



Lockhart Shire Council

Integrated Water Cycle Management Strategy

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Executive Summary

The Integrated Water Cycle Management (IWCM) Strategy is a local water utility's (LWU's) 30-year strategy for the provision of appropriate, affordable, cost-effective, and sustainable urban water services that meet community needs and protect public health and the environment. The key outcomes of a LWU's IWCM Strategy are a 30-year Total Asset Management Plan (TAMP), a 30-year financial plan and an Emergency Response Contingency Plan (ERCP). Lockhart Shire Council (LSC) operates three sewerage schemes with Riverina Water providing reticulated water to the main towns and villages in the Council area. This IWCM Strategy report presents the details of the IWCM Strategy adopted by the Council and includes a Total Asset Management Plan (TAMP) and a Financial Plan (FP) for the adopted sewerage services strategy.

Lockhart Local Government Area (LGA)

Lockhart Shire is a Local Government Area located in the Riverina region of NSW. The LGA area is 2,895 Km² with Narrandera LGA in the north, Wagga Wagga LGA in the east, Greater Hume LGA in the south and Urana LGA in the west. The main towns and villages within LSC are Lockhart, The Rock, Yerong Creek, Milbrulong and Pleasant Hills.

Lockhart Shire's central location between Wagga Wagga, Narrandera, and Albury, has provided continued opportunities for population growth in the Shire, particularly with the Wagga Wagga LGA having a major influence through employment and access to higher level goods and services. Lockhart Shire has grown in popularity, both as a place to live and as a place of business. With close proximity to the major regional centres, the Shire still relies on a strong primary industry supported by a number of secondary and service industries. Tourism, especially heritage and eco-tourism, have seen good positive growth over recent years.

Population and demographic projections

The townships of Lockhart and The Rock are expected to continue to grow, with no growth anticipated to occur in Yerong Creek. Council has nominated an increase per year of 4 new residential dwellings for Lockhart, and 5 new residential dwellings for The Rock, for planning purposes. The spatial distribution of this growth is shown in Figure S1 and Figure S2, respectively.

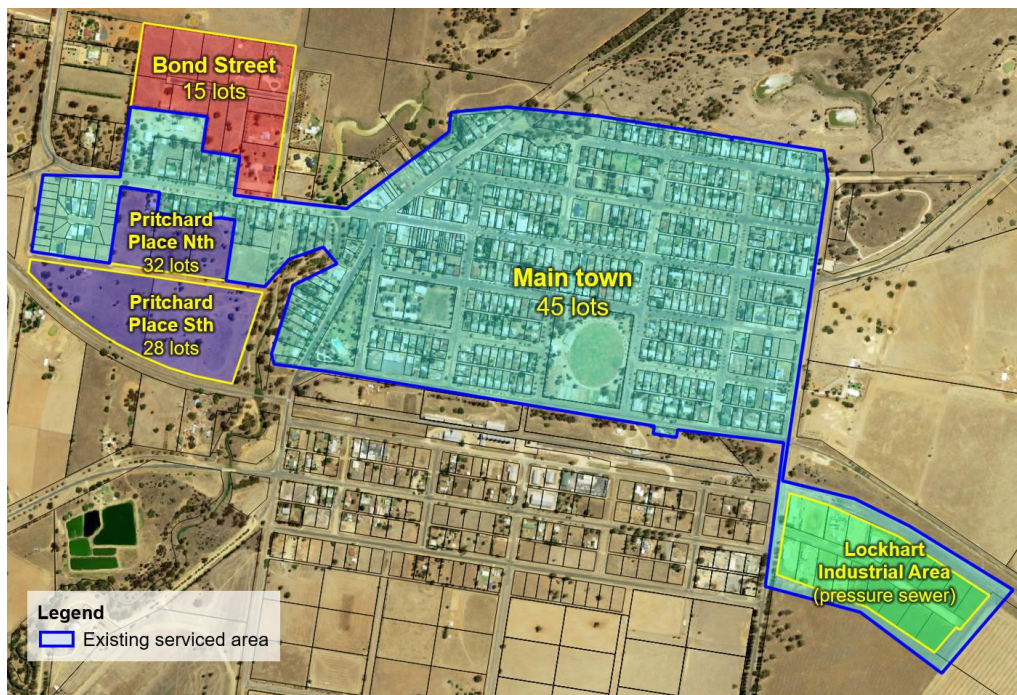


Figure S1: Spatial distribution of growth in Lockhart sewerage scheme

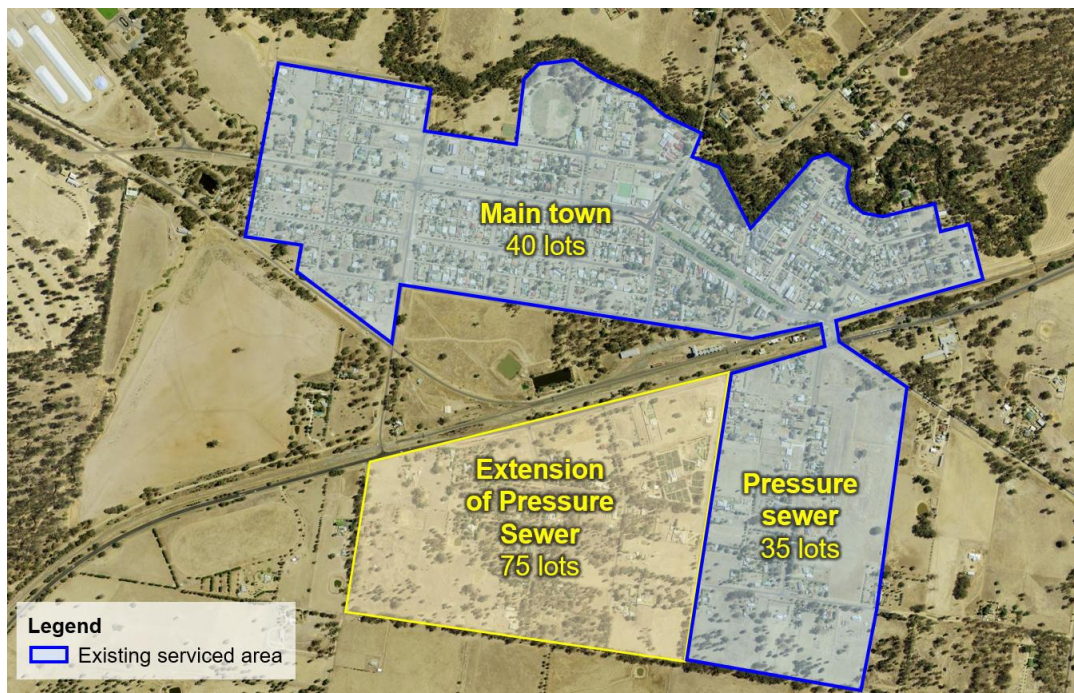


Figure S2: Spatial distribution of growth in the Rock showing residential dwellings

The projected dwellings and population for Lockhart and The Rock, are presented in Table S1 and Table S2. **Error! Reference source not found.**

Table S1: Projected number of occupied dwellings per town

Town	2020	2025	2030	2035	2040	2045	2050
Lockhart	314	334	354	274	394	414	434
The Rock	285	310	335	360	385	410	435

Table S2: Projected population of occupied dwellings per town

Town	2020	2025	2030	2035	2040	2045	2050
Lockhart	660	702	744	786	828	870	912
The Rock	654	712	769	827	884	942	999

Issues and risks

A review of the business performance and regulatory issues was undertaken against Council’s adopted objectives and targets contained within the Levels of Service (LOS) framework. The issues identified and the shortlisted options to address the issues, are summarised below:

Regulatory and best practice

- No regular Work Health and Safety audits are undertaken. A number of work health and safety issues have been identified at the Lockhart and The Rock STPs.
- Council does not have a policy for on-line sewage management systems.
- Council’s fees and charges need to be reviewed to achieve cost recovery and ensure Best Practice.

- The Customer Relationship Management system should be updated to capture information against Levels of Service so that performance can be effectively monitored on an annual basis.

Public Health – on-site sewage management systems (OSSMS)

- There is a Public Health risk to the people living in the unserviced lots in Lockhart and the villages of Milbrulong and Pleasant Hills via potential contact with effluent due to small lot sizes low permeability soils.

Sewerage Scheme performance

Lockhart sewerage scheme

- There is suspected high inflow/infiltration in the sewer main passing under Brookong Creek which causes overflows at the STP during wet weather.
- The Tertiary lagoons have been assessed as being in poor condition and appropriate renewal costs have been included in the asset management plan.
- The effluent quality from the STP does not meet the requirements of Australian Guidelines for Water Recycling for the specific end use applications.

The Rock sewerage scheme

- There is a medium risk of failure of sewage pumping station 2 due to the electrical switchboard being flooded.
- There is a low risk of wet weather overflows at sewage pumping station 2 due to its flowrate being exceeded by the total flow rate of upstream pumping stations.
- There is a low risk of potential future overflows at sewage pumping station 2 due to the emergency storage time dropping below Council's nominated failure response time.
- There is a medium to low risk of odour and septicity in sewage pumping station 3 due to the detention time in the rising main exceeding 8 hours.
- The assessed capacity of the maturation ponds at the sewage treatment plant is expected to be exceeded in about 25 years which may affect the effluent quality.

Yerong Creek sewerage scheme

- There is a risk of contamination from the reticulation network due to leakage which has been identified as the dry weather flows are lower than the water consumption and flows during weather are significantly higher.

Options

Both 'non-build' and 'build' actions required to address the identified issues and risks were considered. Majority of the issues can be addressed by 'non-build' management actions and are listed in Table S3. Treated effluent quality issues of Lockhart STP and the public health issues from OSSMS in unserviced lots of South Lockhart require 'build' actions for mitigation.

Following two options were considered to address Lockhart STP effluent quality issue:

Option 1 – Continue with existing trickling filter plant and construct a new STP in 10 to 15 years.

Option 2 – Decommission the existing trickling filter plant and construct a new STP upfront

For the new STP, the following options were assessed and evaluated:

- Oxidation pond based process with effluent reuse for agricultural irrigation
- Activated sludge based process with effluent reuse for public open spaces or discharge to watercourse

To address the Public Health issue from OSSMS in unserviced lots at South Lockhart, the infrastructure needs to service this area were assessed. The estimated capital cost to provide a reticulated sewerage system for South Lockhart and connect it to the Lockhart STP is about \$2.7M with an annual operating and maintenance cost of \$60K.

IWCM Scenarios

Scenarios were developed to address the issues that have been identified by bundling the shortlisted options. Some issues can be addressed by management actions which are common to all scenarios. The management non-build actions identified to address some issues and that are common to all scenarios, are listed in Table S3.

Table S3: Management, no-build actions to address issues

Issue	Management Action
Regulatory and Best Practice	Meet all requirements listed in the WHS Act 2011 including the need for regular audits. Prepare a policy for On-site sewage management systems. Review the tariff structure to achieve full cost recovery and meet best practice.
Performance monitoring	Formulate Levels of Service and consult with the community before adopting. Update the Customer Relationship Management (CRM) system to allow information to be collected such that the performance can be assessed against the adopted Levels of Service.
Lockhart sewerage scheme – high inflow infiltration	Check water quality upstream and downstream of suspected leakage from Lockhart SPS 1 rising main. This will identify if Brookong Creek is being polluted with sewage leaking from the sewer and confirm suspected high infiltration during wet weather periods.
Lockhart town – unserviced area	Review/ obtain performance data for southern part of Lockhart township (on septic systems) to support OSSMS desktop assessment identifying high public health risk.
Yerong Creek network – reticulation leak	Check ground levels of Yerong Creek township relative to the flood level to investigate issue of variable STP inflow during dry and wet periods.

Five scenarios have been created from the shortlisted options to address the issues at the Lockhart sewage treatment plan. Table S4 shows the bundled scenarios based on shortlisted infrastructure build options. The issues that are being addressed by each option are also listed.

Table S4: IWCM Scenarios

Issue	Option	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Lockhart STP:	New activated sludge (IDEA based) plant in 2035 and continue with effluent reuse.	✓ 2035	-	-	-	
<ul style="list-style-type: none"> Condition End of life WHS Effluent reuse 	Avoid renewals with new oxidation pond plant with effluent reuse for agricultural irrigation.	-	✓ 2025	-	-	✓ 2025
	Avoid renewals with new activated sludge (IDEA based) plant with effluent	-	-	✓ 2025	✓ 2025	

Issue	Option	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
	reuse for public open spaces.					
South Lockhart – Public Health issue from OSSMS in unserviced lots.	Extend sewerage service area to include South Lockhart				✓ 2025	✓ 2025

Triple Bottom Line Assessment

A total of six environmental and social targets have been used to score the IWCM Scenarios. The targets and their objectives are shown in Table S5.

Table S5: Social and environmental performance targets and objectives

		Objective	Key performance targets	Weighting
TBL Category	Environmental	A healthy environment with pristine waterways	Maintain and enhance with health of waterways	0.3
		Our environment practices are sustainable – Explore opportunities to utilise renewable energy and water saving practices.	Reduce impact on environment due to construction	0.2
			Increase in reuse / recycling of wastewater	0.3
			Reduction in energy consumption	0.2
	Total weighted environmental score			1.0
	Social	Our assets and infrastructure are well planned and managed to meet the demands of the community now and in the future	Reliability of sewerage services	0.9
		Our Shire is attractive and welcoming to businesses, industry, residents and visitors	Percentage of customers supplied with sewerage service in Lockhart	0.1
Total weighted social score			1.0	

Based on the above assessment criteria and the lifecycle cost analysis, Scenario 2 is the highest ranked scenario, followed by Scenario 1. Whilst Scenario 5 is not the top ranked Scenario based on the triple bottom line assessment, Council has selected Scenario 5 as the preferred Scenario for the Strategy.

Typical Residential Bill Analysis for IWCM Scenarios

As part of the IWCM Checklist requirements for assessment of IWCM scenarios, approximate annual Typical Residential Bills (TRBs) for the Council’s water supply and sewerage services have been estimated by way of setting up financial models using FINMOD 4 software. The TRB forecasts considered government grant/ subsidy at 90% for the Lockhart STP renewal and upgrade options.

The forecast sewerage TRBs and the long-term price path for the IWCM scenarios are presented in Figure S3.

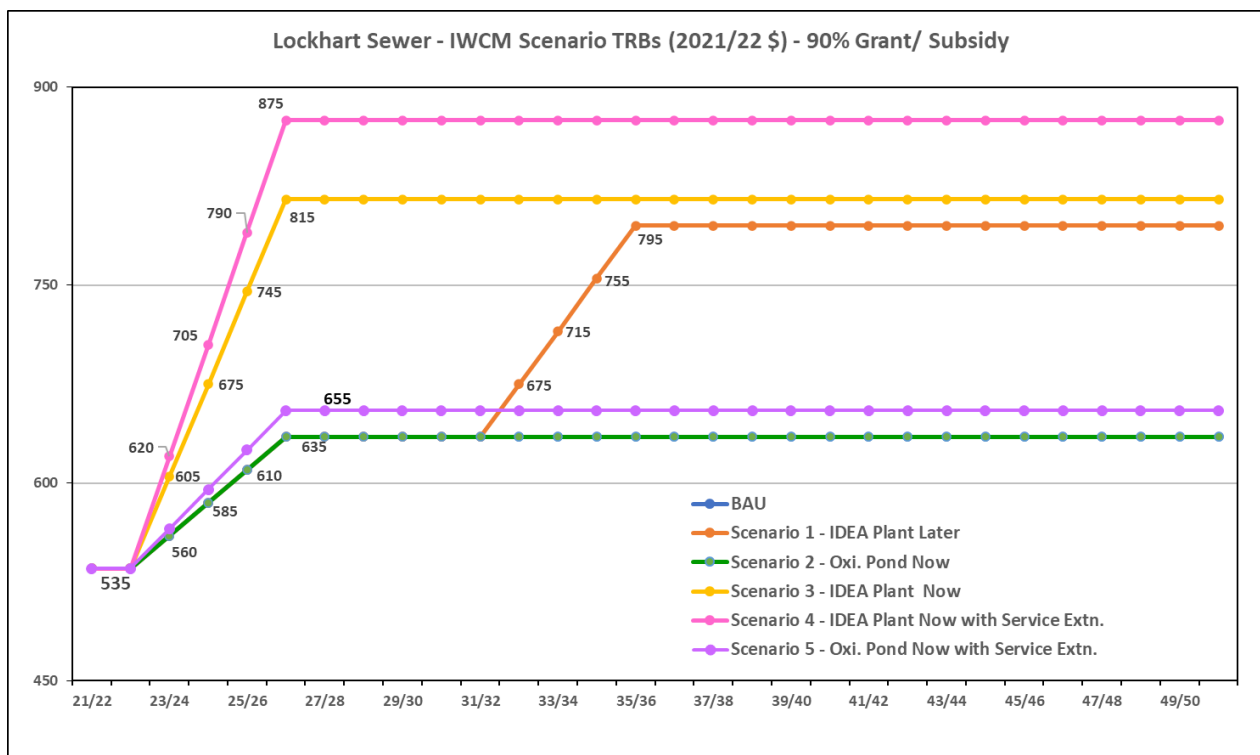


Figure S3: Comparison of TRB Forecasts for the IWCM Scenarios

Long-term financial plan

Council’s Total Asset Management Plan for Sewerage has been updated to include the growth and Improved Level of Service (ILOS) capital works identified by the preferred IWCM scenario to address the IWCM issues. Financial models for the Council’s sewer funds developed for the TRB analysis have been further reviewed and refined to forecast the lowest stable sustainable price path sewerage services on which to base Council’s tariff structure. Note, all the forecast values are in 2021-22 dollars.

The preferred scenario included the consideration of 90% Government grant under the Safe and Secure Water Program for the preferred Lockhart STP upgrade option and for service area extension into South Lockhart.

The model forecasts show that the sewerage TRB needs to be increased at \$30 per year from 2023-24 onwards for three years to a TRB of \$655 p.a. in 2026-27, after which it can be maintained at that level for the remaining forecast period.

The projected price path is sufficient to maintain liquidity with a minimum of \$500 K of cash and investments in the sewer fund over the forecast period.

Council’s water fund had outstanding borrowing of \$3.227 Million as of 30 June 2021. The model forecasts demonstrate that no new loan will be required as all the planned capital works can be internally funded throughout the projection period.

The levels of TRB, cash and borrowing outstanding for the 30-year forecast period are shown in Figure S4. For detailed discussions of the financial model forecast, refer to Section 13.5.

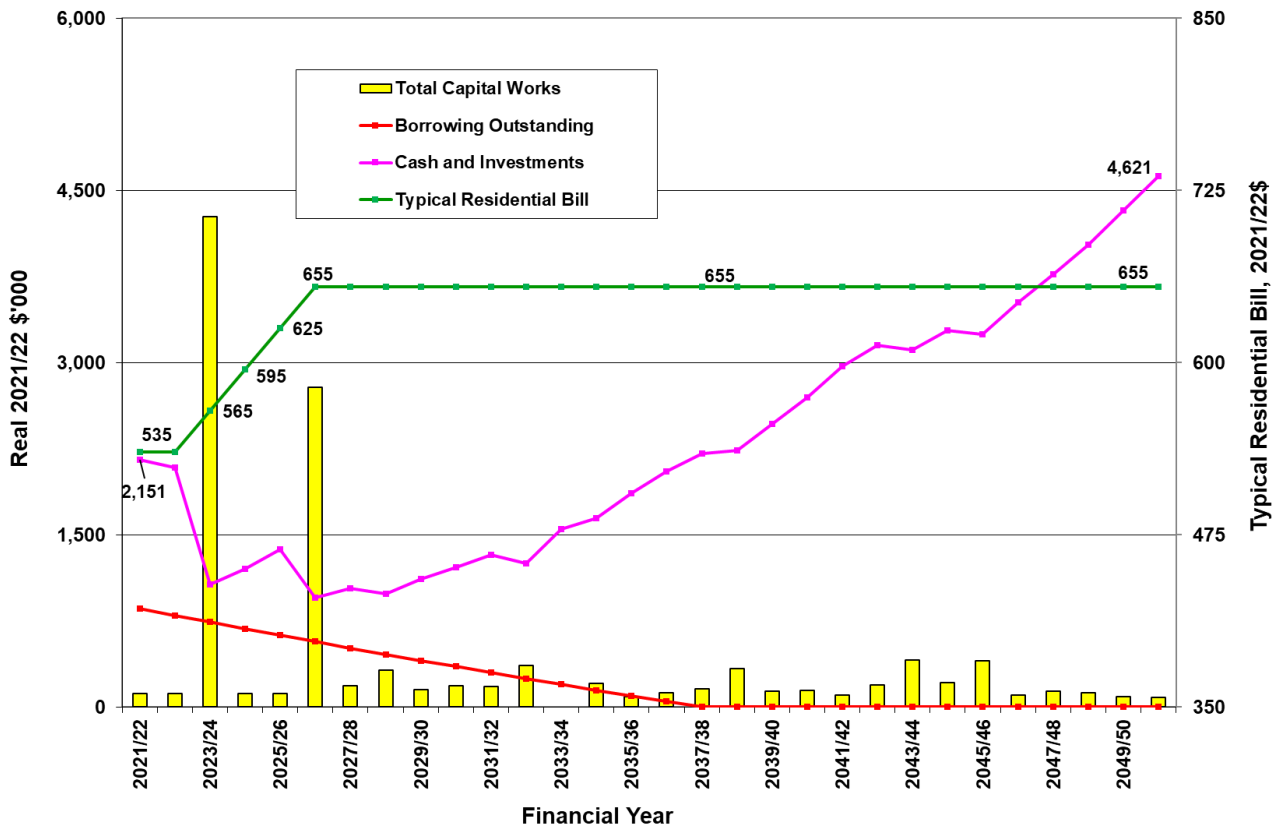


Figure S4: Sewer Fund Financial Model Forecasts for the preferred IWCM Scenario

Contents

1. The IWCM Strategy	1
1.1 Process.....	1
1.2 Progress	2
2. Background information	3
2.1 Lockhart LGA.....	3
2.2 Growth strategy	4
2.2.1 Lockhart.....	4
2.2.4 Projections.....	5
3. Business Objectives and Targets.....	6
4. Urban services	7
4.1 Lockhart sewerage scheme	7
4.2 The Rock Sewerage scheme	9
4.3 Yerong Creek sewerage scheme	12
4.4 Urban stormwater	14
5. Unserviced Communities	15
6. Asset Condition	17
7. Fees and charges	18
8. Performance review and risks	19
9. Options evaluation and assessment	20
9.1 Lockhart STP	20
9.2 On-site Sewage Management Systems (OSSMS)	22
10. IWCM Scenarios.....	23
10.1 Present value analysis of IWCM Scenarios.....	24
10.1.1 Capital and Operating Costs.....	24
10.1.2 Avoided Costs	24
10.1.3 Scenario Costs	25
10.2 Typical Residential Bill (TRB) analysis of IWCM scenarios	25
10.3 Triple bottom line assessment of Scenarios.....	27
11. Preferred Scenario.....	29
12. Total Asset Management Plan	30
12.1 Capital Works	30
12.1.1 Asset Renewal.....	30
12.1.2 Recurrent Costs.....	31
13. Financial Plan.....	36
13.1 Overview.....	36
13.2 Financial Modelling Methodology	36
13.3 Financial Model Inputs	37
13.3.1 Charges.....	38
13.3.2 Revenues and Expenditures.....	39
13.3.3 Service Provision.....	39
13.3.4 Funding Capital Works	39
13.3.5 Performance Measures	40
13.4 Assumptions and Limitations of the Model	40
13.5 Financial Model Outcomes.....	40
13.5.1 Projected Financial Position.....	40
13.5.2 Sensitivity of Financial Projections.....	42

