Protecting our Natural Environment

STORMWATER ASSET MANAGEMENT PLAN

14 JANUARY 2015

MID-WESTERN REGIONAL COUNCIL
OPERATIONS: SERVICES

TOWARDS 2030

Mid-Western REGIONAL COUNCIL

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1. Executive Summary

1.1 Context

This asset management plan for stormwater drainage comprises a collation of Mid Western Regional Council's drainage infrastructure asset data base and service delivery programmes. It is a long term planning document that Council can use to provide a rational framework for current and future understanding of its drainage assets.

1.2 The Stormwater Service

The stormwater network comprises:

- Pipes
- Pits
- Culverts and headwalls
- Gross pollutant traps
- Detention basins
- Water quality devices
- Conveyance channels

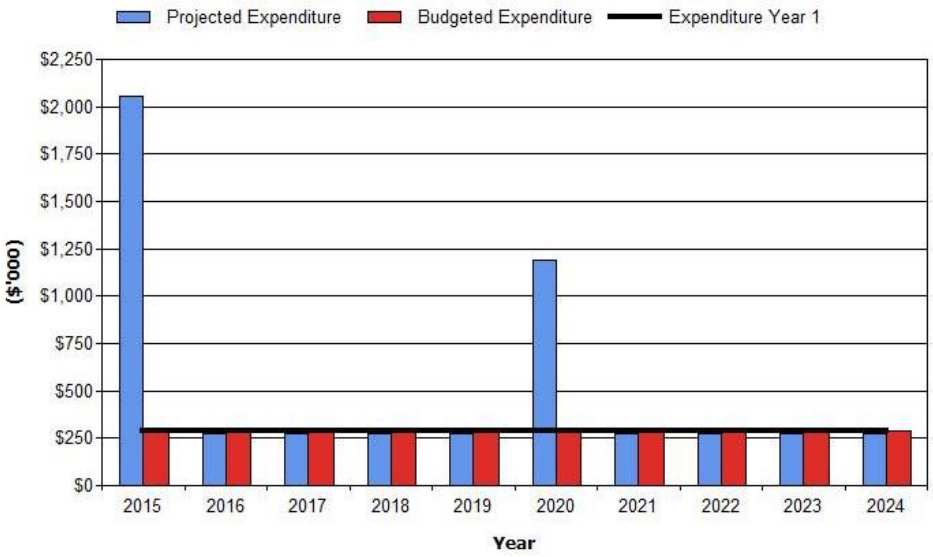
These infrastructure assets have a current replacement value of $13,711,885, however it is recognised that there are knowledge gaps regarding this infrastructure and this value may need to be revised as Council gains more information in this area.

1.3 What does it cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is $5,406,000 or $541,000 on average per year.

Estimated available funding for this period is $2,900,000 or $290,000 on average per year which is 54% of the cost to provide the service. This is a funding shortfall of $251,000 on average per year. Projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan are shown in the graph below.

MID-WESTERN RC – PROJECTED AND BUDGET EXPENDITURE FOR (STORMWATER_S1_V1)



1.4 What we will do

We plan to provide stormwater services for the following:

- Operation, maintenance, renewal and upgrade of the stormwater network to meet service levels set by Council in annual budgets.
- Implement drainage detention in newer (upstream) areas to help older drainage infrastructure (downstream) cope without upgrade
- Review and refine our knowledge of the stormwater assets in this LGA within the 10 year planning period.

1.5 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:

- replacement of aged items that are still performing adequately;
- upgrade of stormwater assets in established urban areas to attain sufficient capacity to service new development upstream of these assets.

In the latter case stormwater management will be need to be demonstrated by the developer prior to handover to Council. Council's comprehensive Development Control Plan (DCP) sets out design constraints in relation to stormwater management for new developments.

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:

- Insufficient funding for upgrades
- Low confidence surrounding data associated with our stormwater assets
- Blockages causing flooding of property

- Blockages causing damage to other Council assets
- Blockages causing damage to utilities

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

- Regular inspections to identify hazards before they occur
- Collation of data regarding stormwater assets
- Implementing condition assessments of stormwater assets to identify and prioritise items that may be due for replacement/upgrade

1.6 Confidence Levels

This Asset Management Plan is based on low level of confidence information.

1.7 The Next Steps

The actions resulting from this asset management plan are:

- Undertake survey of Council's stormwater assets to fill knowledge gaps and gain confidence in the data used in the asset management system (5 year period)
- Develop and coordinate asset management systems that are meaningful and informative
- Link financial, spatial and asset information so that there is consistency between systems

1.8 Questions you may have

1.8.1 What is this plan about?

This asset management plan covers the infrastructure assets that serve the Mid-Western Regional community's drainage needs. These assets include stormwater conveyance and treatment infrastructure throughout the community area that facilitate safe and hazard free management of stormwater from the urban environment.

1.8.2 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.

1.8.3 Why is there a funding shortfall?

Most of the Council's stormwater 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.

1.8.4 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. Introduce an Annual Charge for provision of Stormwater Management Services (s. 496A Local Government Act);
6. Identifying assets surplus to needs for disposal to make saving in future operations and maintenance costs;
7. Consulting with the community to ensure that stormwater drainage services and costs meet community needs and are affordable;
8. Developing partnership with other bodies, where available to provide services;
9. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

1.8.5 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 stormwater drainage, the service level reduction may include blockages that do not pose risk to property or reduced response times where the stormwater network has failed.

1.8.6 What can we do?

We can develop options, costs and priorities for future stormwater drainage 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.

We will undertake community consultation around the introduction of a Stormwater Management Services annual charge. An annual charge may only be applied to non-vacant rateable parcels of land serviced by urban stormwater infrastructure. There are maximum charge amounts prescribed by legislation. For properties rated Residential, the maximum charge is currently $25 per annum. Implementation of such an Annual Charge has the potential to yield $150,000 per annum, which would provide additional capacity for Council to address the current infrastructure backlog, and close the gap between current annual maintenance spend and required annual maintenance spend.

1.8.7 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 stormwater drainage 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 AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual[1].

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

- Mid-Western Region Community Plan
- Mid-Western Regional Council Delivery Plan

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

TABLE 2.1: ASSETS COVERED BY THIS PLAN

Asset category	Dimension	Replacement Value
Gross Pollutant Traps	4	$179,484
Pits	1367	$2,621,255
Pipes	1205	$9,076,302
Detention Basins	7	*
Drainage Reserves	1	$48,000
Other Drainage	68	$1,786,845
TOTAL		**$13,711,885**

*NOT VALUED TO DATE

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 AM PLAN

Key Stakeholder	Role in Asset Management Plan
Council	■ Represent needs of community/shareholders, ■ Allocate resources to meet Council's objectives in providing services while managing risks, ■ Ensure organisation is financial sustainable.
Community	Provide feedback on levels of service
Developers	Responsible for providing developer contributed assets of appropriate standard
Emergency services	Responsible for responding when assets have not performed and there is risk to life or property

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

Key Stakeholder	Role in Asset Management Plan
Insurers	Need to assess risk, affected when assets fail
Utility owners	Responsible for providing essential services

2.2 Goals and Objectives of Asset Management

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 handover of assets constructed by developers and others to meet increased levels of service.

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

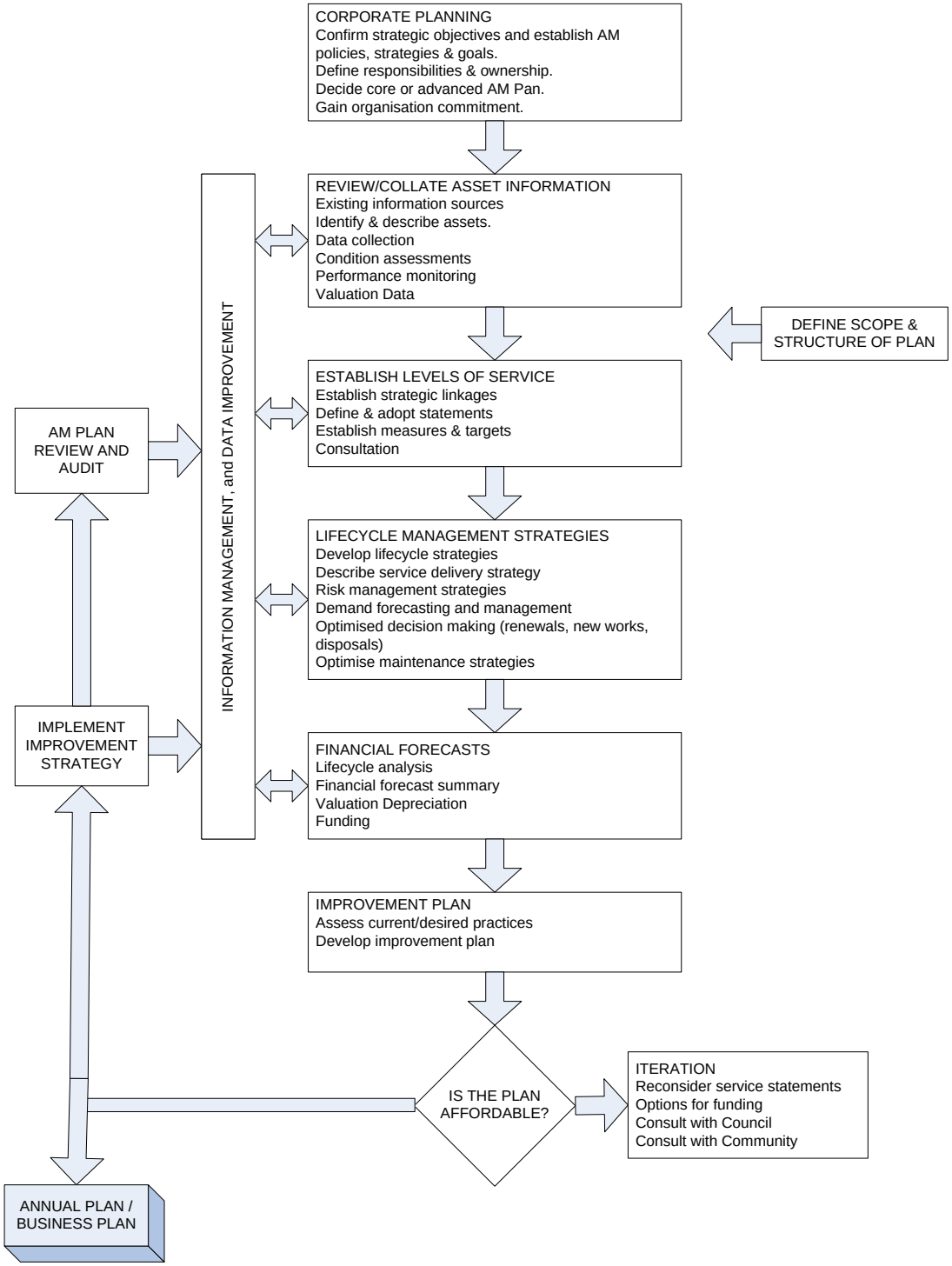
- Levels of service – specifies the services and levels of service to be provided by Council;
- Future demand – how this will impact on future service delivery and how this is to be met;
- Life cycle management – how Council will manage its existing and future assets to provide defined levels of service;
- 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 organisation's objectives; and
- An asset management improvement plan.

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

[2] Based on IPWEA, 2011, IIMM, Sec 1.2 p 1/7

ROAD MAP FOR PREPARING AN ASSET MANAGEMENT PLAN

SOURCE: IPWEA, 2006, IIMM, FIG 1.5.1, P 1.11.



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 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.

[3] IPWEA, 2011, IIMM

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. 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.

3. Levels of Service

3.1 Customer Research and Expectations

Council has not carried out any research on customer expectations specifically related to stormwater asset management. This will be investigated for future updates of the asset management plan. The community were consulted when preparing Mid Western Regional Council's Towards 2030 Community Plan and improved standards of water quality in our waterways was identified as an issue of interest to the community.

3.2 Strategic and Corporate Goals

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

Our vision is:

A prosperous and progressive community that we are proud to call home.

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 AM Plan
Looking after our community	Effective and efficient delivery of infrastructure	Identifies the way forward in the delivery and management of stormwater infrastructure
Protecting our natural environment	Provide total water cycle management	Appropriate infrastructure to manage stormwater runoff in terms of both quantity and quality

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

3.3 Legislative Requirements

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

TABLE 3.3: LEGISLATIVE REQUIREMENTS

Legislation	Requirement
Local Government Act 1993	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.
Workplace Health and Safety Act 2011	Protects workers and other persons against harm to their health and safety and welfare through elimination or minimisation of risks arising from work.
OLG Integrated Planning and Reporting framework	Sets out standards for asset management plans and requires the plan to integrate with community plans and resourcing strategy

Legislation	Requirement
Environmental Planning & Assessment Act 1979	Sets out assessment and approval processes of community services and facilities
Protection of the Environment Operations Act 1997	Protect, restore and enhance the quality of the environment in NSW
Water Act 2000	Provide sustainable and integrated management of water sources in NSW

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

3.4 Community Levels of Service

Service levels are defined service levels 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 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?

