Narrandera Shire Council

Water Supply

Asset Management Plan

Version 1

June 2012

Institute of Public Works Engineering Australia

AM4SRRC

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Asset Management for Small, Rural or Remote Communities Practice Note

The Institute of Public Works Engineering Australia.

www.ipwea.org.au/AM4SRRC

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1. EXECUTIVE SUMMARY

Context

Narrandera Shire Council has a population of over 6,260 people. The shire is part of the state electorate of Murrumbidgee and the Federal electorate of Riverina.

The Shire covers an area of 4,116km2, and is bordered to the west by the local government areas of Murrumbidgee, Leeton, Griffith, to the north by Carrathool and Bland, to the east by Coolamon and Wagga Wagga and to the south by Lockhart and Urana.

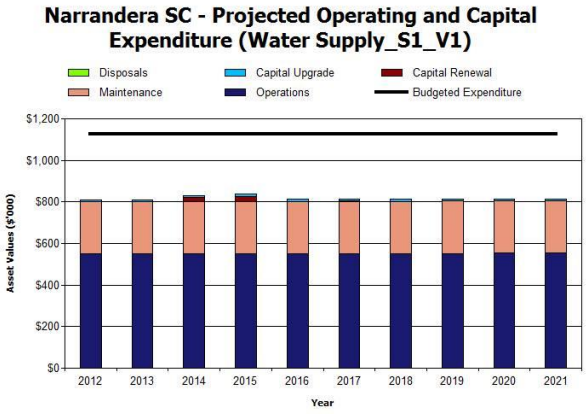
The Australian Bureau of Statistic's annual Estimated Residential Population for Local Government Areas reported that Narrandera Shire recorded a growth rate of 0% and that over the previous five years had recorded an average annual growth rate of -0.1%.

Water Supply Network

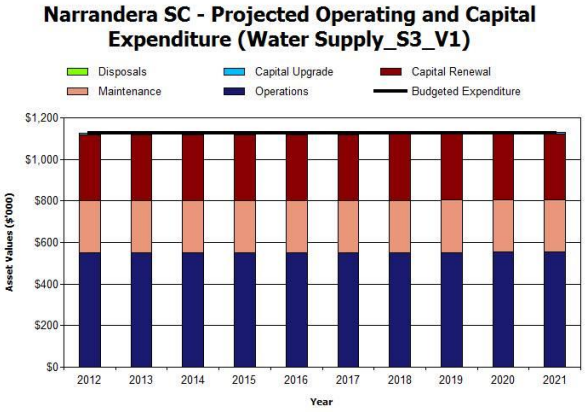
These infrastructure assets have a replacement value of $15.1M.

What does it Cost?

The projected cost to provide the services covered by this Asset Management Plan includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period. Scenario 1 shown below is based on the asset register and indicates that the future costs (vertical bars) are generally exceeded by the future long term financial plan funding (horizontal black line); this indicates that under funding scenario 1 the renewal program is being overfunded. This is likely due to limitations with the accuracy of the existing asset register data, further improvements will be required to obtain a realistic funding scenario.



Scenario 3 below shows how council will balance funds available in the long term financial plan with the expenditure projections in the asset management plan. This has been used for both scenario 2 and 3 at this stage and is demonstrative of a sustainable funding scenario that has not yet been developed or adopted by Council.



Councils' present funding levels will be sufficient in the long term based on current information. The current level of expenditure is equivalent to 121.90% of the long term average funds required using the ratio of depreciation based on the asset register and average renewal spend for the next 10 years of the long term average requirements.

Projected and budgeted expenditure are shown in the table 18.S1 and 20.

What we will do

Council plans to provide water supply services for the following:

- Operation, maintenance, renewal and upgrade of water supply network to meet service levels set by council in annual budgets.
- $10,000 of upgrade/new assets each year of the 10 year planning period.
- Improve the underlying information with an annual review of service level trends.

What we cannot do

Council does not have enough funding to provide material upgrades or new services.

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:

- Rising costs of managing infrastructure
- Meeting Community expectations for services
- Providing the most appropriate and affordable infrastructure for the community

- Controlling the deterioration of the water supply network assets due to lack of renewal funding.

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

- Manage the existing infrastructure
- Manage the expansion of water supply infrastructure based on the priorities established in the Community Plan
- Expand infrastructure in a financially responsible manner and as funded in Council's Long Term Financial Plan.
- Seek additional funding in the form of grants wherever possible.
- Annual review and update of service level and risk projections as data improves. This review will inform the annual budget process.

The Next Steps

The actions resulting from this asset management plan are:

- Continue to improve asset information and knowledge.
- Develop a single corporate asset register for financial and reporting purposes
- Monitor the provision of water supply infrastructure alongside the community expectations for community facilities.

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Narrandera Community's water supply network needs. These assets include water pipes, pumping stations and water storage throughout the Council area that provides a safe and reliable water supply to the community.

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.

Is there a funding shortfall?

No, Councils' present funding levels are sufficient to continue to provide existing services at current levels in the medium term, current funding levels indicate that renewals are being over funded; this is likely due to limitations within the asset register. This position will need to be re-examined and an accurate funding scenario developed.

Future Improvements?

Future improvement 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, replacing existing and constructing new assets to optimise life cycle costs,
3. Identifying and managing risks associated with providing services from infrastructure,
4. Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure,
5. Identifying assets surplus to needs for disposal to make saving in future operations and maintenance costs
6. Consulting with the community to ensure that water services and costs meet community needs and are affordable,
7. Developing partnership with other bodies, where available to provide services;
8. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

What happens if we don't manage the shortfall?

At this time Council can sustain service levels in the medium term. Existing scenario 1 suggests that Council is overfunding renewal; this is likely due to limitations within the current asset register. This will require further review to obtain a realistic funding scenario for the sewerage system infrastructure.

This should continue to be monitored and reviewed; as if this situation was to change it would be likely that council would have to plan to reduce service levels in some areas, unless new sources of revenue are found.

What can we do?

Council can develop options and priorities for future water supply infrastructure with costs of providing the services, consult with the community to plan future services to match the community services needs with ability to pay for services and maximise benefit to the community for costs to the community.

What can you do?

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

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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.

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

- Narrandera Shire Council Adopted Asset Management Plan 2011-2016
- Narrandera Shire Council Annual Report 2010/11

This infrastructure assets covered by this asset management plan are shown in Table 1.

Table 1: Assets covered by this Plan

Source: Technical Asset Register Note: The technical asset register is the latest updated register and includes changes and updates since 30 June 2011. The technical and financial asset register in table 2 are reconciled at the time of revaluation, however Council may choose to reconcile annually in future.

Asset Sub-Category	Asset Replacement Cost (*Calculated from asset register)	Depreciated Replacement Cost *	Annual Depreciation *
Water Supply Network	$15,115,521	$8,210,534	$116,066
TOTAL	**$15,115,521**	**$8,210,534**	**$116,066**

Table 2: Asset Values Reported in the Financial Statements

Source: Note 9a General Purpose Financial Statements 30 June 2011

Note 9a Category - 30 June 2011	Replacement Cost ($000)	Depreciated Replacement Cost ($000)	Depreciation Expense for current year ($000)
Water	$15,116	$8,211	$115
TOTAL	**$15,116**	**$8,211**	**$115**

2.2 Goals and Objectives of Asset Management

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

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

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

- Continuous improvement in asset management practices.[1]

The goal of this asset management plan is to:

- Document the services/service levels to be provided and the costs of providing the service,
- Communicate the consequences for service levels and risk, where desired funding is not available, and
- Provide information to assist decision makers in trading off service levels, costs and risks to provide services in a financially sustainable manner.

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

Council's vision is:

"Achieving Together"

Council's mission is:

"To provide high quality affordable local government services and representation for people who live, work, and visit Narrandera Shire, and to assist also, those who have a stake in our local and regional prosperity; by way of effective consultation, policy making and responsive delivery that meets the needs of our community."

Relevant goals and objectives and how these are addressed in this asset management plan are shown in Table 3.

Table 3: Organisation Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in AMP
PF 1 – Corporate Support and Governance		
Goal 4 - Decisive leadership, strong partnerships and the effective and efficient management of resources	**4.1.1:** Maximise the benefits of information technology in improving communication, process efficiency and promote Council and community activities through the website, Council Newsletter and other media. **4.2.1:** Develop and review Council Business Plans linked to the Strategic Plan and the financial capacity of Council. **4.2.2:** Develop and implement a long-term Financial Plan that reflects Council/community directions **4.3.1:** Utilise appropriate mechanisms to regularly review community needs **4.4.1:** Examine opportunities and support for partnerships with neighbouring and regional Councils, and government agencies to address priority issues **4.5.1:** Identify needs and provide appropriate training and development for staff	The Asset Management Plan in conjunction with Long Term Financial Plan and the Community Plan are the tools by which Council assesses the long term financial sustainability of council's infrastructure assets. Planning long term sustainable infrastructure is important to enable the appropriate resources to be identified and provided. Planning long term sustainable infrastructure is important to enable Council to meet its statutory Council governance. Infrastructure is provided to support services. Getting the correct infrastructure appropriate to the needs of the community is a primary goal of Asset Management Planning. Council has limited resources. The Asset Management Planning provides a way in which the community can be engaged in setting the priorities and allocation of these resources. Risk associated with Council infrastructure is identified within the Asset Management Plan. Risk assessment is one of the tools by which Council assesses the long term sustainability of council's infrastructure assets.

[1] IPWEA, 2006, *IIMM* Sec 1.1.3, p 1.3.

Goal	Objective	How Goal and Objectives are addressed in AMP
	4.5.2: Ensure safe work practices through the implementation of the Occupational, Health and Safety Policy and Risk Management Strategy **4.6.1:** Review and amend governance structures, policies and decision making processes on a regular basis	
PF 6 - Water Supply		
Goal 3 - Protected and enhanced natural assets and functional and appropriate built environs	**3.3.1:** Provide a consistent and reliable water supply that meets community expectations **3.3.2:** Undertake community education for water conservation **3.3.3:** Implement Best Practice Pricing	The AMP sets out principles for managing and operating the water supply network to meet these objectives.

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 the organisation will manage its existing and future assets to provide the required services
- Financial summary – what funds are required to provide the required services.
- Asset management practices
- Monitoring – how the plan will be monitored to ensure it is meeting the organisation's objectives.
- Asset management improvement plan

2.4 Core and Advanced Asset Management

This asset management plan is prepared as a first cut 'core' asset management plan in accordance with the International Infrastructure Management Manual[2]. 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.

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 Council. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing the service. This will assist Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability to pay for the service.

[2] IPWEA, 2006.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

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

3.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. Relevant legislation is shown in Table 4.

Table 4: Legislative Requirements

Legislation	Requirement
Local Government Act 1993 Local Government Amendment (Planning and Reporting) Act 2009 (the Act).	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery. The amendments to the Act give effect to the Integrated Planning and Reporting framework.
Environmental Planning and Assessment Act 1979	• Requirement for LEP and DCP's; • Council control of service approvals.
Catchment Management Act 1989	• Requirement for ongoing management plan; • Promotes the coordination of activities within catchment areas; • Under the provision of this Act, Local Catchment Management Committees can be established to oversee this process in the region.
Soil Conservation Act 1938	• Preservation of water course environment.
Public Health Act	• Effluent and waste disposal methods; • Delivery of quality water supply services.
Public Works Act	• Role of DPWS is planning and construction of new assets.
Water Act 1912	• Water rights, licenses, allocations.
Water Authorities Act 1987	• Determining developer charges.
Occupational Health and Safety Act 1983	• Impacts all operations; • Note public safety – insurance; • Cost implications; • Council responsibility to ensure health, safety and welfare of employees and others at places of work.
Independent Pricing and Regulatory Tribunal Act 1992	• Charging guidelines; • Trends toward a user pay system in the industry; • Gives powers to the Independent and Regulatory Tribunal to inquire into and regulate prices.
Protection of the Environment Operations Act 1997	• Control of run-off or escape of contaminants entering water courses; • Regulating pollution activities and issue of licenses as well as the monitoring of and reporting on waste output; • This Act includes "Due diligence" requirements and disposal

Legislation	Requirement
	procedures for chemicals and sludge and details penalties for causing environmental impacts.
Native Titles Act	• Provides definition of freehold zone-able land.

3.3 Current Levels of Service

Council has defined service levels in two terms.

Community Levels of Service relate to the service outcomes that the community wants in terms of safety, quality, quantity, reliability, responsiveness, cost effectiveness and legislative compliance.

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

Quality	How good is the service?
Function	Does it meet users' needs?
Safety	Is the service safe?

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

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to its original condition (eg 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 (eg frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade – the activities to provide an higher level of service (eg widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (eg a new library).

Council's current service levels are detailed in Table 5.