14. References	46
Appendix A Business Objectives and Levels of Service.....	A-1
Appendix B Present Value IWCM Scenario Cost Estimates	B-1
Appendix C Social and Environmental assessments of Scenarios	C-1
Appendix D Financial Model Input Data.....	D-1
Appendix E Financial Model Output Data.....	E-2

Tables

Table 2-1: Projected number of occupied dwellings per town	5
Table 6-1: Sewerage and effluent reuse asset condition ratings	17
Table 6-2: Sewerage and effluent reuse asset condition ratings	17
Table 7-1: Council’s sewerage fees and charges for 2020 / 21	18
Table 9-1: Comparison of sewage treatment options	20
Table 10-1: Management, no-build actions to address issues.....	23
Table 10-2: Shire Wide IWCM Scenarios – infrastructure needs and staging	23
Table 10-3: Capital and Operating Costs of IWCM Scenarios.....	24
Table 10-4: Summary pf avoided costs.....	24
Table 10-5: Present value costs of IWCM Scenarios including avoided costs	25
Table 10-6: Social and environmental performance targets and objectives.....	27
Table 10-7: Summary of Triple bottom line score for IWCM Scenarios	28
Table 10-8: IWCM Scoring Rank	28
Table 11-1: Actions/works identified in preferred IWCM Scenario.....	29
Table 12-1: 30-Year Capital Works Schedule – preferred IWCM Scenario (Scenario 5)	32
Table 12-2: Summary of 30-Year Sewerage Capital Works Program	33
Table 12-3: Summary of 30-Year Recurrent O&M Expenditure (\$’000)	35
Table 13-1: Key Input Parameters – Sewer Fund Financial Model.....	38
Table 13-2: Sensitivity Analysis – Sewer Fund	42
Table 13-3: Projected Financial Results - Sewer Fund	43

Figures

Figure 4-1: Lockhart Sewerage Scheme Service Area.....	7
Figure 4-2: SPS pump hierarchy for the Lockhart sewerage scheme.....	8
Figure 4-3: Aerial photograph showing layout of Lockhart STP.....	8
Figure 4-4: Spatial distribution of growth in the Lockhart sewerage scheme	9
Figure 4-5: Sewerage scheme layout at the Rock with water main overlay	10
Figure 4-6: SPS pump hierarchy at the Rock sewerage scheme	10
Figure 4-7: Aerial photograph showing layout of The Rock STP	11
Figure 4-8: Spatial distribution of growth in the Rock showing residential dwellings.....	12
Figure 4-9: Sewerage scheme layout at Yerong Creek with water main overlay	13
Figure 4-10: Aerial photograph showing layout of Yerong Creek STP	13
Figure 5-1: Unserviced community – Lockhart.....	15
Figure 5-2: Unserviced community – Milbrulong	15
Figure 5-3: Unserviced community – Pleasant Hills	16
Figure 9-1: Existing serviced and unserviced areas of the Lockhart sewerage scheme	22
Figure 10-1: Comparison of 30-year Capital Works Programs	26
Figure 10-2: Comparison of 30-year OMA Costs	26
Figure 10-3: Comparison of TRB Forecasts for IWCM Scenarios	27
Figure 12-1: 30-year Capital Works Summary (\$’000)	34

Figure 12-2: 30-year Recurrent O&M Expenditure Summary (\$'000).....	34
Figure 13-1: Elements of Financial Modelling	36
Figure 13-2: Typical Residential Bill for Sewerage.....	41
Figure 13-3: Cash & Borrowing Projections for Sewerage	42
Figure 13-4: Sensitivity of Typical Residential Bill for Sewerage	44
Figure 13-5: Sensitivity of Borrowing Levels for Sewerage	44
Figure 13-6: Sensitivity of Cash and Investment Levels for Sewerage.....	45

1. The IWCM Strategy

1.1 Process

The Integrated Water Cycle Management (IWCM) Strategy is a local water utility’s (LWU’s) 30-year strategy for the provision of appropriate, affordable, cost-effective, and sustainable urban water services that meet community needs and protect public health and the environment. The IWCM Strategy:

- Identifies the water supply and sewerage needs of an LWU;
- ‘Right sizes’ any infrastructure projects and determines their priority.
- Identifies the lowest level of stable Typical Residential Bill (TRB) to meet the levels of service.
- Includes a 30-year Total Asset Management Plan and Financial Plan; and
- Identifies strategies to mitigate identified organisation risks such as drought, water quality health-based targets, climate change and community expectations on levels of service.

The process of preparing this IWCM Strategy followed the 2019 Department of Planning and Environment (DPE) Water’s IWCM Strategy Check List and broadly includes the following:

- Preparation of an IWCM Issues Paper
- Evaluation of feasible options
- Developing the IWCM Strategy; and
- Preparation of a Total Asset Management Plan (TAMP) and Financial Plan.

The key outcomes of a Local Water Utility’s (LWU) IWCM Strategy are:

- 30-year Total Asset Management Plan
- 30- year Financial Plan; and
- Drought and Emergency Response Contingency Plan (DERCP)

The process of preparing an IWCM is shown in Figure 1- 1.

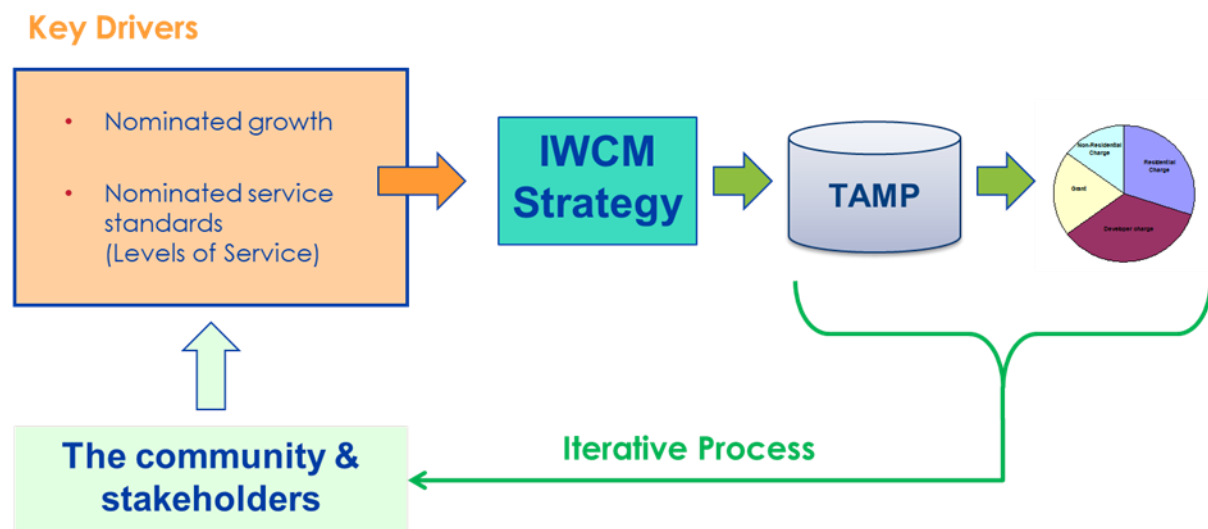


Figure 1- 1: Process of preparing an IWCM Strategy

The nominated growth and levels of service (LOS) targets are the key drivers that impact the development of the TAMP. The 30-year financial plan determines the revenue requirements to support the TAMP and forecasts the Typical Residential Bill (TRB) and the Developer Charge (DC) for the preferred strategy. The process is iterative, and an affordable level of service and DC is determined through community and stakeholder consultation.

1.2 Progress

The development of Lockhart Shire Council's (LSC) IWCM Strategy has followed the DPE Water IWCM Strategy Check List. The following tasks have been completed to:

- **IWCM Issues Paper**

This report identified and outlined the current and 30-year projected issues relating to Lockhart Council's regulatory requirements, growth, Levels of Service (LOS), and performance of the sewerage services. The Issues paper addresses Tasks 1 to 8 of the IWCM Check List.

- **Technical studies**

A number of technical studies were completed to evaluate options to address the issues and risks identified in the Issues Paper and shortlist the individual options for subsequent bundling into scenarios. The Technical studies address Tasks 9 and 10 of the IWCM Check List.

- **Scenario Bundling**

Following the evaluation and shortlisting of options, IWCM Scenarios were created using a mix of options that, together, address the urban water service issues. A Triple Bottom Line (TBL) assessment method was used to assess and identify the scenario which provides the best value for money taking full account of the social, environmental, and economic considerations. This addressed Tasks 11 and 12 of the IWCM Check List.

- **Stakeholder and community consultation**

Stakeholder and community consultation has been undertaken through workshops with the Project Reference Group (PRG) established by Lockhart Shire Council.

- (i) Workshop 1 was held at the completion of the IWCM Issues paper; and
- (ii) A Technical Review meeting was held at the completion of the scenario assessment and financial modelling.

2. Background information

2.1 Lockhart LGA

Lockhart Shire Council (LSC) is a local government area (LGA) in the Riverina region of NSW. The LGA population in 2019 was around 3,300. LSC operates three sewerage schemes with Riverina Water providing reticulated water to the main towns and villages in LSC. The LGA covers an area of approximately 2,895 square kilometres with people living in the north, Wagga Wagga LGA in the east, Greater Hume LGA in the south and Urana LGA in the west. The main towns and villages within LSC are Lockhart, The Rock, Yerong Creek, Milbrulong and Pleasant Hills.

Riverina Water provides reticulated water to the main towns and villages in LSC, including Lockhart, The Rock, Yerong Creek, Milbrulong and Pleasant Hills.

There are three council operated sewerage schemes in LSC:

- Lockhart sewerage scheme
- The Rock sewerage scheme
- Yerong Creek sewerage scheme (low pressure sewer system)

LSC does not have any extensive existing stormwater systems beyond kerb and guttering.

Two small villages, Milbrulong and Pleasant Hills, that are within the LGA are not currently serviced by a sewerage scheme. The residents of these towns, and others outside of the existing sewerage serviced areas, treat wastewater using on- site sewerage management systems (OSSMS), such as septic tanks.

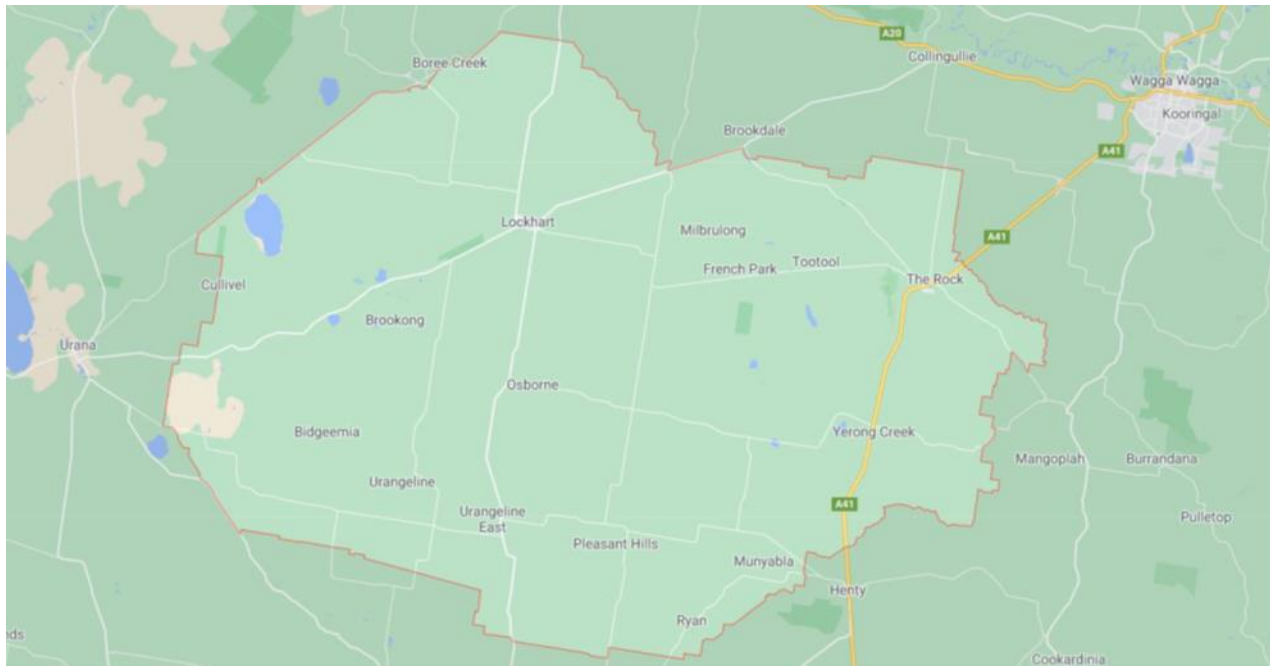


Figure 2- 1: Map of Lockhart Shire LGA, from Google Maps

The serviced and unserviced towns and villages in the Lockhart LGA are listed in Table 2-1.

Table 2- 1: Serviced areas within Lockhart LGA

Community	Water supply scheme	Sewerage service
Lockhart	Reticulated by Riverina Water	Lockhart Sewerage Scheme

Community	Water supply scheme	Sewerage service
The Rock	Reticulated by Riverina Water	The Rock Sewerage Scheme
Yerong Creek	Reticulated by Riverina Water	Yerong Creek Sewerage Scheme
Milbrulong	Reticulated by Riverina Water	OSSMS
Pleasant Hills	Reticulated by Riverina Water	OSSMS

2.2 Growth strategy

Growth drivers for the Lockhart Shire are described below:

- LSC is centrally located between Wagga Wagga, Narrandera and Albury, this has provided continued opportunities for population growth in the Lockhart Shire, particularly with the Wagga Wagga LGA having a major influence through employment and access to higher level goods and services. There are growing numbers of residents who work in Wagga Wagga that have chosen the affordable rural and community lifestyle offered by Lockhart or The Rock.
- The Lockhart Shire has grown in popularity, both as a place to live and as a place of business. With close proximity to the major regional centres of Wagga Wagga and Albury, the Shire still relies on a strong primary industry supported by a number of secondary and service industries. Tourism, especially heritage and eco-tourism, have seen good positive growth over recent years.
- The townships of Lockhart and The Rock are expected to continue to grow, with services and connections in Wagga Wagga and Albury crucial to leveraging Lockhart Shire's own economic growth.

2.2.1 Lockhart

Council has nominated a growth rate of 20 new residential dwellings per five years (or 4 new dwellings per year) for Lockhart. As Council has advised that there are several lots viable for development in the Lockhart township, growth has been nominated to occur in Lockhart in the timing as described below:

1. 45 vacant lots in the current serviced area to be first developed into dwellings in the main town area
2. 60 new residential dwellings to be developed at Pritchard Place. This is split into:
 - a. Pritchard Place North – 6 large residential lots (of 4,000 m²) and the expansion of Magnolia Lodge aged care facility to accommodate 26 new dwellings (total 32 new dwellings)
 - b. Pritchard Place South – 28 new dwellings
3. 15 new residential dwellings assumed to occur in the Bond Street area

Council has advised that the Lockhart Industrial Area is the only significant non-residential development. Council has nominated that non-residential growth will occur in the industrial area at a rate equivalent to 0.5 dwellings per year, based on the past trends of industrial growth in Lockhart.

2.2.2 The Rock

Council has nominated a growth rate of 5 new residential dwellings per year for The Rock. New residential connections have been nominated to occur in The Rock in the timing as described below:

1. 75 vacant lots in the current serviced area to be first developed into dwellings. This is split into 40 new dwellings in the main part of town, and 35 new dwellings in the part of town, which is serviced by pressure sewer, south of the railway corridor

2. Once the vacant lots in the current serviced area have been filled up with growth, 75 new residential lots will be developed as an extension of the pressure sewer catchment. Council has nominated that a small amount of non-residential growth will occur in the eastern part of town at a rate equivalent to 1 dwelling every ten years.

2.2.3 Yerong Creek

Council has nominated no future growth to occur in Yerong Creek in the next 30 years.

2.2.4 Projections

The projected number of occupied dwellings and population for each town serviced by sewerage, based on the growth rates nominated above, are given in Table 2-1 Table 2-1.

Table 2-1: Projected number of occupied dwellings per town

Town	2020	2025	2030	2035	2040	2045	2050
Dwellings in Lockhart	314	334	354	374	394	414	434
New dwellings in Lockhart	0	20	40	60	80	100	120
Dwellings in The Rock	285	310	335	360	385	410	435
New dwellings in The Rock	0	25	50	75	100	125	150

3. Business Objectives and Targets

A typical list of objectives and targets relevant to sewerage management and general services has been provided in **Error! Reference source not found.** for consideration by Council staff and the Project Reference Group (PRG). Each objective has one or more Service Standard (or Design Basis) drawn from legislation, best practice guidelines, and industry practice.

Council has advised they do not currently have LOS targets for many of the performance indicators listed, therefore an example target is provided for consideration. It should be noted that the objectives and targets would have a direct and significant influence on the future direction and management of the sewerage services, hence allowing the identification of issues. Further it is noted that meeting agreed objectives and targets incurs cost, which needs to be recovered through typical residential bills and developer charges, and hence needs to be considered in the context of the community's preferences and ability to pay (i.e., affordability). Thus, it is expected that Council would use the draft typical list as the starting point in its consultation with the PRG / Community and establish through the consultation process an agreed set of objectives and the associated Key Performance Indicators (KPIs) and targets.

4. Urban services

Riverina Water provides reticulated water to the main towns and villages in LSC, including Lockhart, The Rock, Yerong Creek, Milbrulong and the Pleasant Hills.

LSC operates three sewerage schemes Lockhart, The Rock and Yerong Creek sewerage schemes. Each scheme is described in the section below.

4.1 Lockhart sewerage scheme

The Lockhart sewerage scheme is a conventional gravity reticulation system constructed in 1966 consisting of the three sewerage pump stations (SPSs). The existing serviced area of the Lockhart sewerage scheme is shown in Figure 4-1 with the SPS pump hierarchy illustrating this shown in Figure 4-2.

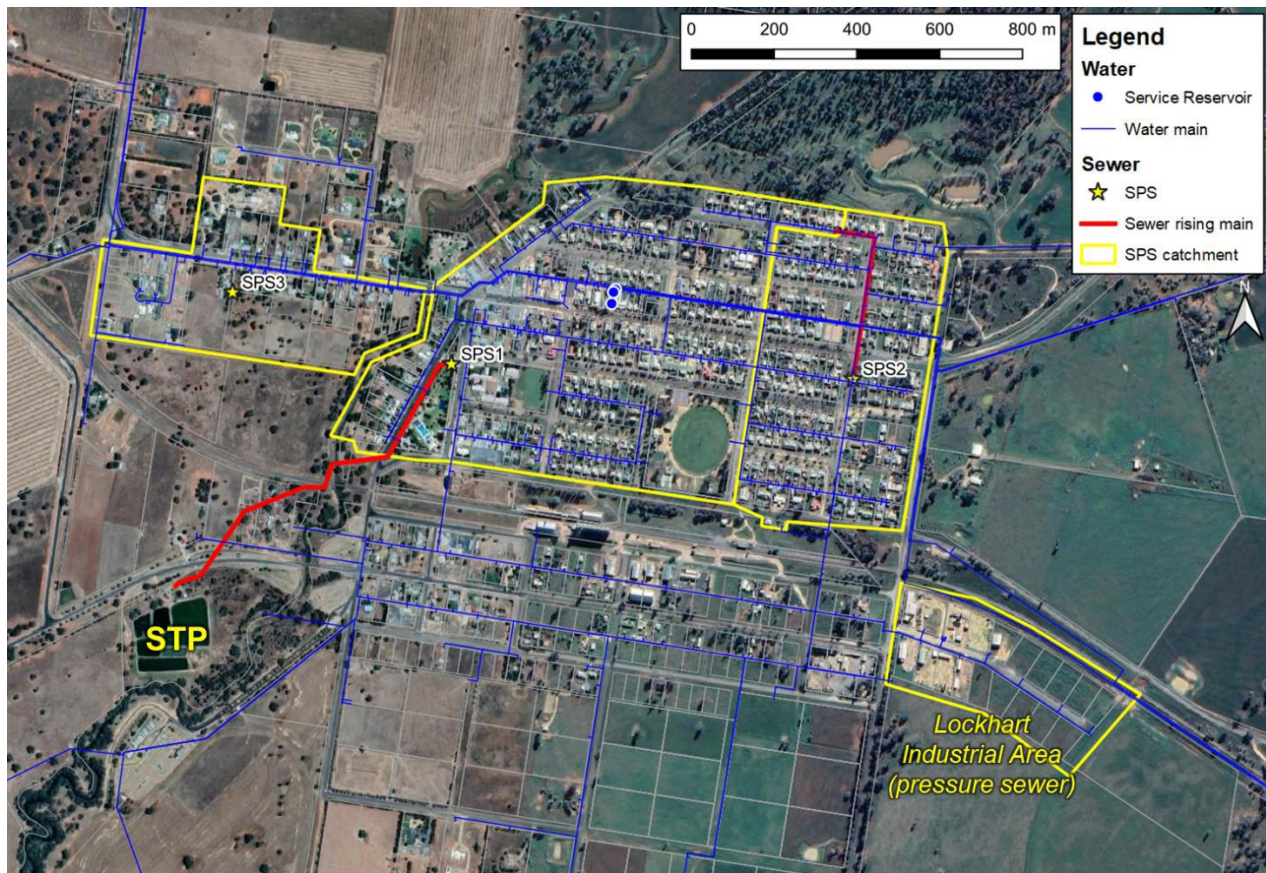


Figure 4-1: Lockhart Sewerage Scheme Service Area

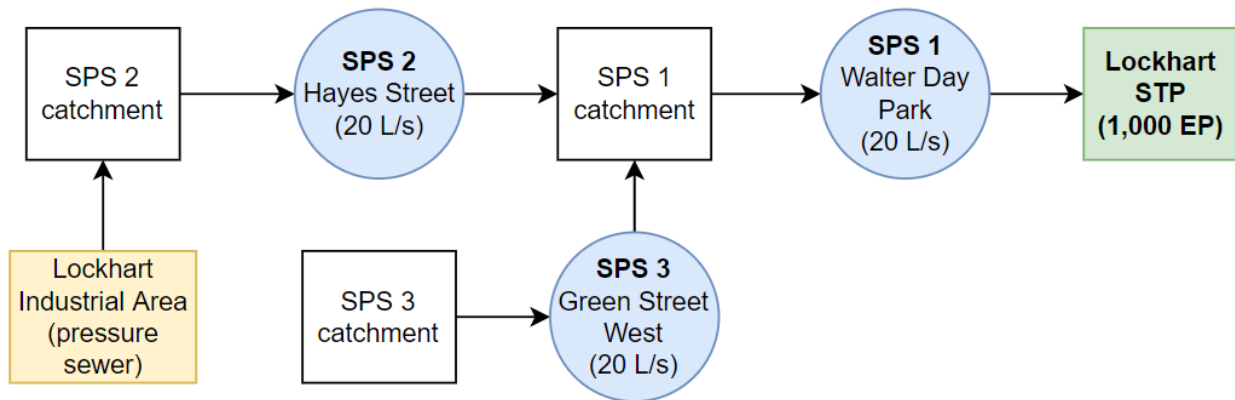


Figure 4-2: SPS pump hierarchy for the Lockhart sewerage scheme.

The Lockhart STP is a trickling filter plant constructed in 1964 with a design capacity of 1,000 EP. The design hydraulic capacity is 240 kL/day (at 240 L/EP/day), and the design biological capacity is 70 kg/day (at 70g BOD/EP/day). There is no septage receival system at the STP.

An aerial photograph showing the existing STP layout along is shown in Figure 4-3.



Figure 4-3: Aerial photograph showing layout of Lockhart STP

Effluent is disinfected in a series of six maturation ponds following which it is discharged to the Brookong Creek. Effluent is also reused to irrigate public open spaces in the Lockhart township. Dried sludge is excavated and disposed of in landfill.

Council operates the Lockhart sewerage scheme under the Environment Protection Licence (EPL) number 1705.

