



STORMWATER

ASSET MANAGEMENT PLAN



Version 2

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Asset Management Plans App E Stormwater

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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
GPT	Gross Pollutant Trap
IRMP	Infrastructure risk management plan
IPWEA	Institute of Public Works Engineers, Australia
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, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

Assets

Future economic benefits controlled by the entity as a result of past transactions or other past events (AAS27.12).

Property, plant and equipment including infrastructure and other assets (such as furniture and fittings) with benefits expected to last more than 12 month.

Average annual asset consumption (AAAC)*

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

Brownfield asset values**

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

Capital expansion expenditure

Expenditure that extends an existing asset, at the same standard as is currently enjoyed by residents, to a new group of users. It is discretionary expenditure, which increases future operating, and maintenance costs, because it increases council's asset base, but may be associated with additional revenue from the new user group, eg. 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, eg. 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. Life Cycle Expenditure may be compared to Life Cycle Expenditure to give an initial indicator of life cycle sustainability.

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 (eg 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, eg. 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.

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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 (SA)**

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 the 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 **



1. EXECUTIVE SUMMARY

What Council Provides

Council provides a Stormwater network to enable the delivery of a sustainable level of service to existing and future customers in the most cost effective way, while managing risk and adhering to statutory and legislative requirements. This plan is intended to demonstrate how Council will achieve this outcome by applying the principles of responsible asset management.

Council's Stormwater network has a current replacement value of \$984 m and a written down value of \$768 m (FAIM) as at 30 June 2012.

This significant investment to council must be maintained and rehabilitated over the useful life of the assets, and future replacements must be forecast and financed. The current value includes the capitalised book value of built assets only, and excludes the value of natural assets. Many of the natural assets are currently not identified, and therefore listed as assets which require future maintenance and rehabilitation. These include natural drainage lines and informal retardation and sediment basins. Other unidentified assets include: channel armouring; levee banks; weirs; flood bypass channels; drainage reserves; overland flow paths; bio-retention systems; and penstocks. Consequently it is likely that these have not previously been fully recognised by the financial management system, and have therefore not been properly funded. Although a basic estimate of their maintenance and rehabilitation requirements has been provided in this plan, the data requires verification.

Although existing renewal forecasts do not accurately predict the year by year financial need, the overall average gap will still need to be addressed, and provision made for addressing the shortfalls. It is expected that the proposed improvement plans outlined in Chapter 6 will enable more accurate short, medium and long term forecasting, when these plans are implemented. A large proportion of asset data still requires collection and/or verification. Until this is performed, it is not possible to accurately predict short and medium term rehabilitation requirements. The financials have therefore been calculated on the smoothed average rehabilitation requirements across the useful life of the assets, and do not necessarily reflect the actual year by year need.

Until the funding gap is closed, and any backlog eliminated, it should be noted that a corresponding decrease in the level of service can be anticipated. This could be accompanied by an increased risk of premature asset failure, possible liability claims against Council, and a likelihood of non-compliance with Statutory and Legislative requirements. It is also not known whether the useful asset lives have been artificially shortened due to the previous under-funding, and no allowance has been made for this in the estimates.

A relative unknown in predicting the useful life of an asset, is the issue of structural versus functional obsolescence. There is currently a rising trend in the number of assets having to be replaced well before the predicted date. Recent examples include the relining of old butt-jointed pipes which have collapsed, culvert replacement due to corrosive elements, and undersized pipes and culvert crossings.

Occasionally an asset will also need to be replaced before the end of its useful life, due to it no longer providing the required level of service, despite its structural condition being sound. An example of this has been the recent replacement of a number of large culverts in Duckholes Creek, at a cost of \$2,500,000, despite the culverts only having consumed 40% of their useful life. Due to the unpredictability of these events, it is difficult to accurately make allowance for expenditure of this nature.

Council is currently preparing Priority Infrastructure Plans which will identify the quantum of trunk infrastructure required to support the predicted growth in the Region for the next ten years. However, these plans do not identify the local infrastructure required, nor the ongoing costs associated with this increase in infrastructure. After the completion of the Priority Infrastructure Plan the financial forecasts will be reviewed to ensure the predicted trunk infrastructure and the ongoing costs are included.

In preparing this Total Asset Management Plan it has come to light that Council has limited information on current asset quantities and conditions. Despite the incomplete information available, it is predictable that network deterioration, asset growth, and addressing the existing backlog of maintenance and

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rehabilitation, will require an increase in expenditure by up to 300% per annum in the future. Although it is presently not possible to accurately determine at exactly what point this will become necessary, it is certain that the expenditure will need to be made available to ensure continued functionality of the Stormwater assets.

Continuous improvement of Asset Management processes, knowledge and data will result in more efficient service delivery and performance for Council and its customers. Three improvement projects have been scoped for immediate implementation in the following financial year. These projects will improve Council's processes, knowledge and data, and deliver the following benefits:

- Ensure that all drainage assets are identified and recorded
- Provide updated condition assessments
- Enable more accurate forecasting of future demand
- Identify risks and reduce Council liability
- Establish more financially sustainable levels of service
- Ensure more reliable future capital works prioritisation
- Improve maintenance scheduling

This Total Asset Management Plan will be reviewed on an ongoing basis as the assumptions forming the basis of the plan are tested, and as better data becomes available. The financial forecasts will be reviewed on an annual basis and will be supplemented with additional information from the Priority Infrastructure Plans, and Infrastructure Charges Scheme project.

What does it Cost?

There are two key indicators of cost to provide the Stormwater network.

- 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.

Projected Maintenance & Capital Renewal Expenditure – 1 Year

The life cycle cost to provide the Stormwater service is estimated at \$17.6 m per annum. Council's planned life cycle expenditure for year 1 of the asset management plan is \$6.9 m which gives a life cycle sustainability index of 2.5

Projected Maintenance & Capital Renewal Expenditure – 10 Year

The total maintenance and capital renewal expenditure required to provide the Parks & Gardens service the in the next 10 years is estimated at \$71.6m. This is an average of \$7.16 m per annum.

Council's maintenance and capital renewal expenditure for year 1 of the asset management plan of \$6.93m giving a 10 year sustainability index of .97

Next Steps

A number of the actions resulting from this asset management plan are:

1. Review of roles and responsibilities
 2. Review of systems (linkages / dependencies)
 3. Review current asset management processes
 4. Knowledge of Assets
- Capture/verify data for all asset classes
 - Identify all natural assets (waterways, wetlands, etc.) and capture relevant details.

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- Develop policy for asset management of natural assets
5. Levels of Service
- Develop process to review and set sustainable LOS, including public consultation.
 - Formally authorise “Fit for Purpose” designs where appropriate, for low risk projects, to help bridge the financial gap
 - Review process of drainage assessment for new developments and building certifications, to reduce comebacks
6. Condition Assessments
- Implement Maintenance Management System for each asset class with regular condition inspections.



2. INTRODUCTION

2.1 Background

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

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

- SCC Corporate Plan 2009-14; and,
- SC Transport Infrastructure Act 1994;
- Local Government Act 2009
- Council's current Planning Scheme.
- SCC Operational Plans 2009/10 and 2010/11.

This asset management plan covers the following infrastructure assets:

All council owned Stormwater infrastructure including:

- Pipes $\geq 300\text{mm}$ (note: pipes smaller than 300mm do not form part of Councils stormwater infrastructure);
- Pits;
- Culverts/Structures
- Open Drains includes all open drains
- Water Quality devices including Gross Pollutant Traps (GPT's)
- Miscellaneous infrastructure including all other stormwater related assets such as penstocks and floodways

Table 2.1. Assets covered by this Plan using FAIM only data

Asset category	Dimension	Replacement Value
Pipe	Various	\$674,729,042.00
Pit	Various	\$198,696,266.00
Culvert/Structure	Various	\$65,825,045.00
Open Drain	Various	\$17,948,647.00
Water quality	Various	\$26,750,000.00
Miscellaneous Infrastructure	Various	
TOTAL		\$983, 949,000.00

Table 2.1. Assets covered by this Plan using combination FAIM and Arc GIS data

Asset category	Dimension	Replacement Value
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Pipe	1,469,787 metres of pipe ranging from 300mm diameter to 3600mm diameter	\$728,290,946.00
Pit	Quantity 63236	\$181,349,118.00
Culvert/Structure	2798 box culverts with a total length of 58501 metres	\$72,997,306.00
Open Drain	240,540 metres	\$11,789,015.00
Water quality	Quantity 901	\$26,750,000.00
Miscellaneous Infrastructure		
TOTAL		\$1,021,176,385.00

Asset Exclusions

- Private Stormwater infrastructure
 - Inter-allotment drainage infrastructure (all stormwater pipes less than 300mm Dia)
 - Stormwater infrastructure on private property, and pipes smaller than 300mm.
 - Rural driveway access pipes
 - Private waterways or informal open drains on private property
- Waterways administered by other Government Departments
 - Rivers and creeks – Dept of Natural Resources
 - Estuaries and open ocean – Dept of Natural Resources
 - Locks and weirs - Environmental Operations
 - Dams – Dept of Natural Resources or in private ownership
 - Main Roads drainage infrastructure – Queensland Dept of Main Roads
- Related drainage assets controlled by other Council Units
 - Bridges
 - Canals and Lakes
 - Natural areas with Council as the Trustee, unless a formal constructed drain
 - Kerb and Channel
 - Road Table Drains
 - Land component of drainage reserves and easements
 - Private stormwater infrastructure in council properties and parks
 - Flood warning system

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

- Water Management and Drainage Services
- Asset Owner/manager
 - Responsible for the development and implementation of this asset management plan
 - Annual Business plan and budget process

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	<ul style="list-style-type: none">• Provide technical advice
Regional Strategy and Planning	Strategic Management Plan review
Civil Works Services	Operate and maintain stormwater assets
DERM	Environmental policy/guidelines
Finance	Long term financial plan input
Asset Management & Service Programming unit	Corporate Asset management leadership and Capital planning advice
Sunshine Coast Councillors	Plan adoption and asset management leadership
Executive Director – Infrastructure Services	Executive management endorsement, sign off and executive ownership
Community	

2.2 Goals and Objectives of Asset Management

The Council exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by 'purchase', by contract, construction by council staff and by donation of assets constructed by developers and others to meet increased levels of service.

Council's goal in managing infrastructure assets is to meet the required level of service in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

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

This asset management 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 – vibrant, green, and diverse.

