



Cherbourg Aboriginal Shire Council

Asset Management Plan

Sewerage Assets

Resolution Number	Date	Reason/Comment

Table of Contents

1	EXECUTIVE SUMMARY	4
1.1	CONTEXT	4
1.2	WHAT DOES IT COST?	4
1.3	WHAT WE WILL DO	4
1.4	WHAT WE CANNOT DO	4
1.5	MANAGING THE RISKS	4
1.6	ASSET CONDITION	5
1.7	THE NEXT STEPS	5
2	INTRODUCTION	6
2.1	BACKGROUND	6
2.2	PLAN PURPOSE AND FRAMEWORK	6
2.3	OPERATIONAL PLAN	6
2.4	ASSET MANAGEMENT OBJECTIVES	6
3	STRATEGIC CONTEXT	6
3.1	OVERVIEW OF EXTERNAL FACTORS	6
3.2	OVERVIEW OF INTERNAL FACTORS	7
3.3	SUMMARY OF KEY ISSUES	7
4	KEY ASSUMPTIONS	8
5	LIFECYCLE MANAGEMENT	8
6	LEVELS OF SERVICE	9
6.1	MAINTENANCE	10
6.2	CAPITAL	10
6.2.1	ASSET RENEWAL	10
6.2.2	NEW AND UPGRADE	10
6.2.3	DISPOSAL	10
6.3	CONDITION ASSESSMENT	11
7	FINANCIAL SUMMARY	11
7.1	CURRENT FINANCIAL POSITION	11
7.2	FUNDING OPTIONS AND STRATEGY	12
7.3	MAINTENANCE BACKLOG	12
7.4	RENEWAL GAP	12
7.5	FORECAST OPERATIONAL AND CAPITAL EXPENDITURE	12
8	KEY RISKS IDENTIFIED	12

9	FUTURE ACTIONS	13
9.1	IMPROVEMENT PLAN	13
10	ASSET INFORMATION	14
10.1	SEWERAGE DISPOSAL NETWORK	14
10.1.1	ASSET HOLDINGS	14
10.1.2	AVAILABLE DATA	14
10.1.3	LAST CONDITION SURVEY	14
10.1.4	GENERAL CONDITION ASSESSMENT	14
10.2	SEWERAGE PUMP STATIONS	15
10.2.1	ASSET HOLDINGS	15
10.2.2	AVAILABLE DATA	15
10.2.3	LAST CONDITION SURVEY	15
10.2.4	GENERAL CONDITION ASSESSMENT	15
10.3	WASTE WATER TREATMENT (LAGOONS AND TREATMENT PLANT)	16
10.3.1	ASSET HOLDINGS	16
10.3.2	AVAILABLE DATA	16
10.3.3	LAST CONDITION SURVEY	16
10.3.4	GENERAL CONDITION ASSESSMENT	16
10.4	SUMMARY OF SEWERAGE ASSETS WITH CONDITION RATING 4 OR 5	16

1 Executive Summary

1.1 Context

Cherbourg is located 375km north west of Brisbane in the South Burnett region of Queensland. It is located off the [Bunya Highway](#) approximately 250 kilometres north-west of [Brisbane](#) and 6 kilometres from the town of [Murgon](#). Cherbourg Shire covers 3,130 hectares or 31.7 km² of land.

The Cherbourg Aboriginal Shire Council area is serviced by a Sewerage Treatment Plant. The State Government has funded the upgrading of the sewerage system in 2020-21 under the Indigenous Councils Critical Infrastructure Program.

The sewerage assets addressed in this plan include:

- Sewerage Disposal Network (Sewer Mains and Nodes)
- Sewerage Pump Stations
- Stormwater Pits
- Wastewater Treatment (Lagoons and Treatment Plant)

1.2 What does it cost?

The projected cost to provide the services covered by this Asset Management Plan which includes operations and maintenance of existing assets over the 10-year planning period is \$1.96M. Renewal and upgrade capital expenditure is yet to be identified.

Council is wholly reliant on grants to fund the operations of its sewerage services.