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				
A community that feels that they have equitable access to the provision of infrastructure and services that meets their needs.				
Community Levels of Service				
Quality	Use of urban roads not obstructed by flooding	Customer service requests relating to flooding of footpaths and urban roads	Not measured	<5/yr
Function	Flooding of urban property minimised	Customer service requests relating to flooding of urban residences	Not measured	<5/yr
Capacity/ Utilisation	Stormwater facilities free of hazards	Insurance claims regarding stormwater drains	Not measured	<2/yr

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 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 opening hours, cleansing, mowing grass, energy, inspections, etc;
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition (e.g. road patching, unsealed road grading, building and structure repairs);
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement);
- Upgrade – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).

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 AM Plan. 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.

TABLE 3.5: TECHNICAL LEVELS OF SERVICE

Service Attribute	Service Objective	Activity Measure Process	Current Performance *	Desired level of Service
TECHNICAL LEVELS OF SERVICE				
Operations	Servicing and Management	Annual condition and defects inspection	Not measured	All of MWRC's stormwater network inspected over 5yr cycle <20 identified defects/yr
Maintenance	Maintenance inspection of GPTs	Routine inspection of GPTs	Not routinely inspected	Quarterly inspection of GPT
	Inspection and cleaning of pits	Inspections of network when in operation	Inspection in operation ad-hoc	Inspect four precincts of network at four intervals when in operation (i.e. entire network in any given year whilst in operation*)
Renewal/upgrade	Stormwater network that meets current standards	Upgrading of assets to meet current standards	94% capital budget expended 2013/14	100% of stormwater capital works budget spent

*WHILST IN OPERATION MEANS WHEN IT IS RAINING AND THE STORMWATER NETWORK IS AT WORK.

[4] IPWEA, 2011, IIMM, p 2.22

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
Population growth	23,000 (2011)	25,050 (2031)	Increased demand for stormwater infrastructure
Release of future subdivisions to cater for growth	Large release of subdivisions has just occurred	Continued release, although more sustained rate and not as rapid as has just occurred	Increase in developer contributed assets, more infrastructure to inspect and maintain
New subdivisions upstream of existing urban environment	Presently occurring	Continued release, although more sustained rate and not as rapid as has just occurred	Need for strategies to allow existing urban stormwater infrastructure cope with increased impervious areas upstream
Improved water quality discharged to environment	WSUD currently implemented on new developments	Need integrated WSUD strategy for major drainage lines in catchments	Increased maintenance activities associated with water quality devices

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

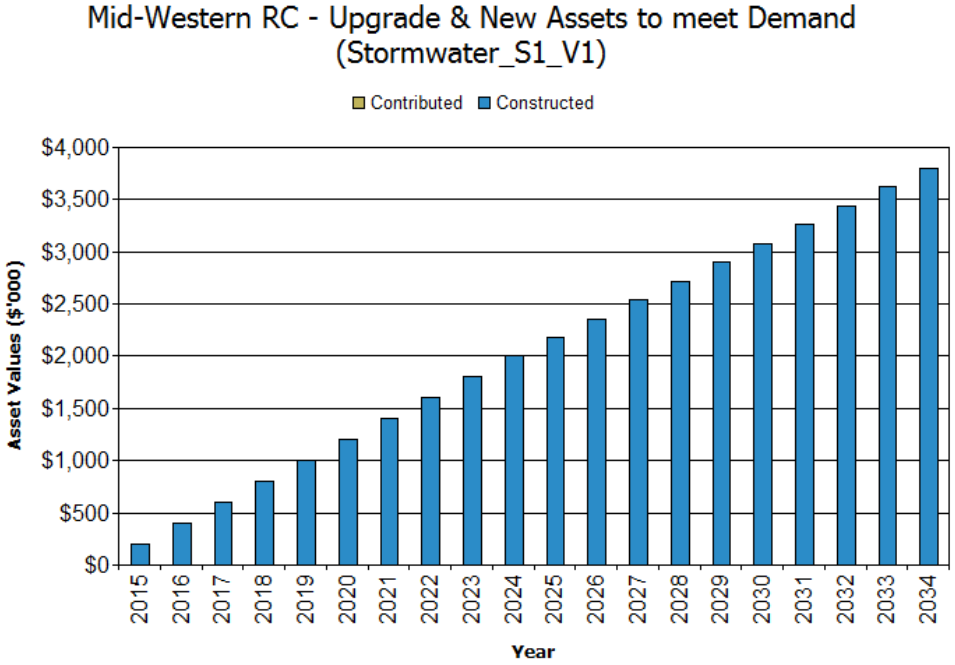
TABLE 4.4: DEMAND MANAGEMENT PLAN SUMMARY

Demand Driver	Impact on Services	Demand Management Plan
Preventative action vs reactive action	Increased maintenance budget for inspections and corrective action	Initiate inspection schedule
Risk of new developments upstream of older drainage infrastructure	Risk of generating runoff beyond design capacity of older infrastructure	Impose post development constraints on larger developments that are limited to that of pre-development flows

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 Council. New assets constructed/acquired by 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 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] IPWEA, 2011, IIMM, Table 3.4.1, p 3/58

5. Lifecycle Management Plan

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

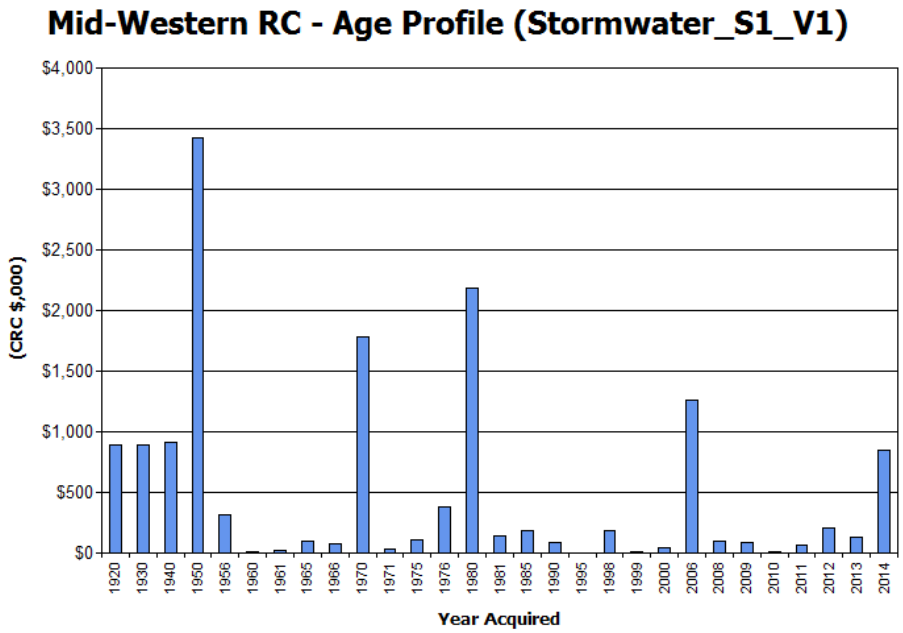
The stormwater network referred to in this AMP is that of urban drainage in Gulgong, Mudgee, Rylstone, Kandos and the smaller villages with the Mid Western LGA. Each network comprises a series of inlet pits, pipes, open channel conveyances that discharge to natural waterways or drainage lines. Most of the network in Gulgong, Rylstone, Kandos and smaller villages is aged (>50yrs) and population growth in these localities static. Therefore demand drivers in these centres are mostly limited to upgrades of existing infrastructure where known failures exist.

Mudgee has old drainage infrastructure in the long established urban areas of town situated close to the Cudgegong River. In relatively new areas (<20yrs) of Mudgee, the stormwater network consists of developer contributed assets upstream of the older network. This means that strategies to slow runoff from the newer parts of town are necessary to manage the coping capacity of older parts of the network.

Kandos is situated at the base of some steep terrain and as such experiences rapid runoff during storm events. This leads to surcharge of the stormwater network and unwanted surface flows though private property from time to time. Customer dissatisfaction is elevated during these episodes and solutions will require thorough investigations.

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

FIGURE 2: ASSET AGE PROFILE



Plans showing the stormwater drainage assets are:

- Kandos GIS Stormwater Layer
- Rylstone GIS Stormwater Layer
- Mudgee GIS Stormwater Layer (very limited)
- Mudgee Work-As-Executed plans (new subdivisions only with limited confidence in accuracy)
- Gulgong GIS Stormwater Layer (very limited)

5.1.2 Asset capacity and performance

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

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

TABLE 5.1.2: KNOWN SERVICE PERFORMANCE DEFICIENCIES

Location	Service Deficiency
Mudgee – Catchment A	Culvert upgrade required Rifle Range Rd
Mudgee – Catchment B	Downstream capacity not sufficient for new development
Mudgee – all locations	Network not designed for newly implemented water quality targets
Kandos	Rapid runoff during storms causing network to surcharge

The above service deficiencies were identified from customer consultation following storm events; the Report on Stormwater Drainage for the Towns of Kandos and Rylstone 1975; the Draft Rylstone Kandos Flood Study 2013; the Mudgee Floodplain Management Study and Plan 2002; Redbank Creek Dam Flood Study; the Mudgee Local Creeks Floodplain Risk Management and Study Plan 2008; and the Gulgong Stormwater Drainage Study 2009.

5.1.3 Asset condition

Condition is monitored presently only by reactive maintenance when an issue develops during wet weather. The condition profile of our assets is not very well understood and remains a major knowledge gap.

It is proposed that when condition monitoring is implemented condition be measured using a 1 – 5 grading system[6] as detailed in Table 5.1.3.

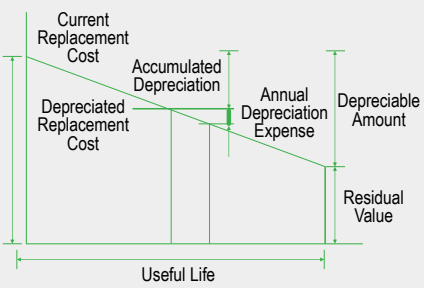
TABLE 5.1.3: SIMPLE CONDITION GRADING MODEL

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 30 June 2014 covered by this asset management plan is shown below. Assets were last revalued at 30 June 2010. Assets are valued at fair value replacement cost.

Current Replacement Cost	$14,514,000
Depreciable Amount	$14,514,000
Depreciated Replacement Cost[7]	$6,275,000
Annual Depreciation Expense	$133,000



Key assumptions made in preparing the valuations were:

- Useful life of 80 years
- Unless known construction year is estimated as the same as kerb and gutter

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) 0.9%

Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount) 0.3%

In 2014/15 Council plans to renew assets at 30.1% of the rate they are being consumed and will be increasing its asset stock by 1.4% in the year.

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

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 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.

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
Catchment A drainage – Rifle Range Rd culvert, Mudgee	Failure causing upstream flooding of property	H	Programmed for replacement	Low	105k
Catchment B drainage system, Mudgee	Flooding residential property	VH	Construction of Horatio St detention basin	Medium	250k
Asset register not accurate	Financial shock to organisation	VH	Detailed survey and update of asset register over 5 year program	Low	33k per yr over 5 year period
Spatial information not accurate	Unknown assets uncovered on private land leading to insurance claims	VH	Detailed survey and update of asset register over 5 year program	Low	Included in above

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, e.g. 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.

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.

[8] MWRC Infrastructure Risk Management Plan as footnote

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, e.g. 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 maintenance expenditure for urban drainage forms part of a larger maintenance budget for roads drainage in general. As this has not been reported specifically, it is not possible to identify previous maintenance expenditure trends for the urban drainage network.

Planned maintenance work for urban drainage is also currently incorporated into total maintenance expenditure and not budgeted as a separate item. The total drainage maintenance budget is $430,000 and it is not known what proportion of this budget falls to the urban network.

The total 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 AM Plan and service risks considered in the Infrastructure Risk Management Plan.

Reactive maintenance is carried out in accordance with response levels of service detailed in Appendix A.

5.3.2 Operations and Maintenance Strategies

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,
- 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.

Council's service hierarchy is shown is Table 5.3.2.

