales/ biobasins
Fencing and gates	Splintering and rusty wire, unapproved access causing vegetation and erosion	H	Regular inspections by SCC staff as per Natural Area Service Levels

## **5.3 Routine maintenance plan**

### Coastal

Coast and Canals have developed a Recurrent Maintenance Plan. Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where components of the asset fail and need immediate repair to make the asset operational again.

### Environmental infrastructure

Routine maintenance is the regular ongoing work that is necessary to keep assets operating, including instances where components of the asset fail and need immediate repair to make the asset operational again.

Please note council has in place a documented Quality Management System which maintains the process documentation associated with the range of work in relation to this Plan.

In addition council has a range of business continuity plans in place, which are exercised regularly, to ensure quality of service is maintained during disrupted periods.

### 5.3.1 Maintenance plan

Maintenance includes reactive, planned and cyclic 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.

For these assets this work can include:

- Re-grouting of revetment wall to maintain its serviceable life
- Timber signs painting

Cyclic maintenance is replacement of components/sub-components of assets that is undertaken on a regular cycle. This work generally falls below the capital/maintenance threshold.

Maintenance expenditure trends are shown in Table 5.3.1

**Table 5.3.1 Maintenance expenditure trends**

#### Coastal

Year	Maintenance expenditure		
	Reactive	Planned	Cyclic
2013/14	\$463k	\$3.746m	\$0
2014/15	\$478k	\$3.871m	\$0
2015/16	\$500k	\$3.900m	\$0

Planned maintenance work is 89 per cent of total maintenance expenditure.

Maintenance expenditure levels are considered to be adequate.

Future revision of this 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.

#### Environmental Infrastructure

Year	Maintenance expenditure		
	Reactive	Planned	Cyclic
2013/2014	\$560k	\$4.5m	\$0
2014/2015	\$600k	\$4.5m	\$0
2015/2016	\$670k	\$5.1m	\$15k

Planned maintenance work is 88 per cent of total maintenance expenditure.

Maintenance expenditure levels are considered to be adequate. Future revision of this 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 and risk.

### 5.3.2 Standards and specifications

Maintenance work is carried out in accordance with the following standards and specifications.

- (1) Department of Environment and Heritage Protection
  - (a) "Guidelines for the Construction of Works on Tidal Lands or Waters for Private Use"
- (2) Building Code of Australia
  - (a) BCA Vol 2 Part 3.1.2.0 – Drainage (AS 3500.3.2)
  - (b) BCA Vol 2 Part 3.1.2.2 (d) – Excavation and Piling near Sewers and Drains
  - (c) BCA Vol 2 Part 3.1.1 – Earthworks
- (3) Australian Standards
  - (a) AS 1141: Methods for sampling and testing aggregates
  - (b) AS 1428: Design for Access and Mobility
  - (c) AS 1604: Treatment of piles
  - (d) AS 1664.1: Aluminium Structures Code
  - (e) AS 1665: Welding
  - (f) AS 1170.1 and 1170.2: Loading Codes
  - (g) AS 1650 Galvanising
  - (h) AS 1720: Timber Structures Code
  - (i) AS 2159: Piling Code
  - (j) AS 2239: Galvanic (Sacrificial) Anodes for Cathodic protection
  - (k) AS 2312 Two Pack Epoxy Paints
  - (l) AS 2832.3 Guide to the Cathodic protection of metals-fixed immersed structures.
  - (m) AS 3500: Part 3.2, Stormwater Drainage – Acceptable Solutions
  - (n) AS 3600: Concrete Structures Code
  - (o) AS 3700: Masonry Structures Code
  - (p) AS 3706: Geotextiles Methods of test
  - (q) AS/NZ 3004: Marinas and Recreational Boats
  - (r) ANZECC: Guidelines for fresh and Marine Water Quality
  - (s) AS 3962: Guidelines for Design of Marinas Code
  - (t) AS 4110: Steel Structures Code
  - (u) AS 4133: Methods of testing rocks for engineering purposes
- (4) Nature Conservation Act 1992
- (5) SEQ Restoration Framework, Guideline & Manual
- (6) Healthy Waterways – Water sensitive Urban Design – Technical Design Guidelines for SEQ
- (7) Healthy Waterways – Water by Design Construction and Establishment Guidelines
- (8) Coastal Protection and Management Act 1995

### 5.3.3 Summary of future maintenance expenditures

Future maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 3. Note that all costs are shown in current dollar values. Further validation of maintenance costs needs to be undertaken once the impact on type and number of assets from the development are known.

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.