Table 5: Current Service Levels

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
COMMUNITY LEVELS OF SERVICE				
Quality	Physical water quality parameters conform to standards: (odours, colour, taste Turbidity)	Customer complaints Test results of the water quality monitoring program	0pa 100%	To Be Identified

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
	Chemical water quality parameters conform to standards (PH, Fluoride, Residual Chlorine, Hardness, …etc.	Customer complaints Test results of the water quality monitoring program	0pa 100%	To Be Identified
	Provide high quality and pathogen free potable water supply	Customer complaints Test results of the water quality monitoring program	0pa 100%	To Be Identified
Function	Provide a safe and reliable water supply system that is operated and maintained with minimum interruption	Unplanned interruption due to: -Main breaks -Water service failure	0pa <40pa <10pa	
	No damages to private properties or public places because of reservoir overflows or water runoff because of broken/burst mains	Incidents	0pa	
Capacity	Provide adequate water pressure	% of Network with water pressure that is - Poor / Very Poor pressure - Adequate - Poor/Poor	Not yet measured	Not yet measured
Safety	Provide a water supply system that is low risk to the community and safe to operate	No incidents and claims	0pa	To Be Identified

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
	No overflows or chemical spills	No incidents and claims	0pa	To Be Identified
TECHNICAL LEVELS OF SERVICE				
Condition	Provide a safe and reliable water supply system that meets customer satisfaction	Equipment and infrastructure of the water supply system are maintained & operational at all time	Repairs completed within minimum time	To Be Identified
		Breakdowns	<2pa	To Be Identified
		Age of system	<5% Assets, >95% Useful life	
		Maintenance to be routine	Planned/Reactive maintenance work ratio 70%-30%	
Function	Availability of water reticulation system	% of lots serviced	100%	To Be Identified
System Availability	Response time to incidents	• Major burst main • Minor burst main • Water service failure	• 15-30min • 2hrs • 1hr	To Be Identified
Cost Effectiveness	Provide service at reasonable cost	Maintenance cost	Maintenance cost ≤ last year + CPI	To Be identified
Capacity	Provide adequate water pressure	Pressure measures for water pressure that is - Poor / Very Poor pressure - Adequate Poor/Poor	Not yet measured	Not yet measured
Safety	Provide water supply services with minimum hazards and risks	Reported incidents, accidents and near misses	0pa	To Be Identified

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
Quality	Provide quality water supply in line with relevant Australian Standards	Water quality parameters	0 Noncompliance	To Be identified

3.4 Desired Levels of Service

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

4. FUTURE DEMAND

4.1 Demand Forecast

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

Demand factor trends and impacts on service delivery are summarised in Table 6.

Table 6: Demand Factors, Projections and Impact on Services

Demand factor	Present position	Projection	Impact on services
Population	6256 (2009)	6132 (2029)[3]	Increased Assets and demand on existing assets will have a follow on impact on maintenance and renewal costs.
Construction Costs	Current costs	Costs anticipated to increase	The shortage of skilled labour, high labour costs and increasing material costs, will impact on the future management of water infrastructure
Increasing Costs	The cost to construct, maintain and replace water assets is increasing	Anticipated to continue	Increasingly difficult to maintaining the current level of service. Equipment will need to provide greater efficiencies
Climate Change	Higher frequency of extreme weather events	Unknown, but changes likely.	Addition costs may be imposed to fund environmental initiatives e.g. carbon tax Expectation of plant capacity to repair major damage to water infrastructure will increase

4.2 Changes in Technology

Technology changes forecast to affect the delivery of services covered by this plan are detailed in Table 7.

3 Projection based on -0.1% average annual growth rate provided by the Australian Bureau of Statistic's annual Estimated Residential Population for Local Government Areas

Table 7: Changes in Technology and Forecast effect on Service Delivery

Technology Change	Effect on Service Delivery
Change in pipeline construction methods and the materials used	May increase the life of water supply system components, reducing the susceptibility to damage, or by reducing the cost of construction or maintenance

4.3 Demand Management Plan

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

Non-asset solutions focus on providing the required service without the need for the council to own the assets. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another council area or public toilets provided in commercial premises.

Opportunities identified to date for demand management are shown in Table 8. Further opportunities will be developed in future revisions of this asset management plan.

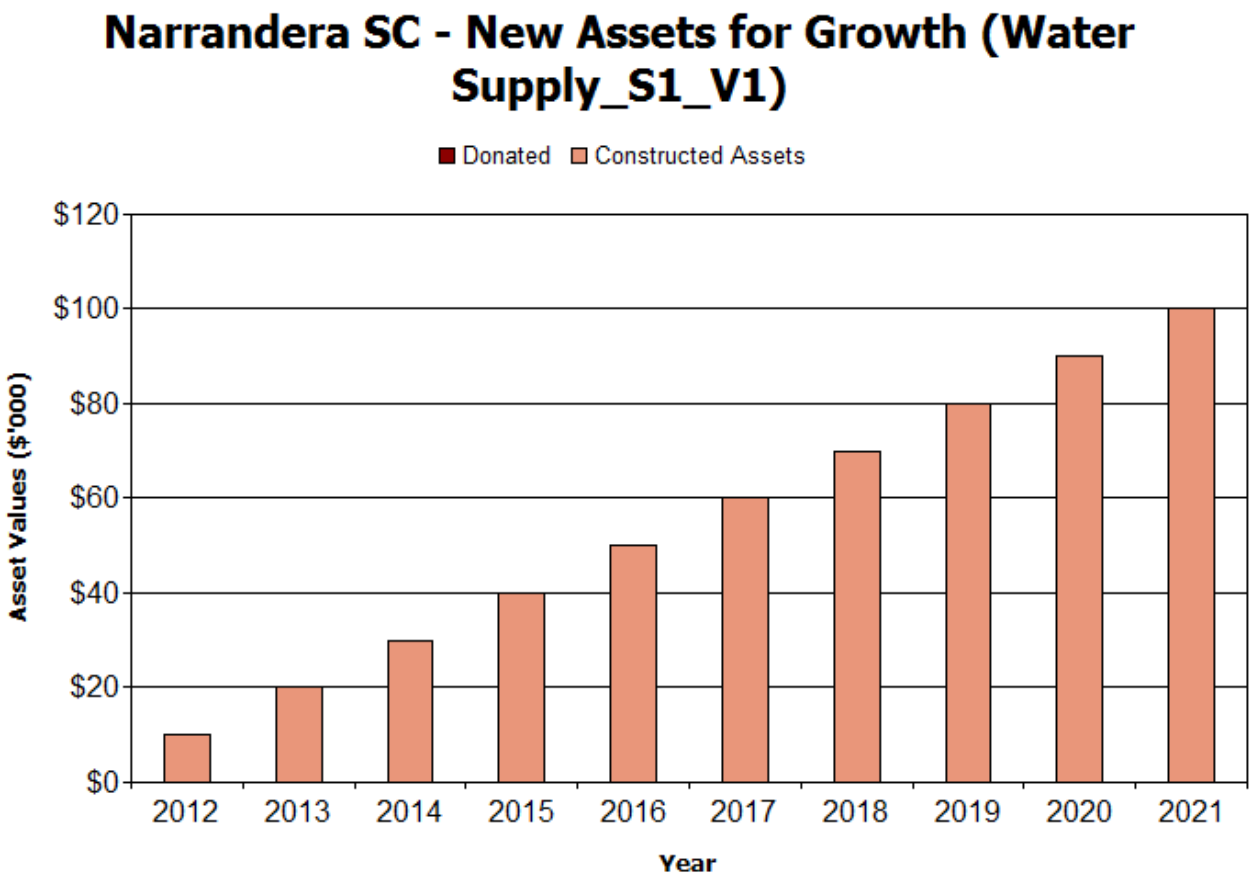
Table 8: Demand Management Plan Summary

Service Activity	Demand Management Plan
Communicate options and capacity to the provision of water supply systems with the community	Monitor community expectations and communicate service levels and financial capacity with the community to balance priorities for infrastructure with what the community is prepared to pay for
Funding priority works	Continue to seek grant funding for projects identified in the Community Plan and Asset Management Plans
Improve understanding of costs and capacity to maintain current service levels	Continue to analyse the cost of providing service and the capacity to fund at the current level of service

4.4 New Assets for Growth

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

Figure 1: New Assets for Growth



The additional new assets being created are being constructed by Council. There are no assets being generated by development and being donated to Council.

Council proposes to provide any $10,000 of additional assets in each year of the ten year planning period. (Detailed in Appendix C).

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

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.

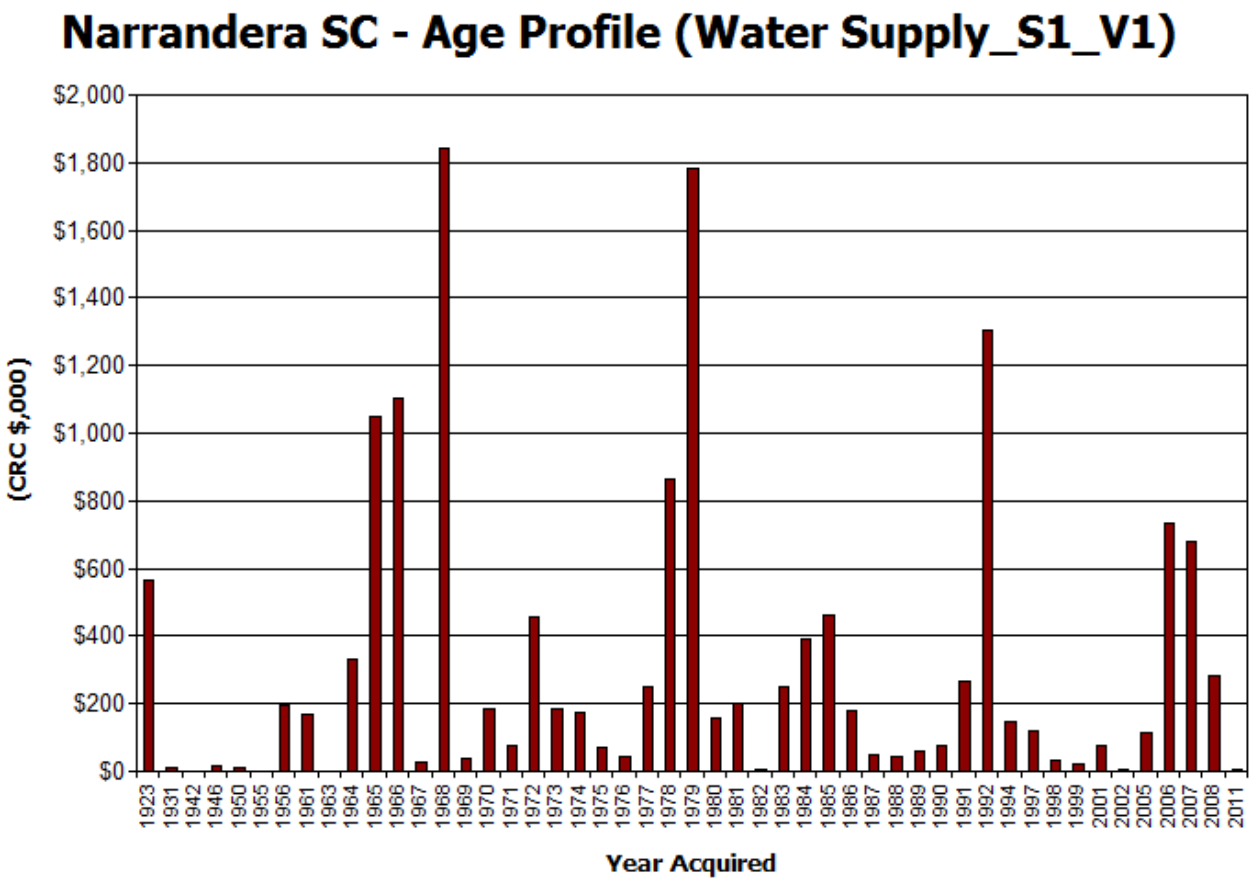
5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan are shown in Table 1.

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

Figure 2: Asset Age Profile



The information basis for the water supply network assets are:

- Financial Valuations
- Technical Inventory
- Maintenance and Renewal Plans

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 9.

Table 9: Known Service Performance Deficiencies

Location	Service Deficiency
In this first Asset Management Plan detailed performance deficiencies have not been identified	In the development of next asset management plans, and in particular as these plans are developed and integrated along with the Long Term Financial Plans and Community Plans service deficiencies will be identified

5.1.3 Asset condition

The condition profile of water supply infrastructure assets included within this AM Plan is shown in Figure 3.