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

Table 2.2. Council Goals and how these are addressed in this Plan

¹ IIMM 2006 Sec 1.1.3, p 1.3

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Goal (theme)	Objective (emerging priorities)	How Goal and Objectives are addressed in IAMP
Robust Economy	Infrastructure for economic growth	Facilitate the delivery of key infrastructure projects for our preferred economic growth
Ecological Sustainability	Environmentally friendly infrastructure and urban design	<ul style="list-style-type: none"> • Ensure new developments meet high standards of ecological sustainability and urban design • Develop guidelines to promote excellence in ecological sustainable development with architects, designers, environmental groups and the development industry • Review council infrastructure plans, design standards and procurement policies to maximise sustainable outcomes
Innovation & Creativity	Partnerships and alliances that drive innovation	Foster partnerships with governments, business and the community to encourage innovation and sustainability
Health & Wellbeing	Safe and healthy communities	Manage community health risks and improve community health standards
Social Cohesion	A sense of identity and belonging	Support community programs and infrastructure that encourage interaction, contribute to place making and a sense of community
Managing growth	Council's services and assets meet the needs of our growing community	<ul style="list-style-type: none"> • Determine the types and levels of services provided by council • Develop long term asset management plans which are linked to financial management plans • Maintain and renew council assets to agreed standards • Develop and implement five year and longer term rolling capital works programs according to strategic priorities
Great governance	Strong financial management	Develop long term financial plans and indicators to achieve optimum use of resources and alignment to strategic priorities

2.3 Plan Framework

Key elements of the plan are

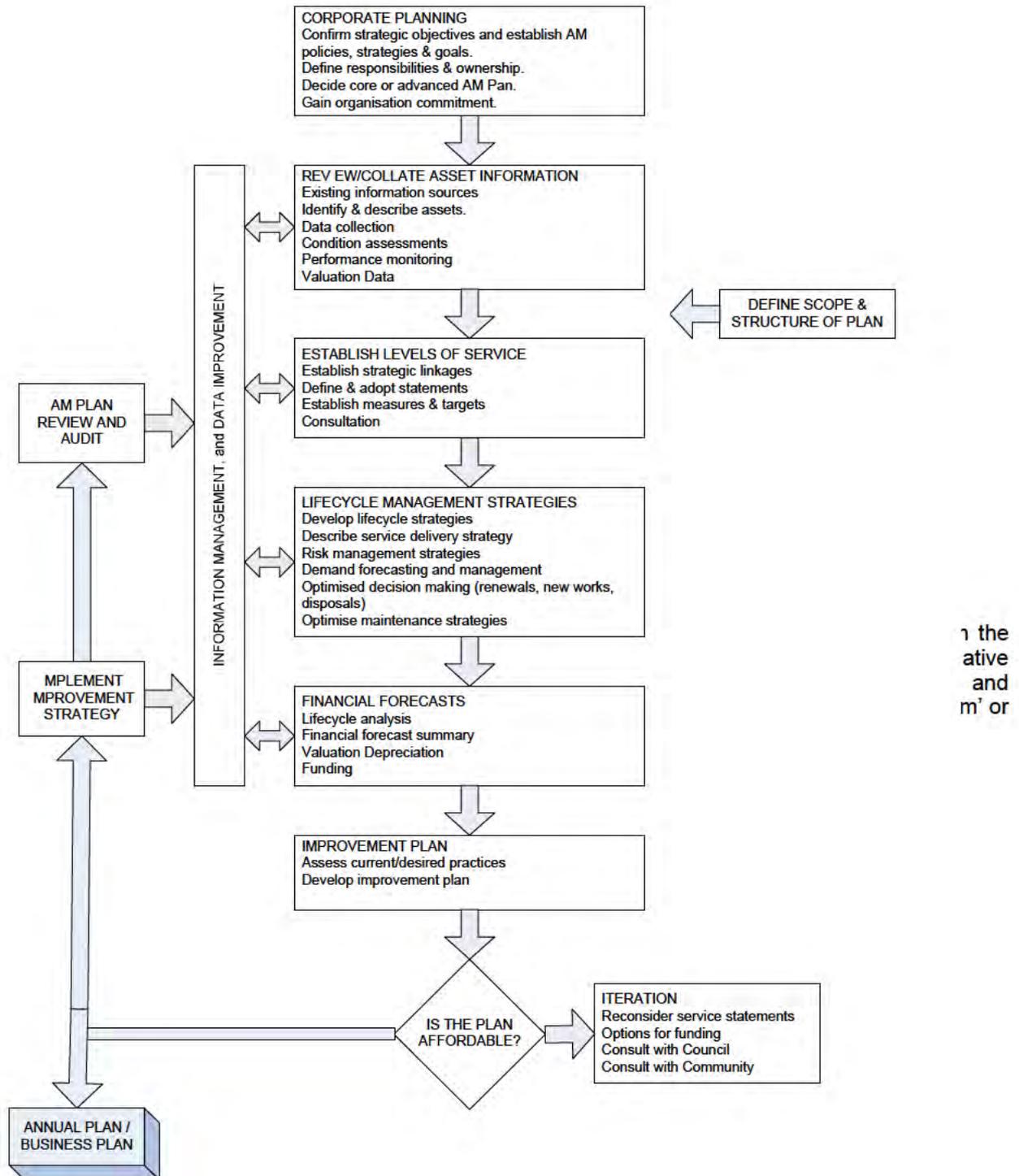
- Levels of service – specifies the services and levels of service to be provided by council.
- Future demand – how this will impact on future service delivery and how this is to be met.
- Life cycle management – how Council will manage its existing and future assets to provide the required services
- 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

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

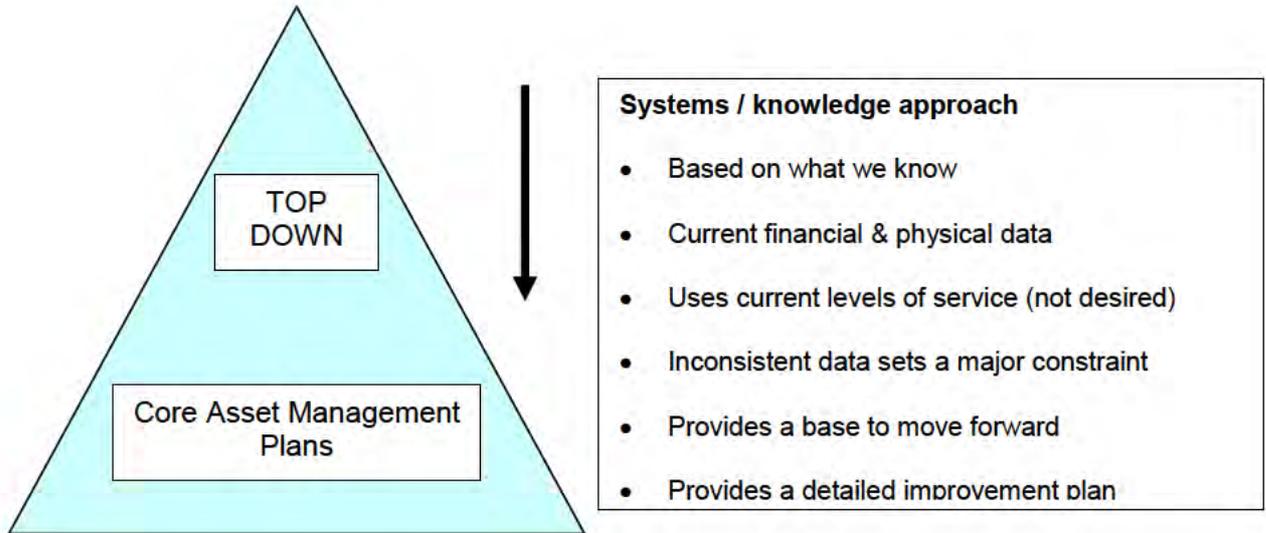
Road Map for preparing an Asset Management Plan

Source: IIMM Fig 1.5.1, p 1.11

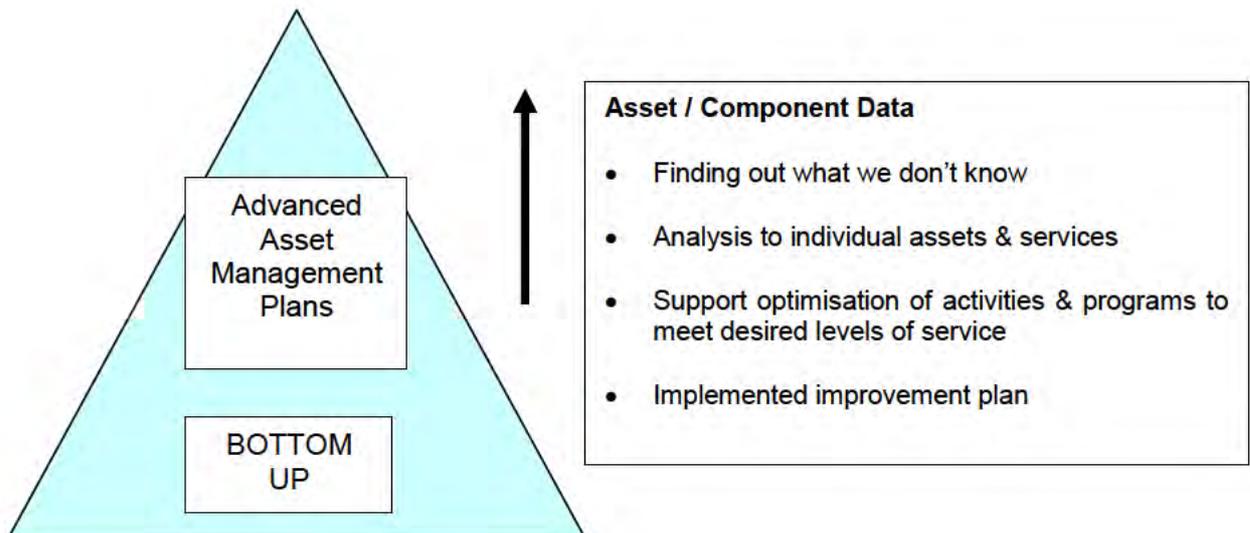


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Future revisions of this asset management plan will move towards 'advanced' asset management using a 'bottom up' approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service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



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3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

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

Table 3.1. Community Satisfaction Survey Levels

Performance Measure	Satisfaction Level				
	Very Satisfied	Fairly Satisfied	Satisfied	Somewhat satisfied	Not satisfied
Community satisfaction with stormwater/drainage performance	This has currently not been measured and will be undertaken during the development of advanced asset management plans				

Council uses this information in developing the Strategic Management Plan and in allocation of resources in the budget.

3.2 Legislative Requirements

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

Table 3.2. Legislative Requirements

Legislation	Requirement
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.
Disaster management Act 2003	Sets out roles and responsibilities of local and state government in a disaster event.
Occupational Health & Safety Act	Sets out roles and responsibilities to secure the health, safety and welfare of persons at work
Environmental Protection Act	Sets out role, purpose, responsibilities to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends
Water Act	Sets out role, purpose, responsibilities for the sustainable planning and management of the State's water resources.
Vegetation Management Act	The purpose of this Act is to regulate the clearing of vegetation
Sustainable Planning Act	Achieve sustainable planning outcomes through: <ul style="list-style-type: none"> Managing the process by which development takes place. Managing the effects of development on the environment. Continuing the coordination and integration of local, regional and state planning
Fisheries Act	The main purpose of this Act is to provide for the use, conservation and enhancement of the community's fisheries resources and fish habitats

3.3 Current Levels of Service

Council has defined service levels in two terms.