## Sunshine Coast RC - Projected Operations & Maintenance Expenditure (Enviro Ops and Coastal\_S1\_V2)

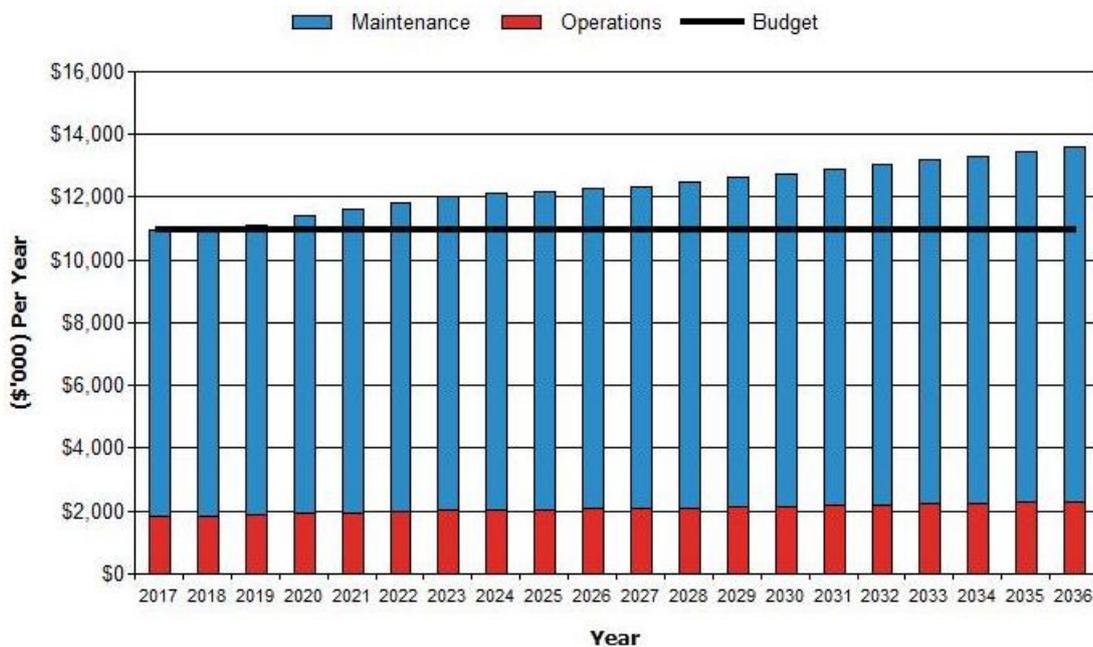


Figure 3 Planned maintenance and operational expenditure (coastal & environmental)

## 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 council's financial asset register. Renewal projects are inspected to verify if the asset is still required; the accuracy of remaining life estimate, and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in council's 10 year Capital Works Program. The priority ranking criteria is detailed in Table 5.4.1.

**Table 5.4.1 Renewal - priority ranking criteria**

Coastal

Criteria	Weighting
Community / social benefit	18%
Corporate alignment	10%
Risk assessment	18%
Financial considerations	10%
Environmental impacts	16%
Economic benefits	18%
Demand	10%
Total	100%

Environmental Assets

(Environmental Tracks, Trails and Infrastructure and Environmental Visitor Education Facilities)

Criteria	Weighting
Community / social benefit	18%
Corporate alignment	14%
Risk assessment	12%
Financial considerations	12%
Environmental impacts	16%
Economic benefits	14%
Demand	14%
Total	100%

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.