1.3 What we will do

Cherbourg Aboriginal Shire Council's goal is to provide a range of services that the community needs and to provide and manage the assets required to meet agreed levels of service for the community, in the most cost-effective manner.

1.4 What we cannot do

Council cannot fund its sewerage services from its own revenues. Council is unable to undertake any upgrade, renewal, or construct new assets without external assistance in the form of grants or contributions of assets.

1.5 Managing the risks

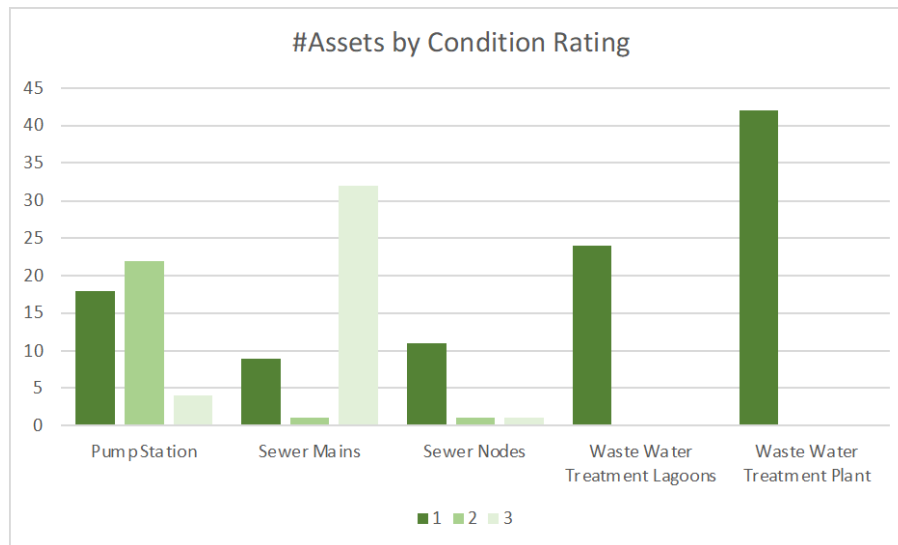
Cherbourg Aboriginal Shire Council although yet to formally undertake a Corporate Risk Plan, has identified four primary risks across all classes of assets and services, namely:

- Funding sustainability to support consistent Levels of Service;
- Loss of key personnel;
- The need for improved skills and the 'whole of organisation' approach to the management of assets and services effectively; and
- Failure of an asset or network due to inappropriate asset management.

Currently operational risks are adequately managed with day-to-day operations. However, this management is predominantly reactive on an ad hoc basis and done in the absence of formal corporate direction due to the nature and timing of the grants process. Addressing the

corporate and external risks would enable the organisation to devise and enact more appropriate treatments.

1.6 Asset Condition



Council's sewerage assets are in relatively good condition with the majority of assets rated a condition 1 or 2. Sewer mains will require funding to maintain or improve their condition and should be the focus for this asset class over the next ten years.

1.7 The next steps

The next steps resulting from this Plan are:

- Develop a long-term renewal plan based on condition and remaining life.
- Undertake a review of those assets identified as condition rating 3.
- Undertake the actions listed in the Improvement Plan at Section 9 below.

2 Introduction

2.1 Background

The Cherbourg Aboriginal Shire Council area is serviced by a Sewerage Treatment Plant. The State Government has funded the upgrading of the sewerage system in 2020-21 under the Indigenous Councils Critical Infrastructure Program.

The sewerage assets addressed in this plan include:

- Sewerage Disposal Network (Sewer Mains and Nodes)
- Sewerage Pump Stations
- Wastewater Treatment (Lagoons and Treatment Plant)

2.2 Plan purpose and framework

Council's primary goal in managing assets is to meet the required Level of Service in the most cost-effective manner for present and future residents, and visitors.

The purpose of this dedicated sewerage plan is to:

- Improve understanding of the sewerage assets and associated services;
- Improve budgeting and forecasting of asset related management options and costs, particularly in understanding the long-term investment in capital renewal;
- Afford a level of confidence in forward works programs, maintenance and provide support for any business cases associated with securing the necessary funding requirements; and
- Provide the guidance for elected members and the organisation in taking positive steps toward advanced asset management planning.