Figure 3: Current Asset Condition Profile

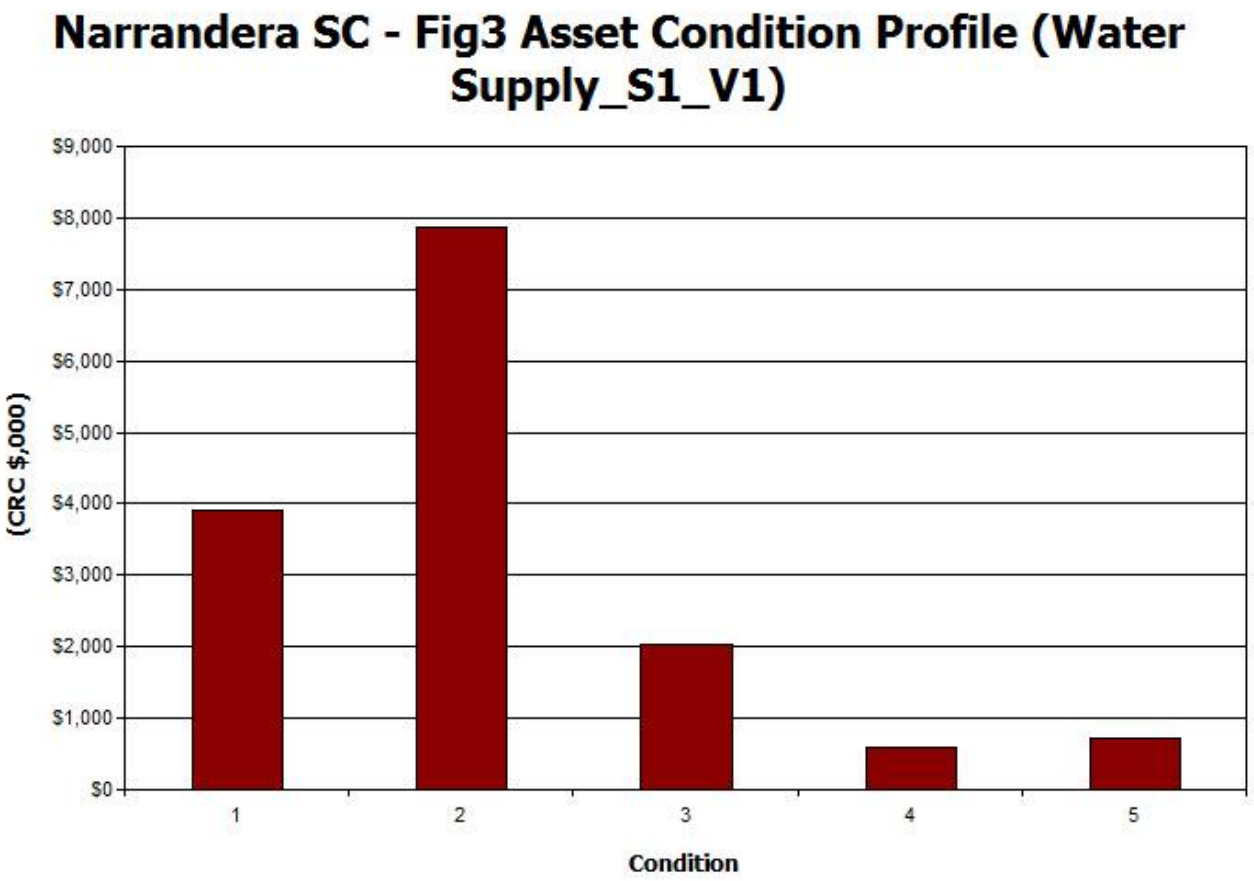
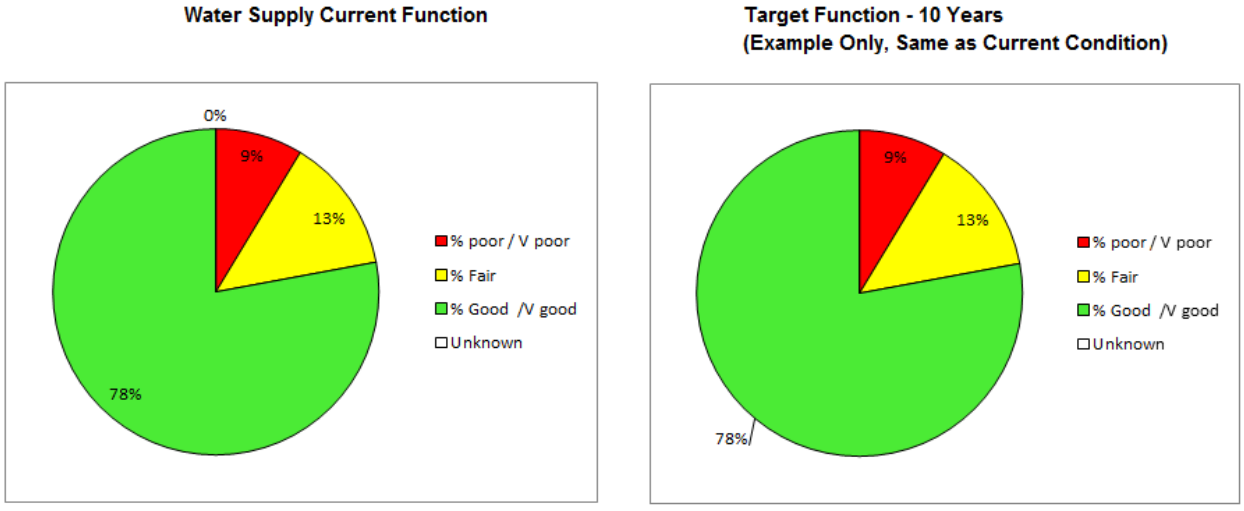


Figure 4: Target Asset Condition Profile (scenario 2)



Condition is measured using a 1 – 5 rating system[4] as detailed in Table 10.

[4] IIMM 2006, Appendix B, p B:1-3 ('cyclic' modified to 'planned', 'average' changed to 'fair'')

Table 10: IIMM Description of Condition

Condition Rating	Description
1	Excellent condition: Only planned maintenance required.
2	Very good: Minor maintenance required plus planned maintenance.
3	Good: Significant maintenance required.
4	Fair: Significant renewal/upgrade required.
5	Poor: Unserviceable.

5.1.4 Asset valuations

The value of assets recorded in Council's asset register for the year ending 30 June 2011 covered by this asset management plan is shown below. Assets were last revalued at 30 June 2011.

Current Replacement Cost	$15,115,521
Depreciable Amount	$15,115,521
Depreciated Replacement Cost	$8,210,534
Annual Depreciation Expense	$116,066

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

Asset Consumption Ratio[5]	0.54 or 54%
Asset Sustainability Ratio[6]	2.73 or 273%
Asset Renewal Funding Ratio[7]	65.27 or 6526.66%

To provide services in a financially sustainable manner, Council will need to ensure that it is renewing assets at the rate they are being consumed over the medium-long term and funding the life cycle costs for all new assets and services in its long term financial plan.

5.1.5 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 11.

Table 11: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Water supply pipe network	Distribute to users
Water pumping stations	Distribute water supply and maintains water pressure.
Water storage	Maintain adequate short term supply for distribution

[5] Depreciated Replacement Cost / Current Replacement Cost AIFMG, Section 2.6.1, p 2.10
[6] Renewal or Replacement Expenditure / Depreciation AIFMG, Section 2.6.1, p 2.10
[7] 10 Year Renewal Expenditure / 10 Year Renewal Requirement in AMP (Scenario 2) AIFMG, Section 2.6.1, p 2.10

5.2 Risk Management Plan

An assessment of risks associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to the organisation. 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 are summarised in Table 12.

Table 12: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Associated Costs
Water Supply Asset Maintenance	Increasing maintenance requirements	High	Continue to improve data Documented service level risks and utilisation for establishing future maintenance priorities	Staff Time
Water Supply Asset Renewal	Assets deteriorate to a lesser service standard and higher risk situation	High	Continue to improve data Required renewal of water assets is being achieved in the short to medium term Future planning improvements can be made by further documented service level risks and utilisation of these in establishing future renewal priorities	Staff Time
Damage to Water Supply Assets	Damage to water supply assets as a result of major storm events	Very High	At present cannot be managed within councils resourcing. Continue to improve data	Staff Time
Water Supply Network	Contamination or disruption of water supply to the Community	High	Higher levels of confidence about 10 year renewal programme. Improved knowledge of the condition of the existing network	Ongoing staff time

5.3 Routine Maintenance Plan

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

5.3.1 Maintenance plan

Maintenance includes reactive, planned and 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, building roof replacement, etc. This work generally falls below the capital/maintenance threshold but may require a specific budget allocation.

Proposed maintenance expenditure is shown in Table 13.

Table 13: Maintenance Expenditure Trends

Year	Maintenance Expenditure (2012 dollar values)
Proposed 2012	$250,000
Proposed 2013	$250,000
Proposed 2014	$250,000

Current maintenance expenditure levels are considered to be adequate to meet required service levels in the absence of more detailed information. Future revision of this asset management plan will include linking required maintenance expenditures with required service levels.

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

5.3.2 Standards and specifications

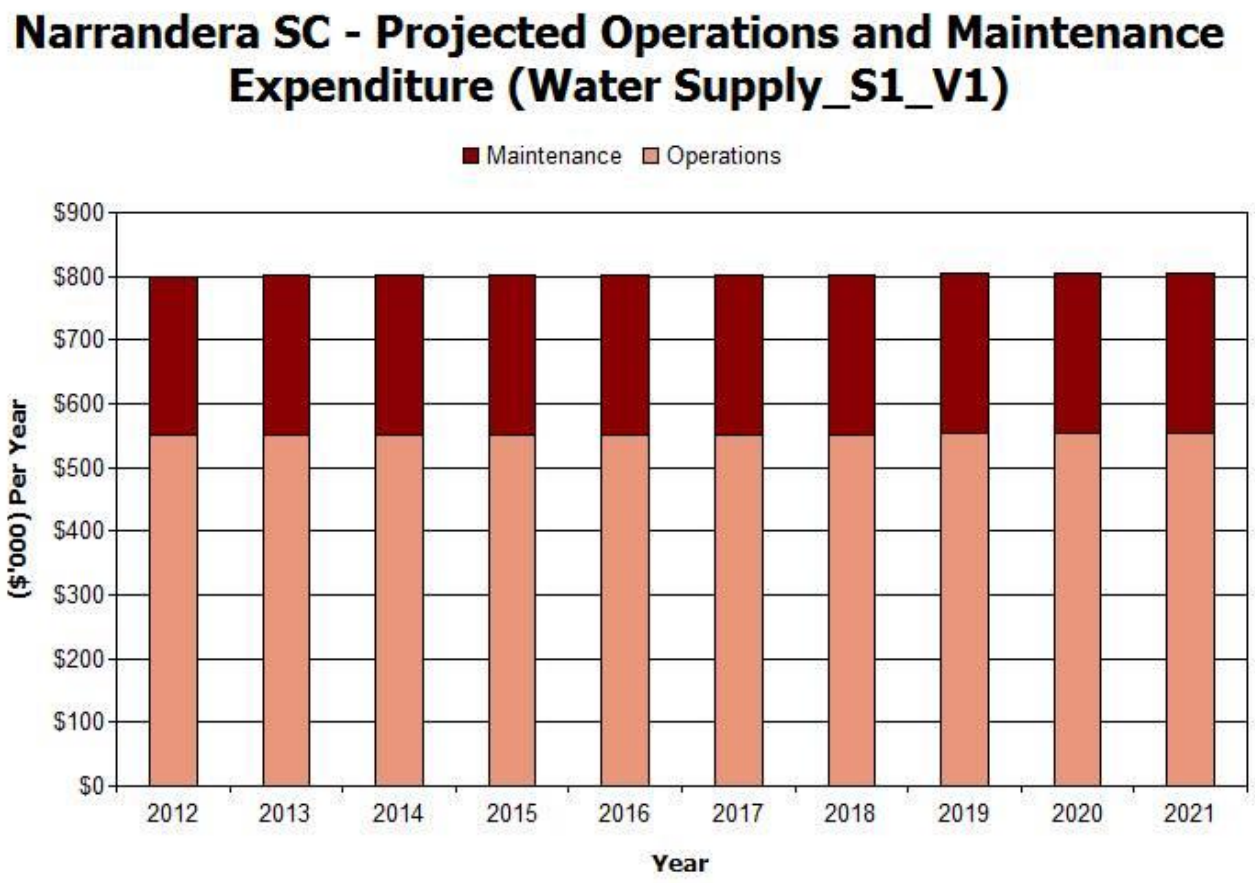
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Council standards and specifications
- Relevant standards and specifications for water treatment standards, health requirements, water quality standards, AS 3500 Plumbing and Drainage
- Relevant engineering standards

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

Figure 5 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 process in the infrastructure risk management plan.

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

5.4 Renewal/Replacement Plan

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

5.4.1 Renewal plan

Assets requiring renewal are identified from one of three methods provided in the 'Expenditure Template".

- Method 1 uses Asset Register data to project the renewal costs for renewal years using acquisition year and useful life, 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. It is common that the valuation registers used in Scenario 1 are not developed to a level of maturity where they are reliable for producing a realistic renewal forecast. Ideally when this asset register is sorted by remaining life from 1 to 10 years this should be consistent with the capital renewal

program. For Narrandera Shire the refinement of the asset register to achieve this situation should become an important part of the asset management improvement plan.

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 14.

Table 14: Renewal Priority Ranking Criteria

Criteria	Weighting
Structural Integrity	30%
Function	30%
Safety	30%
Service	10%
Total	**100%**

Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost.

5.4.2 Renewal standards

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

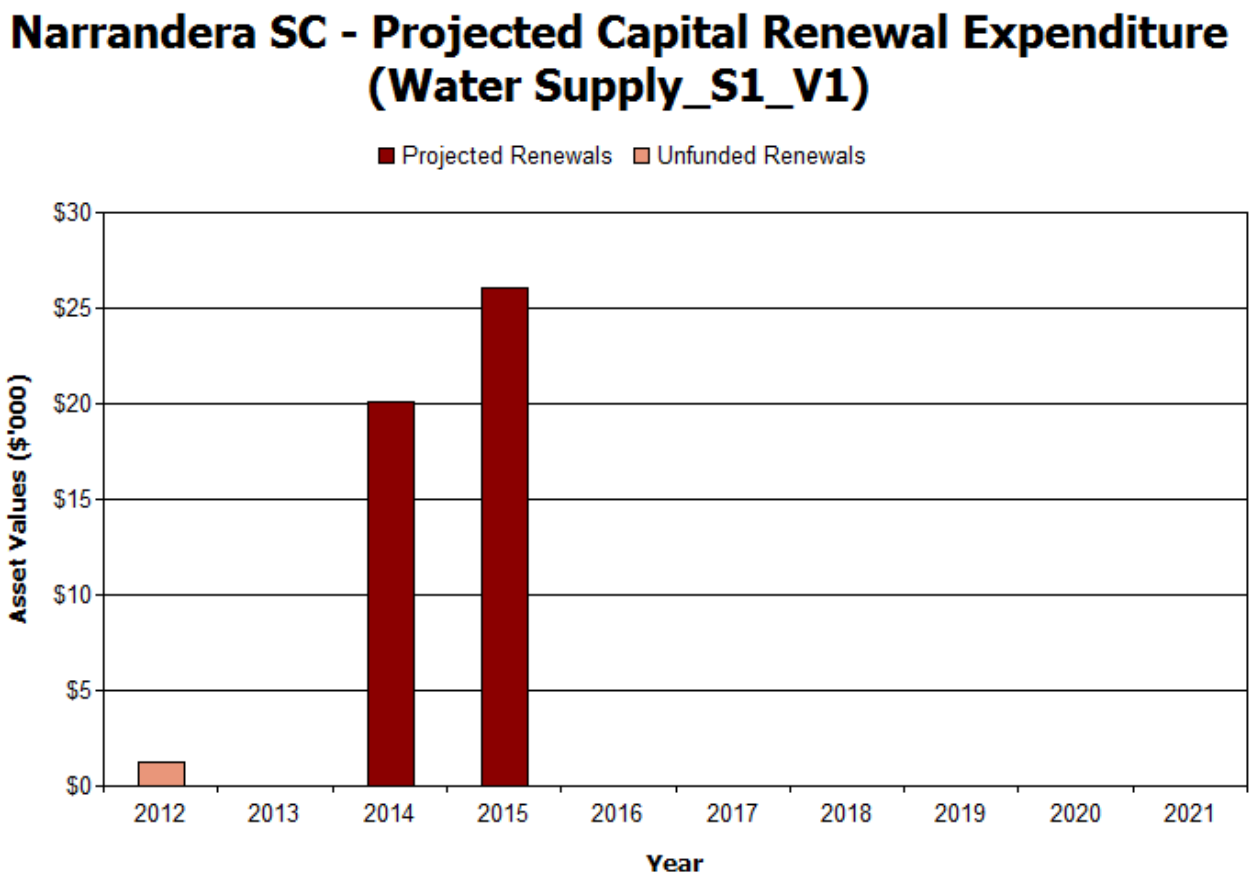
- Council standards and specifications
- Relevant standards and specifications for water treatment standards, health requirements, water quality standards, AS 3500 Plumbing and Drainage
- Relevant engineering standards

5.4.3 Summary of projected renewal expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Figure 6. Note that all costs are shown in 2012 dollar values.

