Yorke Peninsula Council

Community Wastewater Management System (CWMS)

Asset Management Plan

Scenario 1 Version 1

July 2017

Document Control	

Document ID: 59 299 140531 nams plus3 amp template v3.1					
Rev No	Date	Revision Details	Author	Reviewer	Approver
1	June 2017	Draft	MM	DG & GS	
2	June 2017	LTFP figures adjusted, updated financials and graphs, minor wording changes	MM	TG, SJ, DG & GS	
3	July 2017	Draft for Public Consultation	MM	TG, SJ & DG	

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

Context

Council owns and maintains 18 Community Wastewater Management Schemes (CWMS) across its district. CWMS enable the extraction, treatment and disposal of wastewater to the highest standards.

The Community Wastewater Management System (CWMS) Service
The CWMS network comprises:

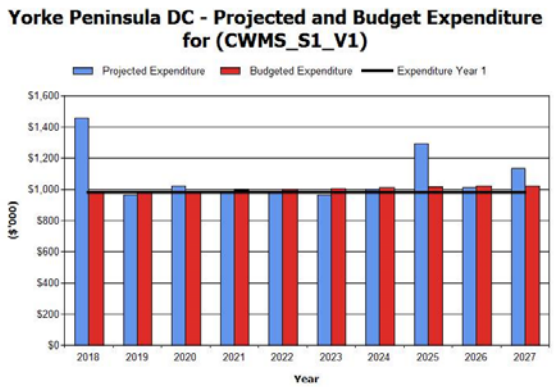
- CWMS Nodes
- CWMS Pipes
- CWMS Pump Stations
- CWMS Wastewater Treatment Plants and Storage

These infrastructure assets have a replacement value of **$25,406,352**.

What does it Cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AMP) includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is **$10,807,000** or **$1,081,000** on average per year.

Estimated available funding for this period is **$10,028,000** or **$1,003,000** on average per year which is **93%** of the cost to provide the service. This is a funding shortfall of **$78,000** on average per year. Projected expenditure required to provide services in the AMP compared with planned expenditure currently included in the LTFP are shown in the graph below.



What we will do

We plan to provide CWMS services for the following:

- Operation, maintenance, renewal and upgrade of CWMS assets as outlined in Table 2.1 to meet service levels set by Council in annual budgets.

What we cannot do

We do **not** have enough funding to provide all services at the desired service levels or provide new services. Works and services that cannot be provided under present funding levels are:

- Upgrade all CWMS assets when required.

Managing the Risks

There are risks associated with providing the service and not being able to complete all identified activities and projects. We have identified major risks as:

- Failure to maintain the existing CWMS network to a safe and serviceable standard
- Failure to undertake inspections of the existing CWMS network

We will endeavour to manage these risks within available funding by:

- Ensuring sufficient funding to maintain the network at an appropriate level
- Prioritise all works required
- Document all inspections and complaints

Confidence Levels

This AMP is based on the most recent information available at the time of preparing this plan, Council will continue to review and update this plan to increase data confidence levels. Please refer to Table 6.5.1 for the assessment of data used in this AMP.

The Next Steps

The actions resulting from this asset management plan are:

- Complete the Improvement Plan as set out in Table 7.2

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Yorke Peninsula Council community's CWMS needs. These assets include gravity and rising mains, pump stations and treatment plants.

What is an Asset Management Plan?

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

An asset management plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner. The plan defines the services to be provided, how the services are provided and what funds are required to provide the services.

Why is there a funding shortfall?

Most of the Council's CWMS network was constructed by developers and from government grants, often provided and accepted without consideration of ongoing operations, maintenance and replacement needs.

Many of these assets are approaching the later years of their life and require replacement, services from the assets are decreasing and maintenance costs are increasing.

Our present funding levels are insufficient to continue to provide existing services at current levels in the medium term.

What options do we have?

Resolving the funding shortfall involves several steps:

1. Improving asset knowledge so that data accurately records the asset inventory, how assets are performing and when assets are not able to provide the required service levels,
2. Improving our efficiency in operating, maintaining, renewing and replacing existing assets to optimise life cycle costs,
3. Identifying and managing risks associated with providing services from infrastructure,
4. Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure,
5. Identifying assets surplus to needs for disposal to make savings in future operations and maintenance costs,
6. Consulting with the community to ensure that CWMS services and costs meet community needs and are affordable,
7. Developing partnership with other bodies, where available to provide services,
8. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

What happens if we don't manage the shortfall?

It is likely that we will have to reduce service levels in some areas, unless new sources of revenue are found. For CWMS, the service level reduction may compromise the operation of the schemes.

VC pipe that has been affected by ground movement.

What can we do?

We can develop options, costs and priorities for future CWMS services, consult with the community to plan future services to match the community service needs with ability to pay for services and maximise community benefits against costs.

What can you do?

We will be pleased to consider your thoughts on the issues raised in this asset management plan and suggestions on how we may change or reduce its CWMS mix of services to ensure that the appropriate level of service can be provided to the community within available funding.

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 needed to provide the required levels of service over a 20 year planning period.

The asset management plan follows the format for AMPs recommended in Section 4.2.6 of the International Infrastructure Management Manual[1].

The asset management plan is to be read with the Council's Asset Management Policy and the following associated planning documents:

- Yorke Peninsula Council Strategic Management Plan
- Yorke Peninsula Council Long Term Financial Plan
- Yorke Peninsula Council Annual Business Plan and Budget
- Yorke Peninsula Council CWMS Infrastructure Asset Valuation and Methodology

The infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide CWMS services to the community.

Table 2.1: Assets covered by this Plan

Asset category	Dimension	Replacement Value
Nodes	House Connections (2644) Maintenance Holes (196) Inspection Points (16) Flushing Points (918) Air Valves (4) Isolation Valves (2) Oblique Junction (24)	$ 2,581,888
Pipes	Rising Main (31850m) Gravity Main (62750m) House Connection (11328m)	$15,106,398
Pumping Stations	39	$ 3,252,958
Wastewater Treatment Plant & Storage	17	$ 4,465,108
TOTAL		**$25,406,352**

Key stakeholders in the preparation and implementation of this asset management plan are shown in Table 2.1.1.

Table 2.1.1: Key Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Councillors	• Represent needs of community/shareholders, • Allocate resources to meet the Council's objectives in providing services while managing risks, • Ensure Council is financial sustainable.
Corporate Management Team	Endorse the development of AMPs and provide resources required to complete this task. Set high level priorities for asset management development in Council and raise the awareness of this function among Council staff and contractors. Support the implementation of actions resulting from this plan and prepared to make changes to a better way of managing assets and delivering services. Support for an asset management driven budget and LTFP.
Assets & Infrastructure Services Staff	Manage the infrastructure with resources provided by Council.

[1] IPWEA, 2011, Sec 4.2.6, *Example of an Asset Management Plan Structure*, pp 4|24 – 27.

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. We have acquired infrastructure assets by 'purchase', by contract, construction by our staff and by donation of assets constructed by developers and others to provide CWMS services.

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

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed.[2]

2.3 Plan Framework

Key elements of the plan are

- Levels of service – specifies the services and levels of service to be provided by the 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 defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices,
- Monitoring – how the plan will be monitored to ensure it is meeting Council's objectives,
- Asset management improvement plan.

2.4 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual[3]. It is prepared to meet legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

Future revisions of this 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 in a financially sustainable manner.

2.5 Community Consultation

This 'core' asset management plan is prepared to facilitate community consultation initially through feedback on public display of draft asset management plans prior to adoption by the Council/Board. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing the service. This will assist the Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability and willingness to pay for the service.

[2] Based on IPWEA, 2011, IIMM, Sec 1.2 p 1|7.
[3] IPWEA, 2011, IIMM.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

The 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
To be completed in future updates of this plan.					

3.2 Strategic and Corporate Goals

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

Our vision is:

We will foster opportunities to support and enhance Yorke Peninsula which is valued for its natural beauty, rich agriculture, spectacular coastline and unique blend of seaside and rural lifestyles.

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

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

Goal	Objective	How Goal and Objectives are addressed in AMP
Community Connected through Infrastructure	Develop and deliver on Asset Management Plans for all asset classes	CWMS AMP developed and adopted by Council
Community Connected through Infrastructure	Explore Provision of new infrastructure	New infrastructure provided as per an adopted CWMS AMP

The Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan prepared in conjunction with this AMP. Management of infrastructure risks is covered in Section 5.2.

3.3 Legislative Requirements

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

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a LTFP supported by asset management plans for sustainable service delivery.
SA Public Health Act and Regulations	Promote and to provide for the protection of the health of the public of South Australia and to reduce the incidence of preventable illness, injury and disability.
Environment Protection Act and Regulations	Provides for the protection of the environment.
Water Industry Act and Regulations	To facilitate planning in connection with water demand and supply.
Work Health and Safety Act and Regulations	To provide for the health, safety and welfare of persons at work.

Office of the Technical Regulator	Monitors compliance with legislation and applicable technical standards in the electricity, gas and water industries.

The Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan linked to this AMP. Management of risks is discussed in Section 5.2.

3.4 Community Levels of Service

Service levels are defined in two terms, customer levels of service and technical levels of service.

Community Levels of Service measure how the community receives the service and whether the Council is providing community value.

Community levels of service measures used in the asset management plan are:

Quality	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilisation	Is the service over or under used?

The Council's current and expected community service levels are detailed in Tables 3.4 and 3.5. Table 3.4 shows the agreed expected community levels of service based on resource levels in the current long-term financial plan and community consultation/engagement.

Table 3.4: Community Level of Service

Service Attribute	Service Objective	Performance Measure Process	Current Performance	Expected position in 10 years based on current LTFP
COMMUNITY OUTCOMES				
CWMS enables the extraction, treatment and disposal of wastewater in accordance with industry standards.				
COMMUNITY LEVELS OF SERVICE				
Quality	Provide an efficient method of collection and disposal of community wastewater	Customer Service Requests relating to CWMS maintenance	< 50 per year	< 20 per year
	Organisational measure Confidence levels	High	High	High
Function	CWMS network is appropriately maintained. Meets relevant legislative requirements.	Customer Service Requests relating to CWMS maintenance. Complies with legislative requirements.	< 50 per year Complies with legislative requirements.	< 20 per year Continuing to comply with legislative requirements.
	Organisational measure Confidence levels	High	High	High
Capacity/ Utilisation	CWMS network has the capacity to accept current and projected flow rates for each township.	New developments can connect to the CWMS network.	Less than 30 new connections per year in total for all schemes. Each scheme has capacity for new connections.	Less than 30 new connections per year in total for all schemes. Continuing to meet capacity requirements.
	Organisational measure Confidence levels	High	High	High

3.5 Technical Levels of Service

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the Council undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as septic tank desludging, regular condition and defect inspection of the pipe network,
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition (eg pipe repairs),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (eg frequency and cost of pipeline replacement and treatment plant component replacement),
- Upgrade – the activities to provide a higher level of service (eg replacing a pipeline with a larger size) or a new service that did not exist previously (eg a new pump station).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.[4]

Table 3.5 shows the technical level of service expected to be provided under this AMP. The agreed sustainable position in the table documents the position agreed by the Council following community consultation and trade-off of service levels performance, costs and risk within resources available in the long-term financial plan.

[4] IPWEA, 2011, IIMM, p 2.22

Table 3.5: Technical Levels of Service

Service Attribute	Service Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **	Agreed Sustainable Position ***
TECHNICAL LEVELS OF SERVICE					
Operations	CWMS network meets user requirements.	Regular condition and defect surveys. Septic Tank Desludging.	Annual condition and defect inspection of 5% of CWMS pipe network. Regular condition and defect inspections of WWTP by staff. Annual septic tank desludging program.	Annual condition and defect inspection of 5% of CWMS pipe network. Regular condition and defect inspections of WWTP by staff. Bi-annual condition and defect inspection of Pumping Stations.	Current Performance
		Budget	Budget – Current	Budget – Current	Budget - Current
Maintenance	CWMS network is well maintained.	Regular maintenance program and Customer Service Requests completed in a reasonable time frame.	Planned maintenance is undertaken as and where required. Customer Service Requests are actioned in a time frame determined by their priority.	Maintenance is undertaken as planned and required.	Current Performance
		Budget	Budget – Current	Budget - Current	Budget - Current
Renewal	Renewal of CWMS assets as required and at the optimum time frame.	Assets renewed as per current renewal program and budget.	Planned renewal work is undertaken as per current renewal program and budget.	Identified renewal work funded each year as per adopted Capital Renewal Program.	Identified renewal work is currently funded.
		Budget	Budget – Current	Budget - Current	Budget - Current
Upgrade/New	Upgrade of CWMS assets are identified through design and new technology.	Assets are upgraded as per current upgrade program and budget.	Planned upgrade work is undertaken as per current upgrade program and budget.	Identified upgrade work funded each year as per adopted Capital Upgrade Program	Identified upgrade work is currently funded.
		Budget	Budget - Current	Budget – Current	Budget - Current

Note: * *Current activities and costs (currently funded).*
** *Desired activities and costs to sustain current service levels and achieve minimum life cycle costs (not currently funded).*
*** *Activities and costs communicated and agreed with the community as being sustainable (funded position following trade-offs, managing risks and delivering agreed service levels).*

4. FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilisation of assets were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and utilisation of assets are shown in Table 4.3.

Table 4.3: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
New Development / Connections	Growth through new houses and small land division connections.	Expected to continue	Impact on existing collection, transfer, treatment and storage infrastructure.
Tourism	Increased demand on some coastal township services during peak holiday periods	Expected to continue	Impact on existing collection, transfer, treatment and storage infrastructure.
Regulatory changes to CWMS standards and guidelines	Regulatory standards are managed by the Infrastructure Manager	Additional operational and reporting requirements	Not identified

4.4 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.

Non-asset solutions focus on providing the required service without the need for the Council to own the assets and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures[5]. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another community area or public toilets provided in commercial premises.

Opportunities to date for demand management are shown in Table 4.4. Further opportunities will be developed in future revisions of this asset management plan.

Table 4.4: Demand Management Plan Summary

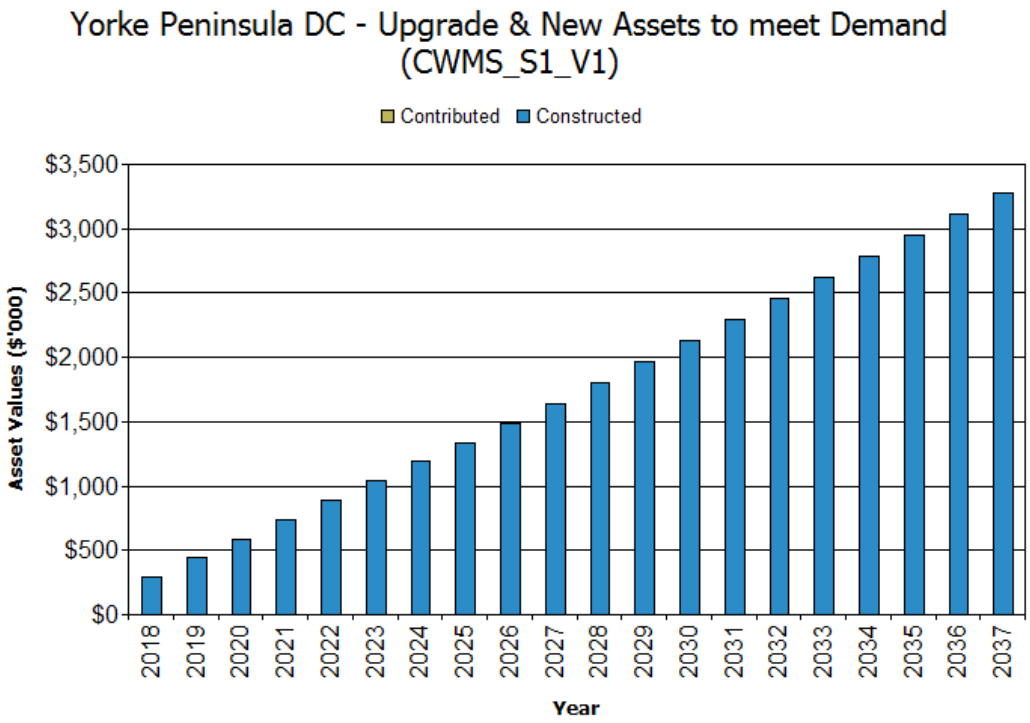
Demand Driver	Impact on Services	Demand Management Plan
To be developed in future revisions of this plan.		