2.3 Operational Plan

Council is yet to finalise its Operational Plan for 2022-23. When adopted, the actions relating to the management of the sewerage system will be listed in Table 2.1 below.

STRATEGIES	ACTIVITIES	Performance Measures
To be developed		

Table 2.1: Performance measures from relevant sections of the Operational Plan 2022-23

2.4 Asset Management Objectives

Cherbourg Shire Council's goal is to provide a range of services that the community needs and to provide and manage the assets required to meet agreed levels of service for the community, in the most cost-effective manner.

3 Strategic Context

3.1 Overview of external factors

As at the 2021 census, the resident population of Cherbourg Aboriginal Shire was 1,194 persons. The average annual growth rate in Cherbourg Aboriginal Shire LGA between 1996 and 2021 was 0.61 per cent, compared with 2.5 per cent for the state. As at 30 June 2041,

the population for Cherbourg Aboriginal Shire Local Government Area (LGA) is projected to be between 1,353 and 1,455 persons.

The population for Cherbourg Aboriginal Shire LGA is projected to increase by an average annual growth rate of 0.5 per cent over the 20-year period between 2017 and 2036. At the time of the 2021 Census, there were 1,151 persons in Cherbourg Shire Local Government Area who stated they were of Aboriginal or Torres Strait Islander origin. These persons made up 96.3% of the total population.

Council's obligations under Section 40 and 41 of the *Environmental Protection (Water) Policy 1997* include the preparation of a sewerage management plan and a trade waste management plan.

The Department of Environment, Resources and Mines (DERM) is the industry regulator of Council's primary water source providers under the Water Supply (Safety and Reliability) Act 2008 which contains provisions relating to sewerage and trade waste operations.

3.2 Overview of internal factors

Currently, the Cherbourg Shire Council is managing assets with a replacement value of around \$278 million (including, housing, land, roads, plant, equipment, infrastructure water/sewerage and council buildings). In common with many other Aboriginal Shire Councils, Cherbourg is a rural community with limited economic opportunities available, virtually no rate base, but at the same time, is responsible for a wide range of services and infrastructure. The Council therefore relies to a large extent on Federal and state funding to provide the necessary services and infrastructure to the community.

A significant proportion of the Cherbourg Aboriginal Shire Council infrastructure assets have been in existence for many years. The assets generally originated from a combination of State and Commonwealth construction and development grants. Due to the uncertainty of ongoing funding, Council will need to ensure asset management plans are cognisant of increasing maintenance costs given some assets are likely to be maintained well after their economic life.

3.3 Summary of key issues

The primary issues for the sewerage assets and services are the fundamentals of:

- Good data – dimensional and condition data stored in an Asset Inventory that can be uploaded to the Asset Register;
- Increasing the strategic and tactical management of the assets and services – understanding the renewal and maintenance needs for the network and actively managing those needs, both operationally and financially;
- Documentation of the Levels of Service, expressed as Service Standards and Service Targets;
- An appreciation of the cost of provision of the services;
- The future demand for the assets and services, understanding the growth and change factors that influence the management regime;
- Forecasting the renewal and maintenance costs for the next 10+ years and understanding the affordability and sustainability of the assets and services to the current levels.

4 Key Assumptions

Significant Assumption	Level of Assumption (low = small risk)	Likely Impact if Assumption is not Realised
Reliability of data – assumes that the information on the underground assets obtained is representative of the network	High	Condition data is incorrect and renewal requirements need significant review
No major adverse natural event – while an event may occur at any time, this plan focuses on business-as-usual operations	Medium	Any response to a disaster cannot be funded from Council's existing budgets. Support will be required from the Commonwealth and State Governments
Assets are replaced at the end of their useful lives	Low	If lives are shorter or longer than expected, the timing and amount of funds available may be inadequate

5 Lifecycle Management

Life Cycle Management is primarily about using the data and processes to effectively provide, manage, maintain, renew, (and upgrade), existing sewerage assets and services.

