

# Yorke Peninsula Council



## Major Plant

# Asset Management Plan



Scenario 1 Version 1

November 2017

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## 1. EXECUTIVE SUMMARY

### Context

Council owns and manages a fleet of Major Plant which is essential to support the delivery of services throughout its district, including the maintenance and construction of assets.

### Major Plant

Major Plant assets comprise:

Administration Fleet	Roller
Backhoes	Shredder
Boats	Skidsteers
Dozers	Tractors
Forklifts	Trailers
Graders	Truck
Jetpatcher	Utilities
Loaders	Van
Mowers	Wood Chipper
Reach Mowers	

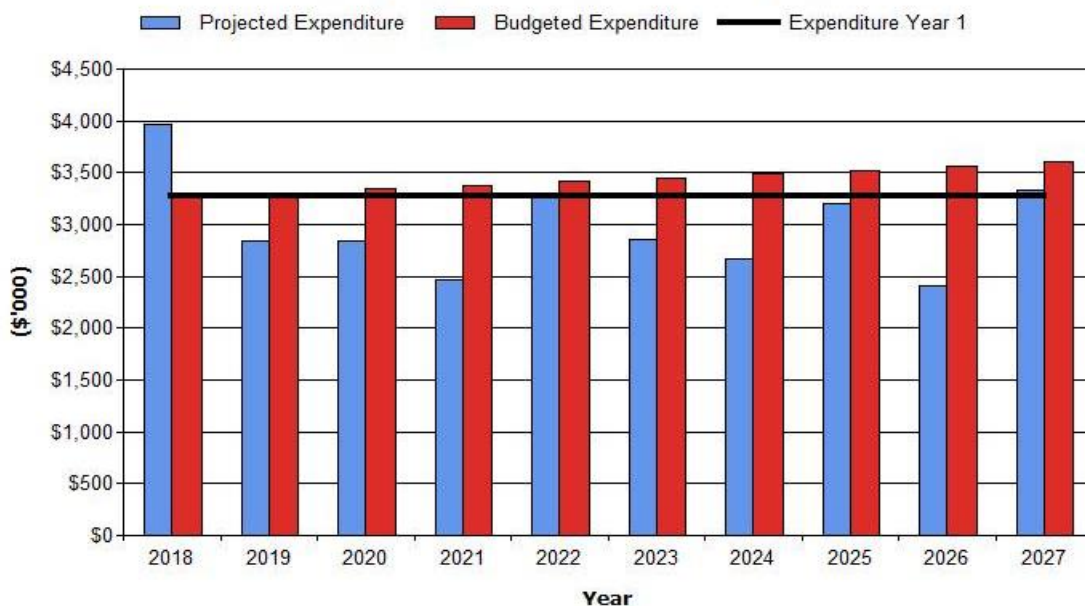
These assets have a replacement value of **\$12,256,096**.

### 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 are **\$29,858,000** or **\$2,986,000** on average per year.

Estimated available funding for this period is **\$34,345,000** or **\$3,435,000** on average per year which is **115%** of the cost to provide the service. This is a funding excess of **\$449,000** on average per year. Projected expenditure required to provide services in the AMP compared with planned expenditure currently included in the Long Term Financial Plan (LTFP) are shown in the graph below. *Note that the review of replacement costs of plant and volatility of operating expenses such as fuel will have an impact on the projected expenditure requirements.*

### Yorke Peninsula DC - Projected and Budget Expenditure for (Major Plant\_S1\_V1)



## **What we will do**

We plan to provide services for the following:

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

## **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:

- Major plant breakdown requiring significant renewal funding.

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

- Ensuring sufficient funding to maintain Major Plant at an appropriate level
- Prioritise required maintenance work

## **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 AMP are:

- Complete the Improvement Plan as set out in Table 7.1

## **Questions you may have**

### **What is this plan about?**

This AMP covers the Major Plant assets that are utilised by Council staff to manage the Yorke Peninsula Council's infrastructure assets, and to also provide various services to the community.

### **What is an Asset Management Plan?**

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

An AMP details information about 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.

### **What can we do?**

We can develop options, costs and priorities for future Major Plant assets, consult with the community to plan future Major Plant requirements 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 AMP and suggestions on how we may change or reduce Major Plant assets to ensure that the appropriate level of service can be provided to the community within available funding.

## 2. INTRODUCTION

### 2.1 Background

This AMP demonstrates responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide Major Plant required over a 20 year planning period.

This AMP follows the format recommended in Section 4.2.6 of the International Infrastructure Management Manual<sup>1</sup>.

This AMP is to be read in conjunction with Council's Asset Management Policy, and the following associated planning documents (available on Council's website or upon request):

- Yorke Peninsula Council Strategic Management Plan 2016-2020
- Yorke Peninsula Council Long Term Financial Plan
- Yorke Peninsula Council Annual Business Plan and Budget

The assets covered by this AMP are shown in Table 2.1. These Major Plant assets are used to provide services to the community.

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

Asset category	Dimension	Replacement Value
Major Plant	Administration Fleet Backhoes Boats Dozers Forklifts Graders Jetpatcher Loaders Mowers Reach Mowers Rollers Shredder Skidsteers Tractors Trailers Trucks Utilities Van Wood Chipper	\$12,256,096
<b>TOTAL</b>		<b>\$12,255,096</b>

Key stakeholders in the preparation and implementation of this AMP are shown in Table 2.1.1.

**Table 2.1.1: Key Stakeholders in the AMP**

Key Stakeholder	Role in Asset Management Plan
Councillors	<ul style="list-style-type: none"><li>• Represent needs of community,</li><li>• Allocate resources to meet the organisation's objectives in providing services while managing risks,</li><li>• Ensure Council is financially sustainable.</li></ul>

<sup>1</sup> IPWEA, 2011, Sec 4.2.6, *Example of an Asset Management Plan Structure*, pp 4| 24 – 27.

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 be prepared to make changes to a better way of managing assets and delivering services. Support for an asset management driven budget and LTFP.
Staff	Manage and utilise the Major Plant with resources provided by Council within the allocated budget.

## 2.2 Goals and Objectives of Asset Management

Council exists to provide services to its community. Some of these services are provided by assets. Council have acquired Major Plant assets by purchase to be utilised to manage and maintain its infrastructure to meet levels of service.

Our goal in managing 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 asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and asset 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.<sup>2</sup>

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

Future revisions of this AMP 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.

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<sup>2</sup> Based on IPWEA, 2011, IIMM, Sec 1.2 p 1|7.

<sup>3</sup> IPWEA, 2011, IIMM.