[5] IPWEA, 2011, IIMM, Table 3.4.1, p 3|58.

4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by the Council. New assets constructed/acquired by the Council are discussed in Section 5.5. The cumulative value of new contributed and constructed asset values are summarised in Figure 1.

Figure 1: Upgrade and New Assets to meet Demand



Acquiring these new assets will commit the Council to fund ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 5.

5. LIFECYCLE MANAGEMENT PLAN

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

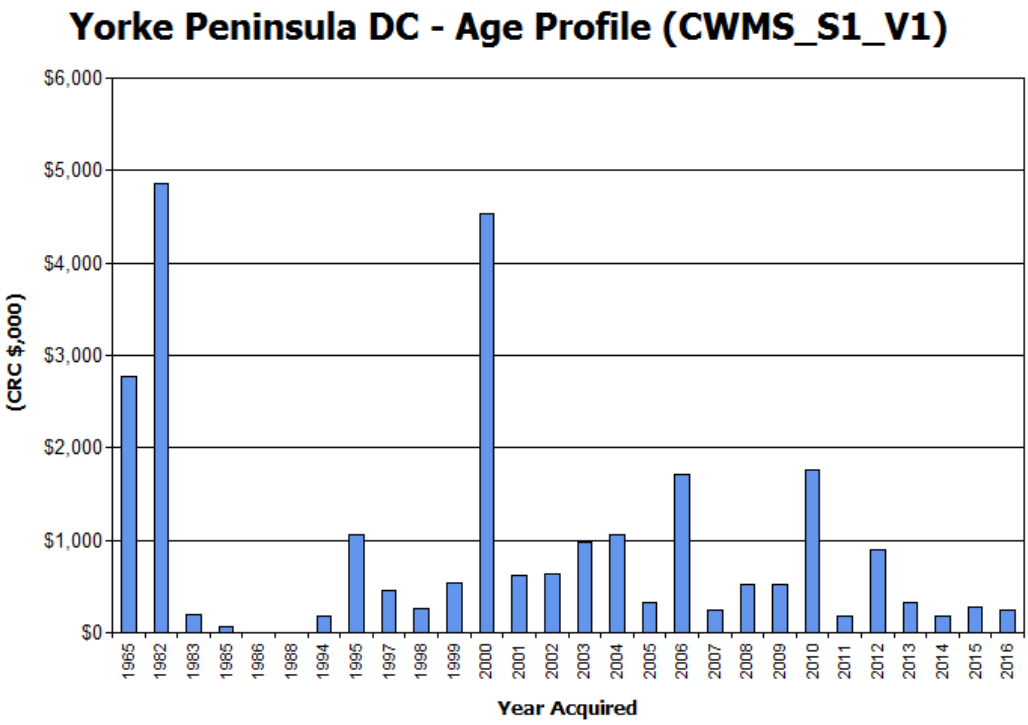
5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan are shown in Table 2.1.

The age profile of the assets include in this AMP is shown in Figure 2.

Figure 2: Asset Age Profile



Plans showing the CWMS assets are:

- Council's GIS
- Records Management System

5.1.2 Asset capacity and performance

The 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
Maitland CWMS	VC pipework – many areas affected by ground movement and tree roots. Review CCTV Survey to develop strategy to address issues.
Ardrossan, Maitland and Tiddy Widdy Beach CWMS	Inspection Points – many inspection points are not accessible. Review CCTV Survey to identify locations and develop strategy to address issues.
Various CWMS	Not meeting water quality standards on a regular basis. Review new technology to improve treatment of wastewater.

The above service deficiencies were identified from maintenance records and customer service requests..

5.1.3 Asset condition

Condition of CWMS assets is monitored by Council staff but a full condition profile has not yet been developed for the entire CWMS network. Council have commenced an annual condition and defect inspection of the network and this will be used to develop a condition profile in a future reiteration of this plan.

The condition profile of our assets is shown in Figure 3.

Figure 3: Asset Condition Profile

Asset Condition Profile will be added in a future reiteration of this plan.

Condition is measured using a 1 – 5 grading system[6] as detailed in Table 5.1.3.

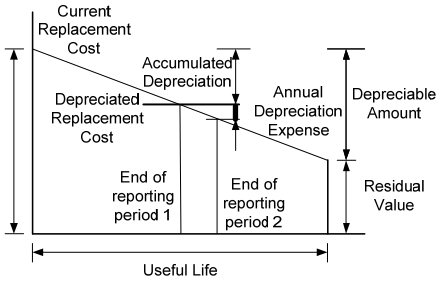
Table 5.1.3: Simple Condition Grading Model

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 recorded in the asset register as at **30th June 2016** covered by this asset management plan is shown below. Assets were last revalued at **1st July 2014**. Assets are valued at fair value expressed as Current Replacement Cost (CRC) of an asset minus any accumulated depreciation and impairment losses.

Current Replacement Cost	**$25,406,000**
Depreciable Amount	**$25,385,000**
Depreciated Replacement Cost[7]	**$16,524,000**
Annual Depreciation Expense	**$478,000**



Useful lives were reviewed in **August 2015** by Council staff and consultants. Council value their assets at a component level which enables assets to be assigned an average useful life for each component to determine depreciation rates.

The useful life of a CWMS asset is assumed to be the time that an asset is expected to last before total replacement is required. It is likely that during their useful life, some assets will require maintenance.

The useful life of CWMS assets is governed by two factors:

- Structural deterioration – i.e. when a pipe or pit or any asset fails due to age/physical deterioration and renewal is required.
- Suitability – when despite being in physically good condition an asset is no longer suitable for purpose, e.g. when a pipe's capacity is exceeded.

The useful lives that are assigned to different CWMS asset types are based on industry standards.

Major changes from previous valuations are due to CWMS Asset Register being updated and the asset group being further componentised and unit rate and useful lives being reviewed.

[6] IPWEA, 2011, IIMM, Sec 2.5.4, p 2|79.
[7] Also reported as Written Down Current Replacement Cost (WDCRC).

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time.

Rate of Annual Asset Consumption (Depreciation/Depreciable Amount) **1.9%**

Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount) **0.6%**

In **2017/18** the Council plans to renew assets at **31.2%** of the rate they are being consumed and will be increasing its asset stock by **1.1%** in the year.

5.1.5 Historical Data

Historical data, such as construction plans, on each of Council's CWMS are located in the Assets and Infrastructure department and Council's records system.

5.2 Infrastructure Risk Management Plan

An assessment of risks[8] associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to the 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.

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, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 5.2. These risks are reported to management and Council/Board.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Pump Failure	Effluent flowing into streets and property.		Telemetry monitoring of systems. Backup pumps available. Staff on call.		Current Budget
Pipe Blockage / Break	Effluent flowing into streets and property.		CCTV data collection to identify problem areas. CSR system.		Current Budget
External Party Damage to Pipes	External Party digging through pipes.		DBYD Member. SF039 Application to Lay Underground Service.		Current Budget
Long Term Power Failure	Power Blackout		Purchase of portable generators to run Pump Stations and Treatment Plant		Future Budget Considerations

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

5.3 Routine Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, eg cleansing, street sweeping, grass mowing and street lighting.

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.

[8] Critical Risks and Treatments have been identified but not assessed

5.3.1 Operations and Maintenance Plan

Operations activities affect service levels including quality and function through street sweeping and grass mowing frequency, intensity and spacing of street lights and cleaning frequency and opening hours of building and other facilities.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. Maintenance may be classified into reactive, planned and specific 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.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacing air conditioning units, etc. This work falls below the capital/maintenance threshold but may require a specific budget allocation.

Actual past and budgeted maintenance expenditure is shown in Table 5.3.1.

Table 5.3.1: Maintenance Expenditure Trends

Year	Maintenance Expenditure
2014/15	$718,000
2015/16	$609,000
2016/17	$712,489

Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels are such that will result in a lesser level of service, the service consequences and service risks have been identified and service consequences highlighted in this AMP and service risks considered in the Infrastructure Risk Management Plan.

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

5.3.2 Operations and Maintenance Strategies

The Council will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operation and maintenance activities include:

- Scheduling operations activities to deliver the defined level of service in the most efficient manner,
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities (50 – 70% planned desirable as measured by cost),
- Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council/Board,
- Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs,
- Review asset utilisation to identify underutilised assets and appropriate remedies, and over utilised assets and customer demand management options,

- Maintain a current hierarchy of critical assets and required operations and maintenance activities,
- Develop and regularly review appropriate emergency response capability,
- Review management of operations and maintenance activities to ensure Council is obtaining best value for resources used.

Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

The Council's service hierarchy is shown is Table 5.3.2.

Table 5.3.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Nodes	Conveyance of effluent from source to treatment and disposal locations
Pipes	Conveyance of effluent from source to treatment and disposal locations
Pump Stations	Conveyance of effluent from source to treatment and disposal locations
Wastewater Treatment Plants and Storage	Treatment of effluent to a standard suitable for disposal in compliance with regulatory standards

Critical Assets

Critical assets are those assets which have a high consequence of failure but not necessarily a high likelihood of failure. By identifying critical assets and critical failure modes, Council can target and refine investigative activities, maintenance plans and capital expenditure plans at the appropriate time.

Operations and maintenances activities may be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency, higher maintenance intervention levels, etc. Critical assets failure modes and required operations and maintenance activities are detailed in Table 5.3.2.1.

Table 5.3.2.1: Critical Assets and Service Level Objectives

Critical Assets	Critical Failure Mode	Operations & Maintenance Activities
Not yet identified – to be developed in future reiterations of this plan		

Standards and specifications

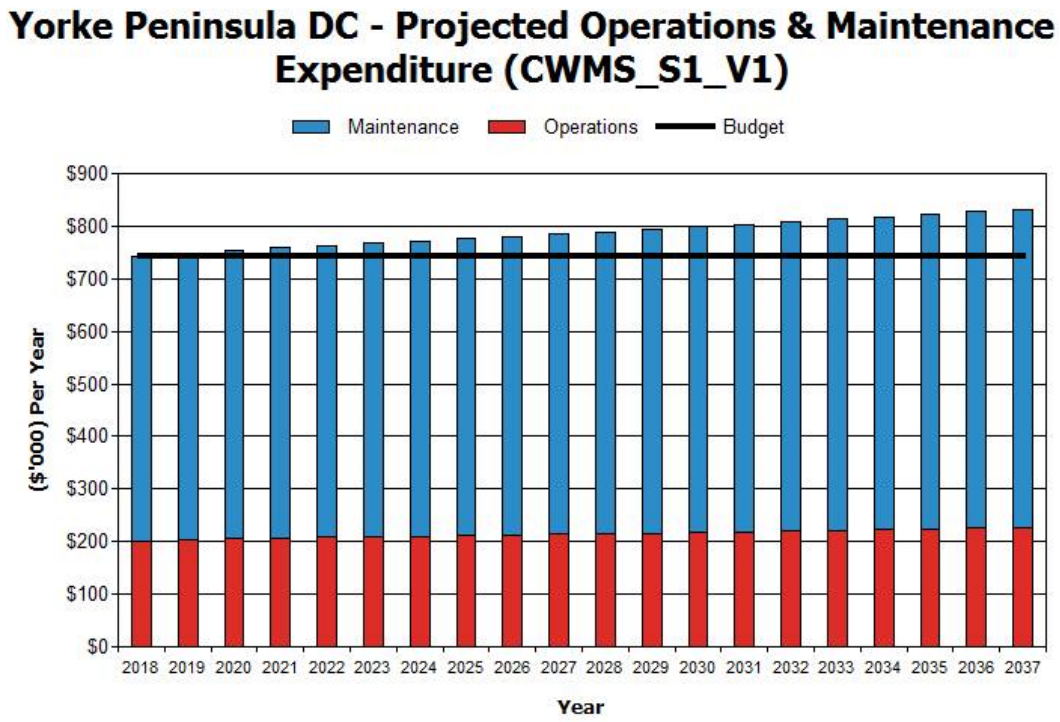
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Guidelines, Design Criteria and Standards for Community Wastewater Management Schemes (Local Government Association of South Australia)
- Sewerage Code of Australia (WSA 02) and any SA Water supplementary documentation
- Sewage Pumping Station Code of Australia (WSA 04).
- AS/NZS 3500: Plumbing and drainage.
- AS/NZS 2031: Water quality - Sampling for microbiological analysis (ISO 19458:2006, MOD).
- AS/NZS ISO 3100: Risk management - Principles and Guidelines.
- The National Construction Code (NCC) Volume 3 Plumbing Code of Australia (PCA) including South Australian Variations and/or Additional Provisions as listed in Appendix A.
- Standard Form: Technical Specification-Construction of Septic Tank Effluent Drainage Schemes (DH, LGA).
- Septic Tank Effluent Drainage Scheme Design Criteria (DH, LGA).
- South Australian Bio-solids Guidelines for the Safe Handling, Reuse or Disposal of Bio-solids (EPA).

5.3.3 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current **2017/18** dollar values (ie real values).

Figure 4: Projected Operations and Maintenance Expenditure



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

Maintenance is funded from the operating budget where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

Renewal and replacement 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 or lesser required 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/replacement are identified from one of three methods provided in the 'Expenditure Template'.

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or
- Method 3 uses a combination of average *network renewals* plus *defect repairs* in the *Renewal Plan* and *Defect Repair Plan* worksheets on the 'Expenditure template'.

Method 1 was used for this asset management plan.

The useful lives of assets used to develop projected asset renewal expenditures are shown in Table 5.4.1. Asset useful lives were last reviewed on **August 2015**.[9]

Table 5.4.1: Useful Lives of Assets

Asset (Sub)Category	Useful life
Nodes	20 to 70 years
Pipes	70 years
Pumping Stations	15 to 50 years
Wastewater Treatment Plants and Storage	15 to 100 years

5.4.2 Renewal and Replacement Strategies

The Council will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:
    - the service delivery 'deficiency', present risk and optimum time for renewal/replacement,
    - the project objectives to rectify the deficiency,
    - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
    - and evaluate the options against evaluation criteria adopted by the Council, and
    - select the best option to be included in capital renewal programs,
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible,
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council/Board,
- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs,
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required ,
- Review management of capital renewal and replacement activities to ensure Council is obtaining best value for resources used.

Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (eg replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (eg roughness of a road).[10]

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have a high utilisation and subsequent impact on users would be greatest,
- The total value represents the greatest net value to the Council,
- Have the highest average age relative to their expected lives,
- Are identified in the AMP as key cost factors,
- Have high operational or maintenance costs, and

[9] CWMS Infrastructure Asset Valuation & Methodology 1 July 2014
[10] IPWEA, 2011, IIMM, Sec 3.4.4, p 3|60.

- Where replacement with modern equivalent assets would yield material savings.[11]

The ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in Table 5.4.2.

Table 5.4.2: Renewal and Replacement Priority Ranking Criteria

Criteria	Weighting
Blockages / Breakages	No weighting criteria adopted
Customer Service Requests	No weighting criteria adopted
WWTP Water Quality Standard	No weighting criteria adopted
Available Budget	No weighting criteria adopted
Total	**100%**

Renewal and replacement standards

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

- Guidelines, Design Criteria and Standards for Community Wastewater Management Schemes (Local Government Association of South Australia)
- Sewerage Code of Australia (WSA 02) and any SA Water supplementary documentation
- Sewage Pumping Station Code of Australia (WSA 04).
- AS/NZS 3500: Plumbing and drainage.
- AS/NZS 2031: Water quality - Sampling for microbiological analysis (ISO 19458:2006, MOD).
- AS/NZS ISO 3100: Risk management - Principles and Guidelines.
- The National Construction Code (NCC) Volume 3 Plumbing Code of Australia (PCA) including South Australian Variations and/or Additional Provisions as listed in Appendix A.
- Standard Form: Technical Specification-Construction of Septic Tank Effluent Drainage Schemes (DH, LGA).
- Septic Tank Effluent Drainage Scheme Design Criteria (DH, LGA).
- South Australian Bio-solids Guidelines for the Safe Handling, Reuse or Disposal of Bio-solids (EPA).