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

Requirement	Reference(s)
1. Safety, capacity, availability, functionality, condition,	Customer surveys, customer service requests, workshops, political direction, focus groups
2. No human risk	Safety legislation, CSR's
3. No inundation of property	CSR's, political direction
4. Water Quality	CSR's, focus groups

Table 3.3 – Customer Requirements

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

Service Criteria

- Quality
- Quantity
- Availability
- Safety

Technical measures may relate to

- Smoothness of open channel
- Meters of pipe in an area
- Has the area got a piped stormwater system
- Number of injury accidents

Council's current service levels are detailed in Table 3.3.1



Table 3.3.1 Current Service Levels – Stormwater

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Asset Group	Key Performance Indicator	Level of Service	Performance Measure Process	Target Performance	Current Performance	Actions to meet Target Performance
Pipe, Pit, Culvert Network and Open Drain Network	1. Condition	Asset condition	Programmed inspection regime	Inspection to meet AAS 27	10 % CCTV inspections	Develop and implement inspection regimes
		Asset maintenance & rehabilitation	Inspections	85 % of assets better than specified intervention levels	Age based asset info, reactive maintenance	Develop & implement asset rehab program
	2. Capacity	Compliance with flood study recommendations	Audit	95 % compliance	80 % compliance, (estimate) not audited	Accelerate network upgrade over next 5 yrs
	3. Customer satisfaction	Meet response times	Response time	CSR response and evaluation < 5 working days	Response < 20 days	Improve evaluation and response times
Open Drain & Water Quality Retardation basins, Sediment basins	1. Condition	Asset condition	Programmed inspection regime	Inspection to meet AAS 27	20% inspections	Develop and implement inspections
		Asset maintenance & rehabilitation	Inspections	85 % of assets better than specified intervention levels	Age based asset info, reactive maintenance	Develop & implement asset rehab program
	2. Capacity	Compliance with flood study recommendations	Audit	95 % compliance	80 % compliance, (estimate) not audited	Accelerate network upgrade over next 5 yrs
	Wetlands Functionality	Water S U D	Inspection & testing	85 % compliance	Not measured	Inspect & maintain
	SQID Performance	Compliance with Water Quality Objectives	Inspections & testing	95% compliance	80% (estimate), not measured	Implement inspection & testing regime, provide maintenance

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Asset Group	Key Performance Indicator	Level of Service	Performance Measure Process	Target Performance	Current Performance	Actions to meet Target Performance
Miscellaneous Infrastructure	1. Public safety	Lowest sustainable human risk	Safety audit	Disaster management standards	Not measured	Expand network, then maintain
	2. Disaster Management Plan	Legislative	Compliance audit	100 % compliance	80 % compliance, estimate	Install backup and SES link
	Condition, capacity	Compliance with required LOS	Inspection, performance to AAS 27 requirements	95 % compliance	Not measured	Develop & implement inspect & maintain
						TOTAL REQUIRED Funds & Resources

3.4 Desired Levels of Service

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



4. FUTURE DEMAND

4.1 Demand Forecast

There are a number of unique factors that directly impact on the demand for Stormwater Drainage Infrastructure and services. These factors include:

- Climate Change and Weather patterns – Long and Short term
- Population growth
- Development – New and In-fill
- Increased Legislative demands
- Increased Environmental demands
- Increased demand for asset rehabilitation and maintenance
- Increased risk of failure in ageing infrastructure
- More sophisticated flood predictions
- Increased demand for Customer Service
- Increased Resource demands for above

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 (2012)		508,000 (2031)		Increased runoff from urbanisation. Reduced natural area runoff Expectation of higher maintenance service levels Higher demand on existing stormwater network capacity.
Demographics	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		
Number persons/household	23%	1 person	23%	1 person	Higher demand on existing stormwater network capacity.
	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 have some potential effect on the delivery of services covered by this plan. 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.

Table 4.2. Changes in Technology and Forecast effect on Service Delivery

Technology Change	Effect on Service Delivery
Advanced trenchless technology	Less disturbance in high populated areas

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Technology Change	Effect on Service Delivery
Urban sensitive design	Higher maintenance and replacement costs, unclear design life
Sustainable designs of stormwater infrastructure both new and retrofitting	<ul style="list-style-type: none"> Initial high cost to install Once reached low replacement and maintenance cost.
Advanced design on GPT's	Better water capture of pollutants and easier methods to clean and clear or more complicated.
Advanced water harvesting systems	Initial high cost to install. Resale of water potential revenue income for Council. Higher cost to monitor water quality.

4.3 Demand Management Plan

Council currently broadly identifies Demand forecast through the following strategies:-

- SCRC Corporate Plan 2009-14
- SCRC Operational Plan 2009/10 & 2010/11
- Infrastructure Charges Scheme
- South East Queensland Regional Plan
- Urban Stormwater Management Plan
- Urban Stormwater Strategy
- Adopted Flood Studies
- 10 - year program

Some detailed Demand forecasting is currently performed through the:-

- Annual Financial Plan
- Current Flood Studies

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 asset management plan.

Table 4.3. Demand Management Plan Summary

Service Activity	Demand Management Plan
Climate Change and Weather patterns – long and short term	To be developed
Population growth	To be developed

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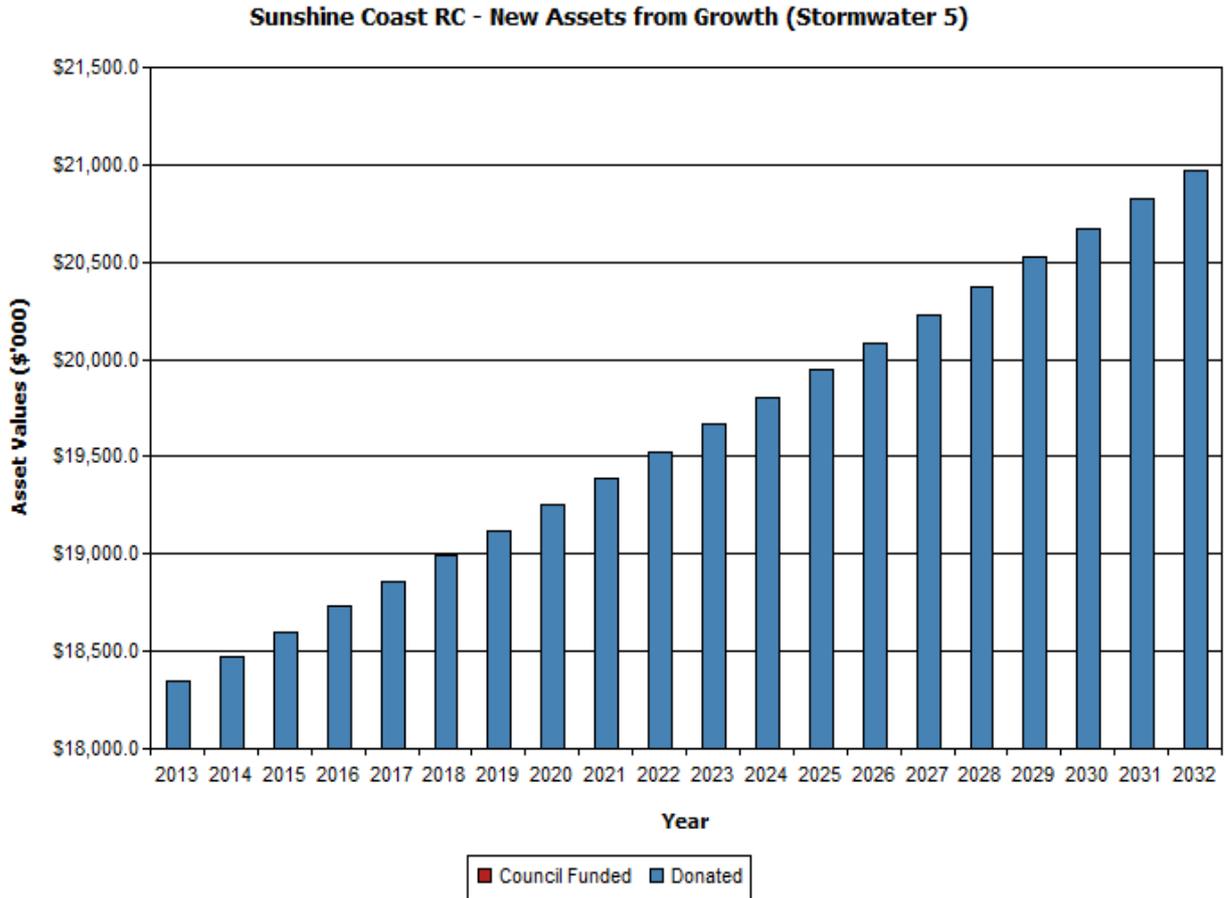
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Service Activity	Demand Management Plan
Development – New and In-fill	To be developed
Increased Legislative demands	To be developed
Increased Environmental demands	To be developed
Increased demands for asset rehabilitation and maintenance	To be developed
Increased risk of failure in ageing infrastructure	To be developed
Functional obsolescence of existing services	To be developed
More sophisticated flood predictions	To be developed
Increased demand for Customer Service	To be developed
Increased resourcing demands for above	To be developed
Stormwater drainage	<p>New developments to include onsite retention of Stormwater flows to limit discharge to existing discharge flows</p> <p>Water harvesting options to be investigated with each new development</p>
Maintenance of stormwater drainage network	<p>SCC Corporate Plan 2009-14</p> <p>SCC Operational Plan 20012/13</p> <p>SCC Budget 2009/10 & 2012/13</p>

4.4 New Assets from Growth

The new assets required to meet growth will be acquired from land developments such as the growth of Caloundra South etc. It is currently estimated that Council acquires on average \$18m p/a on new assets through development, with an anticipation that this will increase over the life of this plan. Uncertainty regarding the type of assets which may be provided through such developments such as Caloundra South, 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. The new asset values are summarised in Fig 1.

Fig 4.4. New Assets from Growth for 2009/2010



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. Further work needs to be undertaken to validate.

