NSW Public Works

Narromine Shire Council

Strategic Plan

Water and Sewerage

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Cover photo: Narromine Temporary Water Treatment Plant

Source: Narromine Shire Council.

Executive Summary

A Local Water Utility's (LWU) Strategic Plan is its 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 Strategy are a 30year Total Asset Management Plan (TAMP), a 30year financial plan and a drought and emergency response contingency plan (DERCP).

Narromine Local Government Area

Narromine Shire is a local government area (LGA) located in central NSW approximately 330 km north-west of Sydney and about 40 km west of Dubbo. The major urban centre in the Narromine Shire is the Narromine township, along with two other towns Trangie and Tomingley. Narromine Shire Council services the towns of Narromine, Trangie and Tomingley with water supply and Narromine and Trangie with sewerage services. Residents of Tomingley use on-site sewage management systems.

Growth Strategy

The Department of Planning in conjunction with the Renewable Energy Zone (REZ) development have updated their projections based on the REZ projects and available information regarding other large projects such as the Inland Rail and Tomingley Gold development. The predictions made as a result of combining these projects see an overall population increase of approximately 450 people through to 2032. The projections are shown in Figure S1.

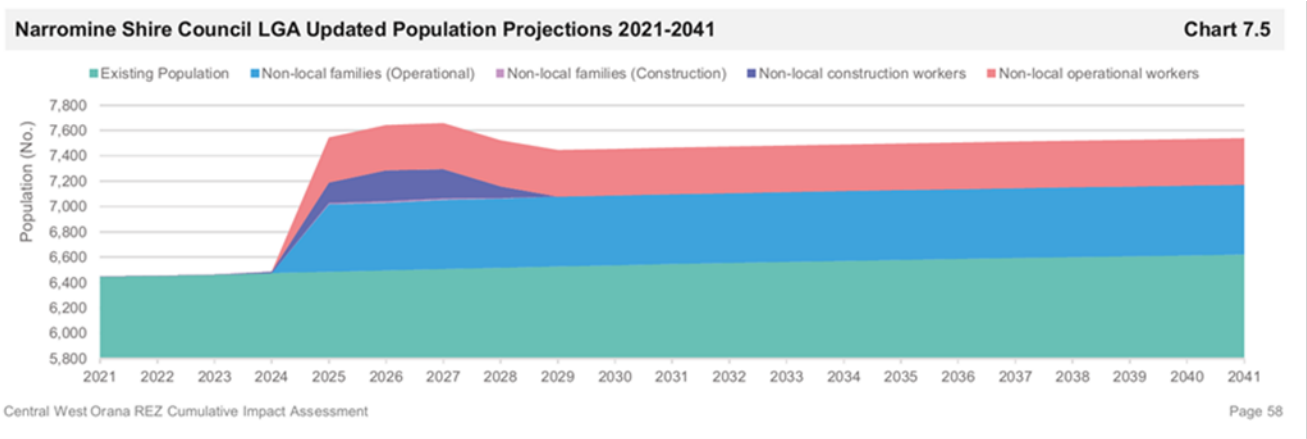
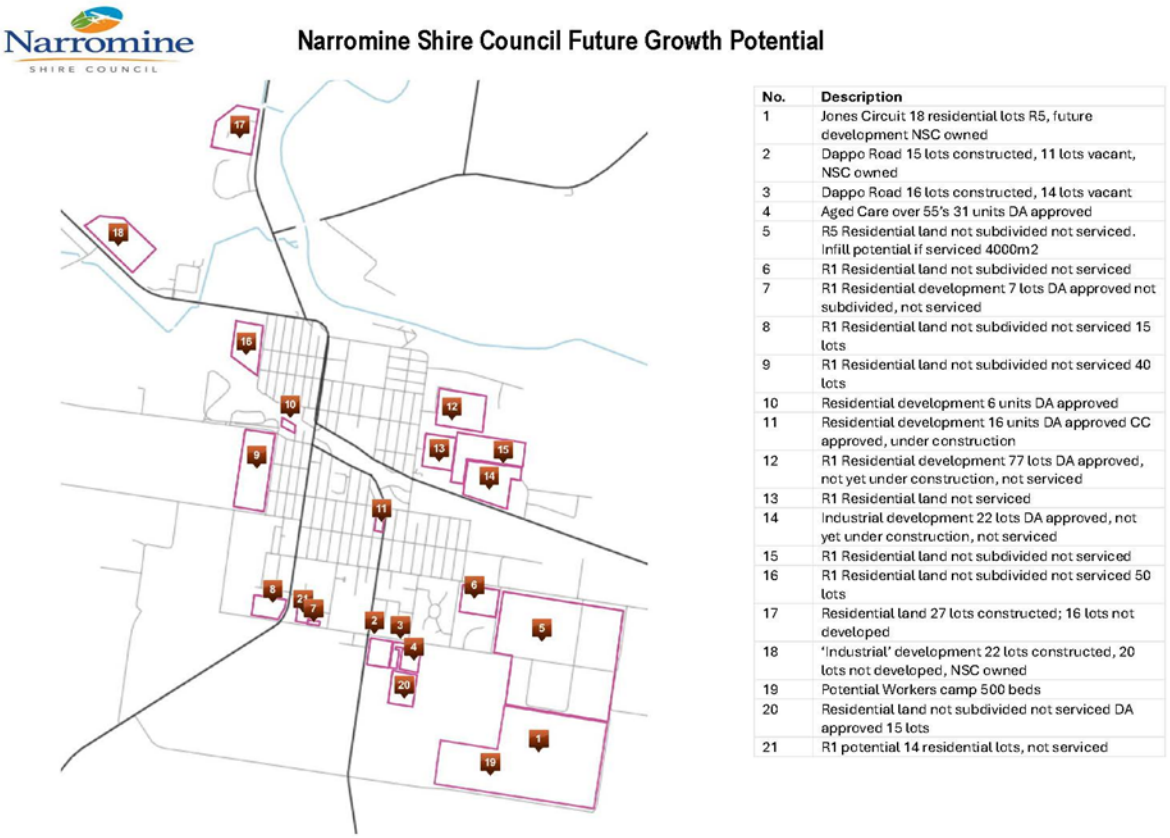


Figure S1:

The prediction during the construction phase of these projects is for a total of 1200 additional people to be housed in the Shire for approximately 4 years of 'peak' construction. For the purpose of planning, Council have nominated a growth in the Narromine population to be 450 people with an expected further surge of at least 1000 people during construction. For this strategic planning, the following growth was considered for the service areas over the 30-year planning horizon:

- 543 people in Narromine
- Two lots per year in Trangie
- No growth in Tomingley

The spatial distribution of the growth in Narromine is shown in Figure S2.



No.	Description
1	Jones Circuit 18 residential lots R5, future development NSC owned
2	Dappo Road 15 lots constructed, 11 lots vacant, NSC owned
3	Dappo Road 16 lots constructed, 14 lots vacant
4	Aged Care over 55's 31 units DA approved
5	R5 Residential land not subdivided not serviced. Infill potential if serviced 4000m2
6	R1 Residential land not subdivided not serviced
7	R1 Residential development 7 lots DA approved not subdivided, not serviced
8	R1 Residential land not subdivided not serviced 15 lots
9	R1 Residential land not subdivided not serviced 40 lots
10	Residential development 6 units DA approved
11	Residential development 16 units DA approved CC approved, under construction
12	R1 Residential development 77 lots DA approved, not yet under construction, not serviced
13	R1 Residential land not serviced
14	Industrial development 22 lots DA approved, not yet under construction, not serviced
15	R1 Residential land not subdivided not serviced
16	R1 Residential land not subdivided not serviced 50 lots
17	Residential land 27 lots constructed; 16 lots not developed
18	'Industrial' development 22 lots constructed, 20 lots not developed, NSC owned
19	Potential Workers camp 500 beds
20	Residential land not subdivided not serviced DA approved 15 lots
21	R1 potential 14 residential lots, not serviced

Figure S2: Spatial distribution of growth in Narromine

The forecast serviced population for the water supply and sewer serviced areas are presented in Table 5-1 and Table 5-2.

Table S1: Projected water supply service area population

	2022	2027	2032	2037	2042	2047	2052
Projected water supply serviced population							
Narromine	3,214	3,482	3,698	3,749	3,757	3,757	3,757
Trangie	788	801	823	841	841	841	841

Table S2: Projected sewer service area population

Projected sewer serviced population							
Narromine	3,051	3,401	3,651	3,901	3,956	3,956	3,956
Trangie	710	723	745	762	762	762	762

Narromine water supply scheme

Water security

The 30-year forecast unrestricted annual demand is estimated to be 1,280ML/year which is less than Council's current total ground water entitlement of 2,000ML/year. Hence Council's existing entitlement is sufficient to meet the forecast 30-year water requirements.

Yield modelling of the groundwater system demonstrates that there is sufficient groundwater to supply current demand, however doubt remains about meeting demand post 2033. Experience has shown there is little opportunity to construct new bores near the town. Council's preferred option is to continue the use of groundwater bores and add river supply to preserve groundwater resources for when needed by obtaining a surface water license to extract from the Macquarie River and construct a pipeline to the water treatment plant. The construction and connection of the supplementary river water source into the water supply system has been deferred to 2040 to gain a better understanding of the groundwater system and also to prioritise addressing the water quality issue and to reduce the impact on ratepayers.

Water quality

There is a very high inherent source water pathogen risk due to disused uncapped bores in close proximity along with numerous failed stock and domestic bores. There is also a very high residual risk of chlorine-resistant pathogens as there are no effective treatment barriers for chorine resistant pathogens at the treatment plant. The groundwater is also high in iron, manganese, hardness and bentonite.

The preferred option is to upgrade the existing temporary plant to meet the current and future capacity and water quality performance requirements. This is the priority project for Council.

Distribution system

The infrastructure leakage index (ILI) for the Narromine Potable WSS was 6.7, indicating a high loss rate. The loss was around 264 L/assessment/day, which is approximately three times the state median. The following actions have been undertaken to improve the system performance with the result that the Narromine 2024-2025 water balance returned an (ILI) of 1.1

- Council developed and implemented a community education program on water saving measures.
- Council has developed and implemented a water loss management plan
- Completed the installation of smart water meters and the introduction of District Metering Areas
- Carried out two rounds of leak detection surveys via the DCCEEW sponsored water loss management process
- Council may consider limited time rebates depending on its budget position for replacement of water fittings and appliances (including evaporative coolers)

The system capacity needs augmentation to maintain the supply pressure of 20 metres. The system is especially vulnerable if there is a failure of the reticulation booster pumps.

The level of service has been considered in 'right sizing' the water treatment plant and any additional storage. This also includes additional volume to build resilience into the system to be able to maintain continuity of supply in the event of a 6-hour interruption.

Trangie water supply scheme

Water security

The 30-year forecast unrestricted annual demand is estimated to be 364ML/year which exceeds Council's total entitlement of 350ML/year. Council should monitor the annual increase in water consumption and apply for an increase in entitlement as the total annual dry year extraction approaches 350 ML/year. Other options to avoid exceeding the entitlement in a dry year include imposing restrictions and reducing the network leakage.

Water quality

There are no health water quality issues with the Trangie water supply scheme however an aesthetic issue relating to high sodium levels creates major taste issues that create a very negative community perception of the water supply. Water from the bore field is chlorinated prior to being stored in a 2.5ML storage reservoir. No other means of treatment or correction of aesthetic issues (high sodium content) can be carried out as the system has no other treatment units beyond disinfection. Addressing the aesthetic issue relating to salinity has been deferred to focus on the Narromine water treatment plant upgrade.

Distribution system

The (ILI) for the Trangie water supply scheme was 12.6 which placed it in the highest leakage category, and indicated that there was significant potential for Council to reduce leakage

Council adopted the same strategy for system performance improvement as that used for the Narromine water supply scheme. Reducing the losses due to leakage has also meant that Council can defer the need to apply for additional entitlement.

Adoption of the water loss strategy has led to the 2024-2025 Trangie water balance returning an (ILI) of 2.9 which is a significant decrease, though more can be achieved.

Tomingley water supply scheme

Tomingley water supply scheme has been completely rebuilt since 2022 including a new fully compliant drinking water treatment plant, reservoir and reticulation system. The 2024-2025 water balance shows an ILI of 0.1 which is in keeping with a new system.

If the bore water in mine fails or if the mine shuts, there is currently no other alternate water source for Tomingley.

Narromine sewerage scheme

Collection and transfer system

Council selected the 1 in 10 year (10% annual exceedance probability), 1-hour event as the containment standard for the collection and transfer system. For this containment standard, sewage pumping stations 1 and 2 would require a capacity upgrade for the current network and to service future growth.

Davis Drive Development

The lots in Davis Drive, are serviced by onsite sewage management systems (OSSMS). There are 10 lots spread across approximately 5 ha and are not too far from the water supply bore field. If these OSSMS do not perform well there is a risk of contaminating the ground water table. The preferred option for sewering this development is a low pressure sewer system that discharges to Councils gravity sewer network. Council has a policy for low pressure sewer systems.

Sewage treatment plant

The Narromine sewage treatment plant has sufficient capacity to service the forecast 30-year growth. The following upgrades are identified to address performance issues and have been commenced during the 2025 financial year with a sludge survey being undertaken and a study into inlet screening options being undertaken:

- Install a screening system at the inlet works
- De-sludge primary oxidation pond to avoid impacting on the performance of the plant
- Provide septage receival system to receive sullage and other pump outs form the Shire

Trangie sewerage scheme

Collection and transfer system

Council selected the 1 in 10 year (10% annual exceedance probability), 1-hour event as the containment standard for the collection and transfer system. The Trangie sewage collection and transfer system can contain a 1 in 10-year 1 hour rainfall event without any major surcharges or overflows.