TABLE 5.3.2: ASSET SERVICE HIERARCHY

Service Hierarchy	Service Level Objective
Level 1 (Critical, high priority) Main trunk drainage system	Maintain main trunk drainage system and respective elements (inclusive of pits, pipes, open channels and detention basins) such that the risk of flooding residences is mitigated.
Level 2 (Critical) Collector drainage system	Maintain collector drainage systems and their elements (inclusive of pits, pipes, open channels) such that the risk of flooding property is mitigated
Level 3 (Non-critical, low priority) Minor collector drainage system	Maintain minor collector drainage system and their elements (inclusive of pits, pipes, open channels) such that the risk of flooding property is mitigated

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, organisations 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

To be determined	To be determined	To be determined

STANDARDS AND SPECIFICATIONS

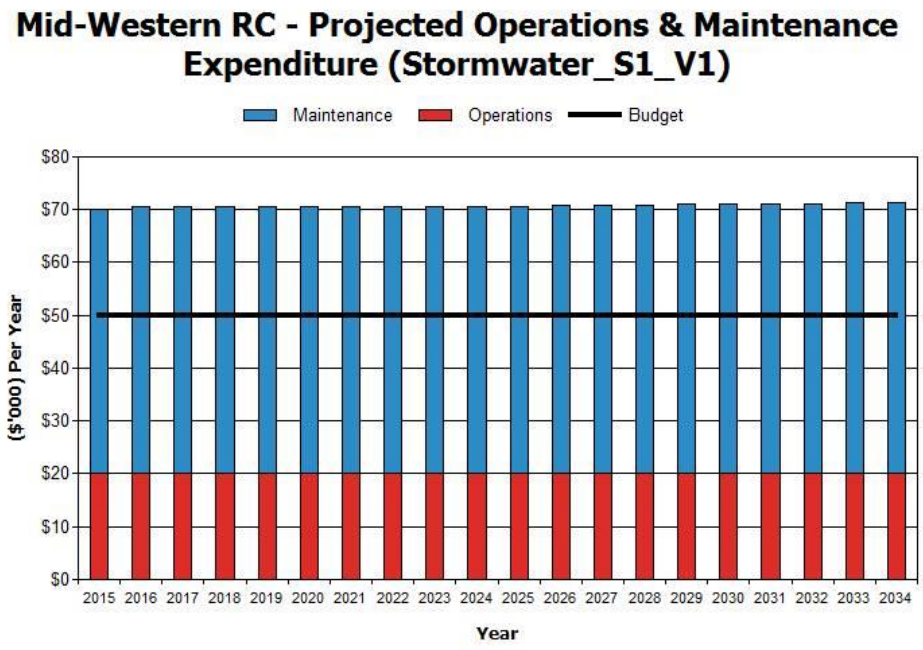
Maintenance work is carried out in accordance with the following Standards and Specifications.

- RMS and AUSTROAD specifications
- AUSPEC specifications
- AS-NZS 3500 Plumbing and drainage set
- MWRC Development Control Plan 2013 (as amended)

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 2014/15 dollar values (i.e. real values).

FIGURE 4: PROJECTED OPERATIONS AND MAINTENANCE EXPENDITURE



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment 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 30 June 2010.

TABLE 5.4.1: USEFUL LIVES OF ASSETS

Asset (Sub)Category	Useful life
Pits and pipes	80yrs
Gross pollutant traps	80yrs
Open Channels	50yrs
Detention basins	100yrs

5.4.2 Renewal and Replacement Strategies

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 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,

- 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 (e.g. replacing a bridge that has a 5t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. roughness of a road)[9].

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 Council;
- Have the highest average age relative to their expected lives;
- Are identified in the AM Plan as key cost factors;
- Have high operational or maintenance costs; and
- Where replacement with modern equivalent assets would yield material savings[10].

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
Quality	10%
Function	10%
Capacity/utilisation	10%
Operations	10%
Maintenance	10%
Renewals/upgrades	10%
Condition	30%
Hierarchy	10%
Total	**100%**

RENEWAL AND REPLACEMENT STANDARDS

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

- RMS and AUSTROAD specifications

[9] IPWEA, 2011, IIMM, Sec 3.4.4, p 3/60
[10] Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3/66

- AUSPEC specifications
- AS-NZS 3500 Plumbing and drainage set
- MWRC Development Control Plan 2013 (as amended)

5.4.3 Summary of future renewal and replacement expenditure

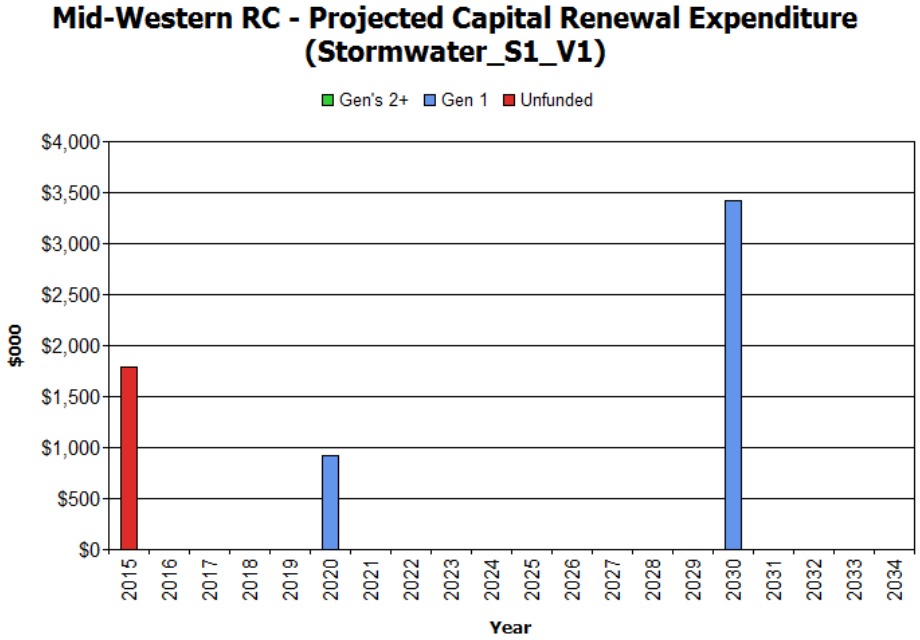
Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock increases from growth. The expenditure is summarised in Fig 5. Note that all amounts are shown in real values.

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

Deferred renewal and replacement, i.e. 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 Council's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

FIG 5: PROJECTED CAPITAL RENEWAL AND REPLACEMENT EXPENDITURE



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 Council from land development.

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
Upgrade/new assets as identified in the Delivery Program/Operational Plan	100%
Total	**100%**

5.5.2 Capital Investment Strategies

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

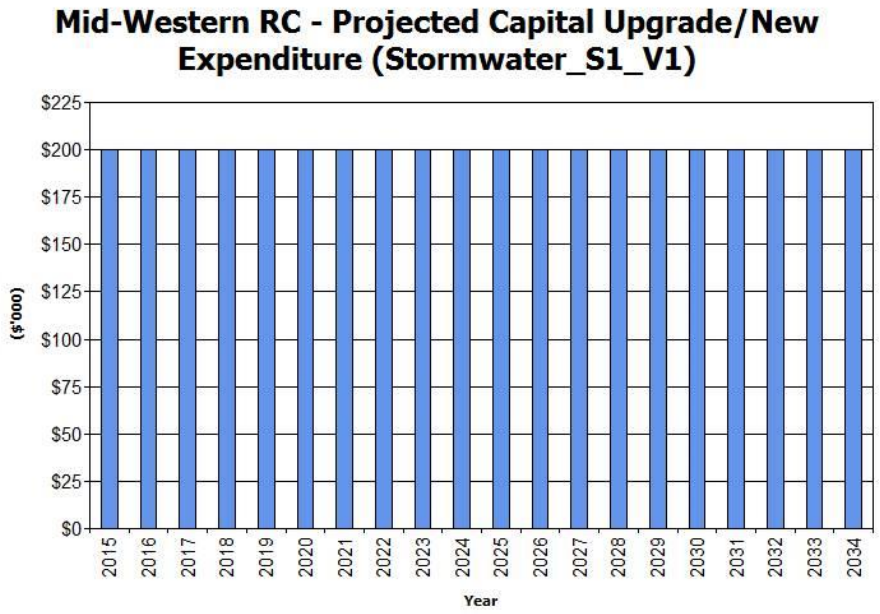
- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner;
- Undertake project scoping for all capital upgrade/new projects to identify:
  - the service delivery 'deficiency', present risk and required timeline for delivery of the 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 Fig 6. The projected upgrade/new capital works program is shown in Appendix C. All amounts are shown in real values.

FIG 6: PROJECTED CAPITAL UPGRADE/NEW ASSET EXPENDITURE



Expenditure on new assets and services in Council's capital works program will be accommodated in the long term financial plan. 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 long term financial plan.

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
Nil	N/A	N/A	N/A	N/A

5.7 Service Consequences and Risks

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

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 (i.e. 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 AM Plan.

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

The development of scenario 1 and scenario 2 AM Plans 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:

- replacement of aged items that are still performing adequately
- upgrade of stormwater assets in established urban areas to attain sufficient capacity to service new development upstream of these assets.

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:

- reduced levels of service
- flooding of property
- damage to other public assets
- damage to utilities

5.7.3 Risk consequences

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

- Exposure to claims against Council
- Political pressure for improved service levels
- Lower performance on asset and financial indicators

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.

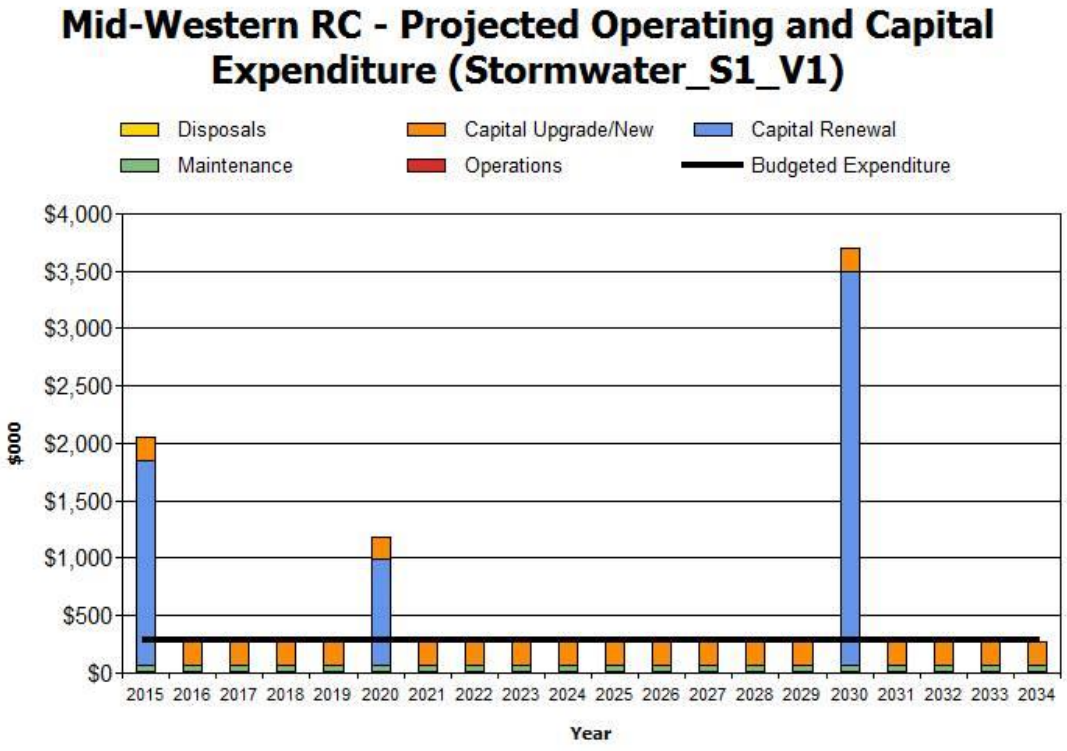
6. Financial Summary

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 Fig 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.

FIG 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[11] 13%

[11] AIFMG, 2012, Version 1-3, Financial Sustainability Indicator 4, Sec 2.6, p 2/16

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 13% 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 $204,000 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 $90,000 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. The life cycle gap for services covered by this asset management plan is -$114,000 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 44% 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 organisations 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 $341,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $90,000 on average per year giving a 10 year funding shortfall of $251,000 per year. This indicates that Council expects to have 26% of the projected expenditures needed to provide the services documented in the asset management plan.