## **2.5 Community Consultation**

This 'core' AMP is prepared to facilitate community consultation initially through feedback on public display of draft AMPs prior to adoption by the Council. Future revisions of this AMP 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.

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### 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 AMP.

#### 3.2 Strategic and Corporate Goals

This AMP 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 AMP 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	Major Plant AMP developed and adopted by Council
Community Connected through Infrastructure	Explore Provision of new infrastructure	New assets provided as per an adopted Major Plant AMP

#### 3.3 Legislative Requirements

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 long term financial plan supported by asset management plans for sustainable service delivery.
Work Health and Safety Act and Regulations	To provide for the health, safety and welfare of persons at work.
Road Traffic Act	An Act to prescribe the duties of road users; to provide for nationally consistent road rules; to provide for vehicle standards, mass and loading requirements and other safety measures in relation to light vehicles; to regulate the identification of vehicles; to provide for the installation, use and maintenance of traffic control devices; to provide for the closing of roads for traffic management and other purposes; to provide for the use of photographic detection devices; to provide for the enforcement of Australian road laws and the recognition of administrative actions and court orders of other Australian jurisdictions; and for other purposes.

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, community 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 AMP 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
<b>COMMUNITY OUTCOMES</b>				
Provision of Major Plant that can be utilised by Council to manage and maintain its infrastructure to meet levels of service expected by the community.				
<b>COMMUNITY LEVELS OF SERVICE</b>				
Quality	Major Plant that is operational and fit for purpose to meet service levels expected by the community.	Monitoring of maintenance and utilisation of Major Plant.	Major Plant assets are maintained and managed by relevant staff.	Major Plant is maintained and managed to industry standards.
	Organisational measure Confidence levels	High	High	High
Function	Major Plant that is appropriate to meet operational requirements.	Specifications for Major Plant meets operator and user requirements.	Major Plant is available when required.	Major Plant is available when required.
	Organisational measure Confidence levels	High	High	High
Capacity/Utilisation	Major Plant that is available to meet operational requirements.	Monitoring of utilisation of Major Plant.	Regular monitoring of Major Plant utilisation and the costs associated with each asset.	Regular monitoring of Major Plant utilisation and the costs associated with each asset.
	Organisational measure Confidence levels	Medium	Medium	Medium

### 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 regular inspections of Major Plant,
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition (eg regular servicing of Major Plant),

- Renewal – the activities that return the service capability of an asset up to that which it had originally been (eg replacement of Major Plant),
- Upgrade – the activities to provide a higher level of service (eg replacing a push mower with a ride-on mower) or a new service that did not exist previously (eg a new item of Major Plant previously not owned).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.<sup>4</sup>

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.

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<sup>4</sup> 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 ***
<b>TECHNICAL LEVELS OF SERVICE</b>					
Operations	Major Plant operates at expected level.	Inspections and feedback from managers and operators of the Major Plant.	Performance of Major Plant meets expectations.	Performance of Major Plant meets expectations.	Current Performance
		Budget	Budget - Current	Budget - Current	Budget – Current
Maintenance	Major Plant is well maintained.	Regular servicing and maintenance program for all Major Plant.	Planned servicing and maintenance is undertaken as and when required.	Servicing and maintenance is undertaken as planned and required.	Current Performance.
		Budget	Budget - Current	Budget - Current	Budget – Current
Renewal	Renewal of Major Plant assets as required and at the optimum time frame.	Assets renewed as per current renewal program and budget.	Planned renewal of Major Plant is planned and budgeted.	Identified renewal of Major Plant is funded each year as per adopted Capital Renewal Program.	Identified renewal of Major Plant is funded each year as per adopted Capital Renewal Program.
		Budget	Budget – Current	Budget – Renewal Program	Budget – Renewal Program
Upgrade/New	Upgrade of Major Plant assets are identified through inspections, design, new technology and new work practices.	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/New Program.	Identified upgrade work funded each year as per adopted Capital Upgrade/New Program.
		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
Technological changes	Major Plant technology continuously changing	Change in technology will provide increased capacity, efficiency, operator comfort, safety, etc.	Change in technology will provide increased capacity, efficiency, operator comfort, safety, etc.

### 4.4 Demand Management Plan

Demand for new Major Plant 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<sup>5</sup>. 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 for demand management will be developed in future revisions of this AMP.

### 4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired by the Council. New assets acquired by the Council are discussed in Section 5.5.

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

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<sup>5</sup> IPWEA, 2011, IIMM, Table 3.4.1, p 3|58.

## 5. LIFECYCLE MANAGEMENT PLAN

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

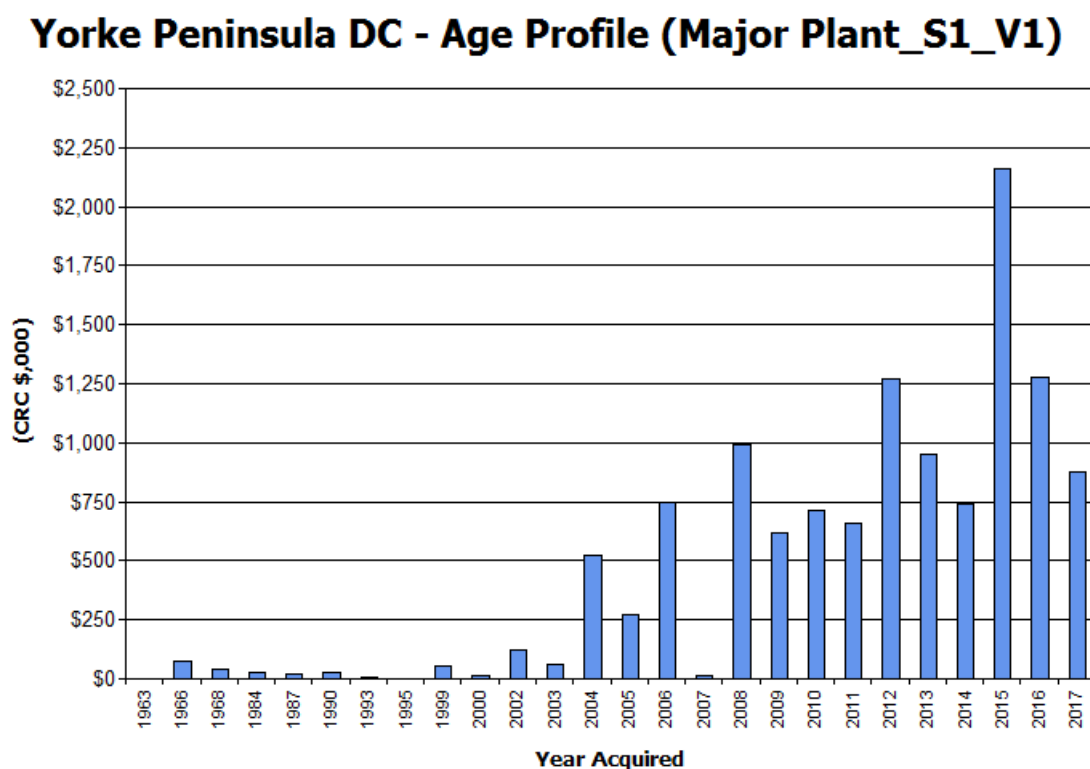
### 5.1 Background Data

#### 5.1.1 Physical parameters

The assets covered by this AMP are shown in Table 2.1.