Sewage treatment plant

The Trangie sewage treatment plant has sufficient capacity to service the 30-year forecast growth.

Effluent flows from the maturation pond at the Trangie STP flow along a 2 km effluent discharge channel and terminates at the Trangie Agricultural Research Station. Human contact with this effluent and access by stock, are both possible and constitutes a risk.

In the short-term Council will address the recommendations provided by GHD to address this and other performance and work health and safety related issues.

An options study of a new inlet screening systems has been completed and equipment ordered to install a brush screen at the head of the works to deal with WHS issues regarding the inlet works of the plant. Other actions outlined in the GHD report of April 2022 are being investigated and considered for implementation.

Unserviced communities

The performance of the OSSMSs were assessed for the unserviced area of Tomingley. The clayey sands and small lot sizes (1,000m^2) could potentially impact the effluent disposal from the septic tanks which could have a public health impact. Council has decided not to sewer Tomingley. An effluent pump out system for the small lot sizes could be considered but this is not included in the asset management plan. An on-site sewage management policy should be prepared.

Future Actions and Implementation plan

Table S3 and Table S4 show the bundled Scenarios segregated for convenience into water supply and sewerage schemes. The issues that are being addressed by each option are also listed.

Table S3: Shire wide water supply scenario – infrastructure needs

Target for compliance	Issue	Option	Scenario 1	Scenario 2
Narromine water supply scheme				
Water security	Drought reliability of the water supply	Utilise the existing bores and supplement with water from Macquarie River. Construct a raw water pump station and intake and a pipeline to the existing water treatment plant – Pipeline route from the River intake to the WTP to be finalised later.	✓ **2040**	
		Continue to use groundwater bores and locate sites for additional bores to meet demand.		✓ **2040**
Water quality	High risk of chlorine sensitive and chlorine resistant pathogens in the water supply.	Upgrade existing temporary plant	✓ **2025**	
		New conventional treatment plant with sedimentation tank and mechanical sludge dewatering		✓ **2025**
System performance				
Non-revenue water at Narromine and Trangie	The infrastructure leakage index (ILI) for the Narromine and Trangie potable water supply schemes are 6.7	• Develop and implement a community education program on water saving measures.	✓ **2026**	✓ **2026**

Target for compliance	Issue	Option	Scenario 1	Scenario 2
water supply schemes	and 12.6 respectively indicating very high water losses.	• Develop and implement a water loss management plan • Consider limited time rebates for replacement of water fittings and appliances (including evaporative coolers)		

Table S4: Shire wide sewerage scenario – infrastructure needs

Target for compliance	Issue	Option	Scenario 1	Scenario 2
Sewerage system issues				
Narromine sewerage scheme				
Reliability of infrastructure – collection and transfer system	Reduce overflows at SPS1: Check overflow level in the pumping station	<u>Option 1</u> provide new pumps in SPS 1 with pumping rate upgraded to 68 L/s and related switchboard upgrades	✓ **2025**	
		Increase the storage capacity by the construction of a new wet well	✓ **2040**	
		<u>Option 2</u> Increase the storage by construction of a new wet well		✓ **2025**
	Surcharging in Catchment 2	upgrade the SPS 2 pumping rate to at least 25 L/s with associated switchboard upgrades	✓ **2040**	✓ **2040**
Reliability of infrastructure - STP	Raw sewage at the STP is not screened and could lead to build up of solids and grit	Install screening system at the STP inlet works.	✓ **2025**	✓ **2030**
	System performance impacted by lack of sullage pump out facilities.	Provide septage receival system at the Narromine STP	✓ **2025**	✓ **2030**
Infrastructure performance	Oxidation pond has not been de-sludged and performance may be impacted	De-sludge primary oxidation pond	✓ **2026**	✓ **2026**
Trangie sewerage scheme				
Infrastructure performance	Improve effluent quality	Undertake investigations recommended in the GHD report	✓ **2025**	✓ **2025**
Unserviced areas				
On-site sewage	Systems in lots on Davis Drive are in	Gravity reticulation and pumped sewerage system	✓ **2030**	

Target for compliance	Issue	Option	Scenario 1	Scenario 2
management systems	proximity to the water supply bores	Low-pressure sewerage system		✓ **2030**

Typical Residential Bills (TRB) Analysis

The bundled water supply and sewerage scenarios were assessed in terms of their impact on customer bills referred to as Typical Residential Bills. Approximate annual TRBs for water supply and sewerage services have been estimated by way of setting up financial models using Finmod 4.0 financial modelling software. TRB analysis is discussed in detail in Section **Error! Reference source not found.**.

'First-cut' developer charges

For TRB analysis, 'first-cut' water supply and sewerage developer charges (DCs) in consideration of the estimated costs and timings of major capital work initiatives have been calculated in accordance with the 2016 NSW Developer Charges Guidelines for Water Supply, Sewerage and Stormwater. 'First-cut' DCs are the preliminary developer charge estimates that need to be reviewed and refined in consideration of additional service areas and agglomerations, cross-subsidy requirements etc., before adoption by the Council, and are presented in Table S4 and Table S5.

Table S4: First-cut developer charges – water supply

Scenario	Current (2023 -24) Developer Charge per ET	First-cut Developer Charge per ET (2023-24$)		
		Narromine	Trangie	Tomingley
Baseline	3,000	15,898	207	Nil
IWCM Scenario 1	3,000	16,914	207	Nil
IWCM Scenario 2	3,000	16,489	207	Nil

Table S5: First-cut developer charges – sewerage

Scenario	Current (2023 -24) Developer Charge per ET	First-cut Developer Charge per ET (2023-24$)	
		Narromine	Trangie
Baseline	3,500	4,275	4,275
IWCM Scenario 1	3,500	4,675	4,675
IWCM Scenario 2	3,500	4,775	4,775

TRB forecasts for the water supply and sewerage services were then made with the assumption that Council will be adopting and levy the developer charges at the level of first-cut estimates. TRB analysis help comparing the bundled scenarios to support the selection of a preferred scenario to be adopted as the Council's strategy. Figure S3 and Figure S4 compare the TRB forecasts for the water supply and sewerage scenarios respectively.

Further financial modelling was undertaken after selecting the preferred scenario and adjustments to the input parameters were made in keeping with Council's internal financial planning process.

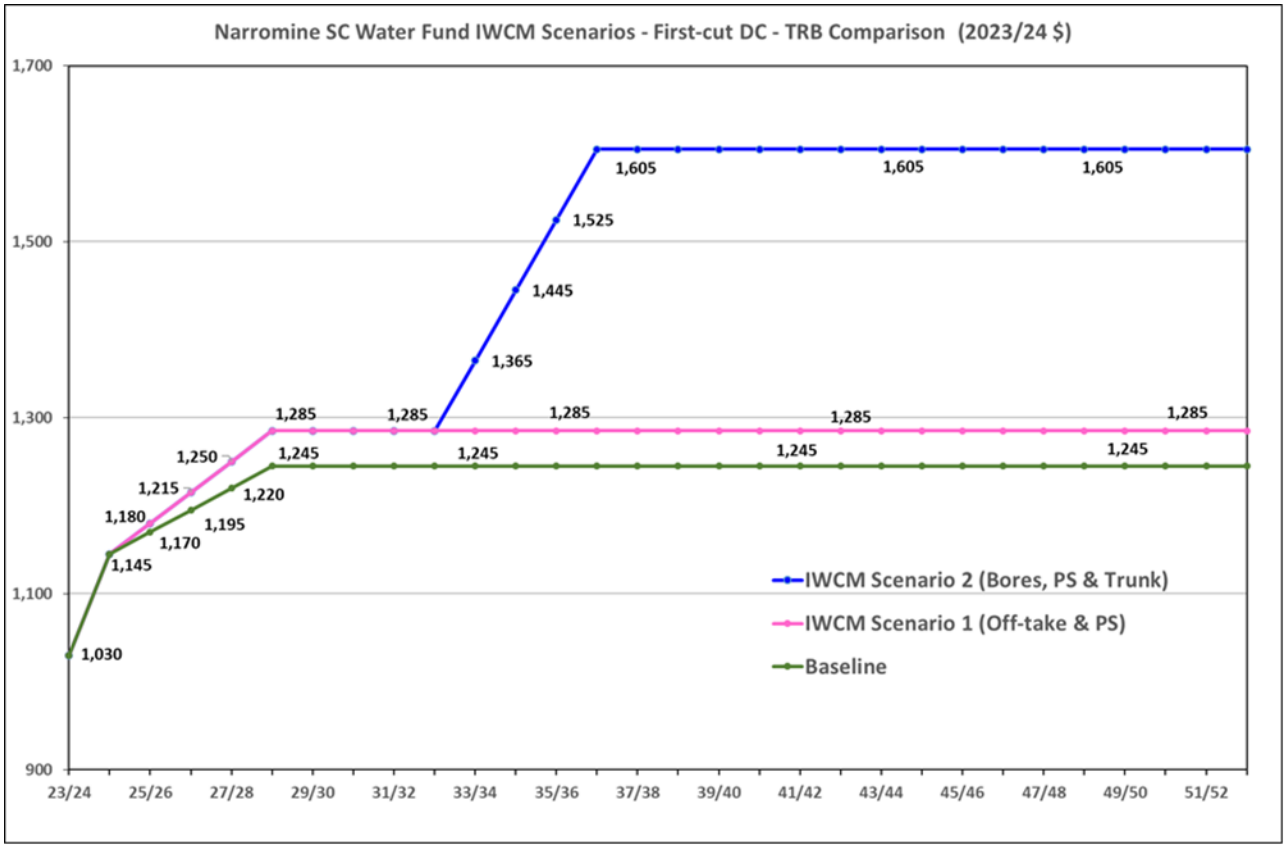


Figure S3: Comparison of TRB forecasts for Scenarios – Water supply

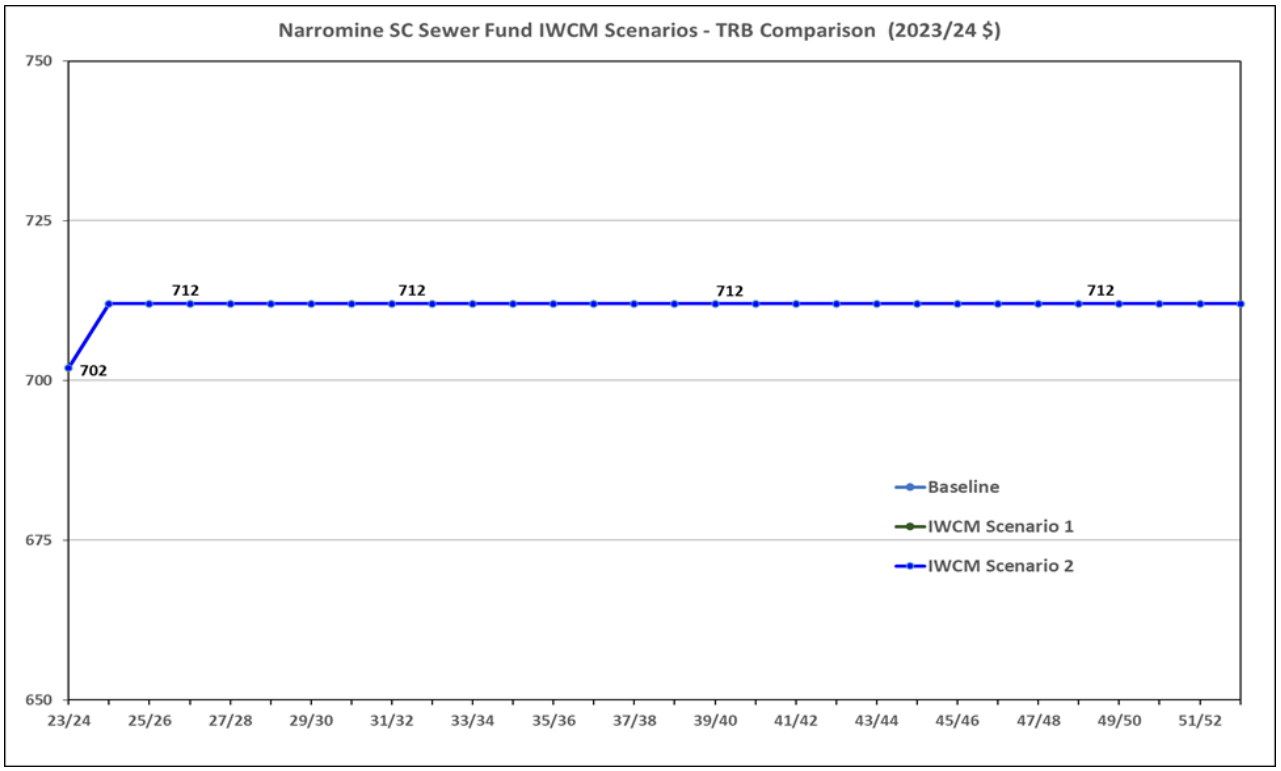


Figure S4: Comparison of TRB forecasts for Scenarios - Sewerage

Asset Management

Council's Water supply and Sewerage Asset Management Plans provide a detailed overview of the asset management systems, procedures and strategies in place to ensure delivery of services in a financially sustainable manner.

The preferred strategy to address the Council's asset system and performance issues has enabled Council to develop the total asset management plan (TAMP) over a 30-year planning horizon. The TAMP provides detailed schedules of water supply sewerage capital works into the future with a view to satisfy the forecast service demands in terms of growth, improved levels of service and renewal of existing assets in the most cost effective manner.

The TAMP also provides the details of routine and additional operations, and management (O&M) expenditure over a 30-year period.