MEDIUM TERM – 5 YEAR FINANCIAL PLANNING PERIOD

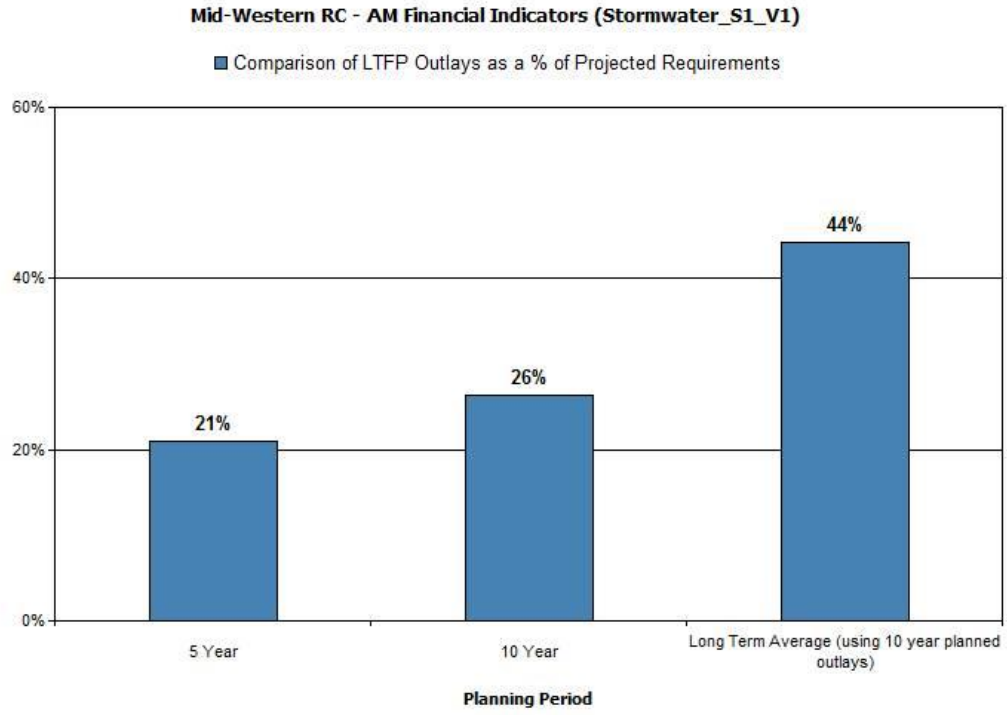
The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is $427,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $90,000 on average per year giving a 5 year funding shortfall of$337,000. This indicates that Council expects to have 21% 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 Long Term Financial Plan.

Figure 8 shows the projected asset renewal and replacement expenditure over the 20 years of the AM Plan. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the long term financial plan

FIGURE 8: PROJECTED AND LTFP BUDGETED RENEWAL EXPENDITURE

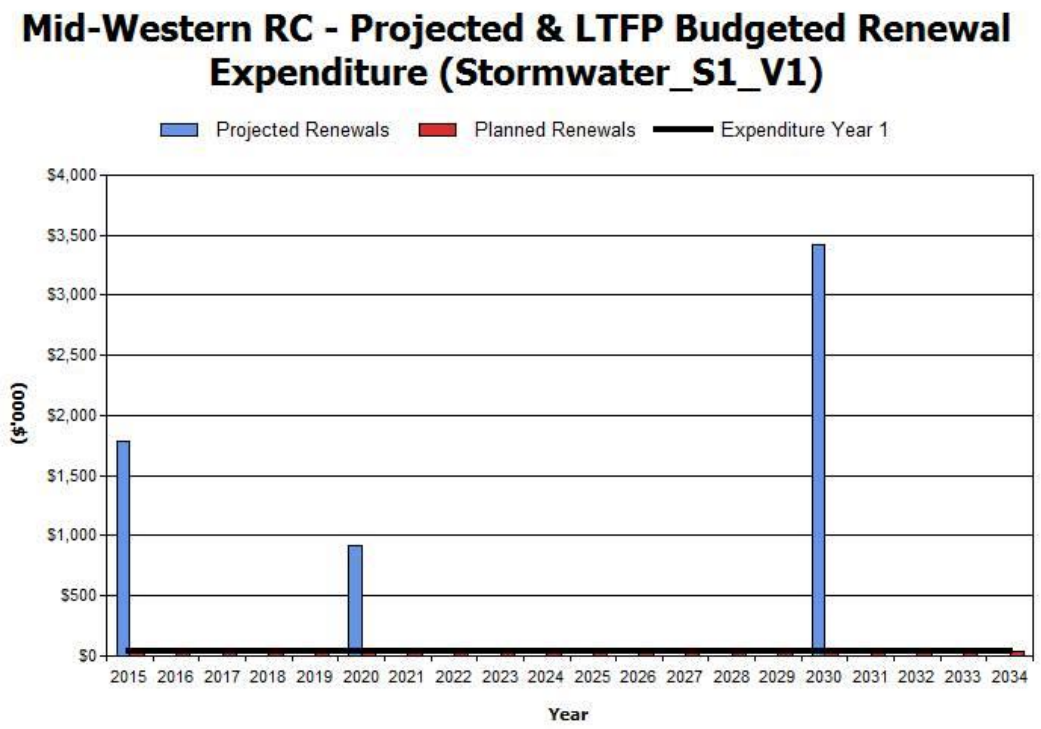


Table 6.1.1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix D.

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)
2015	$1,783	$40	-$1,743	-$1,743
2016	$0	$40	$40	-$1,703
2017	$0	$40	$40	-$1,663
2018	$0	$40	$40	-$1,623
2019	$0	$40	$40	-$1,583
2020	$917	$40	-$877	-$2,460
2021	$0	$40	$40	-$2,420
2022	$0	$40	$40	-$2,380
2023	$0	$40	$40	-$2,340
2024	$0	$40	$40	-$2,300
2025	$0	$40	$40	-$2,260
2026	$0	$40	$40	-$2,220
2027	$0	$40	$40	-$2,180
2028	$0	$40	$40	-$2,140
2029	$0	$40	$40	-$2,100
2030	$3,426	$40	-$3,386	-$5,486
2031	$0	$40	$40	-$5,446
2032	$0	$40	$40	-$5,406
2033	$0	$40	$40	-$5,366

Year	Projected Renewals ($000)	LTFP Renewal Budget ($000)	Renewal Financing Shortfall ($000) (-ve Gap, +ve Surplus)	Cumulative Shortfall ($000) (-ve Gap, +ve Surplus)
2034	$0	$40	$40	-$5,326

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 long term financial plan.

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 AM Plan (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 long term financial plan.

Expenditure projections are in 2014/15 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)
2015	$20.00	$50.00	$1,783.11	$200.00	$0.00
2016	$20.00	$50.69	$0.00	$200.00	$0.00
2017	$20.00	$50.69	$0.00	$200.00	$0.00
2018	$20.00	$50.69	$0.00	$200.00	$0.00
2019	$20.00	$50.69	$0.00	$200.00	$0.00
2020	$20.00	$50.69	$916.78	$200.00	$0.00
2021	$20.00	$50.69	$0.00	$200.00	$0.00
2022	$20.00	$50.69	$0.00	$200.00	$0.00
2023	$20.00	$50.69	$0.00	$200.00	$0.00
2024	$20.00	$50.69	$0.00	$200.00	$0.00
2025	$20.00	$50.69	$0.00	$200.00	$0.00
2026	$20.00	$50.76	$0.00	$200.00	$0.00
2027	$20.00	$50.83	$0.00	$200.00	$0.00
2028	$20.00	$50.90	$0.00	$200.00	$0.00
2029	$20.00	$50.96	$0.00	$200.00	$0.00
2030	$20.00	$51.03	$3,426.19	$200.00	$0.00
2031	$20.00	$51.10	$0.00	$200.00	$0.00

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)
2032	$20.00	$51.17	$0.00	$200.00	$0.00
2033	$20.00	$51.24	$0.00	$200.00	$0.00
2034	$20.00	$51.31	$0.00	$200.00	$0.00

6.2 Funding Strategy

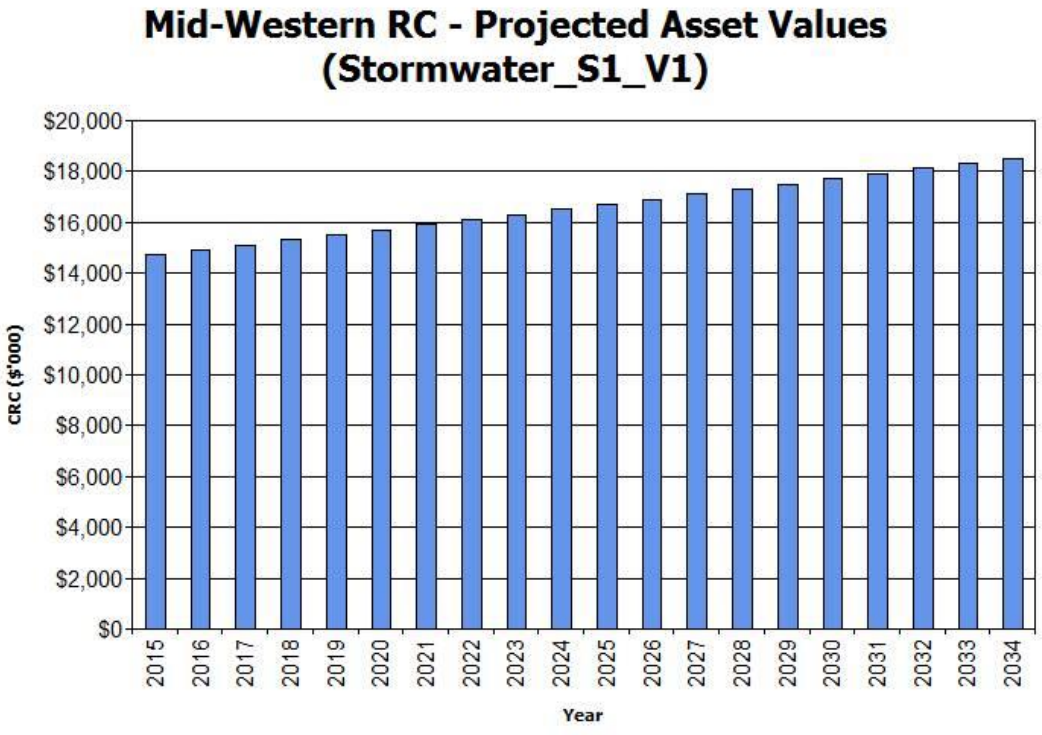
After reviewing service levels, as appropriate to ensure ongoing financial sustainability, projected expenditures identified in Section 6.1.2 will be accommodated in the Council's 10 year long term financial plan. To assist in achieving those targets, Council will give consideration to, in consultation with the community, the introduction of a Stormwater Management Services annual charge.

An annual charge may only be applied to non-vacant rateable parcels of land serviced by urban stormwater infrastructure. There are maximum charge amounts prescribed by legislation. For properties rated Residential, the maximum charge is currently $25 per annum. Implementation of such an Annual Charge has the potential to yield $150,000 per annum, which would provide additional capacity for Council to address the current infrastructure backlog, and close the gap between current annual maintenance spend and required annual maintenance spend.