Growth

The spatial distribution of the growth within the sewage pumping station catchments of the Lockhart sewerage scheme is shown in Figure 4-4.

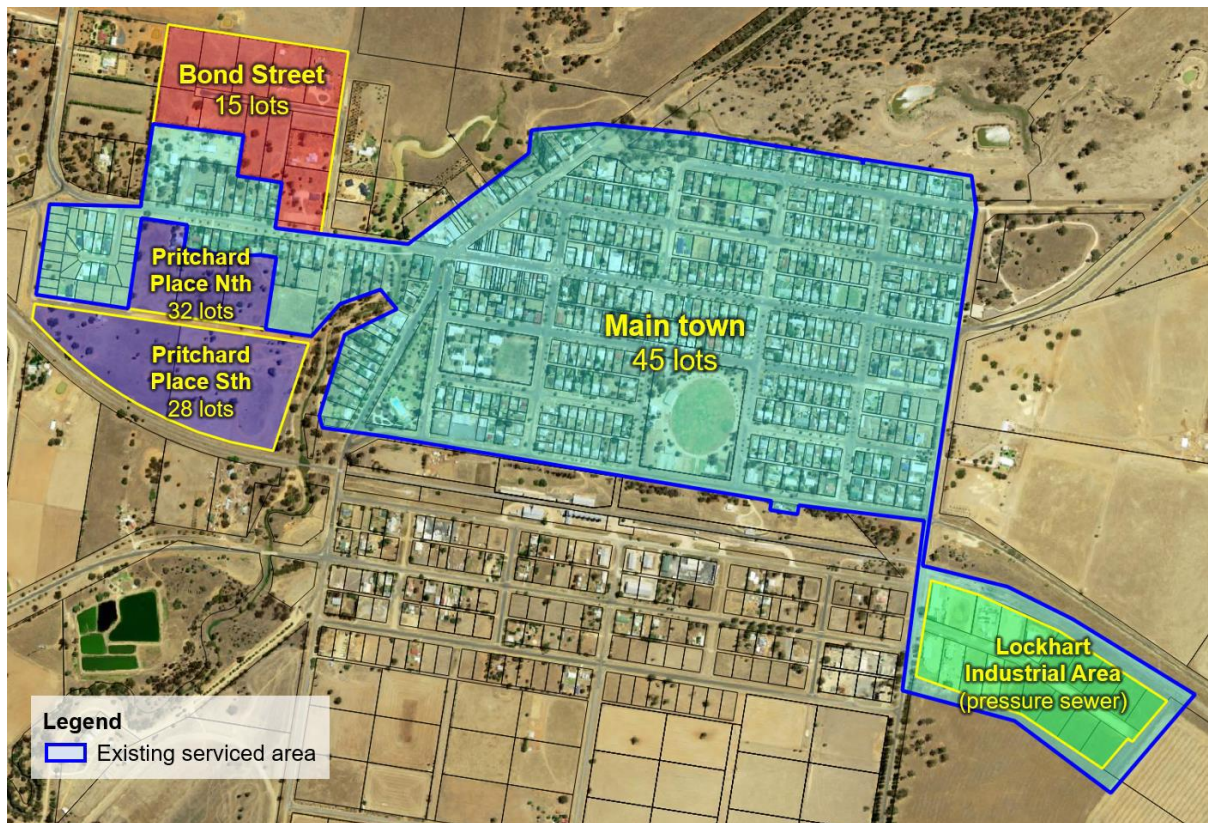


Figure 4-4: Spatial distribution of growth in the Lockhart sewerage scheme

The capacity of the Lockhart STP is sufficient to cater for the forecast 30-year growth.

4.2 The Rock Sewerage scheme

The Rock sewerage scheme is mostly a conventional gravity reticulation system that was constructed in 1981 consisting of three SPSs. The south-eastern section of the sewerage scheme across the Olympic Highway is a pressure sewer system which was installed in 2018. The layout of the sewerage transfer system is shown in Figure 4-5 and the SPS pump hierarchy diagram shown in Figure 4-6.

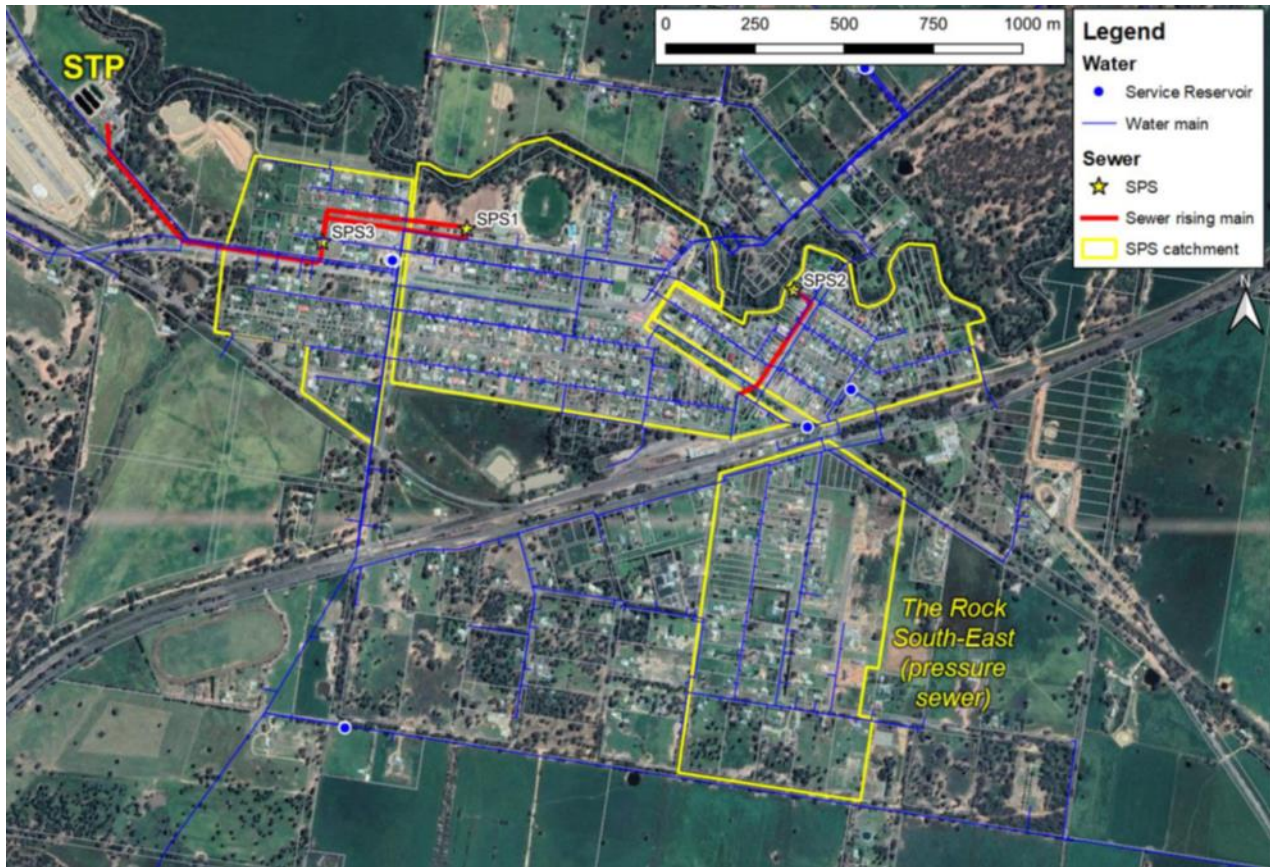


Figure 4-5: Sewerage scheme layout at the Rock with water main overlay

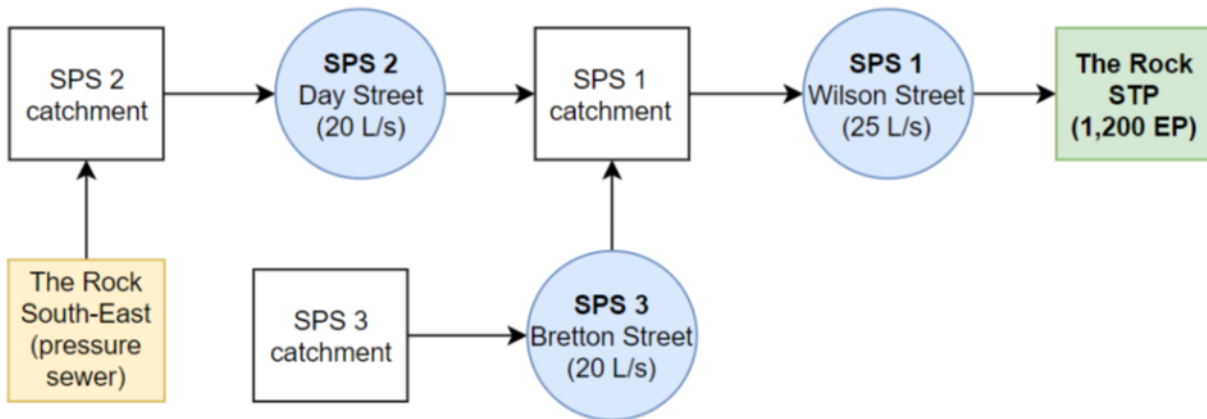


Figure 4-6: SPS pump hierarchy at the Rock sewerage scheme

The Rock STP is a Pasveer Channel plant constructed in 1982 with a design capacity of 1,200 EP. An aerial photograph showing the existing STP layout is shown in Figure 4-7. There is no septage receive system at the STP.

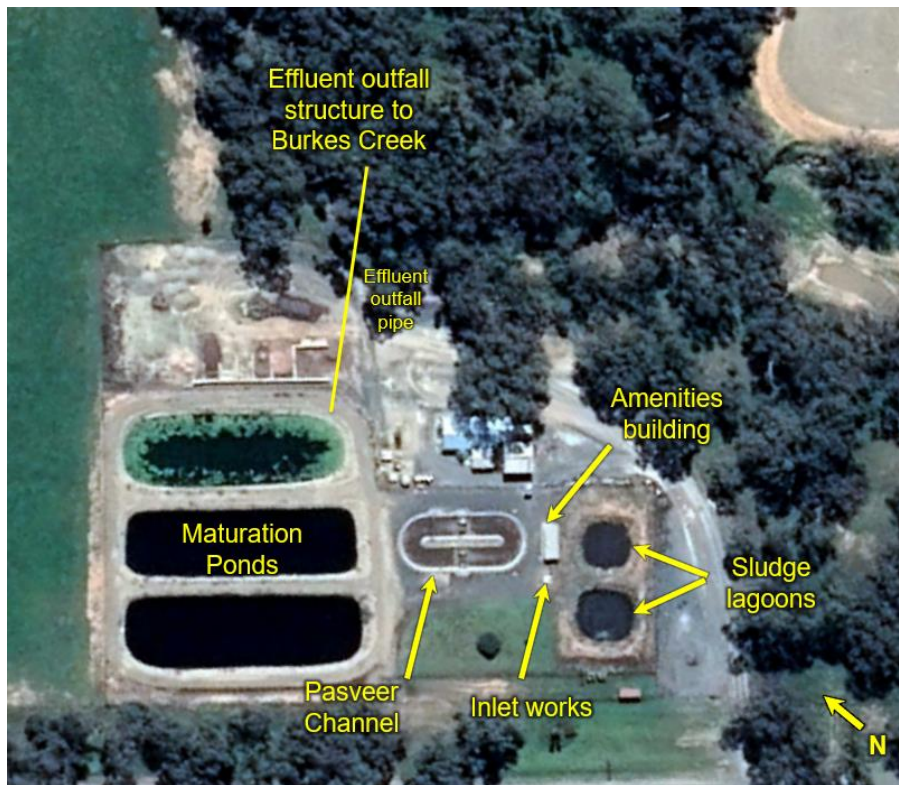


Figure 4-7: Aerial photograph showing layout of The Rock STP

Effluent is disinfected in a series of three maturation ponds following which it flows through an 80 m long effluent outfall pipe to discharge into Burkes Creek, a tributary of the Murrumbidgee River. Currently there is no effluent reuse occurring from The Rock STP

Sludge from the Pasveer Channel is pumped to the sludge lagoons, where each lagoon receives sludge for six months in an alternating fashion. The sludge is concentrated and stabilised in the lagoons, where it is dried by evaporation. Once dried, it is excavated and disposed of in landfill.

Growth

The spatial distribution of the growth within the sewage pumping station catchments of the Rock sewerage scheme is shown in Figure 4-8.

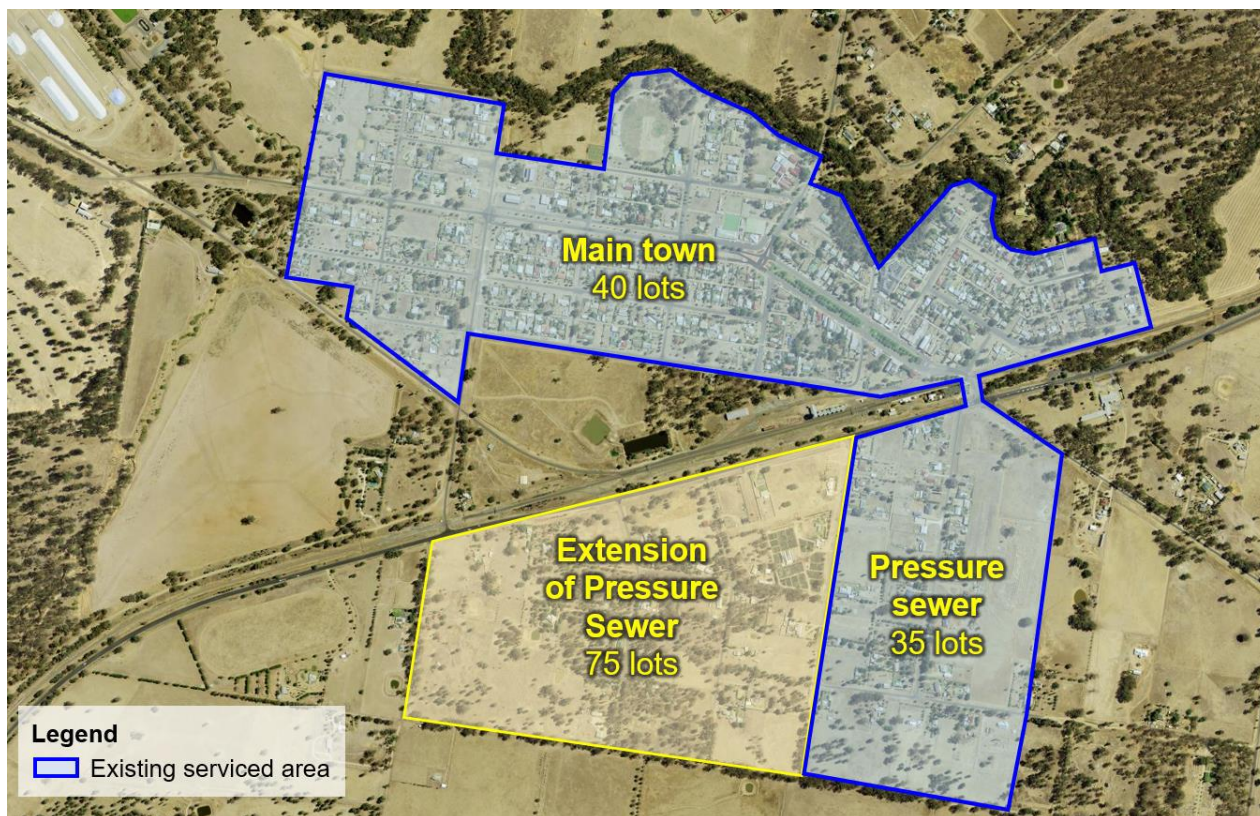


Figure 4-8: Spatial distribution of growth in the Rock showing residential dwellings

4.3 Yerong Creek sewerage scheme

The Yerong Creek sewerage scheme is a low-pressure sewer system (no gravity reticulation) constructed in 2004. Each residence contains its own pump grinder unit which is connected to the pressure sewerage reticulation system. The layout of the sewerage transfer system is shown in Figure 4-9.



Figure 4-9: Sewerage scheme layout at Yerong Creek with water main overlay

The Yerong Creek STP is an oxidation pond plant was constructed in 2004 with a design capacity of 500 EP. An aerial photograph showing the existing STP layout is shown in Figure 4-10.



Figure 4-10: Aerial photograph showing layout of Yerong Creek STP

Effluent from the maturation ponds is evaporated. The oxidation ponds have not been de-sludged since the plants commenced operation.

There is no growth forecast for the Yerron Creek sewerage scheme

4.4 Urban stormwater

LSC does not have any extensive existing stormwater systems beyond kerb and guttering.

5. Unserviced Communities

Onsite sewage management systems are used in Milbrulong, Pleasant Hills and some parts of Lockhart. These villages and areas are shown in Figure 5-1 to **Error! Reference source not found.**



Figure 5-1: Unserviced community – Lockhart



Figure 5-2: Unserviced community – Milbrulong



Figure 5-3: Unserviced community – Pleasant Hills

All the properties had a minimum lot size of 2,000 m², which is less than the recommended range of 4,000 to 5,000 m² for soils with low permeability. This means that there is a risk of insufficient area for effluent disposal which could potentially create a public health risk via human contact.

At the southern part of the Lockhart township, there are some lots located near Treasure Street, Lockhart (western-most point of this area) that are less than 100 m from the Brookong Creek and are also within its 1% AEP flood level.

All soils have slow to moderate infiltration rates, which can cause effluent in the absorption trenches in OSSMSs to pool around the trench, thus creating a public health risk due to human contact.

6. Asset Condition

NSW Public Works undertook a condition assessment of Council's above-ground assets. The asset condition assessment was undertaken using the Institute of Public Works Engineering Australia's (IPWEA) 2016 Condition Assessment & Asset Performance Guidelines Practice Note 7, Water Supply and Sewerage. The asset condition ratings, adjusting for equipment criticality, are provided in Table 6-1. Council's agreed LOS acceptable condition rating is Level 3.

Table 6-1: Sewerage and effluent reuse asset condition ratings

Sewerage Scheme	Asset/Facility	Condition Rating		
		Civil	Electrical	Mechanical
Lockhart	SPS 1 – Walter Day Park	2.5	3.0	2.0
	SPS 2 – Hayes St	3.0	2.5	2.5
	SPS 3 – Green Street West	3.5	3.0	3.0
	STP – Primary & Secondary	3.5	3.5	3.5
	STP – Tertiary Lagoons	4.0	-	-
	STP – Effluent Reuse	3.0	-	3.0
The Rock	SPS 1 – Wilson St	3.0	2.5	3.0
	SPS 2 – Day St	3.5	3.0	3.5
	SPS 3 – Bretton St	1.5	3.0	3.5
	STP – Primary & Secondary	2.5	3.0	2.5
	STP – Tertiary	2.0	-	-
Yerong Creek	STP – Primary & Secondary	2.5	1.5	3.5
	STP – Tertiary	3.0	-	-

Table 6-2: Sewerage and effluent reuse asset condition ratings

1. Condition Rating	2. Description
1	Excellent condition – routine maintenance is preserving the asset condition
2	Good condition – routine maintenance is supporting asset condition and reducing the rate of deterioration
3	Fair condition – overhaul or specific remedial actions could return the asset to a better condition
4	Poor condition – renewal required within short term (possibly in the next 2 to 5 years)
5	Very poor condition – major work including replacement or rehabilitation required urgently

A 30-year asset renewal plan was prepared using information from the condition assessment and information available for the condition of the below ground assets. This renewal plan was used as the baseline for the scenario analysis and to develop the Total Asset Management Plan for the preferred Scenario.

7. Fees and charges

Council's sewerage fees and charges are summarised in Table 7-1.

Table 7-1: Council's sewerage fees and charges for 2020 / 21

Fee component	Unit	Unit cost
Sewerage connection fee		
Sewerage Headworks – Section 27 per lot		
▪ Lockhart and The Rock (West)	\$ per lot	1,409.00
▪ The Rock (East) and Yerong Creek– includes on-site pump unit supply	\$ per lot	7,209.00
Other income		
▪ Sale of treated effluent	\$ per kL	0.65
Sewerage charges – Residential		
Residential – with dwelling		
▪ Lockhart, The Rock and Yerong Creek	\$ per year	530.00
Residential – no dwelling		
▪ Lockhart, The Rock and Yerong Creek	\$ per year	268.00
Sewerage charges – Non-Residential		
Lockhart, The Rock & Yerong Creek		
▪ Operational charge (usage charge)	\$ per kL	1.37
▪ Access fee	\$ per year	268.00
▪ Minimum	\$ per year	530.00
▪ Vacant	\$ per year	268.00
▪ Availability charge (where there is no water meter, but access to the sewer is available)	\$ per year	268.00

Liquid trade waste

Council's current Liquid Trade Waste Policy (adopted by Council on 17 August 2020) requires all individuals and industries wishing to discharge liquid trade waste to obtain Council's approval as stated in Section 68 of the Local Government Act 1993. This policy divides liquid trade waste. The procedure for approval is governed by Chapter 7 of the Local Government Act 1993 and is subject to the Local Government Regulation 2005.

8. Performance review and risks

A review of Council's sewer systems performance was undertaken by analysing historical information. The IWCM Issues Paper presents the analysis that have been undertaken and the IWCM Issues that have been identified through the analysis and inspections. These are summarised below.

Regulatory and best practice

- No regular Work Health and Safety audits are undertaken. A number of work health and safety issues have been identified at the Lockhart and The Rock STPs.
- Council does not have a policy for on-line sewage management systems.
- Council's fees and charges need to be reviewed to achieve cost recovery and ensure Best Practice.
- The Customer Relationship Management system should be updated to capture information against Levels of Service so that performance can be effectively monitored on an annual basis.

Public Health – on-site sewage management systems

- There is a Public Health risk to the people living in the unserviced lots in Lockhart and the villages of Milbrulong and Pleasant Hills via potential contact with effluent due to small lot sizes low permeability soils.

Sewerage Scheme performance

Lockhart sewerage scheme

- There is suspected high inflow/infiltration in the sewer main passing under Brookong Creek which causes overflows at the STP during wet weather.
- The Tertiary lagoons have been assessed as being in poor condition and appropriate renewal costs have been included in the asset management plan.
- The effluent quality from the STP does not meet the requirements of Australian Guidelines for Water Recycling for the specific end use applications.

The Rock sewerage scheme

- There is a medium risk of failure of sewage pumping station 2 due to the electrical switchboard being flooded.
- There is a low risk of wet weather overflows at sewage pumping station 2 due to its flowrate being exceeded by the total flow rate of upstream pumping stations.
- There is a low risk of potential future overflows at sewage pumping station 2 due to the emergency storage time dropping below Council's nominated failure response time.
- There is a medium to low risk of odour and septicity in sewage pumping station 3 due to the detention time in the rising main exceeding 8 hours.
- The assessed capacity of the maturation ponds at the sewage treatment plant is expected to be exceeded in about 25 years which may affect the effluent quality.

Yerong Creek sewerage scheme

- There is a risk of contamination from the reticulation network due to leakage which has been identified as the dry weather flows are lower than the water consumption and flows during weather are significantly higher.

9. Options evaluation and assessment

9.1 Lockhart STP

The Lockhart STP has an identified renewal cost of about \$1.2M over the next 10 years and will be approaching the end of its design life in about 15 years. The effluent quality also does not meet the regulatory requirements for the current application, although these regulatory requirements did not apply when the scheme was commissioned. A number of options were assessed and evaluated which considered different effluent management options, treatment process options and staging options. These are listed below:

- Option 1** – Upgrade existing trickling filter plant.
- Option 2** – Replace existing trickling filter with new Pasveer Channel
- Option 3** – Replace existing trickling filter with new aerated lagoons.
- Option 4** - Replace existing trickling filter with new activated sludge based plant.
- Option 5** - Oxidation Pond system with effluent disposal by evaporation
- Option 6** – Oxidation Pond system with effluent reuse

The Table 9-1 compares the advantages and disadvantages of the six sewage treatment options.