Long-term Financial Plan

Long-term financial plans (LTFP) for water supply and sewerage funds have been prepared using the TAMPs for the preferred scenarios to set up the financial models. Financial models set up using the Finmod 4.0 financial modelling software enable Council to forecast the lowest stable sustainable price path for water supply and sewerage services on which to base Council's tariff structure. Note, all the forecast values are in 2023-24 dollars unless specified otherwise and needs to be indexed for CPI annually.

For strategic planning purposes, Council has resolved to cap and adopt the estimated developer charges (DCs) at the following levels for the financial model forecasts of the preferred strategy and the corresponding TAMP.

- DC for water services in Narromine and Trangie: $5,000 per ET
- DC for sewerage services in Narromine and Trangie: $2,000 per ET

Water fund LTFP

The water fund financial model assumes 75% of the estimated capital cost of Narromine water treatment plant upgrade project is to be funded through government grantor subsidy (a contribution of $21.5 Million).

Typical residential water bills for the water supply tariff structure adopted by Council for the following years have been estimated and used in the model.

- TRB for 2023-24: $1,030 p.a.
- TRB for 2024-25: $1,150 p.a.
- TRB for 2025-26: $1,275 p.a.

The financial model demonstrates that the 2025-26 typical residential water bill of $1,275 p.a. ($1,365 p.a. in 2025-26 dollars) needs to increase by $50 to achieve a TRB of $1,325 p.a. in 2026-27 and can be maintained at that level for all the remaining forecast period (i.e. increases in line with CPI only).

Council's water fund had no outstanding borrowing as of 30 June 2025. With the recommended price path, new loans to the tune of $7.0 Million will be required to fund Council's contribution of the WTP upgrade works. An additional loan (estimated at $1.0 Million) will be required in 2039-40 to fund Council's contribution of the raw water intake PS and pipeline to WTP project capital works. Note: At this point in time Council has not secured grant funding or subsidy for the pipeline project.

The projected levels of TRBs is sufficient to maintain liquidity with a minimum level of cash and investment of $500K in the water fund throughout the forecast period. The TRB forecasts, levels of cash and borrowing outstandings for the water fund over the 30-year forecast period are presented in Figure S5. For more details of water fund financial model outcomes, refer to Section 16.4.

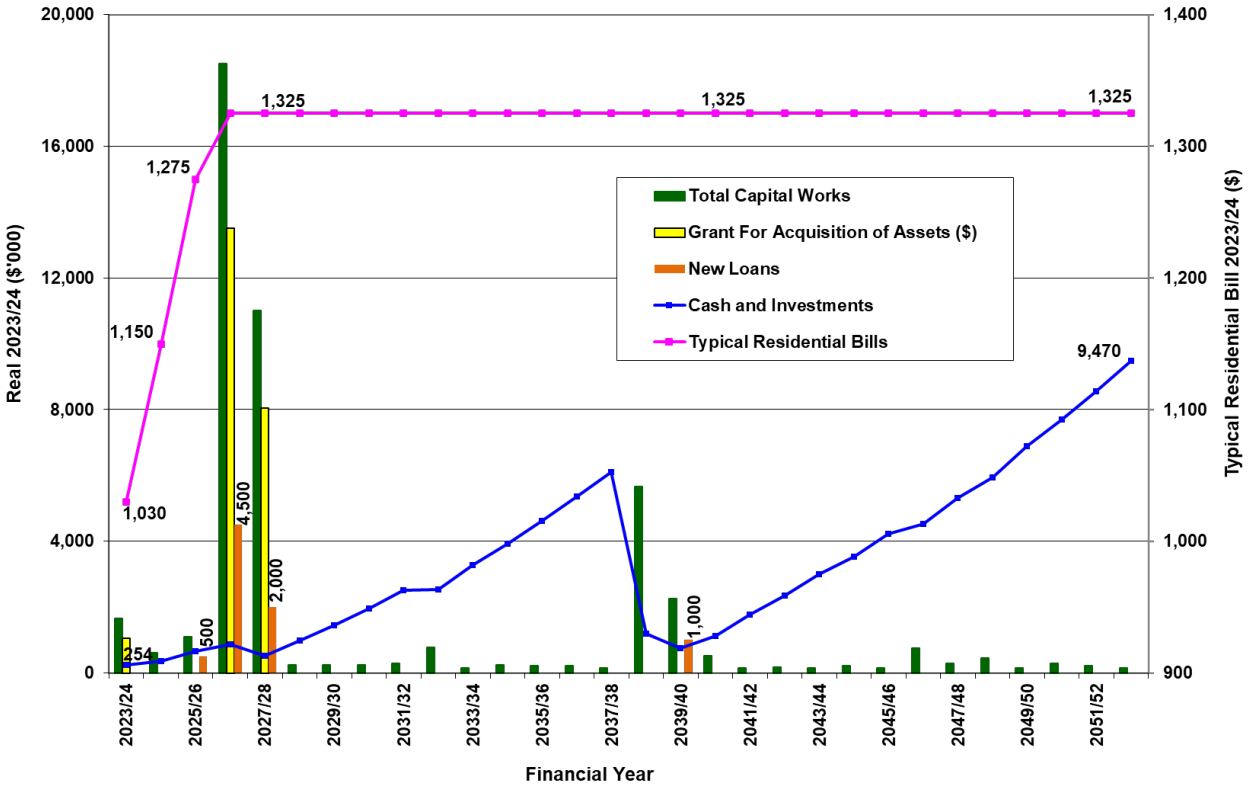


Figure S5: Water fund financial model forecasts summary

Sewer fund LTFP

Council's sewer fund financial model for the preferred strategy considers no government grants or subsidy for any of the capital works planned for the next 30 years.

Typical residential sewerage bills based on the annual sewerage access charges for the residential customers adopted by Council for the following years have been used in the model.

- TRB for 2023-24: $702 p.a.
- TRB for 2024-25: $715 p.a.
- TRB for 2025-26: $715 p.a.

The sewer fund financial models demonstrate that the 2025-26 annual residential sewerage access charge of $715 p.a. ($761 p.a. in 2025-26 dollars) can be maintained for all the remaining years of the 30-year forecast period (i.e. increases in line with CPI only).

Council's sewer fund had no outstanding borrowing as of 30 June 2025. The model forecasts demonstrate that with the recommended price path, no new loans will be required fund any of the planned capital works during the 30-year forecast period.

The forecast levels of TRBs is sufficient to maintain liquidity with a minimum level of cash and investment of $500K in the sewer fund throughout the forecast period. The levels of cash and borrowing outstandings during the forecast period are presented in Figure S6. For more information on sewer fund financial model forecasts, refer to Section 16.5.

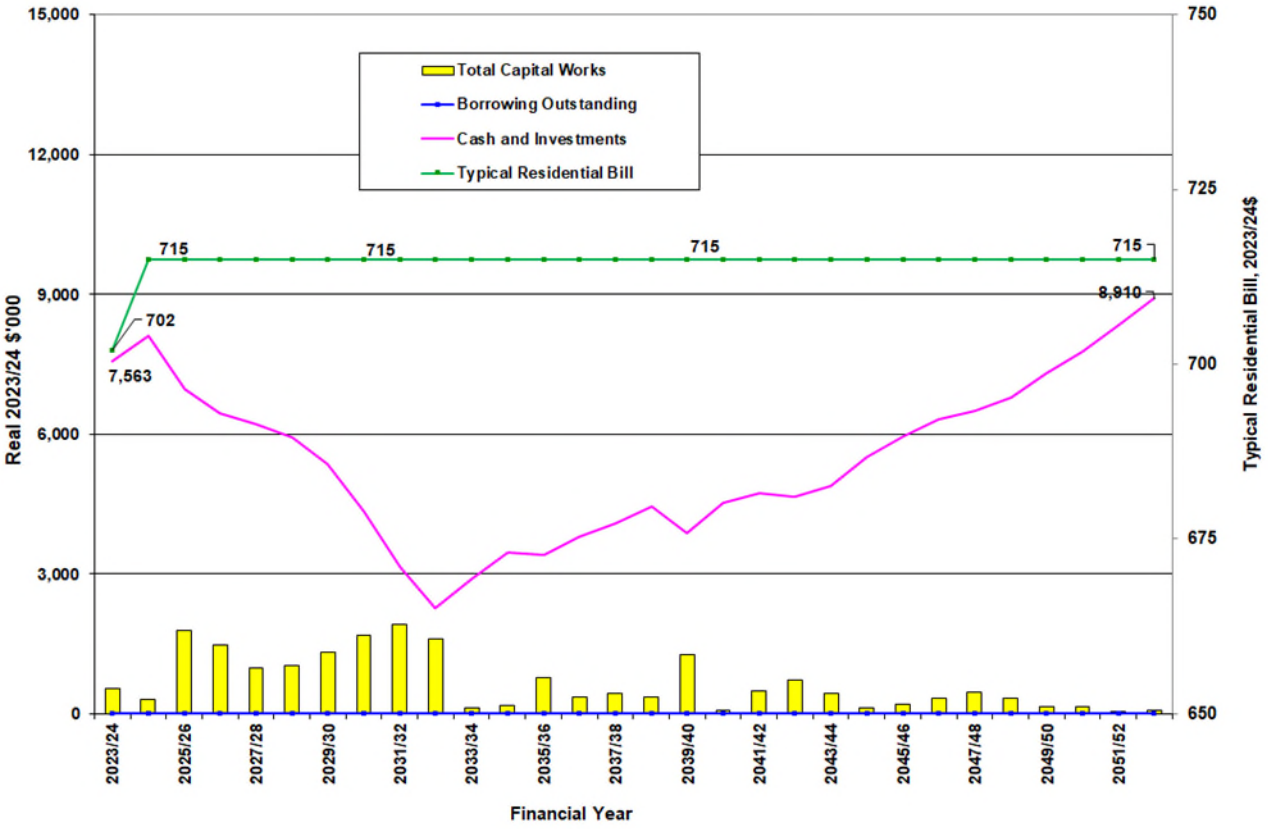


Figure S6: Sewer fund financial model forecasts summary

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Glossary of Terms

Term	Definition
Differential head (ΔH)	Difference between water surface levels upstream and downstream of a hydraulic control structure such as a dam, weir, or fishway.
Headloss (Δh)	Difference in water surface levels under flowing water conditions either side of a hydraulic control feature/component/element such as a gate (differs whether fully or partially opened), constriction, or fishway baffle.
Headwater level (HWL)	Water level immediately upstream of a control structure that is not affected by any significant draw-down or localised flow effects.
Left and Right	The terms *left* and *right* are with respect to the view in the downstream direction, in accordance with industry standard practice for dams and river infrastructure works. Usage aids the description of directional orientation with respect to the direction of flow in relation to a river, stream, control structure or a related site.
Percentile (%'ile)	Term used to indicate thresholds or boundary values in frequency distributions. For example, 95th percentile (5 percent exceedance) is that value which marks off the lowest 95 percent (highest 5 percent) of observations from the rest; the 50th percentile is the same as the median value (i.e. middle value in a ranked list of all values). For fish passage projects, *percentiles* are typically more appropriate rather than *exceedances* since upstream fish passage is typically impacted over the lower range flows when the river control structure is a significant barrier to upstream fish migration. For dams, culverts, bridges, and flood mitigation (e.g. levee) type projects, *exceedances* are typically used to describe high flow frequencies since hydraulic design capacity and flood risks are most concerned with the upper range of flows and peak flows together with respective occurrence probability.
Tailwater level (TWL)	Water level immediately downstream of a control structure that is beyond the zone of any significant structure related hydraulic effects, high energy flow and/or significant turbulence.

Abbreviations and Acronyms

Item	Description
≈ or ~	approximately equal to
ΔH	differential head (refer to Glossary)
Δh	headloss or component differential head (refer to Glossary)
AEP	annual exceedance probability - expressed as a percentage ('% AEP') for events with a frequency ≥ 1%, and as '1 in X AEP' for events with a frequency < 1%
AHD or mAHD	Australian Height Datum (in metres)
BWL	bottom water level
CH or Ch	chainage
CTF, CtF, or ctf	cease-to-flow – for *falling stream*, and commence-to-flow – for *rising stream*
D/S or d/s	downstream
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEM and DTM	digital elevation model; and digital terrain model
dia, ∅	diameter
DPIF	Department of Primary Industries - Fisheries Division
Dwg	drawing
f'c	concrete design characteristic compressive strength after 28 days
FSL	full supply level, and full storage level
GL	gigalitres (1 x 10^9 L, 1000 ML)
HW and HWL	headwater, and headwater level (refer to Glossary)
L/s or l/s	litres per second
m^3/s or cumecs	cubic metres per second (1 m^3/s is equivalent to 1000 L/s)
ML and ML/d or ML/day	megalitres (1 x 10^6 L); and megalitres per day (1 m^3/s = 86.4 ML/d)
No.	number
nom	nominal
NS and NSL	natural surface, and natural surface level
NSWPW	NSW Public Works
O&M and O&MM	operation and maintenance, and operation and maintenance manual
Q	flowrate or discharge
ref	refer, or reference
RFS and RFT	Request For Services, and Request For Tender
RL	reduced level relative to an established datum (typically AHD)
SWI and SWMS	Safe Work Instruction, and Safe Work Method Statement
tba, tbc, and tbd	to be advised, to be confirmed, and to be determined
T.O.	top of
TW and TWL	Tailwater, and tailwater level (refer to Glossary)

Item	Description
typ	typical
u.n.o. or uno	unless noted otherwise
U/S or u/s	upstream
WAE	work as executed (as constructed/built)
WNSW	WaterNSW
WL and WSL	water level; and water surface level
WLL	working load limit (typically in tonnes or kilograms)
w.r.t.	with respect to

1. Introduction

Narromine Shire is a local government area (LGA) located in central NSW approximately 330 km north-west of Sydney and about 40 km west of Dubbo. The major urban centre in the Narromine Shire is the Narromine township, along with two other towns Trangie and Tomingley.