6.3 Valuation Forecasts

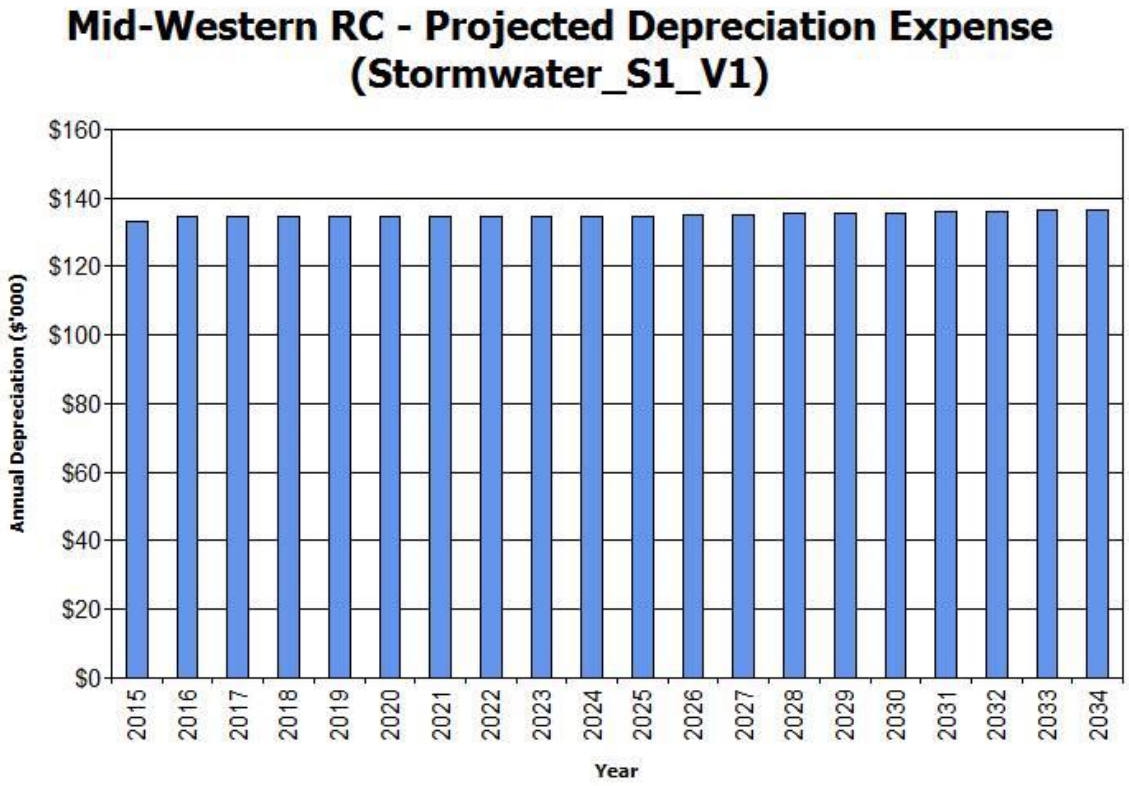
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 9 shows the projected replacement cost asset values over the planning period in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

FIGURE 9: PROJECTED ASSET VALUES



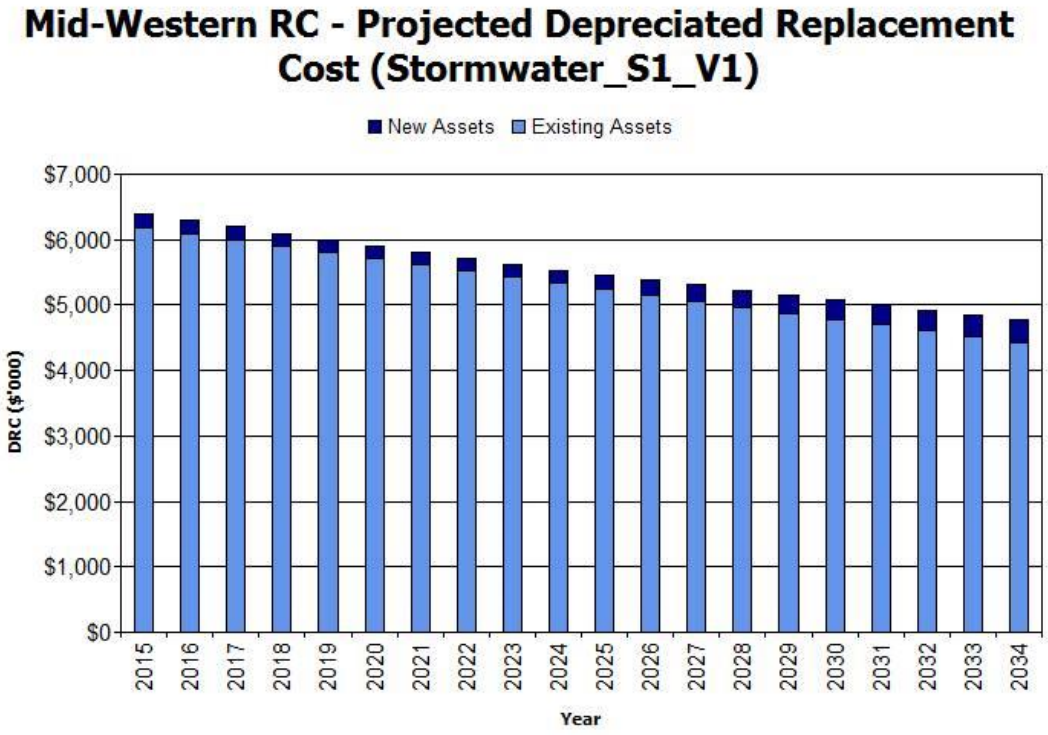
Depreciation expense values are forecast in line with asset values as shown in Figure 10.

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 AM PLAN AND RISKS OF CHANGE

Key Assumptions	Risks of Change to Assumptions
Forecasts based on maintaining present levels of service	Current levels of service cannot be maintained
Data in asset register accurate	Change in asset data may affect financial forecasts
Expenditure projections very preliminary	Actual replacement costs may be more

6.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan 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[12] 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 AM Plan is shown in Table 6.5.1.

[12] IPWEA, 2011, IIMM, Table 2.4.6, p 2/59

TABLE 6.5.1: DATA CONFIDENCE ASSESSMENT FOR DATA USED IN AM PLAN

Data	Confidence Assessment	Comment
Demand drivers	B	High growth will need more assets
Growth projections	C	Fluctuates
Operations expenditures	C	Lumped in with road drainage
Maintenance expenditures	E	Lumped in with road drainage
Projected Renewal expenditures. - Asset values	D	Low confidence in reliability of data
- Asset residual values	D	Low confidence in reliability of data
- Asset useful lives	E	Little to no information on year constructed
- Condition modelling	E	Nil performed
- Network renewals	E	Little to no information on year constructed
- Defect repairs	E	No regular inspection schedule in place
Upgrade/New expenditures	E	Limited annual budget – not based on assessment of need
Disposal expenditures	B	None identified

Over all data sources the data confidence is assessed as low confidence level for data used in the preparation of this AM Plan.

7. Plan improvement and monitoring

7.1 Status of Asset Management Practices

7.1.1 Accounting and financial systems

Mid-Western Regional Council uses Technology One for financials and asset management. Council's stormwater infrastructure was revalued 30th June 2010 in accordance with the Fair Value accounting standards and Office of Local Government requirement and compiled into a single asset register.

ACCOUNTABILITIES FOR FINANCIAL SYSTEMS

The finance department is responsible for the financial systems operating at Mid Western Regional Council.

ACCOUNTING STANDARDS AND REGULATIONS

- Australian Accounting Standards.
- NSW Office of Local Government Accounting Code.

CAPITAL/MAINTENANCE THRESHOLD

Presently capital budget is defined but maintenance for urban drainage ill defined as this sits within an overall maintenance budget for roads drainage.

REQUIRED CHANGES TO ACCOUNTING FINANCIAL SYSTEMS ARISING FROM THIS AM PLAN

The chart of accounts would be required to separate operations and maintenance expenditure and also planned and reactive maintenance.

7.1.2 Asset management system

Technology One

ASSET REGISTERS

MWRC Asset Register

LINKAGE FROM ASSET MANAGEMENT TO FINANCIAL SYSTEM

The depreciation and asset capitalisation are linked to the finance system. Operation and maintenance are not presently linked to the asset system.

ACCOUNTABILITIES FOR ASSET MANAGEMENT SYSTEM AND DATA MAINTENANCE

Primary accountability for asset management lies with the Plant and Facilities Department within the Operations Directorate. This is supported by the Finance Department within the Corporate Directorate which is responsible for the management of the asset management systems.

REQUIRED CHANGES TO ASSET MANAGEMENT SYSTEM ARISING FROM THIS AM PLAN

- Restructure of hierarchy and asset attributes.

- Utilisation of work orders for scheduling maintenance activities and recording reactive maintenance.
- Improved accuracy of asset data necessary.

7.2 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	Separation of urban stormwater maintenance from roads drainage maintenance	Finance	Staff time	June 2015
2	Separation of operations and maintenance expenditure in general ledger	Finance	Staff time	June 2015
3	Separation of reactive and planned maintenance	Finance	Staff time	June 2015
4	Commence collection field survey data to improve accuracy of asset data	Operations	Budget, extra staff	June 2015
5	Condition inspections	Operations	Budget, staff	June 2015
6				
7				
8				
9				
10				

7.3 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 AM Plan 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 Council's long term financial plan.

The AM Plan has a life of 4 years (Council election cycle) and is due for complete revision and updating within 6months of each Council election.

7.4 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 long term financial plan,

- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan,
- 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.**

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
- Mid-Western Regional Council, 'Community Plan Towards 2030'
- Mid-Western Regional Council, 'Delivery Program 2013 – 2017 and Operational Plan 2015'.

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 LTFP Budgeted Expenditures Accommodated in AM Plan

Appendix E Abbreviations

Appendix F Glossary

Appendix A Maintenance Response Levels of Service

To be developed.