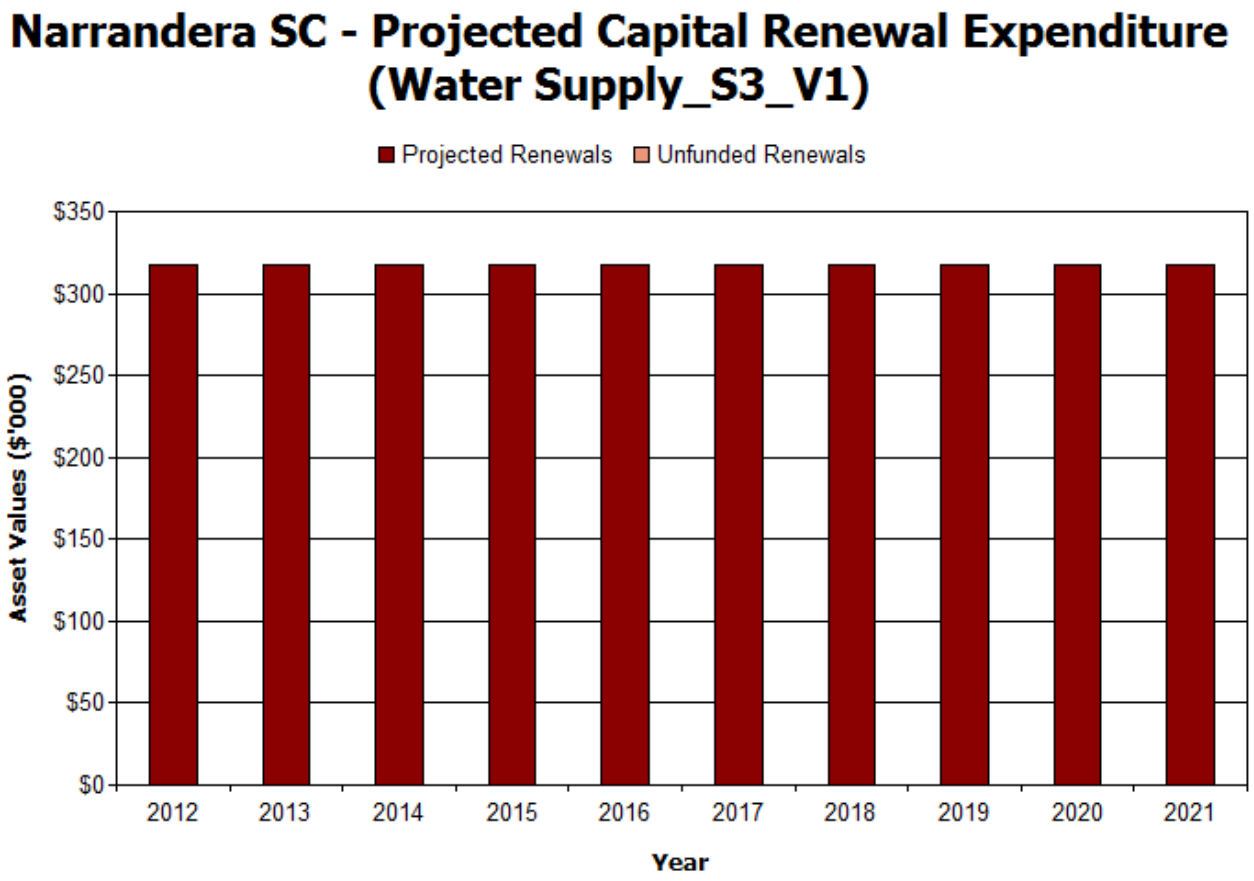
The projected capital renewal program is shown in Appendix B.

Figure 6: Projected Capital Renewal Expenditure (Scenario 1 - from Asset Register)



The renewal projection (forecast) in Scenario 1 (Using the asset/valuation register) shows concentrated spikes of renewal expenditure needed in year 1, 3 and 4 of the planning period. Whilst the long term averages and total values from this register are sound, the shorter term renewal forecast may need review. This indicates that further refinement of the asset register is required before it is valuable as a capital renewal planning tool. Scenario 2 and 3 shown below provides balanced scenario based on the 10 year LTFP budget figures. At this stage no individual renewal items have been identified and further development will be required in order to introduce a renewal program as a funding scenario for use in the asset management plan (Details shown in appendix B2).

Figure 7: Projected Capital Renewal Expenditure (Scenario 2 and 3 – Balanced to LTFP – Prioritised Renewal Program (Individual renewal items not separately identified)



Scenario 2 and 3 are balanced to the LTFP budget figures for the 10 year period. This is an ideal prioritised funding scenario required for the sustainability of the asset category for the medium term. Under current funding scenario 1 from the asset register the current levels of service cannot be maintained. Further development of the actual planned renewal program will be required to reach the sustainable position demonstrated in scenarios 2 and 3.

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

Renewals are to be funded from capital works programs and grants where available. This is further discussed in Section 6.2.

5.5 Creation/Acquisition/Upgrade Plan

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

5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor 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 estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed in Table 15.

Table 15: Upgrade/New Assets Priority Ranking Criteria

Criteria	Weighting
Inadequate capacity	50%
Increased re-use quantities	30%
Improved amenity	20%
Total	**100%**

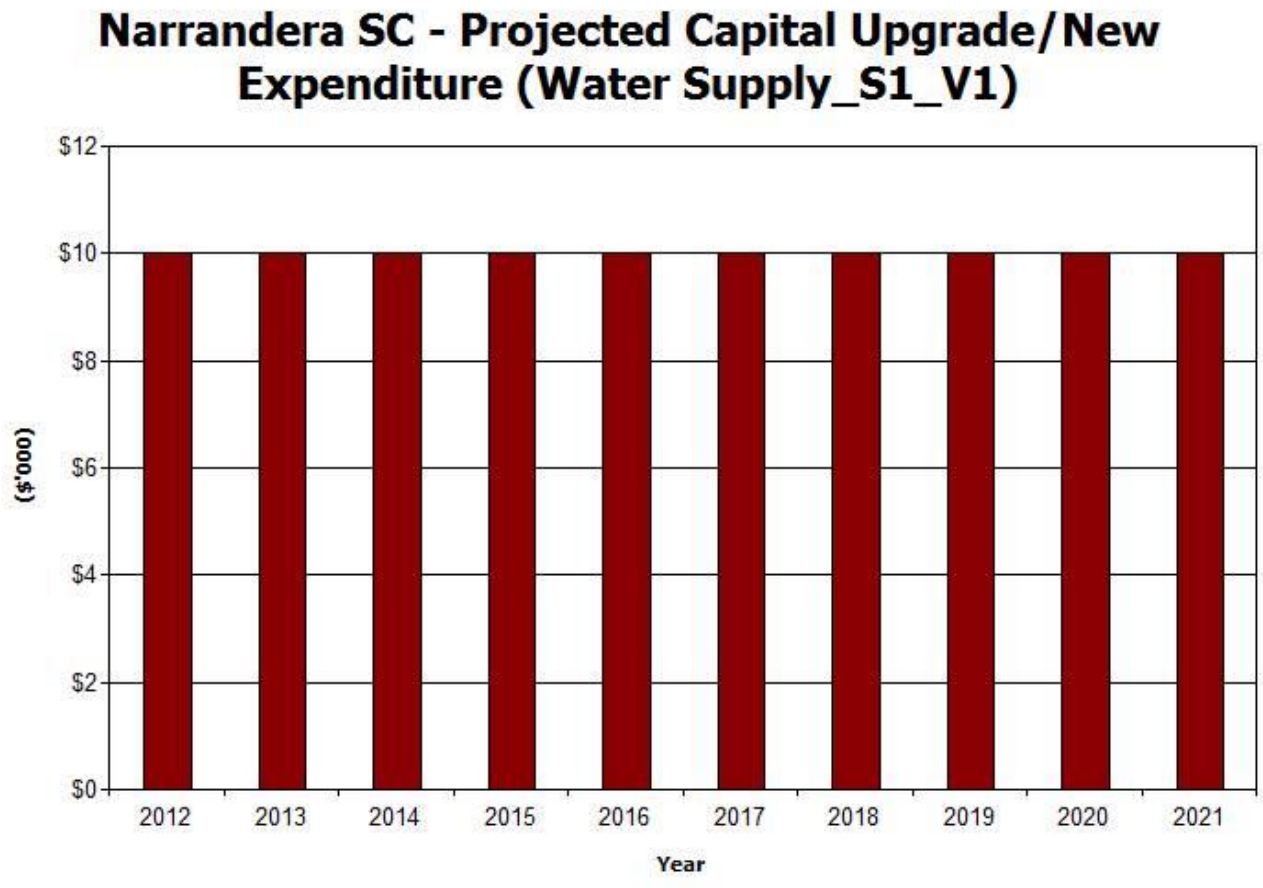
5.5.2 Standards and specifications

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

5.5.3 Summary of projected upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Figure 8. The projected upgrade/new capital works program is shown in Appendix C. All costs are shown in current 2012 dollar values.

Figure 8: Projected Capital Upgrade/New Asset Expenditure



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

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 16, 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.

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

Table 16: Assets identified for Disposal

Asset	Reason for Disposal	Timing	Net Disposal Expenditure (Expend +ve, Revenue –ve)	Operations & Maintenance Annual Savings
No assets identified for disposal in this asset management plan				

6. FINANCIAL SUMMARY

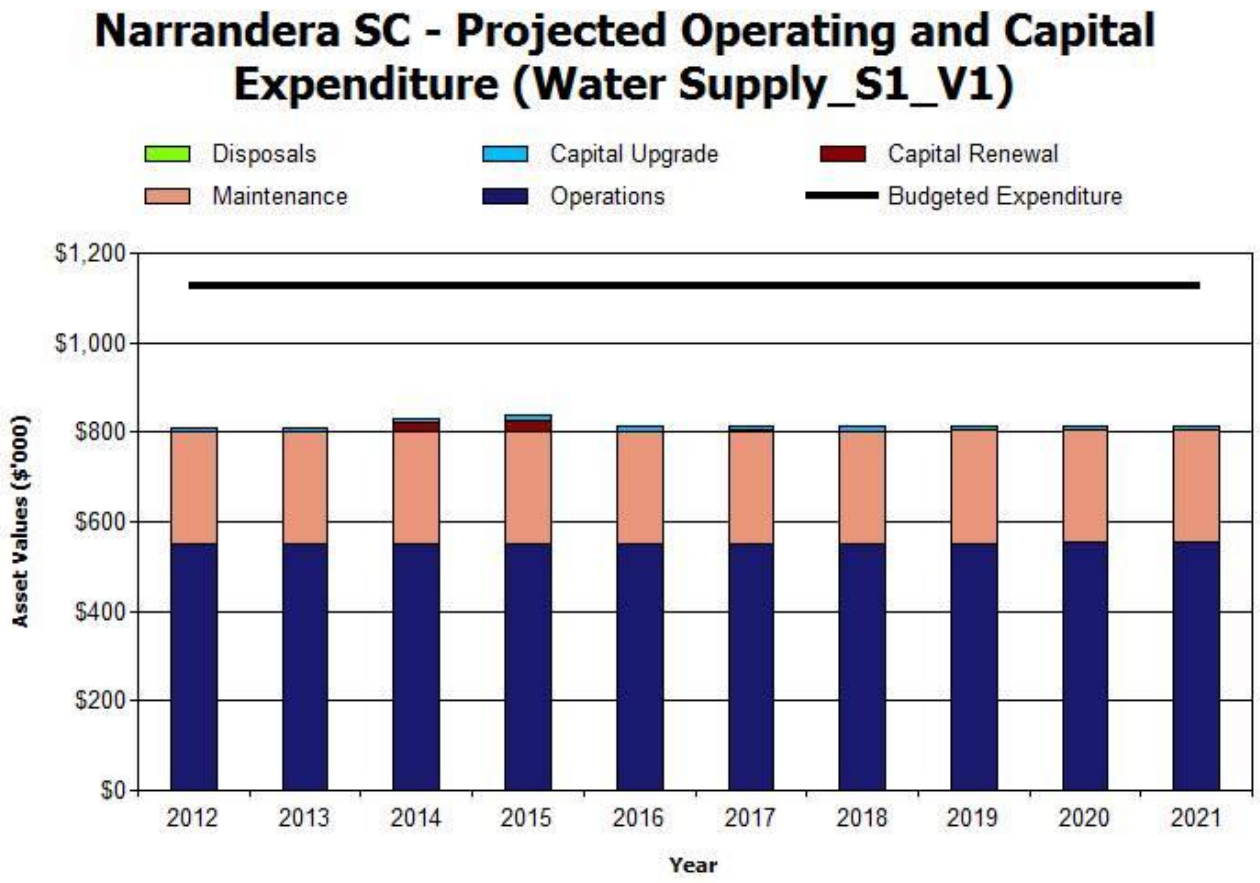
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

6.1 Financial Statements and Projections

The financial projections are shown in Figure 9 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets), net disposal expenditure and estimated budget funding.