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

Lifecycle asset management takes account of the whole-of-life implications for acquiring, operating, maintaining and disposing of park assets. The objectives of lifecycle 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 lifecycle costs are depicted in the following diagram:



5.1.1 Physical parameters

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

Pipe	Diameters from 300mm to 3600mm
Pit	Includes manholes. Junctions, end caps
Culvert/Structure	Box and pipe culverts Includes headwalls, wingwalls and aprons
Open Drain	All types of open drains
Water quality	Water Quality devices including SQIDS and GPT's

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Miscellaneous Infrastructure

Penstocks, floodways

The typical asset life for each asset category is shown below and is based on:

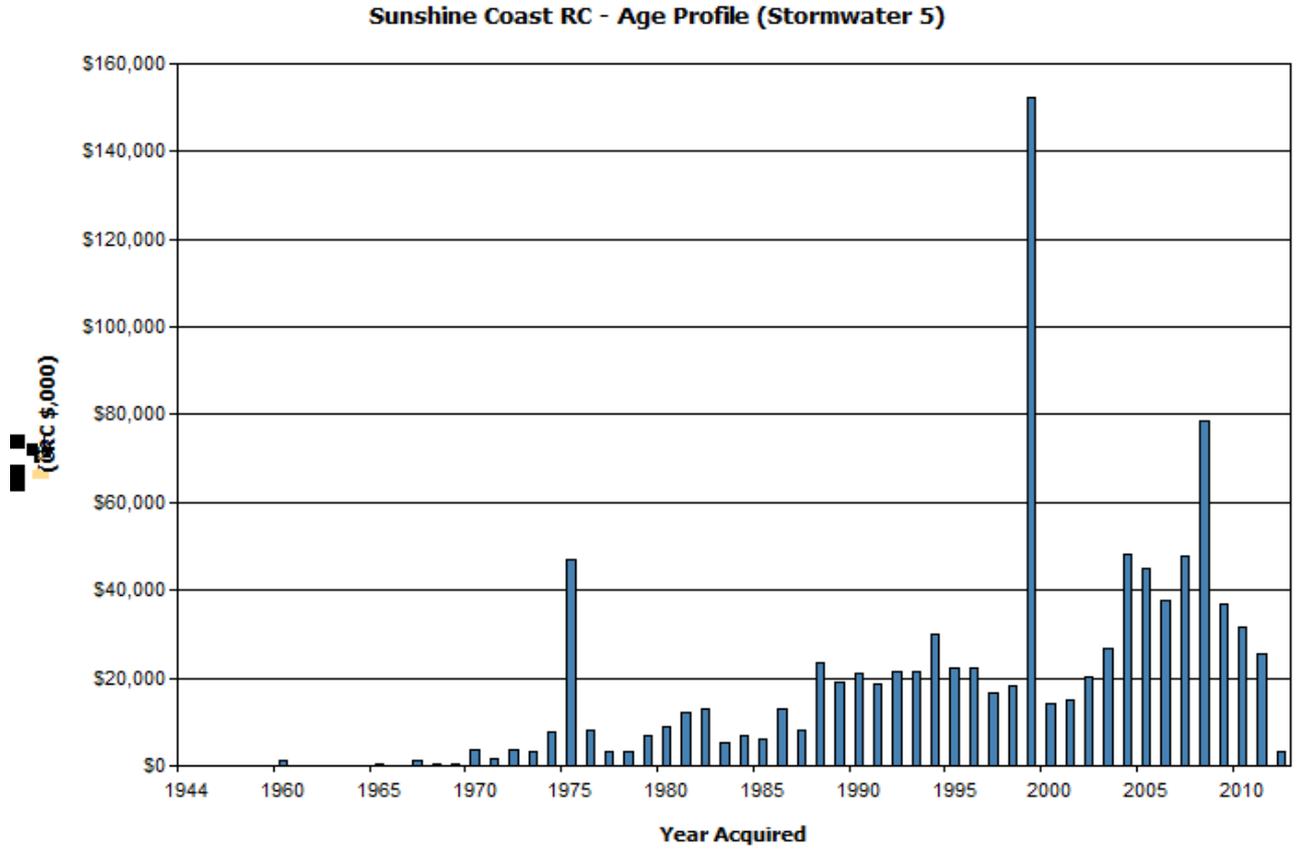
- One data set for entire region (amalgamation of Caloundra, Maroochydore and Noosa Council Stormwater GIS data)
- GIS data – we have the most confidence in this data set.
- Table below identifies the useful lives currently adopted by Council for the Stormwater assets. Useful lives are on best practice based on information from industrial groups such as the Institute of Public Works Engineers, Australia (IPWEA).

Asset Group	Asset Type	Useful Life
Piped Network	AC pipe	70
	Concrete pipe	70
	uPVC	70
	HDPE	70
Pits	Pits, inlets, outlets and endwalls	50
Culverts/Structures	Culverts box and pipe	70
Open Drain	Constructed drain	70
	Natural watercourses (lining only)	25
	Canals, revetment walls, weirs, channel armouring, levee banks	50
Water Quality	Detention basins, overland flowpaths, and drainage reserves	25
	Concrete Stormwater Quality Improvement Device(SQID)	50
Miscellaneous	Floodways	50

The age profile of Council's assets (based on data from Councils Financial Asset Register) is shown below.

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Acquisition dates of assets and financial asset write on processes need to be reviewed as a part of the improvement plan, especially for the years 2004-2005. 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.

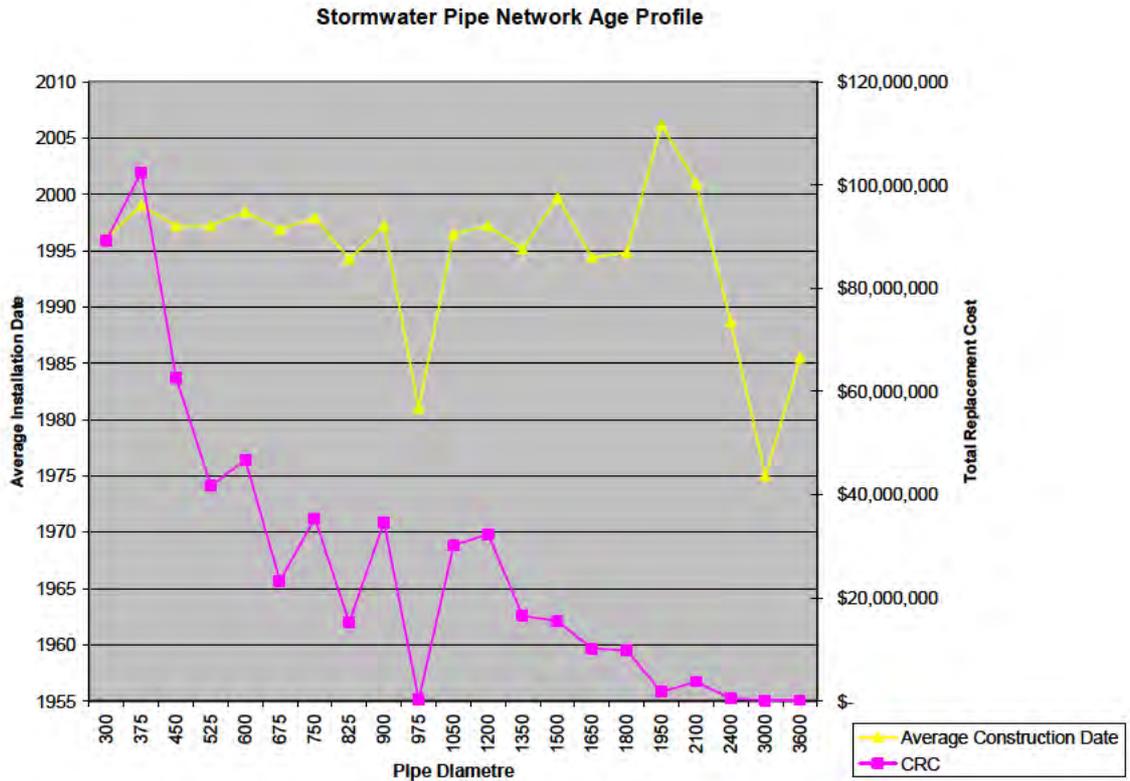


Fig 2. Pipe Network Profile

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

Location	Service Deficiency
Whole of Council	Water quality
Whole of Council	Stormwater reuse
Whole of Council	Asset renewal/replacement
Whole of Council	Asset condition inspections
Whole of Council	Asset inspection and maintenance work

The above service deficiencies were identified from historical records, GIS and local knowledge by council staff

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5.1.3 Asset condition

- Current age profiles may not be accurate, particularly with pre-1970 built assets, as in some cases the date of construction is estimated not actual.
- Current conditions are generally estimated or unknown, due to existing inspections not covering the full asset range, or not being fully documented. This applies to both built and natural assets.
- Existing asset data is incomplete, as many asset groups e.g. open drains, natural waterways, wetlands, are not presently listed. This is due primarily to the current systems not capturing these asset classes.
- Condition is measured using 1 – 5 scale

5.1.4 Asset valuations

The value of assets as at 30th Sept.2012 covered by this asset management plan is summarised below. Assets were last valued at 30th June, 2012. Assets are valued at Greenfield rates.

Current Replacement Cost	<u>\$ 983,949,000.00</u>
Accumulated Depreciation	<u>\$ 197,564,000.00</u>
Depreciated Replacement Cost	<u>\$ 786,385,000.00</u>
Annual Depreciation Expense:	\$ 13,549,650.00

*** Note: The currently identified open drain network is estimated to only represent 20% of the actual. A project is currently underway to identify and map the outstanding open drain assets.**

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion.

Asset Consumption	6% of Depreciation Amount. (annual depreciation expense/depreciable amount)
Asset renewal	2% of depreciable amount (annual capital renewal expenditure/ depreciable amount)
Annual Upgrade/expansion	16% of depreciable amount

5.2 Risk Management Plan

An assessment of risks² associated with service delivery from infrastructure assets has identified critical risks to Council. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

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Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the infrastructure risk management plan are summarised in Table 5.2.

Table 5.2. Critical Risks and Treatment Plans

Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan
Stormwater pipe network including culverts and pits	Collapse, blockage, flooding	H	CCTV condition inspection program, maintenance program to be developed and renewal program
New donated assets	Incorrect asset information and incorrect design	H	Greater involvement by asset owner at assessment , construction and handover stages of new developments, DA staff looking after stormwater to fall under asset owners
Open drain	Erosion, bank collapse, property flooding	H	Detailed mapping and maintenance schedule to be developed
Overland flow paths	Properties and roads can be flooded	H	All overland flow paths to be mapped.

5.3 Routine Maintenance Plan

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

5.3.1 Maintenance plan

Maintenance includes reactive, 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 (Maximo). Maximo 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.

Cyclic maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, etc. 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

Year	Maintenance Expenditure (includes reactive, planned and cyclic)
2009/10	\$ 3,061,079.00
2010/11	\$ 3,100,000.00
2011/12	\$ 3,100,000.00

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Council's current level of data capture does not allow for a break up of the maintenance activities. Maximo should start collecting this data.

Maintenance expenditure levels are considered to be inadequate to meet required service levels. 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.

5.3.2 Maintenance Issues

Currently, some key issues which impact on maintenance are :-

- Lack of a Maintenance Management System and accurate asset database
- High proportion of asset types not listed on asset database
- High proportion of customer service requests and emergent drainage issues
- Available resources
- Disposal of SQUID contaminants is currently not fully funded
- Maintenance budgets

5.3.3 Strategies

The table below identifies the various maintenance strategies, both implemented and potential future directions of Council.

Strategy / Objective	Activities	References
To develop a Maintenance Management System (Maximo) and an Asset Management System (Moloney).	Obtain required resources Planned regular inspections, documenting defects. Prioritisation of works. Provide monthly maintenance schedules. Recording of maintenance performed and materials used. Forecast expenses and replacement of assets.	International Infrastructure Management Manual

5.3.4 Current Activities

Council's current maintenance and operation activities are detailed below.