Appendix B Projected 10 year Capital Renewal and Replacement Works Program

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
127970		Cat D Pit 820 Market Street			-15	2000	$1,000	80
127971		Cat D Pit 821 Market Street			-15	2000	$2,020	80
127972		Cat D Pit 822 Market Street			-15	2000	$2,280	80
127973		Cat D Pit 823 Market Street			-15	2000	$2,280	80
127974		Cat D Pit 824 Market Street			-15	2000	$2,280	80
127975		Cat D Pit 825 Market Street			-15	2000	$2,280	80
127976		Cat D Pit 826 Market Street			-15	2000	$2,020	80
127977		Cat D Pit 827 Market Street			-15	2000	$2,020	80
127978		Cat D Pit 828 Market Street			-15	2000	$1,000	80
127979		Cat D Pit 829 Market Street			-15	2000	$2,020	80
127980		Cat D Pit 830 Mortimer Street			-15	2000	$2,020	80
127981		Cat D Pit 831 Mortimer Street			-15	2000	$2,020	80
127982		Cat D Pit 832 Mortimer Street			-15	2000	$1,000	80
127983		Cat D Pit 833 Mortimer Street			-15	2000	$2,280	80
127984		Cat D Pit 834 Mortimer Street			-15	2000	$2,280	80
127985		Cat D Pit 835 Mortimer Street			-15	2000	$2,280	80
127986		Cat D Pit 836 Mortimer Street			-15	2000	$2,280	80
127987		Cat D Pit 837 Mortimer Street			-15	2000	$2,280	80
127988		Cat D Pit 838 Mortimer Street			-15	2000	$2,280	80
127989		Cat D Pit 839 Mortimer Street			-15	2000	$2,280	80
127990		Cat D Pit 840 Mortimer Street			-15	2000	$2,280	80
127991		Cat D Pit 841 Mortimer Street			-15	2000	$1,000	80
127992		Cat D Pit 842 Mortimer Street			-15	2000	$1,000	80
127993		Cat D Pit 843 Mortimer Street			-15	2000	$2,280	80
127994		Cat D Pit 844 Mortimer Street			-15	2000	$2,280	80
128569		Catchment C Pipe 309 Short Street - Mudgee			-15	2000	$1,680	80
128570		Catchment C Pipe 310 Short Street - Mudgee			-15	2000	$2,240	80
128564		Catchment C Pipe 311 Short Street - Mudgee			-15	2000	$12,150	80
128565		Catchment C Pipe 317 Market Street			-15	2000	$4,200	80
128566		Catchment C Pipe 318 Market Street			-15	2000	$280	80
128567		Catchment C Pipe 319 Market Street			-15	2000	$280	80
128568		Catchment C Pipe 320 Short Street - Mudgee			-15	2000	$700	80
128781		Catchment D Pipe 301 Church Street			-15	2000	$7,960	80
128806		Catchment D Pipe 302 Church Street			-15	2000	$4,500	80
128807		Catchment D Pipe 303 Church Street			-15	2000	$3,360	80
128808		Catchment D Pipe 304 Church Street			-15	2000	$59,700	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
128782		Catchment D Pipe 305 Church Street			-15	2000	$5,541	80
128783		Catchment D Pipe 306 Church Street			-15	2000	$16,622	80
128809		Catchment D Pipe 307 Church Street			-15	2000	$13,851	80
128784		Catchment D Pipe 308 Church Street			-15	2000	$11,081	80
128785		Catchment D Pipe 309 Church Street			-15	2000	$5,541	80
128786		Catchment D Pipe 310 Church Street			-15	2000	$8,311	80
128787		Catchment D Pipe 311 Church Street			-15	2000	$8,311	80
128788		Catchment D Pipe 312 Church Street			-15	2000	$149,594	80
128789		Catchment D Pipe 313 Church Street			-15	2000	$5,541	80
128790		Catchment D Pipe 314 Church Street			-15	2000	$16,622	80
128791		Catchment D Pipe 315 Church Street			-15	2000	$2,770	80
128810		Catchment D Pipe 316 Church Street			-15	2000	$13,851	80
128811		Catchment D Pipe 317 Church Street			-15	2000	$13,851	80
128792		Catchment D Pipe 318 Church Street			-15	2000	$11,081	80
128793		Catchment D Pipe 319 Church Street			-15	2000	$166,215	80
128812		Catchment D Pipe 320 Market Street			-15	2000	$3,360	80
128794		Catchment D Pipe 321 Market Street			-15	2000	$39,800	80
128795		Catchment D Pipe 322 Byron Place			-15	2000	$17,910	80
128796		Catchment D Pipe 323 Byron Place			-15	2000	$13,930	80
128797		Catchment D Pipe 324 Byron Place			-15	2000	$3,080	80
128798		Catchment D Pipe 325 Byron Place			-15	2000	$1,813	80
128799		Catchment D Pipe 326 Byron Place			-15	2000	$16,392	80
128780		Catchment D Pipe 327 Byron Place			-15	2000	$2,732	80
128800		Catchment D Pipe 328 Mortimer Street			-15	2000	$224	80
128813		Catchment D Pipe 329 Mortimer Street			-15	2000	$3,360	80
128801		Catchment D Pipe 330 Mortimer Street			-15	2000	$224	80
128814		Catchment D Pipe 331 Mortimer Street			-15	2000	$2,240	80
128802		Catchment D Pipe 332 Mortimer Street			-15	2000	$224	80
128803		Catchment D Pipe 333 Mortimer Street			-15	2000	$224	80
128804		Catchment D Pipe 334 Mortimer Street			-15	2000	$24,640	80
128805		Catchment D Pipe 335 Mortimer Street			-15	2000	$6,810	80
127951		Catchment D Pit 801 Short Street - Mudgee			-15	2000	$2,280	80
127952		Catchment D Pit 802 Short Street - Mudgee			-15	2000	$2,280	80
127953		Catchment D Pit 803 Short Street - Mudgee			-15	2000	$2,020	80
127954		Catchment D Pit 804 Short Street - Mudgee			-15	2000	$2,020	80
127955		Catchment D Pit 805 Short Street - Mudgee			-15	2000	$2,280	80
127956		Catchment D Pit 806 Short Street - Mudgee			-15	2000	$1,000	80
127957		Catchment D Pit 807 Short Street - Mudgee			-15	2000	$2,020	80
127958		Catchment D Pit 808 Short Street - Mudgee			-15	2000	$2,020	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
127959		Catchment D Pit 809 Short Street - Mudgee			-15	2000	$2,020	80
127960		Catchment D Pit 810 Short Street - Mudgee			-15	2000	$2,020	80
127961		Catchment D Pit 811 Short Street - Mudgee			-15	2000	$2,020	80
127962		Catchment D Pit 812 Short Street - Mudgee			-15	2000	$2,020	80
127963		Catchment D Pit 813 Short Street - Mudgee			-15	2000	$2,020	80
127964		Catchment D Pit 814 Short Street - Mudgee			-15	2000	$2,020	80
127965		Catchment D Pit 815 Short Street - Mudgee			-15	2000	$2,020	80
127966		Catchment D Pit 816 Short Street - Mudgee			-15	2000	$2,280	80
127967		Catchment D Pit 817 Short Street - Mudgee			-15	2000	$1,000	80
127968		Catchment D Pit 818 Short Street - Mudgee			-15	2000	$2,280	80
127969		Catchment D Pit 819 Short Street - Mudgee			-15	2000	$2,020	80
128842		Catchment E Pipe 301 Thomas Clarke Place			-15	2000	$23,435	80
128843		Catchment E Pipe 302 Thomas Clarke Place			-15	2000	$31,246	80
128841		Catchment E Pipe 303 Thomas Clarke Place			-15	2000	$5,464	80
128844		Catchment E Pipe 304 Thomas Clarke Place			-15	2000	$15,400	80
128845		Catchment E Pipe 305 Thomas Clarke Place			-15	2000	$4,200	80
128846		Catchment E Pipe 306 Market Street			-15	2000	$3,360	80
128847		Catchment E Pipe 307 Market Street			-15	2000	$1,400	80
128848		Catchment E Pipe 308 Market Street			-15	2000	$5,600	80
128849		Catchment E Pipe 309 Market Street			-15	2000	$1,400	80
128850		Catchment E Pipe 310 Market Street			-15	2000	$8,400	80
128853		Catchment E Pipe 311 Mortimer Street			-15	2000	$3,360	80
128851		Catchment E Pipe 333 Mortimer Street			-15	2000	$224	80
128852		Catchment E Pipe 334 Mortimer Street			-15	2000	$21,560	80
						Subtotal	**$894,522**	
127995		Cat D Pit 845 Mortimer Street			-5	2010	$2,020	80
127996		Cat D Pit 846 Mortimer Street			-5	2010	$2,280	80
127997		Cat D Pit 847 Gladstone Street			-5	2010	$2,280	80
127998		Cat D Pit 848 Gladstone Street			-5	2010	$2,280	80
127999		Cat D Pit 849 Gladstone Street			-5	2010	$2,280	80
128000		Cat D Pit 850 Gladstone Street			-5	2010	$2,280	80
128001		Cat D Pit 851 Gladstone Street			-5	2010	$2,280	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
128002		Cat D Pit 852 Gladstone Street			-5	2010	$2,280	80
128003		Cat D Pit 853 Gladstone Street			-5	2010	$2,280	80
128004		Cat D Pit 854 Gladstone Street			-5	2010	$2,280	80
128005		Cat D Pit 855 Gladstone Street			-5	2010	$2,280	80
128006		Cat D Pit 856 Gladstone Street			-5	2010	$1,000	80
128007		Cat D Pit 857 Gladstone Street			-5	2010	$2,280	80
128008		Cat D Pit 858 Denison Street			-5	2010	$2,280	80
128009		Cat D Pit 859 Denison Street			-5	2010	$2,280	80
128010		Cat D Pit 860 Denison Street			-5	2010	$2,280	80
128575		Catchment C Pipe 305 Short Street - Mudgee			-5	2010	$16,392	80
128576		Catchment C Pipe 306 Short Street - Mudgee			-5	2010	$84,323	80
128577		Catchment C Pipe 307 Short Street - Mudgee			-5	2010	$8,400	80
128578		Catchment C Pipe 308 Short Street - Mudgee			-5	2010	$3,360	80
128579		Catchment C Pipe 313 Market Street			-5	2010	$24,557	80
128580		Catchment C Pipe 314 Market Street			-5	2010	$180	80
128581		Catchment C Pipe 315 Market Street			-5	2010	$180	80
128773		Catchment C Pipe 316 Market Street			-5	2010	$79,097	80
128571		Catchment C Pipe 323 Mortimer Street			-5	2010	$1,120	80
128582		Catchment C Pipe 324 Mortimer Street			-5	2010	$3,360	80
128572		Catchment C Pipe 325 Mortimer Street			-5	2010	$1,120	80
128573		Catchment C Pipe 329 Gladstone Street			-5	2010	$560	80
128583		Catchment C Pipe 330 Gladstone Street			-5	2010	$3,360	80
128574		Catchment C Pipe 331 Gladstone Street			-5	2010	$560	80
128584		Catchment C Pipe 341 Denison Street			-5	2010	$3,360	80
128585		Catchment C Pipe 342 Gladstone Street			-5	2010	$32,600	80
128586		Catchment C Pipe 343 Gladstone Street			-5	2010	$81,500	80
128587		Catchment C Pipe 344 Denison Street			-5	2010	$40,750	80
127734		Catchment C Pit 038 Market Street			-5	2010	$1,000	80
127702		Catchment C Pit 801 Short Street - Mudgee			-5	2010	$2,280	80
127703		Catchment C Pit 802 Short Street - Mudgee			-5	2010	$2,280	80
127704		Catchment C Pit 803 Short Street - Mudgee			-5	2010	$2,280	80
127705		Catchment C Pit 804 Short Street - Mudgee			-5	2010	$2,280	80
127706		Catchment C Pit 805 Short Street - Mudgee			-5	2010	$1,000	80
127707		Catchment C Pit 806 Short Street - Mudgee			-5	2010	$1,000	80
127708		Catchment C Pit 807 Short Street - Mudgee			-5	2010	$2,280	80
127709		Catchment C Pit 808 Short Street - Mudgee			-5	2010	$2,280	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
127710		Catchment C Pit 809 Short Street - Mudgee			-5	2010	$2,280	80
127711		Catchment C Pit 810 Short Street - Mudgee			-5	2010	$1,000	80
127712		Catchment C Pit 811 Short Street - Mudgee			-5	2010	$2,280	80
127713		Catchment C Pit 812 Short Street - Mudgee			-5	2010	$2,020	80
127714		Catchment C Pit 813 Short Street - Mudgee			-5	2010	$2,020	80
127715		Catchment C Pit 814 Short Street - Mudgee			-5	2010	$2,020	80
127716		Catchment C Pit 815 Short Street - Mudgee			-5	2010	$610	80
127717		Catchment C Pit 816 Short Street - Mudgee			-5	2010	$610	80
127718		Catchment C Pit 817 Short Street - Mudgee			-5	2010	$2,280	80
127719		Catchment C Pit 818 Short Street - Mudgee			-5	2010	$2,280	80
127720		Catchment C Pit 819 Short Street - Mudgee			-5	2010	$2,280	80
127721		Catchment C Pit 820 Short Street - Mudgee			-5	2010	$2,280	80
127722		Catchment C Pit 821 Market Street			-5	2010	$2,280	80
127723		Catchment C Pit 822 Market Street			-5	2010	$2,280	80
127724		Catchment C Pit 823 Market Street			-5	2010	$2,280	80
127725		Catchment C Pit 824 Market Street			-5	2010	$2,280	80
127726		Catchment C Pit 825 Short Street - Mudgee			-5	2010	$1,000	80
127727		Catchment C Pit 826 Market Street			-5	2010	$2,020	80
127728		Catchment C Pit 827 Market Street			-5	2010	$2,020	80
127729		Catchment C Pit 828 Market Street			-5	2010	$1,000	80
127730		Catchment C Pit 829 Market Street			-5	2010	$2,280	80
127731		Catchment C Pit 830 Market Street			-5	2010	$2,280	80
127732		Catchment C Pit 831 Market Street			-5	2010	$2,280	80
127733		Catchment C Pit 832 Market Street			-5	2010	$2,280	80
127735		Catchment C Pit 833 Mortimer Street			-5	2010	$2,020	80
127736		Catchment C Pit 834 Mortimer Street			-5	2010	$2,020	80
127737		Catchment C Pit 835 Mortimer Street			-5	2010	$1,000	80
127738		Catchment C Pit 836 Mortimer Street			-5	2010	$2,280	80
127739		Catchment C Pit 837 Mortimer Street			-5	2010	$2,280	80
128815		Catchment D Pipe 336 Mortimer Street			-5	2010	$4,540	80
128816		Catchment D Pipe 337 Mortimer Street			-5	2010	$19,295	80
128817		Catchment D Pipe 338 Mortimer Street			-5	2010	$38,784	80
128818		Catchment D Pipe 339 Mortimer Street			-5	2010	$11,081	80
128819		Catchment D Pipe 340 Mortimer Street			-5	2010	$4,200	80
128820		Catchment D Pipe 341 Mortimer Street			-5	2010	$1,400	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
128821		Catchment D Pipe 342 Gladstone Street			-5	2010	$3,360	80
128822		Catchment D Pipe 343 Gladstone Street			-5	2010	$2,732	80
128823		Catchment D Pipe 344 Gladstone Street			-5	2010	$180	80
128824		Catchment D Pipe 345 Gladstone Street			-5	2010	$2,700	80
128825		Catchment D Pipe 346 Gladstone Street			-5	2010	$180	80
128826		Catchment D Pipe 347 Gladstone Street			-5	2010	$2,700	80
128827		Catchment D Pipe 348 Gladstone Street			-5	2010	$3,360	80
128828		Catchment D Pipe 349 Gladstone Street			-5	2010	$3,360	80
128829		Catchment D Pipe 350 Gladstone Street			-5	2010	$224	80
128830		Catchment D Pipe 351 Gladstone Street			-5	2010	$15,890	80
128831		Catchment D Pipe 352 Denison Street			-5	2010	$3,360	80
128832		Catchment D Pipe 353 Denison Street			-5	2010	$450	80
128833		Catchment D Pipe 354 Denison Street			-5	2010	$450	80
128834		Catchment D Pipe 355 Denison Street			-5	2010	$450	80
128835		Catchment D Pipe 356 Denison Street			-5	2010	$3,360	80
128836		Catchment D Pipe 357 Denison Street			-5	2010	$450	80
128837		Catchment D Pipe 358 Denison Street			-5	2010	$450	80
128838		Catchment D Pipe 359 Denison Street			-5	2010	$450	80
128839		Catchment D Pipe 360 Denison Street			-5	2010	$3,360	80
128856		Catchment E Pipe 312 Mortimer Street			-5	2010	$3,360	80
128857		Catchment E Pipe 313 Mortimer Street			-5	2010	$450	80
128858		Catchment E Pipe 314 Mortimer Street			-5	2010	$3,360	80
128859		Catchment E Pipe 315 Mortimer Street			-5	2010	$3,360	80
128860		Catchment E Pipe 316 Mortimer Street			-5	2010	$41,542	80