Lifecycle asset management means considering all management options and strategies as part of the asset lifecycle, from planning to disposal, (whole of life analysis). The objective of managing the assets in this manner is to look at long-term cost impacts, (or savings), when making asset and services management decisions.

Lifecycle management planning for sewerage assets and services needs to contend with a range of life spans for the groups, types and components of assets as described in Table 5.1 below.

Facility	Asset Type	Average of Useful Life	Average of 2022 Condition	Average of Adopted Remaining Life
• Pump Station		58	2	45
	Civil	66	2	54
	Electrical	40	3	25
	Mechanical	40	2	32
	P&V	64	2	42
	Site Services	60	2	43
• Sewer Mains		80	3	48
	Rising Main	80	1	66
	Standard	80	3	45
• Sewer Nodes		80	1	72
	Manhole	80	1	73
	Pits	80	2	55
• Waste Water Treatment Lagoons		66	1	63
	Civil	66	1	64
	P&V	80	1	77
	Site Services	60	1	57
• Waste Water Treatment Plant		59	1	56
	Civil	77	1	74
	Electrical	40	1	37
	Instrumentation	40	1	37
	Mechanical	40	1	37
	P&V	80	1	77
	Site Services	60	1	57
Total		67	2	53

Table 5.1: Sewerage Assets Life Spans

6 Levels of Service

Levels of service has only been determined for the sewerage assets as a whole.

Service Statement	Cost effective sewerage transport, treatment and disposal with minimal environmental impact.	
Service Factors	Customer Service Standards	Technical Service Standards
Function		
Effective Sewerage Transport and Treatment	An unobtrusive service	No nuisance from sewerage disposal services Treatment options minimise odour nuisance to residents
Design		
Environmental Compliance	Sewerage treatment meets all relevant environmental guidelines	System operation and treatment matches Environmental Management Plan specifications Comply with Department of Natural Resources and Water planning guidelines for sewerage disposal System and treatment options include techniques for minimising greenhouse gases and carbon footprint Minimise release of nitrogen and phosphorous to the environment Reduced overflows to adjacent water systems - contribute to healthy waterways program Minimise visual intrusion from pump stations / treatment plant Minimise odour nuisances Reduced contaminated discharges
Affordability and Whole of Life Management	Sewerage collection, transport and treatment remains affordable	Strategic Asset Management Plan accounts for improved whole of life asset management Chemical usage is monitored and contained as far as is practicable Planning strategies include demand management options for review Reduce sewer inflows and infiltration
Sewerage re-use	Water re-use from treatment plants is optimised	Conduct studies for beneficial use of biosolids and reclaimed water Examine options for cost recovery from reclaimed water re-use

		Reduction in use of potable water and treatment Minimise release of nitrogen and phosphorous to the environment
Energy Consumption	Minimised energy consumption	Sewerage transport, treatment and plant regularly reviewed for improved energy / power usage / reductions Understand power supply alternatives and competition available Provide emergency power supply for treatment and key pump stations
New Technologies	New technologies are engaged to optimise sewerage treatment and disposal provisions	Maintain awareness of application and benefits of new technologies for water treatment and supply

Table 6.1: Service Standards – Sewerage

6.1 Maintenance

At this stage there are no significant operations and maintenance plans developed for major sewerage network assets. Activities are mostly reactive although there are compliance driven maintenance inspections for WWTP plant.

Service Targets	Response Time	
	Priority 1	Priority 2
Emergency Call Out	Immediate	ASAP
Emergency Maintenance Repairs	4 - 6 hours	12 - 24 hours

Table 6.2: Service Targets - Sewerage

6.2 Capital

6.2.1 Asset Renewal

Following the recent major upgrade of the CASC sewerage pumps and treatment plant system, an opportunity now exists to develop a long-term renewal plan with particular focus on shorter life asset components.

As the assets are in relatively good condition overall, it is unlikely that significant renewals will be required in the short term. A renewal plan will assist with capital forecasting and budgeting and is an important part of the long-term financial forecast.