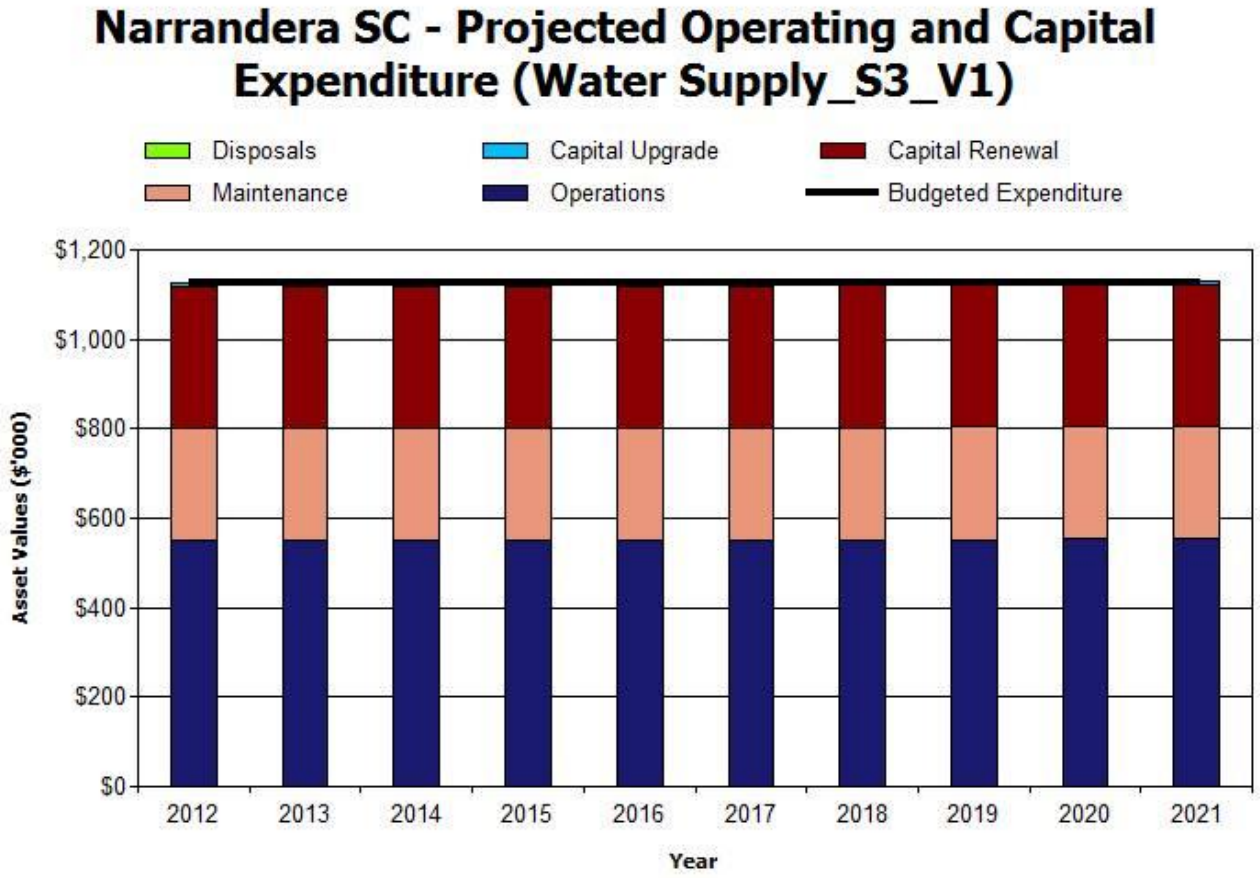
Note that all costs are shown in 2012 dollar values.

Figure 9: Projected Operating and Capital Expenditure and Budget (Scenario 1 - from Asset Register)



As discussed in Section 5.3 the expenditure projection (forecast) in Scenario 1 (Using the asset/valuation register) is not consistent with the required works program or the long term financial plan, and is indicative of the continuing work required to improve the asset register.

Figure 10: Projected Operating and Capital Expenditure and Budget (Scenarios 2 and 3 - Balanced to LTFP – Prioritised Renewal Program)



6.1.1 Financial sustainability in service delivery

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

Table 17: Sustainability Indicators Summary

Narrandera SC >> Table 6.1 Sustainability of Service Delivery for (Water_AM4SRRC)	Water S1V1 Asset Register	Water S2V1 Balanced with LTFP - Prioritised Renewal Program (Individual renewal items not separately identified)	Water S3V1 Same as Scenario 2
Summary - What does it cost?			
Cost over 10 years	**$8,071**	**$11,194**	**$11,194**
Cost per year	**$807**	**$1,119**	**$1,119**
Available funding over 10 years	**$11,170**	**$11,170**	**$11,170**
Funding per year	**$1,117**	**$1,117**	**$1,117**
Funding shortfall	**$310**	**-$2**	**-$2**

Narrandera SC >> Table 6.1 Sustainability of Service Delivery for (Water_AM4SRRC)	Water S1V1 Asset Register	Water S2V1 Balanced with LTFP - Prioritised Renewal Program (Individual renewal items not separately identified)	Water S3V1 Same as Scenario 2
Percentage of cost	138%	100%	100%
Life Cycle Cost (long term)'($000)			
Life Cycle Cost [depreciation + ops. and maint. exp year 1]	$916	$916	$916
Life Cycle Exp. [capital renewal exp. + ops + mtce exp. yr 1]	$1,117	$1,117	$1,117
Life Cycle Gap [life cycle expenditure - life cycle cost [-ve = gap]	$201	$201	$201
Life Cycle Sustainability Indicator [life cycle expenditure / LCC]	121.90%	121.90%	121.90%
Medium Term (10 yrs) Sustainability			
10 yr Ops, Maint & Renewal Projected Expenditure	$807	$1,119	$1,119
10 yr Ops, Maint & Renewal Planned (Budget) Exp	$1,117	$1,117	$1,117
10 yr Funding Shortfall [10 yr proj. exp. - planned (Budget) exp.]	$310	-$2	-$2
10 yr Sustainability Indicator [10 yr planned exp. / proj. exp.]	138%	100%	100%
Short Term (5 yrs) Sustainability			
5 yr Ops, Maint & Renewal Projected Expenditure	$811	$1,118	$1,118
5 yr Ops, Maint & Renewal Planned (Budget) Exp	$1,117	$1,117	$1,117
5 yr Funding Shortfall [5 yr proj. exp. - planned (budget) exp.]	$306	-$1	-$1
5 yr Sustainability Indicator [5 yr planned exp. / proj. exp.]	138%	100%	100%
AIFMG Financial Sustainability Indicator 8.			
NPV Budget Expenditure / NPV Projected Expenditure	6237%	100%	100%

Summary of Table Above

Scenario	Long Term	Medium Term	
	Lifecycle	5 Year	10 Year
Scenario 1 Water S1V1 Asset Register	121.90% Sustainability Ratio (Target is 100%)	138% Sustainability Ratio (Target is 100%)	138% Sustainability Ratio (Target is 100%)
	Based on the comparison of current expenditures (Year 1) to the Projected (Forecast Expenditures) using depreciation as the long term renewal requirement. *A second calculation using the current expenditures based on the 10 year planned (forecast) expenditures resulted in a ratio of 121.9%. This allowed for the variability between year 1 expenditures and the 10 year totals. This indicates that there is no variation between the current expenditures and the long term average. Full alternate ratio calculations are shown in appendix D.	Based on the comparison of current expenditures (5 years) to the Projected (Forecast Expenditures) using the renewals due from the asset register. In isolation this ratio of >100% would indicate that renewals are being over funded. Scenarios 2 & 3 have been undertaken to validate the real position. The apparent surplus reflects that the asset register requires further development to reliably reflect the medium term position. (*Second Calculation 138%)	Based on the comparison of current expenditures (10 years) to the Projected (Forecast Expenditures) using the renewals due from the asset register. In isolation this ratio of >100% would indicate that renewals are being over funded. Scenarios 2 & 3 have been undertaken to validate the real position. The apparent surplus reflects that the asset register requires further development to reliably reflect the medium term position. (*Second Calculation 139%)
Scenario 2 Water S2V1 Balanced to LTFP - Prioritised Renewal Program (Individual renewal items not separately identified)	121.90% Sustainability Ratio (Target is 100%) Same calculation for Scenario 1, 2 & 3	100% Sustainability Ratio (Target is 100%) Based on the current expenditures against the Projected (Forecast Expenditures) prioritised renewal program in line with the LTFP budget figures (individual renewal items not identified). At this time the renewal program is simply balanced to the budget figures provided, Council will be required to separately identify actual renewal program items to determine sustainability of the medium term position. (*Second Calculation 100%)	100% Sustainability Ratio (Target is 100%) Based on the current expenditures against the Projected (Forecast Expenditures) prioritised renewal program in line with the LTFP budget figures (individual renewal items not identified). At this time the renewal program is simply balanced to the budget figures provided, Council will be required to separately identify actual renewal program items to determine sustainability of the medium term position. (*Second Calculation 100%)

Scenario	Long Term	Medium Term	
	Lifecycle	5 Year	10 Year
Scenario 3 Water S3V1 Same as Scenario 2	121.90% Sustainability Ratio (Target is 100%) Same calculation for Scenario 1, 2 & 3	100% Sustainability Ratio (Target is 100%) Based on the current expenditures balanced to the Projected (Forecast Expenditures) prioritised renewal requirements in line with LTFP budget figures. Same as Scenario 2. (*Second calculation 100%)	100% Sustainability Ratio (Target is 100%) Based on the current expenditures balanced to the Projected (Forecast Expenditures) prioritised renewal requirements in line with LTFP budget figures. Same as Scenario 2. (*Second calculation 100%)

For the overall assessments used in this asset management plan (including the Executive Summary) the assessment made under Scenario 1 is used as scenario 3 is a demonstrative sustainable position and has yet to be developed by Council.

Long term - Life Cycle Cost

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the longest asset life. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is $916,000 per year (operations and maintenance expenditure plus depreciation expense in year 1).

Life cycle costs can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes operations, maintenance and capital renewal expenditure in year 1. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure at the start of the plan is $1,117,000 (operations and maintenance expenditure plus budgeted capital renewal expenditure in year 1).

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 +$201,000 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 121.90% of life cycle costs giving a life cycle sustainability index of 1.22.

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 $807,000 per year (for scenario 1).

Estimated (budget) operations, maintenance and capital renewal funding is $1,117,00 per year giving a 10 year funding surplus of $310,000 per year and a 10 year sustainability indicator of 1.38. This indicates that Council has 138% of the projected expenditures needed to provide the services documented in the asset management plan.

Medium Term – 5 year financial planning period

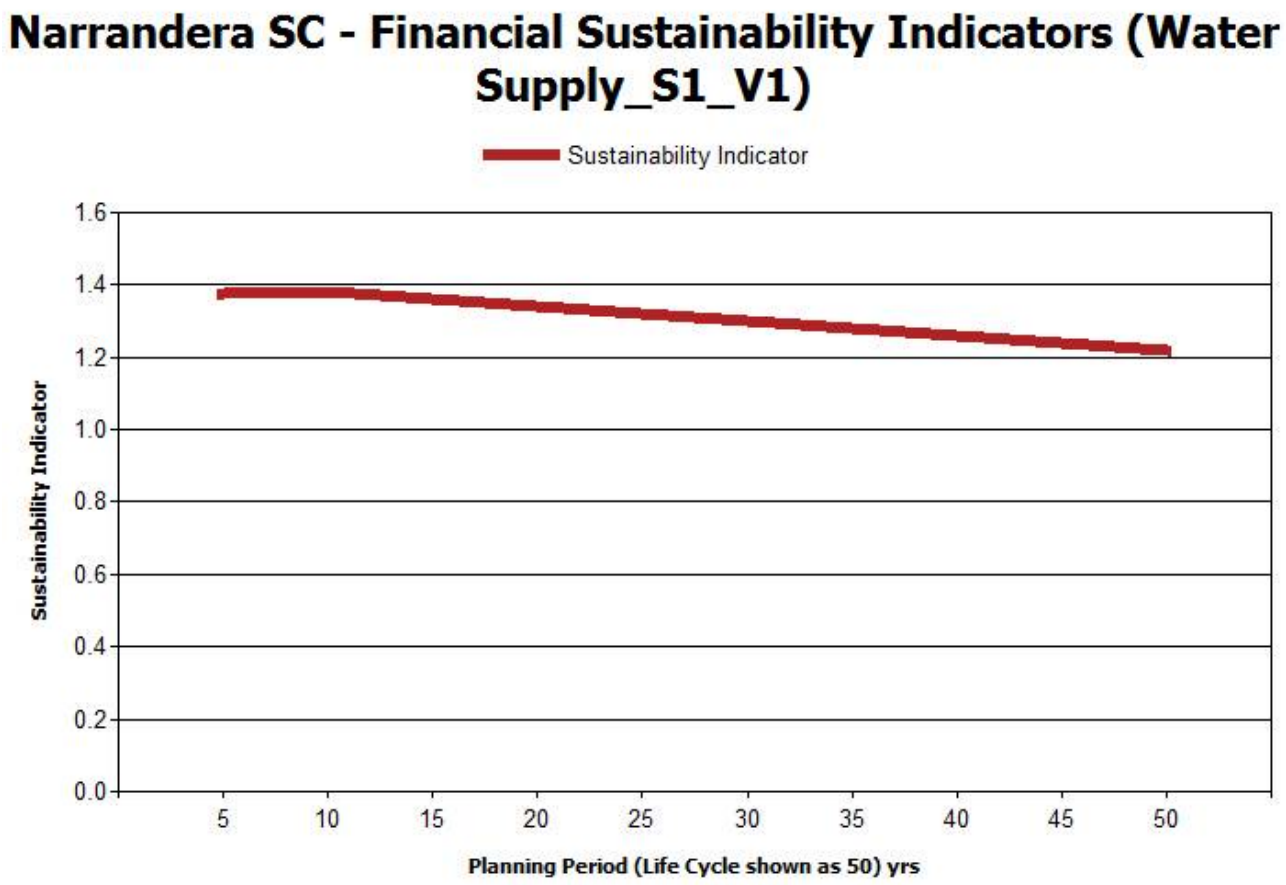
The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is $811,000 per year (for scenario 1).