A map of the Narromine Shire LGA from Google Maps is shown in Figure 1-1.

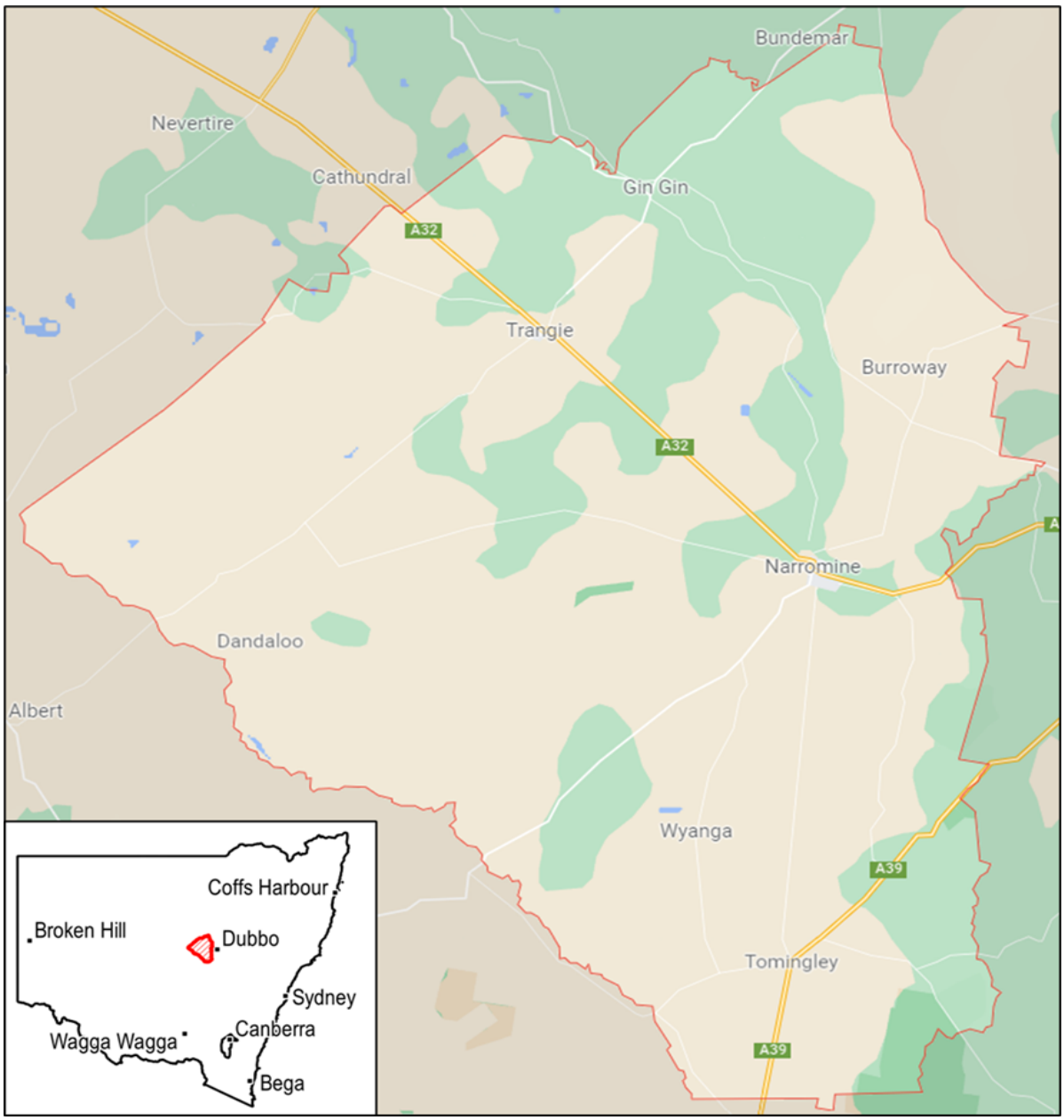

Figure 1-1: Narromine Shire Local Government Area map

Water supply service

There are four water supply schemes that Council operates in the Narromine Shire LGA:

1. Narromine Potable Water Supply Scheme (WSS)
2. Narromine Raw WSS currently non-operational due to infrastructure age and condition
3. Trangie WSS
4. Tomingley WSS

Sewerage

There are two sewerage schemes that Council operates in the Narromine Shire LGA:

5. Narromine Sewerage Scheme
6. Trangie Sewerage Scheme

Unserviced communities

Tomingley is the only town that is currently unserviced for sewage.

2. Strategic context

A local water utility's (LWU's) Water and Sewerage (W&S) Strategic Plan is a 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 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 agreed levels of service;
- Includes a 30-year Total Asset Management Plan (TAMP) 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 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 TRB is determined through community and stakeholder consultation.

3. Levels of Service

The Levels of Service framework developed from objectives and targets relevant to the water supply, sewerage management and general services, has been provided in Table 3-1, Table 3-2 and Table 3-3. The performance indicators and targets have been nominated by Council. Each objective has one or more Service Standard (or Design Basis) drawn from legislation, best practice guidelines, and industry practice

Table 3-1: Levels of Service – water supply

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
Water supply security				
Adequate potable water for current and future generations with reasonable level of restrictions	5/10/10 rule based on 99th percentile unrestricted future demand based on DPIE Water's draft guidelines "Assuring future urban water security, Assessment and Adaption guidelines for NSW local water utilities"	Average duration of drought-related restrictions	Restrictions no more than 5% of time	For Narromine, potable water restrictions were in place from January 2018 to February 2021. For Trangie, water restrictions were n in place from December 2017 to February 2021.
		Frequency (average number) of drought-related Level 3 restrictions	Less than one event per 10 years	For Narromine Potable WSS, there were Level 3 and above restrictions from January 2019 to March 2020.

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
		Supply capacity during normal worst recorded drought demand	90% of normal demand	For Trangie WSS, there were Level 2 restrictions from October 2019 to October 2020. Less than one event per 10 years 100% of normal demand supplied
Projected town water supply extraction is within the upper limit of the water extraction licence and meets any licence conditions	Not exceeding the licensed entitlement and any other conditions	Annual volume of water extracted	Narromine Potable WSS: 2,000 ML/year Trangie WSS: 350 ML/year	Maximum extraction year: Narromine Potable WSS: 988 ML/year (2018/19) Trangie WSS: 351 ML/year (2018/19)
Minimise water resource dependent environmental and third-party impacts	100% compliance with the Water Sharing Plan (WSP) requirements	Number of breaches with the WSP requirements	Zero Breaches	Nil breaches for all schemes
	100% compliance with the work approval conditions	Number of breaches with the work approval conditions	Zero Breaches	Nil breaches for all schemes
Drinking water quality				
Protects public health	100% compliance with the Australian Drinking Water Guidelines (ADWG) for health-based parameter	Number of boil water alerts	Nil boil water alerts	No boil water alerts issued for Narromine Shire Council
	Compliance with the DWMS	DWMS – annual reviewed and regularly audited	. 100% compliance	Nil exceedances for Critical Control points.
	100% compliance with critical control points (CCPs)	Number of CCP exceedances	Zero CCP critical limit exceedances per year	Narromine: No CCP exceedances in 2020, see. Trangie: No CCP exceedances in 2020.

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
Aesthetically fit for purpose	95% compliance with the ADWG for aesthetic parameters	Discoloured water complaints	Zero complaints per year	From Council's historical complaints log: Narromine: One complaint in 2021, 6 in 2020, 1 in 2019, 3 in 2018, 1 in 2017. Trangie: Zero complaints
		Complaints of taste (e.g. chlorine, palatability, hardness, staining of fitting/fixtures)	Zero complaints per year	From Council's historical complaints log: Narromine: One complaint in 2020 and 1 in 2019. Trangie: One complaint in 2019.
		Complaints of odour (be specific, e.g. algae, others)	Zero complaints per year	From Council's historical complaints log: Narromine: One complaint in 2020, 1 in 2018 and 1 in 2017. Trangie: One complaint in 2016.
Reliability of supply infrastructure				
Limit supply interruptions	Asset condition rating at 2022 valuation Weighted Average Remaining Useful Life 69.5 Years	Number of unplanned service interruptions due to asset failure:		
		Water mains breaks	10 mains breaks per 100 km per year	1.29 mains breaks per 100 km per year in 2019/20, 2.62 in 2018/19, 3.96 in 2017/18[2]
		Unplanned interruptions	10 unplanned interruptions per 1,000 connections per year	1.26 unplanned interruptions in 2019/20, 1.68 in 2019/18, 1.21 in 2017/18[2]
		Duration of unplanned interruptions	Average 120 mins per event	46 mins in 2019/20, 60 mins in 2018/19, 60 mins in 2017/18[2]
Maintain continuous		Response time to incidents[1]:		

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
service availability	Adequate level of workforce resourcing with appropriate skills	Priority 1: Failure to maintain continuity or quality of supply to a large number of customers or to a critical use at a critical time	60 minutes (during working hours) 120 minutes (after hours)	60 minutes (during working hours and after hours)
		Priority 2: Failure to maintain continuity or quality of supply to a small number of customers or to a critical use at a critical time	180 minutes (during working hours) 240 minutes (after hours)	60 minutes (during working hours and after hours)
		Priority 3: Failure to maintain continuity or quality of supply to a single customer	1 working day	1 working day
		Priority 4: A minor problem or complaint that can be dealt with at a mutually convenient time	14 working days	14 working days
Maintain adequate pressure	Treatment and distribution system capacity designed to supply 95th percentile peak day demand.	Number of incidents causing complaints about pressure	Narromine Target Zero Trangie < Five per year Tomingley < Five per year	From Council's historical complaints log, Narromine: 5 complaints in 2020, 4 in 2019, 11 in 2018 Trangie: One complaint in 2021, 1 in 2020 and 2 in 2017.
Provide adequate firefighting capability	System can supply 10 L/s for 4 hours when supplying peak day demands while maintaining positive pressure	Percentage of urban area with fire-fighting facilities and capability appropriate to land zone	Narromine & Trangie 100% of urban area served	100% area served[1]

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
		Percentage of systems/facilities capable of meeting fire engine requirements	Tomingley	Unable to meet standard

Table 3-2: Levels of service – sewerage

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
Reliability of collection and treatment infrastructure				
Maintain Continuous Service Availability	Asset condition rating Weighted Average Remaining Useful Life 69.5 Years	Number of unplanned service interruptions due to asset failure:	Zero per year	
		Backup of sewage into properties	Zero per year	No data
		Overflow due to pump failure	Less than two per year[1]	Zero sewer overflows per 100 km per year in the past seven financial years from 2019/20[2]
		Sewer mains blockage/collapse	Less than 60 breaks per 100 km of sewer per year	3.69 breaks and chokes per 100 km per year in 2019/20, 16.67 in 2018/19 and 18.52 in 2017/18[2]
	Workforce resourcing	Response time to incidents[1]:		
		Priority 1 – Failure to contain sewage within the sewer system or any problem affecting a critical user at a critical time	60 minutes (during working hours) 120 minutes (after hours)	60 minutes (during working hours and after hours)
		Priority 2 – Minor failure to contain sewage within the sewer system or any problem affecting a critical user at a non-critical time	180 minutes (during working hours) 240 minutes (after hours)	60 minutes (during working hours and after hours)
		Priority 3 – Minor failure to contain sewage affecting a	Next working day	Next working day

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
		single property or as bad odours		
Protect the environment and receiving waters				
System Performance	Compliance with the EPL	Non-compliances with EPL	100% Compliance	No complaints in the last 5 years
	Contains 8 hours of sewage load at average dry weather flow (ADWF) within each SPS	Number of overflows at ADWF	Zero	Zero sewer overflows per 100 km per year in the past seven financial years from
	Rainfall event with a 20% AEP (1-in-5 year event)	Number of overflows for the selected rainfall event	Zero overflows for a less than 20% AEP rainfall event	No data. Council advised that the flat terrain in Narromine makes assessing the overflows from SPS and manholes difficult.
	Compliance with biosolids guidelines	Non-compliances with biosolids guidelines	Meets statutory requirements[1]	Meets statutory requirements
	Reduce effluent discharge from the STP	% effluent reuse	100% reuse	Council has reported nil reuse in the last five years.
	Minimise odours	Number of odour complaints	Less than two complaints per year[1]	From Council's historical complaints log, 1 complaint reported in May 2018, and 1 in Dec 2017, both instances in Narromine.
Sound regulation of sewerage and trade waste	Compliant liquid trade waste (LTW) policy	Extent of implementation	100% implementation of policy	Council has an LTW Policy and implements the Policy
	Compliant LTW classification, acceptance and approval processes	Percentage of compliant systems/premises	70% of systems/premises compliant with LTW policy	Narromine: 50% of systems/premises discharging LTW Trangie: 78% of systems/premises discharging LTW
	Full cost recovery pricing model or pricing model based on Appendix D of the LTW Guidelines	Pricing model based on Appendix D of the LTW Guidelines	Full cost recovery from pricing model	According to Council's LTW policy, the LTW services are provided to commercial users with full cost recovery

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
				through fees and charges.