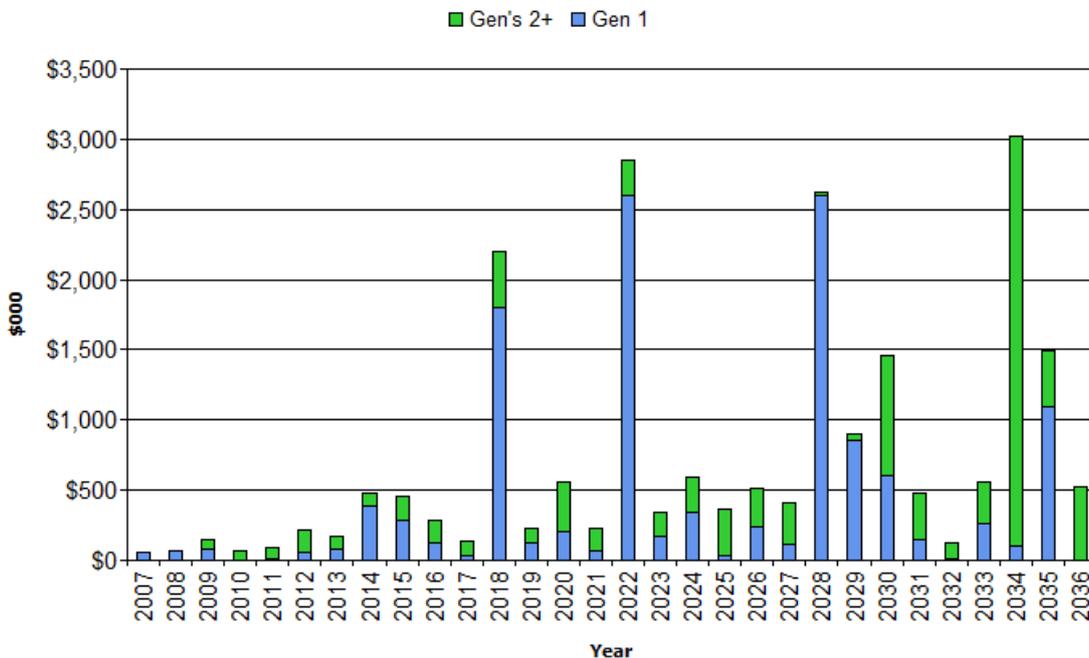
**5.4.2 Renewal standards**

Renewal work is carried out in accordance with the standards and specifications listed in Section 5.3.2.

**5.4.3 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 Figure 4. Note that all costs are shown in current dollar values.

## Sunshine Coast RC - Projected Capital Renewal Expenditure (Enviro Ops and Coastal\_S1\_V2)



**Figure 4 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 Works 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, increase in level of service, social or environmental needs. Assets may also be acquired at no cost to council from land development. These assets from growth are considered in Section 4.4.

The adoption of the shoreline erosion management plans (SEMPs) has set the requirements for council's 10 year Capital Works Program for coastal infrastructure.

#### 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 council's 10 year Capital Works Program. The priority ranking criteria is detailed below.

**Table 5.5.1 New – priority ranking criteria**

Coastal

Criteria	Weighting
Community / social benefit	18%
Corporate alignment	10%
Risk assessment	18%
Financial considerations	10%
Environmental impacts	16%
Economic benefits	18%
Demand	10%
Total	100%

Environmental Assets

(Environmental Tracks, Trails and Infrastructure and Environmental Visitor Education Facilities)

Criteria	Weighting
Community / social benefit	18%
Corporate alignment	14%
Risk assessment	12%
Financial considerations	12%
Environmental impacts	16%
Economic benefits	14%
Demand	14%
Total	100%

**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 5.3.2.

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

Planned upgrade / new asset expenditures are summarised in Figure 5. The planned upgrade / new capital works program is shown in Appendix C. All costs are shown in current 2012 dollar values.