Estimated (budget) operations, maintenance and capital renewal funding is $1,117,000 per year giving a 5 year funding surplus of $306,000. This is 138% of projected expenditures giving a 5 year sustainability indicator of 1.38.

Financial Sustainability Indicators

Figure 11 shows the financial sustainability indicators over the 10 year planning period and for the long term life cycle.

Figure 11: Financial Sustainability Indicators (Scenario 1 – From Asset Register)



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

Figure 8 shows the projected asset renewals in the 10 year planning period from Appendix B. The projected asset renewals are compared to budgeted renewal expenditure in the capital works program and capital renewal expenditure in year 1 of the planning period in Figure 12.

Figure 122: Projected and Budgeted Renewal Expenditure (Scenario 1 - from Asset Register)

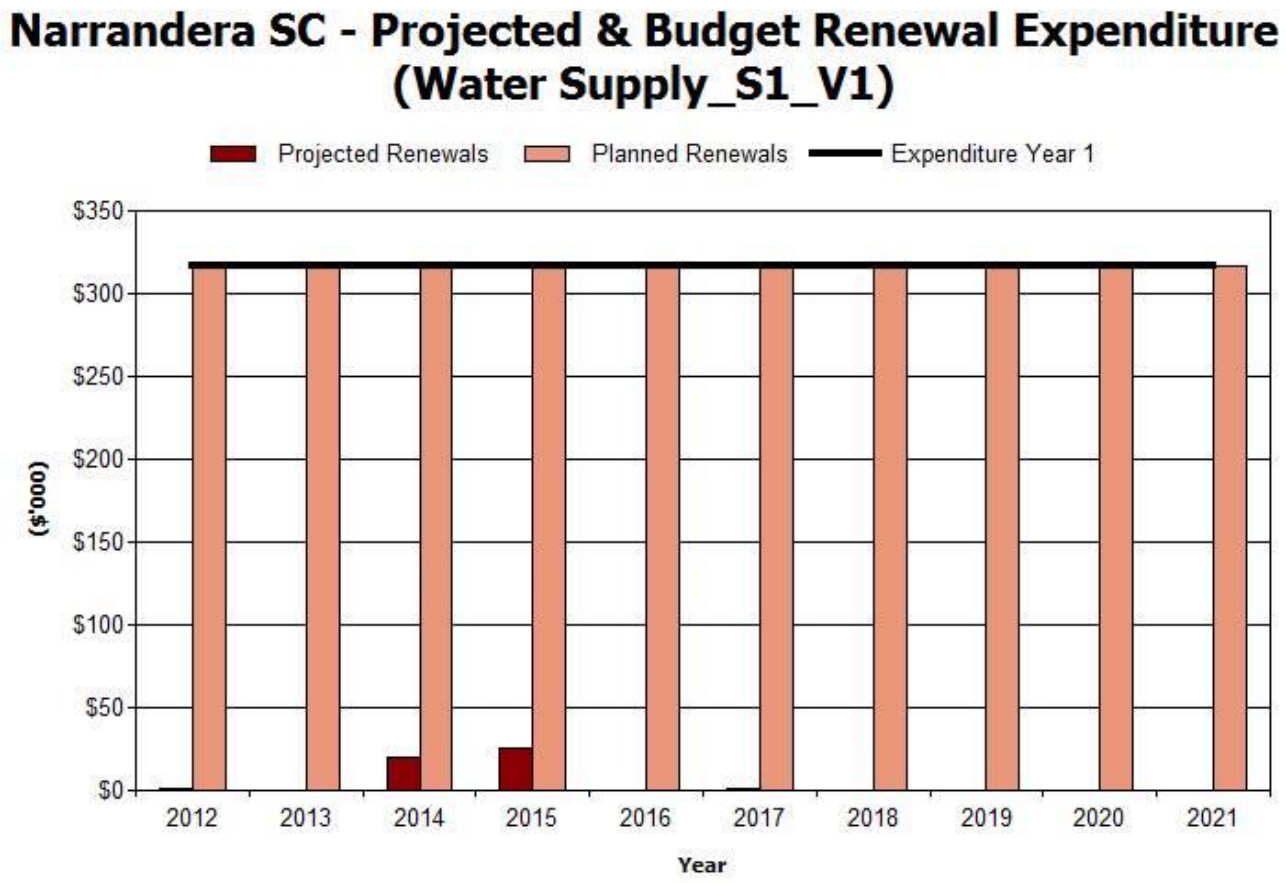


Table 18.S1 shows the shortfall between projected and budgeted renewals for Scenario 1.

Table 18.S1: Projected and Budgeted Renewals and Expenditure Shortfall (Scenario 1 - from Asset Register)

Narrandera SC >> Asset Management Plan Table 6.1.1 (Water Supply_S1_V1)

Year End Jun-30	Projected Renewal ($'000)	Planned Renewal Budget ($'000)	Renewal Funding Difference (- ve = Gap) ($'000)	Cumulative Difference Difference (- ve = Gap ($'000)
2012	$1.22	$317.00	$315.78	$315.78
2013	$0.00	$317.00	$317.00	$632.78
2014	$20.05	$317.00	$296.95	$929.73
2015	$26.08	$317.00	$290.92	$1,220.65
2016	$0.00	$317.00	$317.00	$1,537.65
2017	$1.22	$317.00	$315.78	$1,853.43
2018	$0.00	$317.00	$317.00	$2,170.43
2019	$0.00	$317.00	$317.00	$2,487.43
2020	$0.00	$317.00	$317.00	$2,804.43
2021	$0.00	$317.00	$317.00	$3,121.43

Note: An negative shortfall indicates a funding gap, a positive shortfall indicates a surplus for that year.

Figure 133: Projected and Budgeted Renewal Expenditure (Scenario 2 and 3 – Balanced to LTFP – Prioritised Renewal Program)

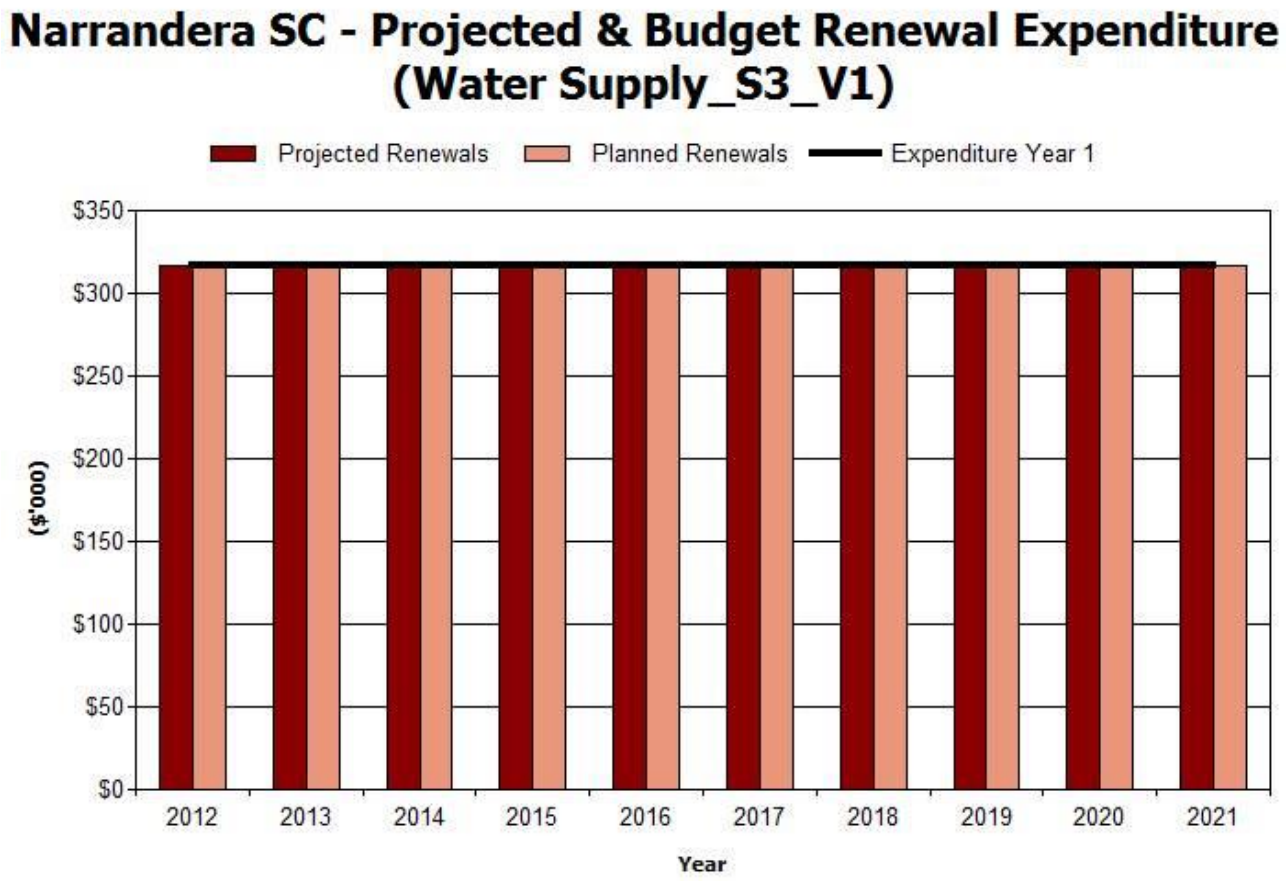


Table 19.S2 shows the shortfall between projected and budgeted renewals for Scenario 2.

Table 19 .S2: Projected and Budgeted Renewals and Expenditure Shortfall (Scenario 2 and 3 – Balanced to LTFP – Prioritised Renewal Program)

Narrandera SC >> Asset Management Plan Table 6.1.1 (Water Supply_S3_V1)				
Year End Jun-30	**Projected Renewal ($'000)**	**Planned Renewal Budget ($'000)**	**Renewal Funding Difference (- ve = Gap) ($'000)**	**Cumulative Difference Difference (- ve = Gap ($'000)**
2012	$317.00	$317.00	$0.00	$0.00
2013	$317.00	$317.00	$0.00	$0.00
2014	$317.00	$317.00	$0.00	$0.00
2015	$317.00	$317.00	$0.00	$0.00
2016	$317.00	$317.00	$0.00	$0.00
2017	$317.00	$317.00	$0.00	$0.00
2018	$317.00	$317.00	$0.00	$0.00
2019	$317.00	$317.00	$0.00	$0.00
2020	$317.00	$317.00	$0.00	$0.00
2021	$317.00	$317.00	$0.00	$0.00

Note: An negative shortfall indicates a funding gap, a positive shortfall indicates a surplus for that year.

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

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

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 Expenditure projections for long term financial plan

Table 20 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in current (non-inflated) values. Disposals are shown as net expenditures (revenues are negative).