6.2.2 New and Upgrade

As mentioned above, with the completion of the major upgrades, it will be important for CASC to use this opportunity to capture the new asset data as well develop longer term operation and maintenance planning/financial projections so that they can be included in future long term financial planning.

6.2.3 Disposal

It is not likely that sewerage assets will be disposed of in the life of this plan.

6.3 Condition Assessment

The condition of the assets has been assessed during the comprehensive revaluation of assets undertaken in 2022. The condition assessment uses a five-point scale:

Rating	Description
1	Near New
2	Good
3	Fair to Poor
4	Very Poor
5	Failed
N/A	Not applicable (Formation components)

Assets that are identified as condition 4 or 5 require assessment to determine the treatment options to either return them to adequate service or to dispose of them.

7 Financial Summary

Initial capital cost for assets constitutes a significant up-front cost and often dominates the decision-making process when acquiring new assets, however ongoing recurrent expenses, (including depreciation), usually represent a high portion of the total life cycle costs of many assets. It is important that they be included in the financial analysis undertaken to evaluate asset investment options. There may also be substantial costs associated with disposal at the end of the asset's useful life (e.g. demolition costs).

7.1 Current Financial Position

The current financial position of Council's sewerage assets is shown in Table 6.1 below.

	Number of Assets	Replacement Cost	Accumulated Depreciation	Written Down Value	Annual Depreciation
Pump Station	44	619,453	182,394	437,059	12,309
Civil	22	242,891	44,031	198,860	3,294
Electrical	4	92,465	33,809	58,657	2,312
Mechanical	9	238,855	88,707	150,147	5,971
P&V	5	36,503	13,726	22,776	587
Site Services	4	8,739	2,120	6,619	146
Sewer Mains	42	3,027,579	1,151,875	1,875,704	37,845
Rising Main	5	725,689	142,985	582,704	9,071
Standard	37	2,301,890	1,008,890	1,293,000	28,774
Sewer Nodes	13	510,200	172,511	337,689	6,378
Manhole	12	506,600	171,370	335,230	6,333
Pits	1	3,600	1,141	2,459	45
Waste Water Treatment Lagoons	24	6,812,562	292,449	6,520,113	106,733
Civil	19	6,507,262	279,078	6,228,184	101,853
P&V	1	50,000	1,713	48,288	625
Site Services	4	255,300	11,659	243,641	4,255
Waste Water Treatment Plant	42	3,738,314	176,957	3,561,357	64,468
Civil	12	1,868,437	64,906	1,803,531	23,574
Electrical	7	935,228	64,063	871,165	23,381
Instrumentation	4	97,677	6,691	90,986	2,442
Mechanical	10	359,271	24,610	334,661	8,982
P&V	8	449,201	15,385	433,816	5,615
Site Services	1	28,500	1,302	27,199	475
Total	165	14,708,107	1,976,185	12,731,922	227,733

Table 7.1: Sewerage assets valuation 2022

7.2 Funding Options and Strategy

Operational expenditure is mainly funded through allocations from the Federal Assistance and State Government Financial Aid grants. Council charges a service fee which is used to cover some of the operational costs.

Given that Council primarily relies on capital grants for significant renewals works etc, development of 10-year expenditure projections will be important to understand the full funding impacts into the future. Further analysis of the required renewals will be used in applying for funding or deciding on the allocation of existing funding.