Asset Group / Type	Major Maintenance Actions	Frequency	LOS satisfied
GPT's/SQUID's	Cleaning	As per schedule	Performance
Piped network and open drain network	CCTV inspections, Routine maintenance, Repairs.	Some scheduled Mostly irregular Reactive	Condition Condition/Performance, Customer satisfaction

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Asset Group / Type	Major Maintenance Actions	Frequency	LOS satisfied
Other	Various	Mostly reactive	Performance

5.3.5 Standards and specifications

Maintenance work is carried out in accordance with the following Standards and Specifications.

- Current work instructions
- Service Level Agreements
- Main Roads Technical Specification
- AusSpec Specifications
- IPWEAQ Standard Engineering Drawings
- Manual of Uniform Traffic Control Devices

5.3.6 Summary of future maintenance expenditures

Future maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Fig 4. Note that all costs are shown in current 2012 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.

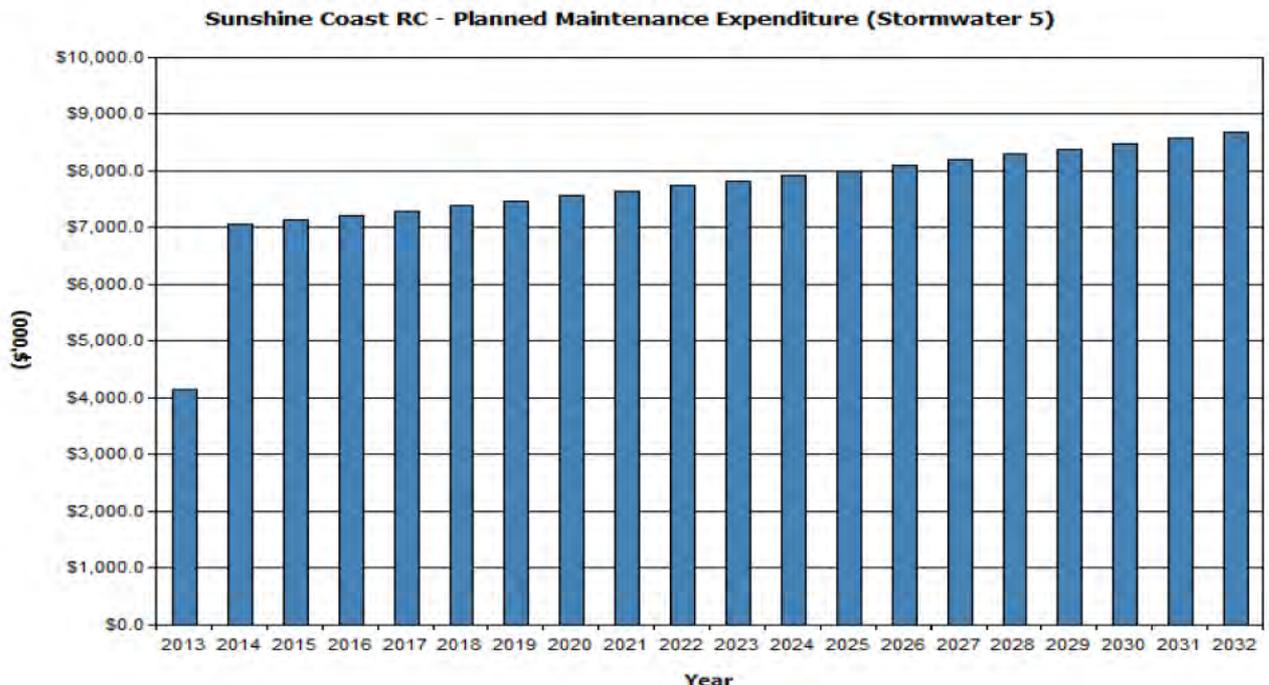


Fig 5.3 Current Planned Maintenance Expenditure)

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

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

5.4 Renewal/Replacement Plan

Renewal expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

Key issues affecting future rehabilitation and renewal of drainage assets are :-

- Existing data base not a true reflection of stormwater assets.
- Renewal cost not reflecting total costs such as planning and design fees, environmental considerations, project supervision etc
- Statutory and legislative requirements
- Fit for purpose options
- Depreciation strategies
- Unrealistic public expectation in certain cases
- Ownership issues pertaining to natural drainage lines

5.4.1 Rehabilitation/Renewal Strategies

The table below identifies the various rehabilitation and renewal strategies, both implemented and potential future directions of Council.

Strategy / Objective	Activities	References
To develop a suitable asset register, database, and management system. Maximo and Moloney asset programs	Record current condition, historical information, analysis	Asset register/datab ase
To develop an optimised rehabilitation/renewal program based on condition data & deterioration modelling.	Record maintenance/operational costs against an asset through Maximo.	Maximo
To obtain sufficient resources to maintain/provide the specified levels of service	Provide detailed renewal financial requirements	SCRC City Plan/AFP

5.4.2 Current Activities

Council's current rehabilitation/renewal activities are detailed below.

Asset Group / Type	Renewal Timing	Comment	LOS satisfied
Piped network system	Renewal/replacement of pipes where identified for replacement through inspections, flood studies or	Generally subjective at present - combination of pro-active and re-active	Condition/Performance/Customer satisfaction

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Asset Group / Type	Renewal Timing	Comment	LOS satisfied
	CSR		
Culverts & Pits	Renewal/replacement of pipes where identified for replacement through inspections, flood studies or CSR	Generally subjective at present - combination of pro-active and re-active	Condition/Performance/Customer satisfaction
Open drain network	Rehabilitation of open drains, wetlands, sediment basins where identified through inspections or water quality objectives	Generally subjective at present - Combination of pro-active and re-active	Condition/Performance/Customer satisfaction
Water Quality	Renewal/replacement of SQUID's where identified through inspections or CSR's	Some programmed through flood studies and inspections, otherwise generally re-active	Some measured against flood study recommendations, otherwise not measured
Other	Floodways Various	Meteorology recommendations Generally re-active	Performance Not measured

5.4.3 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 Renewa/Rehabilitation - Stormwater Priority Ranking Criteria

Criteria	Weighting
community / social benefit	5%
corporate alignment	20%
risk assessment	25%
financial considerations	10%
environmental impacts	20%
economic benefits	10%

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demand	10%
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

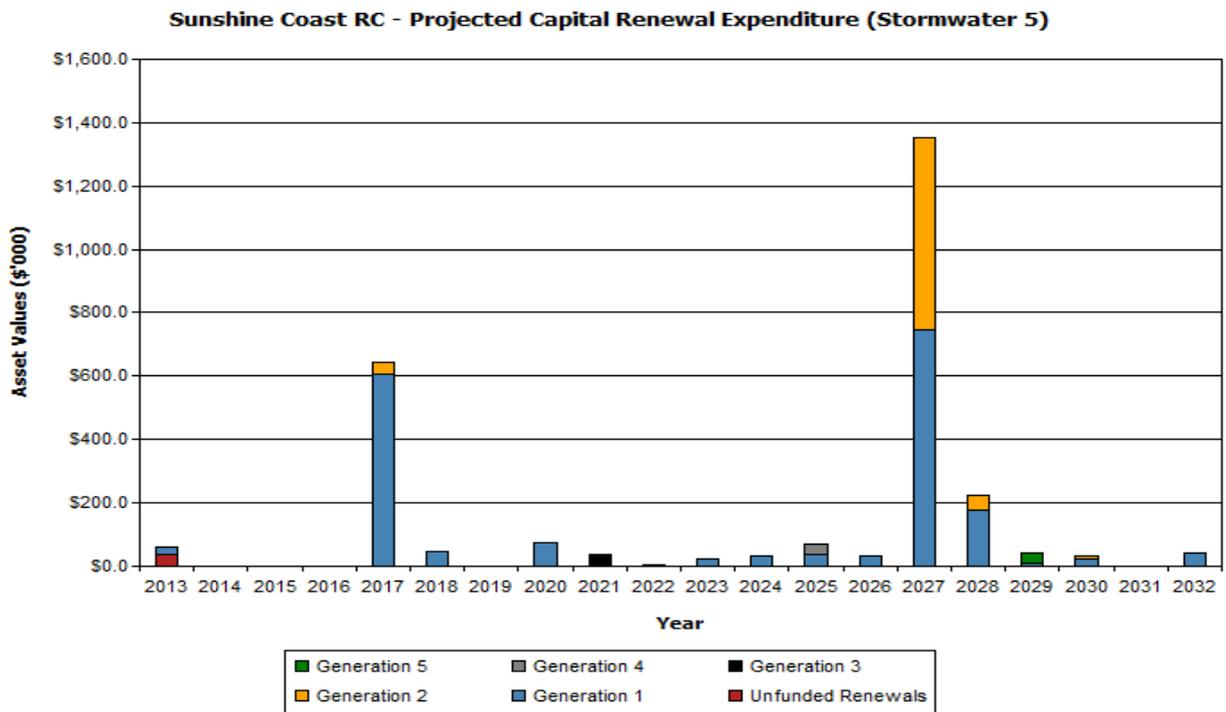
Renewal work is carried out in accordance with the following Standards and Specifications.

- Stormwater drainage assets will be kept in a serviceable condition
- Priority will be given to defects likely to result in public injury
- SQIDS / GPTs / baskets will be maintained to prevent infiltration to natural systems

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 Fig 5. Note that all costs are shown in current 2012 dollar values.

The projected capital renewal program is shown in Appendix B.



Unfunded 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.

With an ongoing pipe assessment programs started in 2010/11 financial year it has been noted that the storm water pipe network will need upgrading/renewal early than forecasted

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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 and discussed in Section 4.4.

5.5.1 Creation/Acquisition/Augmentation Strategies

The table below identifies the various creation/acquisition/augmentation strategies, both implemented and potential future directions of Council.

Strategy / Objective	Activities	References
To identify the drainage and water quality assets which will be required to service development and population growth in the next 20 years.	Develop Priority Infrastructure Plans for all drainage assets to accommodate future growth	SCRC City Plan, PIP – Stormwater drainage and water quality objectives.
To profile the gap between desired standard and existing standard and determine funding requirements	Undertake a full analysis of the drainage network based on current standards (DDPSP) compared to desired standards (SCRC City Plan and DDPSP)	SCRC Plan/MMS/ Asset registers.

5.5.2 Current Activities

Council's current creation/acquisition/augmentation activities are detailed below.

Asset Group / Type	New Capital Project Timing	Growth/Development Supported	LOS satisfied
All	Capital Works Projects detailed within the Program Spreadsheets, prioritised in accordance with the Prioritisation Assessment	Population/tourism growth	Legislative requirements met, SCRC City Plan and DDPSP met, and Customer Satisfaction.

5.5.3 Summary of Creation/Acquisition/Augmentation Costs

Council will fund creation/acquisition/augmentation costs from a variety of funding sources. This will include:

- Loans;

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- Infrastructure Charges from new development;
- Depreciation for the consumed asset replacement associated with an augmentation project;
- General Rates; and
- External funding sources.