Table 9-1: Comparison of sewage treatment options

Options	Conditions	Advantages	Disadvantages
Option 1: Upgrade existing trickling filter plant	<ul style="list-style-type: none"> • Immediate upgrade costs to address condition and safety (WHS) issues • The useful life of STP will be exceeded around year 2035 to 2040 and will require a new STP. 	<ul style="list-style-type: none"> • Retain existing trickling filter plant. • Same footprint compared to other options. • Improved condition and safety through mechanical, electrical and WHS upgrades 	<ul style="list-style-type: none"> • More O & M costs to maintain existing plant nearing the end of its useful life. • More maintenance required. • Treatment process unlikely to meet required effluent quality for environmental discharges or the target LRVs for irrigation of public open spaces.
Option 2: Replace existing trickling filter with new Pasveer Channel.	<ul style="list-style-type: none"> • Requires sludge lagoon for installation of new Pasveer Channel to replace existing trickling filter. • Primary and secondary treatment units to be decommissioned. • Extension of STP grounds required to include Pasveer Channel and sludge lagoons. 	<ul style="list-style-type: none"> • Standardise operation of Pasveer Channel in all three STPs in Lockhart Shire. • Smaller footprints (compared with existing trickling plant) • Removes the need for existing primary and secondary treatment units • Improved treated effluent quality compared to existing treatment units. 	<ul style="list-style-type: none"> • Bigger footprint (compared with IDEA reactor) • More on- site testings required • Unable to hydraulically process high wet weather inflows. • Aeration system availability limited by shallow depth of channel. • Power requirements greater than IDEA process • Effluent quality less reliable than IDEA.
Option 3: Replace existing	<ul style="list-style-type: none"> • Requires adequate power supply for operation of aerators. 	<ul style="list-style-type: none"> • Reuse existing maturation ponds for 	<ul style="list-style-type: none"> • More electricity costs for operating aerators.

Options	Conditions	Advantages	Disadvantages
trickling filter with new aerated lagoons.	<ul style="list-style-type: none"> • Conversions of existing maturation ponds for aeration lagoons and polishing ponds. • Primary and secondary treatment units to be decommissioned. 	<ul style="list-style-type: none"> • aeration lagoons and polishing ponds. • No sludge lagoons required. • No much costs for excavation of ponds • Improved treated effluent quality compared to existing treatment units. 	<ul style="list-style-type: none"> • More on- site testing required • Periodic desludging of aeration lagoons required • Effluent reuse not suitable for public open space irrigation (same as Option1)
<p>Option 4:</p> <p>Replace existing trickling filter with new activated sludge based plant</p>	<ul style="list-style-type: none"> • Requires adequate power supply • Immediate upgrade costs to address condition and safety (WHS) issues at existing plant • Decommission existing plant, then upgrade to IDEA based plant in 10 years' time 	<ul style="list-style-type: none"> • Compatible with effluent reuse and environmental discharge • Retention of existing treatment units • Aeration efficiency in IDEA greater and more robust than aeration lagoon and Pasveer Channel 	<ul style="list-style-type: none"> • High operation and maintenance costs • More costs for upgrading existing trickling filter • More maintenance required • More on-site testings required
<p>Option 5:</p> <p>Oxidation ponds with evaporation</p>	<ul style="list-style-type: none"> • 2 km buffer distance from urban centres • Requires large land area that is also flat 	<ul style="list-style-type: none"> • Ease of operation • Low operating costs and maintenance costs • Ability to take shock loads • No WAL required; effluent disposed of by evaporation 	<ul style="list-style-type: none"> • Large plant footprint required due to size of evaporation pond • Oxidation ponds produce odour, requiring STP to be constructed out of town • Effluent quality is unlikely to meet requirements for reuse unless further polishing is employed. <ul style="list-style-type: none"> ▪ Desludging requires the primary pond to be isolated and dewatered. ▪ Potentially high capital costs for ponds if soil condition is unsuitable ▪ May be seen by community to be waste of water during drought
<p>Option 6:</p> <p>Oxidation pond system with effluent disposal by agricultural reuse</p>	<ul style="list-style-type: none"> • Same as Option 5 • Requires available land for disposal of effluent by irrigation of non-food crops 	<ul style="list-style-type: none"> • Smaller plant footprint compared to Option 5 as evaporation pond is avoided • Ease of operation • Low operating costs and maintenance costs • Ability to take shock loads • Effluent used for agricultural irrigation, 	<ul style="list-style-type: none"> • Limited control of treatment process and for effective nutrient removal. • Oxidation ponds produce odour, requiring STP to be constructed out of town • Desludging requires the primary pond to be isolated and dewatered

Options	Conditions	Advantages	Disadvantages
		providing benefit to community during drought	<ul style="list-style-type: none"> Requires effluent storage Requires available land for disposal of effluent by irrigation of non-food crops

9.2 On-site Sewage Management Systems (OSSMS)

Public Health risks have been identified for the unserved lots in South Lockhart. The serviced and unserved areas in the Lockhart sewerage scheme are shown in Figure 9-1.

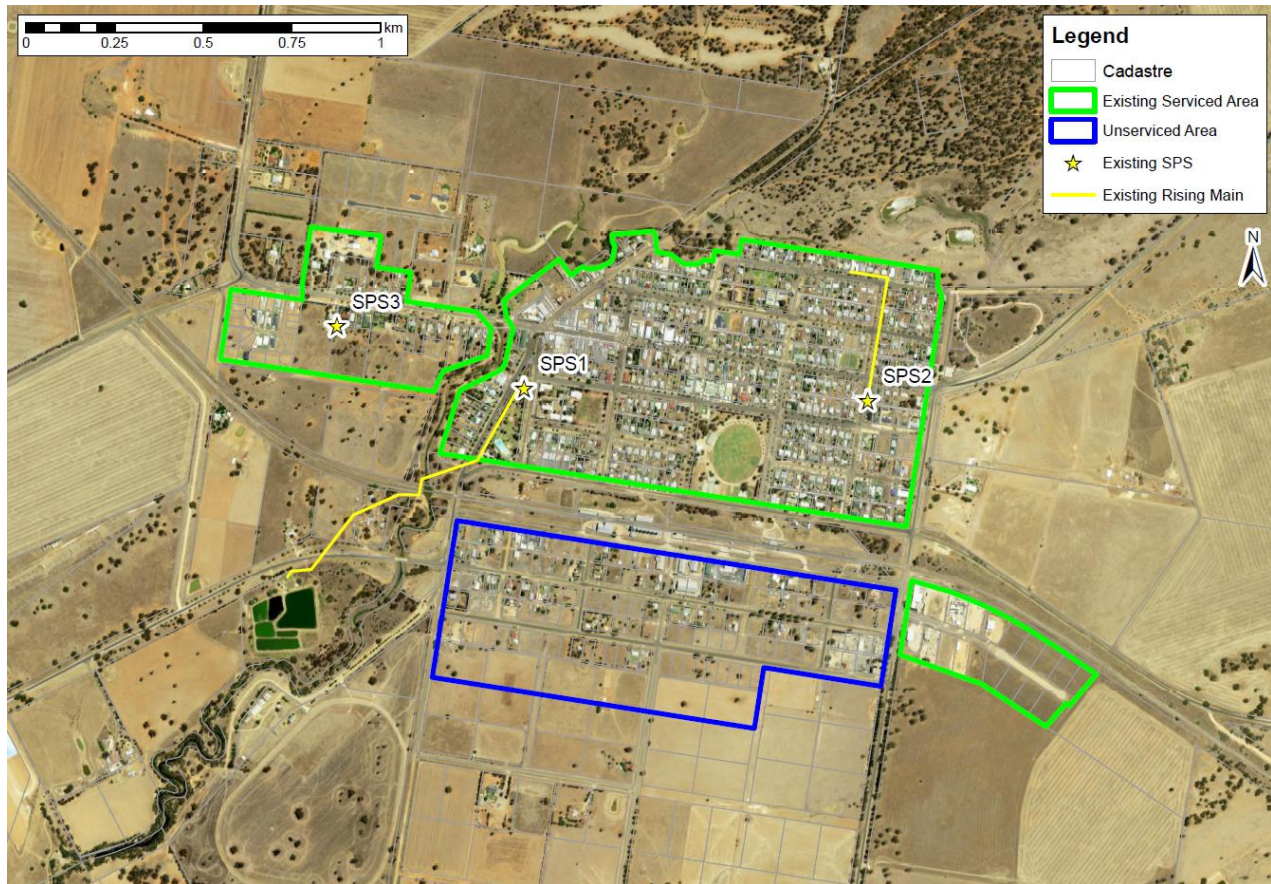


Figure 9-1: Existing serviced and unserved areas of the Lockhart sewerage scheme

The infrastructure needs to service this area were assessed and a life cycle cost was estimated for Council to consider.

10. IWCM Scenarios

Integrated Water Cycle Management scenarios are created to address the issues that have been identified. Each scenario is created by bundling the options that have been shortlisted to address the issues. Some issues can be addressed by management actions which are common to all scenarios. The management non-build actions identified to address some issues and that are common to all scenarios, are listed in Table 10-1.

Table 10-1: Management, no-build actions to address issues

Issue	Management Action
Regulatory and Best Practice	Meet all requirements listed in the WHS Act 2011 including the need for regular audits. Prepare a policy for On-site sewage management systems. Review the tariff structure to achieve full cost recovery and meet best practice.
Performance monitoring	Formulate Levels of Service and consult with the community before adopting. Update the Customer Relationship Management (CRM) system to allow information to be collected such that the performance can be assessed against the adopted Levels of Service.
Lockhart sewerage scheme – high inflow infiltration	Check water quality upstream and downstream of suspected leakage from Lockhart SPS 1 rising main. This will identify if Brookong Creek is being polluted with sewage leaking from the sewer and confirm suspected high infiltration during wet weather periods.
Lockhart town – unserviced area	Review/obtain performance data for southern part of Lockhart township (on septic systems) to support OSSMS desktop assessment identifying high public health risk.
Yerrong Creek network – reticulation leak	Check ground levels of Yerrong Creek township relative to the flood level to investigate issue of variable STP inflow during dry and wet periods.

Five scenarios have been created from the shortlisted options to address the issues at the Lockhart sewerage treatment plan. Table 10-2 shows the bundled scenarios based on shortlisted infrastructure build options. The issues that are being addressed by each option are also listed.

Table 10-2: Shire Wide IWCM Scenarios – infrastructure needs and staging

Issue	Option	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Lockhart STP: <ul style="list-style-type: none"> • Condition • End of life • WHS • Effluent reuse 	New activated sludge (IDEA based) plant in 2035 and continue with effluent reuse.	✓ 2035	-	-	-	
	Avoid renewals with new oxidation pond plant with effluent reuse for agricultural irrigation.	-	✓ 2025	-	-	✓ 2025
	Avoid renewals with new activated sludge (IDEA based) plant with effluent reuse for public open spaces.	-	-	✓ 2025	✓ 2025	

Issue	Option	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
South Lockhart – Public Health issue from OSSMS in unserviced lots.	Extend sewerage service area to include South Lockhart				✓ 2025	✓ 2025

10.1 Present value analysis of IWCM Scenarios

10.1.1 Capital and Operating Costs

Table 10-3 presents the summary of the estimated total costs of capital outlay and the present value of the capital, and the operating and maintenance (O&M) cost estimates over the 30 years of the sewerage service in each of the IWCM Scenario based on 2021- 22 \$.

Table 10-3: Capital and Operating Costs of IWCM Scenarios

Scenario	Total capital costs over 30 years (\$'000)	Present value of capital costs @ 7% (\$'000)	Present value of operating costs @ 7% (\$'000)
Scenario 1	7,694	3,193	571
Scenario 2	4,150	8,879	205
Scenario 3	7,694	7,191	1,616
Scenario 4	10,362	9,226	2,158
Scenario 5	6,817	5,913	746

A present value analysis of each Scenario at annual real discount rates of 4%, 7% and 10% has been undertaken in accordance with Topic 11 of the IWCM Check List. Results for the 7% discount rates have been presented.

10.1.2 Avoided Costs

The IWCM Scenarios will result in avoided operating and maintenance costs due to the following:

- Lockhart Trickling Filter STP renewal costs
- Lockhart Trickling Filter STP operating and maintenance costs

The avoided operating and maintenance costs associated with existing infrastructure for each scenario are presented in Table 10-4.

Table 10-4: Summary pf avoided costs

Scenario	Avoided Costs (\$K)	Present value of avoided cost (@ 7%) (\$K)
Scenario 1	2,022	475
Scenario 2	5,022	1,981
Scenario 3	3,572	1,408
Scenario 4	3,572	1,408
Scenario 5	5,022	1,981

10.1.3 Scenario Costs

Table 10-5 presents the present value cost for each scenario, which includes the avoided cost.

Table 10-5: Present value costs of IWCM Scenarios including avoided costs

Scenario	Present value of capex and opex cost @ 7% (\$'000)	Present value of avoided costs @ 7% (\$'000)	Present value @ \$K 7%
Scenario 1	3,764	475	3,289
Scenario 2	4,083	1,981	2,102
Scenario 3	8,807	1,408	7,399
Scenario 4	11,384	1,408	9,976
Scenario 5	6,660	1,981	4,678

10.2 Typical Residential Bill (TRB) analysis of IWCM scenarios

As part of the assessment of IWCM scenarios, approximate annual Typical Residential Bills (TRBs) for the Council's sewerage services have been estimated by developing a sewer fund financial model. The financial model was developed using DPE Water's FINMOD 4 financial modelling software. The financial model has been developed with reference to the historic input details based on Council's 2019-20 and 2020-21 sewer income and financial position statements submitted as part of the financial data returns to the Office of Local Government (OLG). Approximate TRBs forecast by the model are expected to be within about 10% of the final TRBs that will be calculated in the Financial Plan for the adopted IWCM Strategy. All the input and forecast financial data are in 2021-22\$.

The financial model for IWCM scenarios has been built upon the base line scenario which corresponds to the Council's 'business-as-usual' 30-year sewerage asset renewal plan. The estimated capital costs of the IWCM initiatives for each of the scenarios have then been incorporated to the baseline capital works program for the purpose of analysis. The 30-year sewerage capital works for the IWCM scenarios and the 'baseline' scenario are compared in Figure 10-1. The operation, maintenance and administration (OMA) cost estimates for each scenario including additional expenses for IWCM initiatives and the recommended management are compared in Figure 10-2.

The financial model considered 90% grant/ subsidy for the Lockhart STP upgrade and South Lockhart service extension capital works recommended in the IWCM scenarios.

Council's sewerage TRB for 2021-22 and 2022-23 is \$535 p.a. (in 2021/22\$) and the forecast TRBs for each of the IWCM scenarios are compared in Figure 10-3.

The financial modelling forecasts presented in this section are intended as a means for comparing the IWCM scenarios to support the selection of a preferred scenario. Details of further financial modelling has been carried out after selection of preferred scenario and required adjustments made in keeping with Council's internal financial planning processes. Refer to Section 13 for details.

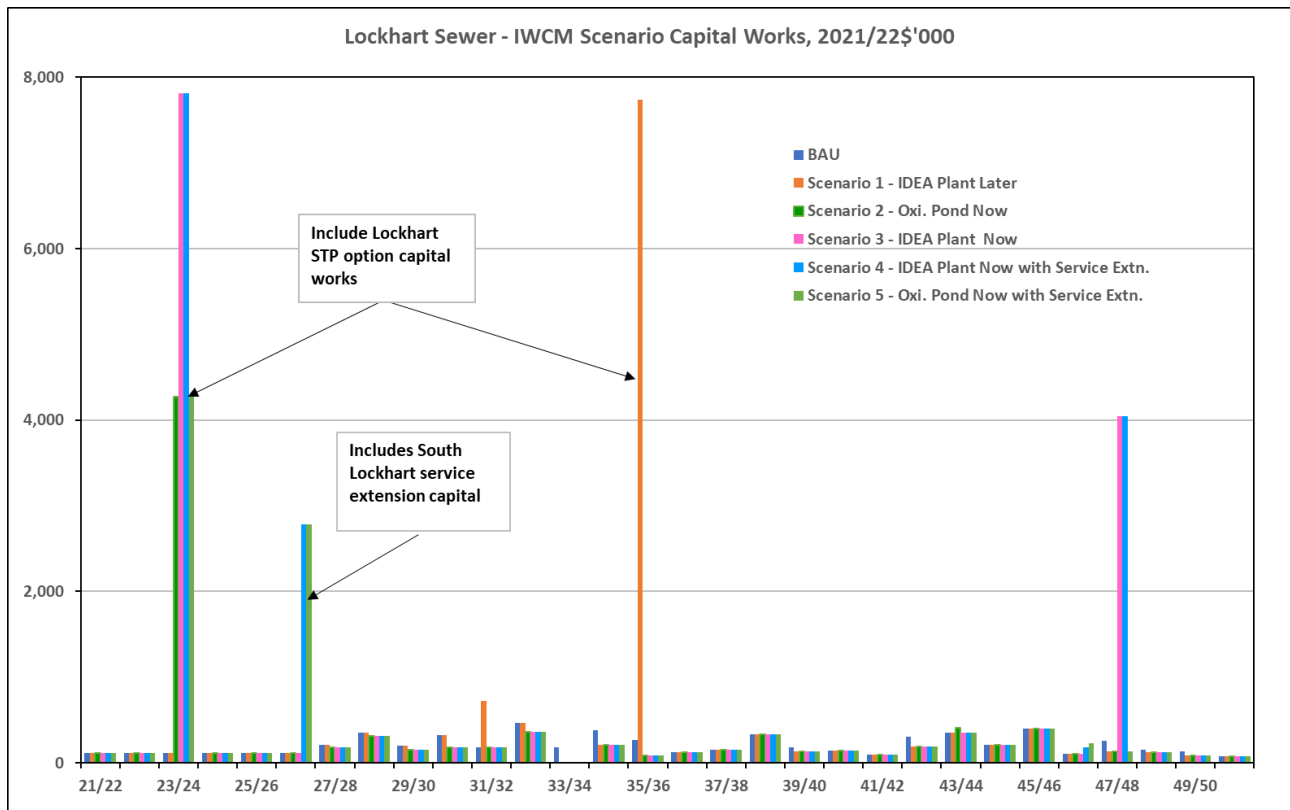


Figure 10-1: Comparison of 30-year Capital Works Programs

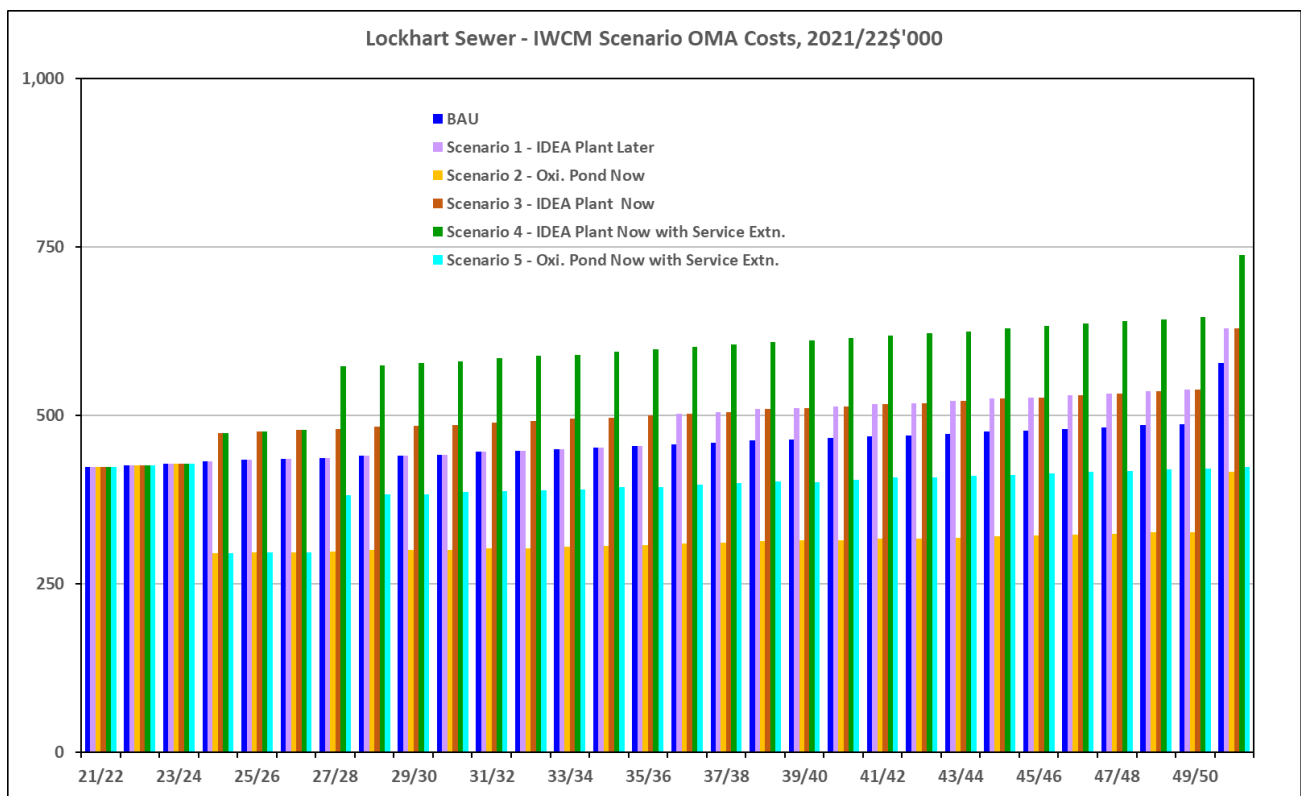


Figure 10-2: Comparison of 30-year OMA Costs

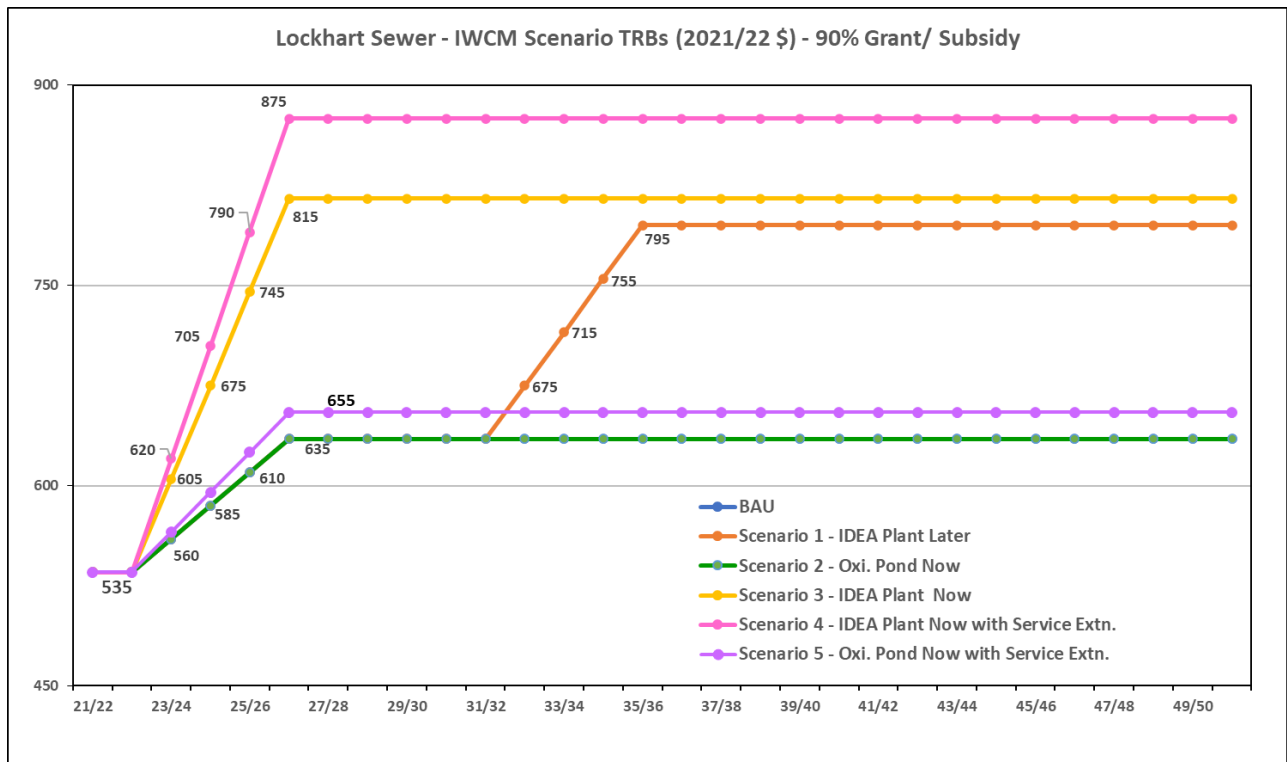


Figure 10-3: Comparison of TRB Forecasts for IWCM Scenarios

10.3 Triple bottom line assessment of Scenarios

A total of six environmental and social targets have been used to score the IWCM Scenarios as to how they address the IWCM Issues. The targets were based on selected social and environmental objectives. The targets were based on selected social and environmental objectives.