7.3 Maintenance Backlog

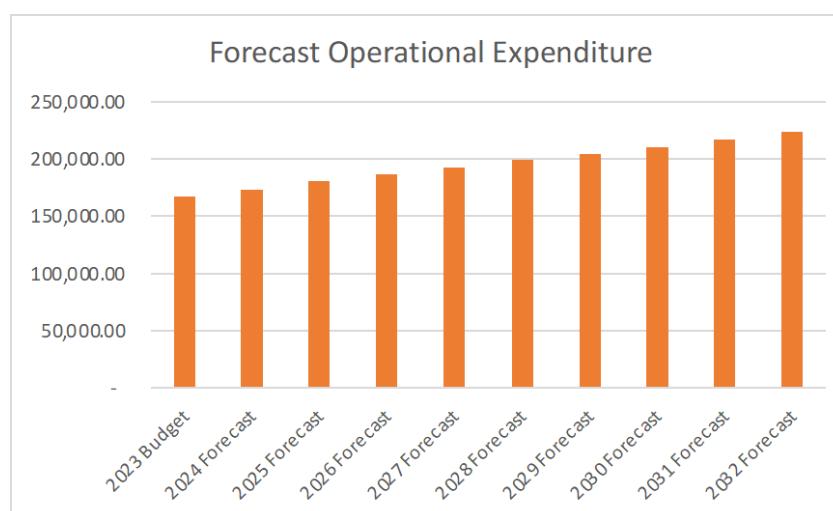
With major renewals to the sewerage network now completed, new maintenance planning requirements will need to be identified. Following the major renewal, Council will not have a backlog at least in the short term.

7.4 Renewal Gap

The Renewal Gap measures the difference between the current 'capital' expenditure on asset renewal and the 'required' level of expenditure to sustain the assets and the Levels of Service. The data provides a useful support tool for the determination of 'gaps' in the management of assets and services for the individual asset classes. An analysis of the renewal gap will be undertaken in the revision of this plan once the new maintenance requirements are identified and budgeted.

7.5 Forecast Operational and Capital Expenditure

Council's operational expenditure forecast over the next ten years totals \$1.96 million excluding depreciation.



Depreciation is an additional \$0.27 million per year and remains unfunded as Council relies on capital grants to cover the cost of renewing its assets. No specific capital expenditure has been identified; however, Council's long term financial plan includes an amount of \$1.20 million per year which is to be split across its infrastructure assets according to identified need and availability of funding.

8 Key Risks Identified

There are four primary risks across all classes of assets and services, namely:

- Funding sustainability to support consistent Levels of Service;
- Loss of key personnel;
- The need for improved skills and the ‘whole of organisation’ approach to the management of assets and services effectively; and
- Failure of an asset or network due to inappropriate asset management.

The risks to the sewerage assets are failure through natural events, physical failure, and operational risk. Failures of the sewerage system will result in contamination of the local environment and are likely to occur due to power outages at pump stations, flooding or excessive water in the treatment plant, or a break in the rising main. The monitoring of these risks is the responsibility of the Works Manager and are undertaken on an ongoing basis. More detailed information on management of risk will be contained in Council’s Risk Management Plan.

Currently the operational risks are adequately managed with day-to-day operations. However, this management is predominantly reactive on an ad hoc basis and done in the absence of formal corporate direction due to the nature and timing of the grants process. Addressing the corporate and external risks would enable the organisation to devise and enact more appropriate treatments.

9 Future Actions

9.1 Improvement Plan

Cherbourg Aboriginal Shire Council is only beginning the journey of sewerage asset management. Numerous opportunities for improvement have been identified. These are listed in Table 9.1 following. Most of these improvements fall within the ambit of existing Council programs. Some specialist areas will require external assistance.

Issue	Tasks/Process	Timeframe	Responsibility	Status
Data Collection	Defect logging to record asset and services defects for risk management and maintenance management and to contribute to Asset Inventory data confidence;	2023	Works Manager	Not yet started
Levels of Service Framework	Complete Levels of Service Framework to record current Service Standards and Service Targets and review and adjust as appropriate;	2023	Works Manager	Not yet started
	Enhanced relationships with Key Stakeholders	2023	Works Manager	Ongoing
Asset Register	Regular data validation process to ensure completeness of Asset Register;	Annually	Accountant	Ongoing
Financial Management	Complete Renewal analysis to support long term financial planning;	2023	Accountant	Not yet started

	Review valuations and revaluation cycles and record in Asset Accounting Policy;	2023	Accountant	Not yet started
--	---	------	------------	-----------------

Table 9.1 Asset and Services Management Plan – Sewerage Improvement Plan

10 Asset Information

The asset hierarchy follows the corporate model and the financial management practices described in the Asset Register and Asset Accounting Policy. The hierarchy records all associated major infrastructure assets in the sewerage class.