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

Figure 2: Asset Age Profile



#### 5.1.2 Asset capacity and performance

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

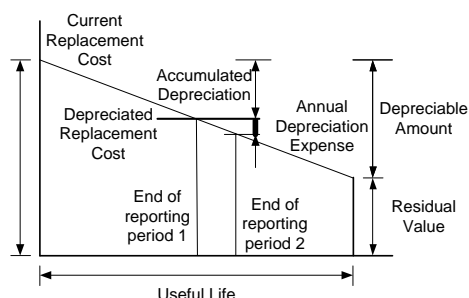
#### 5.1.3 Asset condition

Condition of Major Plant assets is monitored by Council staff but a full condition profile has not yet been developed for this asset class. Council will develop a condition profile in a future version of this plan.

#### 5.1.4 Asset valuations

The value of assets recorded in the asset register as at **30<sup>th</sup> June 2017** covered by this AMP is shown below. Assets are valued at Current Replacement Cost (CRC) of an asset minus any accumulated depreciation and impairment losses.

Current Replacement Cost	<b>\$12,256,000</b>
Depreciable Amount	<b>\$9,682,000</b>
Depreciated Replacement Cost <sup>6</sup>	<b>\$7,586,000</b>
Annual Depreciation Expense	<b>\$834,000</b>



Useful lives are reviewed by Council staff. 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 lives that are assigned to different Major Plant asset types are based on industry standards.

Current Replacement Cost for Major Plant asset types (eg. rollers) need to be reviewed to ensure accurate replacement costs.

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)	<b>8.6%</b>
Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount)	<b>15.9%</b>

In **2017/18** the Council plans to renew assets at **184.9%** of the rate they are being consumed and will be increasing its asset stock by **2.1%** in the year.

#### 5.1.5 Historical Data

Historical data, on Council's Major Plant assets, can be located in Council's offices and records management system.

### 5.2 Risk Management Plan

An assessment of risks<sup>7</sup> associated with service delivery from assets has identified critical risks that will result in loss or reduction in service from 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 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.

<sup>6</sup> Also reported as Written Down Current Replacement Cost (WDCRC).

<sup>7</sup> Critical Risks and Treatment in Table 5.2 have been identified but not assessed.

**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
Major Plant	Failure to maintain to appropriate working standards.		Maintenance schedule and records. Daily prestart checks. Major Plant risk assessments undertaken.		Current Budget

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 safety and amenity, eg daily prestart checklist or other inspections of the Major Plant.

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

#### 5.3.1 Operations and Maintenance Plan

Operations activities affect service levels including quality and function through the types and timing of activities, and the design of the asset.

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 servicing of machinery. 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 replacing tyres on an item of Major Plant, 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. *Note that the volatility of fuel pricing does have an impact on maintenance expenditure from year to year.*

**Table 5.3.1: Maintenance Expenditure Trends**

Year	Maintenance Expenditure
2014/15	\$1,571,676
2015/16	\$1,500,408
2016/17	\$1,465,444

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 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

Council will operate and maintain assets to provide the 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 risk register for assets and present service risks associated with providing services from assets and reporting 'Very High' and 'High' risks and residual risks after treatment to management and Council,
- 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.

#### 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 maintenance 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 will be developed in future versions of this AMP.

#### Standards and specifications

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

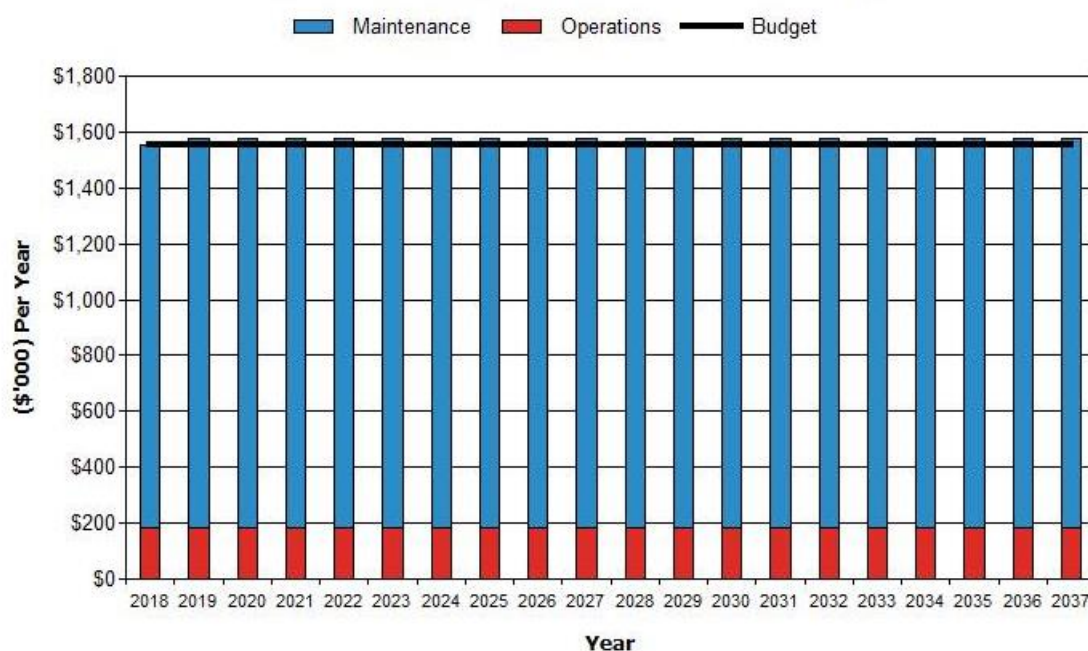
- Manufacturers' specifications,
- Relevant standards, codes of practice and specifications,
- Industry best practice.