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

## Sunshine Coast RC - Projected Capital Upgrade/New Expenditure (Enviro Ops and Coastal\_S1\_V2)

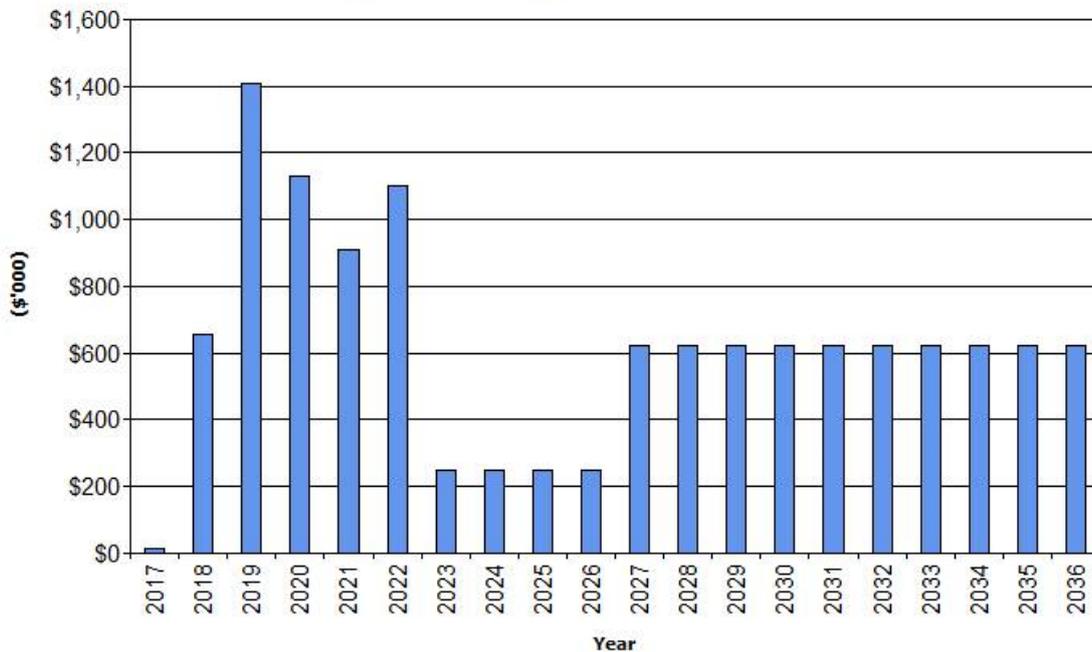


Figure 5 Planned capital upgrade / new asset expenditure (coastal & environmental)

### 5.6 Disposal plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. No assets have been identified for disposal.

Where cash flow projections from asset disposals are not available, these will be developed in future revisions of this Plan.

## 6. FINANCIAL SUMMARY

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

### 6.1 Financial statements and projections

The financial projections are shown in Figure 6 for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

## Sunshine Coast RC - Projected Operating and Capital Expenditure (Enviro Ops and Coastal\_S1\_V2)

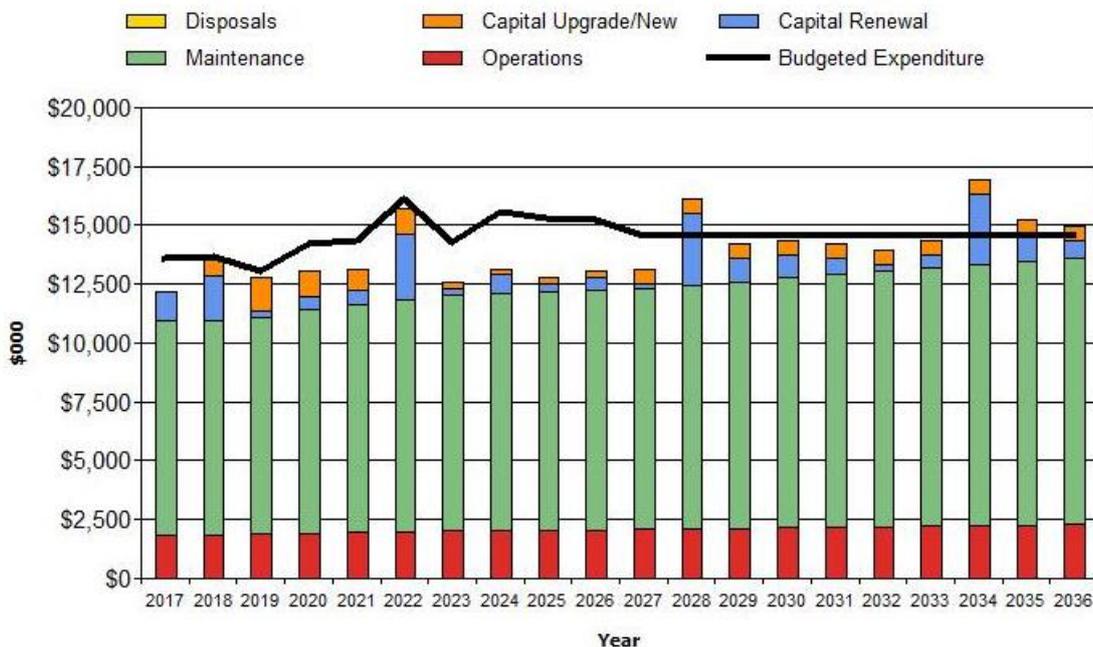


Figure 6 Planned operating and capital expenditure

### 6.1.1 Sustainability of service delivery

There are two key indicators for financial sustainability that have been considered in the analysis of the services provided by this asset category, these being long term life cycle costs and medium term costs over the 10 year financial planning period.

#### *Long term - life cycle cost*

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the longest asset life. Life cycle costs include maintenance and asset consumption (depreciation expense). The annual average life cycle cost for the services covered in this asset management plan is \$13 million.

Life cycle costs 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 expenditure will vary depending on the timing of asset renewals. The life cycle expenditure at the start of the plan is \$14 million.

A gap between life cycle costs and life cycle expenditure gives an indication as to whether present consumers are paying their share of the assets they are consuming each year. The purpose of this Plan is to identify levels of service that the community needs and can afford and develop the necessary long term financial plans to provide the service in a sustainable manner.