128861		Catchment E Pipe 317 Gladstone Street			-5	2010	$2,700	80
128862		Catchment E Pipe 318 Gladstone Street			-5	2010	$2,700	80
128863		Catchment E Pipe 319 Gladstone Street			-5	2010	$2,700	80
128864		Catchment E Pipe 320 Gladstone Street			-5	2010	$72,305	80
128865		Catchment E Pipe 321 Gladstone Street			-5	2010	$2,732	80
128854		Catchment E Pipe 322 Gladstone Street			-5	2010	$560	80
128866		Catchment E Pipe 323 Gladstone Street			-5	2010	$8,311	80
128867		Catchment E Pipe 324 Gladstone Street			-5	2010	$3,360	80
128868		Catchment E Pipe 325 Gladstone Street			-5	2010	$2,700	80
128855		Catchment E Pipe 326 Gladstone Street			-5	2010	$1,120	80
128869		Catchment E Pipe 327 Denison Street			-5	2010	$4,200	80
128870		Catchment E Pipe 328 Denison Street			-5	2010	$450	80
128871		Catchment E Pipe 329 Denison Street			-5	2010	$450	80
128872		Catchment E Pipe 330 Denison Street			-5	2010	$450	80
128873		Catchment E Pipe 331 Denison Street			-5	2010	$4,200	80
128874		Catchment E Pipe 332 Denison Street			-5	2010	$450	80
128022		Catchment E Pit 801 Short Street - Mudgee			-5	2010	$2,280	80
128023		Catchment E Pit 802 Short Street - Mudgee			-5	2010	$2,280	80
128024		Catchment E Pit 803 Short Street - Mudgee			-5	2010	$2,020	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
128025		Catchment E Pit 804 Short Street - Mudgee			-5	2010	$1,000	80
128026		Catchment E Pit 805 Short Street - Mudgee			-5	2010	$2,280	80
128027		Catchment E Pit 806 Short Street - Mudgee			-5	2010	$2,280	80
128028		Catchment E Pit 807 Short Street - Mudgee			-5	2010	$2,280	80
128029		Catchment E Pit 808 Short Street - Mudgee			-5	2010	$2,020	80
128030		Catchment E Pit 809 Market Street			-5	2010	$2,280	80
128031		Catchment E Pit 810 Market Street			-5	2010	$2,280	80
128032		Catchment E Pit 811 Market Street			-5	2010	$2,280	80
128033		Catchment E Pit 812 Market Street			-5	2010	$2,280	80
128034		Catchment E Pit 813 Market Street			-5	2010	$2,280	80
128035		Catchment E Pit 814 Market Street			-5	2010	$2,280	80
128036		Catchment E Pit 815 Market Street			-5	2010	$2,020	80
128037		Catchment E Pit 816 Market Street			-5	2010	$2,280	80
128038		Catchment E Pit 817 Mortimer Street			-5	2010	$2,280	80
128039		Catchment E Pit 818 Mortimer Street			-5	2010	$2,280	80
128040		Catchment E Pit 819 Mortimer Street			-5	2010	$2,280	80
128041		Catchment E Pit 820 Mortimer Street			-5	2010	$2,280	80
128042		Catchment E Pit 821 Mortimer Street			-5	2010	$2,280	80
128043		Catchment E Pit 822 Mortimer Street			-5	2010	$2,280	80
128044		Catchment E Pit 823 Mortimer Street			-5	2010	$2,280	80
128045		Catchment E Pit 824 Mortimer Street			-5	2010	$2,280	80
128046		Catchment E Pit 825 Mortimer Street			-5	2010	$2,280	80
128047		Catchment E Pit 826 Mortimer Street			-5	2010	$2,280	80
128048		Catchment E Pit 827 Mortimer Street			-5	2010	$2,280	80
128049		Catchment E Pit 828 Mortimer Street			-5	2010	$2,280	80
128050		Catchment E Pit 829 Gladstone Street			-5	2010	$2,280	80
128051		Catchment E Pit 830 Gladstone Street			-5	2010	$2,280	80
128052		Catchment E Pit 831 Gladstone Street			-5	2010	$2,280	80
128053		Catchment E Pit 832 Gladstone Street			-5	2010	$2,280	80
128054		Catchment E Pit 833 Gladstone Street			-5	2010	$2,280	80
128055		Catchment E Pit 834 Gladstone Street			-5	2010	$2,280	80
128056		Catchment E Pit 835 Gladstone Street			-5	2010	$2,280	80
128057		Catchment E Pit 836 Gladstone Street			-5	2010	$2,280	80
128058		Catchment E Pit 837 Gladstone Street			-5	2010	$2,020	80
128059		Catchment E Pit 838 Gladstone Street			-5	2010	$2,280	80
128060		Catchment E Pit 839 Gladstone Street			-5	2010	$2,280	80
128061		Catchment E Pit 840 Gladstone Street			-5	2010	$1,000	80
128062		Catchment E Pit 841 Gladstone Street			-5	2010	$2,280	80
128063		Catchment E Pit 842 Denison Street			-5	2010	$2,280	80
128064		Catchment E Pit 843 Denison Street			-5	2010	$2,280	80
128065		Catchment E Pit 844 Denison Street			-5	2010	$2,280	80
128066		Catchment E Pit 845 Denison Street			-5	2010	$2,280	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
128067		Catchment E Pit 846 Denison Street			-5	2010	$2,280	80
128068		Catchment E Pit 847 Denison Street			-5	2010	$2,280	80
128069		Catchment E Pit 848 Denison Street			-5	2010	$2,280	80
128070		Catchment E Pit 849 Denison Street			-5	2010	$2,280	80
						Subtotal	**$888,583**	
129182		Catchment E Drain 340 Market Street			5	2020	$65,100	80
129183		Catchment E Drain 341 Mortimer Street			5	2020	$95,480	80
129184		Catchment F Drain 347 Market Street			5	2020	$21,000	80
129185		Catchment F Drain 348 Mortimer Street			5	2020	$86,800	80
129186		Catchment F Drain 349 Gladstone Street			5	2020	$78,120	80
129187		Catchment F Drain 350 Denison Street			5	2020	$86,800	80
129188		Catchment F Drain 351 Inglis Street			5	2020	$21,700	80
129189		Catchment H Drain 313 Industrial Road			5	2020	$21,000	80
129190		Catchment H Drain 314 Sydney Road			5	2020	$28,000	80
129049		Catchment X Pipe 342 Mayne Street			5	2020	$19,712	80
129050		Catchment X Pipe 343 Mayne Street			5	2020	$4,928	80
129051		Catchment X Pipe 344 Mayne Street			5	2020	$10,080	80
129052		Catchment X Pipe 345 Mayne Street			5	2020	$560	80
128296		Catchment X Pit 855 Mayne Street			5	2020	$2,020	80
128297		Catchment X Pit 856 Mayne Street			5	2020	$2,020	80
128298		Catchment X Pit 857 Mayne Street			5	2020	$1,000	80
128299		Catchment X Pit 858 Mayne Street			5	2020	$2,020	80
128300		Catchment X Pit 859 Tallawang Road			5	2020	$2,280	80
129146		Catchment Y Pipe 385 Railway Street			5	2020	$18,799	80
129147		Catchment Y Pipe 386 Railway Street			5	2020	$3,360	80
129148		Catchment Y Pipe 387 Railway Street			5	2020	$7,231	80
129149		Catchment Y Pipe 388 Railway Street			5	2020	$672	80
129150		Catchment Y Pipe 389 Railway Street			5	2020	$16,622	80
129151		Catchment Y Pipe 390 Railway Street			5	2020	$23,270	80
129152		Catchment Y Pipe 391 Railway Street			5	2020	$23,270	80
129153		Catchment Y Pipe 392 Railway Street			5	2020	$4,200	80
129194		Catchment Y Drain 396 Queen Street			5	2020	$560	80
129195		Catchment Y Drain 397 Bayly Street - Gulgong			5	2020	$1,400	80
129196		Catchment Y Drain 398 Bayly Street - Gulgong			5	2020	$700	80
129197		Catchment Y Drain 399 Belmore Street - Gulgong			5	2020	$1,400	80
129198		Catchment Y Drain 400 Belmore Street - Gulgong			5	2020	$700	80
129199		Catchment Y Drain 401 Lynne Street			5	2020	$2,100	80
129200		Catchment Y Drain 402 Queen Street			5	2020	$700	80
129201		Catchment Y Drain 403 Bayly Street - Gulgong			5	2020	$700	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
129202		Catchment Y Drain 404 Bayly Street - Gulgong			5	2020	$700	80
129203		Catchment Y Drain 405 Belmore Street - Gulgong			5	2020	$1,400	80
129204		Catchment Y Drain 406 Belmore Street - Gulgong			5	2020	$1,400	80
129205		Catchment Y Drain 407 Belmore Street - Gulgong			5	2020	$700	80
129206		Catchment Y Drain 408 Belmore Street - Gulgong			5	2020	$700	80
129207		Catchment Y Drain 409 Lynne Street			5	2020	$1,400	80
129208		Catchment Y Drain 410 Lynne Street			5	2020	$1,400	80
129209		Catchment Y Drain 411 Bayly Street - Gulgong			5	2020	$700	80
129210		Catchment Y Drain 412 Bayly Street - Gulgong			5	2020	$700	80
129211		Catchment Y Drain 413 Belmore Street - Gulgong			5	2020	$700	80
129212		Catchment Y Drain 414 Belmore Street - Gulgong			5	2020	$700	80
129213		Catchment Y Drain 415 Lynne Street			5	2020	$1,400	80
129214		Catchment Y Drain 416 Lynne Street			5	2020	$1,400	80
129215		Catchment Y Drain 417 Lynne Street			5	2020	$350	80
129216		Catchment Y Drain 418 Lynne Street			5	2020	$1,400	80
129217		Catchment Y Drain 419 Station Street - Gulgong			5	2020	$2,240	80
129218		Catchment Y Drain 420 Lynne Street			5	2020	$1,400	80
129219		Catchment Y Drain 421 Lynne Street			5	2020	$350	80
129220		Catchment Y Drain 422 Lynne Street			5	2020	$1,400	80
129221		Catchment Y Drain 423 Bayly Street - Gulgong			5	2020	$700	80
129223		Catchment Y Drain 425 Herbert Street			5	2020	$2,800	80
129061		Catchment Y Pipe 302 Robinson Street			5	2020	$1,400	80
129062		Catchment Y Pipe 303 Robinson Street			5	2020	$1,680	80
129063		Catchment Y Pipe 304 Robinson Street			5	2020	$4,540	80
129064		Catchment Y Pipe 305 Robinson Street			5	2020	$11,350	80
129065		Catchment Y Pipe 306 Mayne Street			5	2020	$6,810	80
129066		Catchment Y Pipe 307 Mayne Street			5	2020	$2,240	80
129067		Catchment Y Pipe 308 Mayne Street			5	2020	$2,240	80
129068		Catchment Y Pipe 309 Mayne Street			5	2020	$4,835	80
129069		Catchment Y Pipe 310 Mayne Street			5	2020	$12,088	80
129070		Catchment Y Pipe 311 Mayne Street			5	2020	$908	80
129071		Catchment Y Pipe 312 Mayne Street			5	2020	$4,540	80
129083		Catchment Y Pipe 322 Queen Street			5	2020	$2,240	80
129084		Catchment Y Pipe 323 Queen Street			5	2020	$3,360	80
129085		Catchment Y Pipe 324 Queen Street			5	2020	$360	80
129089		Catchment Y Pipe 325 Queen Street			5	2020	$1,120	80
129086		Catchment Y Pipe 326 Queen Street			5	2020	$6,720	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
129087		Catchment Y Pipe 327 Queen Street			5	2020	$2,240	80
129088		Catchment Y Pipe 328 Queen Street			5	2020	$2,800	80
129090		Catchment Y Pipe 329 Queen Street			5	2020	$4,200	80
129091		Catchment Y Pipe 330 Queen Street			5	2020	$2,800	80
129092		Catchment Y Pipe 331 Queen Street			5	2020	$448	80
129093		Catchment Y Pipe 332 Bayly Street - Gulgong			5	2020	$2,240	80
129094		Catchment Y Pipe 333 Bayly Street - Gulgong			5	2020	$1,120	80
129095		Catchment Y Pipe 334 Bayly Street - Gulgong			5	2020	$1,120	80
129096		Catchment Y Pipe 335 Bayly Street - Gulgong			5	2020	$2,240	80
129097		Catchment Y Pipe 336 Bayly Street - Gulgong			5	2020	$1,120	80
129098		Catchment Y Pipe 337 Bayly Street - Gulgong			5	2020	$1,120	80
129099		Catchment Y Pipe 338 Bayly Street - Gulgong			5	2020	$3,360	80
129100		Catchment Y Pipe 339 Bayly Street - Gulgong			5	2020	$1,120	80
129101		Catchment Y Pipe 340 Rouse Street			5	2020	$900	80
129102		Catchment Y Pipe 341 Bayly Street - Gulgong			5	2020	$1,120	80
129103		Catchment Y Pipe 342 Bayly Street - Gulgong			5	2020	$3,360	80
129104		Catchment Y Pipe 343 Bayly Street - Gulgong			5	2020	$3,360	80
129105		Catchment Y Pipe 344 Bayly Street - Gulgong			5	2020	$3,360	80
129106		Catchment Y Pipe 345 Bayly Street - Gulgong			5	2020	$1,120	80
128320		Catchment Y Pit 803 Robinson Street			5	2020	$2,020	80
128321		Catchment Y Pit 804 Robinson Street			5	2020	$2,280	80
128322		Catchment Y Pit 805 Robinson Street			5	2020	$2,020	80
128323		Catchment Y Pit 806 Robinson Street			5	2020	$2,280	80
128324		Catchment Y Pit 807 Robinson Street			5	2020	$2,020	80
128325		Catchment Y Pit 808 Robinson Street			5	2020	$2,020	80
128326		Catchment Y Pit 809 Mayne Street			5	2020	$2,020	80
128327		Catchment Y Pit 810 Mayne Street			5	2020	$2,280	80
128328		Catchment Y Pit 811 Mayne Street			5	2020	$2,020	80
128329		Catchment Y Pit 812 Mayne Street			5	2020	$2,020	80
128330		Catchment Y Pit 813 Mayne Street			5	2020	$2,020	80
128331		Catchment Y Pit 814 Mayne Street			5	2020	$2,280	80
128332		Catchment Y Pit 815 Mayne Street			5	2020	$2,280	80
128333		Catchment Y Pit 816 Mayne Street			5	2020	$2,020	80
128334		Catchment Y Pit 817 Mayne Street			5	2020	$2,280	80
128335		Catchment Y Pit 818 Mayne Street			5	2020	$2,020	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
128336		Catchment Y Pit 819 Mayne Street			5	2020	$2,020	80
128337		Catchment Y Pit 820 Mayne Street			5	2020	$2,020	80
128355		Catchment Y Pit 838 Queen Street			5	2020	$2,020	80
128356		Catchment Y Pit 839 Queen Street			5	2020	$2,020	80
128357		Catchment Y Pit 840 Queen Street			5	2020	$2,020	80
128358		Catchment Y Pit 841 Queen Street			5	2020	$1,000	80
128359		Catchment Y Pit 842 Queen Street			5	2020	$2,020	80
128362		Catchment Y Pit 845 Moonlight Street			5	2020	$2,280	80
128363		Catchment Y Pit 846 Queen Street			5	2020	$2,020	80
128364		Catchment Y Pit 847 Queen Street			5	2020	$2,020	80
128365		Catchment Y Pit 848 Queen Street			5	2020	$1,000	80
128366		Catchment Y Pit 849 Queen Street			5	2020	$2,280	80
128367		Catchment Y Pit 850 Queen Street			5	2020	$2,020	80
128368		Catchment Y Pit 851 Queen Street			5	2020	$2,280	80
128369		Catchment Y Pit 852 Queen Street			5	2020	$2,020	80
128370		Catchment Y Pit 853 Queen Street			5	2020	$2,280	80
128371		Catchment Y Pit 854 Queen Street			5	2020	$1,000	80
128372		Catchment Y Pit 855 Queen Street			5	2020	$2,280	80
128373		Catchment Y Pit 856 Bayly Street - Gulgong			5	2020	$2,020	80
128374		Catchment Y Pit 857 Bayly Street - Gulgong			5	2020	$2,020	80
128375		Catchment Y Pit 858 Bayly Street - Gulgong			5	2020	$2,280	80
128376		Catchment Y Pit 859 Bayly Street - Gulgong			5	2020	$2,020	80
128377		Catchment Y Pit 860 Bayly Street - Gulgong			5	2020	$2,020	80
128378		Catchment Y Pit 861 Bayly Street - Gulgong			5	2020	$2,020	80
128379		Catchment Y Pit 862 Bayly Street - Gulgong			5	2020	$2,280	80
128380		Catchment Y Pit 863 Bayly Street - Gulgong			5	2020	$2,020	80
128381		Catchment Y Pit 864 Bayly Street - Gulgong			5	2020	$2,020	80
128382		Catchment Y Pit 865 Bayly Street - Gulgong			5	2020	$2,020	80
128383		Catchment Y Pit 866 Bayly Street - Gulgong			5	2020	$2,280	80
128384		Catchment Y Pit 867 Bayly Street - Gulgong			5	2020	$2,020	80
128385		Catchment Y Pit 868 Bayly Street - Gulgong			5	2020	$2,020	80
128386		Catchment Y Pit 869 Bayly Street - Gulgong			5	2020	$2,280	80
128387		Catchment Y Pit 870 Bayly Street - Gulgong			5	2020	$2,020	80