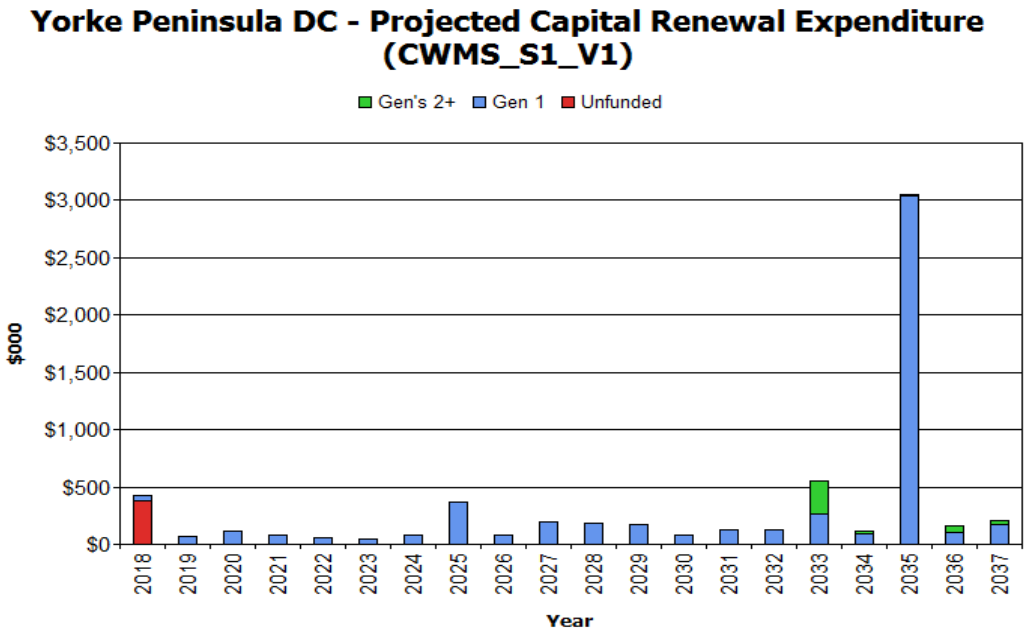
5.4.3 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock increases from growth. The expenditure is summarised in Figure 5. Note that all amounts are shown in real values.

The projected capital renewal and replacement program is shown in Appendix B.

[11] Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3|66.

Figure 5: Projected Capital Renewal and Replacement Expenditure



Deferred renewal and replacement, ie those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the risk management plan.

Renewals and replacement expenditure in the Council's capital works program will be accommodated in the LTFP. This is further discussed in Section 6.2.

5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the Council from land development. These assets from growth are considered in Section 4.4.

5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor/director 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 5.5.1: New Assets Priority Ranking Criteria

Criteria	Weighting
Cost benefit analysis	No weighting criteria adopted
Service Deficiency	No weighting criteria adopted
Usage	No weighting criteria adopted
Customer Service Requests	No weighting criteria adopted
Available Budget	No weighting criteria adopted
Servicing Land Management Agreements	No weighting criteria adopted
Total	**100%**

5.5.2 Capital Investment Strategies

The Council will plan capital upgrade and new projects to meet level of service objectives by:

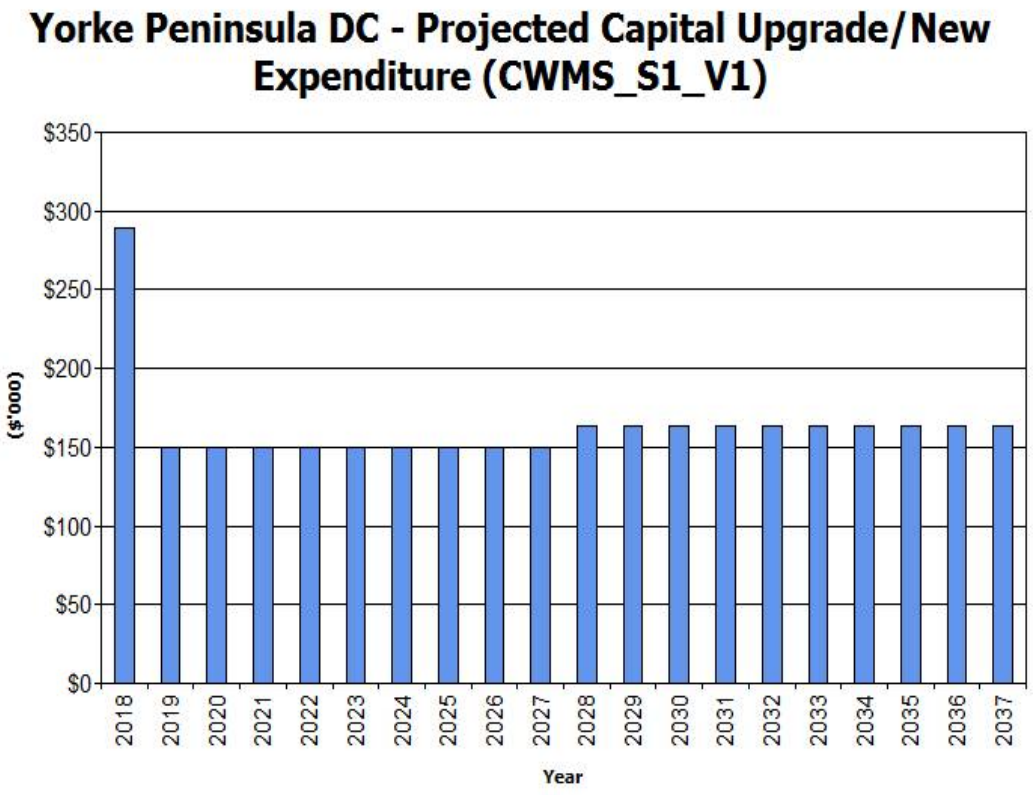
- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner,
- Undertake project scoping for all capital upgrade/new projects to identify:
    - the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new asset,
    - the project objectives to rectify the deficiency including value management for major projects,
    - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
    - management of risks associated with alternative options,
    - and evaluate the options against evaluation criteria adopted by Council, and
    - select the best option to be included in capital upgrade/new programs,
- Review current and required skills base and implement training and development to meet required construction and project management needs,
- Review management of capital project management activities to ensure Council is obtaining best value for resources used.

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

5.5.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Figure 6. The projected upgrade/new capital works program is shown in Appendix C. All amounts are shown in real values.

Figurre 6: Projected Capital Upgrade/New Asset Expenditure



Expenditure on new assets and services in the Council's capital works program will be accommodated in the LTFP. 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, together with estimated annual savings from not having to fund operations and maintenance of the assets. 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. Any revenue gained from asset disposals is accommodated in Council's LTFP.

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

Table 5.6: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Expenditure	Operations & Maintenance Annual Savings
Point Turton WWTP No 1	Two WWTP in township. Upgrade WWTP No 2	Future budget once fully costed	Not costed	Not Costed

5.7 Service Consequences and Risks

The Council has prioritised decisions made in adopting this AMP to obtain the optimum benefits from its available resources. Decisions were made based on the development of 3 scenarios of AMPs.

Scenario 1 - What we would like to do based on asset register data

Scenario 2 – What we should do with existing budgets and identifying level of service and risk consequences (ie what are the operations and maintenance and capital projects we are unable to do, what is the service and risk consequences associated with this position). This may require several versions of the AMP.

Scenario 3 – What we can do and be financially sustainable with AMPs matching long-term financial plans.

The development of scenario 1 and scenario 2 AMPs provides the tools for discussion with the Council and community on trade-offs between what we would like to do (scenario 1) and what we should be doing with existing budgets (scenario 2) by balancing changes in services and service levels with affordability and acceptance of the service and risk consequences of the trade-off position (scenario 3).

5.7.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Not identified – to be further developed in future reiterations of this plan.

5.7.2 Service consequences

Operations and maintenance activities and capital projects that cannot be undertaken will maintain or create service consequences for users. These include:

- Not identified – to be further developed in future reiterations of this plan.

5.7.3 Risk consequences

The operations and maintenance activities and capital projects that cannot be undertaken may maintain or create risk consequences for the Council. These include:

- Not identified – to be further developed in future reiterations of this plan.

These risks have been included with the Infrastructure Risk Management Plan summarised in Section 5.2 and risk management plans actions and expenditures included within projected expenditures.

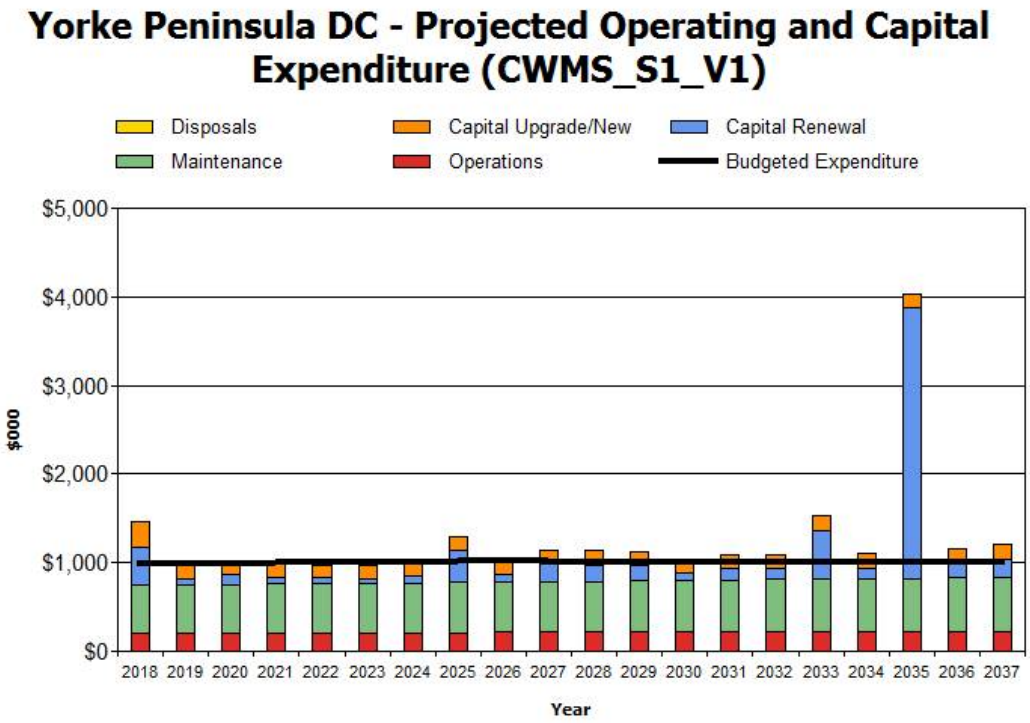
6. FINANCIAL SUMMARY

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 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.

Figure 7: Projected Operating and Capital Expenditure



6.1.1 Sustainability of service delivery

There are four key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the asset renewal funding ratio, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[12] **104%**

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 10 years, Council is forecasting that it will have **104%** of the funds required for the optimal renewal and replacement of its assets.

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 asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is **$1,242,000** per year (average operations and maintenance expenditure plus depreciation expense projected over 10 years).

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure over the 10 year planning period is **$903,000** per year (average operations and maintenance plus capital renewal budgeted expenditure in the LTFP over 10 years).

A shortfall between life cycle cost and life cycle expenditure is the life cycle gap. The life cycle gap for services covered by this asset management plan is **$339,000** per year.

Life cycle expenditure is **73%** of life cycle costs.

The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future.

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist Councils in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

Medium term – 10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is **$917,000** on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is **$903,000** on average per year giving a 10 year funding shortfall of **$14,000** per year. This indicates that Council expects to have **98%** of the projected expenditures needed to provide the services documented in the asset management plan.

Medium Term – 5 year financial planning period

The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is **$903,000** on average per year.

---

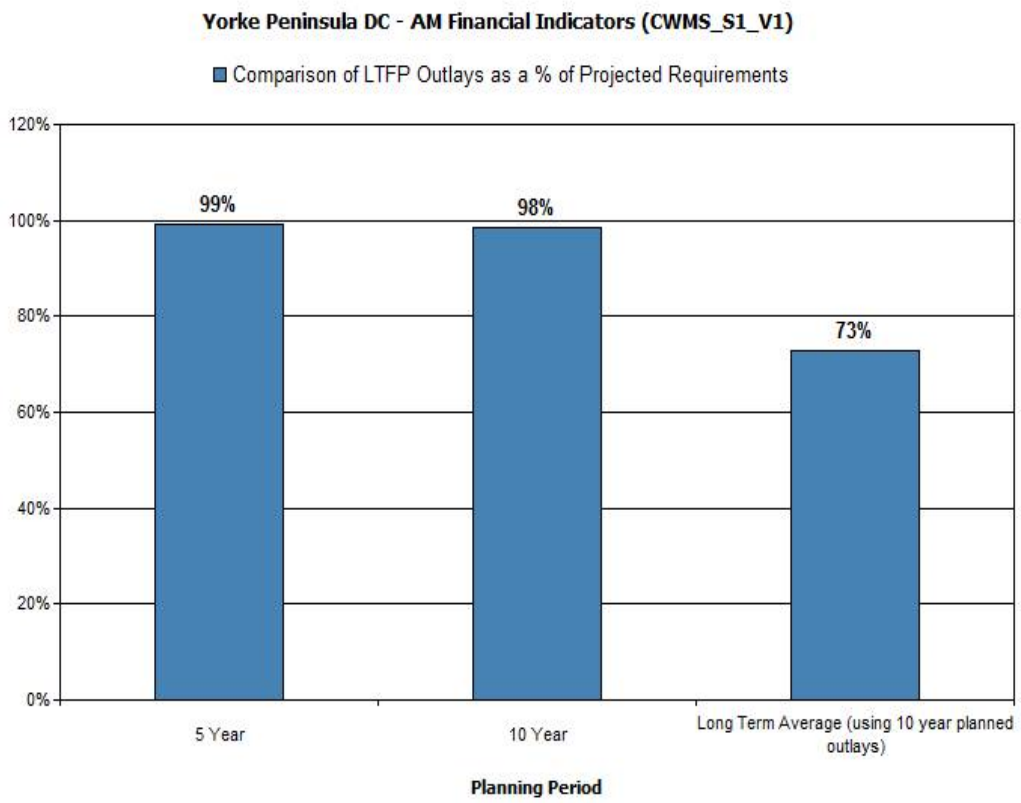
[12] AIFMG, 2012, Version 1.3, Financial Sustainability Indicator 4, Sec 2.6, p 2.16

Estimated (budget) operations, maintenance and capital renewal funding is **$896,000** on average per year giving a 5 year funding shortfall of **$7,000**. This indicates that Council expects to have **99%** of projected expenditures required to provide the services shown in this asset management plan.

Asset management financial indicators

Figure 7A shows the asset management financial indicators over the 10 year planning period and for the long term life cycle.

Figure 7A: Asset Management Financial Indicators



Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the asset management plan and ideally over the 10 year life of the LTFP.

Figure 8 shows the projected asset renewal and replacement expenditure over the 20 years of the AMP. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the LTFP.