10.1 Sewerage Disposal Network

10.1.1 Asset Holdings

Facility	Asset Type	Number of Assets	Replacement Cost
Sewer Mains		42	3,027,579
	Rising Main	5	725,689
	Standard	37	2,301,890
Sewer Nodes		13	510,200
	Manhole	12	506,600
	Pits	1	3,600
Total		55	3,537,779

10.1.2 Available Data

Asset data is stored in the asset register within Council's finance system and is reconciled to the valuation report spreadsheet annually. Location and dimensional data is held in Council's GIS system.

10.1.3 Last Condition Survey

A condition survey was conducted during the comprehensive revaluation in April 2022

10.1.4 General Condition Assessment

Facility	2022 AssetVal Condition	Number of Assets	Replacement Cost
⊙ Sewer Mains		76.36%	3,027,579
	1	16.36%	755,819
	2	1.82%	52,000
	3	58.18%	2,219,760
⊙ Sewer Nodes		23.64%	510,200
	1	20.00%	121,400
	2	1.82%	3,600
	3	1.82%	385,200
Total		100.00%	3,537,779

The assets are in relatively good condition with no asset being rated below condition 3. A review of the assets rated at condition 3 will be required to prioritise their refurbishment in order to maintain them in good working order.

10.2 Sewerage Pump Stations

10.2.1 Asset Holdings

Facility	Asset Type	Number of Assets	Replacement Cost
Pump Station		44	619,453
	Civil	22	242,891
	Electrical	4	92,465
	Mechanical	9	238,855
	P&V	5	36,503
	Site Services	4	8,739
Total		44	619,453

10.2.2 Available Data

Asset data is stored in the asset register within Council's finance system and is reconciled to the valuation report spreadsheet annually. Location and dimensional data is held in Council's GIS system.

10.2.3 Last Condition Survey

A condition survey was conducted during the comprehensive revaluation in April 2022

10.2.4 General Condition Assessment

Facility	2022 AssetVal Condition	Number of Assets	Replacement Cost
Pump Station		100.00%	619,453
	1	40.91%	137,620
	2	50.00%	366,200
	3	9.09%	115,633
Total		100.00%	619,453

Recent upgrades and refurbishments have resulted in the assets being in good condition with no asset being rated below condition 3 and the majority of assets rated 1 and 2.

10.3 Waste Water Treatment (Lagoons and Treatment Plant)

10.3.1 Asset Holdings

	Number of Assets	Replacement Cost
Waste Water Treatment Lagoons	24	6,812,562
Civil	19	6,507,262
P&V	1	50,000
Site Services	4	255,300
Waste Water Treatment Plant	42	3,738,314
Civil	12	1,868,437
Electrical	7	935,228
Instrumentation	4	97,677
Mechanical	10	359,271
P&V	8	449,201
Site Services	1	28,500
Total	66	10,550,876

10.3.2 Available Data

Asset data is stored in the asset register within Council's finance system and is reconciled to the valuation report spreadsheet annually. Location and dimensional data is held in Council's GIS system.

10.3.3 Last Condition Survey

A condition survey was conducted during the comprehensive revaluation in April 2022

10.3.4 General Condition Assessment

Facility	2022 AssetVal Condition	Number of Assets	Replacement Cost
⊗ Waste Water Treatment Lagoons		36.36%	6,812,562
	1	36.36%	6,812,562
⊗ Waste Water Treatment Plant		63.64%	3,738,314
	1	63.64%	3,738,314
Total		100.00%	10,550,876

Council's Treatment Ponds and Plant are all rated condition 1 as they have recently been renewed.

10.4 Summary of Sewerage Assets with Condition Rating 4 or 5

Council has no assets with a condition rating of 4 or 5.

Asset Code	Asset Description	Facility	Condition Rating	Useful Life	Adopted Remaining Life	WDV
-	-	-	-	-	-	-