The targets and their objectives are shown in Table 10-6.

Table 10-6: Social and environmental performance targets and objectives

TBL Category	Environmental	Objective	Key performance targets	Weighting
		A healthy environment with pristine waterways	Maintain and enhance with health of waterways	0.3
		Our environment practices are sustainable – Explore opportunities to utilise renewable energy and water saving practices.	Reduce impact on environment due to construction	0.2
			Increase in reuse / recycling of wastewater	0.3
			Reduction in energy consumption	0.2
	Total weighted environmental score			1.0
	Social	Our assets and infrastructure are well planned and managed to meet the demands of the community now and in the future	Reliability of sewerage services	0.9
		Our Shire is attractive and welcoming to businesses, industry, residents and visitors	Percentage of customers supplied with sewerage service in Lockhart	0.1
		Total weighted social score		

The environmental and social scoring for all the scenarios is provided in Appendix C. The outcome of the environment and social scoring for each IWCM Scenarios across the targets are shown in Table 10-7. The IWCM Scoring Rank is tabulated in Table 10-8.

Table 10-7: Summary of Triple bottom line score for IWCM Scenarios

Scenario	Environmental Score	Social Score	Environmental and Social Score (ESS)
Scenario 1	3.8	1.2	5.0
Scenario 2	3.0	2.1	5.1
Scenario 3	4.2	3.9	8.1
Scenario 4	4.0	4.1	8.1
Scenario 5	3.0	2.3	5.3

Table 10-8: IWCM Scoring Rank

Scenario	Total present value (\$M)	ESS	ESS / NPV	Rank
Scenario 1	3.3	5.0	1.5	2
Scenario 2	2.1	5.1	2.4	1
Scenario 3	7.4	8.1	1.1	3
Scenario 4	10.0	8.1	0.8	5
Scenario 5	4.7	5.3	1.1	3

11. Preferred Scenario

Whilst Scenario 5 is not the top ranked Scenario based on the triple bottom line assessment, Council has selected Scenario 5 as the preferred Scenario for the Strategy. The works that are identified in the preferred scenario and the timeframe for their implementation, are presented in Table 11-1.

Table 11-1: Actions/works identified in preferred IWCM Scenario

Issue	Management Action/infrastructure works
Regulatory and Best Practice	<p>Meet all requirements listed in the WHS Act 2011 including the need for regular audits.</p> <p>Prepare a policy for On-site sewage management systems.</p> <p>Review the tariff structure to achieve full cost recovery and meet best practice.</p>
Performance monitoring	<p>Formulate Levels of Service and consult with the community before adopting.</p> <p>Update the Customer Relationship Management (CRM) system to allow information to be collected such that the performance can be assessed against the adopted Levels of Service.</p>
Lockhart sewerage scheme – high inflow infiltration	<p>Check water quality upstream and downstream of suspected leakage from Lockhart SPS 1 rising main. This will identify if Brookong Creek is being polluted with sewage leaking from the sewer and confirm suspected high infiltration during wet weather periods.</p>
Lockhart town – unserviced area	<p>Review/obtain performance data for southern part of Lockhart township (on septic systems) to support OSSMS desktop assessment identifying high public health risk.</p>
Yerrong Creek network – reticulation leak	<p>Check ground levels of Yerrong Creek township relative to the flood level to investigate issue of variable STP inflow during dry and wet periods.</p>
<p>Lockhart STP:</p> <ul style="list-style-type: none"> • Condition • End of life • WHS • Effluent reuse 	<p>Avoid renewals at Lockhart STP and construct new oxidation pond plant with effluent reuse for agricultural irrigation (2025).</p>
South Lockhart – Public Health issue from OSSMS in unserviced lots.	<p>Extend sewerage service area to include South Lockhart (2025)</p>

12. Total Asset Management Plan

Total asset management plan (TAMP) provides the details of proposed capital works and recurrent operations, maintenance, and management (OMA) expenditure over a 30-year planning horizon and is essential for managing infrastructure assets to meet the levels of service in the most cost-effective manner for the current as well as the future customers.

TAMP provides vital inputs for Council to develop their long-term funding strategies by linking to a long-term financial plan. The financial plan, in turn, identifies funds required to implement capital and recurrent expenditure at affordable levels of customer charges.

12.1 Capital Works

The recommended IWCM strategy enables Council to develop a schedule of capital works into the future to satisfy the forecast service demands in terms of growth, improved levels of service and renewal and replacement of existing assets.

Growth works	Works required to increase the capacity of facilities, to service new release areas, subdivisions, etc.
Improved level of service works – Improved Level of Service (ILOS), including backlog works	Works to provide better public health and environmental standards, better service, higher reliability, or an extension of services to currently unserved existing development. Works in this category may be eligible for Government grants.
Asset renewal	Renewal and replacement of existing assets which have aged and reached the end of their effective economic service life

The recommended IWCM strategy identifies the growth and ILOS capital works over the planning horizon based on the preferred options to address the identified IWCM issues. Additionally, anticipating the need and timing for the renewal and replacement of existing assets is critically important to ensure that funds are available to carry out the works in a timely manner.

12.1.1 Asset Renewal

Identification of the timing and costs of renewal work requirements for sewerage assets has been undertaken adopting the following methodology in line with the IPWEA Practice Note 7, V3, 2016:

- Collation of the water and sewer assets/ facilities and components recorded for each of the asset/facility from the Council's asset database/ asset registers. Council has been using a spreadsheet-based asset register to maintain and manage the records of sewerage assets.
- Labelling of components of assets with different useful lives as civil, mechanical, electrical and telemetry/instrumentation components. This is in line with the Australian Accounting Standards (AAS 16 and AASB116) that require assets comprised of significant parts with different useful lives to be depreciated separately (referred to as "componentisation") to enable a meaningful and accurate timing and costs of future renewals.
- Updating of the current replacement costs of the assets/ components based on the latest revaluation records to the 2021-22 financial year using the relevant Construction Cost Index (CCI) prescribed by the NSW Reference Rates Manual – Valuation of water supply, sewerage, and stormwater assets (2020 update)
- Assessment of the condition of all the above-ground sewerage assets based on a visual inspection to assign a condition rating in accordance with the physical condition rating classification recommended by the NSW Office of Local Government, further refined in line with the IPWEA's Practice Note 7 (March 2016).

- Estimation of ‘condition adjusted’ remaining useful lives as a % of adopted useful lives of components as listed in the asset registers. Where condition rating details of asset component levels are unavailable (underground assets), age based remaining useful lives has been be considered.
- For the purpose of prioritisation of renewal timing, the estimated remaining useful lives have been further adjusted for ‘criticality’ of the assets/ facilities in consideration of the consequence of asset failure. The assets/ facilities with severe consequences of failure as identified by the Council have been assigned higher criticality and have been prioritised for earlier renewal to avoid probable major failures to service provision
- Following the adjustment to the remaining useful life in consideration of criticality, the scheme/ facility-wise timing and cost (in terms of current replacement cost - CRC) for asset renewal for the first 30-years starting 2020/21 has been collated.
- The collated 30-year asset renewal works have been further reviewed to align with the Council adopted 10-year capital budget, and to disaggregate the lumped-up renewal requirements with a view to spread-out and rationalise the capital funding requirements.

The details of asset condition and criticality rating classifications and the ratings assigned to Council’s above-ground sewerage assets are provided in Table 6-1.

The renewal works schedule including assets with the end of remaining useful lives falling within the IWCM planning horizon, have been included in the 30-year sewerage capital works program of the preferred scenario (IWCM Scenario 5). Details of 30-year sewerage capital works program is shown in Table 12-1 and the summary presented in Figure 12-1 and Table 12-2.

12.1.2 Recurrent Costs

Administration/ Management costs	Reflects true overheads associated with providing a service. Any cross subsidies with the General Fund should be eliminated or explicitly disclosed in the Annual Accounts.
Operations and Maintenance (O&M) costs	It is assumed that the current level of costs shown in the Financial Statements reflects a realistic level of expenditure for the current schemes. The projections assume costs increase in proportion to growth.
Model cost overrides	Additional costs are included where specific activities have been identified for future years. This includes new initiatives, plus additional costs associated with new capital works identified as part of the adopted IWCM scenario.

Details of overrides include additional recurrent expenditure and are as follows:

- Administration – as estimated and adopted by Council.
- Engineering and supervision – as estimated and adopted by Council.
- Operation and maintenance expenses – as estimated and adopted by the Council. O&M cost savings due to replacing the existing Lockhart STP with oxidation pond system for agricultural reuse, and additional OM costs for service extension to South Lockhart identified in the preferred IWCM scenario has been included.
- Energy and chemical costs – as estimated and adopted by Council.
- Other expenses – as estimated by Council.
- Other revenue, grants, and contributions –as estimated by Council.

Summary of 30-year OMA cost forecasts for sewerage services are presented in Figure 12-2 and Table 12-3.

Table 12-2: Summary of 30-Year Sewerage Capital Works Program

2021/22 (\$'000)	Growth and Minor Works	Improved Levels of Service	Asset Renewals	Total Capital Works	Expected Subsidy	Cost to Council
2021/22	0	0	120	120	0	120
2022/23	0	0	120	120	0	120
2023/24	415	3,735	120	4,270	3,175	1,095
2024/25	0	0	120	120	0	120
2025/26	0	0	120	120	0	120
2026/27	267	2,400	120	2,787	2,040	747
2027/28	0	0	186	186	0	186
2028/29	0	0	319	319	0	319
2029/30	0	0	154	154	0	154
2030/31	0	0	185	185	0	185
2031/32	0	0	181	181	0	181
2032/33	0	0	365	365	0	365
2033/34	0	0	0	0	0	0
2034/35	0	0	206	206	0	206
2035/36	0	0	90	90	0	90
2036/37	0	0	123	123	0	123
2037/38	0	0	158	158	0	158
2038/39	0	0	335	335	0	335
2039/40	0	0	137	137	0	137
2040/41	0	0	142	142	0	142
2041/42	0	0	101	101	0	101
2042/43	0	0	189	189	0	189
2043/44	0	0	408	408	0	408
2044/45	0	0	211	211	0	211
2045/46	0	0	402	402	0	402
2046/47	0	0	105	105	0	105
2047/48	0	0	135	135	0	135
2048/49	0	0	124	124	0	124
2049/50	0	0	89	89	0	89
2050/51	0	0	82	82	0	82
Total	682	6,135	5,147	11,964	5,215	6,749

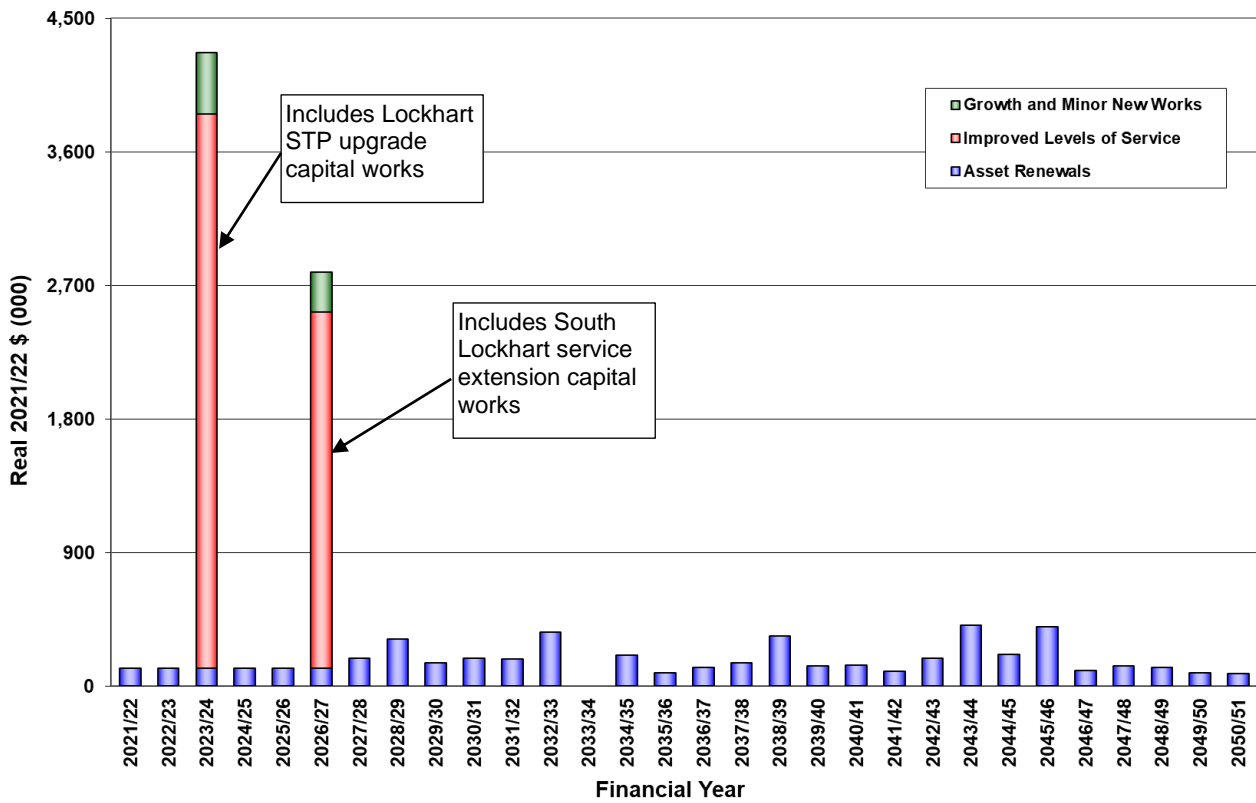


Figure 12-1: 30-year Capital Works Summary (\$'000)

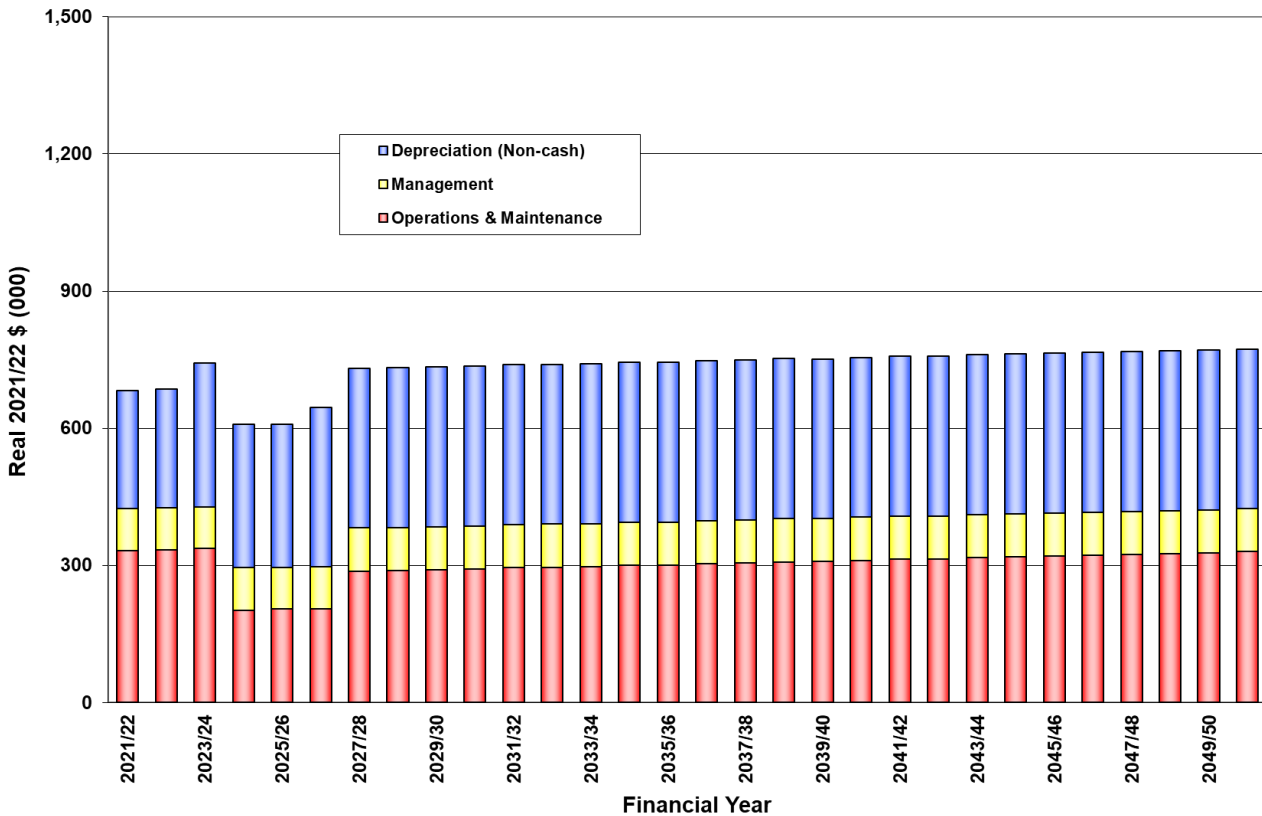


Figure 12-2: 30-year Recurrent O&M Expenditure Summary (\$'000)

Table 12-3: Summary of 30-Year Recurrent O&M Expenditure (\$'000)

2021/22 (\$'000)	Management	Operations & Maintenance	Depreciation (Non-cash)
2021/22	92	332	259
2022/23	92	334	259
2023/24	91	337	314
2024/25	93	202	314
2025/26	92	204	313
2026/27	92	205	348
2027/28	95	287	348
2028/29	94	289	349
2029/30	94	290	350
2030/31	94	292	350
2031/32	94	295	350
2032/33	95	295	350
2033/34	94	297	350
2034/35	94	300	350
2035/36	93	301	350
2036/37	94	303	350
2037/38	94	305	350
2038/39	95	307	350
2039/40	94	308	349
2040/41	94	311	350
2041/42	94	314	350
2042/43	94	314	350
2043/44	94	317	350
2044/45	94	318	350
2045/46	94	320	350
2046/47	94	322	350
2047/48	94	324	350
2048/49	94	325	350
2049/50	94	327	350
2050/51	94	330	349

13. Financial Plan

13.1 Overview

This section presents the details of long-term financial plans for sewerage services for preferred IWCM scenario. The overall goal of financial planning is to determine the lowest, sustainable price path for the sewerage services on which to base Council’s tariff structure. The details of assumptions, input data and output financial projections for the adopted IWCM capital works and growth are presented in this plan. The plan also presents the sensitivity of financial projections to possible changes in key model variables.

13.2 Financial Modelling Methodology

FINMOD 4.0, the software developed by the Department of Primary Industries Water was used to develop the sewer fund financial model. The financial model have been developed for a 30-year planning horizon.

A stable level of annual residential charges for sewerage services has been achieved using Finmod by optimising the long-term funding strategy in meeting the demands of the capital works programme and day-to-day operations, while ensuring a minimum level of cash liquidity. Also, for a particular Level of Service (LOS), FINMOD enables an examination of a range of funding options to determine the best mix of borrowing and internal funding.

The financial model balances the forecast income and expenditure for each service delivery option over the projected modelling period. Figure 13-1 illustrates the main elements which affect the financial modelling.

The goals of the financial modelling task are to:

- optimise the long-term funding strategy
- meet the demands of the capital works programme and other life cycle costs of the system assets
- ensure a minimum level of cash liquidity; and
- provide a forecast of the average residential annual charges over the long- term.

The long-term financial plans demonstrate the sustainability of future actions and demonstrate the sensitivity of model outcomes to some of the key assumptions made.

Funding is usually achieved from a mix of borrowing and direct revenue and can also be offset by receiving Government grants and subsidies where available.

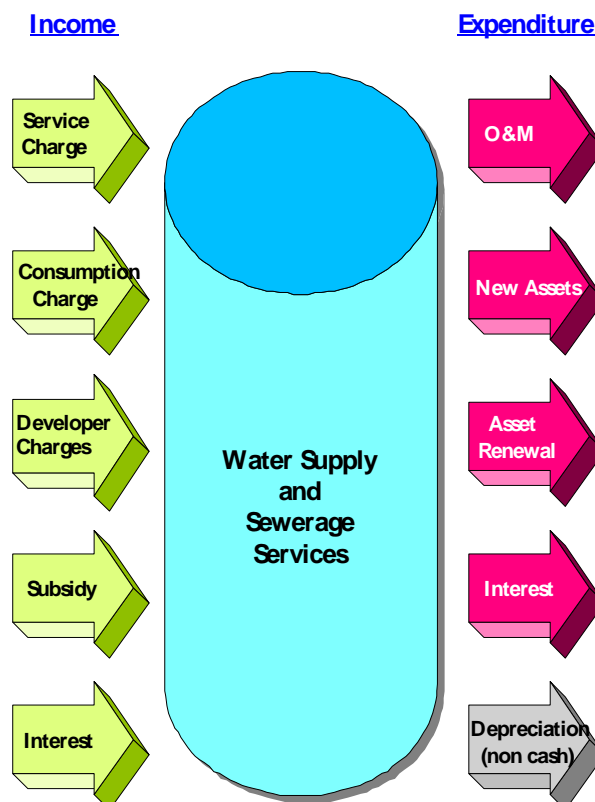


Figure 13-1: Elements of Financial

Modelling

Renewal programs would usually be funded from revenue, and some cash would be accumulated in anticipation of major projects, in order to reduce the need for borrowing. The Department of Planning, Industry and Environment (DPE) Water encourages the use of long-term loans

because they support the idea of intergenerational equity, and thereby reduce the requirement of raising funds from existing customers in the short term.

If the resulting annual charges are considered unacceptable or unaffordable, some input variables, such as levels of service, can be adjusted to arrive at a satisfactory projection of annual charges. For example, to reduce the level of annual charges, Council may delay some of the capital works, may increase developer charges, or may take long-term or structured loans. Council's charging and pricing policies will also take into account corporate policies, approach to risk and the acceptability of charges to the community. Some of these risks are evident from the sensitivities presented in this plan.

While the preferred model reflects the expected performance of the systems, it does not give any indication of the sensitivity of the proposed solutions should the basic assumptions used prove significantly different in practice.

For that reason, a sensitivity analysis is carried out if it is perceived that a variable may change significantly in the future. The value of a sensitivity analysis is that it shows:

- The sensitivity of the results to assumptions (uncontrollable variables); and
- The impact of changing controllable variables.

The DPE Water Guidelines suggest that several sensitivities should be carried out to test the robustness of the plan. With regards to controllable variables, such as type of loan structure, and level of developer charges, the model enables Council to make decisions to establish the most appropriate management policies.

With uncontrollable variables, Council is at the mercy of change. The downside risk of increased interest rates, or lower than forecast growth rates, or rise in energy costs, may be significant.