Table 3-3: Levels of service – General

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
Community wellbeing				
Public open spaces (POS) are maintained green with fit-for-purpose cost-effective water	Greener parks, ovals and open spaces	Percentage of all POS to be maintained green independent of weather patterns	75%	100% of Target met since end of the last drought
Environmental sustainability				
Minimise dependence on grid power	On-site generation of renewable sources of electricity where economical	Number of facilities with on-site renewable energy generation system	To have the major water and sewer treatment plants with onsite renewables	Council does not have any renewable energy sources
Financial sustainability				
Revenue meets on-going commitments	Full cost recovery	Economic rate of return	≥0%	Water supply: 4.34% in 2024/25 Sewerage: 1.73% in 2024/25
		OMA/rates revenue	≤85%	Water supply: 82% in 2024/25 Sewerage: 90% in 2024/25
		Return on investment (ROI)	≥ 2%	Water supply: 4.34% in 20245/25 Sewerage: 2.08% in 2024/25
		Accounting surplus/deficient	Maintain surplus	Water supply: $1,723,000 in 2024/25 Sewerage: $681,000 in 2024/25

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
	Non-residential revenue reflects community benefits	Residential and non-residential revenue split	Revenue split is reflective of usage to within +/- 2%	Water supply residential - $2,703,000 Water supply non-residential - $675,000 Sewerage residential - $1,372,000 Sewerage non-residential - $493,000
	Supports Council's hardship policy	Level of pensioner rebate per property	Standard pensioner rebate	Pensioners can apply for rebate if eligible
Efficient operation delivering stable price paths	Evidence based robust total asset management plan (TAMP), financial plan (FP) and business continuity plan (e.g. Drought Contingency and Emergency Response Plan – DCERP)	TAMP, FP & DCERP – annually reviewed & regularly audited	Compliant current TAMP, FP & DCERP	Council advised that the TAMP, FP and DCERP are annually reviewed.
Pricing signal for sewerage services is fair and strong to encourage efficient use of services	Water and sewer tariff is compliant with best-practice guidelines	Percentage compliance with best-practice pricing guidelines	100% compliance	Tariff structure to be reviewed following completion of the strategy
	All users/customer properties with a sewer connection are charged	Percentage of users/customer properties with a sewer connection charged	95% Compliance	All users/customers (including unmetered users, such as parks and gardens, standpipe usage) are metered and charged
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	Percentage compliance with developer charges guidelines	100%	Compliant with guideline
	Full cost or cross-subsidised as per guideline	Extent of community support of cross subsidy OR full cost	100%	In line with policy

Objective	Service Standard (Design Basis)	Performance Indicator	Target	Performance
Asset management				
Maintain up-to-date asset register	Asset register compliant with Accounting standard[4]	Extent of assets captured in the asset register	95%	Council's assets are captured and updated in the asset registers
		Accuracy of assets in the management system and what is in-ground	e.g. 90%	The full water and sewer networks are captured in the GIS System the accuracy of this is checked every two years. Sewer main CCTV condition auditing is carried out on a regular basis
	Asset management system drives service delivery	Percentage usage in work scheduling	100% Compliance with System	Council continues to schedule works based on asset management system

4. Operating Environment Compliance

Narromine Shire Council operates one water supply and four sewerage schemes under the Local Government Act (1993). The Local Government Act and a number of other legislations influence the way in which Council can provide the urban water and wastewater services and have specific implications for the operation of the schemes. Table 4-1 provides the details of the status of compliance with the legislative and regulatory requirements by the Council.

Table 4-1: Operating environment compliance

Key legislative framework and their main purposes	Narromine Shire Council's current performance
Local Government Act (1993)	
This Act aims to provide the legal framework for an effective, efficient, environmentally responsible, and open system of Local Government including the provision, management and operation of water supply and sewerage works and facilities. It covers:	Council operates three water supply schemes and two sewerage schemes under the authority of the Local Government Act 1993.
Section 60 (S60) – Ministerial approval required for certain council works A council must not, except in accordance with the approval of the Minister for Primary Industries, do any of the following: b) as to water treatment works – construct or extend any such works, c) as to sewage – provide for sewage from its area to be discharged, treated or supplied to any person	There is Section 60 approval for the Narromine Temporary WTP and the Tomingley WTP. Narromine STP Constructed in 2004-2005 has a section 60 approval. Trangie STP was constructed prior to 1993, hence a Section 60 approval is not required.
Section 61 – Ministerial directions concerning certain works	Council has received Section 61 inspections for: Narromine WTP.

Key legislative framework and their main purposes	Narromine Shire Council's current performance
The Minister for Primary Industries or a person authorised by the Minister may direct a council to take such measures as are specified in the direction to ensure the proper safety, maintenance and working of any of the following works: b) water treatment works, c) sewage treatment works.	Tomingley WTP. Trangie STP. Council advised that there have been no Section 61 inspections for the Narromine STP on record.
Section 64 – Construction of works for developers As a precondition to granting a certificate of compliance for development, a water supply authority may, by notice in writing served on the applicant, require the applicant to do either or both of the following: a) to pay a specified amount to the water supply authority by way of contribution towards the cost of such water management works as are specified in the notice, being existing works or projected works, or both, b) to construct water management works to serve the development.	Council has a 2020 Development Servicing Plan (DSP).
Section 68 – What activities require the approval of the council? A person may carry out *operation of a system of sewage management* (meaning to hold or process, or re-use or discharge, sewage or by-products of sewage) only with the prior approval of the council. Council can manage the approval process under their liquid trade waste policy.	Council has a Liquid Trade Waste Policy adopted on 22 June 2022. The review date is set at a frequency of 4 years.
Section 382 – Insurance against liability A Council must make arrangements for its adequate insurance against public liability and professional liability.	Council has insurance against public liability, professional indemnity, property protection, motor vehicle insurance and workers compensation under Section 382 of the Act.
Environmental Planning and Assessment Act (1979) (including the EPA Regulation 2000)	
This Act aims to encourage proper management of resources, the orderly use of land, the provision of services, and the protection of the environment. It covers: ▪ Local Environmental Plans (LEP) ▪ Environmental Impact Statement (EIS) ▪ Reviews of Environmental Factors (REF)	Council advised these legislative and regulatory requirements are complied with at all times. There have been no recorded breaches of the Act in relation to Councils Wastewater systems.
Public Health Act (2010)	
This Act aims to promote, protect and improve public health; by providing safe drinking water to the community. Section 25 – a supplier of drinking water must have a quality assurance program in place and must comply with its requirements. A Drinking Water Management System (DWMS) satisfies this requirement. The requirements of the DWMS are as follows: ▪ Produce an annual report to be made available to consumers, regulatory authorities and stakeholders	Council reviewed its DWMS in November 2023 with major changes being made including the inclusion of the Tomingley Drinking Water System. Annual reports are supplied to the NSW Department of Health and DCCEEW at the conclusion of every financial year.

Key legislative framework and their main purposes	Narromine Shire Council's current performance
▪ The DWMS will be internally reviewed. The review will assess Council's performance in relation to: ▪ CCPs and their exceedances ▪ Improvement Plan ▪ Record keeping ▪ NSW Health Database performance	
Water Management Act (2000) and Water Act (1912)	
This Act promotes the sharing of responsibility for the sustainable and efficient use of water between the NSW Government and water users and provides a legal basis to manage NSW water planning, allocation of water resources and water access entitlements.	Council has a water access licence (WAL) for each water supply scheme.
Protection of the Environment Operations Act (1997)	
Section 43 – Environment protection licences Environment protection licences (EPLs) may be issued to authorise the carrying out of scheduled activities at any premises, as required under section 48. This clause applies to sewage treatment, meaning the operation of sewage treatment systems that involve the discharge or likely discharge of wastes or by-products to land or waters.	Council holds an EPL for the Narromine STP. Trangie STP does not have an EPL as it is not a scheduled activity under Section 48.
Work Health and Safety Act 2011 and WHS Regulation 2017	
To provide for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces. Under the Act, for Workplace Management, Council has a duty to: ▪ Identify hazards ▪ Manage risks to health and safety ▪ Implement, maintain and review risk control measures.	Council has a Work Health and Safety Policy adopted in 2023. The policy states that the Policy will be reviewed every four years of its adopted or latest amendment.
Fluoridation of Public Water Supplies Act (1957)	
This Act covers the addition of fluoride to public water supply under the NSW Fluoridation Code of Practice.	The Narromine and Trangie drinking water supply schemes are not fluoridated
Dam Safety Act 2015	
Under this Act, the owner of any dam listed as a prescribed dam must meet the requirements of the NSW Dams Safety Committee (DSC). The DSC assigns dams a consequence category relative to their dam failure consequence, and this determines the level of reporting and type of actions required by the dam owner as part of their Safety Management System (SMS).	Not applicable as Council does not own any prescribed dams
Commonwealth Water Act 2007 and Water Regulations 2008	
Part 7 of the Act – Water information The Bureau of Meteorology is required to collect, hold, manage, interpret and disseminate Australia's water information.	Narromine Shire Council are not listed as "persons" who must give information to the Bureau under the regulations.

Key legislative framework and their main purposes	Narromine Shire Council's current performance
Section 126 of the Act places an obligation on persons specified in the Regulations to give certain water information to the Bureau. Part 7 of the Regulations defines who must give specified water information to the Bureau, and the time and format in which it must be given. The Regulations individually name over 200 organisations which are required to give the Bureau specified water information that is in their possession, custody or control.	Council does though supply performance monitoring data to the BOM every year via the NSW Performance Monitoring Report

5. Population assessment and projections

In 2022 due to the size of upcoming projects and population in NSW shifting to Narromine Shire, the growth in Narromine was forecast to be a total of 450 people through to 2032. This utilized a base population of 6448 across the Narromine Shire (2021).

Several of the projects that were factored into this forecast will not proceed and large projects such as those with the Inland Rail are delayed. Projects within the Renewable Energy Zone were not factored at all. The Department of Planning updated their population projection for the Narromine Shire to see growth of 200 people through to 2041. The Department of Planning in conjunction with the Renewable Energy Zone development have now further updated their projections based on the REZ projects and available information regarding other large projects such as the Inland Rail and Tomingley Gold development. The predictions made as a result of combining these projects see an overall population increase of approximately 450 people through to 2032. This is shown in Figure 5-1.

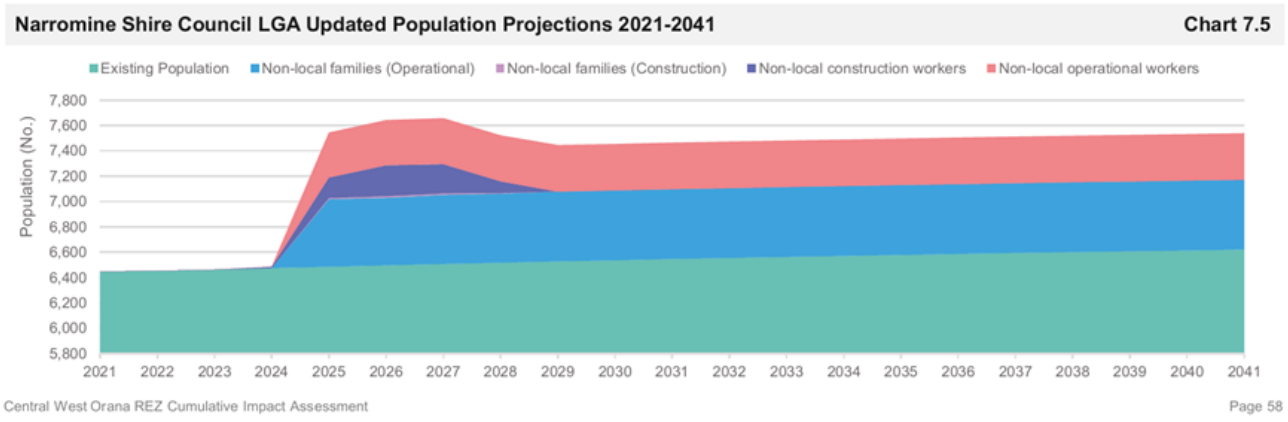

Figure 5-1: Department of Planning population projections for Narromine Shire Council LGA

It should be noted that the prediction during the construction phase of these projects is for a total of 1200 additional people to be housed in the Shire for approximately 4 years of 'peak' construction.

All projections are undertaken to allow for future planning and are subject to change. Overall, the changes to the number, type and timing of projects have not significantly altered NSC's population projected to 2032 and beyond.

For the purpose of planning, Council have nominated a growth in the Narromine population to be 450 people with an expected further surge of at least 1000 people during construction. The impact of those housed during the construction phase of the projects on town services in Narromine will vary.

Inland Rail have recently advised that they are considering two potential sites within the town boundaries of Narromine for a worker accommodation centre. This will require the provision of water and sewage services for up to 500 rooms. It is their current projection that the centre will be in place for between 2 to 3 years. It is also anticipated that a number of people working on the construction of the Renewable Energy Zone (REZ) project will be looking to reside in Narromine. This along with the projected increase in housing costs in Dubbo are expected to further increase growth within the Narromine LGA.

For this strategic planning, the following growth was considered for the service areas over the 30-year planning horizon:

- 543 people in Narromine
- Two lots per year in Trangie
- No growth in Tomingley

The spatial distribution of the future growth potential in Narromine is presented in Figure 5-2.