### 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

## Yorke Peninsula DC - Projected Operations & Maintenance Expenditure (Major Plant\_S1\_V1)



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 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.

- 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 AMP.

The useful lives of assets used to develop projected asset renewal expenditures are shown in Table 5.4.1. Major Plant asset useful lives were last reviewed in **June 2017** as part of the process to upload the asset register into Conquest.<sup>8</sup>

<sup>8</sup> Based on Yorke Peninsula Council PO124 Asset Accounting Policy.

**Table 5.4.1: Useful Lives of Assets**

Asset (Sub)Category	Useful life
Administration Fleet	2 Years
Backhoe	15 to 20 years
Dozer	11 Years
Forklift	5 to 20 Years
Grader	7 to 13 Years
Jetpatcher	15 Years
Loader	15 to 20 Years
Mower	10 Years
Reach Mower	10 to 20 Years
Roller	10 to 25 Years
Shredder	10 Years
Skidsteer	15 Years
Tractor	10 to 20 Years
Trailer	10 to 20 Years
Truck	10 to 20 Years
Utility	3 to 8 Years
Van	8 Years
Wood Chipper	10 Years

#### 5.4.2 Renewal and Replacement Strategies

The Council will plan capital renewal of Major Plant to meet level of service objectives and minimise service risks by:

- Planning and scheduling Major Plant renewal to deliver the defined level of service in the most efficient manner,
- Undertaking scoping for all capital renewal and replacement to identify:
  - the service delivery 'deficiency', present risk and optimum time for renewal/replacement,
  - the objectives to rectify the deficiency,
  - the range of options, estimated capital and life cycle costs for each option 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 risk register for assets and service risks associated with providing services from Major Plant assets and reporting 'Very High' and 'High' risks and residual risks after treatment to management and Council,
- Review current and required skills base and implement workforce training and development to meet required 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 Major Plant to deliver the service it was manufactured to facilitate (eg replacing bucket on loader to ensure the loader can be utilised), or

- To ensure the Major Plant is of sufficient quality to meet the service requirements (eg grader for road grading).<sup>9</sup>

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
- Where replacement with modern equivalent assets would yield material savings.<sup>10</sup>

A ranking criteria guide used to determine priority of identified renewal and replacement proposals will be developed in future versions of this AMP.

#### Renewal and replacement standards

Renewal of Major Plant is carried out in accordance with the following Standards and Specifications.

- Compliance with legislation and regulations,
- Manufacturers' specifications,
- Relevant Australian standards,
- Industry best practice.

#### 5.4.3 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditure is summarised in Figure 5. Note that all amounts are shown in real values. Gen 2 assets shown in Figure 5 are assets with a useful life of less than 20 years, which means they will be replaced twice during the reporting period.

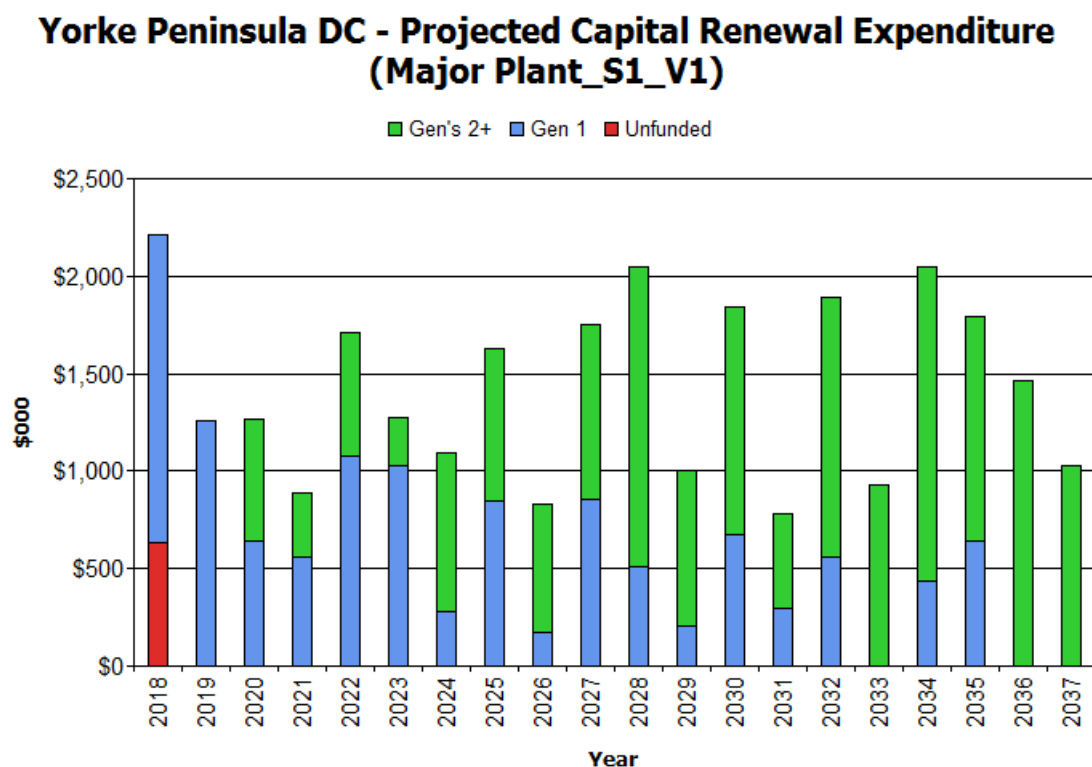
The projected capital renewal and replacement program is shown in Appendix B.

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<sup>9</sup> IPWEA, 2011, IIMM, Sec 3.4.4, p 3|60.

<sup>10</sup> 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 assets are those that did not previously exist. These assets from growth are considered in Section 4.4.

### 5.5.1 Selection criteria

New assets are identified from various sources such as councillor, officer, 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 budgets. A priority ranking criteria guide will be developed in future versions of this AMP.