Council's charging and pricing policies will also take into account corporate policies, approach to risk and the acceptability of charges to the community. Some of these risks are evident from the sensitivities presented in this section.

On-going Review

Over time, changes in model variables can have a significant impact on the model's accuracy, and this has implications for forward planning. It is recommended that the financial model be reviewed annually, and the financial planning be revisited regularly, preferably on a 3 - yearly basis. If Council has an active capital works programme that requires grant or subsidy, annual updates are recommended by DPE Water.

13.3 Financial Model Inputs

A summary of major variables and assumptions that have been used in the development of the base case of the sewer fund financial model is presented in Table 13-1 and detailed in Appendix D. The model assumptions are based on a representative view of the impact of a number of factors. They have been grouped into five main policy areas and are discussed below:

1. Charges
2. Revenues and Expenditures
3. Service Provision
4. Funding Capital Works
5. Performance Measures

Table 13-1: Key Input Parameters – Sewer Fund Financial Model

Data Type	Input Data/ Assumption
Historical Data	Lockhart Shire Council sewer fund income statements and financial position statements from the Financial Data Return for 2019-20 and 2020-21.
Financial Data	Average annual long-term inflation rate: 2.5% p.a. Annual Investment Interest Rate: 5.5% p.a. (default) – 3.0% p.a. adopted Annual Borrowing Interest Rate: 6.5% p.a. (default) – 4.5% p.a. adopted
Demographic Base Data (2020-21)	No. of Residential Assessments: 847 (109 vacant/ unoccupied) No. of Non-Residential Assessments: 154 (36 vacant/unoccupied) Pensioner Assessments: 216 (24.56%) Assessment Growth Rate – As forecast for IWCM strategy development At the adopted levels of growth rate, an average 6 new customers per year across all the three service areas of the Council are estimated to be connected.
Opening Balances (as of June 2021)	Outstanding Loan: \$896 KI Total Cash and Investments: \$ 2.17 Million Minimum cash and investment (for modelling): \$500 K Term of new loans: 20 years
Revenue Splits	From 2021/22 onwards – 78.3%: 21.7% (Residential: Non-residential)
Current Charges (2021-22)	Residential: Availability Charge (Vacant): \$272 p.a. Availability Charge (Occupied): \$535 p.a. Sec.64 Developer Charges for Sewerage: \$1,409 per ET

13.3.1 Charges

Charging Structure

The projection of typical residential bills (TRBs) for sewerage are made in real (2021-22) dollars and, where feasible, a stable price path in real terms is maintained to demonstrate the lowest long-term price path that can be achieved based on assumptions made. TRBs are maintained at constant level in real terms, unless where an increase is required for long-term financial viability.

The forecast TRBs should be increased in line with the CPI (consumer price index) on an annual basis.

Typical residential bills calculated by the financial model will be higher than the average bills because the model considers account revenue losses due to vacant and/or unoccupied tenements and pensioner rebates. Council can use this information in fixing its service pricing tariffs. The tariff structure is to be reviewed at least every 5 years and indexed in the interim.

Developer Charges

Sec.64 developer charges of \$1,409 per ET has been adopted for the new developments. The model forecasts are based on the assumption that Council will be continuing with the current trend of not realising any revenue through levying of developer charges during the forecast period.

13.3.2 Revenues and Expenditures

Inflation

Average long-term inflation rate of 2.5% p.a. for general and capital works financial activities has been adopted for financial model.

Interest Rates

The interest rates adopted in this analysis are 4.50% p.a. for all new borrowing from 2021-22 onwards and 3.0% p.a. for all investments.

Capital Works

The capital work expenses form a significant component of the inputs. The capital works program adopted for financial modelling includes all the capital works for the preferred IWCM Scenario (scenario 5) as incorporated in the 30-year Total Asset Management Plan (refer to Section 12.1).

Recurrent Costs

The financial model considers a number of ongoing recurrent costs from historic input details. By default, the model increases historical operation and maintenance expenses pro-rata assessment growth. This has been overridden where Council has provided revised estimates, for example, where the IWCM action plan requires new initiatives or where new works require additional operating resources as described in Section 12.1.2.

13.3.3 Service Provision

Growth Projections

The assessment growth forecast for the IWCM strategy development has been used for the financial forecasts. At the adopted levels of growth rate, an average 6 new customers per year across the Council's service areas have been estimated to be connecting to sewerage services during the forecast period.

In line with Council's adopted development policy, the growth has been assumed to occur mainly in Lockhart and The Rock scheme service areas.

Expected life of assets

The default average life of the system assets is based on the weighted average of long-lived structures and shorter-lived mechanical plant. These average lives are currently estimated by Council as 75 years.

Depreciation is a non-cash expense, which is dependent upon asset lives. The age of assets directly affects the level of future asset renewal works, which are part of the capital works program.

13.3.4 Funding Capital Works

Cash and Investments

Some, or all, capital works can be funded directly from accumulated cash reserves. Minimum cash levels to be maintained in the sewer fund has been considered as \$500 K, as required by the Council.

Funds which are surplus to requirements can be used to further reduce or eliminate borrowing requirements, and to reduce interest payments.

To overcome intergenerational equity issues, it is considered to be general practice to fully fund renewal programs out of internally generated cash (where practicable) and to borrow against new capital acquisitions.

Loans

Loans are taken out as required to maintain the adopted minimum cash levels for the water and sewer funds.

Subsidies/Grants for Capital Works

Financial assistance in the form of grants for capital works may be received under various funding programs by the State and Federal Governments such as the Restart NSW or the National Stronger Regions Fund (NSRF). The Program's guidelines, published by the Department of Planning and Environment and Infrastructure NSW and Commonwealth Department of Infrastructure and Regional Development, define the extent of the available grants/ subsidies.

The financial model for the sewer fund has considered availability of 90% Government grant or subsidy under the Safe and Secure Water Program for the Lockhart upgrade and for service extension to South Lockhart.

13.3.5 Performance Measures

Council will be reviewing performance of the sewer fund as required under the strategic planning processes of the Regulatory and Assurance Framework for Local Water Utilities, July 2022.

13.4 Assumptions and Limitations of the Model

The projections of the financial models are mainly based on the previous two years historical financial records. Allowance is made for new initiatives, future rate forecasts, and maintenance of sustainable Levels of Service (LOS) in addition to the expenditure identified and adopted by the Council.

The Total Asset Management Plan (refer to Section 9) shows the long-term capital, operational and maintenance expenditures used in the models for projecting the financial position over the next 30 years. Models will require updating as more accurate expenditure schedules become available.

The net operating results in the financial projections should be seen in light of the fact that the depreciation shown in the operating statement is not a cash item. The financial model manages the cash flow and keeps a running tally of the cumulative depreciation so that Council can appreciate the potential future liability for maintaining the value in the system and the LOS. By planning ahead and making optimum use of existing assets, a more cost effective and efficient service should result.

Typical Residential Bills are used as the performance indicators representing overall revenue requirements from residential customers. This should not be confused with the pricing structure. Pricing, that is, the distribution of charges according to consumption or special customer groups, is the subject of a separate revenue planning exercise. Tariff structure for the services will need to take into account corporate policies, approach to risks such as lower than adopted growth rates, increase in interest rates, and the acceptability of charges to the community.

Financial model is not a substitute for normal budgeting, (i.e., short-term financial planning). The model assumes that all expenses and income occur at the beginning of the year and it is therefore not appropriate to track cash flow throughout the year. It is important, however, that the budgeting process is carried out within the framework of the long-term financial plan.

13.5 Financial Model Outcomes

13.5.1 Projected Financial Position

The first year of model projections is 2021-22 and CPI should be applied accordingly. All costs and revenues in the input data and the model outcomes are in 2021-22 dollars unless stated otherwise. The financial projections should be reviewed annually with respect to material changes to the planned capital works program and/or changes to any of the underlying assumptions.

The preferred IWCM scenario of the sewer fund financial model has considered 90% government grant or subsidy for the Lockhart STP upgrade and South Lockhart service extension capital works planned during the forecast period. Accordingly, the TRB forecasts determined by the model for the next 30years is presented in Figure 13-2.

Council has already published an increased level of TRB of \$545 p.a. for 2022-23 (equivalent to \$535 p.a. in 2021-22\$). The model forecasts show that the sewerage TRB needs to be increased at \$30 per year from 2023-24 onwards for three years to a TRB of \$655 p.a. in 2026-27, after which it can be maintained at that level for the remaining forecast period.

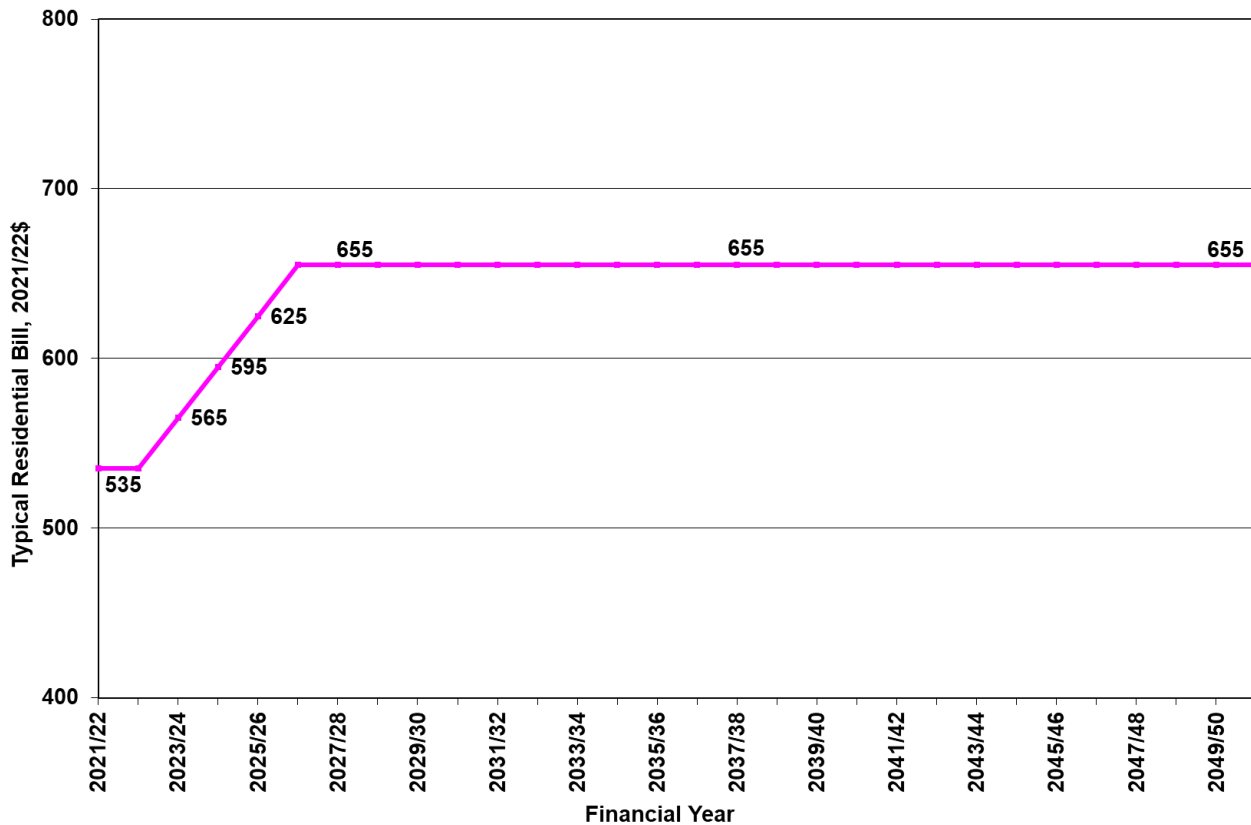


Figure 13-2: Typical Residential Bill for Sewerage

The projected level of charges is sufficient to maintain liquidity with a Council required minimum of \$500 K of cash and investments in the sewer fund over the forecast period.

The model forecast shows that with the adopted price path, current outstanding sewer fund borrowing of \$896 K (as of 30 June 2021) will be fully repaid as scheduled and no new loans will be required as all the planned capital works can be funded from internal revenue and cash reserves. The levels of cash and borrowing outstanding during the forecast period are presented in Figure 13-3.

Projected financial results for the sewer fund are presented in Table 13-3. Note that all the forecast values are in (2020-21) dollars and will require indexing for CPI in future years. More detailed financial output statements are provided in Appendix E.

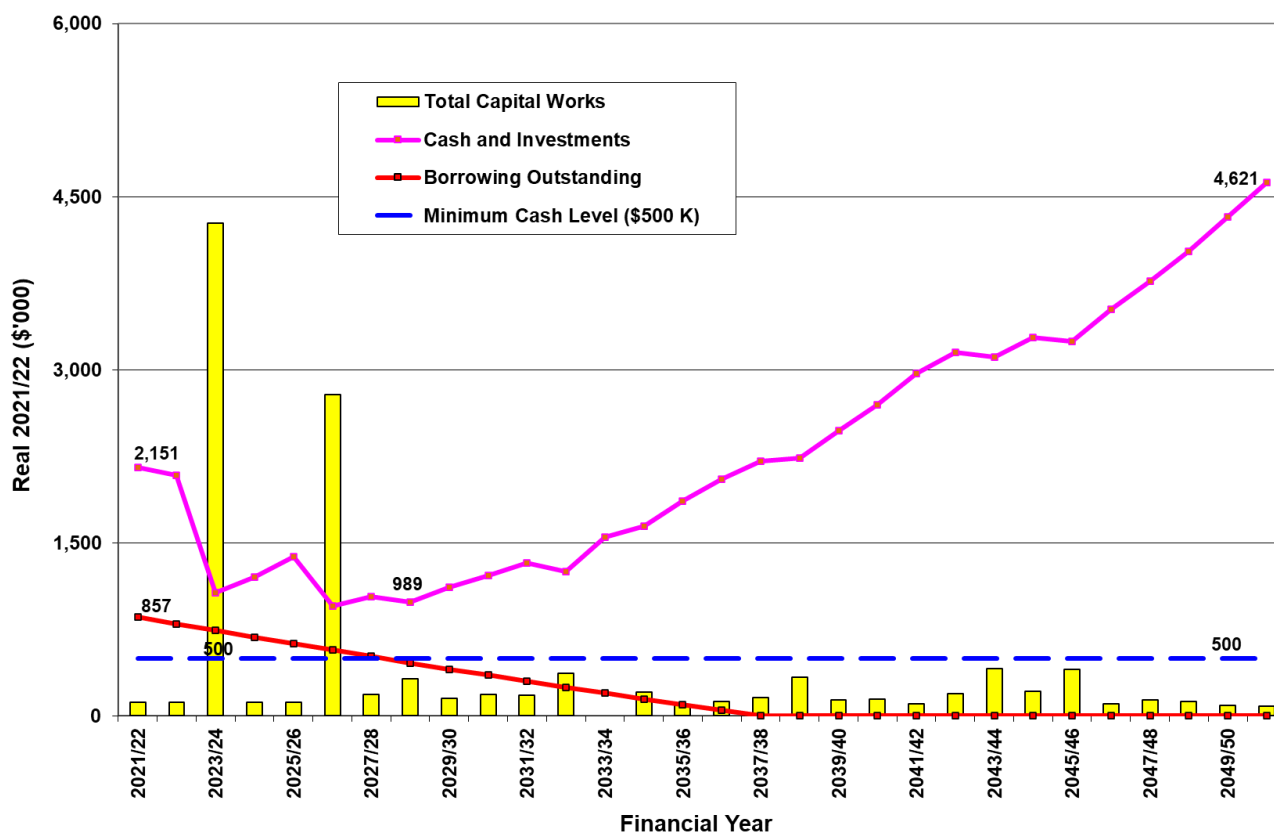


Figure 13-3: Cash & Borrowing Projections for Sewerage

13.5.2 Sensitivity of Financial Projections

Scenarios for which the sensitivity of the model forecasts were analysed and the impact of such scenarios to the sewerage TRB forecasts as summarised in Table 13-2. Impacts on TRBs, loan requirements and cash levels are shown in Figure 13-4, Figure 13-5, and Figure 13-6.

Table 13-2: Sensitivity Analysis – Sewer Fund

Sensitivity	Values of Variables for Analysis	Effect on TRB compared to the Preferred Scenario
No government grant/ subsidy	No government grant/ subsidy for the Lockhart STP upgrade and South Lockhart service extension works.	The TRB needs to increase by \$90 per year to \$895 p.a. in 2026-27 and to be maintained at that level for the remaining forecast period. New loans for Lockhart STP upgrade (\$4 Million) and service extension (\$2.5 Million) will be required.
Lower than forecast assessment growth rate	Only 50% of growth adopted for IWCM Strategy development.	The TRB needs to increase by \$35 per year to \$675 p.a. in 2026-27 and to be maintained at that level for the remaining forecast period.
Higher capital work costs	Estimated costs of capital works during the planning period increase by 20%.	The TRB needs to increase by \$35 per year to \$675 p.a. in 2026-27 and to be maintained at that level for the remaining forecast period.

Table 13-3: Projected Financial Results - Sewer Fund

2021/22 (\$'000)	Revenue and Expenses			Capital Transactions		Financial Position					System Assets			
	Total Revenue	Total Expenses	Operating Result (Before Grants)	Acquisition of Assets	Principal Loan Payments	Cash and Investments	Borrowings	Total Assets	Total Liabilities	Net Assets Committed	Current Replacement Cost	Less: Accumulated Depreciation	Written Down Current Cost	Typical Residential Bills
2021/22	604	718	-114	120	39	2,151	857	12,150	864	11,286	17,433	7,516	9,917	535
2022/23	606	716	-110	120	38	2,086	798	11,947	805	11,142	17,433	7,655	9,779	535
2023/24	3,801	773	3,028	4,270	39	1,065	740	14,884	746	14,138	21,583	7,849	13,735	565
2024/25	648	637	11	120	40	1,202	682	14,827	688	14,139	21,583	8,043	13,541	595
2025/26	688	635	53	120	40	1,376	625	14,808	631	14,177	21,583	8,237	13,346	625
2026/27	2,759	668	2,091	2,787	41	952	569	16,823	575	16,248	24,250	8,465	15,786	655
2027/28	741	752	-11	186	41	1,034	514	16,746	520	16,226	24,250	8,626	15,624	655
2028/29	746	751	-5	319	42	989	459	16,671	465	16,206	24,250	8,657	15,594	655
2029/30	752	750	2	154	43	1,117	405	16,605	411	16,194	24,251	8,852	15,399	655
2030/31	759	752	7	185	43	1,216	352	16,539	358	16,181	24,251	9,017	15,234	655
2031/32	766	752	14	181	44	1,323	300	16,477	305	16,172	24,251	9,186	15,065	655
2032/33	770	750	20	365	44	1,248	248	16,418	254	16,164	24,251	9,171	15,080	655
2033/34	780	750	30	0	45	1,550	198	16,371	203	16,168	24,250	9,521	14,729	655
2034/35	789	752	38	206	46	1,646	147	16,323	152	16,171	24,250	9,666	14,585	655
2035/36	796	749	47	90	46	1,864	98	16,281	103	16,178	24,250	9,926	14,324	655
2036/37	807	750	57	123	47	2,053	48	16,244	53	16,191	24,251	10,153	14,097	655
2037/38	814	750	64	158	47	2,209	0	16,208	5	16,203	24,250	10,345	13,906	655
2038/39	821	751	70	335	0	2,236	0	16,222	5	16,217	24,250	10,359	13,891	655
2039/40	829	751	78	137	0	2,469	0	16,243	4	16,239	24,251	10,572	13,679	655
2040/41	838	754	84	142	0	2,697	0	16,265	4	16,261	24,251	10,779	13,472	655
2041/42	847	757	90	101	0	2,967	0	16,286	4	16,282	24,251	11,028	13,223	655
2042/43	855	758	97	189	0	3,150	0	16,308	4	16,304	24,251	11,189	13,062	655
2043/44	860	761	99	408	0	3,112	0	16,328	4	16,324	24,251	11,132	13,119	655
2044/45	866	762	104	211	0	3,277	0	16,354	4	16,350	24,251	11,271	12,980	655
2045/46	870	764	106	402	0	3,248	0	16,378	4	16,374	24,251	11,219	13,032	655
2046/47	879	766	113	105	0	3,524	0	16,410	4	16,406	24,251	11,464	12,787	655
2047/48	888	768	121	135	0	3,770	0	16,443	4	16,439	24,251	11,678	12,573	655
2048/49	897	770	127	124	0	4,028	0	16,476	4	16,472	24,251	11,904	12,347	655
2049/50	906	771	135	89	0	4,322	0	16,509	4	16,505	24,251	12,164	12,087	655
2050/51	914	773	141	82	0	4,621	0	16,542	3	16,539	24,251	12,432	11,819	655