The life cycle sustainability index is: **1.08**

Further validation of the Sustainability Index will be undertaken through improved data knowledge, systems and processes and reported back to council in updated versions of this Plan.

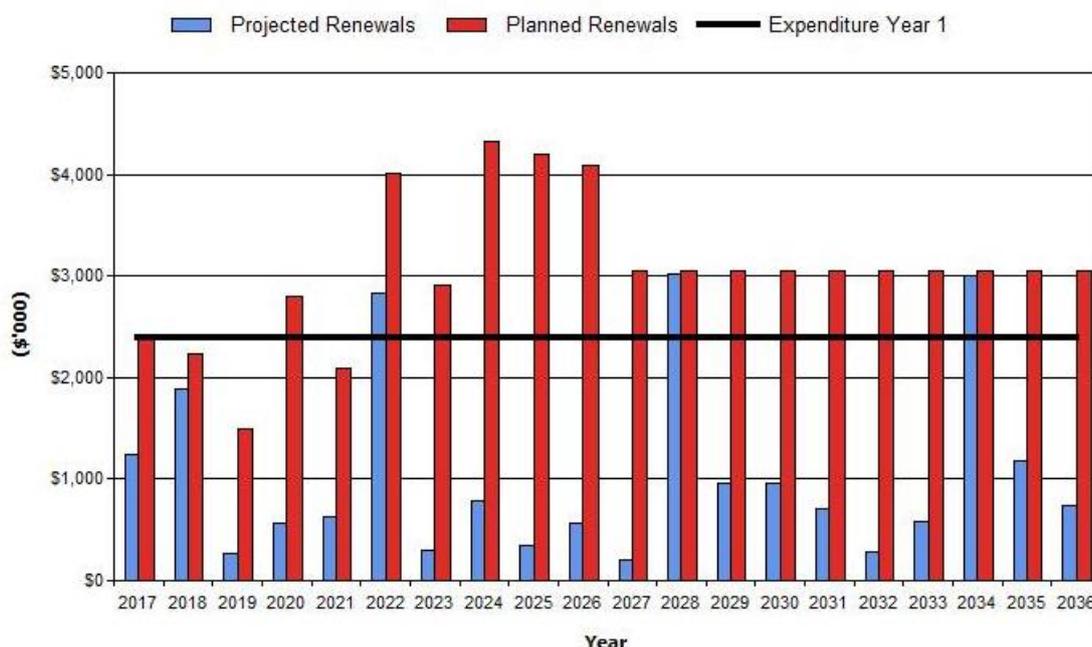
#### *Medium term – 10 year financial planning period*

This Plan identifies the estimated maintenance and capital expenditures required to provide an agreed level of service to the community over a 20 year period for input into a 10 year financial plan and funding plan to provide the service in a sustainable manner.

This may be compared to existing or planned expenditures in the 20 year period to identify any gap. In a core asset management plan, a gap is generally due to increasing asset renewals.

Figure 7 shows the projected asset renewals in the 20 year planning period from the asset register. The projected asset renewals are compared to planned renewal expenditure in council's capital works program and capital renewal expenditure in year one of the planning period as shown in Figure 8.

## Sunshine Coast RC - Projected & LTFP Budgeted Renewal Expenditure (Enviro Ops and Coastal\_S1\_V2)



**Figure 7 Projected and planned renewals and current renewal expenditure**

Providing services in a sustainable manner will require matching of projected asset renewals to meet agreed service levels with planned capital works programs and available revenue.

A gap between projected asset renewals, planned asset renewals and funding indicates that further work is required to manage required service levels and funding to eliminate any funding gap.

Council will manage the gap by developing this asset management plan to provide guidance on future service levels and resources required to provide these services, and addressing the longer term implications of the developing shortfall.