### 5.5.2 Capital Investment Strategies

The Council will plan capital upgrade of Major Plant to meet level of service objectives by:

- Planning and scheduling capital upgrade to deliver the defined level of service in the most efficient manner,
- Undertake scoping for all capital upgrade/new to identify:
  - the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new asset,
  - the objectives to rectify the deficiency,
  - 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,

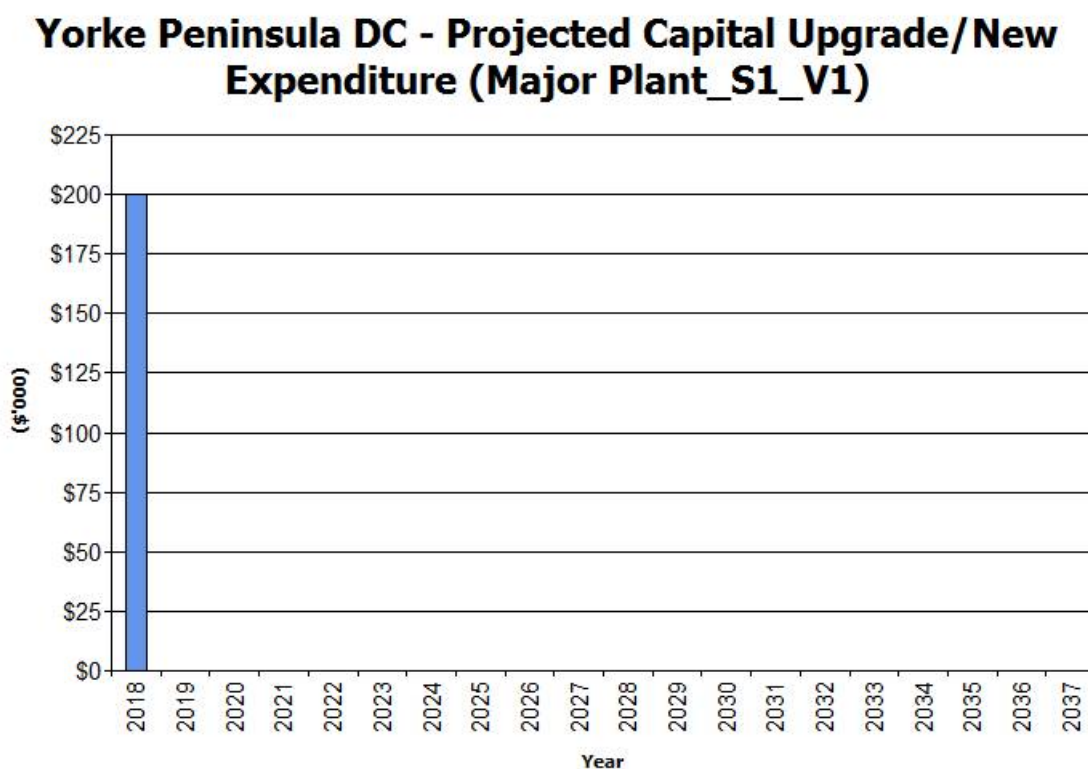
- and evaluate the options against evaluation criteria adopted by Council, and
- select the best option to be included in capital upgrade/new programs,
- Review current and required skills base and implement training and development to meet required construction and project management needs,
- Review 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 expenditure is summarised in Figure 6. Newly identified upgrade/new assets will be presented to Council for consideration during the budget process each year.

**Figure 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, together with estimated annual savings from not having to fund operations and maintenance of the assets are not known at this stage. Any revenue gained from asset disposals is accommodated in Council's LTFP.

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

## 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 purchases 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).

This AM Plan has been developed using **Scenario 1**.

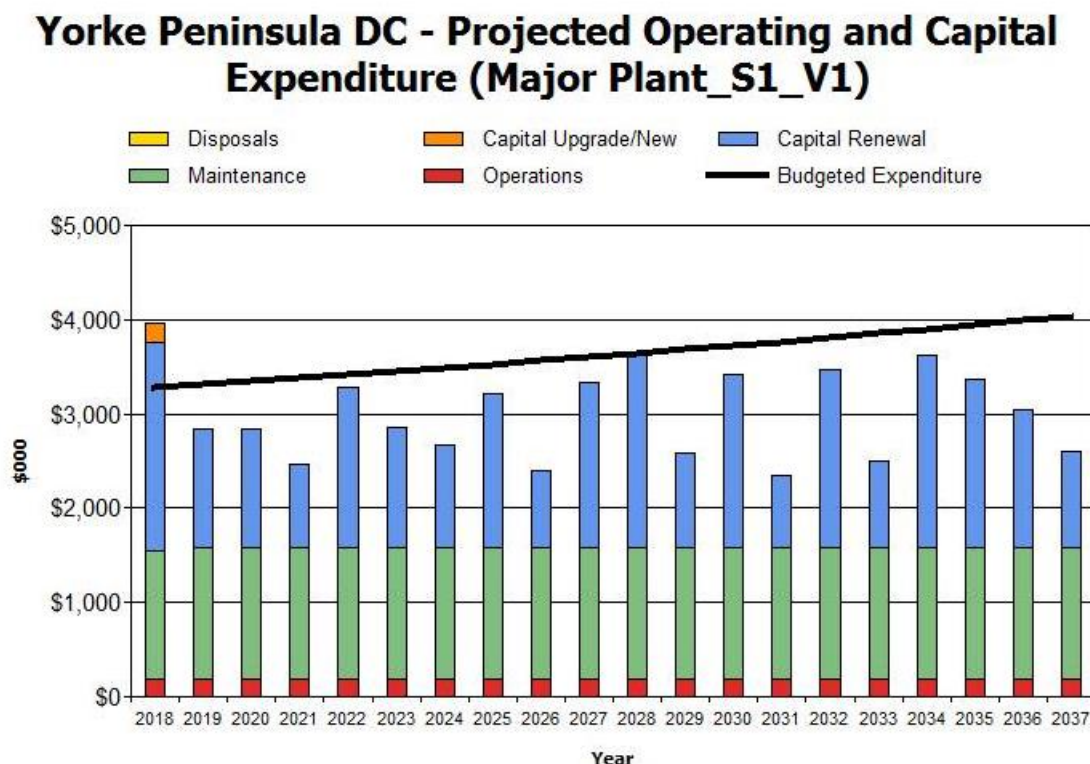
## 6. FINANCIAL SUMMARY

This section contains the financial requirements resulting from all the information presented in the previous sections of this AMP. 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 <sup>11</sup>	<b>119%</b>
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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 **119%** of the funds required for the optimal renewal and replacement of its assets.

#### Long term - Life Cycle Cost (20 year financial planning period)

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 AMP is **\$2,408,000** 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 **\$3,326,000** per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 10 years).

A shortfall between life cycle cost and life cycle expenditure is the life cycle gap. There is no life cycle gap for services covered by this AMP, the AMP shows a funding excess of **\$828,000** per year.

Life cycle expenditure is **134%** 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 Council in providing services to their communities in a financially sustainable manner. This is the purpose of the AMPs and LTFP.