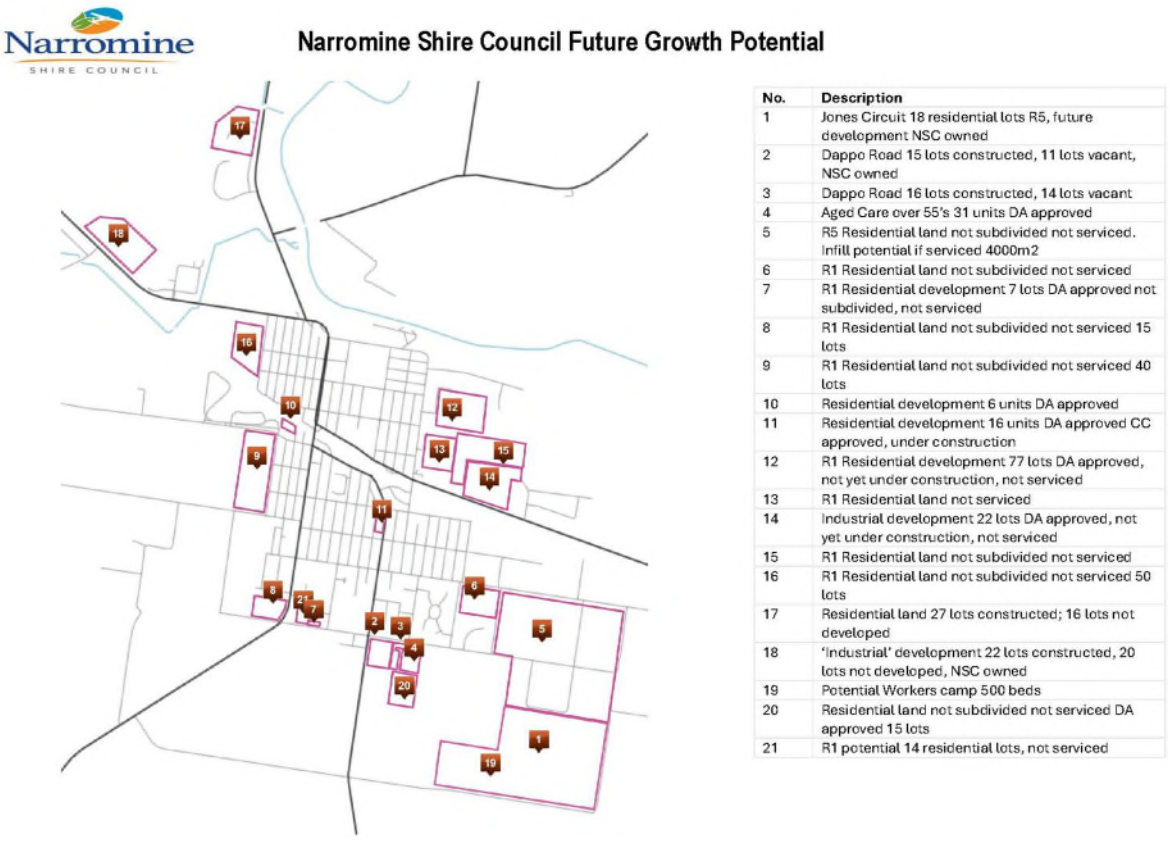

Figure 5-2: Spatial distribution of future growth in Narromine

The forecast serviced population for the water supply and sewer serviced areas are presented in Table 5-1 and Table 5-2.

Table 5-1: Projected water supply service area population

	2022	2027	2032	2037	2042	2047	2052
Projected water supply serviced population							
Narromine	3,214	3,482	3,698	3,749	3,757	3,757	3,757
Trangie	788	801	823	841	841	841	841

Table 5-2: Projected sewer service area population

Projected sewer serviced population							
Narromine	3,051	3,401	3,651	3,901	3,956	3,956	3,956
Trangie	710	723	745	762	762	762	762

6. Narromine raw water supply

The Narromine Raw water supply scheme provided raw untreated surface water to Narromine for the irrigation of public open spaces, with the system being confined to the northern side of Narromine. The system has been temporarily abandoned due to the pumping and access infrastructure requiring replacement for which funding is not currently available. The raw water system served three major sporting ovals (Payten, Dundas and Rotary Parks) and also a roofed elevated concrete tower reservoir which supplied a raw water standpipe filling station. Raw water is sourced from the Macquarie River and is supplied via the redundant town water treatment plant's river pump station. A flow schematic of the water supply scheme is shown in Figure 6-1.

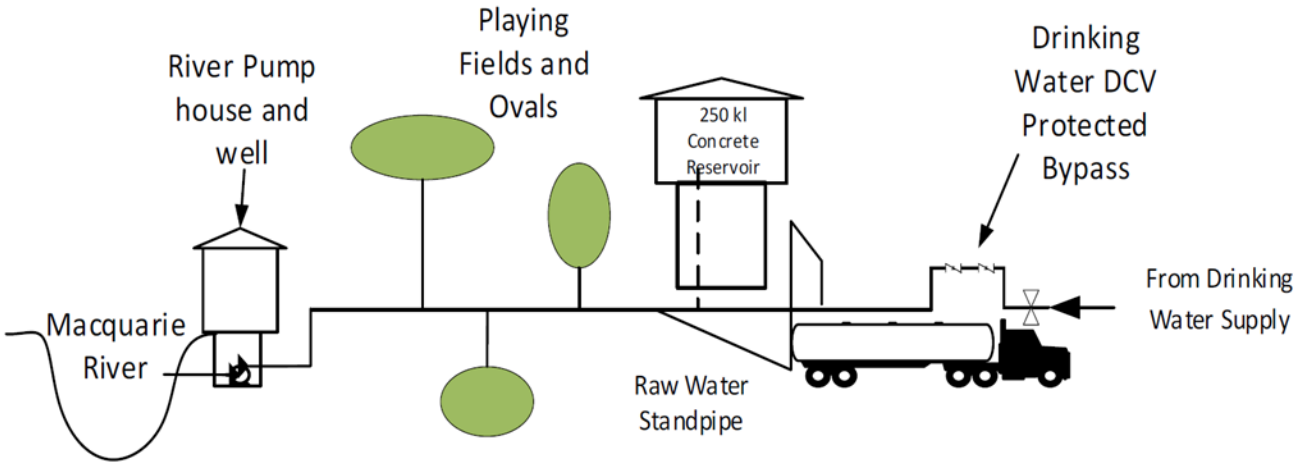

Figure 6-1: Schematic diagram of Narromine raw water supply system

Council possesses a water access license (WAL) for this scheme. Details of this license are provided in Table 6-1.

Table 6-1: Water cess license for raw water supply scheme

WAL license number	WAL10594
Category [Subcategory]	General security
Entitlement	**220 ML/year**
Water Source	Lower Macquarie Zone 1 Groundwater Source
Water Sharing Plan (WSP)	Macquarie and Cudgegong Regulated Rivers Water Source.

The following are to be noted regarding the raw water scheme:

- The system did not function during the last drought due to the license allocation being reduced to 'zero'
- The river pumping station is out of service due to major WHS issues and requiring significant upgrades.
- The scheme's infrastructure (pumping, storage and mains) components are in very poor condition and will require significant investment before being able to be safely used again.

Council has also advised that there is no customer meter data nor production data available for the Narromine Raw WSS, as the raw water consumption is not recorded. Therefore, water demand analysis for this scheme could not be performed.

7. Narromine potable water supply scheme

The Narromine Potable Water Supply Scheme (WSS) provides potable water to the town of Narromine. The water is sourced from five groundwater bores. Figure 7-1 shows the schematic diagram of the Narromine Potable WSS.

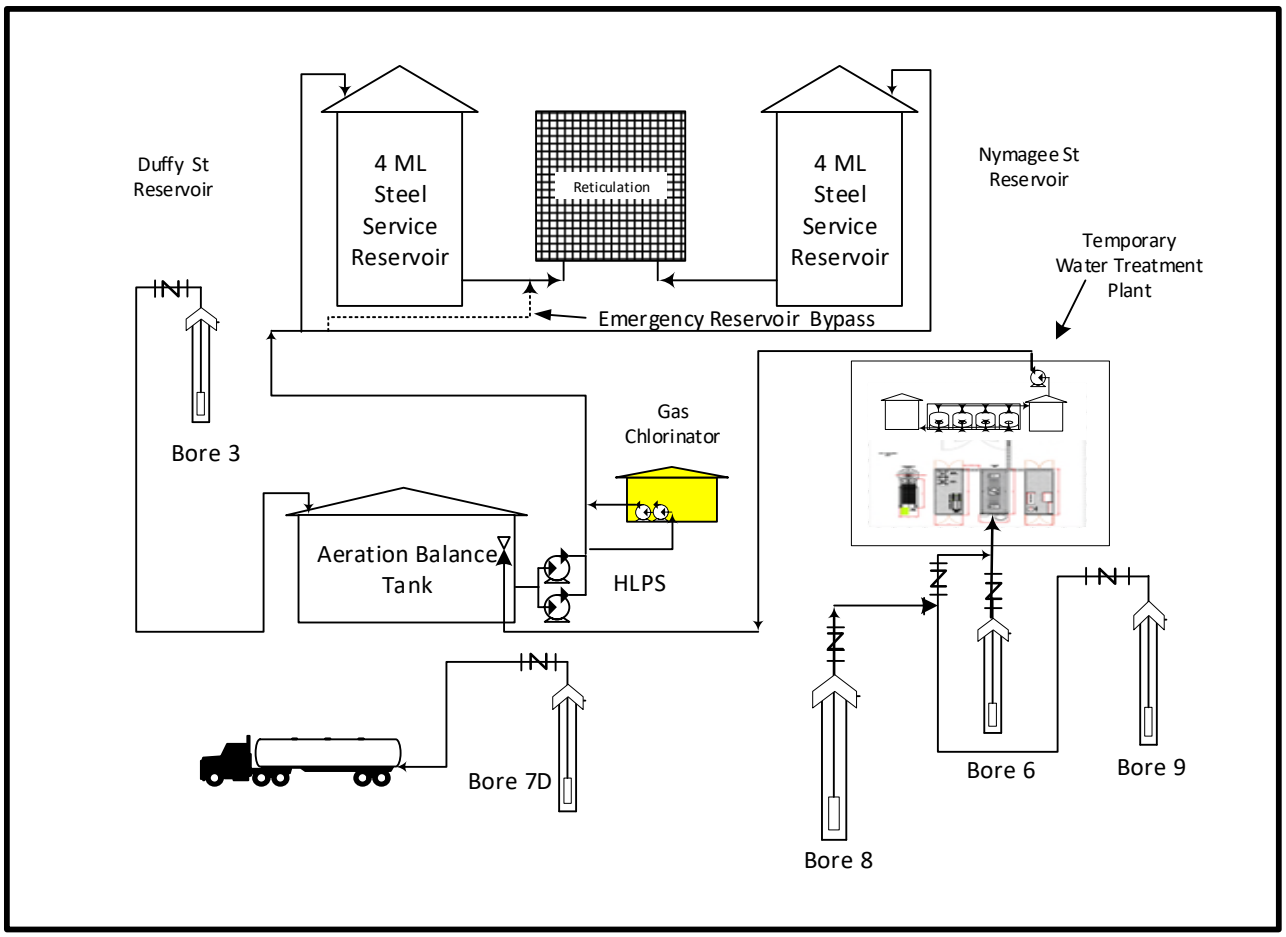

Figure 7-1: Schematic diagram – Narromine potable water supply

7.1 Water source

The drinking water supply draws raw water from five active ground water bores in the upper and lower Pleistocene Quaternary and Tertiary Aquifers connected to the Macquarie River between the City of Dubbo and Narromine. The main sources of water are the five bores (3, 6 ,7, 8 and 9) located South of the Narromine township on the McGrane Way. One of the five bores No3, pumps directly into the aeration tank. The remaining Bores 6,7, 8 and 9 have water quality that does not meet ADWG with iron and manganese levels above ADWG aesthetic limits. A temporary Section 60 approved WTP was built in 2020 to treat Bores 6, 8 and 9 to meet the ADWG and NSW Health regulation limits.

The bores currently active for town water supply are listed in Table 7-1. The locations of the listed bores are also provided in Figure 7-2.

Table 7-1: Narromine water supply – bore details

Bore ID (GW number)	Make - Serial	Install year	Flow rate (L/s)	Head (m)	Flow rate according to 2022 hydrogeological report (L/s)
3 (GW021185)	FPS 140SF	2018	21	N/A	21.0
6 (GW042924)	Aquawest - FPS-140FS8-4E	2016	36.0	55.0	-36
7 (GW273272)	Grundfos SP30-6	2013	-17	-	17.0
8D (GW030746) t	Aquawest - FPS-140FS8-3B/L/N	2020	36.0	56.0	36.0
9 (GW062210)	Aquawest - FPS-110-FS-5I	2015	31.8	70.0	36

Figure 7-2: Narromine water supply – bore locations

7.2 Raw water quality

The raw water quality results from the bores as documented in the 2019 PWA Narromine Scoping Study are summarised below:

Bores 6, 7,8 and 9

During the testing period, the raw water quality of the existing bores generally complied with the health-based limits of the Australian Drinking Water Guidelines (ADWG), with a few exceedances in hardness, turbidity and corrosiveness.

- Turbidity – Bores 6 and 7 have shown regular turbidity levels above 10 NTU and levels as high as 40 NTU after aeration. For effective disinfection, the turbidity in the water should be below 1 NTU.
- Colour – Colour levels were much higher than the generally acceptable value of 15 HU which were seen in some of the bore samples after aeration.

- Iron – Bores 6 and 7 had an iron concentration in the order of 1.5 and 2.5 mg/L respectively, which exceeds the Australian Drinking Water Guidelines (ADWG) taste/aesthetic threshold of 0.3 mg/L. Bore 9 had acceptable levels of iron concentration for most of the time except for a few occasions where the value is in the order of 0.4 mg/L.
- Manganese – all three new bores showed high manganese concentrations. Bore 7 had the highest concentration mostly ranging between 0.7 mg/L and 2.0 mg/L. Bore 9 had the lowest concentration with some samples having higher manganese levels of around 0.5 mg/L. These three bores all exceeded the ADWG taste/aesthetic threshold of 0.1 mg/L.
- Hardness – all three new bores showed high hardness levels ranging between 200 and 350 mg/L as CaCO3.
- Corrosiveness – the water from all three new bores showed severe corrosive nature with CCPP (calcium carbonate precipitation potential) values in the order of -35 mg/L compared to a preferred value being closer to zero.