Figure 8: Projected and LTFP Budgeted Renewal Expenditure

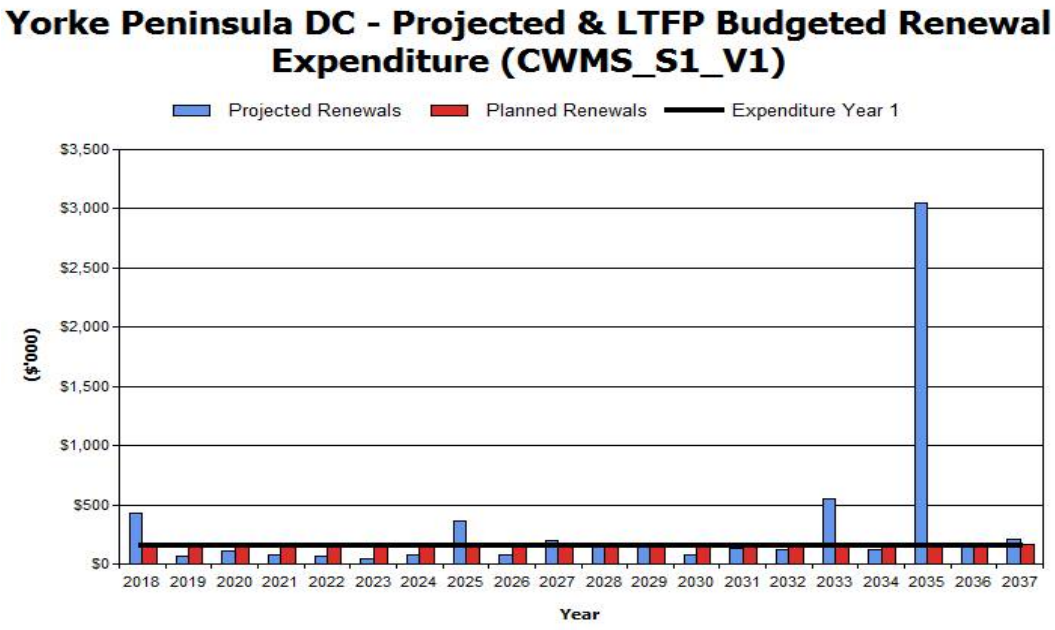


Table 6.1.1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in the LTFP. Budget expenditures accommodated in the LTFP or extrapolated from current budgets are shown in Appendix D.

Table 6.1.1: Projected and LTFP Budgeted Renewals and Financing Shortfall

Year	Projected Renewals ($000)	LTFP Renewal Budget ($000)	Renewal Financing Shortfall ($000) (-ve Gap, +ve Surplus)	Cumulative Shortfall ($000) (-ve Gap, +ve Surplus)
2018	$428	$149	$-279	$-279
2019	$67	$152	$85	$-194
2020	$115	$154	$39	$-155
2021	$76	$157	$81	$-75
2022	$62	$161	$99	$24
2023	$49	$164	$115	$139
2024	$77	$167	$90	$229
2025	$368	$170	$-198	$31
2026	$81	$173	$92	$123
2027	$201	$173	$-28	$95
2028	$181	$162	$-19	$76
2029	$172	$162	$-10	$66
2030	$79	$162	$83	$149
2031	$128	$162	$34	$183
2032	$122	$162	$40	$223
2033	$554	$162	$-392	$-169
2034	$116	$162	$46	$-123
2035	$3,048	$162	$-2,886	$-3,009
2036	$158	$162	$4	$-3,005
2037	$206	$162	$-44	$-3,049

Note: A negative shortfall indicates a financing gap, a positive shortfall indicates a surplus for that year.

Providing services in a sustainable manner will require matching of projected asset renewal and replacement expenditure to meet agreed service levels with **the corresponding** capital works program accommodated in the LTFP.

A gap between **projected asset renewal/replacement expenditure and amounts accommodated in the LTFP** indicates that **further work is required on reviewing service levels in the AMP (including possibly revising the LTFP)** before finalising the asset management plan to manage required service levels and funding **to eliminate any funding gap**.

We 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 review future services, service levels and costs with the community.

6.1.2 Projected expenditures for long term financial plan

Table 6.1.2 shows the projected expenditures for the 10 year LTFP.

Expenditure projections are in **2017/18** real values.

Table 6.1.2: Projected Expenditures for Long Term Financial Plan ($000)

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)
2018	$202	$539	$428	$289	$0
2019	$204	$545	$67	$150	$0
2020	$205	$548	$115	$150	$0
2021	$207	$551	$76	$150	$0
2022	$208	$555	$62	$150	$0
2023	$209	$558	$49	$150	$0
2024	$210	$561	$77	$150	$0
2025	$211	$564	$368	$150	$0
2026	$213	$567	$81	$150	$0
2027	$214	$571	$201	$150	$0
2028	$215	$574	$181	$164	$0
2029	$216	$577	$172	$164	$0
2030	$218	$581	$79	$164	$0
2031	$219	$584	$128	$164	$0
2032	$220	$588	$122	$164	$0
2033	$222	$591	$554	$164	$0
2034	$223	$595	$116	$164	$0
2035	$224	$598	$3,048	$164	$0
2036	$225	$602	$158	$164	$0
2037	$227	$605	$206	$164	$0

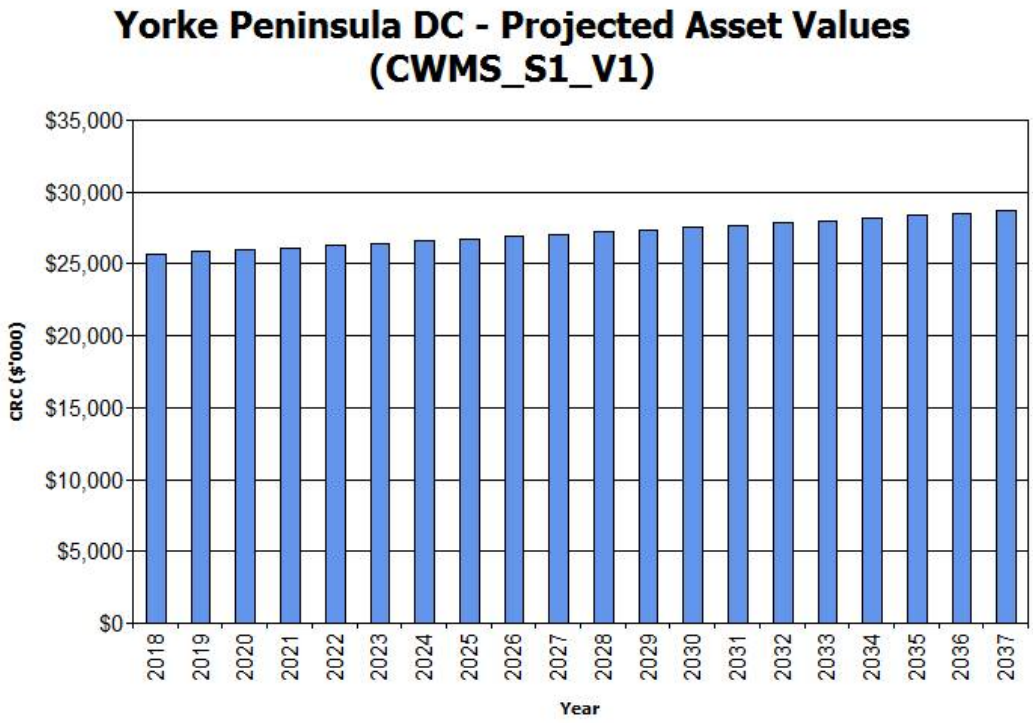
6.2 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability projected expenditures identified in Section 6.1.2 will be accommodated in the Council's 10 year LTFP.

6.3 Valuation Forecasts

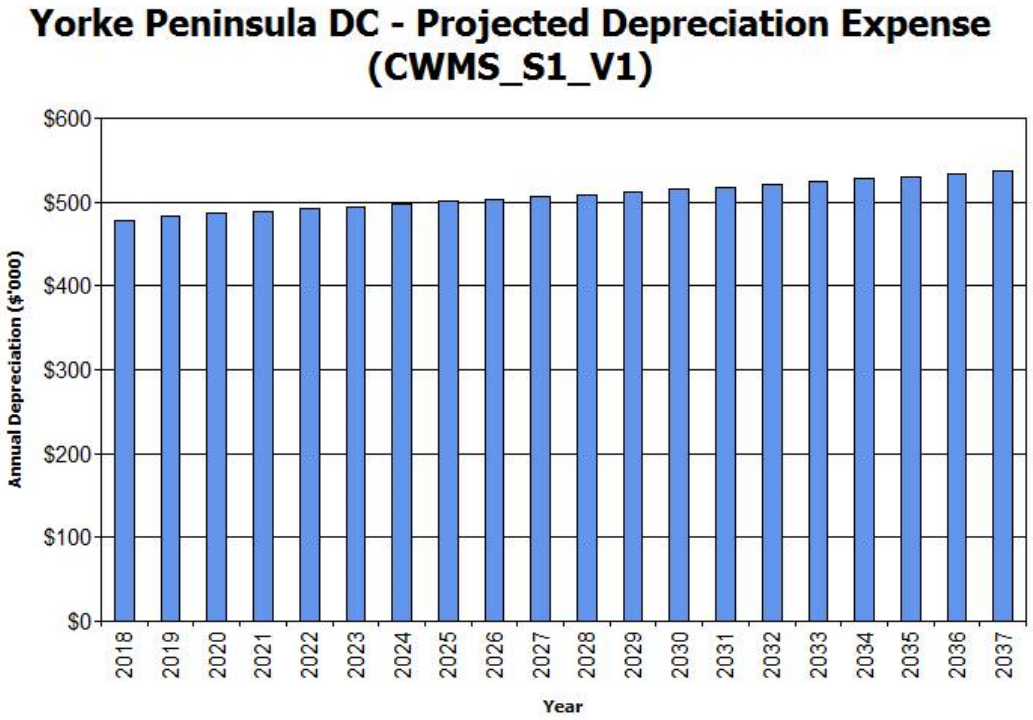
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 9 shows the projected replacement cost asset values over the planning period in real values.

Figure 9: Projected Asset Values



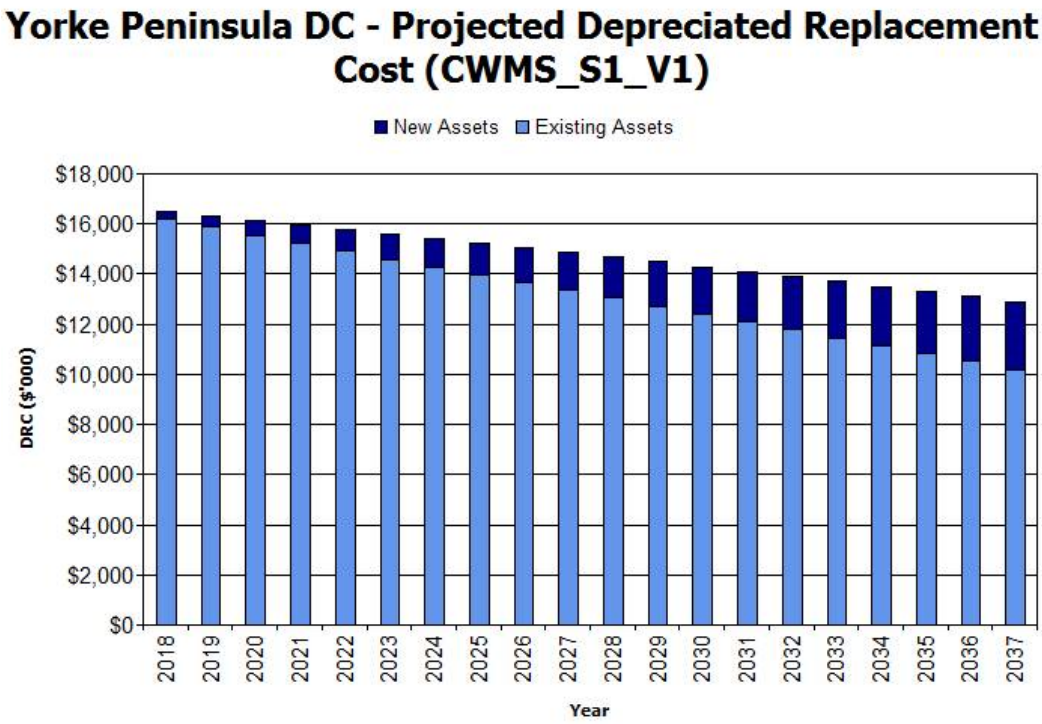
Depreciation expense values are forecast in line with asset values as shown in Figure 10.

Figure 10: Projected Depreciation Expense



The depreciated replacement cost 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 11. The depreciated replacement cost of contributed and new assets is shown in the darker colour and in the lighter colour for existing assets.

Figure 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 and risks that these may change are shown in Table 6.4.

Table 6.4: Key Assumptions made in AMP and Risks of Change

Key Assumptions	Risks of Change to Assumptions
Asset data is complete and reliable	Discovery of assets not recorded in the asset register will increase capital renewal expenditure and depreciation expense projections.
Legislative compliance will remain constant	Changes in legislation and regulation may increase operating and maintenance expenditure projections.
Average useful lives are based on current knowledge	A review of useful lives has the potential to vary future cost predictions.

6.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AMP are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale[13] in accordance with Table 6.5.

Table 6.5: Data Confidence Grading System

Confidence Grade	Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy ± 40%
E Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AMP is shown in Table 6.5.1.

Table 6.5.1: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment	Comment
Demand drivers	E	Not developed
Growth projections	E	Not used
Operations expenditures	A	Current and previous budget information
Maintenance expenditures	A	Current and previous budget information
Projected Renewal exps. - Asset values	B	Generated from CONQUEST. Data reviewed and updated for the implementation of CONQUEST and a CWMS valuation.
- Asset residual values	B	Generated from CONQUEST. Data reviewed and updated for the implementation of CONQUEST and a CWMS valuation.
- Asset useful lives	B	Generated from CONQUEST. Data reviewed and updated for the implementation of CONQUEST and a CWMS valuation.
- Condition modelling	E	Not used / developed
- Network renewals	B	Generated from CONQUEST. Data reviewed and updated for the implementation of CONQUEST and a CWMS valuation.
- Defect repairs	C	Generated from Assets & Infrastructure Services
Upgrade/New expenditures	C	Generated from Assets & Infrastructure Services
Disposal expenditures	C	Generated from Assets & Infrastructure Services – no costed

Over all data sources, the data confidence is assessed as **reliable (B)** confidence level for data used in the preparation of this AMP.

[13] IPWEA, 2011, IIMM, Table 2.4.6, p 2|59.

7. PLAN IMPROVEMENT AND MONITORING

7.1 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 7.2.

Table 7.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Collect condition data on the CWMS pipe network	Infrastructure Manager	Annual Budget Allocation	Ongoing
2	Define Levels of Service	Director A & I	In house	Ongoing
3	Develop the Capital Works program in alignment with the Asset Management System	Infrastructure Manager / Asset Manager	In house	2018/19 Budget
4	Continual review of Asset Register	Infrastructure Manager / Asset Manager	In house	Ongoing
5	Continue development of Council's Asset Management System (Conquest) and Geospatial Information System (MapInfo)	Asset Manager	In house	Ongoing
6	Conduct a risk assessment workshop to further develop the critical risk and treatment plans	Risk Management Officer	In house	Ongoing
7	Review Future Demand and develop a Demand Management Plan if required.	Asset Manager / Manager Financial Services / Manager Development Services	In house	Ongoing
8	Develop Priority Ranking Criteria for *Renewal and Replacement* and *New/Upgrade* of assets	Infrastructure Manager / Asset Manager	In house	Ongoing

7.2 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The AMP will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the Council's LTFP.

The AMP has a life of 4 years (Council election cycle) and is due for complete revision and updating within two years of each Council election.

7.3 Performance Measures

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

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into Council's LTFP,
- 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,
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the Council's Strategic Plan and associated plans,
- **The Asset Renewal Funding Ratio achieving the target of 1.0,**

- The Asset Sustainability Ratio *(Per LGA 'Financial Sustainability' Information Paper No. 9: Financial Indicators - Revised May 2015)* is to achieve capital outlays on renewing/replacing assets at greater than 90% but less than 110% of the level proposed in the AMP.