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

This AMP 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 AMP, 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 **\$2,966,000** on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is **\$3,236,000** on average per year giving a 10 year funding excess of **\$270,000** per year. This indicates that Council expects to have **109%** of the projected expenditures needed to provide the services documented in the AMP.

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<sup>11</sup> AIFMG, 2012, Version 1.3, Financial Sustainability Indicator 4, Sec 2.6, p 2.16.



### Medium Term – 5 year financial planning period

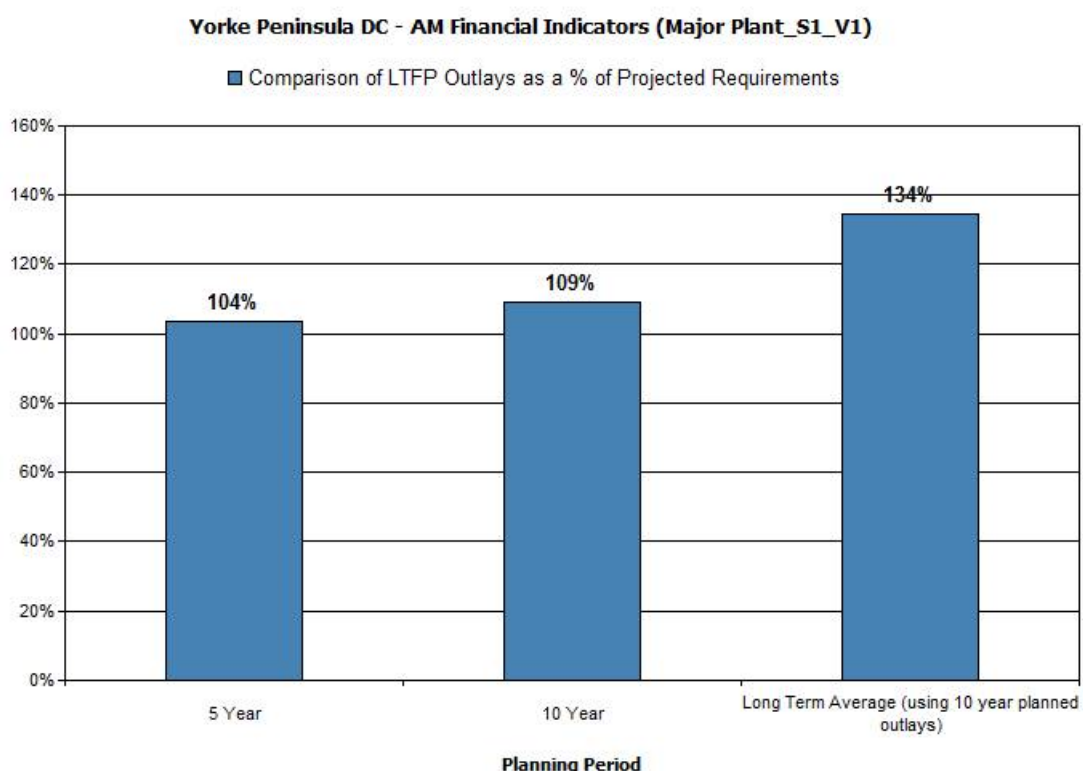
The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is **\$3,039,000** on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is **\$3,155,000** on average per year giving a 5 year funding excess of **\$115,000**. This indicates that Council expects to have **104%** of projected expenditures required to provide the services shown in this AMP.

### 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 assets 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 AMP 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

## Yorke Peninsula DC - Projected & LTFP Budgeted Renewal Expenditure (Major Plant\_S1\_V1)

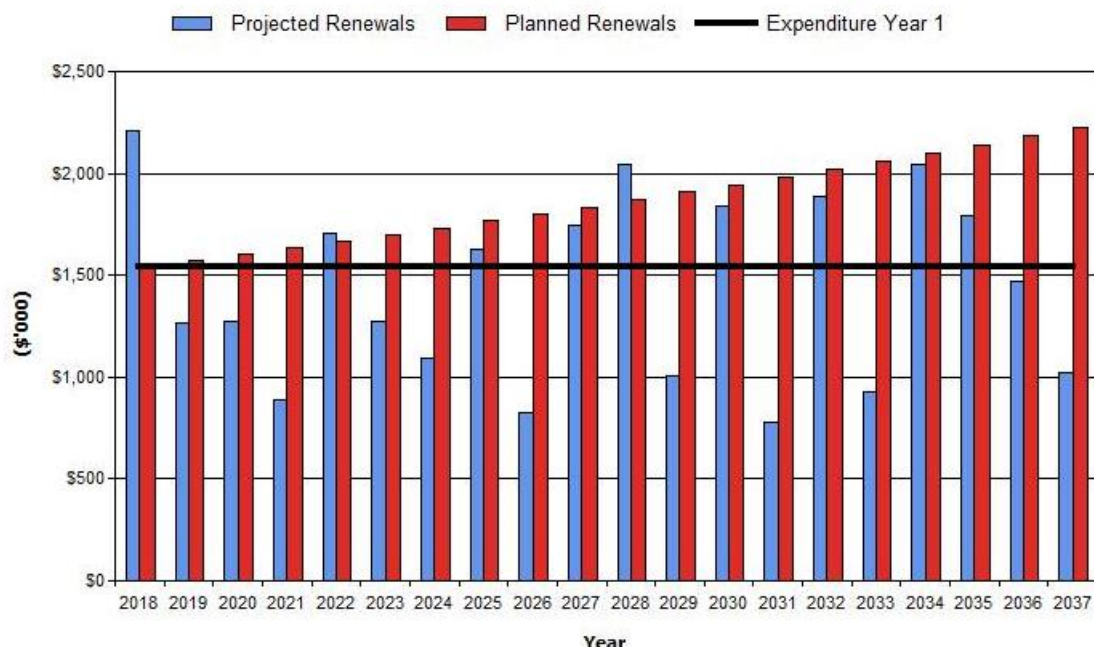


Table 6.1.1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in the LTFP. Budget expenditures accommodated in the LTFP or extrapolated from current budgets are shown in Appendix D.