5.5.4 Selection criteria

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

Table 5.5.4 New – Stormwater Priority Ranking Criteria

Criteria	Weighting
community / social benefit	5%
corporate alignment	20%
risk assessment	25%
financial considerations	10%
environmental impacts	20%
economic benefits	10%
demand	10%
TOTAL	100%

Listed below are a number of known new capital projects and augmentation.

Note: The costs are estimates only, and include planning, design and construction, but do not include any life cycle costs.

Asset Group / Type	Indicative Creation Year	Comments	Capital Cost
Piped network	2012 to 2014	6 th Avenue pipe network upgrade and replacement.	\$4,000,000
Pipe Network	2014 to 2018	Stormwater pipe relining program from CCTV program	\$1,500,000 annually
Pipe and Box Culvert	2012/14	Ninderry Culvert	\$520,000
Open drain network	2015	Sunshinecoast Airport Open Drain	\$250,000

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Asset Group / Type	Indicative Creation Year	Comments	Capital Cost
Pipe Network	2014	Marcoola North	\$150,000
Water Quality	2015/16	Currimundi Lake/ Mooloolah River outlet reconstruction	\$400,000
Pipe Network	2016/17	Kings beach network upgrade	\$750,000
Pipe Network	2016/17	Gympie Tce culvert replacements	\$1,500,000

5.5.5 Standards and specifications

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

5.5.6 Summary of future upgrade/new assets expenditure

Planned upgrade/new asset expenditures are summarised in Fig 6. The planned upgrade/new capital works program is shown in Appendix C. All costs are shown in current 2010 dollar values.

Sunshine Coast RC - Projected & Planned Renewals and Current Renewal Expenditure (Stormwater 5)

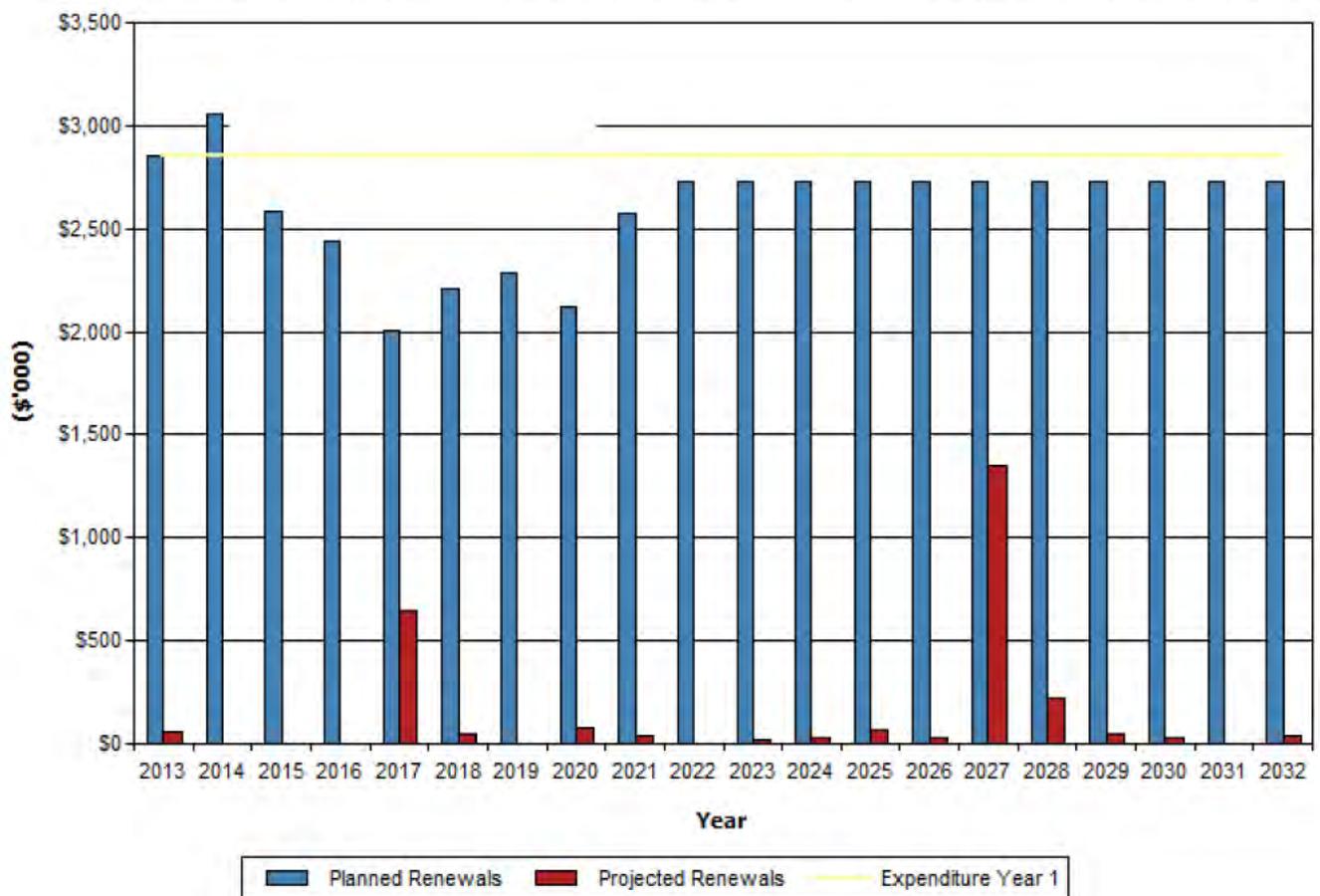


Fig 6. Planned Capital Upgrade/New Asset Expenditure

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.

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any.

Table 5.6 Assets identified for Disposal

Asset	Reason for Disposal	Comments	Cashflow from disposal
Piped system, culverts, pits, SQIDs	As per MMS / asset register / database	Remove to landfill	nil
Open drain	As per MMS / asset register / database	Reuse as fill where possible	nil

Where cashflow projections from asset disposals are not available, these will be developed in future revisions of this asset management 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.

As no Maintenance Management System (MMS) currently exists to more accurately forecast financial requirements for Stormwater Drainage, the predictions are based on smoothed averages for all asset groups. The forecasts therefore are unable to identify any crests and troughs in future years, but are merely an average of the forecast across the useful life of the assets.

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 Fig 7 for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

Note that all costs are shown in current 2010/2011 dollar values.

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).

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.

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 asset management 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 gap for services covered by this asset management plan is \$ 7 m per annum.

Medium term – 10 year financial planning period

This asset management 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.

Fig 8 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 the capital works program and capital renewal expenditure in year 1 of the planning period as shown in Fig 8. Table 6.1.1 shows the annual and cumulative funding gap between projected and planned renewals.

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Sunshine Coast RC - Projected & Planned Renewals and Current Renewal Expenditure (Stormwater 5)

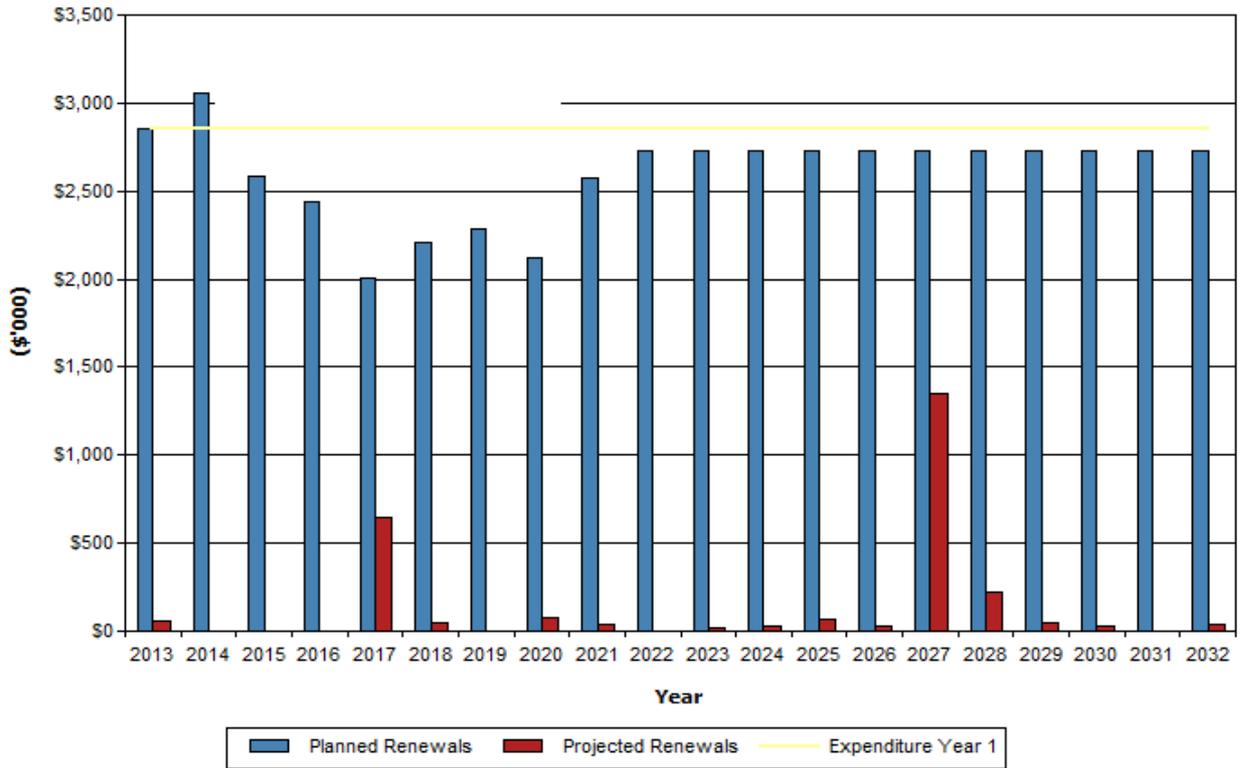


Fig 8. Projected and Planned Renewals and Current Renewal Expenditure

Table 6.1.1 shows the gap between projected and planned renewals.