8. REFERENCES

IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM

IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.

IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMG

IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM

Yorke Peninsula Council, 'Strategic Management Plan',

Yorke Peninsula Council, 'Annual Business Plan and Budget',

Yorke Peninsula Council, 'Long Term Financial Plan',

Yorke Peninsula Council, 'CWMS Infrastructure Asset Valuation and Methodology'.

9. APPENDICES

Appendix A Maintenance Response Levels of Service

Appendix B Projected 10 year Capital Renewal and Replacement Works Program

Appendix C Projected 10 year Capital Upgrade/New Works Program

Appendix D Abbreviations

Appendix E Glossary

Appendix A Maintenance Response Levels of Service

To be developed in future revisions of this plan.

Appendix B Projected 10 year Capital Renewal and Replacement Works Program

Yorke Peninsula Council - Report 6 - Appendix B 10 year Renewal & Replacement Program (CWMS_S1_V1)								
Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
17850	Air Valve	Air Valve (Yorke-CWMS-N00053) in Yorke Highway	Yorke Highway	Ardrossan	-16	2002	$3,317	20
17849	Air Valve	Air Valve (Yorke-CWMS-N00054) in Yorke Highway	Yorke Highway	Ardrossan	-16	2002	$3,317	20
						Subtotal	$6,634	
20274	PS Aluminium Sump Lid 1.8-2.2m dia	Hogarth Street Pump Station Lid	Hogarth street	Ardrossan	-10	2008	$951	25
						Subtotal	$951	
20886	RAS Pump 3.0-4.4kW Type	Maitland Wastewater Treatment Plant RAS Pump		Maitland	-9	2009	$6,271	15
						Subtotal	$6,271	
20920	Decant Pump 0.6-0.8kW Type	Black Point Wastewater Treatment Plant Decant Tank Bypass Pump		Black Point	-8	2010	$2,279	15
20924	RAS Pump 3.0-4.4kW Type	Black Point Wastewater Treatment Plant RAS Pump		Black Point	-8	2010	$6,271	15
20314	Submersible pump 0.9-1.2kW	Black Point Pump Station 1 Pump 1	Black Point Drive	Black Point	-8	2010	$2,529	15
20315	Submersible pump 1.3-1.9kW	Black Point Pump Station 1 Pump 2	Black Point Drive	Black Point	-8	2010	$3,479	15

20326	Submersible pump 4.4kW	Black Point Pump Station 2 Pump 1	Black Point Drive	Black Point	-8	2010	$5,436	15
20327	Submersible pump 4.4kW	Black Point Pump Station 2 Pump 2	Black Point Drive	Black Point	-8	2010	$5,436	15
20328	Submersible pump 4.4kW	Black Point Pump Station 2 Pump 3	Black Point Drive	Black Point	-8	2010	$5,436	15
20917	WAS Pump 2.0-2.6kW Type	Black Point Wastewater Treatment Plant WAS Pump		Black Point	-8	2010	$4,871	15
						Subtotal	**$35,734**	
20847	RAS Pump 3.0-4.4kW Type	Ardrossan Wastewater Treatment Plant RAS Pump		Ardrossan	-6	2012	$6,271	15
20251	Submersible pump 15kW	Ardrossan Jetty Carpark Pump Station Pump 1	Jetty carpark	Ardrossan	-6	2012	$12,971	15
20252	Submersible pump 15kW	Ardrossan Jetty Carpark Pump Station Pump 2	Jetty carpark	Ardrossan	-6	2012	$12,971	15
20253	Submersible pump 15kW	Ardrossan Jetty Carpark Pump Station Pump 3	Jetty carpark	Ardrossan	-6	2012	$12,971	15
						Subtotal	**$45,184**	
20884	Aerator 7.5kW Type	Maitland Wastewater Treatment Plant Aerator 1		Maitland	-4	2014	$7,471	20
20885	Aerator 7.5kW Type	Maitland Wastewater Treatment Plant Aerator 2		Maitland	-4	2014	$7,471	20
21309	Irrigation Pump 2.2kW Type	Hardwicke Bay Wastewater Treatment Plant Irrigation Pump 1		Hardwicke Bay	-4	2014	$3,529	15
21310	Irrigation Pump 2.2kW Type	Hardwicke Bay Wastewater Treatment Plant Irrigation Pump 2		Hardwicke Bay	-4	2014	$3,529	15
21189	Irrigation Pump 2.2kW	Rogues Point Wastewater Treatment		Rogues	-4	2014	$3,529	15

	Type	Plant Irrigation Pump 1		Point				
21190	Irrigation Pump 2.2kW Type	Rogues Point Wastewater Treatment Plant Irrigation Pump 2		Rogues Point	-4	2014	$3,529	15
20892	WWTP 100mm Gate Valve	Maitland Wastewater Treatment Plant Gate Valve		Maitland	-4	2014	$1,276	20
20889	WWTP 100mm Non-Return Valve	Maitland Wastewater Treatment Plant Non-Return Valves 100mm Cast Iron		Maitland	-4	2014	$3,593	20
20887	WWTP 50mm Non-Return Valve	Maitland Wastewater Treatment Plant Non-Return Valve		Maitland	-4	2014	$458	20
						Subtotal	**$34,383**	
20317	50mm Check Valve	Black Point Pump Station 1 Check Valve	Black Point Drive	Black Point	-3	2015	$448	20
20330	50mm Check Valve	Black Point Pump Station 2 Check Valve	Black Point Drive	Black Point	-3	2015	$448	20
20316	50mm Gate Valve	Black Point Pump Station 1 Gate Valve	Black Point Drive	Black Point	-3	2015	$448	20
20329	50mm Gate Valve	Black Point Pump Station 2 Gate Valve	Black Point Drive	Black Point	-3	2015	$448	20
20922	Aerator 4kW Type	Black Point Wastewater Treatment Plant Aerator 1		Black Point	-3	2015	$5,671	20
20923	Aerator 4kW Type	Black Point Wastewater Treatment Plant Aerator 2		Black Point	-3	2015	$5,671	20
21042	Irrigation Pump 11kW Type	Yorketown Wastewater Treatment Plant Irrigation Pump 1		Yorketown	-3	2015	$6,271	15
21043	Irrigation Pump 11kW Type	Yorketown Wastewater Treatment Plant Irrigation Pump 2		Yorketown	-3	2015	$6,271	15
21001	Irrigation Pump 2.2kW Type	Stansbury Wastewater Treatment Plant Irrigation Pump 1		Stansbury	-3	2015	$3,529	15

21002	Irrigation Pump 2.2kW Type	Stansbury Wastewater Treatment Plant Irrigation Pump 2		Stansbury	-3	2015	$3,529	15
20966	Irrigation Pump 4kW Type	Port Vincent Wastewater Treatment Plant Irrigation Pump 1		Port Vincent	-3	2015	$4,736	15
20967	Irrigation Pump 4kW Type	Port Vincent Wastewater Treatment Plant Irrigation Pump 2		Port Vincent	-3	2015	$4,736	15
20968	Irrigation Pump 4kW Type	Port Vincent Wastewater Treatment Plant Irrigation Pump 3		Port Vincent	-3	2015	$4,736	15
20320	PS Advanced Level Control	Black Point Pump Station 1 Level Control	Black Point Drive	Black Point	-3	2015	$2,196	20
20333	PS Advanced Level Control	Black Point Pump Station 2 Level Control	Black Point Drive	Black Point	-3	2015	$2,196	20
20723	PS Sump 1.4-1.7m dia	Maitland Pump Station 1 Sump	South Terrace	Maitland	-3	2015	$31,629	50
20698	PS Sump 1.4-1.7m dia	Maitland Pump Station 2 Sump	Clinton Road	Maitland	-3	2015	$31,629	50
21031	RAS Pump 3.0-4.4kW Type	Yorketown Wastewater Treatment Plant RAS Pump		Yorketown	-3	2015	$6,271	15
20277	Submersible pump 0.9-1.2kW	Hogarth Street Pump Station Pump 1	Hogarth street	Ardrossan	-3	2015	$2,529	15
20278	Submersible pump 0.9-1.2kW	Hogarth Street Pump Station Pump 2	Hogarth street	Ardrossan	-3	2015	$2,529	15
20262	Submersible pump 1.3-1.9kW	Ardrossan Jetty Carpark Pump Station Overflow Chamber 1 Pump 1	Jetty carpark	Ardrossan	-3	2015	$3,479	15
20522	Submersible pump 3.0-4.0kW	Yorketown Pump Station 2 Pump 1	Minlaton Road	Yorketown	-3	2015	$5,279	15
20523	Submersible pump 3.0-4.0kW	Yorketown Pump Station 2 Pump 2	Minlaton Road	Yorketown	-3	2015	$5,279	15
20354	Submersible pump 6.0-7.4kW	Port Vincent Caravan Park Pump Station 1 Pump 1	within caravan pk	Port Vincent	-3	2015	$7,314	15
20355	Submersible pump 6.0-	Port Vincent Caravan Park Pump Station 1	within caravan	Port	-3	2015	$7,314	15

	7.4kW	Pump 2	pk	Vincent				
20356	Submersible pump 6.0-7.4kW	Port Vincent Caravan Park Pump Station 1 Pump 3	within caravan pk	Port Vincent	-3	2015	$7,314	15
20547	Submersible pump 6.0-7.4kW	Yorketown Pump Station 6 Pump 1	Memorial Drive	Yorketown	-3	2015	$7,314	15
20548	Submersible pump 6.0-7.4kW	Yorketown Pump Station 6 Pump 2	Memorial Drive	Yorketown	-3	2015	$7,314	15
20549	Submersible pump 6.0-7.4kW	Yorketown Pump Station 6 Pump 3	Memorial Drive	Yorketown	-3	2015	$7,314	15
21027	WAS Pump 2.0-2.6kW Type	Yorketown Wastewater Treatment Plant WAS Pump		Yorketown	-3	2015	$4,871	15
						Subtotal	**$188,708**	
21092	Decant Pump 3.1-3.5kW Type	Chinaman Wells Wastewater Treatment Plant Decant Pump 1		Chinaman Wells	-2	2016	$5,279	15
21093	Decant Pump 3.1-3.5kW Type	Chinaman Wells Wastewater Treatment Plant Decant Pump 2		Chinaman Wells	-2	2016	$5,279	15
21285	Irrigation Pump 2.2kW Type	Foul Bay Wastewater Treatment Plant Irrigation Pump 1		Foul Bay	-2	2016	$3,529	15
21286	Irrigation Pump 2.2kW Type	Foul Bay Wastewater Treatment Plant Irrigation Pump 2		Foul Bay	-2	2016	$3,529	15
21156	Ventilation Fan	Chinaman Wells Wastewater Treatment Plant Ventilation Fan		Chinaman Wells	-2	2016	$814	15
						Subtotal	**$18,428**	
20845	Aerator 7.5kW Type	Ardrossan Wastewater Treatment Plant Aerator 1		Ardrossan	-1	2017	$7,471	20
20846	Aerator 7.5kW Type	Ardrossan Wastewater Treatment Plant Aerator 2		Ardrossan	-1	2017	$7,471	20

21081	Chlorine Dosing Pump and Meter Type	Port Victoria Wastewater Treatment Plant Chlorine Dosing Pump and Meter 2		Port Victoria	-1	2017	$5,157	15
21237	Irrigation Pump 2.2kW Type	Point Turton Wastewater Treatment Plant 1 Irrigation Pump 1		Point Turton	-1	2017	$3,529	15
21238	Irrigation Pump 2.2kW Type	Point Turton Wastewater Treatment Plant 1 Irrigation Pump 2		Point Turton	-1	2017	$3,529	15
21083	Irrigation Pump 5.5kW Type	Port Victoria Wastewater Treatment Plant Irrigation Pump 1		Port Victoria	-1	2017	$5,486	15
21084	Irrigation Pump 5.5kW Type	Port Victoria Wastewater Treatment Plant Irrigation Pump 2		Port Victoria	-1	2017	$5,486	15
20851	WWTP 50mm Gate Valve	Ardrossan Wastewater Treatment Plant Gate Valve		Ardrossan	-1	2017	$448	20
20848	WWTP 50mm Non-Return Valve	Ardrossan Wastewater Treatment Plant Non-Return Valves 50mm Brass		Ardrossan	-1	2017	$916	20
						Subtotal	**$39,490**	
21211	Aerator 2.2kW Type	Sultana Point Wastewater Treatment Plant Aerator 1		Sultana Point	0	2018	$4,571	20
21268	Aerator 2.2kW Type	Sultana Point Wastewater Treatment Plant Aerator 2		Sultana Point	0	2018	$4,571	20
21269	Aerator 2.2kW Type	Sultana Point Wastewater Treatment Plant Aerator 3		Sultana Point	0	2018	$4,571	20
21200	Irrigation Pump 2.2kW Type	Port Julia Wastewater Treatment Plant Irrigation Pump 1		Port Julia	0	2018	$3,529	15
21201	Irrigation Pump 2.2kW Type	Port Julia Wastewater Treatment Plant		Port Julia	0	2018	$3,529	15

		Irrigation Pump 2						
20965	RAS Pump 3.0-4.4kW Type	Port Vincent Wastewater Treatment Plant RAS Pump		Port Vincent	0	2018	$6,271	15
20405	Submersible pump 1.3-1.9kW	Pt Julia Pump Station 1 Pump 1	Jetty Road	Port Julia	0	2018	$3,479	15
20406	Submersible pump 1.3-1.9kW	Pt Julia Pump Station 1 Pump 2	Jetty Road	Port Julia	0	2018	$3,479	15
20380	Submersible pump 6.0-7.4kW	Pt Vincent Marina Pump Station 3 Pump 1	Marina Drive	Port Vincent	0	2018	$7,314	15
20381	Submersible pump 6.0-7.4kW	Pt Vincent Marina Pump Station 3 Pump 2	Marina Drive	Port Vincent	0	2018	$7,314	15
21275	WWTP 50mm Gate Valve	Sultana Point Wastewater Treatment Plant Gate Valves		Sultana Point	0	2018	$2,687	20
21274	WWTP 50mm Non-Return Valve	Sultana Point Wastewater Treatment Plant Non-Return Valves		Sultana Point	0	2018	$916	20
						Subtotal	**$52,228**	
20564	50mm Check Valve	Hardwicke Bay Pump Station 1 Check Valve	Cutline Road	Hardwicke Bay	1	2019	$448	20
20570	50mm Check Valve	Hardwicke Bay Pump Station 2 Check Valve	Southshore Road	Hardwicke Bay	1	2019	$448	20
20563	50mm Gate Valve	Hardwicke Bay Pump Station 1 Gate Valve	Cutline Road	Hardwicke Bay	1	2019	$448	20
20569	50mm Gate Valve	Hardwicke Bay Pump Station 2 Gate Valve	Southshore Road	Hardwicke Bay	1	2019	$448	20
21245	Aerator 2.2kW Type	Hardwicke Bay Wastewater Treatment Plant Aerator 1		Hardwicke Bay	1	2019	$4,571	20
21246	Aerator 2.2kW Type	Hardwicke Bay Wastewater Treatment Plant Aerator 2		Hardwicke Bay	1	2019	$4,571	20
21247	Aerator 2.2kW Type	Hardwicke Bay Wastewater Treatment		Hardwicke	1	2019	$4,571	20