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	\$2,212	\$1,542	-\$670	-\$670
2019	\$1,262	\$1,573	\$311	-\$359
2020	\$1,270	\$1,603	\$333	-\$26
2021	\$889	\$1,634	\$745	\$719
2022	\$1,708	\$1,666	-\$42	\$677
2023	\$1,277	\$1,699	\$422	\$1,099
2024	\$1,094	\$1,732	\$638	\$1,737
2025	\$1,630	\$1,766	\$136	\$1,872
2026	\$828	\$1,800	\$972	\$2,844
2027	\$1,749	\$1,835	\$86	\$2,930
2028	\$2,046	\$1,871	-\$175	\$2,755
2029	\$1,003	\$1,907	\$904	\$3,659
2030	\$1,843	\$1,945	\$102	\$3,761
2031	\$778	\$1,982	\$1,204	\$4,965
2032	\$1,888	\$2,021	\$133	\$5,098
2033	\$928	\$2,061	\$1,133	\$6,231

2034	\$2,046	\$2,101	\$55	\$6,287
2035	\$1,789	\$2,142	\$353	\$6,639
2036	\$1,467	\$2,183	\$716	\$7,355
2037	\$1,025	\$2,226	\$1,201	\$8,556

*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 AMP to manage required service levels and funding to **eliminate any funding gap**.

We will manage the 'gap' by developing this AMP 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	\$182	\$1,369	\$2,212	\$200	\$0
2019	\$185	\$1,391	\$1,262	\$0	\$0
2020	\$185	\$1,391	\$1,270	\$0	\$0
2021	\$185	\$1,391	\$889	\$0	\$0
2022	\$185	\$1,391	\$1,708	\$0	\$0
2023	\$185	\$1,391	\$1,277	\$0	\$0
2024	\$185	\$1,391	\$1,094	\$0	\$0
2025	\$185	\$1,391	\$1,630	\$0	\$0
2026	\$185	\$1,391	\$828	\$0	\$0
2027	\$185	\$1,391	\$1,749	\$0	\$0
2028	\$185	\$1,391	\$2,046	\$0	\$0
2029	\$185	\$1,391	\$1,003	\$0	\$0
2030	\$185	\$1,391	\$1,843	\$0	\$0
2031	\$185	\$1,391	\$778	\$0	\$0
2032	\$185	\$1,391	\$1,888	\$0	\$0
2033	\$185	\$1,391	\$928	\$0	\$0
2034	\$185	\$1,391	\$2,046	\$0	\$0
2035	\$185	\$1,391	\$1,789	\$0	\$0
2036	\$185	\$1,391	\$1,467	\$0	\$0
2037	\$185	\$1,391	\$1,025	\$0	\$0

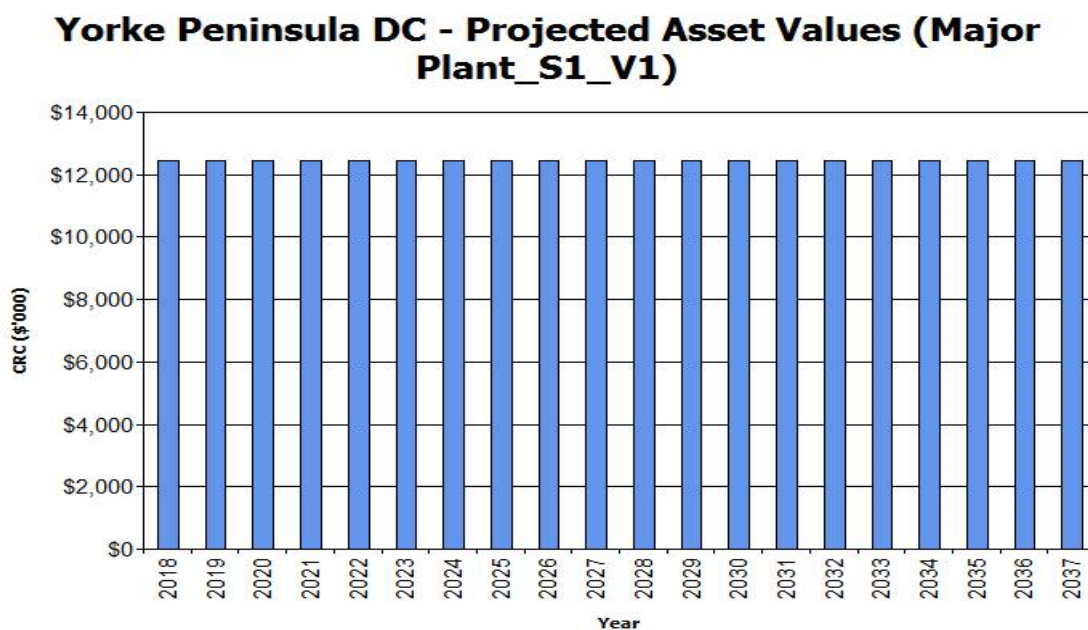
## 6.2 Funding Strategy

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

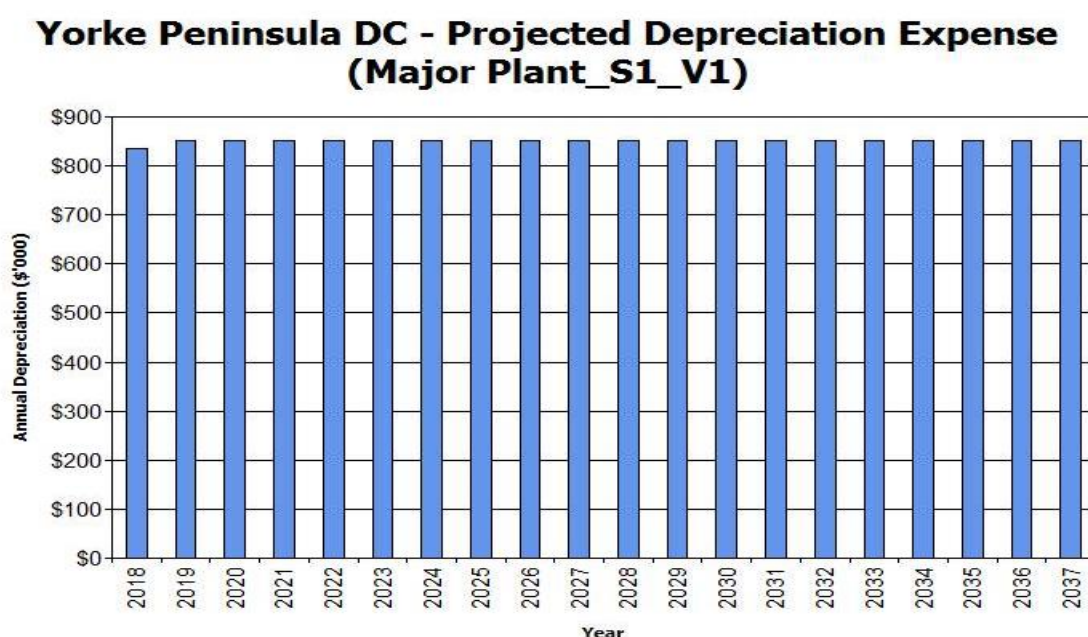
Asset values are forecast to increase as additional assets are added to the asset stock from acquisition by Council. Figure 9 shows the projected replacement cost asset values over the planning period in real values.