### 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 10 year long term financial plan.

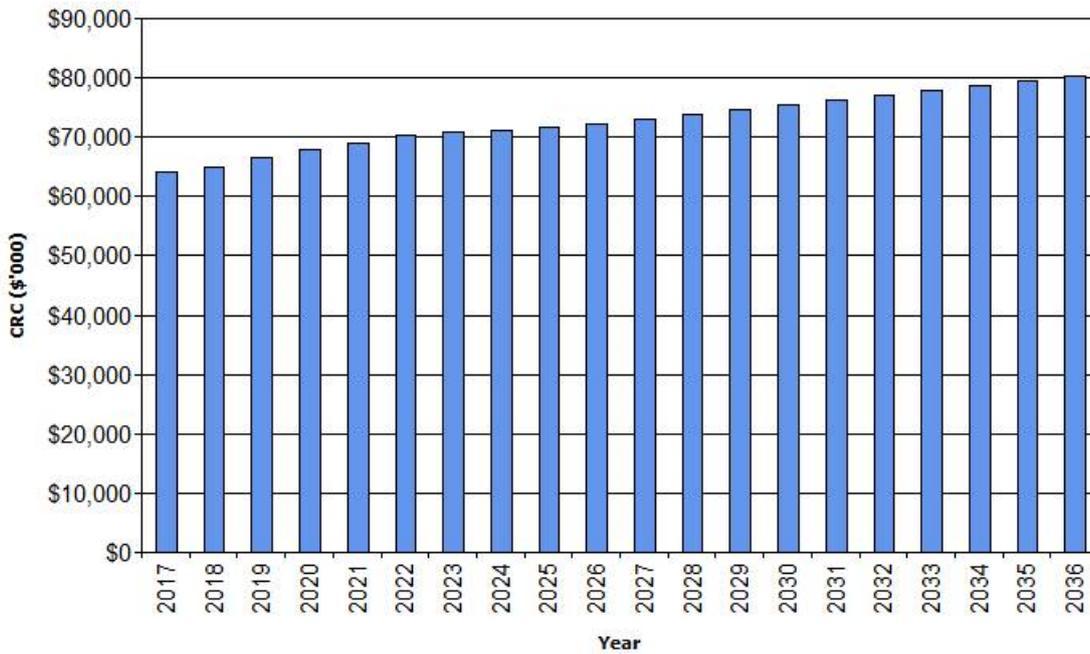
Decision-making in relation to prioritisation of budget to asset category is based on a prioritisation scored as contained in this Plan.

Further work is required in the completion of **all** business case development for major projects to ensure a transparent selection process in relation to budget prioritisation.

### 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. Figure 8 shows the projected replacement cost asset values over the planning period in current 2016 dollar values.

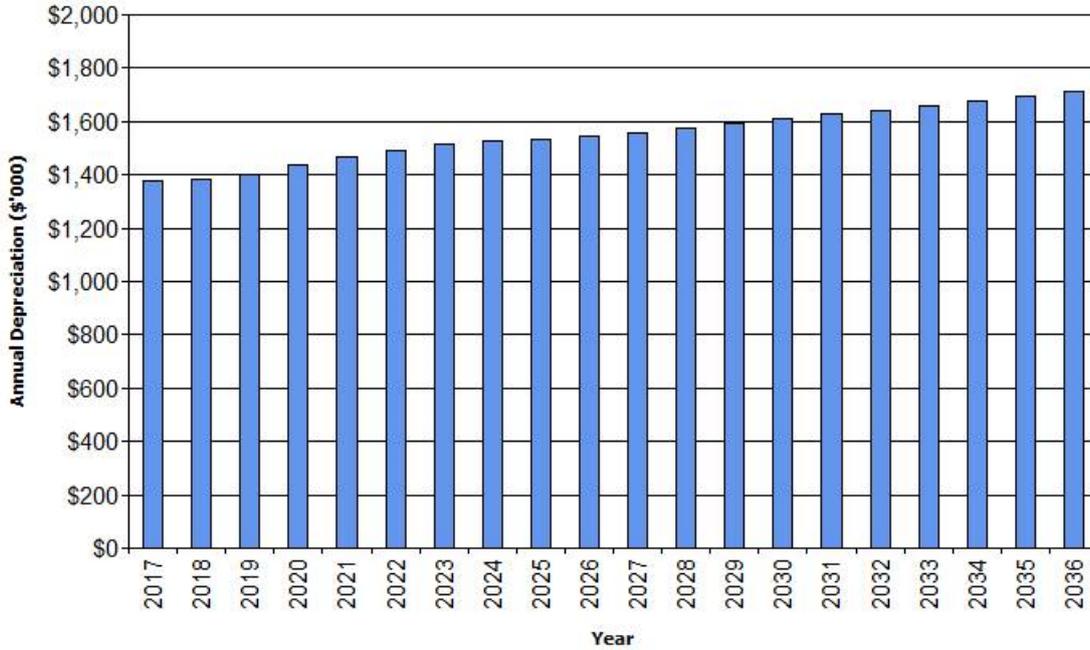
**Sunshine Coast RC - Projected Asset Values (Enviro Ops and Coastal\_S1\_V2)**



**Figure 8 Projected asset values**

Depreciation expense values are forecast in line with asset values as shown in Figure 9.