		Plant Aerator 3		Bay				
21180	Aerator 2.2kW Type	Rogues Point Wastewater Treatment Plant Aerator 1		Rogues Point	1	2019	$4,571	20
21181	Aerator 2.2kW Type	Rogues Point Wastewater Treatment Plant Aerator 2		Rogues Point	1	2019	$4,571	20
21182	Aerator 2.2kW Type	Rogues Point Wastewater Treatment Plant Aerator 3		Rogues Point	1	2019	$4,571	20
20869	Electrical Fittings Type	Maitland Wastewater Treatment Plant Building Electrical Fittings		Maitland	1	2019	$678	25
21329	Irrigation Pump 2.2kW Type	Balgowan Wastewater Treatment Plant Irrigation Pump 1		Balgowan	1	2019	$3,529	15
21330	Irrigation Pump 2.2kW Type	Balgowan Wastewater Treatment Plant Irrigation Pump 2		Balgowan	1	2019	$3,529	15
20573	PS Advanced Level Control	Hardwicke Bay Pump Station 2 Level Control	Southshore Road	Hardwicke Bay	1	2019	$2,196	20
20687	Submersible pump 1.3-1.9kW	Balgowan Pump Station 1 Pump 1	Esplanade	Balgowan	1	2019	$3,479	15
20688	Submersible pump 1.3-1.9kW	Balgowan Pump Station 1 Pump 2	Esplanade	Balgowan	1	2019	$3,479	15
20608	Submersible pump 1.3-1.9kW	Port Victoria Pump Station 2 Pump 1	Davies Road	Port Victoria	1	2019	$3,479	15
20658	Submersible pump 1.3-1.9kW	Port Victoria Pump Station 2 Pump 2	Davies Road	Port Victoria	1	2019	$3,479	15
20392	Submersible pump 2.0-2.4kW	Vincent Rise Pump Station 4 Pump 1	Ventnor Street	Port Vincent	1	2019	$4,179	15
20393	Submersible pump 2.0-2.4kW	Vincent Rise Pump Station 4 Pump 2	Ventnor Street	Port Vincent	1	2019	$4,179	15
21249	WWTP 50mm Gate Valve	Hardwicke Bay Wastewater Treatment Plant Gate Valves		Hardwicke Bay	1	2019	$1,791	20
21184	WWTP 50mm Gate Valve	Rogues Point Wastewater Treatment		Rogues Point	1	2019	$1,791	20

		Plant Gate Valves						
21248	WWTP 50mm Non-Return Valve	Hardwicke Bay Wastewater Treatment Plant Non-Return Valves		Hardwicke Bay	1	2019	$916	20
21183	WWTP 50mm Non-Return Valve	Rogues Point Wastewater Treatment Plant Non-Return Valves		Rogues Point	1	2019	$916	20
						Subtotal	**$66,832**	
20650	50mm Check Valve	Bluff Beach Pump Station 1 Check Valve	Edwards Street	Bluff Beach	2	2020	$448	20
20582	50mm Check Valve	Hardwicke Bay Pump Station 4 Check Valve	Northshore Road	Hardwicke Bay	2	2020	$448	20
20280	50mm Check Valve	Hogarth Street Pump Station Check Valve	Hogarth street	Ardrossan	2	2020	$448	20
20358	50mm Check Valve	Port Vincent Caravan Park Pump Station 1 Check Valve	within caravan pk	Port Vincent	2	2020	$448	20
20521	50mm Check Valve	Yorketown Pump Station 1 Check Valve	Warooka Road	Yorketown	2	2020	$448	20
20525	50mm Check Valve	Yorketown Pump Station 2 Check Valve	Minlaton Road	Yorketown	2	2020	$448	20
20477	50mm Check Valve	Yorketown Pump Station 3 Check Valve	David Street	Yorketown	2	2020	$448	20
20482	50mm Check Valve	Yorketown Pump Station 4 Check Valve	Waterloo Bay Road	Yorketown	2	2020	$448	20
20486	50mm Check Valve	Yorketown Pump Station 5 Check Valve	Jacobs Street	Yorketown	2	2020	$448	20
20649	50mm Gate Valve	Bluff Beach Pump Station 1 Gate Valve	Edwards Street	Bluff Beach	2	2020	$448	20
20581	50mm Gate Valve	Hardwicke Bay Pump Station 4 Gate Valve	Northshore Road	Hardwicke Bay	2	2020	$448	20
20279	50mm Gate Valve	Hogarth Street Pump Station Gate Valve	Hogarth street	Ardrossan	2	2020	$448	20

20357	50mm Gate Valve	Port Vincent Caravan Park Pump Station 1 Gate Valve	within caravan pk	Port Vincent	2	2020	$448	20
20520	50mm Gate Valve	Yorketown Pump Station 1 Gate Valve	Warooka Road	Yorketown	2	2020	$448	20
20524	50mm Gate Valve	Yorketown Pump Station 2 Gate Valve	Minlaton Road	Yorketown	2	2020	$448	20
20476	50mm Gate Valve	Yorketown Pump Station 3 Gate Valve	David Street	Yorketown	2	2020	$448	20
20481	50mm Gate Valve	Yorketown Pump Station 4 Gate Valve	Waterloo Bay Road	Yorketown	2	2020	$448	20
20485	50mm Gate Valve	Yorketown Pump Station 5 Gate Valve	Jacobs Street	Yorketown	2	2020	$448	20
20551	80mm Check Valve	Yorketown Pump Station 6 Check Valve	Memorial Drive	Yorketown	2	2020	$898	20
20550	80mm Gate Valve	Yorketown Pump Station 6 Gate Valve	Memorial Drive	Yorketown	2	2020	$898	20
21062	Aerator 2.2kW Type	Bluff Beach Wastewater Treatment Plant Aerator		Bluff Beach	2	2020	$4,571	20
20961	Aerator 4kW Type	Port Vincent Wastewater Treatment Plant Aerator 1		Port Vincent	2	2020	$5,671	20
20962	Aerator 4kW Type	Port Vincent Wastewater Treatment Plant Aerator 2		Port Vincent	2	2020	$5,671	20
20963	Aerator 4kW Type	Port Vincent Wastewater Treatment Plant Aerator 3		Port Vincent	2	2020	$5,671	20
20964	Aerator 4kW Type	Port Vincent Wastewater Treatment Plant Aerator 4		Port Vincent	2	2020	$5,671	20
21029	Aerator 4kW Type	Yorketown Wastewater Treatment Plant Aerator 1		Yorketown	2	2020	$5,671	20
21030	Aerator 4kW Type	Yorketown Wastewater Treatment Plant Aerator 2		Yorketown	2	2020	$5,671	20
20880	Decant Pump 3.1-	Maitland Wastewater Treatment Plant		Maitland	2	2020	$5,279	15

	3.5kW Type	Decant Pump 1						
20881	Decant Pump 3.1-3.5kW Type	Maitland Wastewater Treatment Plant Decant Pump 2		Maitland	2	2020	$5,279	15
20910	Electrical Fittings Type	Black Point Wastewater Treatment Plant Building Electrical Fittings		Black Point	2	2020	$678	25
20579	PS Advanced Level Control	Hardwicke Bay Pump Station 3 Level Control	Foreshore Road	Hardwicke Bay	2	2020	$2,196	20
20585	PS Advanced Level Control	Hardwicke Bay Pump Station 4 Level Control	Northshore Road	Hardwicke Bay	2	2020	$2,196	20
20283	PS Advanced Level Control	Hogarth Street Pump Station Level Control	Hogarth street	Ardrossan	2	2020	$2,196	20
20318	PS Control Cabinet	Black Point Pump Station 1 Control Cabinet	Black Point Drive	Black Point	2	2020	$5,734	25
20331	PS Control Cabinet	Black Point Pump Station 2 Control Cabinet	Black Point Drive	Black Point	2	2020	$5,734	25
20319	PS Switchboard Meter Box	Black Point Pump Station 1 Switchboard Meter Box	Black Point Drive	Black Point	2	2020	$8,325	25
20332	PS Switchboard Meter Box	Black Point Pump Station 2 Switchboard Meter Box	Black Point Drive	Black Point	2	2020	$8,325	25
21044	WWTP 100mm Flowmeter	Yorketown Wastewater Treatment Plant Irrigation Flowmeter		Yorketown	2	2020	$2,518	20
21034	WWTP 100mm Solenoid Valve	Yorketown Wastewater Treatment Plant Solenoid Valves 100mm Cast Iron		Yorketown	2	2020	$3,593	20
20959	WWTP 50mm Gate Valve	Port Vincent Wastewater Treatment Plant Gate Valves 50mm Brass		Port Vincent	2	2020	$2,239	20
21035	WWTP 50mm Gate Valve	Yorketown Wastewater Treatment Plant Gate Valve		Yorketown	2	2020	$448	20

20958	WWTP 50mm Non-Return Valve	Port Vincent Wastewater Treatment Plant Non-Return Valves 50mm Brass		Port Vincent	2	2020	$2,289	20
21032	WWTP 50mm Non-Return Valve	Yorketown Wastewater Treatment Plant Non-Return Valve		Yorketown	2	2020	$458	20
21033	WWTP 50mm Non-Return Valve	Yorketown Wastewater Treatment Plant Non-Return Valve		Yorketown	2	2020	$458	20
21028	WWTP Basic Level Regulator	Yorketown Wastewater Treatment Plant Level Regulators		Yorketown	2	2020	$4,010	20
21382	WWTP Tank cover 5.5m dia Corrugated Iron Type	Black Point Wastewater Treatment Plant Decant Tank Cover		Black Point	2	2020	$5,096	25
						Subtotal	**$115,500**	
20714	50mm Check Valve	Chinamans Wells Pump Station 2 Check Valve	Chinamans Wells Road - Northern	Chinamans Wells	3	2021	$448	20
20713	50mm Gate Valve	Chinamans Wells Pump Station 2 Gate Valve	Chinamans Wells Road - Northern	Chinamans Wells	3	2021	$448	20
21095	Aerator 2.2kW Type	Chinaman Wells Wastewater Treatment Plant Aerator		Chinaman Wells	3	2021	$4,571	20
21222	Aerator 2.2kW Type	Foul Bay Wastewater Treatment Plant Aerator 1		Foul Bay	3	2021	$4,571	20
21223	Aerator 2.2kW Type	Foul Bay Wastewater Treatment Plant Aerator 2		Foul Bay	3	2021	$4,571	20
21224	Aerator 2.2kW Type	Foul Bay Wastewater Treatment Plant Aerator 3		Foul Bay	3	2021	$4,571	20
21150	Rainwater Tank Pressure Pump Type	Chinaman Wells Wastewater Treatment Plant Rainwater Tank		Chinaman Wells	3	2021	$3,529	15

		Pressure Pump						
20730	Submersible pump 1.3-1.9kW	Maitland Pump Station 2 Pump 1	Clinton Road	Maitland	3	2021	$3,479	15
20731	Submersible pump 1.3-1.9kW	Maitland Pump Station 2 Pump 2	Clinton Road	Maitland	3	2021	$3,479	15
20430	Submersible pump 2.0-2.4kW	Stansbury Pump Station 2 Pump 1	Oyster Court	Stansbury	3	2021	$4,179	15
20431	Submersible pump 2.0-2.4kW	Stansbury Pump Station 2 Pump 2	Oyster Court	Stansbury	3	2021	$4,179	15
20479	Submersible pump 3.0-4.0kW	Yorketown Pump Station 4 Pump 1	Waterloo Bay Road	Yorketown	3	2021	$5,279	15
20480	Submersible pump 3.0-4.0kW	Yorketown Pump Station 4 Pump 2	Waterloo Bay Road	Yorketown	3	2021	$5,279	15
20418	Submersible pump 6.0-7.4kW	Stansbury Pump Station 1 Pump 1	Pitt Street	Stansbury	3	2021	$7,314	15
20419	Submersible pump 6.0-7.4kW	Stansbury Pump Station 1 Pump 2	Pitt Street	Stansbury	3	2021	$7,314	15
20839	WAS Pump 3.0-4.4kW Type	Ardrossan Wastewater Treatment Plant WAS Pump		Ardrossan	3	2021	$6,271	15
21155	WWTP 50mm Gate Valve	Chinaman Wells Wastewater Treatment Plant Gate Valves 50mm PE		Chinaman Wells	3	2021	$2,687	20
21226	WWTP 50mm Gate Valve	Foul Bay Wastewater Treatment Plant Gate Valves		Foul Bay	3	2021	$1,791	20
21096	WWTP 50mm Non-Return Valve	Chinaman Wells Wastewater Treatment Plant Non-Return Valves 50mm Brass		Chinaman Wells	3	2021	$1,373	20
21225	WWTP 50mm Non-Return Valve	Foul Bay Wastewater Treatment Plant Non-Return Valves		Foul Bay	3	2021	$916	20
						Subtotal	**$76,244**	
21293	Aerator 2.2kW Type	Point Turton Wastewater Treatment		Point Turton	4	2022	$4,571	20

		Plant 1 Aerator 1						
21294	Aerator 2.2kW Type	Point Turton Wastewater Treatment Plant 1 Aerator 2		Point Turton	4	2022	$4,571	20
21295	Aerator 2.2kW Type	Point Turton Wastewater Treatment Plant 1 Aerator 3		Point Turton	4	2022	$4,571	20
21077	Aerator 4kW Type	Port Victoria Wastewater Treatment Plant Aerator 1		Port Victoria	4	2022	$5,671	20
21078	Aerator 4kW Type	Port Victoria Wastewater Treatment Plant Aerator 2		Port Victoria	4	2022	$5,671	20
20829	Air Conditioner Type	Ardrossan Wastewater Treatment Plant Air Conditioner		Ardrossan	4	2022	$1,186	25
20973	Chlorine Dosing Pump and Meter Type	Port Vincent Wastewater Treatment Plant Chlorine Dosing Pump and Meter		Port Vincent	4	2022	$5,157	15
20830	Electrical Fittings Type	Ardrossan Wastewater Treatment Plant Building Electrical Fittings		Ardrossan	4	2022	$678	25
20248	PS Aluminium Sump Lid 1.8-2.2m dia	Ardrossan Jetty Carpark Pump Station Lid	Jetty carpark	Ardrossan	4	2022	$951	25
20269	Submersible pump 1.3-1.9kW	Ardrossan Jetty Carpark Pump Station Overflow Chamber 2 Pump 1	Jetty carpark	Ardrossan	4	2022	$3,479	15
20567	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 2 Pump 1	Southshore Road	Hardwicke Bay	4	2022	$3,479	15
20568	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 2 Pump 2	Southshore Road	Hardwicke Bay	4	2022	$3,479	15
20641	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 5 Pump 1	Northshore Road	Hardwicke Bay	4	2022	$3,479	15
20642	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 5 Pump 2	Northshore Road	Hardwicke Bay	4	2022	$3,479	15
20652	Submersible pump 1.3-	Port Victoria Jetty Pump Station 1 Pump	Jetty Carpark	Port	4	2022	$3,479	15

	1.9kW	1		Victoria				
20653	Submersible pump 1.3-1.9kW	Port Victoria Jetty Pump Station 1 Pump 2	Jetty Carpark	Port Victoria	4	2022	$3,479	15
21297	WWTP 50mm Gate Valve	Point Turton Wastewater Treatment Plant 1 Gate Valves		Point Turton	4	2022	$1,791	20
21139	WWTP 50mm Gate Valve	Port Victoria Wastewater Treatment Plant Gate Valves 50mm PE		Port Victoria	4	2022	$896	20
21296	WWTP 50mm Non-Return Valve	Point Turton Wastewater Treatment Plant 1 Non-Return Valves		Point Turton	4	2022	$916	20
21080	WWTP 50mm Non-Return Valve	Port Victoria Wastewater Treatment Plant Non-Return Valves 50mm PE		Port Victoria	4	2022	$916	20
21236	WWTP Basic Level Regulator	Point Turton Wastewater Treatment Plant 1 Level Regulator		Point Turton	4	2022	$501	20
						Subtotal	**$62,395**	
20408	50mm Check Valve	Pt Julia Pump Station 1 Check Valve	Jetty Road	Port Julia	5	2023	$448	20
20407	50mm Gate Valve	Pt Julia Pump Station 1 Gate Valve	Jetty Road	Port Julia	5	2023	$448	20
21195	Aerator 2.2kW Type	Port Julia Wastewater Treatment Plant Aerator 1		Port Julia	5	2023	$4,571	20
21196	Aerator 2.2kW Type	Port Julia Wastewater Treatment Plant Aerator 2		Port Julia	5	2023	$4,571	20
21266	Electrical Fittings Type	Sultana Point Wastewater Treatment Plant Building 1 Electrical Fittings		Sultana Point	5	2023	$678	25
20411	PS Advanced Level Control	Pt Julia Pump Station 1 Level Control	Jetty Road	Port Julia	5	2023	$2,196	20