Table 20: Expenditure Projections for Long Term Financial Plan ($000) (Scenario 3 – Balanced to LTFP – Prioritised Renewal Program)

Narrandera SC >> Planned Expenditures for Long Term Financial Plan (Water Supply_S3_V1)					
Year End Jun-30	**Total Operations Expenditure ($'000)**	**Total Maintenance ($'000)**	**Projected Capital Renewal ($'000)**	**Planned Capital Upgrade/New ($'000)**	**Net Disposals ($'000)**
2012	$550.00	$250.00	$317.00	$10.00	$0.00
2013	$550.36	$250.17	$317.00	$10.00	$0.00
2014	$550.73	$250.33	$317.00	$10.00	$0.00
2015	$551.09	$250.50	$317.00	$10.00	$0.00
2016	$551.46	$250.66	$317.00	$10.00	$0.00
2017	$551.82	$250.83	$317.00	$10.00	$0.00
2018	$552.18	$250.99	$317.00	$10.00	$0.00
2019	$552.55	$251.16	$317.00	$10.00	$0.00
2020	$552.91	$251.32	$317.00	$10.00	$0.00
2021	$553.27	$251.49	$317.00	$10.00	$0.00

Note: All projected expenditures are in 2012 values

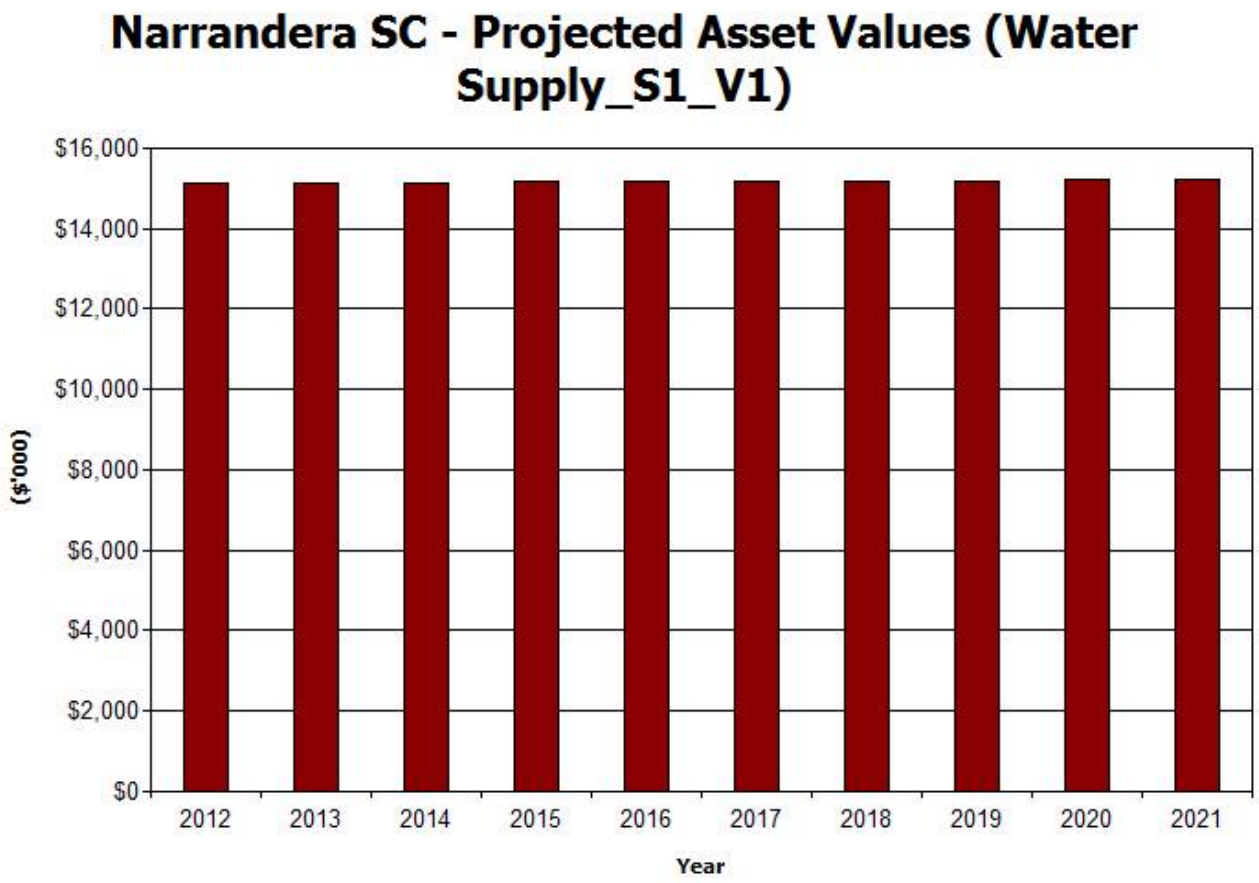
6.2 Funding Strategy

Projected expenditure identified in Section 6.1 is to be funded from future operating and capital budgets. The funding strategy is detailed in the organisation's 10 year long term financial plan.

6.3 Valuation Forecasts

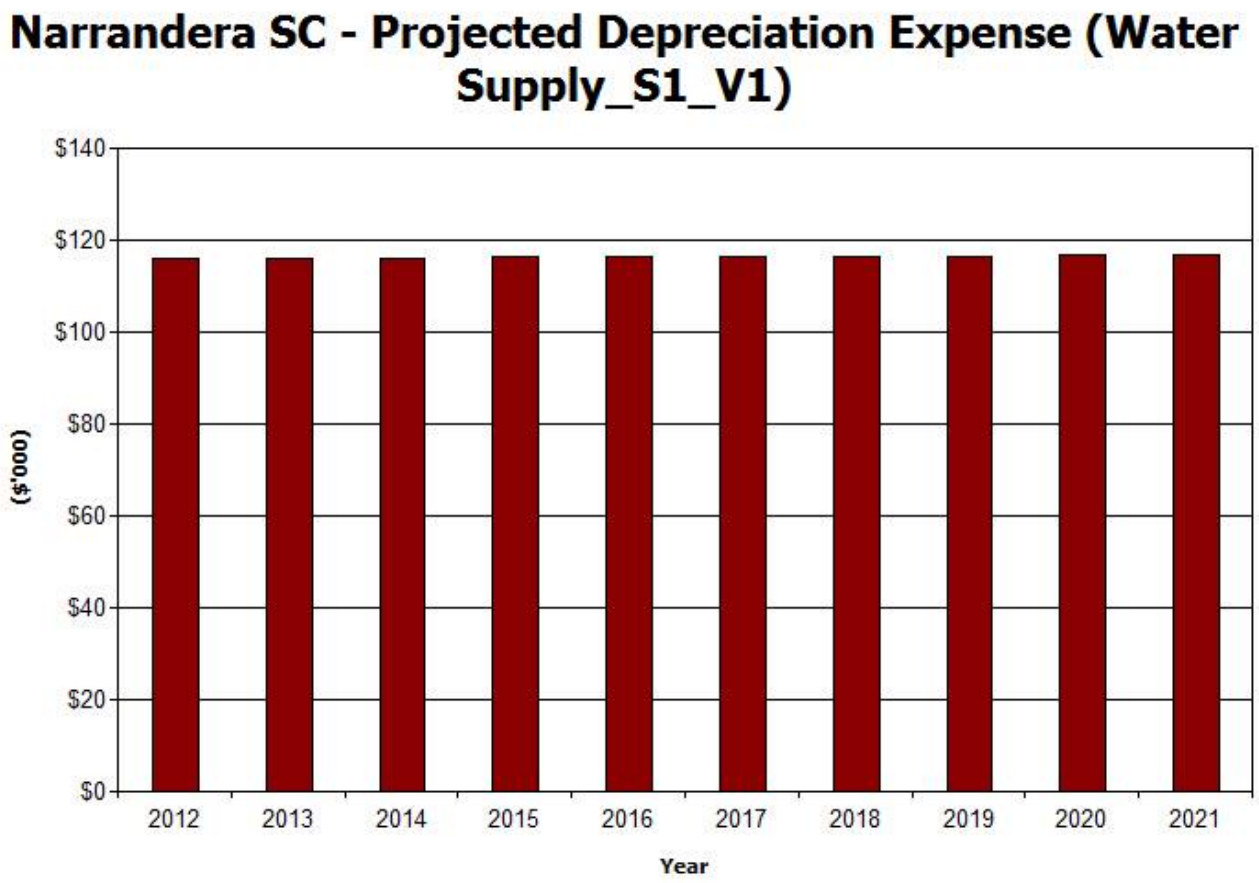
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 14 shows the projected replacement cost asset values over the planning period in 2012 dollar values.

Figure 14: Projected Asset Values



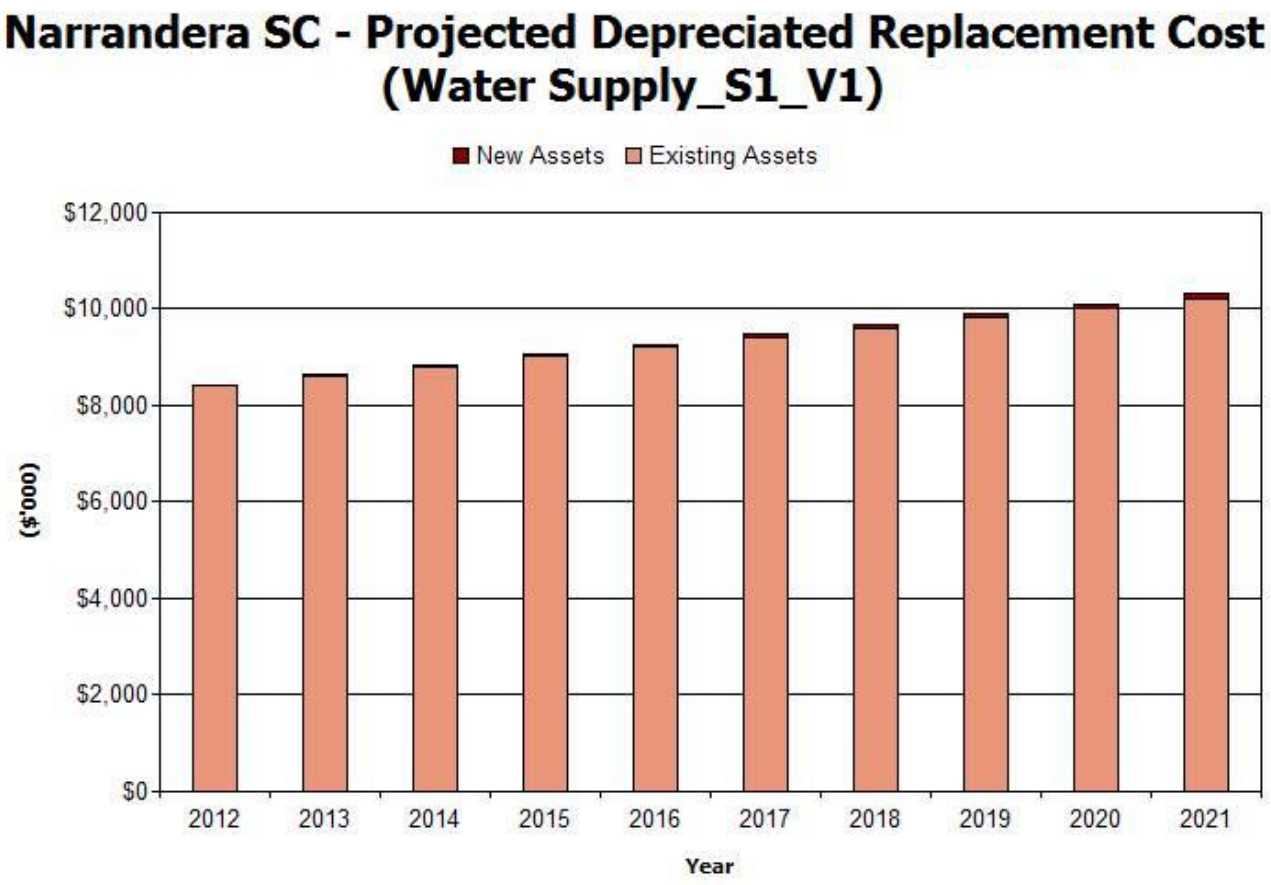
Depreciation expense values are forecast in line with asset values as shown in Figure 15.

Figure 155: Projected Depreciation Expense



The depreciated replacement cost (current replacement cost less accumulated depreciation) will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Figure 16. The effect of contributed and new assets on the depreciated replacement cost is shown in the light colour bar.

Figure 16: Projected Depreciated Replacement Cost



6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan are:

- That water supply assets will remain in Council's ownership throughout the planning period and that levels of service remain unchanged;
- Required maintenance is assumed to take place in accordance with relevant codes and standards.
- Natural disasters (such as flood), vandalism and other unplanned events are not considered in the asset lifecycles.
- That water supply assets will be replaced at the end of their useful life;
- Water supply assets are assumed to reach their allocated design lives even though degradation will vary according to location, prevailing weather and usage.
- All upgrade and renewal expenditure is stated in 2012 dollar values;

- Information within the asset register is based on current knowledge only;
- Maintenance and operations allocations are largely based on maintaining current service levels, expenditure is stated in 2012 dollar values;
- The depreciation has been calculated on a straight-line basis

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

- Full Implementation of a single Asset Register
- Maintaining the Asset Register
- Reviewing useful lives for assets in conjunction with developing suitable hierarchies within the asset categories.
- Higher detail and definition in relation to the current expenditures by type e.g. operating, maintenance, renewal, upgrade/new

.7. ASSET MANAGEMENT PRACTICES

7. ASSET MANAGEMENT PRACTICES

7.1 Accounting/Financial Systems

7.1.1 Accounting and financial systems

Civica Accounting System

7.1.2 Accountabilities for financial systems

Director Corporate Services

7.1.3 Accounting standards and regulations

AASB116

Local Government Act as Amended for IPR.

7.1.4 Capital/maintenance threshold

See asset accounting policy

7.1.5 Required changes to accounting financial systems arising from this AM Plan

All asset registers currently in XL will be migrated to e-lifecycle

7.2 Asset Management Systems

7.2.1 Asset management system

e-lifecycle Asset Management System provides predictive and asset management modelling for the ongoing update of the asset management plans and strategy. Finmod provides the modelling for water and sewer debt and charges that are needed to ensure self-funding water and sewer systems. The transition to new financial management systems and respective roles of GIS, Financial System, asset financial and component registers needs to be guided by a knowledge management strategy.

7.2.2 Asset registers

All asset registers currently in XL will be migrated to e-lifecycle

7.2.3 Linkage from asset management to financial system

Quarterly update of capital transactions from asset management to financial system to keep e-lifecycle asset register up to date for: condition, remaining life, useful life, values. Synchronisation of financial system and e-lifecycle asset register when a revaluation occurs. Annual balancing of end of year note 9a reporting.

7.2.4 Accountabilities for asset management system and data

Design and Asset Manager

7.2.5 Required changes to asset management system arising from this AM Plan

Implementation of e-lifecycle and update of asset register as per table 22 in section 8.2.