### Sunshine Coast RC - Projected Depreciation Expense (Enviro Ops and Coastal\_S1\_V2)



**Figure 9 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 Figure 10.

## Sunshine Coast RC - Projected Depreciated Replacement Cost (Enviro Ops and Coastal\_S1\_V2)

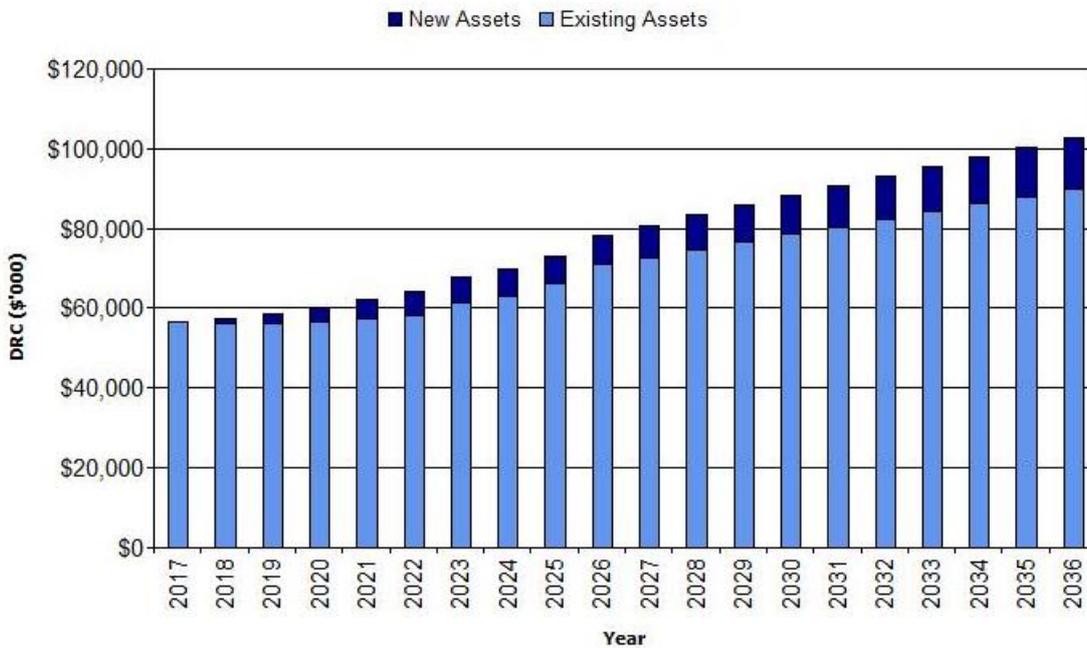


Figure 10 Projected depreciated replacement cost

### 6.4 Key assumptions made in financial forecasts

This section details the key assumptions made in presenting the information contained in this 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.



## 7. ASSET MANAGEMENT PRACTICES

### 7.1 Accounting / financial systems

Council operates the Technology One system for management of financial information. This system is managed by the Finance and Business Unit. The intent will be for Technology One to be interfaced with an asset management system (see below) to enable the transfer of financial asset information between the two systems.

## **7.2 Asset management systems**

Council is currently transitioning to a new Strategic Asset Management System supported by a field collection/ assessment capability.

Currently the management of assets contained within this Plan are via Assetic Predictor as the strategic asset management software (partially loaded with these assets) and the Collector app in terms of asset inspection and condition assessment.

A number of procedures for asset inspections have been put in place consistent with the requirements of an intermediate level of asset planning.

Asset managers are responsible for maintaining data pertaining to their asset area whilst geographical data is held on all assets within ArcGIS to display and edit geographical data. In conjunction with a focus on place making, council has a commitment to the integration of sustainable asset management across the organisation.

## **7.3 Information flow requirements and processes**

The key information flows into this 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 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 and annual budgets.

## **7.4 Standards and guidelines**

Organisational assets standards and guidelines apply.

## 8. PLAN IMPROVEMENT AND MONITORING

### 8.1 Performance measures

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

- The degree to which the required cash flows identified in this 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 asset management plan
- Procurement and implementation of a "Strategic" asset management system.

### 8.2 Improvement plan

The asset management improvement plan generated from the previous 2015/16 asset management plan is shown in Table 8.2A.