20341	Submersible pump 0.9-1.2kW	Black Point Pump Station 3 Pump 1	Outlook Road	Black Point	5	2023	$2,529	15
20342	Submersible pump 0.9-1.2kW	Black Point Pump Station 3 Pump 2	Outlook Road	Black Point	5	2023	$2,529	15
20543	Submersible pump 0.9-1.2kW	Yorketown Pump Station 5 Pump 1	Jacobs Street	Yorketown	5	2023	$2,529	15
20544	Submersible pump 0.9-1.2kW	Yorketown Pump Station 5 Pump 2	Jacobs Street	Yorketown	5	2023	$2,529	15
20635	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 4 Pump 1	Northshore Road	Hardwicke Bay	5	2023	$3,479	15
20636	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 4 Pump 2	Northshore Road	Hardwicke Bay	5	2023	$3,479	15
20445	Submersible pump 1.3-1.9kW	Stansbury Pump Station 3 Pump 1	Oyster Point Drive	Stansbury	5	2023	$3,479	15
20451	Submersible pump 1.3-1.9kW	Stansbury Pump Station 4 Pump 1	Oyster Point Drive	Stansbury	5	2023	$3,479	15
20955	WAS Pump 1.2-1.9kW Type	Port Vincent Wastewater Treatment Plant WAS Pump		Port Vincent	5	2023	$4,471	15
21199	WWTP 50mm Ball Valve	Port Julia Wastewater Treatment Plant Ball Valves		Port Julia	5	2023	$896	20
21203	WWTP 50mm Flowmeter	Port Julia Wastewater Treatment Plant Irrigation Flowmeter		Port Julia	5	2023	$2,368	20
21198	WWTP 50mm Gate Valve	Port Julia Wastewater Treatment Plant Gate Valves		Port Julia	5	2023	$896	20
21197	WWTP 50mm Non-Return Valve	Port Julia Wastewater Treatment Plant Non-Return Valves		Port Julia	5	2023	$916	20
21518	WWTP Access Hatch 4mm Aluminium Checker Plate Type	Sultana Point Wastewater Treatment Plant Aeration Tank 1 Access Hatch		Sultana Point	5	2023	$1,447	25
21519	WWTP Access Hatch 4mm Aluminium Checker Plate Type	Sultana Point Wastewater Treatment Plant Aeration Tank 2 Access Hatch		Sultana Point	5	2023	$1,447	25

						Subtotal	$49,379	
20690	50mm Check Valve	Balgowan Pump Station 1 Check Valve	Esplanade	Balgowan	6	2024	$448	20
20660	50mm Check Valve	Port Victoria Pump Station 2 Check Valve	Davies Road	Port Victoria	6	2024	$448	20
20395	50mm Check Valve	Vincent Rise Pump Station 4 Check Valve	Ventnor Street	Port Vincent	6	2024	$448	20
20689	50mm Gate Valve	Balgowan Pump Station 1 Gate Valve	Esplanade	Balgowan	6	2024	$448	20
20659	50mm Gate Valve	Port Victoria Pump Station 2 Gate Valve	Davies Road	Port Victoria	6	2024	$448	20
20394	50mm Gate Valve	Vincent Rise Pump Station 4 Gate Valve	Ventnor Street	Port Vincent	6	2024	$448	20
21326	Aerator 2.2kW Type	Balgowan Wastewater Treatment Plant Aerator 1		Balgowan	6	2024	$4,571	20
21327	Aerator 2.2kW Type	Balgowan Wastewater Treatment Plant Aerator 2		Balgowan	6	2024	$4,571	20
21188	Chlorine Dosing Pump and Meter Type	Rogues Point Wastewater Treatment Plant Chlorine Dosing Pump and Meter		Rogues Point	6	2024	$5,157	15
21244	Electrical Fittings Type	Hardwicke Bay Wastewater Treatment Plant Building Electrical Fittings		Hardwicke Bay	6	2024	$678	25
21115	Electrical Fittings Type	Rogues Point Wastewater Treatment Plant Building Electrical Fittings		Rogues Point	6	2024	$678	25
21171	Irrigation Pump 4kW Type	Point Turton Wastewater Treatment Plant 2 Irrigation Pump 1		Point Turton	6	2024	$4,736	15
21172	Irrigation Pump 4kW Type	Point Turton Wastewater Treatment Plant 2 Irrigation Pump 2		Point Turton	6	2024	$4,736	15

20721	PS Advanced Level Control	Balgowan Pump Station 1 Level Control	Esplanade	Balgowan	6	2024	$2,196	20
20571	PS Control Cabinet	Hardwicke Bay Pump Station 2 Control Cabinet	Southshore Road	Hardwicke Bay	6	2024	$5,734	25
20572	PS Switchboard Meter Box	Hardwicke Bay Pump Station 2 Switchboard Meter Box	Southshore Road	Hardwicke Bay	6	2024	$8,325	25
21109	RAS Pump 3.0-4.4kW Type	Point Turton Wastewater Treatment Plant 2 RAS Pump		Point Turton	6	2024	$6,271	15
21315	Variable Frequency Drive Type	Hardwicke Bay Wastewater Treatment Plant VFD drives		Hardwicke Bay	6	2024	$10,314	25
21137	WAS Pump 1.2-1.9kW Type	Port Victoria Wastewater Treatment Plant WAS Pump		Port Victoria	6	2024	$4,471	15
21168	WAS Pump 3.0-4.4kW Type	Point Turton Wastewater Treatment Plant 2 WAS Pump		Point Turton	6	2024	$6,271	15
21332	WWTP 50mm Flowmeter	Balgowan Wastewater Treatment Plant Irrigation Flowmeter		Balgowan	6	2024	$2,368	20
21328	WWTP 50mm Gate Valve	Balgowan Wastewater Treatment Plant Gate Valves		Balgowan	6	2024	$1,791	20
21324	WWTP Basic Level Regulator	Balgowan Wastewater Treatment Plant Level Regulators		Balgowan	6	2024	$1,002	20
						Subtotal	**$76,555**	
21178	Decant Pump 0.9-1.2kW Type	Rogues Point Wastewater Treatment Plant Decant Pump		Rogues Point	7	2025	$2,529	15
21209	Decant Pump 0.9-1.2kW Type	Sultana Point Wastewater Treatment Plant Decant Pump		Sultana Point	7	2025	$2,529	15
20946	Electrical Fittings Type	Port Vincent Wastewater Treatment Plant Building Electrical		Port Vincent	7	2025	$678	25

		Fittings						
21019	Electrical Fittings Type	Yorketown Wastewater Treatment Plant Building Electrical Fittings		Yorketown	7	2025	$678	25
20577	PS Control Cabinet	Hardwicke Bay Pump Station 3 Control Cabinet	Foreshore Road	Hardwicke Bay	7	2025	$5,734	25
20583	PS Control Cabinet	Hardwicke Bay Pump Station 4 Control Cabinet	Northshore Road	Hardwicke Bay	7	2025	$5,734	25
20281	PS Control Cabinet	Hogarth Street Pump Station Control Cabinet	Hogarth street	Ardrossan	7	2025	$5,734	25
20359	PS Control Cabinet	Port Vincent Caravan Park Pump Station 1 Control Cabinet	within caravan pk	Port Vincent	7	2025	$5,734	25
20462	PS Control Cabinet	Yorketown Pump Station 1 Control Cabinet	Warooka Road	Yorketown	7	2025	$5,734	25
20526	PS Control Cabinet	Yorketown Pump Station 2 Control Cabinet	Minlaton Road	Yorketown	7	2025	$5,734	25
20530	PS Control Cabinet	Yorketown Pump Station 3 Control Cabinet	David Street	Yorketown	7	2025	$5,734	25
20483	PS Control Cabinet	Yorketown Pump Station 4 Control Cabinet	Waterloo Bay Road	Yorketown	7	2025	$5,734	25
20487	PS Control Cabinet	Yorketown Pump Station 5 Control Cabinet	Jacobs Street	Yorketown	7	2025	$5,734	25
20552	PS Control Cabinet	Yorketown Pump Station 6 Control Cabinet	Memorial Drive	Yorketown	7	2025	$5,734	25
20594	PS Steel Sump Lid 1.1m dia	Bluff Beach Pump Station 1 Lid	Edwards Street	Bluff Beach	7	2025	$461	25
20578	PS Switchboard Meter Box	Hardwicke Bay Pump Station 3 Switchboard Meter Box	Foreshore Road	Hardwicke Bay	7	2025	$8,325	25
20584	PS Switchboard Meter	Hardwicke Bay Pump Station 4 Switchboard	Northshore Road	Hardwicke	7	2025	$8,325	25

	Box	Meter Box		Bay				
20282	PS Switchboard Meter Box	Hogarth Street Pump Station Switchboard Meter Box	Hogarth street	Ardrossan	7	2025	$8,325	25
20360	PS Switchboard Meter Box	Port Vincent Caravan Park Pump Station 1 Switchboard Meter Box	within caravan pk	Port Vincent	7	2025	$8,325	25
20463	PS Switchboard Meter Box	Yorketown Pump Station 1 Switchboard Meter Box	Warooka Road	Yorketown	7	2025	$8,325	25
20527	PS Switchboard Meter Box	Yorketown Pump Station 2 Switchboard Meter Box	Minlaton Road	Yorketown	7	2025	$8,325	25
20531	PS Switchboard Meter Box	Yorketown Pump Station 3 Switchboard Meter Box	David Street	Yorketown	7	2025	$8,325	25
20484	PS Switchboard Meter Box	Yorketown Pump Station 4 Switchboard Meter Box	Waterloo Bay Road	Yorketown	7	2025	$8,325	25
20488	PS Switchboard Meter Box	Yorketown Pump Station 5 Switchboard Meter Box	Jacobs Street	Yorketown	7	2025	$8,325	25
20493	PS Switchboard Meter Box	Yorketown Pump Station 6 Switchboard Meter Box	Memorial Drive	Yorketown	7	2025	$8,325	25
21053	Rainwater Tank Pressure Pump Type	Bluff Beach Wastewater Treatment Plant Rainwater Tank Pressure Pump		Bluff Beach	7	2025	$3,529	15
20561	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 1 Pump 1	Cutline Road	Hardwicke Bay	7	2025	$3,479	15
20562	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 1 Pump 2	Cutline Road	Hardwicke Bay	7	2025	$3,479	15
20455	Submersible pump 3.0-4.0kW	Edithburgh Pump Station 1 Pump 1	Sultana Point Road	Edithburgh	7	2025	$5,279	15
20498	Submersible pump 3.0-4.0kW	Point Turton Pump Station 1 Pump 1	at WWTP	Point Turton	7	2025	$5,279	15
20499	Submersible pump 3.0-4.0kW	Point Turton Pump Station 1 Pump 2	at WWTP	Point Turton	7	2025	$5,279	15

20879	WAS Pump 1.2-1.9kW Type	Maitland Wastewater Treatment Plant WAS Pump		Maitland	7	2025	$4,471	15
20939	WWTP 100mm Flowmeter	Black Point Wastewater Treatment Plant Incoming Flowmeter		Black Point	7	2025	$2,518	20
20860	WWTP 150mm Flowmeter	Ardrossan Wastewater Treatment Plant Incoming Flowmeter		Ardrossan	7	2025	$2,718	20
20971	WWTP 40mm-80mm Filter	Port Vincent Wastewater Treatment Plant Filter 2		Port Vincent	7	2025	$2,657	25
20890	WWTP 50mm Ball Valve	Maitland Wastewater Treatment Plant Ball Valves 50mm Stainless Steel		Maitland	7	2025	$1,343	20
20888	WWTP 50mm Non-Return Valve	Maitland Wastewater Treatment Plant Non-Return Valves 50mm Stainless Steel		Maitland	7	2025	$916	20
20978	WWTP Alarm System Landline Type	Port Vincent Wastewater Treatment Plant Alarm System		Port Vincent	7	2025	$3,884	25
21050	WWTP Alarm System Landline Type	Yorketown Wastewater Treatment Plant Alarm System		Yorketown	7	2025	$3,884	25
21602	WWTP Electrical Cabling	Port Vincent Wastewater Treatment Plant Electrical Cabling		Port Vincent	7	2025	$7,112	25
21606	WWTP Electrical Cabling	Yorketown Wastewater Treatment Plant Electrical Cabling		Yorketown	7	2025	$7,112	25
20976	WWTP Medium Switchboard Cabinet Type	Port Vincent Wastewater Treatment Plant Switchboard		Port Vincent	7	2025	$27,024	25
21047	WWTP Medium Switchboard Cabinet Type	Yorketown Wastewater Treatment Plant Irrigation Switchboard		Yorketown	7	2025	$27,024	25
21046	WWTP Medium Switchboard Cabinet Type	Yorketown Wastewater Treatment Plant Switchboard		Yorketown	7	2025	$27,024	25

20977	WWTP PLC Controls Type	Port Vincent Wastewater Treatment Plant PLC Controls		Port Vincent	7	2025	$16,396	25
21049	WWTP PLC Controls Type	Yorketown Wastewater Treatment Plant Irrigation Controls		Yorketown	7	2025	$24,594	25
21048	WWTP PLC Controls Type	Yorketown Wastewater Treatment Plant PLC Controls		Yorketown	7	2025	$16,396	25
21392	WWTP Tank cover 7.5m - 8.5m dia Corrugated Iron Type	Port Vincent Wastewater Treatment Plant Decant Tank Cover		Port Vincent	7	2025	$9,522	25
21393	WWTP Tank cover 7.5m - 8.5m dia Corrugated Iron Type	Port Vincent Wastewater Treatment Plant Sludge Thickening Tank Cover		Port Vincent	7	2025	$9,522	25
						Subtotal	**$367,901**	
20421	100mm Check Valve	Stansbury Pump Station 1 Check Valve	Pitt Street	Stansbury	8	2026	$1,276	20
20420	100mm Gate Valve	Stansbury Pump Station 1 Gate Valve	Pitt Street	Stansbury	8	2026	$1,276	20
20733	50mm Check Valve	Maitland Pump Station 2 Check Valve	Clinton Road	Maitland	8	2026	$448	20
20433	50mm Check Valve	Stansbury Pump Station 2 Check Valve	Oyster Court	Stansbury	8	2026	$448	20
20732	50mm Gate Valve	Maitland Pump Station 2 Gate Valve	Clinton Road	Maitland	8	2026	$448	20
20432	50mm Gate Valve	Stansbury Pump Station 2 Gate Valve	Oyster Court	Stansbury	8	2026	$448	20
20993	Aerator 4kW Type	Stansbury Wastewater Treatment Plant Aerator 1		Stansbury	8	2026	$5,671	20
20994	Aerator 4kW Type	Stansbury Wastewater Treatment Plant Aerator 2		Stansbury	8	2026	$5,671	20
20995	Aerator 4kW Type	Stansbury Wastewater Treatment Plant		Stansbury	8	2026	$5,671	20