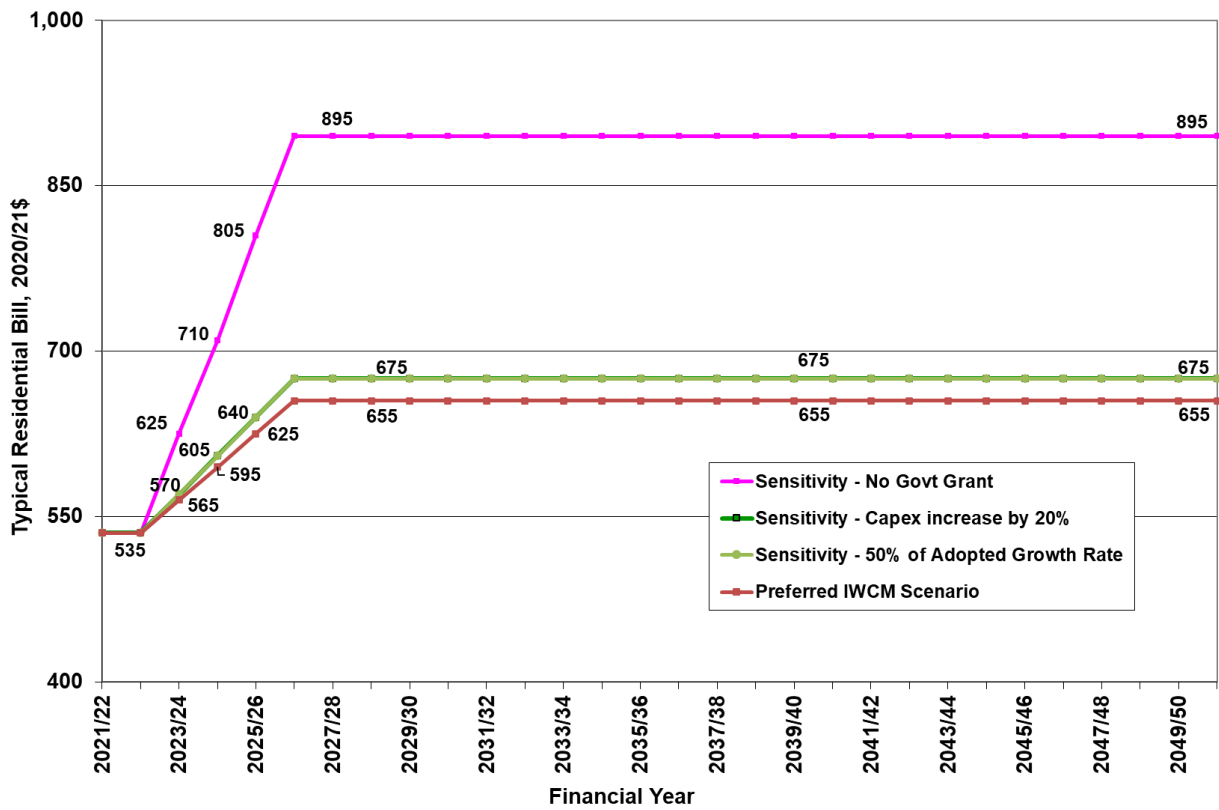


Figure 13-4: Sensitivity of Typical Residential Bill for Sewerage

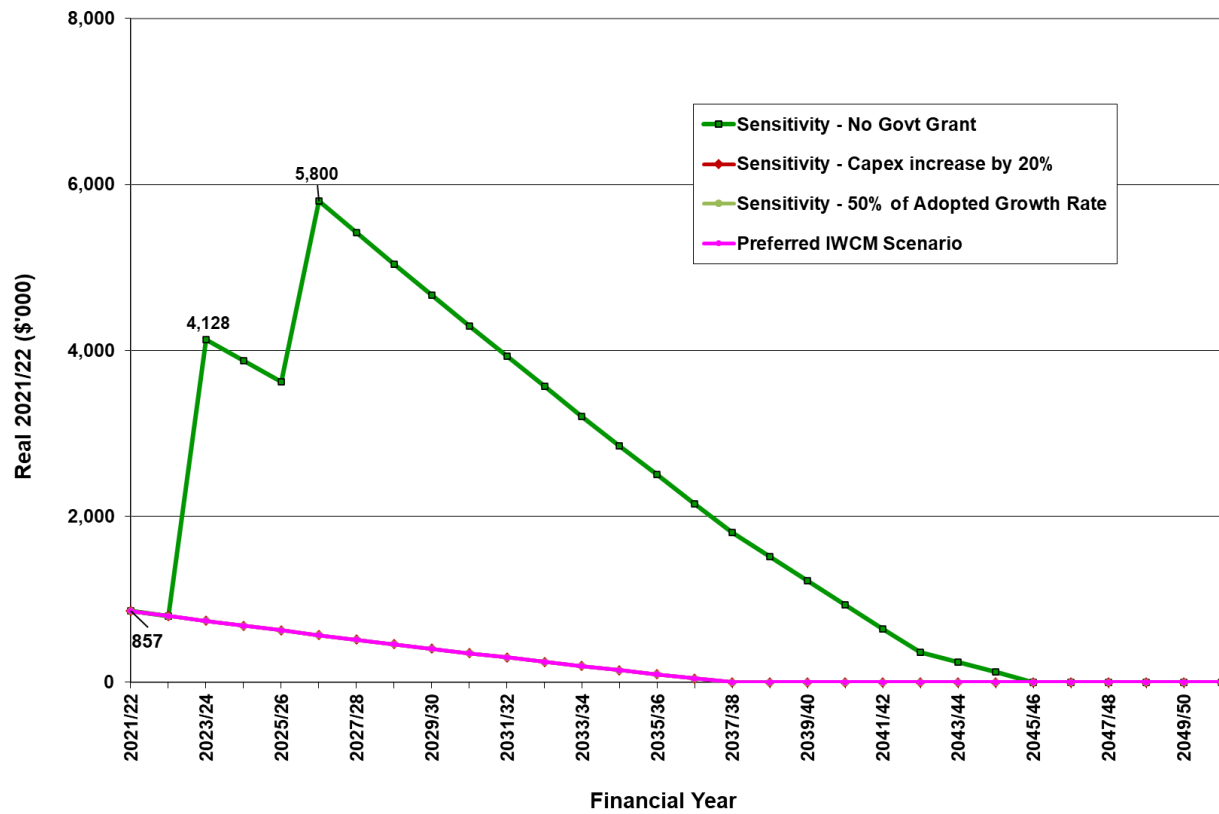


Figure 13-5: Sensitivity of Borrowing Levels for Sewerage

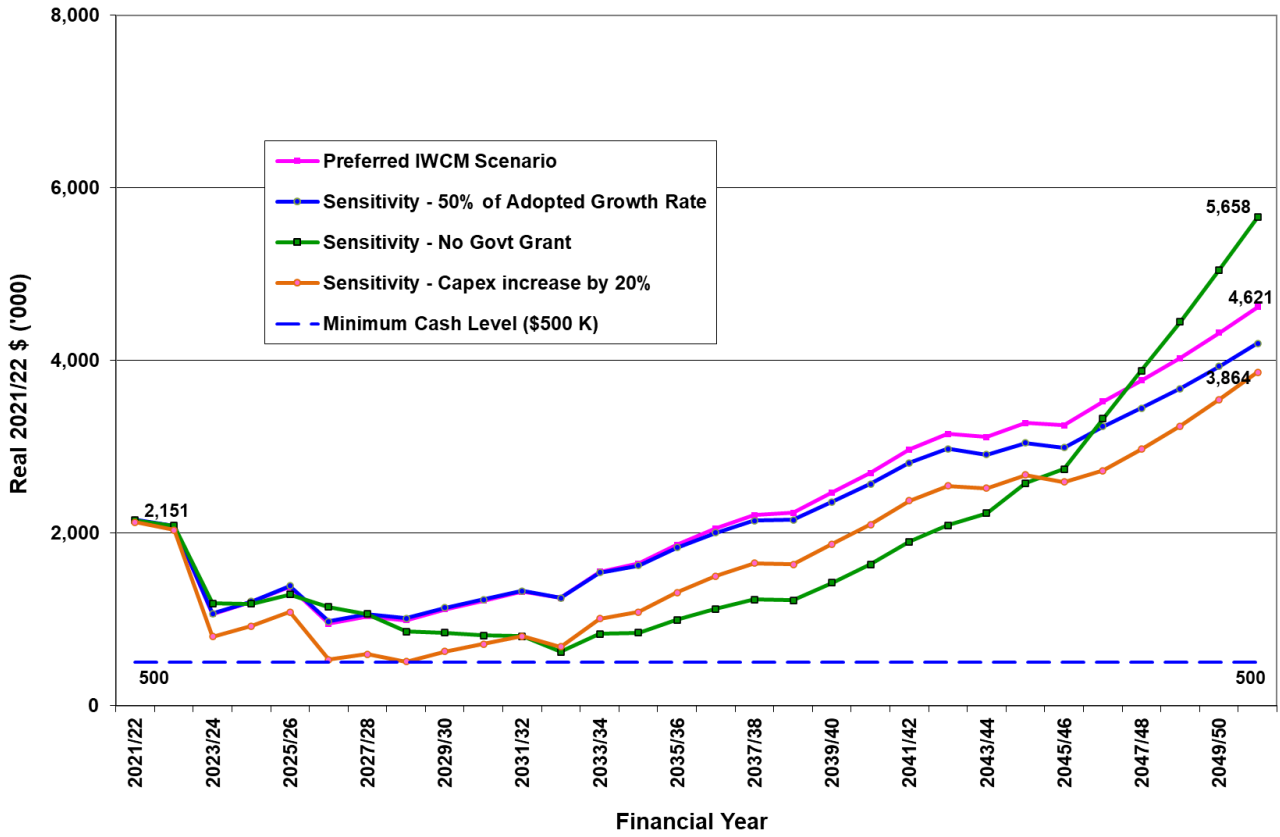


Figure 13-6: Sensitivity of Cash and Investment Levels for Sewerage

14. References

1. IWCM Issues Paper ISR20099– *Public Works, Advisory May 2021*
2. Integrated Water Cycle Management Strategy – *Scenario Analysis Report – July 2022*
3. Lockhart STP Upgrade - Options Assessment ISR21191 – *December 2021*
4. Lockhart STP Scoping Study – July 2020
5. Lockhart IWCM Strategy – IWCM Scenario analysis – June 2022

Appendix A Business Objectives and Levels of Service

Table A1: General Service Objectives and Targets

Objective	Service Standard (Design Basis)	Performance Indicator	Example Target
Community wellbeing			
Public open spaces (POS) are maintained green with fit-for-purpose cost-effective water	Greener parks, ovals and open spaces	<ul style="list-style-type: none"> Percentage of all POS to be maintained green independent of weather patterns 	100%
Environmental sustainability			
Minimise dependence on grid power	On-site generation of renewable sources of electricity where economical	<ul style="list-style-type: none"> Number of facilities with on-site renewable energy generation system 	50%
		<ul style="list-style-type: none"> % per capita reduction in greenhouse gas emissions since 2015 	5%
Financial sustainability			
Revenue meets on-going commitments	Common LGA wide OR individual town/system specific sewer service charges	<ul style="list-style-type: none"> Extent of community acceptance of sewer service charges 	>=80% community acceptance of sewer service charges in annual survey
	Full cost recovery	<ul style="list-style-type: none"> Economic rate of return OMA/rates revenue ROI Accounting surplus/deficient 	>= 0% ¹ <= 80% ¹ >= 2% ¹ Maintain surplus
	Supports Council's hardship policy	<ul style="list-style-type: none"> Level of pensioner rebate per property 	100% of eligible pensioners offered rebate
Efficient operation delivering stable price paths	Evidence based robust total asset management plan (TAMP), financial plan (FP) & business continuity plan (e.g. DCERP)	<ul style="list-style-type: none"> TAMP, FP & DCERP – annually reviewed & regularly audited 	Compliant current TAMP, FP & DCERP
Pricing signal for sewerage services is fair and strong to encourage efficient use of services	Sewer tariff is compliant with best-practice guidelines	<ul style="list-style-type: none"> Percentage compliance with best-practice pricing guidelines 	100% compliance
	All users/customer properties with a sewer connection are charged	<ul style="list-style-type: none"> Percentage of users/customer properties with a sewer connection charged 	95%

Objective	Service Standard (Design Basis)	Performance Indicator	Example Target
Developer charges that are competitive to attract economic growth	Common LGA wide OR individual town/system specific sewer developer charges that is compliant with guideline	<ul style="list-style-type: none"> Extent of community acceptance Percentage compliance with developer charges guidelines 	<p>>90% community acceptance of DCs as measured in annual survey</p> <p>100%</p>
	Full cost or cross-subsidised as per guideline	<ul style="list-style-type: none"> Extent of community support of cross subsidy OR full cost 	<p>>90% community acceptance of cross subsidies as measured in annual survey</p>
Asset management			
Maintain up-to-date asset register	Asset register compliant with Accounting standard ⁴	<ul style="list-style-type: none"> Extent of assets captured in the asset register Accuracy of assets in the management system and what is in-ground 	<p>100% of Council's assets in asset register</p> <p>90% of in-ground assets accurately captured in asset register – measured in audit</p>
	Asset management system drives service delivery	<ul style="list-style-type: none"> Percentage usage in work scheduling 	<p>100% of works scheduled based on asset management system</p>
Safety of staff and members of the public			
Work Health and Safety	WHS issues Council's water supply and sewerage sites	<ul style="list-style-type: none"> Number of WHS issues recorded in WHS inspections 	<p>Zero WHS issues across all sites</p>
Public Health	Prevent public from coming into contact with septic tank effluent	<ul style="list-style-type: none"> Sightings of pools of OSSMS effluent 	<p>Zero per year</p>

TableA2: LSC sewerage service objectives and targets

Objective	Service Standard (Design Basis)	Performance Indicator	Example Target
Reliability of collection and treatment infrastructure			
Maintain Continuous Service Availability	Asset condition rating (default rating 2)	Number of unplanned service interruptions due to asset failure: <ul style="list-style-type: none"> Overflows due to pump failure Mains breaks and chokes 	Zero overflows per year due to pump failure 12 breaks and chokes per 100 km main ¹
	Workforce resourcing	Response time to incidents ³ <ul style="list-style-type: none"> Priority 1 – ‘Major failure’ at critical time Priority 2 – ‘Minor failure’ at a non-critical time Priority 3 – ‘Minor failure’ affecting a single property 	1 hour 3 hours 5 hours
Protect the environment and receiving waters			
System Performance	Compliance with the EPL	<ul style="list-style-type: none"> Non-compliances with EPL 	Zero per year (or 100% compliance)
	Overflows during dry weather	<ul style="list-style-type: none"> Number of overflows at ADWF without pump failure 	Zero sewer overflows per year at ADWF without pump failure
	Overflows during wet weather	<ul style="list-style-type: none"> Number of overflows during wet weather events below selected “allowable overflows” event 	Zero sewer overflows per year for rainfall events less than 20% AEP (1-in-5 year) daily rainfall event
	Compliance with biosolids guidelines	<ul style="list-style-type: none"> Non-compliances 	Zero non-compliances recorded in EPA audit
	Reduce effluent discharge from the STP	<ul style="list-style-type: none"> % effluent reuse 	20% effluent reused at Lockhart
	Minimise odours	<ul style="list-style-type: none"> Number of odour complaints 	Zero odour complaints per year for each sewerage scheme
Sound regulation of sewerage and trade waste	Liquid trade waste (LTW) policy complies with best-practice guidelines	<ul style="list-style-type: none"> Compliance against guideline 	Zero non-compliances recorded in DPIE audit
	Compliant LTW classification, acceptance and approval processes	<ul style="list-style-type: none"> Percentage of compliant systems/premises 	90% of dischargers compliant with LTW policy
	Full cost recovery pricing model or pricing model based	<ul style="list-style-type: none"> Pricing model based on Appendix D of the LTW Guidelines 	Full cost recovery from pricing model

Objective	Service Standard (Design Basis)	Performance Indicator	Example Target
	on Appendix D of the LTW Guidelines		

Appendix B Present Value IWCM Scenario Cost Estimates

Lockhart Shire Council IWCM - Scenario 1																																					
Sewerage Service																																					
ITEM	ILOS %	Growth %	DESCRIPTION	Qty	AMT \$K	PRESENT WORTH (\$K)																															
						4%	7%	10%	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
1.0 CAPITAL COSTS																																					
1.1	100%	0%	Lockhart STP Options (Renewal in 2023, new AS plant in 2035)																																		
			Upgrade STP to Activated Sludge process (in year 2035)	1	7,694	4,621	3,193	2,229	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.2	100%	0%	The Rock Reuse																																		
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.3	100%	0%	Extending service area in Lockhart																																		
			Not extended	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			TOTAL CAPITAL COST (including 30% contingency, 5% SID & 10% PM & CM)		7,694	4,621	3,193	2,229	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.0 OPERATION AND MAINTENANCE COSTS																																					
2.1	100%	0%	Lockhart STP Options (new AS plant in 2035)																																		
			Annual operating costs (chemicals only: power cost offset by PV system)	1	433	186	103	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Annual maintenance costs	1	1,961	843	467	268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	100%	0%	The Rock Reuse																																		
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.3	100%	0%	Extending service area in Lockhart																																		
			Not extended	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			TOTAL OPERATION & MAINTENANCE COSTS		2,394	1,029	571	327	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.0 AVOIDED COSTS																																					
			Lockhart TF renewal cost (from capital works program)	1	322	132	70	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Lockhart TF operating cost		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Lockhart TF maintenance cost		1700	731	405	232	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			TOTAL AVOIDED COSTS		2,022	862	475	270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			TOTAL PRESENT VALUE		8,067	4,788	3,289	2,286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Lockhart Shire Council IWCM - Scenario 2																																									
Sewerage Service																																									
ITEM	ILOS %	Growth %	DESCRIPTION	Qty	AMT \$K	PRESENT WORTH (\$K)			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052		
						4%	7%	10%																																	
1.0 CAPITAL COSTS																																									
1.1	100%	0%	Lockhart STP Options (new Ox Pond Plant)																																						
			Upgrade STP - Oxidation Pond with agricultural reuse	1	4,150	3,990	3,879	3,773	0	4,150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.2	100%	0%	The Rock Reuse																																						
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.3	100%	0%	Extending service area in Lockhart																																						
			Not extended	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL CAPITAL COST (including 30% contingency, 5% S					4,150	3,990	3,879	3,773	0	4,150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2.0 OPERATION AND MAINTENANCE COSTS																																									
2.1	100%	0%	Lockhart STP Options (new Ox Pond Plant)																																						
			Annual operating costs (for agricultural reuse)	1	162	91	64	48	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
			Annual maintenance costs	1	355	200	141	104	0	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
2.2	100%	0%	The Rock Reuse																																						
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.3	100%	0%	Extending service area in Lockhart																																						
			Not extended	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL OPERATION & MAINTENANCE COSTS					518	291	205	152	0	0	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18		
3.0 AVOIDED COSTS																																									
			Lockhart TF renewal cost	1	672	377	260	187	0	0	0	0	0	0	24	33	46	141	0	106	0	0	0	0	0	47	0	0	0	115	0	0	0	127	33	0	0	0			
			Lockhart TF operating cost	1	1,450	849	614	468			50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
			Lockhart TF maintenance cost	1	2,900	1,698	1,228	937			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
TOTAL AVOIDED COSTS					5,022	2,827	1,981	1,465	0	0	150	150	150	150	174	183	196	291	150	256	150	150	150	150	150	150	197	150	150	150	265	150	150	150	277	183	150	150			
TOTAL PRESENT VALUE					-354	1,455	2,102	2,460	0	4,150	-132	-132	-132	-132	-156	-165	-178	-273	-132	-238	-132	-132	-132	-132	-132	-132	-179	-132	-132	-247	-132	-132	-132	-132	-259	-165	-132	-132			

Lockhart Shire Council IWC - Scenario 3																																							
Sewerage Service																																							
ITEM	ILOS %	Growth %	DESCRIPTION	Qty	AMT \$K	PRESENT WORTH (\$K)			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052
						4%	7%	10%																															
1.0			CAPITAL COSTS																																				
1.1	100%	0%	Lockhart STP Options (new AS Plant)																																				
			Upgrade STP to Activated Sludge process	1	7,694	7,399	7,191	6,995	0	7,694	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.2	100%	0%	The Rock Reuse																																				
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.3	100%	0%	Extending service area in Lockhart																																				
			Not extended	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			TOTAL CAPITAL COST (including 30% contingency)		7,694	7,399	7,191	6,995	0	7,694	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2.0			OPERATION AND MAINTENANCE COSTS																																				
2.1	100%	0%	Lockhart STP Options (new AS Plant)																																				
			Annual operating costs (chemicals only: power cost offset by PV system)	1	739	416	292	217	0	0	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25		
			Annual maintenance costs	1	3,346	1,884	1,324	983	0	0	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	
2.2	100%	0%	The Rock Reuse																																				
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.3	100%	0%	Extending service area in Lockhart																																				
			Not extended	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			TOTAL OPERATION & MAINTENANCE COSTS		0	2,300	1,616	1,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			AVOIDED COSTS																																				
			Lockhart TF renewal cost	1	672	377	260	187	0	0	0	0	0	0	24	33	46	141	0	106	0	0	0	0	0	0	47	0	0	0	115	0	0	0	0	127	33	0	0
			Lockhart TF operating cost		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Lockhart TF maintenance cost		2,900	1,698	1,228	937			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
			TOTAL AVOIDED COSTS		3,572	2,010	1,408	1,039	0	0	100	100	100	100	124	133	146	241	100	206	100	100	100	100	100	147	100	100	100	215	100	100	100	100	227	133	100	100	
			TOTAL PRESENT VALUE		4,122	7,888	7,400	7,156	0	7,694	-100	-100	-100	-100	-124	-133	-146	-241	-100	-206	-100	-100	-100	-100	-100	-147	-100	-100	-100	-215	-100	-100	-100	-100	-227	-133	-100	-100	

Lockhart Shire Council IWCM - Scenario 4																																					
Sewerage Service																																					
ITEM	ILOS %	Growth %	DESCRIPTION	Qty	AMT \$K	PRESENT WORTH (\$K)																															
						4%	7%	10%	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
1.0 CAPITAL COSTS																																					
1.1	100%	0%	Lockhart STP Options (new AS Plant)																																		
			Upgrade STP to Activated Sludge process	1	7,694	7,399	7,191	6,995	0	7,694	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.2	100%	0%	The Rock Reuse																																		
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.3	100%	0%	Extending service area in Lockhart																																		
			Extend service area	1	2,667	2,280	2,035	1,822	0	0	0	0	2,667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			TOTAL CAPITAL COST (including 30% contingency, 5% SID & 10% PM & CM)		10,362	9,679	9,226	8,817	0	7,694	0	0	2,667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.0 OPERATION AND MAINTENANCE COSTS																																					
2.1	100%	0%	Lockhart STP Options (new AS Plant)																																		
			Annual operating costs (chemicals only: power cost offset by PV system)	1	739	416	292	217	0	0	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	
			Annual maintenance costs	1	3,346	1,884	1,324	983	0	0	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
2.2	100%	0%	The Rock Reuse																																		
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.3	100%	0%	Extending service area in Lockhart																																		
			Annual operating costs		1,300	683	451	313	\$0	\$0	\$0	\$0	\$0	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50
			Annual maintenance costs	1	260	137	90	63	0	0	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
			TOTAL OPERATION & MAINTENANCE COSTS		1,560	3,120	2,158	1,575	0	0	0	0	0	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
3.0 AVOIDED COSTS																																					
			Lockhart TF renewal cost	1	672	377	260	187	0	0	0	0	0	0	24	33	46	141	0	106	0	0	0	0	0	47	0	0	0	115	0	0	0	127	33	0	
			Lockhart TF operating cost		0	0	0	0																													
			Lockhart TF maintenance cost		2,900	1,698	1,228	937			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
			TOTAL AVOIDED COSTS		3,572	2,010	1,408	1,039	0	0	100	100	100	100	124	133	146	241	100	206	100	100	100	100	100	147	100	100	215	100	100	100	227	133	100		
			TOTAL PRESENT VALUE		8,350	10,788	9,976	9,353	0	7,694	-100	-100	2,567	-40	-64	-73	-86	-181	-40	-146	-40	-40	-40	-40	-40	-87	-40	-40	-155	-40	-40	-40	-167	-73	-40		

Lockhart Shire Council IWCM - Scenario 5																																						
Sewerage Service																																						
ITEM	ILOS %	Growth %	DESCRIPTION	Qty	AMT \$K	PRESENT WORTH (\$K)																																
						4%	7%	10%	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
1.0			CAPITAL COSTS																																			
1.1	100%	0%	Lockhart STP Options (new Ox Pond Plant)																																			
			Upgrade STP - Oxidation Pond with agricultural reuse	1	4,150	3,990	3,879	3,773	0	4,150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1.2	100%	0%	The Rock Reuse																																			
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1.3	100%	0%	Extending service area in Lockhart																																			
			Extend service area	1	2,667	2,280	2,035	1,822	0	0	0	0	2,667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			TOTAL CAPITAL COST (including 30% contingency, 5% SID & 10% PM & CM)		6,817	6,271	5,913	5,595	0	4,150	0	0	2,667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2.0			OPERATION AND MAINTENANCE COSTS																																			
2.1	100%	0%	Lockhart STP Options (new Ox Pond Plant)																																			
			Annual operating costs (for agricultural reuse)	1	162	91	64	48	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
			Annual maintenance costs	1	355	200	141	104	0	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
2.2	100%	0%	The Rock Reuse																																			
			No cost to Council. Cost covered by Golf Course.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.3	100%	0%	Extending service area in Lockhart																																			
			Annual operating costs	1	1,300	683	451	313	0	0	0	0	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
			Annual maintenance costs	1	260	137	90	63	0	0	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
			TOTAL OPERATION & MAINTENANCE COSTS		2,078	1,111	746	527	0	0	18	18	18	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78		
3.0			AVOIDED COSTS																																			
			Lockhart TF renewal cost	1	672	377	260	187	0	0	0	0	0	24	33	46	141	0	106	0	0	0	0	0	47	0	0	0	115	0	0	0	127	33	0	0	0	
			Lockhart TF operating cost	1	1,450	849	614	468			50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
			Lockhart TF maintenance cost	1	2,900	1,698	1,228	937			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
			TOTAL AVOIDED COSTS		5,022	2,827	1,981	1,465	0	0	150	150	150	150	174	183	196	291	150	256	150	150	150	150	150	150	150	150	150	265	150	150	150	277	183	150		
			TOTAL PRESENT VALUE		3,873	4,555	4,678	4,658	0	4,150	-132	-132	2,535	-72	-96	-105	-118	-213	-72	-178	-72	-72	-72	-72	-72	-72	-119	-72	-72	-187	-72	-72	-72	-199	-105	-72		