7.3 Information Flow Requirements and Processes

The key information flows *into* this asset management plan are:

- Council strategic and operational plans,
- Service requests from the community,
- Network assets information,
- The unit rates for categories of work/materials,
- Current levels of service, expenditures, service deficiencies and service risks,
- Projections of various factors affecting future demand for services and new assets acquired by Council,
- Future capital works programs,
- Financial asset values.

The key information flows *from* this asset management plan are:

- The projected Works Program and trends,
- The resulting budget and long term financial plan expenditure projections,
- Financial sustainability indicators.

These will impact the Long Term Financial Plan, Strategic Longer-Term Plan, annual budget and departmental business plans and budgets.

7.4 Standards and Guidelines

Standards, guidelines and policy documents referenced in this asset management plan are:

- Local Government Act (NSW) 1993
- Local Government Amendment (Planning and Reporting) Act 2009
- Local Government (Finance Plans and Reporting) Regulation 2010
- AASB116

8. PLAN IMPROVEMENT AND MONITORING

8.1 Performance Measures

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

- The degree to which the required cashflows identified in this asset management plan are incorporated into the organisation's long term financial plan and Community/Strategic Planning processes and documents,
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan;

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 21.

Table 21 Section 8.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Continue the development of the corporate asset register, in which financial calculations including calculation of annual depreciation are undertaken by council.	Corporate (Technical & Financial)	Staff Time	December 2012
2	Develop the forward capital renewal programme under scenarios 2 (optimal renewal program) and 3 (prioritised renewal program in line with LTFP budget figures) and develop strategy for acquiring condition data for use in the condition reporting tables (figures 3 and 4)	Corporate	Staff Time	June 2013
3	Continue to Improve project cost accounting to record costs against the asset component and develop valuation unit rates	Corporate (Technical & Financial)	Staff Time	December 2012
4	Review and update the service level in section 3.3 to enable annual state of the assets reporting on condition, function and utilisation	Technical	Staff Time	December 2012
5	Review methodology for determining remaining life, with detail assessment for assets requiring renewal in the medium term (next 10-20 years)	Corporate (Technical & Financial)	Staff Time	June 2013
6	Continue to review the procedures for maintaining the Asset and Financial Registers	Corporate (Technical & Financial)	Staff Time	Ongoing
7	Carry out an asset management maturity audit to ensure compliance with the national asset management framework and IPR guidelines.	Corporate (Technical & Financial)	LGRF funded	Annual

8.3 Monitoring and Review Procedures

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

The Plan has a life of 4 years and is due for revision and updating within 12 months of each Council election.

REFERENCES

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

IPWEA, 2011, *Asset Management for Small, Rural or Remote Communities* Practice Note, Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AM4SRRC.

Narrandera Shire Council Adopted Asset Management Plan 2011-2016

Narrandera Shire Council Annual Report 2010/11

APPENDICES

Appendix A Planned Expenditures (From Long Term Financial Plan)

IPWEA Asset Management for Small, Rural or Remote Communities

Narrandera SC

Water Supply_S1_V1 Asset Management Plan

Planned Expenditures

First year of expenditure projections **2012** (yr ending 30 June)

Asset values as at 30 June 2011		Form 2 CRC values
Current replacement cost	$15,116 (000)	$15,116 (000)
Depreciable amount	$15,116 (000)	as check for you
Depreciated replacement cost	$8,210 (000)	54% of CRC
Annual depreciation expense	$116 (000)	1% of D Amt

Operations and Maintenance Costs from New Assets	% of asset value	Existing %ages calculated from data in worksheet
Additional operations costs	3.64%	3.64% of CRC
Additional maintenance	1.65%	1.65% of CRC
Additional depreciation	0.77%	0.77% of D Amt
Planned renewals (information only)		2.10% of CRC

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

Projected Expenditures

10 Year Expenditure Projections Note: Enter all values in curren **2012** values

Year ending June	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000
Operations (Budget or LTFP)										
Operations	$550	$550	$550	$550	$550	$550	$550	$550	$550	$550
Management		$0	$0	$0	$0	$0	$0	$0	$0	$0
AM systems		$0	$0	$0	$0	$0	$0	$0	$0	$0
Total operations	$550	$550	$550	$550	$550	$550	$550	$550	$550	$550
Maintenance (Budget or LTFP)										
Reactive maintenance	$250	$250	$250	$250	$250	$250	$250	$250	$250	$250
Planned maintenance		$0	$0	$0	$0	$0	$0	$0	$0	$0
Specific maintenance items		$0	$0	$0	$0	$0	$0	$0	$0	$0
Total maintenance	$250	$250	$250	$250	$250	$250	$250	$250	$250	$250
Capital										
Planned renewal budget	$317	$317	$317	$317	$317	$317	$317	$317	$317	$317
Planned upgrade/new (from Form 2C)	$10	$10	$10	$10	$10	$10	$10	$10	$10	$10
Non-growth contributed asset value	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Disposal Expenditure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
User Comments #1										

Appendix B1 Projected 10 year Capital Renewal Works Program (Scenario 2 – Prioritised Renewal Program)

Narrandera SC >> Renewal Program (Water Supply_S1_V1)								
Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
WSP000005/1	Plant and Equipment	HIGH LEVEL PRESSURE PUMP	Water Supply Network		-1	2011	$0.00	50
WSR000007	Plant and Equipment	Telemetry	Water Supply Network		-1	2011	$1,220.06	5
WMF000482	Water Hydrant	HYD	Water Supply Network		-1	2011	$0.01	80
WMF000728	Water Hydrant	HYD	Water Supply Network		-1	2011	$0.01	80
WMF000729	Water Hydrant	HYD	Water Supply Network		-1	2011	$0.01	80
WMF000730	Water Hydrant	HYD	Water Supply Network		-1	2011	$0.01	80
WMF000731	Water Hydrant	HYD	Water Supply Network		-1	2011	$0.01	80
WMF000732	Water Hydrant	HYD	Water Supply Network		-1	2011	$0.01	80
WMF000733	Water Hydrant	SV	Water Supply Network		-1	2011	$0.00	80
WMF000724	Water Hydrant	SV	Water Supply Network		-1	2011	$0.00	80
						Subtotal	$1,220.12	
WSP000004/1	Plant and Equipment	RED HILL PRESSURE PUMP 2	Water Supply Network		2	2014	$20,049.58	50
						Subtotal	$20,049.58	
WSP000004/2	Plant and Equipment	RED HILL PRESSURE PUMP	Water Supply Network		3	2015	$26,078.79	50
						Subtotal	$26,078.79	
WSR000007	Plant and Equipment	Telemetry	Water Supply Network		5	2017	$1,220.06	5
						Subtotal	$1,220.06	

Narrandera SC >> Renewal Program (Water Supply_S1_V1)

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
						Program Total	$48,568.55	

Appendix B2 Projected 10 year Capital Renewal Works Program (Scenario 2 – Prioritised Renewal Program)

Narrandera SC
Projected Capital Renewal Works Program - Water Supply_S2_V1

($000)

Year	Item	Description	Estimate
2012		**Network Renewals**	
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2012		**Total**	**$317**

2013		**Network Renewals**	
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2013		**Total**	**$317**

($000)

Year	Item	Description	Estimate
2014		**Network Renewals**	
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		

Narrandera SC

Projected Capital Renewal Works Program - Water Supply_S2_V1

($000)

Year	Item	Description	Estimate
2014		**Total**	**$317**

2015		**Network Renewals**	Estimate
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2015		**Total**	**$317**

($000)

Year	Item	Description	Estimate
2016		**Network Renewals**	
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2016		**Total**	**$317**

2017		**Network Renewals**	
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		

Narrandera SC
Projected Capital Renewal Works Program - Water Supply_S2_V1

($000)

Year	Item	Description	Estimate
2017		**Total**	**$317**

($000)

Year	Item	Description	Estimate
2018		**Network Renewals**	
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2018		**Total**	**$317**

2019		**Network Renewals**	
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2019		**Total**	**$317**

($000)

Year	Item	Description	Estimate
2020		**Network Renewals**	
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		

Narrandera SC

Projected Capital Renewal Works Program - Water Supply_S2_V1

($000)

Year	Item	Description	Estimate
	10		
2020		**Total**	**$317**

2021		**Network Renewals**	
	1	Budget - Long Term Financial Plan Estimate for Water Supply	$317
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2021		**Total**	**$317**

Appendix C1 Planned Upgrade/Exp/New 10 year Capital Works Program (All Scenarios)

Narrandera SC
Projected Capital Upgrade/New Works Program - Water Supply_S2_V1

($000)

Year	Item	Description	Estimate
2012	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2012		**Total**	**$10**

($000)

Year	Item	Description	Estimate
2013	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2013		**Total**	**$10**

($000)

Year	Item	Description	Estimate
2014	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2014		**Total**	**$10**

Narrandera SC
Projected Capital Upgrade/New Works Program - Water Supply_S2_V1

($000)

Year	Item	Description	Estimate

($000)

Year	Item	Description	Estimate
2015	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2015		**Total**	**$10**

($000)

Year	Item	Description	Estimate
2016	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2016		**Total**	**$10**

($000)

Year	Item	Description	Estimate
2017	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		

Narrandera SC

Projected Capital Upgrade/New Works Program - Water Supply_S2_V1

($000)

Year	Item	Description	Estimate
	10		
2017		**Total**	**$10**

($000)

Year	Item	Description	Estimate
2018	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2018		**Total**	**$10**

($000)

Year	Item	Description	Estimate
2019	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2019		**Total**	**$10**

($000)

Year	Item	Description	Estimate
2020	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		

Narrandera SC

Projected Capital Upgrade/New Works Program - Water Supply_S2_V1

($000)

Year	Item	Description	Estimate
	8		
	9		
	10		
2020		**Total**	**$10**

($000)

Year	Item	Description	Estimate
2021	1	Typical Annual Budget for Upgrade/New based on current budget for Water Supply	$10
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2021		**Total**	**$10**

Appendix D Alternate Ratio Calculations

Narrandera SC >> Table 6.1 Sustainability of Service Delivery	S1 Asset Register	S2 Balanced with LTFP - Prioritised renewal program (Individual renewal items not separately identified)	S3 Same as Scenario 2
Summary - What does it cost?			
Cost over 10 years	$8,049	$11,170	$11,170
Cost per year	$805	$1,117	$1,117
Available funding over 10 years	$11,170	$11,170	$11,170
Funding per year	$1,117	$1,117	$1,117
Funding shortfall	-$312	$0	$0
Percentage of cost	**139%**	**100%**	**100%**
Life Cycle Cost (long term)'($000)			
Life Cycle Cost [depreciation + Projected Expenditure]	$9,160	$9,160	$9,160
Life Cycle Exp. [capital renewal + Planned Expenditure]	$11,170	$11,170	$11,170
Life Cycle Gap [life cycle expenditure - life cycle cost [-ve = gap]	$2,010	$2,010	$2,010
Life Cycle Sustainability Indicator [life cycle expenditure / LCC]	**122%**	**122%**	**122%**
Medium Term (10 yrs) Sustainability			
10 yr Projected Expenditure	$8,049	$11,170	$11,170
10 yr Planned (Budget) Expenditure	$11,170	$11,170	$11,170
10 yr Funding Shortfall [10 yr proj. exp. - planned (Budget) exp.]	$3,121	$0	$0
10 yr Sustainability Indicator [10 yr planned exp. / proj. exp.]	**139%**	**100%**	**100%**
Short Term (5 yrs) Sustainability			
5 yr Projected Expenditure	$4,047	$5,585	$5,585
5 yr Planned (Budget) Expenditure	$5,585	$5,585	$5,585
5 yr Funding Shortfall [5 yr proj. exp. - planned (budget) exp.]	$1,538	$0	$0
5 yr Sustainability Indicator [5 yr planned exp. / proj. exp.]	**138%**	**100%**	**100%**

Appendix E Abbreviations

AAAC Average annual asset consumption

AMP Asset management plan

ARI Average recurrence interval

BOD Biochemical (biological) oxygen demand

CRC Current replacement cost

CWMS Community wastewater management systems

DA Depreciable amount

EF Earthworks/formation

IRMP Infrastructure risk management plan

LCC Life Cycle cost

LCE Life cycle expenditure

MMS Maintenance management system

PCI Pavement condition index

RV Residual value

SS Suspended solids

vph Vehicles per hour

Appendix F Glossary

Annual service cost (ASC)

1) Reporting actual cost
   The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
2) For investment analysis and budgeting
   An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

Asset

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

Asset 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 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.

Average annual asset consumption (AAAC)*

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

Borrowings

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

Capital expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital expenditure - expansion

Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases the organisation's asset base, but may be associated with additional revenue from the new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new

Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

Capital expenditure - renewal

Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, eg. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

Capital expenditure - upgrade
Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in the organisation's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital funding
Funding to pay for capital expenditure.

Capital grants
Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

Capital investment expenditure
See capital expenditure definition

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

Carrying amount
The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

Class of assets
See asset class definition

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

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.

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.

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.

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

Funding gap
A funding gap exists whenever an entity has insufficient capacity to fund 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 funding gap means service levels have already or are currently falling. A projected funding 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 annual operations, maintenance and asset consumption expense, represented by depreciation expense. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure
The Life Cycle Expenditure (LCE) is the actual or planned annual operations, maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of life cycle sustainability.

Loans / borrowings
See borrowings.

Maintenance
All actions necessary for retaining an asset as near as practicable to its original 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.
- **Significant 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 and renewal gap
Difference between estimated budgets and projected required expenditures for maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Maintenance and renewal sustainability index

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

Maintenance expenditure

Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

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

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

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

Non-revenue generating investments
Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations 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.

Pavement management system
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
A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

Rate of annual asset renewal
A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

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

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).

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.

Specific Maintenance
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

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