		Aerator 3						
19724	Air Valve	Air Valve (Yorke-CWMS-N02625) in Park Terrace (Stansbury)	Park Terrace (Stansbury)	Stansbury	8	2026	$3,317	20
20882	Chlorine Circulation Pump Type	Maitland Wastewater Treatment Plant Chlorine Analyser Circulation Pump		Maitland	8	2026	$4,257	15
20840	Decant Pump 5.3kW Type	Ardrossan Wastewater Treatment Plant Decant Pump		Ardrossan	8	2026	$6,636	15
21149	Electrical Fittings Type	Chinaman Wells Wastewater Treatment Plant Building Electrical Fittings		Chinaman Wells	8	2026	$678	25
21280	Electrical Fittings Type	Foul Bay Wastewater Treatment Plant Building Electrical Fittings		Foul Bay	8	2026	$678	25
21287	Irrigation Flow Switch Type	Foul Bay Wastewater Treatment Plant Irrigation Pump Flow Switches		Foul Bay	8	2026	$2,314	25
20699	PS Advanced Level Control	Maitland Pump Station 2 Level Control	Clinton Road	Maitland	8	2026	$2,196	20
20424	PS Advanced Level Control	Stansbury Pump Station 1 Level Control	Pitt Street	Stansbury	8	2026	$2,196	20
20671	PS Steel Sump Lid 1.1m dia	Chinamans Wells Pump Station 1 Lid	Chinamans Wells Road - Southern	Chinamans Wells	8	2026	$461	25
20678	PS Steel Sump Lid 1.1m dia	Chinamans Wells Pump Station 2 Lid	Chinamans Wells Road - Northern	Chinamans Wells	8	2026	$461	25
20726	Submersible pump 1.3-1.9kW	Maitland Pump Station 1 Pump 1	South Terrace	Maitland	8	2026	$3,479	15
20727	Submersible pump 1.3-1.9kW	Maitland Pump Station 1 Pump 2	South Terrace	Maitland	8	2026	$3,479	15
21039	Submersible Pump 7.4kW	Yorketown Wastewater Treatment Plant Relift Pump		Yorketown	8	2026	$7,471	15
20899	WWTP 100mm	Maitland Wastewater Treatment Plant		Maitland	8	2026	$2,518	20

	Flowmeter	Irrigation Flowmeter						
21227	WWTP 50mm Ball Valve	Foul Bay Wastewater Treatment Plant Ball Valves		Foul Bay	8	2026	$896	20
21250	WWTP 50mm Ball Valve	Hardwicke Bay Wastewater Treatment Plant Ball Valves		Hardwicke Bay	8	2026	$896	20
21298	WWTP 50mm Ball Valve	Point Turton Wastewater Treatment Plant 1 Ball Valves		Point Turton	8	2026	$896	20
21185	WWTP 50mm Ball Valve	Rogues Point Wastewater Treatment Plant Ball Valves		Rogues Point	8	2026	$896	20
21099	WWTP 50mm Flowmeter	Chinaman Wells Wastewater Treatment Plant Irrigation Flowmeter		Chinaman Wells	8	2026	$2,368	20
20992	WWTP Advanced Level Regulator	Stansbury Wastewater Treatment Plant Level Regulators		Stansbury	8	2026	$6,589	20
21595	WWTP Electrical Cabling	Foul Bay Wastewater Treatment Plant Electrical Cabling		Foul Bay	8	2026	$7,112	25
						Subtotal	**$81,145**	
20264	50mm Check Valve	Ardrossan Jetty Carpark Pump Station Overflow Chamber 1 Check Valve	Jetty carpark	Ardrossan	9	2027	$448	20
20271	50mm Check Valve	Ardrossan Jetty Carpark Pump Station Overflow Chamber 2 Check Valve	Jetty carpark	Ardrossan	9	2027	$448	20
20707	50mm Check Valve	Chinamans Wells Pump Station 1 Check Valve	Chinamans Wells Road - Southern	Chinamans Wells	9	2027	$448	20
20588	50mm Check Valve	Hardwicke Bay Pump Station 5 Check Valve	Northshore Road	Hardwicke Bay	9	2027	$448	20
20655	50mm Check Valve	Port Victoria Jetty Pump Station 1 Check	Jetty Carpark	Port Victoria	9	2027	$448	20

		Valve						
20263	50mm Gate Valve	Ardrossan Jetty Carpark Pump Station Overflow Chamber 1 Gate Valve	Jetty carpark	Ardrossan	9	2027	$448	20
20270	50mm Gate Valve	Ardrossan Jetty Carpark Pump Station Overflow Chamber 2 Gate Valve	Jetty carpark	Ardrossan	9	2027	$448	20
20677	50mm Gate Valve	Chinamans Wells Pump Station 1 Gate Valve	Chinamans Wells Road - Southern	Chinamans Wells	9	2027	$448	20
20643	50mm Gate Valve	Hardwicke Bay Pump Station 5 Gate Valve	Northshore Road	Hardwicke Bay	9	2027	$448	20
20654	50mm Gate Valve	Port Victoria Jetty Pump Station 1 Gate Valve	Jetty Carpark	Port Victoria	9	2027	$448	20
20863	Air Compressor Medium Type	Ardrossan Wastewater Treatment Plant Air Compressor		Ardrossan	9	2027	$1,136	15
20857	Chlorine Dosing Pump and Meter Type	Ardrossan Wastewater Treatment Plant Chlorine Dosing Pump and Meter 1		Ardrossan	9	2027	$5,157	15
20858	Chlorine Dosing Pump and Meter Type	Ardrossan Wastewater Treatment Plant Chlorine Dosing Pump and Meter 2		Ardrossan	9	2027	$5,157	15
20896	Chlorine Dosing Pump and Meter Type	Maitland Wastewater Treatment Plant Chlorine Dosing Pump and Meter 1		Maitland	9	2027	$5,157	15
20897	Chlorine Dosing Pump and Meter Type	Maitland Wastewater Treatment Plant Chlorine Dosing Pump and Meter 2		Maitland	9	2027	$5,157	15
21307	Decant Pump 0.9-1.2kW Type	Hardwicke Bay Wastewater Treatment Plant Decant Pump		Hardwicke Bay	9	2027	$2,529	15
20991	Decant Pump 0.9-1.2kW Type	Stansbury Wastewater Treatment Plant Decant Tank Bypass		Stansbury	9	2027	$2,529	15

		Pump						
20841	Decant Pump 22kW Type	Ardrossan Wastewater Treatment Plant Emergency Bypass Decant Pump 1		Ardrossan	9	2027	$16,721	15
20842	Decant Pump 22kW Type	Ardrossan Wastewater Treatment Plant Emergency Bypass Decant Pump 2		Ardrossan	9	2027	$16,721	15
20918	Decant Pump 3.1-3.5kW Type	Black Point Wastewater Treatment Plant Decant Pump 1		Black Point	9	2027	$5,279	15
20919	Decant Pump 3.1-3.5kW Type	Black Point Wastewater Treatment Plant Decant Pump 2		Black Point	9	2027	$5,279	15
21292	Electrical Fittings Type	Point Turton Wastewater Treatment Plant 1 Building Electrical Fittings		Point Turton	9	2027	$678	25
21130	Electrical Fittings Type	Port Victoria Wastewater Treatment Plant Building Electrical Fittings		Port Victoria	9	2027	$678	25
21239	Irrigation Flow Switch Type	Point Turton Wastewater Treatment Plant 1 Irrigation Pump Flow Switches		Point Turton	9	2027	$2,314	25
20591	PS Advanced Level Control	Hardwicke Bay Pump Station 5 Level Control	Northshore Road	Hardwicke Bay	9	2027	$2,196	20
20602	PS Basic Level Control	Port Victoria Jetty Pump Station 1 Level Control	Jetty Carpark	Port Victoria	9	2027	$501	20
20656	PS Control Cabinet	Port Victoria Jetty Pump Station 1 Control Cabinet	Jetty Carpark	Port Victoria	9	2027	$5,734	25
20657	PS Switchboard Meter Box	Port Victoria Jetty Pump Station 1 Switchboard Meter Box	Jetty Carpark	Port Victoria	9	2027	$8,325	25
20629	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 3 Pump 1	Foreshore Road	Hardwicke Bay	9	2027	$3,479	15

20574	Submersible pump 1.3-1.9kW	Hardwicke Bay Pump Station 3 Pump 2	Foreshore Road	Hardwicke Bay	9	2027	$3,479	15
20613	Submersible pump 1.3-1.9kW	Port Victoria Pump Station 3 Pump 1	Songvaar Road	Port Victoria	9	2027	$3,479	15
20614	Submersible pump 1.3-1.9kW	Port Victoria Pump Station 3 Pump 2	Songvaar Road	Port Victoria	9	2027	$3,479	15
20675	Submersible pump 2.0-2.4kW	Chinamans Wells Pump Station 1 Pump 1	Chinamans Wells Road - Southern	Chinamans Wells	9	2027	$4,179	15
20676	Submersible pump 2.0-2.4kW	Chinamans Wells Pump Station 1 Pump 2	Chinamans Wells Road - Southern	Chinamans Wells	9	2027	$4,179	15
20682	Submersible pump 2.0-2.4kW	Chinamans Wells Pump Station 2 Pump 1	Chinamans Wells Road - Northern	Chinamans Wells	9	2027	$4,179	15
20683	Submersible pump 2.0-2.4kW	Chinamans Wells Pump Station 2 Pump 2	Chinamans Wells Road - Northern	Chinamans Wells	9	2027	$4,179	15
20518	Submersible pump 3.0-4.0kW	Yorketown Pump Station 1 Pump 1	Warooka Road	Yorketown	9	2027	$5,279	15
20519	Submersible pump 3.0-4.0kW	Yorketown Pump Station 1 Pump 2	Warooka Road	Yorketown	9	2027	$5,279	15
20855	Tank Mixer Type	Ardrossan Wastewater Treatment Plant Buffer Tank Mixer		Ardrossan	9	2027	$4,571	15
21124	Ventilation Fan	Bluff Beach Wastewater Treatment Plant Ventilation Fan		Bluff Beach	9	2027	$814	15
21058	WAS Pump 1.2-1.9kW Type	Bluff Beach Wastewater Treatment Plant WAS Pump		Bluff Beach	9	2027	$4,471	15
20975	WWTP 100mm Flowmeter	Port Vincent Wastewater Treatment Plant Incoming Flowmeter		Port Vincent	9	2027	$2,518	20
21045	WWTP 100mm Flowmeter	Yorketown Wastewater Treatment Plant Incoming Flowmeter		Yorketown	9	2027	$2,518	20
21240	WWTP 50mm	Point Turton Wastewater Treatment		Point	9	2027	$2,368	20

	Flowmeter	Plant 1 Irrigation Flowmeter		Turton				
21242	WWTP Alarm System Landline Type	Point Turton Wastewater Treatment Plant 1 Alarm System		Point Turton	9	2027	$3,884	25
21598	WWTP Electrical Cabling	Point Turton Wastewater Treatment Plant 1 Electrical Cabling		Point Turton	9	2027	$7,112	25
21147	WWTP PLC Controls Type	Port Victoria Wastewater Treatment Plant Irrigation Controls		Port Victoria	9	2027	$8,198	25
21241	WWTP Small Switchboard Cabinet Type	Point Turton Wastewater Treatment Plant 1 Switchboard		Point Turton	9	2027	$18,024	25
21435	WWTP Tank cover 7.5m - 8.5m dia Corrugated Iron Type	Port Victoria Wastewater Treatment Plant Decant Tank Cover		Port Victoria	9	2027	$9,522	25
						Subtotal	**$200,907**	
						Program Total	**$1,524,868**	

Appendix C Projected Upgrade/Exp/New 10 year Capital Works Program

Projected Upgrade/New Expenditure figures in this plan are based on previous budgets, staff assumptions and estimates.

Appendix D Abbreviations

AAAC	Average annual asset consumption
AM	Asset management
AMP	Asset management plan
ARI	Average recurrence interval
ASC	Annual service cost
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
DRC	Depreciated replacement cost
EF	Earthworks/formation
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
LTFP	Long term financial plan
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SoA	State of the Assets
SS	Suspended solids
VC	Vitrified clay pipe
vph	Vehicles per hour
WDCRC	Written down current replacement cost

Appendix E Glossary

Annual service cost (ASC)

1) Reporting actual cost
   The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
2) For investment analysis and budgeting
   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 operations, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

Asset

A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.

Asset category

Sub-group of assets within a class hierarchy for financial reporting and management purposes.

Asset class

A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.

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 hierarchy

A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be based on asset function or asset type or a combination of the two.

Asset management (AM)

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.

Asset renewal funding ratio

The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

Average annual asset consumption (AAAC)*

The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.

Borrowings

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided**.**

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 expenditure - expansion

Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases the organisation'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 - new
Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

Capital expenditure - renewal
Expenditure on an existing asset or on replacing an existing asset, which returns the service capability 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 generally has no impact on revenue, but may reduce future operations 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.

Capital expenditure - upgrade
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 operations and maintenance expenditure in the future because of the increase in the organisation'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.

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

Capitalisation threshold
The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

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
Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Core asset management
Asset management which relies primarily on the use of an asset register, maintenance management systems, job resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long-term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised decision- making).

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, including any costs necessary to place the asset into service. This includes one-off design and project management costs.

Critical assets
Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.

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.

Deferred maintenance
The shortfall in rehabilitation work undertaken relative to that required to maintain the service potential of an asset.

Depreciable amount
The cost of an asset, or other amount substituted for its cost, less its residual value.

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 outlays.

Expenses
Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or increases in liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

Fair value
The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arms length transaction.

Financing gap
A financing gap exists whenever an entity has insufficient capacity to finance asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current financing gap means service levels have already or are currently falling. A projected financing gap if not addressed will result in a future diminution of existing service levels**.**

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 that contribute to meeting the needs of organisations or the 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 separate 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.

Key performance indicator
A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

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

Life Cycle Cost *
1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. 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 average operations, maintenance and capital renewal expenditure accommodated in the long term financial plan over 10 years. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of affordability of projected service levels when considered with asset age profiles.

Loans / borrowings
See borrowings.

Maintenance
All actions necessary for retaining an asset as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

- **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.
- **Reactive maintenance**
  Unplanned repair work that is carried out in response to service requests and management/ supervisory directions.
- **Specific maintenance**
  Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.
- **Unplanned maintenance**
  Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

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
The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset
Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes and, improvements and efficiencies in production and installation techniques

Net present value (NPV)
The value to the organisation of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from eg the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.

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.

Operations
Regular activities to provide services such as public health, safety and amenity, eg street sweeping, grass mowing and street lighting.

Operating expenditure
Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, eg power, fuel, staff, plant equipment, on-costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

Operating expense
The gross outflow of economic benefits, being cash and non cash items, during the period arising in the course of ordinary activities of an entity when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.

Operating expenses
Recurrent expenses continuously required to provide a service, including power, fuel, staff, plant equipment, maintenance, depreciation, on-costs and overheads.

Operations, maintenance and renewal financing ratio
Ratio of estimated budget to projected expenditure for operations, maintenance and renewal of assets over a defined time (eg 5, 10 and 15 years).

Operations, maintenance and renewal gap
Difference between budgeted expenditures in a long term financial plan (or estimated future budgets in absence of a long term financial plan) and projected expenditures for operations, maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Pavement management system (PMS)
A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

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

Rate of annual asset consumption *
The ratio of annual asset consumption relative to the depreciable amount of the assets. It measures the amount of the consumable parts of assets that are consumed in a period (depreciation) expressed as a percentage of the depreciable amount.

Rate of annual asset renewal *
The ratio of asset renewal and replacement expenditure relative to depreciable amount for a period. It measures whether assets are being replaced at the rate they are wearing out with capital renewal expenditure expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

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

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 operations and maintenance expenditure.

Recurrent funding
Funding to pay for recurrent expenditure.

Rehabilitation
See capital renewal expenditure definition above.

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

Renewal
See capital renewal expenditure definition above.

Residual value
The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

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 total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Service potential remaining
A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. 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 (Depreciated Replacement Cost/Depreciable Amount).

Specific Maintenance
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, 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.

Strategic Longer-Term Plan
A plan covering the term of office of councillors (4 years minimum) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the Council's longer-term plans such as the asset management plan and the long-term financial plan. The plan is prepared in consultation with the community and details where the Council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes and how the plan will be resourced.

Sub-component
Smaller individual parts that make up a component part.

Useful life
Either:
(a) the period over which an asset is expected to be available for use by an entity, or
(b) the number of production or similar units expected to be obtained from the asset by the entity.
It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the Council.

Value in Use
The present value of future cash flows expected to be derived from an asset or cash generating unit. 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 net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.

Source: IPWEA, 2009, Glossary

Additional and modified glossary items shown *