**Table 8.2A Previous Improvement plan**

#### Coastal

Task No	Task	Responsibility	Resources required	Results
1.	Condition review	C,CWB&P	Labour	Completed
2.	GIS layers to be updated ( Coastal Revetment Walls)	GIS/Data	SIM staff	Completed
3.	Asset data review and load onto new asset system	C,CWB&P	Strategic Asset Management (SAM) System	In progress – carried over
4.	FAIM	Finance	Match financial model to GIS data	In progress – carried over

#### Environmental infrastructure

Task No	Task	Responsibility	Resources required	Results
1.	Review GIS data standardise collection data form	Natural Areas	Staff / contract resource	6 months completed
2.	Confirm responsibility for WSUD and waterbody assets	C,CWB&P	Staff	Completed
3.	Maintain GIS layer of assets	Natural Areas	Staff	Ongoing carried over
4.	FAIM - match financial model to GIS data	Finance	Staff	Ongoing carried over
5.	Update finance at completion of capital work projects	Natural Areas	Staff	Ongoing

The asset management improvement plan generated from this 2016/17 asset management plan is shown in Table 8.2B.

**Table 8.2B Improvement plan**

Coastal

<b>Task No</b>	<b>Task</b>	<b>Responsibility</b>	<b>Resources required</b>	<b>Timeline</b>
1.	Refined customer surveys and needs analysis	C,CWB&P	Staff / contract resource	12 months
2.	Mathematical analysis of demand forecast	C,CWB&P	Staff / contract resource	12 months
3.	Asset data review and load onto new asset system	C,CWB&P	Strategic Asset Management (SAM) System	Ongoing
4.	Asset inspection procedures	C,CWB&P	Staff/ contract resource	12 months
5.	FAIM	Finance	Match financial model to GIS data	Ongoing
6.	Business case development for major projects (3 – 5 years) and conceptual for projects out to 20 years	C.CWB&P	Staff/ contract resource	12 months
7.	Structure review to consider the dedication of an asset management position within branch planning	Branch Management	Staff/ contract resource	12 months
8.	Develop project brief for each improvement action	C,CWB&P	Staff/ contract resource	12 months

Environmental infrastructure

<b>Task No</b>	<b>Task</b>	<b>Responsibility</b>	<b>Resources required</b>	<b>Timeline</b>
1.	Refined customer surveys and needs analysis	Natural Areas	Staff / contract resource	12 months
2.	Maintain GIS layer of assets	Natural Areas	Staff	Ongoing
3.	FAIM - match financial model to GIS data	Finance and Natural Areas	Staff	Ongoing
4.	Update finance at completion of capital work projects	Project Owner/Manager	Staff	Ongoing
5.	Asset inspection procedures	Natural Areas	Staff	Ongoing
6.	Asset data loading into AMIS	Natural Areas	Staff/contract resource	12 months

A project brief is to be developed for all key improvement actions.

The progress of this improvement plan is report through the 'State Of' reporting each year by the Project Delivery Branch.

### **8.3 Monitoring and review procedures**

This Plan will be reviewed during annual budget preparation and amended to recognise any changes in service levels and/or resources available to provide those services as a result of the budget decision process.

The Plan has a life of four years and is due for revision and updating within two years of each council election.

## Abbreviations

### AAAC

Average annual asset consumption

### AMP

Asset management plan

### ARI

Average recurrence interval

### BOD

Biochemical (biological) oxygen demand

### CRC

Current replacement cost

### CWMS

Community wastewater management systems

### DA

Depreciable amount

### DoH

Department of Health

### EF

Earthworks/formation

### IRMP

Infrastructure risk management plan

### LCC

Life cycle cost

### LCE

Life cycle expenditure

### MMS

Maintenance management system

### PCI

Pavement condition index

### RV

Residual value

### SS

Suspended solids

### vph

Vehicles per hour

## 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, and 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 months.

### 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, eg. 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 arms 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, eg. 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).

### Life cycle cost \*\*

The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual maintenance and asset consumption expense, represented by depreciation expense. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

### Life cycle expenditure \*\*

The life cycle expenditure (LCE) is the actual or planned annual maintenance and capital renewal expenditure incurred in providing the service in a particular year.

### 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 (eg 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, eg 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, eg 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 (SMA)\*\*

Documents council objectives for a specified period (3-5 yrs), 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 council's objectives and activities.

### Sub-component

Smaller individual parts that make up a component part.

### Sustainability

Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

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 \*\*

## References

DVC, 2006, 'Asset Investment Guidelines', 'Glossary', Department for Victorian Communities, Local Government Victoria, Melbourne, <http://www.dvc.vic.gov.au/web20/dvclgv.nsf/allDocs/RWP1C79EC4A7225CD2FCA257170003259F6?OpenDocument>

IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney, [www.ipwea.org.au](http://www.ipwea.org.au)







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