Appendix C Social and Environmental assessments of Scenarios

TBL Category		Objective	Key performance targets	Weighting	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Environmental		A healthy environment with pristine waterways	Maintain and enhance with health of waterways	0.3	4	3	5	5	3
	Our environment practices are sustainable – Explore opportunities to utilise renewable energy and water saving practices.	Reduce impact on environment due to construction	0.2	4	1	3	2	1	
		Increase in reuse / recycling of wastewater	0.3	4	3	5	5	3	
		Reduction in energy consumption	0.2	3	5	3	3	5	
	Total weighted environmental score			1.0	3.8	3.0	4.2	4.0	5.3
	Social	Our assets and infrastructure are well planned and managed to meet the demands of the community now and in the future	Reliability of sewerage services	0.3	1	2	4	4	2
		Our Shire is attractive and welcoming to businesses, industry, residents and visitors	Percentage of customers supplied with sewerage service in Lockhart	0.4	3	3	3	5	5
(2) Total weighted social score				1.2	2.1	3.9	4.1	2.3	
(3) Environmental and Social Score (ESS) (3)=(1) + (2)					7.5	7.7	5.0	5.1	5.3

Appendix D Financial Model Input Data

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Historical Operating Statement

FINMOD
DEPARTMENT OF
COMMERCE

	2019/20*	2020/21*
EXPENSES		
Management Expenses	90	90
Administration	45	45
Engineering and Supervision	45	45
Operation and Maintenance Expenses	263	357
Operation Expenses	75	132
Maintenance Expenses	136	196
Energy Costs	52	29
Chemical Costs		
Depreciation	206	253
System Assets	206	253
Plant & Equipment		
Interest Expenses	34	36
Other Expenses	0	0
TOTAL EXPENSES	593	736
REVENUES		
Rates & Service Availability Charges	520	535
Residential	409	417
Non-Residential	111	118
Trade Waste Charges		
Other Sales and Charges		
Extra Charges		
Interest Income	38	13
Other Revenues		8
Grants	11	12
Grants for Acquisition of Assets		2
Pensioner Rebate Subsidy	11	10
Other Grants		
Contributions	0	0
Developer Charges		
Developer Provided Assets		
Other Contributions		
TOTAL REVENUES	569	568
OPERATING RESULT	-24	-168
OPERATING RESULT (less Grants for Acq of Assets)	-24	-170

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Historical Statement of Financial Position

FINMOD
DEPARTMENT OF
COMMERCE

	2019/20*	2020/21*
Cash and Investments	2143	2168
Receivables	68	79
Inventories		
Property, Plant & Equipment	9221	9811
System Assets (1)	9221	9811
Plant & Equipment		
Other Assets		
TOTAL ASSETS	11432	12058
LIABILITIES		
Bank Overdraft		
Creditors	4	7
Borrowings	931	896
Provisions		0
TOTAL LIABILITIES	935	903
NET ASSETS COMMITTED	10497	11155
EQUITY		
Accumulated Operating Result	7409	7243
Asset Revaluation Reserve	3088	3912
TOTAL EQUITY	10497	11155
<u>(1) Notes to System Assets</u>		
Current Replacement Cost	15614	17008
Less: Accumulated Depreciation	6393	7197
Written Down Current Cost	9221	9811

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Base Forecast Data

FINMOD
DEPARTMENT OF
COMMERCE

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46
Financial Data																									
Inflation Rate - General (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Inflation Rate - Capital Works (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Borrowing Interest Rate for New Loans (%)																									
	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Investment Interest Rate (%)																									
	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Number of Assessments																									
Growth Rate (%)																									
Residential Assessments	0.71	0.70	0.70	0.69	0.69	0.68	3.51	0.66	0.65	0.65	0.64	0.75	0.74	0.74	0.73	0.72	0.72	0.71	0.71	0.70	0.70	0.69	0.69	0.68	0.68
Non-Residential Assessments	0.65	0.65	0.64	0.64	0.63	0.63	0.63	0.62	0.62	0.61	0.61	0.61	0.60	0.60	0.60	0.59	0.59	0.58	0.58	0.58	0.57	0.57	0.57	0.56	0.56
Total Assessments	0.70	0.69	0.69	0.68	0.68	0.68	3.07	0.65	0.65	0.64	0.64	0.73	0.72	0.71	0.71	0.70	0.70	0.70	0.69	0.69	0.68	0.68	0.67	0.67	0.66
Number of New Assessments																									
Residential	6	6	6	6	6	6	31	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Non-Residential	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total New Assessments	7	7	7	7	7	7	32	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Projected Number of Assessments																									
Residential	853	859	865	871	877	883	914	920	926	932	938	945	952	959	966	973	980	987	994	1001	1008	1015	1022	1029	1036
Non-Residential	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179
Total Projected Assessments	1008	1015	1022	1029	1036	1043	1075	1082	1089	1096	1103	1111	1119	1127	1135	1143	1151	1159	1167	1175	1183	1191	1199	1207	1215
Backlog Assessments																									
Residential	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Backlog Assessments	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Charges / Vacant Assessments (Values in 2021/22 \$)																									
Developer Charges \$/Assessment																									
Residential	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409
Non-Residential	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409	1409
Number of Vacant Residential Assessments																									
	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
Average Charge of Vacant Assessments																									
	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
% of Occupied Assessments																									
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Depreciation of Existing Plant and Equipment (Values in 2021/22 \$'000)																									
Current Replacement Cost of System Assets																									
	17433																								
Override																									
Written Down Current Cost of System Assets																									
	10056																								
Override																									
Annual Depreciation of Existing System Assets																									
	259																								
Override																									
Written Down Value of Plant and Equipment																									
	0																								
Override																									
Annual Depreciation of Existing Plant and Equipment																									
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Base Forecast Data

FINMOD
DEPARTMENT OF
COMMERCE

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	
Existing Loan Payments (Values in Inflated \$'000)																										
Existing Loan Payments : Principal (Total:896)	39	39	41	43	44	46	48	50	52	54	56	58	60	63	65	68	70	0	0	0	0	0	0	0	0	0
Existing Loan Payments : Interest (Total:338)	35	33	32	30	28	26	25	23	21	19	17	14	12	10	7	4	2	0	0	0	0	0	0	0	0	0
Capital Works Program (Values in 2021/22 \$'000)																										
Subsidised Scheme (Total:6135)	0	0	3735	0	0	2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other New System Assets (Total:682)	0	0	415	0	0	267	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Renewals (Total:5147)	120	120	120	120	120	120	186	319	154	185	181	365	0	206	90	123	158	335	137	142	101	189	408	211	402	
Total Capital Works (Total:11964)	120	120	4270	120	120	2787	186	319	154	185	181	365	0	206	90	123	158	335	137	142	101	189	408	211	402	
Grant For Acquisition of Assets (% of Subsidised Scheme)	0.00	0.00	85.00	0.00	0.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grant For Acquisition of Assets (\$) (Total:5215)	0	0	3175	0	0	2040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Provided Assets (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant and Equipment Expenditure / Asset Disposal (Values in 2021/22 \$'000)																										
Plant and Equipment Expenditure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Plant and Equipment Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Disposal of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Assets Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of System Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Revised/Additional Forecast Data

FINMOD
DEPARTMENT OF
COMMERCE

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46
OMA / Revenue Overrides (Values in 2021/22 \$'000)																									
Administration	46	46	46	46	46	46	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Override																									
Engineering and Supervision	46	46	46	46	46	46	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Override																									
Operating Expenses	136	137	138	139	140	141	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163
Override	136	137	138	3	3	3	79	79	80	80	81	81	82	83	83	84	84	85	85	86	87	87	88	88	89
Maintenance Expenses	202	203	204	205	206	207	213	214	215	216	217	219	221	223	225	227	229	231	233	235	237	239	241	243	245
Override	166	167	168	170	171	172	177	178	179	181	182	183	184	186	187	188	190	191	192	194	195	196	198	199	200
Energy Costs	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
Override																									
Chemical Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Other Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Other Revenue	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Override																									
Other Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Other Contributions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Developer Charges Overrides (Values in 2021/22 \$'000)																									
Calculated from Scheme Data	10	10	10	10	10	10	10	10	10	10	10	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Override	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pensioner Rebate (Values in Inflated \$)																									
Pensioner Rebate per Pensioner (\$)	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50
Override																									
Pensioner Rebate Subsidy (%)	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00
Override																									
Number of Pensioner Assessments	209	211	212	214	215	217	224	226	227	229	230	232	234	236	237	239	241	242	244	246	248	249	251	253	254
Override																									
Percentage of Pensioners (%)	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	
Override																									
Pensioner Rebate	18	18	19	19	19	19	20	20	20	20	20	20	20	21	21	21	21	21	21	22	22	22	22	22	22
Pensioner Rebate Subsidy	10	10	10	10	10	10	11	11	11	11	11	11	11	12	12	12	12	12	12	12	12	12	12	12	12
Revenue Split (%)																									
Residential Rates	78.30	78.31	78.32	78.33	78.34	78.35	78.36	78.37	78.37	78.38	78.39	78.42	78.45	78.47	78.50	78.52	78.55	78.57	78.60	78.62	78.65	78.67	78.69	78.72	78.74
Override																									
Non-Residential Rates	21.70	21.69	21.68	21.67	21.66	21.65	21.64	21.63	21.63	21.62	21.61	21.58	21.55	21.53	21.50	21.48	21.45	21.43	21.40	21.38	21.35	21.33	21.31	21.28	21.26
Override																									
Trade Waste Charges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Override																									
Other Sales and charges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Override																									
Extra Charges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Override																									
Total Non-Residential Revenue (%)	21.70	21.69	21.68	21.67	21.66	21.65	21.64	21.63	21.63	21.62	21.61	21.58	21.55	21.53	21.50	21.48	21.45	21.43	21.40	21.38	21.35	21.33	21.31	21.28	21.26
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total Residential Revenue (%)	78.30	78.31	78.32	78.33	78.34	78.35	78.36	78.37	78.37	78.38	78.39	78.42	78.45	78.47	78.50	78.52	78.55	78.57	78.60	78.62	78.65	78.67	78.69	78.72	78.74

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Revised/Additional Forecast Data

FINMOD
DEPARTMENT OF
COMMERCE

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46
New Loan Payment Overrides (Values in Inflated \$'000)																									
Standard Loan Payments: Principal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Loan Payments: Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Structured Loan Payments: Principal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Structured Loan Payments: Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capitalised Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total New Loan Payments: Principal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Total New Loan Payments: Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Capitalised Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									

Appendix E Financial Model Output Data

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Operating Statement

FINMOD
DEPARTMENT OF
COMMERCE

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	
EXPENSES																										
Management Expenses	92	92	91	93	92	92	95	94	94	94	94	95	94	94	93	94	94	95	94	94	94	94	94	94	94	94
Administration	46	46	46	46	46	46	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Engineering and Supervision	46	46	46	46	46	46	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Operation and Maintenance Expenses	332	334	337	202	204	205	287	289	290	292	295	295	297	300	301	303	305	307	308	311	314	314	317	318	320	
Operation Expenses	136	137	138	3	3	3	79	79	80	80	81	81	82	83	83	84	84	85	85	86	87	87	88	88	89	
Maintenance Expenses	166	167	168	170	171	172	177	178	179	181	182	183	184	186	187	188	190	191	192	194	195	196	198	199	200	
Energy Costs	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	
Chemical Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Depreciation	259	259	314	314	313	348	348	349	350	350	350	350	350	350	350	350	350	350	349	350	350	350	350	350	350	
System Assets	259	259	314	314	313	348	348	349	350	350	350	350	350	350	350	350	350	350	349	350	350	350	350	350	350	
Plant & Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Interest Expenses	35	32	30	28	25	23	22	19	17	15	13	11	9	7	5	3	1	0	0	0	0	0	0	0	0	
Other Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL EXPENSES	718	716	773	637	635	668	752	751	750	752	752	750	750	752	749	750	750	751	751	754	757	758	761	762	764	
REVENUES																										
Rates & Service Availability Charges	522	527	563	599	635	673	698	703	708	714	719	725	731	737	742	749	754	761	767	773	778	784	791	796	802	
Residential	409	413	442	469	497	527	547	551	555	560	563	569	573	578	582	588	593	598	603	607	612	617	622	627	631	
Non-Residential	113	114	122	130	138	146	151	152	153	155	155	156	158	159	159	161	162	163	164	165	166	167	168	169	170	
Trade Waste Charges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other Sales and Charges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Extra Charges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Interest Income	64	61	45	32	35	30	26	25	26	28	30	29	33	36	38	41	44	44	47	50	54	56	55	56	54	
Other Revenues	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
Grants	10	10	3185	9	9	2049	9	9	9	9	9	8	8	9	8	8	8	8	8	7	7	7	7	7	7	
Grants for Acquisition of Assets	0	0	3175	0	0	2040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pensioner Rebate Subsidy	10	10	10	9	9	9	9	9	9	9	9	8	8	9	8	8	8	8	8	7	7	7	7	7	7	
Other Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Contributions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Developer Charges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Developer Provided Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other Contributions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL REVENUES	604	606	3801	648	688	2759	741	746	752	759	766	770	780	789	796	807	814	821	829	838	847	855	860	866	870	
OPERATING RESULT	-114	-110	3028	11	53	2091	-11	-5	2	7	14	20	30	38	47	57	64	70	78	84	90	97	99	104	106	
OPERATING RESULT (less Grants for Acq of Assets)	-114	-110	-148	11	53	51	-11	-5	2	7	14	20	30	38	47	57	64	70	78	84	90	97	99	104	106	

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Cashflow Statement

FINMOD
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	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	
Cashflow From Operating Activities																										
<u>Receipts</u>																										
Rates and Charges	522	527	563	599	635	673	698	703	708	714	719	725	731	737	742	749	754	761	767	773	778	784	791	796	802	
Interest Income	64	61	45	32	35	30	26	25	26	28	30	29	33	36	38	41	44	44	47	50	54	56	55	56	54	
Other Revenues	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
Grants	10	10	3185	9	9	2049	9	9	9	9	9	8	8	9	8	8	8	8	8	8	7	7	7	7	7	
Contributions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Receipts from Operations	604	606	3801	648	688	2759	741	746	752	759	766	770	780	789	796	807	814	821	829	838	847	855	860	866	870	
<u>Payments</u>																										
Management	92	92	91	93	92	92	95	94	94	94	94	95	94	94	93	94	94	95	94	94	94	94	94	94	94	
Operations (plus WC Inc)	335	337	340	205	207	208	291	291	292	295	298	298	300	303	304	306	308	310	311	314	317	317	319	321	323	
Interest Expenses	35	32	30	28	25	23	22	19	17	15	13	11	9	7	5	3	1	0	0	0	0	0	0	0	0	
Other Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Payments from Operations	462	460	462	326	324	323	408	405	403	404	405	403	402	404	402	403	404	404	405	408	411	411	414	415	417	
Net Cash from Operations	142	145	3339	322	363	2437	333	342	349	355	361	367	378	385	394	405	411	417	424	430	436	444	447	452	453	
Cashflow from Capital Activities																										
<u>Receipts</u>																										
Proceeds from Disposal of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Payments</u>																										
Acquisition of Assets	120	120	4270	120	120	2787	186	319	154	185	181	365	0	206	90	123	158	335	137	142	101	189	408	211	402	
Net Cash from Capital Activities	-120	-120	-4270	-120	-120	-2787	-186	-319	-154	-185	-181	-365	0	-206	-90	-123	-158	-335	-137	-142	-101	-189	-408	-211	-402	
CashFlow from Financing Activities																										
<u>Receipts</u>																										
New Loans Required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Payments</u>																										
Principal Loan Payments	39	38	39	40	40	41	41	42	43	43	44	44	45	46	46	47	47	0	0	0	0	0	0	0	0	0
Net Cash from Financing Activities	-39	-38	-39	-40	-40	-41	-41	-42	-43	-43	-44	-44	-45	-46	-46	-47	-47	0	0	0	0	0	0	0	0	0
TOTAL NET CASH	-17	-13	-970	163	204	-391	105	-19	152	127	136	-43	333	133	258	235	205	81	287	288	335	255	39	241	51	
Current Year Cash	-17	-13	-970	163	204	-391	105	-19	152	127	136	-43	333	133	258	235	205	81	287	288	335	255	39	241	51	
Cash & Investments @Year Start	2168	2099	2035	1039	1172	1343	929	1009	965	1090	1187	1290	1217	1513	1606	1819	2003	2155	2182	2409	2631	2894	3073	3036	3197	
Cash & Investments @Year End	2151	2086	1065	1202	1376	952	1034	989	1117	1216	1323	1248	1550	1646	1864	2053	2209	2236	2469	2697	2967	3150	3112	3277	3248	
Capital Works Funding:																										
Internal Funding for New Works (\$'000)	0	0	975	0	0	627	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Internal Funding for Renewals	120	120	120	120	120	120	186	319	154	185	181	365	0	206	90	123	158	335	137	142	101	189	408	211	402	
New Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grants	0	0	3175	0	0	2040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Capital Works	120	120	4270	120	120	2787	186	319	154	185	181	365	0	206	90	123	158	335	137	142	101	189	408	211	402	

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Statement of Financial Position

FINMOD
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	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46
Cash and Investments	2151	2086	1065	1202	1376	952	1034	989	1117	1216	1323	1248	1550	1646	1864	2053	2209	2236	2469	2697	2967	3150	3112	3277	3248
Receivables	82	83	84	85	85	86	88	88	89	89	90	91	91	92	93	93	94	94	95	96	96	97	98	98	98
Inventories	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Property, Plant & Equipment	9917	9779	13735	13541	13346	15786	15624	15594	15399	15234	15065	15080	14729	14585	14324	14097	13906	13891	13679	13472	13223	13062	13119	12980	13032
System Assets (1)	9917	9779	13735	13541	13346	15786	15624	15594	15399	15234	15065	15080	14729	14585	14324	14097	13906	13891	13679	13472	13223	13062	13119	12980	13032
Plant & Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL ASSETS	12150	11947	14884	14827	14808	16823	16746	16671	16605	16539	16477	16418	16371	16323	16281	16244	16208	16222	16243	16265	16286	16308	16328	16354	16378
LIABILITIES																									
Bank Overdraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Creditors	7	7	7	7	6	6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4
Borrowings	857	798	740	682	625	569	514	459	405	352	300	248	198	147	98	48	0	0	0	0	0	0	0	0	0
Provisions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LIABILITIES	864	805	746	688	631	575	520	465	411	358	305	254	203	152	103	53	5	5	4	4	4	4	4	4	4
NET ASSETS COMMITTED	11286	11142	14137	14139	14176	16248	16226	16206	16193	16181	16172	16164	16168	16170	16179	16191	16203	16217	16239	16261	16282	16304	16324	16350	16375
EQUITY																									
Accumulated Operating Result	7129	6845	9706	9480	9301	11166	10882	10612	10355	10109	9877	9656	9451	9258	9079	8915	8761	8617	8485	8362	8248	8144	8044	7952	7865
Asset Revaluation Reserve	4157	4298	4432	4659	4875	5082	5344	5594	5839	6072	6295	6509	6717	6913	7100	7276	7442	7600	7754	7899	8034	8160	8280	8398	8510
TOTAL EQUITY	11286	11142	14137	14139	14176	16248	16226	16206	16193	16181	16172	16164	16168	16170	16179	16191	16203	16217	16239	16261	16282	16304	16324	16350	16375
(1) Notes to System Assets																									
Current Replacement Cost	17433	17433	21583	21583	21583	24250	24250	24250	24251	24251	24251	24251	24250	24250	24250	24251	24250	24250	24251	24251	24251	24251	24251	24251	24251
Less: Accumulated Depreciation	7516	7655	7849	8043	8237	8465	8626	8657	8852	9017	9186	9171	9521	9666	9926	10153	10345	10359	10572	10779	11028	11189	11132	11271	11219
Written Down Current Cost	9917	9779	13735	13541	13346	15786	15624	15594	15399	15234	15065	15080	14729	14585	14324	14097	13906	13891	13679	13472	13223	13062	13119	12980	13032

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Performance Indicators

FINMOD
DEPARTMENT OF
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	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46
Typical Residential Bills	535	535	565	595	625	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655
Average Residential Bills (2021/22\$)	479	480	510	539	567	597	598	599	599	601	601	601	602	603	603	605	605	606	607	607	607	608	609	609	609
Mgmt Cost / Assessment (2021/22\$)	91	91	89	90	89	88	88	87	86	86	85	85	84	83	82	82	82	81	80	80	79	79	78	78	77
OMA Cost per Assessment (2021/22\$)	421	420	419	287	286	285	355	354	352	353	352	351	349	350	347	347	347	346	344	345	345	342	343	341	341
Operating Sales Margin (%)	-26.48	-25.63	-27.87	1.20	6.53	6.41	-2.17	-1.52	-1.02	-0.77	-0.43	0.21	0.90	1.25	1.77	2.43	2.80	3.30	4.02	4.29	4.54	5.14	5.55	6.01	6.37
Economic Real Rate of Return (%)	-1.44	-1.43	-1.18	0.05	0.32	0.28	-0.10	-0.07	-0.05	-0.04	-0.02	0.01	0.05	0.06	0.09	0.13	0.16	0.18	0.23	0.25	0.27	0.31	0.34	0.38	0.40
Debt Service Ratio	0.12	0.12	0.11	0.10	0.09	0.09	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt/Equity Ratio	0.08	0.07	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Cover	-2.26	-2.42	-3.84	1.40	3.07	3.23	0.48	0.74	1.10	1.47	2.06	2.86	4.42	6.20	10.43	21.75	48.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Return on capital (%)	-0.65	-0.65	0.24	0.26	0.53	1.85	0.06	0.09	0.11	0.14	0.17	0.19	0.24	0.28	0.32	0.37	0.40	0.43	0.48	0.52	0.55	0.60	0.61	0.64	0.65
Cash and Investments (2021/22\$'000)	2151	2086	1065	1202	1376	952	1034	989	1117	1216	1323	1248	1550	1646	1864	2053	2209	2236	2469	2697	2967	3150	3112	3277	3248
Debt outstanding (2021/22\$'000)	857	798	740	682	625	569	514	459	405	352	300	248	198	147	98	48	0	0	0	0	0	0	0	0	0
Net Debt (2021/22\$'000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lockhart SC Sewer Fund Financial Model 2022 : Preferred Scenario

Summary Report of Assumptions and Results

	2021/22	2025/26	2030/31	2035/36	2040/41	2045/46	2050/51
Inflation Rates - General (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Inflation Rates - Capital Works (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Borrowing Interest Rate (%)	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Term of New Loans (years)	20	20	20	20	20	20	20
Investment Interest Rate (%)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Growth Rate - Residential (%)	0.71	0.69	0.65	0.73	0.70	0.68	0.66
Developer Charges per Assessment - Residential (2021/22 \$)	1409	1409	1409	1409	1409	1409	1409
Subsidised Scheme Capital Works (\$m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grants on Acquisition of Assets (\$m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals (\$m)	0.12	0.12	0.19	0.09	0.14	0.40	0.08
Renewals (%)	0.69	0.55	0.76	0.37	0.59	1.66	0.34
Cash and Investments (\$m)	2.15	1.38	1.22	1.86	2.70	3.25	4.62
Borrowing Outstanding (\$m)	0.86	0.63	0.35	0.10	0.00	0.00	0.00
Mgmt Cost / Assessment	91	89	86	82	80	77	75
Debt Equity Ratio	0.08	0.04	0.02	0.00	0.00	0.00	0.00
OMA Cost Per Assessment	421	286	353	347	345	341	338
Economic Real Rate of Return (%)	-1.44	0.32	-0.04	0.09	0.25	0.40	0.61
Return on Capital (%)	-0.65	0.53	0.14	0.32	0.52	0.65	0.85
Net Debt (\$m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt Service Ratio	0.12	0.09	0.08	0.06	0.00	0.00	0.00
Average Residential Bills	479	567	601	603	607	609	612
Typical Residential Bills	535	625	655	655	655	655	655