*Figure 9: Projected Asset Values*



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

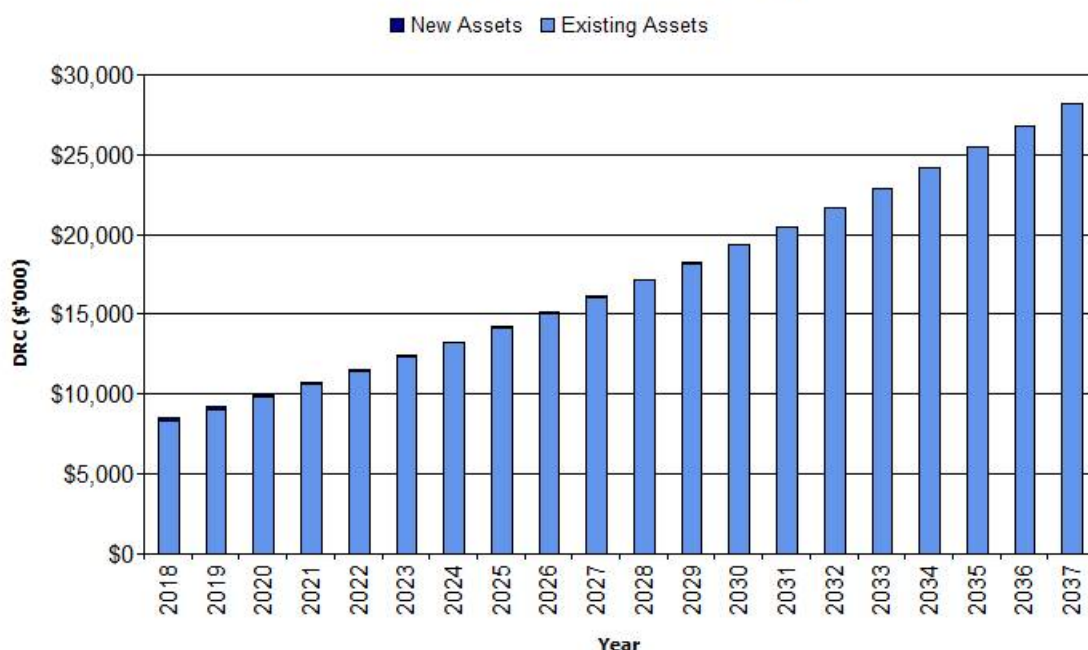
*Figure 10: Projected Depreciation Expense*



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. The increase in depreciated replacement cost is due to the projected over funding of renewal in the current LTFP.

**Figure 11: Projected Depreciated Replacement Cost**

## Yorke Peninsula DC - Projected Depreciated Replacement Cost (Major Plant\_S1\_V1)



### 6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this AMP 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 AMP 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 completed and reliable.	Discovery of assets not recorded in the asset register will increase capital renewal expenditure and depreciation expense projections.
Average useful lives are based on current knowledge.	A review of useful lives has the potential to vary future cost predictions.
Current replacement costs for plant assets are based on the current asset register.	A review of current replacement costs has the potential to vary future cost predictions.
Legislative compliance will remain constant.	Changes in legislation and regulation may increase operating and maintenance expenditure projections.

## 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<sup>12</sup> 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 $\pm 2\%$
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 $\pm 10\%$
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 $\pm 25\%$
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 $\pm 40\%$
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 used / developed
Growth projections	E	Not used / developed
Operations expenditures	B	Current and previous budget information
Maintenance expenditures	B	Current and previous budget information
Projected Renewal exps. - Asset values	C	Generated from CONQUEST. Data reviewed and updated prior to entry into CONQUEST. Continued review of the asset register and replacement costs required.
- Asset residual values	C	Generated from CONQUEST. Data reviewed and updated prior to entry into CONQUEST. Continued review of the asset register and residual values required.
- Asset useful lives	C	Generated from CONQUEST. Data reviewed and updated prior to entry into CONQUEST. Continued review of the asset register and useful lives required.
- Condition modelling	E	Not used / developed
- Network renewals	C	Generated from CONQUEST. Data reviewed and updated prior to entry into CONQUEST.
- Defect repairs	E	Not used / developed
Upgrade/New expenditures	B	Generated from 2017/18 budget. To be reviewed during the budget process each year.
Disposal expenditures	E	Not used / developed

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

<sup>12</sup> 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 AMP is shown in Table 7.1.

**Table 7.1: Improvement Plan**

Task No	Task	Responsibility	Resources Required	Timeline
1	Continual review of Asset Register.	Asset Manager	In house	Ongoing
2	Continue development of Conquest (Asset Management System).	Asset Manager	In house	Ongoing
3	Continual review of Useful Lives, Replacement Costs, Residual Values, etc.	Works Manager / Manager Financial Services	In house	Ongoing
4	Develop the Capital Renewal program in alignment with the Conquest.	Works Manager / Director Corporate & Community Services	In house	Ongoing
5	Conduct a risk assessment workshop to further develop the critical risk and treatment plans.	Risk Management Officer	In house	Ongoing
6	Develop Priority Ranking Criteria for <i>Renewal and Replacement</i> and <i>New/Upgrade</i> of assets.	Works Manager / Director Corporate & Community Services	In house	Ongoing

### 7.2 Monitoring and Review Procedures

This AMP 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 AMP can be measured in the following ways:

- The degree to which the required projected expenditures identified in this AMP 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 AMP,
- 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](http://www.ipwea.org/IIMM)

IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/namsplus](http://www.ipwea.org/namsplus).

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

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## **9. APPENDICES**

Appendix A Maintenance Response Levels of Service

Appendix B Projected 10 year Capital Renewal and Replacement Works Program

Appendix C Abbreviations

Appendix D Glossary

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## **Appendix A     Maintenance Response Levels of Service**

Maintenance response levels of service will be developed in future revisions of this plan.

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## **Appendix B     Projected 10 year Capital Renewal and Replacement Works Program**

The projected capital renewal and replacement program will be developed in further revisions of this AMP.

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## **Appendix C     Abbreviations**

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

## Appendix D 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).

Source: IPWEA, 2009, Glossary

Additional and modified glossary items shown \*

**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.