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
128388		Catchment Y Pit 871 Bayly Street - Gulgong			5	2020	$2,280	80
128389		Catchment Y Pit 872 Bayly Street - Gulgong			5	2020	$2,020	80
128390		Catchment Y Pit 873 Bayly Street - Gulgong			5	2020	$2,020	80
128391		Catchment Y Pit 874 Bayly Street - Gulgong			5	2020	$2,280	80
128439		Catchment Y Pit 922 Railway Street			5	2020	$2,020	80
128440		Catchment Y Pit 923 Railway Street			5	2020	$2,280	80
128441		Catchment Y Pit 924 Railway Street			5	2020	$2,280	80
128442		Catchment Y Pit 925 Railway Street			5	2020	$1,000	80
128443		Catchment Y Pit 926 Railway Street			5	2020	$1,000	80
128444		Catchment Y Pit 927 Railway Street			5	2020	$2,280	80
128445		Catchment Y Pit 928 Railway Street			5	2020	$2,280	80
128446		Catchment Y Pit 929 Railway Street			5	2020	$2,280	80
128447		Catchment Y Pit 930 Railway Street			5	2020	$2,280	80
128448		Catchment Y Pit 931 Saleyards Lane - Gulgong			5	2020	$2,280	80
128449		Catchment Y Pit 932 Saleyards Lane - Gulgong			5	2020	$2,280	80
128450		Catchment Y Pit 933 Saleyards Lane - Gulgong			5	2020	$2,280	80
						Subtotal	**$916,783**	
						Program Total	**$2,699,888**	

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

NAMS.PLUS3 Asset Management Form 2C Upgrade/New Plan

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Mid-Western RC
Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2015**

Year	Item No.	Capital Upgrade and New Projects	Estimate ($000)	Running total ($000)
2015	1	New infrastructure	$200	$200
2015	2			
2015	3			
2015	4			
2015	5			
2015	6			
2015	7			
2015	8			
2015	9			
2015	10			
2015	**Total Projected Capital Upgrade/New Plan**		**$200**	

Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2016**

2016	1	New infrastructure	$200	$200
2016	2			
2016	3			
2016	4			
2016	5			
2016	6			
2016	7			
2016	8			
2016	9			
2016	10			
2016	**Total Projected Capital Upgrade/New Plan**		**$200**	

Mid-Western RC
Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2017**

Year	Item No.	Capital Upgrade and New Projects	Estimate ($000)	Running total ($000)
2017	1	New infrastructure	$200	$200
2017	2			
2017	3			
2017	4			
2017	5			
2017	6			
2017	7			
2017	8			
2017	9			
2017	10			
2017	**Total Projected Capital Upgrade/New Plan**		**$200**	

Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2018**

2018	1	New infrastructure	$200	$200
2018	2			
2018	3			
2018	4			
2018	5			
2018	6			
2018	7			
2018	8			
2018	9			
2018	10			
2018	**Total Projected Capital Upgrade/New Plan**		**$200**	

Mid-Western RC
Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2019**

Year	Item No.	Capital Upgrade and New Projects	Estimate ($000)	Running otal ($000
2019	1	New infrastructure	$200	$200
2019	2			
2019	3			
2019	4			
2019	5			
2019	6			
2019	7			
2019	8			
2019	9			
2019	10			
2019	**Total Projected Capital Upgrade/New Plan**		**$200**	

Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2020**

2020	1	New infrastructure	$200	$200
2020	2			
2020	3			
2020	4			
2020	5			
2020	6			
2020	7			
2020	8			
2020	9			
2020	10			
###	**Total Projected Capital Upgrade/New Plan**		**$200**	

Mid-Western RC
Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2021**

Year	Item No.	Capital Upgrade and New Projects	Estimate ($000)	Running otal ($000
2021	1	New infrastructure	$200	$200
2021	2			
2021	3			
2021	4			
2021	5			
2021	6			
2021	7			
2021	8			
2021	9			
2021	10			
2021	**Total Projected Capital Upgrade/New Plan**		**$200**	

Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2022**

2022	1	New infrastructure	$200	$200
2022	2			
2022	3			
2022	4			
2022	5			
2022	6			
2022	7			
2022	8			
2022	9			
2022	10			
###	**Total Projected Capital Upgrade/New Plan**		**$200**	

Mid-Western RC
Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2023**

Year	Item No.	Capital Upgrade and New Projects	Estimate ($000)	Running otal ($000
2023	1	New infrastructure	$200	$200
2023	2			
2023	3			
2023	4			
2023	5			
2023	6			
2023	7			
2023	8			
2023	9			
2023	10			
###	**Total Projected Capital Upgrade/New Plan**		**$200**	

Stormwater_S1_V1 **Projected Capital Upgrade/New Plan** **2024**

2024	1	New infrastructure	$200	$200
2024	2			
2024	3			
2024	4			
2024	5			
2024	6			
2024	7			
2024	8			
2024	9			
2024	10			
###	**Total Projected Capital Upgrade/New Plan**		**$200**	
	Total 10 year program		**$2,000**	Average/yr $200

Appendix D Budgeted Expenditures Accommodated in LTFP

NAMS.PLUS3 Asset Management — **Mid-Western RC**

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IPWEA INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA — JRA

Stormwater_S1_V1 Asset Management Plan

First year of expenditure projections **2015** (financial yr ending)

Stormwater

Asset values at start of planning period

			Calc CRC from Asset Register
Current replacement cost	$14,514	(000)	$14,514 (000)
Depreciable amount	$14,514	(000)	This is a check for you.
Depreciated replacement cost	$6,275	(000)	
Annual depreciation expense	$133	(000)	

Operations and Maintenance Costs for New Assets

	% of asset value
Additional operations costs	0.00%
Additional maintenance	0.34%
Additional depreciation	0.92%

Planned renewal budget (information only)

You may use these values calculated from your data or overwrite the links.

Planned Expenditures from LTFP

20 Year Expenditure Projections Note: Enter all values in current **2015** values

Financial year ending	2015 $000	2016 $000	2017 $000	2018 $000	2019 $000	2020 $000	2021 $000	2022 $000	2023 $000	2024 $000
Expenditure Outlays included in Long Term Financial Plan (in current $ values)										
Operations										
Operations **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Management **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
AM systems **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total operations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Maintenance										
Reactive maintenance **budget**	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50
Planned maintenance **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Specific maintenance items **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total maintenance	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50
Capital										
Planned renewal **budget**	$40	$40	$40	$40	$40	$40	$40	$40	$40	$40
Planned upgrade/new **budget**	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Non-growth contributed asset val	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Asset Disposals										
Est Cost to dispose of assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Carrying value (DRC) of disposed ass	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)

Additional Expenditure Outlays required and not included above	2015 $000	2016 $000	2017 $000	2018 $000	2019 $000	2020 $000	2021 $000	2022 $000	2023 $000	2024 $000
Operations	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20
Maintenance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)									
Capital Upgrade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
User Comments #2										

Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)

	2015 $000	2016 $000	2017 $000	2018 $000	2019 $000	2020 $000	2021 $000	2022 $000	2023 $000	2024 $000
Forecast Capital Renewal from Forms 2A & 2B	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Forecast Capital Upgrade from Form 2C	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200

Appendix E Abbreviations

AAAC	Average annual asset consumption
AM	Asset management
AM Plan	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
vph	Vehicles per hour
WDCRC	Written down current replacement cost

Appendix F Glossary

ANNUAL SERVICE COST (ASC)

- **Reporting actual cost**
  The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.

- **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 Council's asset base, but may be associated with additional revenue from the new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

CAPITAL EXPENDITURE - 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 Council's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

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 Council 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 *