It is important to note that the characteristics of the Narromine Raw Water Supply have altered in the five years since the completion of the Scoping Study. These are currently being reassessed and redocumented as part of The Concept Design Report for a Permanent Water Treatment Plant.

7.3 Current water treatment

Treatment occurs in two stages, Bores 8 and 9 are initially treated at the Temporary Iron & Manganese Removal Plant (which will be referred as the "Temporary WTP") located at bores 6. Treated water is transferred to the Aeration Balance Tank and chlorination facilities for disinfection. Extraction from Bore 3 is also pumped to and blended at the Aeration Balance Tank and chlorinated before distribution. The Narromine Temporary WTP can provide up to 2.5 ML/day of treated drinking water. Bore 3 can supply up to 1 ML/day The Temporary WTP process is shown in Figure 7-3.

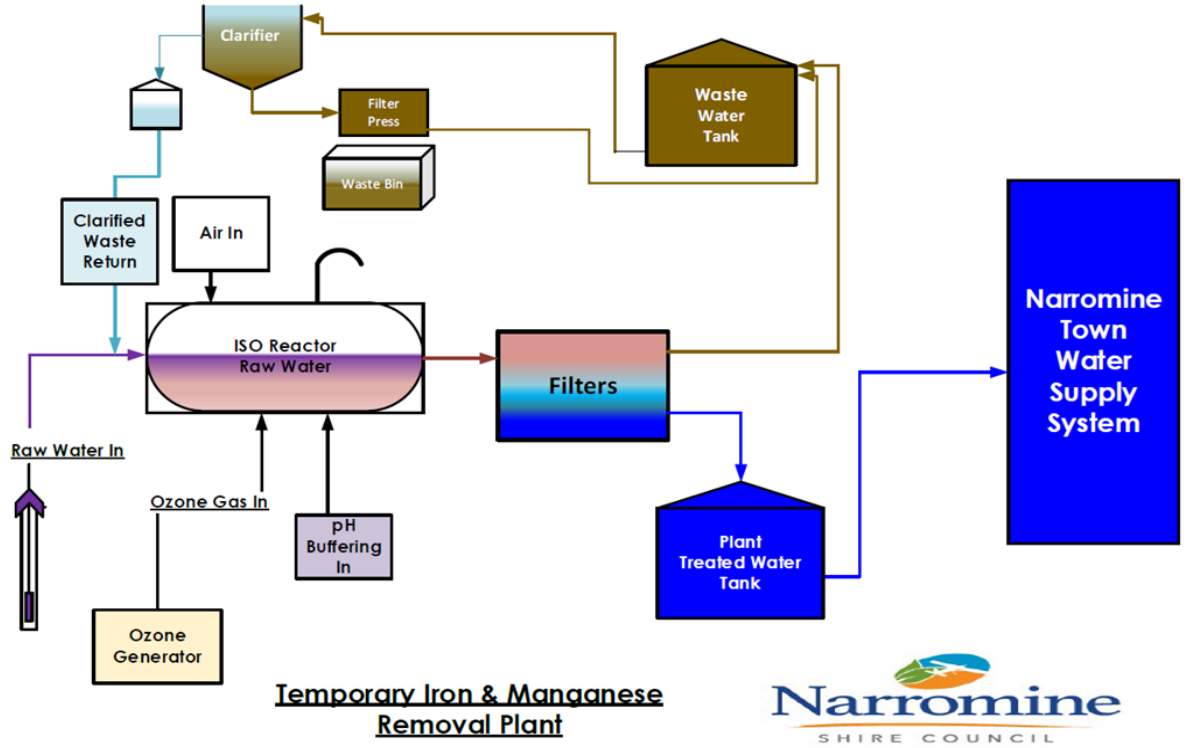

Figure 7-3: Narromine water supply scheme – temporary treatment plant

7.4 Treated water quality

The treated water quality meets the Australian Drinking Water Guidelines, and no Critical Control Point exceedances have been reported.

7.5 Distribution system

Following treatment, potable water is pumped by duty/standby high lift pumps and disinfected with gaseous chlorine. Treated water is stored in two separate 4.0 ML steel reservoirs, one on Nymagee Street and the other on Duffy Street. Reservoirs in the distribution system are interconnected via the rising main, with flows to Duffy Street reservoir restricted to manage the flow to both reservoirs. Reticulation booster systems were constructed in 2023 and 2024, to maintain head in the mains at the same level as a full Reservoir. The distribution system is shown in Figure 7-4.

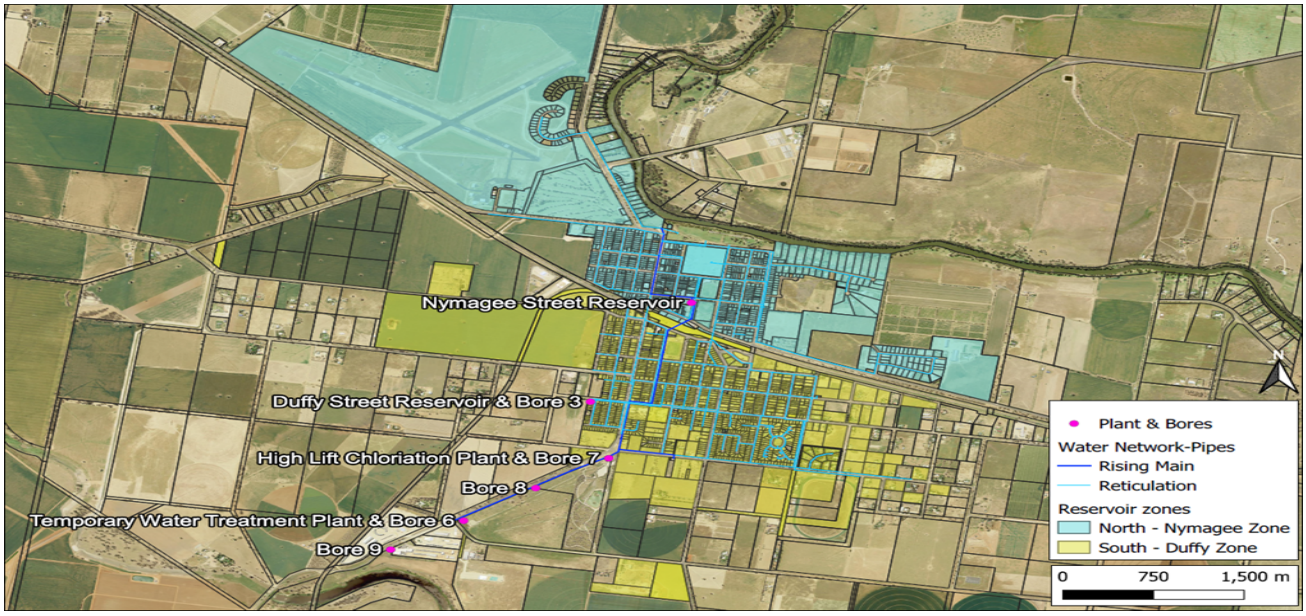

Figure 7-4: Narromine water supply – distribution system

Properties north of the rail line are serviced by the Nymagee Street reservoir, and properties south of the rail line are serviced by the Duffy Street reservoir. The 'Nymagee Reservoir Zone' is referred to as 'North reservoir zone', and the 'Duffy Reservoir Zone' is referred to as 'South reservoir zone'.

7.6 Non-revenue and unaccounted for water

The historical water production data and water usage data (from customer billing data and standpipe usage data) was used to undertake a water balance for the Narromine Potable WSS. The water balance used is the standard developed by the International Water Association (IWA) Water Loss Task Force. The average water balance for 2018/2019 and 2019/2020 is shown graphically in **Error! Reference source not found.**.

The infrastructure leakage index (ILI) is an indicator of how effectively real losses in the distribution system are being managed at the current operating pressures. It is the preferred indicator for state and national comparisons and has been adopted by the International Water Association as the preferred indicator for international comparisons (National Water Commission, 2014) (LIBRARY, n.d.). The best performing LWUs in Australia have an ILI less than 1.5.

From 2021 through to 2024 NSC has staged the introduction of a smart water meter and a water loss management program. The 2024-2025 water balance returned an Infrastructure Leakage Index (ILI) of 1.1 for the year and is shown in Figure 7-6.

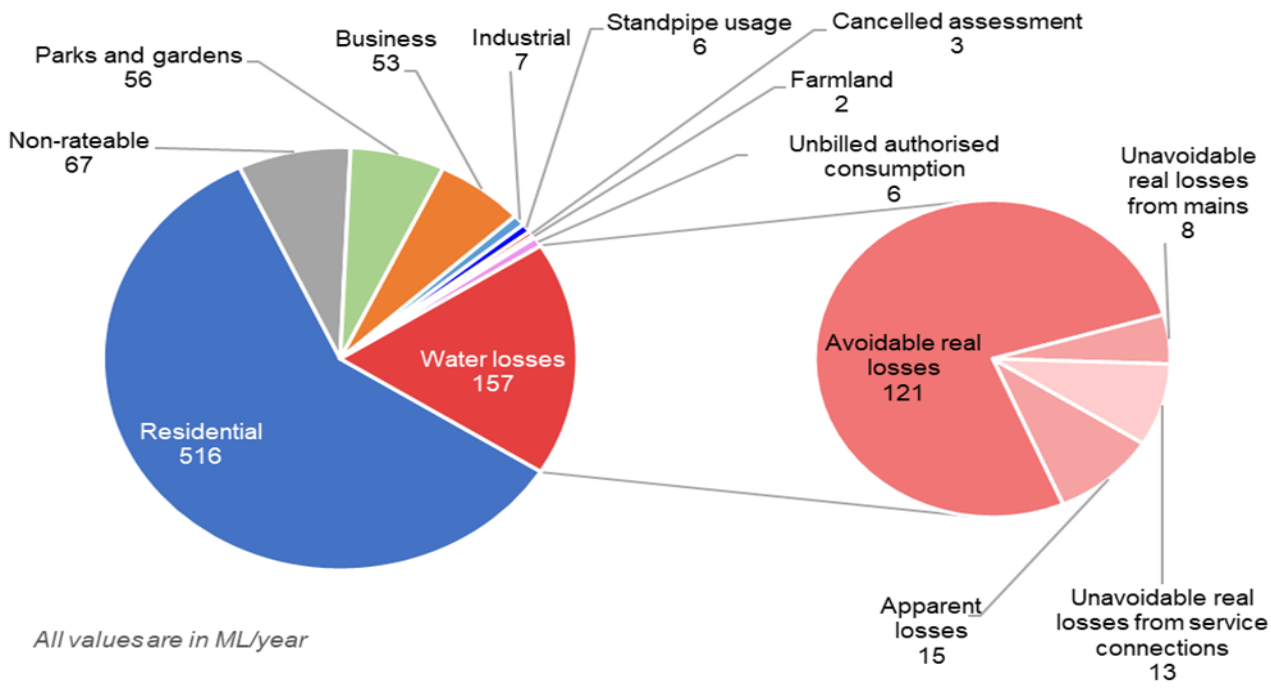

Figure 7-5: Narromine potable water supply - water balance – Prior to Water Loss Management Project

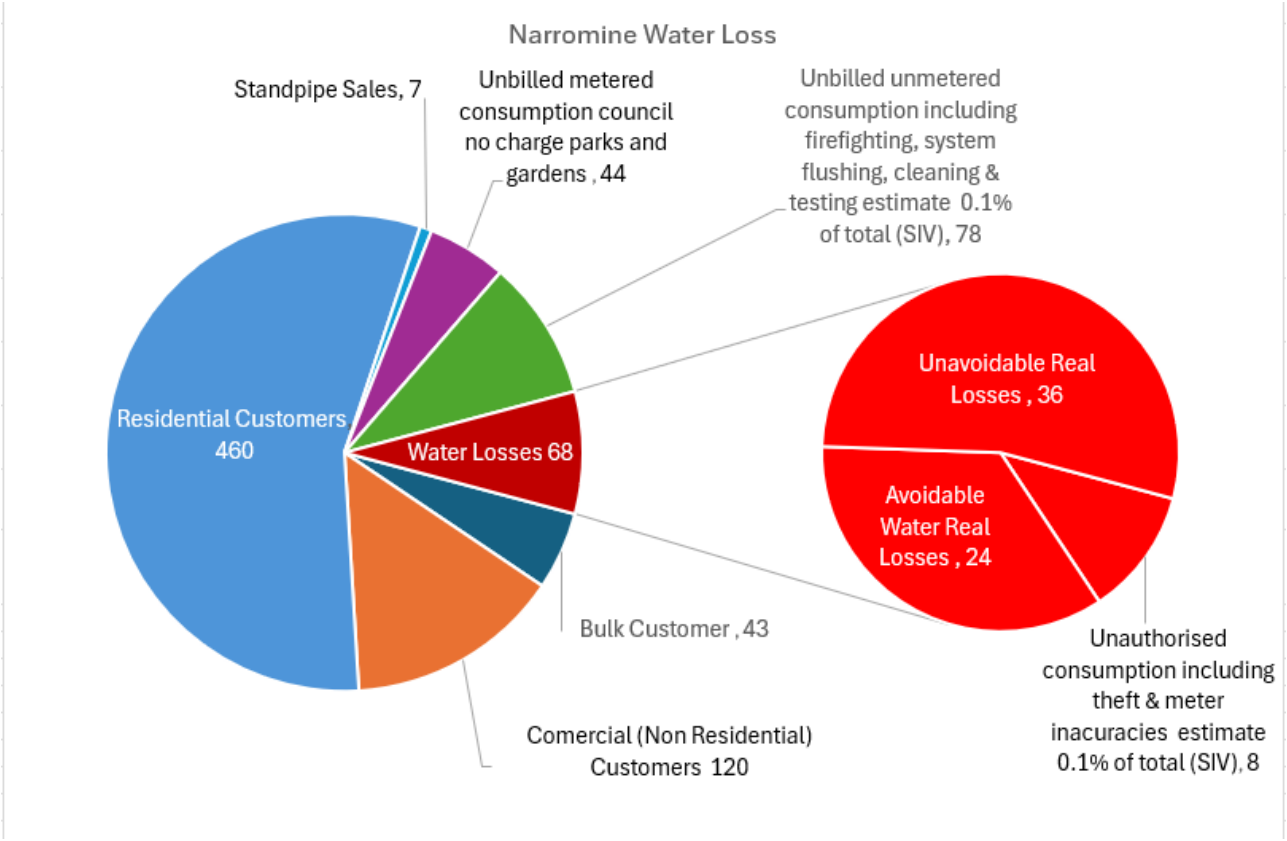

Figure 7-6: Narromine potable water supply - water balance 2024-2025 During the Water Loss Management Project

7.7 Water projections

Projections of the average year demand are used for revenue planning, unrestricted dry year demand for sizing of headworks, and peak day production for sizing of water treatment works, reservoirs and pumping facilities. These projections are provided in Table 7-2, Table 7-3 and Table 7-4.