Table 6.1.1 Projected and Planned Renewals and Expenditure Gap

Year End June 30	Total Operations Expenditure (\$'000)	Total Maintenance Expenditure (\$'000)	Projected Capital Renewal Expenditure (\$'000)	Planned Capital Upgrade/New Expenditure (\$'000)	Planned Disposals (\$'000)	Planned Capital Renewal Expenditure (\$'000)	Shortfall Renewal Expenditure (Projected - Planned) (\$'000)	in -	Cumulative Renewal Funding Shortfall (\$'000)
2013	\$382.63	\$4,157.90	\$58.99	\$1,670.00	\$0.00	\$2,856.00	-\$2,797.01		-\$2,797.01
2014	\$426.01	\$7,061.49	\$0.00	\$900.00	\$0.00	\$3,053.00	-\$3,053.00		-\$5,850.01
2015	\$433.29	\$7,140.59	\$0.00	\$500.00	\$0.00	\$2,581.00	-\$2,581.00		-\$8,431.01
2016	\$440.72	\$7,221.26	\$0.00	\$750.00	\$0.00	\$2,435.00	-\$2,435.00		-\$10,866.01
2017	\$448.22	\$7,302.79	\$641.94	\$830.00	\$0.00	\$2,010.00	-\$1,368.06		-\$12,234.07
2018	\$456.08	\$7,388.19	\$45.50	\$1,630.00	\$0.00	\$2,205.00	-\$2,159.50		-\$14,393.57
2019	\$463.72	\$7,471.29	\$2.00	\$945.00	\$0.00	\$2,285.00	-\$2,283.00		-\$16,676.57
2020	\$471.73	\$7,558.24	\$75.60	\$1,740.00	\$0.00	\$2,119.00	-\$2,043.40		-\$18,719.97

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Year End June 30	Total Operations Expenditure (\$'000)	Total Maintenance Expenditure (\$'000)	Projected Capital Renewal Expenditure (\$'000)	Planned Capital Upgrade/New Expenditure (\$'000)	Planned Disposals (\$'000)	Planned Capital Renewal Expenditure (\$'000)	Shortfall Renewal Expenditure (Projected Planned) (\$'000)	in -	Cumulative Renewal Funding Shortfall (\$'000)
2021	\$479.95	\$7,647.57	\$39.27	\$2,180.00	\$0.00	\$2,570.00	-\$2,530.73		-\$21,250.70
2022	\$488.25	\$7,737.84	\$4.38	\$2,270.00	\$0.00	\$2,726.00	-\$2,721.62		-\$23,972.32
2023	\$496.61	\$7,828.68	\$22.79	\$2,270.00	\$0.00	\$2,726.00	-\$2,703.21		-\$26,675.53
2024	\$505.03	\$7,920.09	\$33.07	\$2,270.00	\$0.00	\$2,726.00	-\$2,692.93		-\$29,368.46
2025	\$513.49	\$8,012.09	\$72.29	\$2,270.00	\$0.00	\$2,726.00	-\$2,653.71		-\$32,022.17
2026	\$522.01	\$8,104.68	\$30.65	\$2,270.00	\$0.00	\$2,726.00	-\$2,695.35		-\$34,717.52
2027	\$530.59	\$8,197.87	\$1,352.74	\$2,270.00	\$0.00	\$2,726.00	-\$1,373.26		-\$36,090.78
2028	\$539.22	\$8,291.66	\$224.35	\$2,270.00	\$0.00	\$2,726.00	-\$2,501.65		-\$38,592.43
2029	\$547.91	\$8,386.06	\$43.99	\$2,270.00	\$0.00	\$2,726.00	-\$2,682.01		-\$41,274.45
2030	\$556.65	\$8,481.07	\$31.72	\$2,270.00	\$0.00	\$2,726.00	-\$2,694.28		-\$43,968.72
2031	\$565.45	\$8,576.71	\$1.02	\$2,270.00	\$0.00	\$2,726.00	-\$2,724.98		-\$46,693.70
2032	\$574.31	\$8,672.97	\$40.75	\$2,270.00	\$0.00	\$2,726.00	-\$2,685.25		-\$49,378.94

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.

Council's long term financial plan covers the first 10 years of the 20 year planning period. The total maintenance and capital renewal expenditure required over the 10 years is \$100,000,000.

This is an average expenditure of \$10,000,000 per year

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.

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

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Council. Fig 9 shows the projected replacement cost asset values over the planning period in current 2010 dollar values.

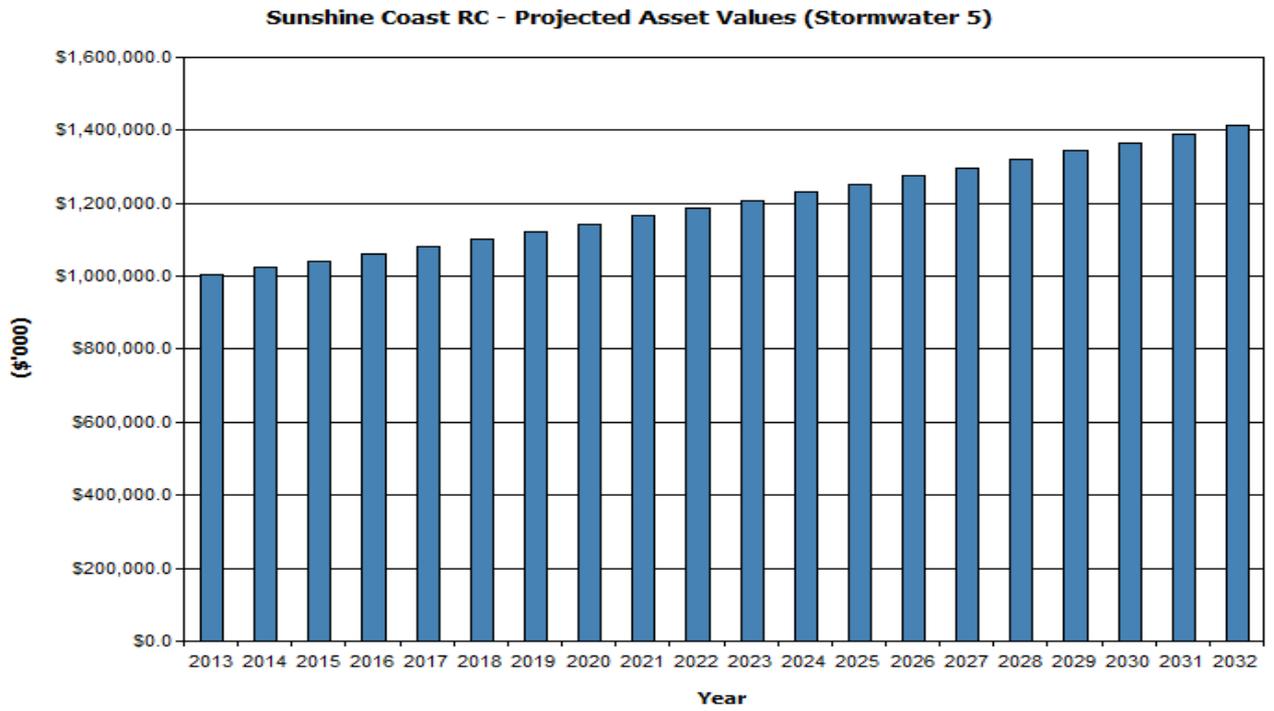


Fig 9. Projected Asset Values

Depreciation expense values are forecast in line with asset values as shown in Fig 10.

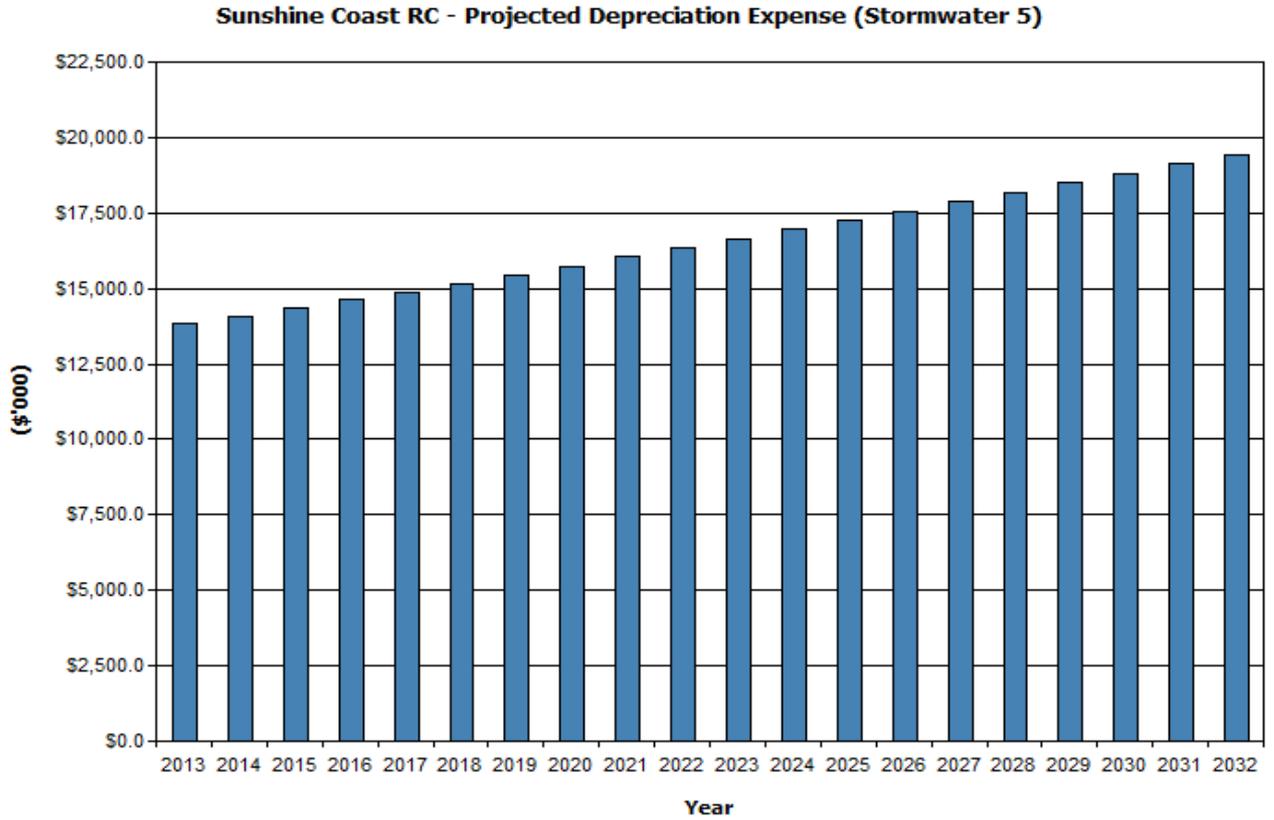


Fig 10. Projected Depreciation Expense

The depreciated replacement cost (current replacement cost less accumulated depreciation) will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Fig 11.

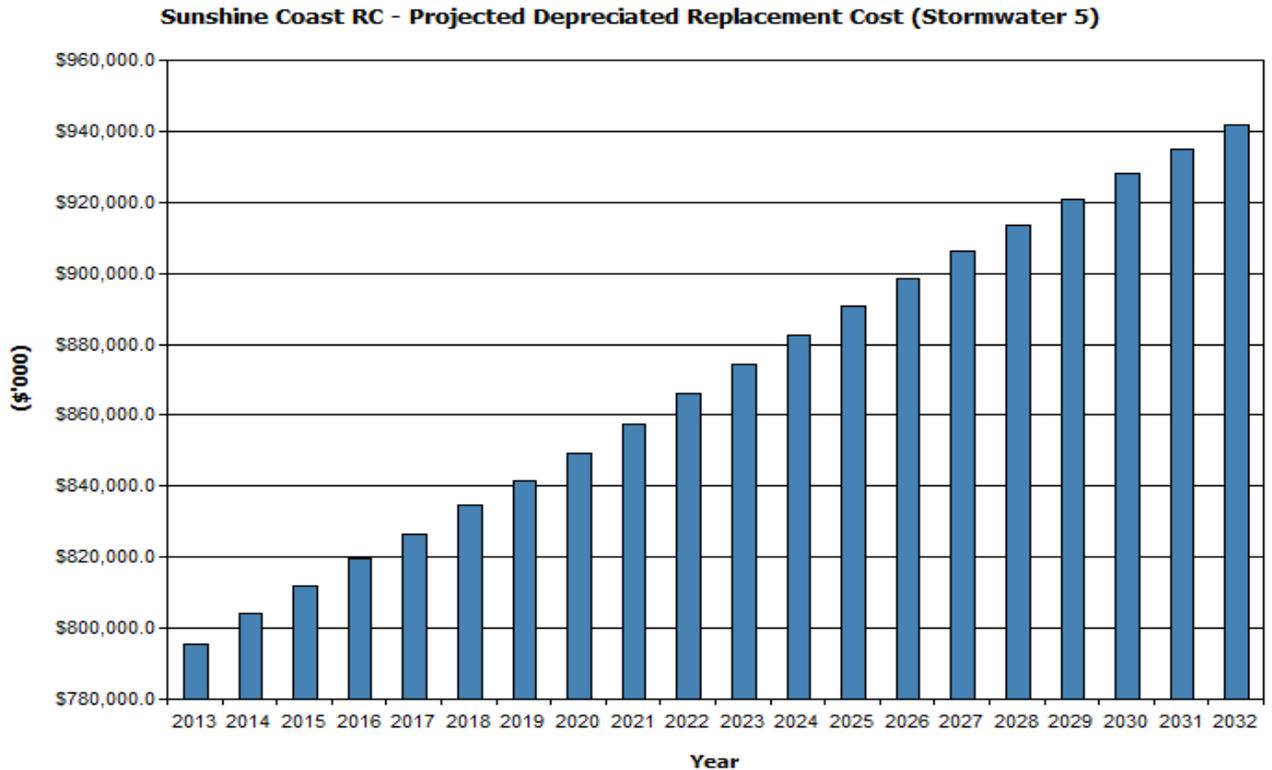


Fig 11. Projected Depreciated Replacement Cost

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.

Key assumptions made in this asset management plan are:

- Asset data obtained from the GIS system
- An average construction installation date has been used
- Costings have come from Councils Financial Data

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

- Improved data capture and management systems (Maximo and Moloney)
- Improved asset database and financial database
- Greater understanding of asset performance

7. ASSET MANAGEMENT PRACTICES

7.1 Accounting/Financial Systems

Sunshine Coast Council operates the Technology One system for management of financial information.

This system is managed by the Finance Business Unit. Technology One is interfaced with the Maximo Asset Management System (see below) to enable the transfer of financial asset information between the two systems.

7.2 Asset Management Systems

Sunshine Coast Council operates the Maximo asset maintenance management system for the management of asset information. Stormwater will be using Moloney asset management system to manage their data. The asset management system is linked to the finance system via a software interface.

Asset managers are responsible for maintaining data pertaining to their asset area.

Geographical data is held on all assets within ArcGIS to display and edit geographical data.

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, Strategic Business Plan, annual budget and departmental business plans and budgets.

7.4 Standards and Guidelines

- SCC Asset Management Policy
- Queensland Development Code- NMP 1.4 Excavation and Piling near Sewer, Stormwater Drains and Water Mains
- Queensland Urban Design Manual (QUDM)
- IIMM 2011
- Financial Sustainability Plan 2010 - 2020

7.5 Sustainability

This asset management plan is doing the following in sustainability:

- Develop appropriate and financially sustainable levels of service;
- Councils mission to be green and sustainable is fully supported at both constructed and natural asset level;
- To look at all options to protect and enhance the environment;
- Install water quality devices to improve the water quality of the natural streams;
- Look at option where possible for water harvesting.



8. PLAN IMPROVEMENT AND MONITORING

8.1 Performance Measures

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

- The degree to which the required cashflows 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;

8.2 Improvement Plan

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

Table 8.2 Improvement Plan

Task No	Process Improvement	Urgency	Importance	Timeframe	Responsibility
1.	Review of roles and responsibilities				
2.	Review of systems (linkages / dependencies)				
3.	Review current asset management processes				
4.	Review of data integrity				
5	Knowledge of Assets. <ul style="list-style-type: none"> • Capture/verify data for all asset classes • Identify all natural assets (waterways, wetlands, etc.) and capture relevant details. • Develop policy for asset management of natural assets • Ensure all constructed and donated assets are captured. Review 'as con' processes. 	High High High Low	High High High High	2011/12 2011/12 2011/12 2012/13	SIM/T&ES T&ES T&ES DA,GIS,T&ES
6	Levels of Service. <ul style="list-style-type: none"> • Develop process to review and set sustainable LOS, including public consultation. • Formally authorise "Fit for Purpose" designs where 	Medium High	High High	2012/13 20011/12	CWS, T&ES T&ES

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Task No	Process Improvement	Urgency	Importance	Timeframe	Responsibility
	<p>appropriate, for low risk projects, to help bridge the financial gap.</p> <ul style="list-style-type: none"> Review process of drainage assessment for new developments and building certifications, to reduce comebacks 	High	High	2011/12	DA, T&ES
7	<p>Condition Assessments.</p> <ul style="list-style-type: none"> Implement Maintenance Management System for each asset class with regular condition inspections. 	High	High	2011/12	IS, CWS, SIM
8	<p>Asset Accounting.</p> <ul style="list-style-type: none"> Develop methodology for "capitalisation" of natural assets Develop a valuation / revaluation policy. Align new capital and recurrent expenditure to asset types. 	High	High	20011/14	F&B
		High	High	20011/13	F&B
		High	High	2011/13	IS & F&B
9	<p>Lifecycle Planning.</p> <ul style="list-style-type: none"> Whole of Life costs of new capital disclosed and considered. 	High	High	2011/14	T&ES, F&B
10	<p>Asset Operations & Maintenance.</p> <ul style="list-style-type: none"> Electronic work orders used for tracking and analysis. 	Low	Medium	2009/10	IS, IT, CWS
11	<p>Performance monitoring.</p> <ul style="list-style-type: none"> Determine data and system requirements to monitor performance. 	High	High	2008/09	T&ES, CWS
12	<p>Risk Management.</p> <ul style="list-style-type: none"> Apply risk management principles in developing budget. Identify and monitor Critical and High Risk assets, to ensure continuous functionality 	High	High	2011/12	T&ES
		High	High	2011/13	T&ES

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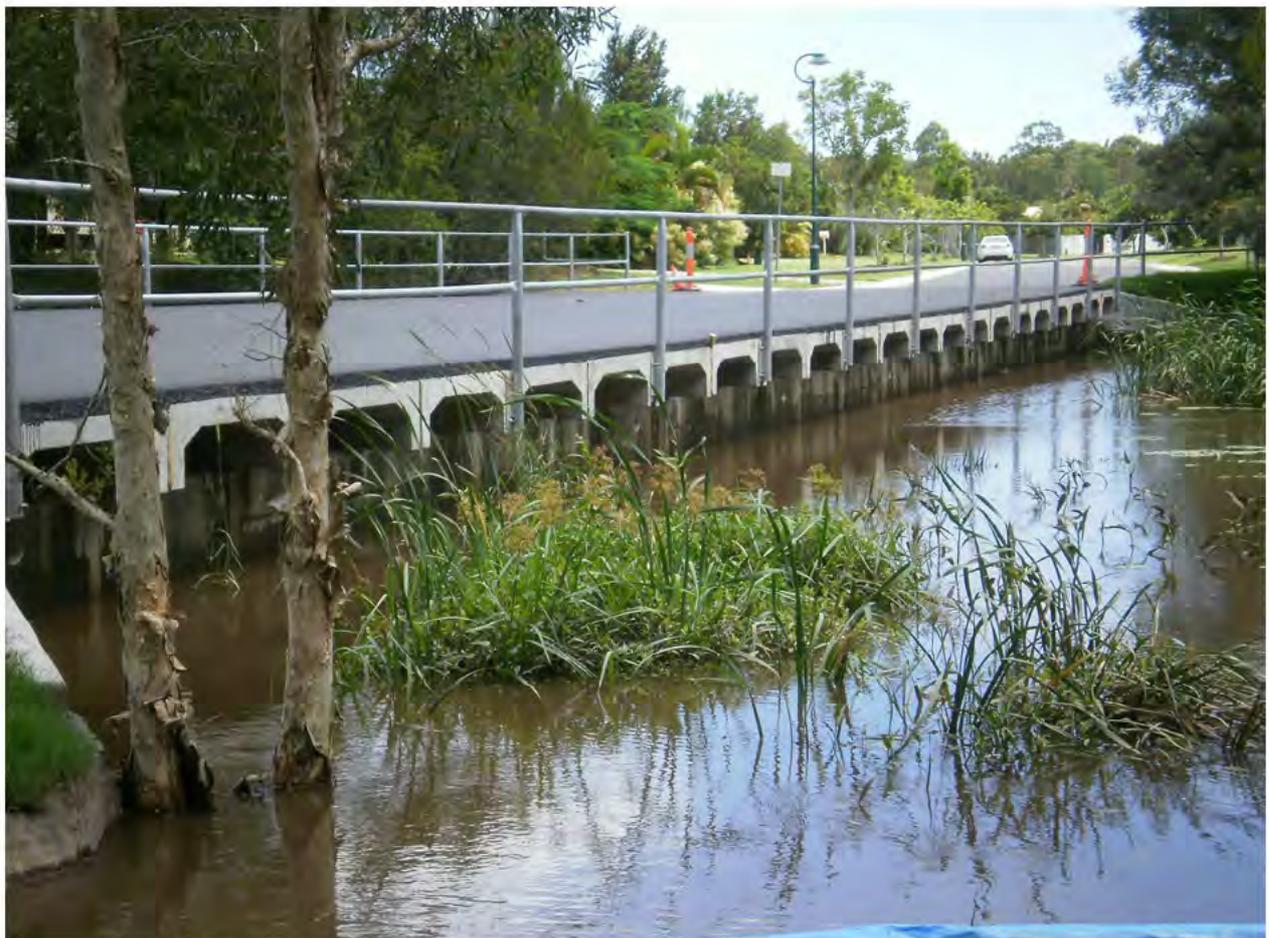
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Task No	Process Improvement	Urgency	Importance	Timeframe	Responsibility
13	Design/Project Management. <ul style="list-style-type: none">• Move to 10 year capital works program to allow for sufficient design and project management.• Adopt and implement "Fit for Purpose" designs where appropriate for low risk assets.	High	High	2011/12	IS
		High	High	2011	IS

8.3 Monitoring and Review Procedures

This asset management 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 4 years and is due for revision and updating within 2 years of each Council election.



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DVC, 2006, 'Asset Investment Guidelines', 'Glossary', Department for Victorian Communities, Local Government Victoria, Melbourne,
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