Table 7-2: Narromine water supply scheme – Average year demand projections ML/year

	2022	2027	2032	2037	2042	2047	2052
North reservoir zone (Nymagee Street Reservoir)							
Residential	158	180	215	222	222	222	222
Non-residential	142	155	157	158	160	160	160
Subtotal	**301**	**335**	**371**	**380**	**382**	**382**	**382**
South reservoir zone (Duffy Street Reservoir)							
Residential	298	327	335	370	379	379	379
Non-residential	64	64	64	64	64	64	64
Subtotal	**362**	**391**	**399**	**434**	**443**	**443**	**443**
Narromine Scheme							
Narromine Total Demand	**662**	**726**	**770**	**814**	**825**	**825**	**825**

Table 7-3: Narromine water supply scheme – Unrestricted dry year demand projections

	2022	2027	2032	2037	2042	2047	2052
Water extraction from borefield	1,014	1,119	1,191	1,263	1,280	1,280	1,280

Table 7-4: Narromine water supply scheme – Peak day demand projections

	2022	2027	2032	2037	2042	2047	2052
North reservoir zone (Nymagee Street Reservoir)							
Residential	1.1	1.2	1.4	1.5	1.5	1.5	1.5
Non-residential	1.2	1.3	1.3	1.3	1.3	1.3	1.3
Subtotal	**2.2**	**2.5**	**2.7**	**2.8**	**2.8**	**2.8**	**2.8**
South reservoir zone (Duffy Street Reservoir)							
Residential	1.9	2.1	2.2	2.4	2.4	2.4	2.4
Non-residential	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Subtotal	**2.4**	**2.6**	**2.6**	**2.9**	**2.9**	**2.9**	**2.9**
Narromine Scheme							
Losses on peak day	1.4	1.6	1.7	1.8	1.8	1.8	1.8
Peak day production	**6.1**	**6.6**	**7.0**	**7.4**	**7.5**	**7.5**	**7.5**

7.8 Water security assessment

The water security assessment for a water supply scheme considers the following:

- That Council's Water Access Licence (WAL) entitlement is sufficient to supply the 30-year forecast unrestricted annual demand
- That the secure yield of groundwater is sufficient to supply the 30-year forecast unrestricted annual demand and provide drought resilience

Entitlement

Council holds a Local Water Utility Water Access Licenses (WAL11603), issued under the Water Management Act 2000, which relates to the water supply to Narromine. The following applies to the WAL. Counil's WAL entitlement is sufficient to supply the 30-year forecast water requirements for the town of Narromine.

Table 7-5: Narromine water supply scheme – Water Access License

WAL 11603	
Category [Subcategory]	Local Water Utility
Entitlement	**2,000 ML/year**
Water Source	Lower Macquarie Zone 1 Groundwater Source
Water Sharing Plan (WSP)	Macquarie-Castlereagh Groundwater Sources 2020

Yield

A groundwater investigation, which included modelling, was undertaken to assess the potential to increase extraction from the aquifer to meet the forecast water requirements. The modelling results show that the Narromine bore field can meet average water demand until 2052 but may fall short of the 1,250 ML /year demand after 2033. The hydrogeological study revealed that there is still major uncertainty beyond 2033. However, there is little opportunity to construct new bores near the town.

Water security options assessment

The following options were identified and assessed to improve the security of the Narromine water supply.

1. Continue to use groundwater bores and identify sites for additional bore to meet demand.
2. Utilise the existing bores and supplement with water from Macquarie River. A raw water pump station would need to be constructed on the site of the disused river pump station utilising the wet well with new pumps, intake, and building. Construction of a new pipeline connecting the river pump station to the existing water treatment plant. There are three possible options for the pipeline route.
3. Supply treated drinking water from Dubbo Regional Council to Nymagee Street Reservoir. There are two possible options for the pipeline route.

A triple bottom line assessment identified Option 2 as the preferred option with Option 1 as the second ranked option. Council decided to take Options 1 and 2 forward for the scenario analysis.

Council's preferred option is to continue the use of groundwater bores and add River supply to preserve groundwater resources for when needed by obtaining a surface water license to extract from the Macquarie River and construct a pipeline to the water treatment plant.

7.9 Water quality assessment

Issue

There is a very high inherent source water pathogen risk due to disused uncapped bores in close proximity, failed stock and domestic bores, along with nearby agricultural and landfill activities. There is also a very high residual risk of chlorine-resistant pathogens as there are no effective treatment barriers for chorine resistant pathogens at the treatment plant.

Water treatment options assessment

The following options were assessed to improve Narromine's potable water quality and address the high risk of chlorine resistant pathogens.

1. Conventional treatment with sedimentation lagoons
2. Conventional treatment with sedimentation tank and sludge lagoons
3. Conventional treatment with sedimentation tank and mechanical sludge dewatering
4. Upgrade or replace the existing temporary plant at the same site.

A triple bottom line assessment identified Option 4 as the preferred option with Option 3 as the second ranked option. Council decided to take Options 3 and 4 forward for the scenario analysis.

7.10 System capacity assessment

Issues

The infrastructure leakage index (ILI) for the Narromine Potable WSS was 6.7, indicating a high water loss. Actions taken since 2021 have seen the index fall from this high to a level of 1.1.

The Narromine system capacity needs augmentation to maintain the supply pressure of 20 metres. The system is especially vulnerable if there is a failure of the booster pumps.

System performance improvement

The following actions are being continued to improve system performance and reduce losses

- Continue to implement the current community education program on water saving measures.
- Continue to implement the water loss management plan as designed.
- Consider limited time rebates for replacement of water fittings and appliances (including evaporative coolers)

Water treatment plant sizing

A hydraulic analysis was undertaken in 2025 to assess the system capacity and 'right size' the new water treatment plant. Results of the analysis are summarised below:

- WTP production of 92 L/s can achieve the pressure requirements with and without booster pumping, with no additional buffer storage required. The reservoir levels recover well at the end of the peak period. This production rate also allows for a 2-hour downtime during the peak period. Accordingly, the daily throughput of the plant is 7.3ML. However, for this constant production rate, a balancing storage of 712kL is required for a minimum plant run time of 3 hours during off-peak demand periods.

- WTP production of 88 L/s can achieve the pressure requirements with booster pumping. The reservoir levels recover well at the end of the peak period. However, at this production rate the plant would be running continuously for 2 days during the peak period. Accordingly, the daily throughput of the plant is 7.6ML. For this constant production rate, a balancing storage of 670kL is required for a minimum plant run time of 3 hours during off-peak demand periods.
- WTP production of 85 L/s can achieve the pressure requirements with booster pumping. The reservoir levels recover well at the end of the peak period. However, at this production rate the plant would be running continuously for 4 days during the peak period. To provide a downtime of 2-hours per day, a buffer storage of 800kL would be required. This could also double up as a balancing storage for a minimum plant run time of 3 hours during the off-peak demand periods. Accordingly, the daily throughput of the plant, with the buffer storage, is 6.7ML.

System resilience assessment

A resilience assessment was undertaken to assess whether continuity of supply can be maintained during a 6-hour interruption. The assessment was done for supply of Average Day and Peak Day Demands. The results are presented in Table 7-6.

Table 7-6: Resilience assessment – continuity of supply during interruption

No.	Reservoir capacity	Demand scenario	Drawdown to (%)	Supply pressure (m)
1	Current 8 ML with booster	2052 PDD	47 to 51 %	20 to 30
2	Current 8 ML without booster	2052 PDD	64 to 65 %	13 to 29
3	Current 8 ML without booster	2052 ADD	88 to100 %	20 to 30
4	Current 8 + 2 = 10 ML w/o booster	2052 PDD	69 to 76 %	15 to 29
5	Current 8 + 4 = 12 ML w/o booster	2052 PDD	73 to 77 %	16 to 29
6	Current 8 + 8 = 16ML w/o booster	2052 PDD	78 to 80 %	17 to 29

During a supply interruption of 6 hours, to maintain the minimum service level pressure of 18m without booster pumping while supplying the peak day demand, an additional 8ML reservoir capacity would be required. If the booster pumps could continue operating using back-up power, then the current storages could be drawn down to 50% and this would be sufficient to maintain supply for 6 hours with no additional storage.

Additional storage required to provide system resilience can be added to the clear water tank storage.

Clear water tank sizing

The clear water tank sizing for each of the assessed WTP production rates is provided in Table 7-7. The control volume is not included as this is dependent on the type of pump selected. This can be assessed and included in the Concept/Detail Design phase.

Table 7-7: Narromine WTP clear water tank sizing

Clea Water Tank function	**WTP production**		
	92L/s (with and without boost)	**88L/s (with boost)**	**85L/s (with boost)**
Chlorine contact (30 minutes)	166 kL	158 kL	153 kL
Balancing storage for 3-hour plant run time	712 kL	670 kL	800 kL

Clea Water Tank function	WTP production		
	92L/s (with and without boost)	88L/s (with boost)	85L/s (with boost)
Buffer storage	Nil	Nil	
Provide system resilience (with no booster pumps)	4,000	4,000	4,000
Total clear water tank volume	**4,880 kL**	**4,830 kL**	**4,953 kL**

The 30-minute chlorine contact tank volume excludes the baffling factor which depends on the tank design. A simple baffling factor of 0.7 which includes an inlet and out baffle will require a 30% increase in contact tank volume.

The final assessment of this study confirms that the recommended sizing of the Water Treatment Plant of 7.5ML/day with a Clear Water Tank of 5ML is the correct sizing option for optimal operations.

8. Trangie water supply scheme

The Trangie WSS provides potable water to the town of Trangie. The water is sourced from three groundwater bores. Bore 4 is no longer used. This is due to Natural Resources Access Regulator (NRAR) compliance issues and the fact that it has such a poor yield by comparison to the other three bores rendering it uneconomical to operate. A schematic diagram of the scheme is shown in Figure 8-1.

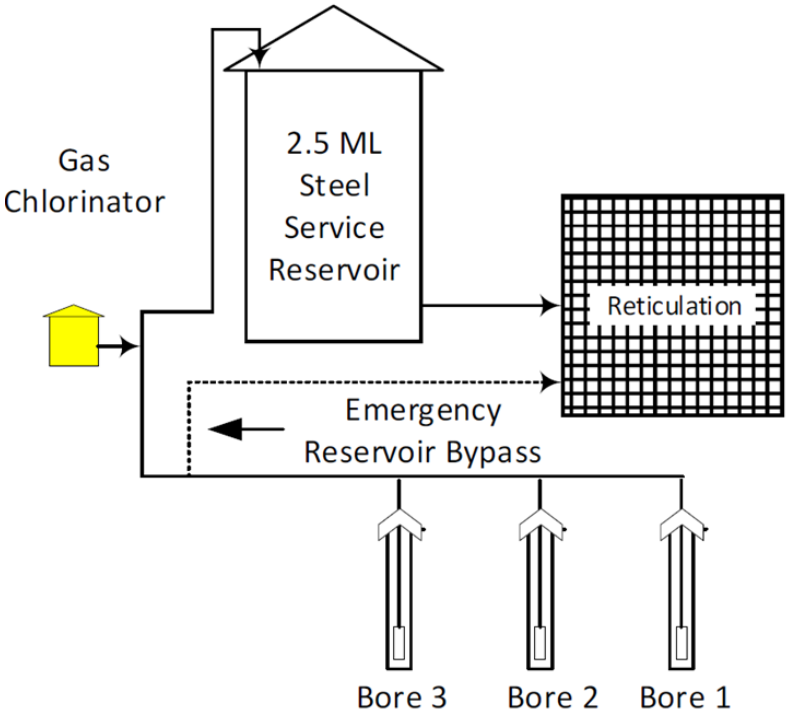

Figure 8-1: Trangie WSS – schematic diagram

8.1 Water source

The Trangie WSS draws its raw water from bores located within the Lower Macquarie Zone 3 Aquifer system. The locations of the three active and 1 inactive bore are provided in Figure 8-2.

Figure 8-2: Trangie water supply – bore locations

8.2 Water treatment

Water from the bore field is chlorinated prior to being stored in a 2.5ML storage reservoir no other means of filtration treatment or correction of aesthetic issues (high sodium content) can be carried out as the system has no other treatment units beyond disinfection available.

8.3 Distribution system

From the storage reservoir water is gravity fed to the customers in Trangie. The Trangie distribution system consists of a single district metering area and is shown in Figure 8-3.

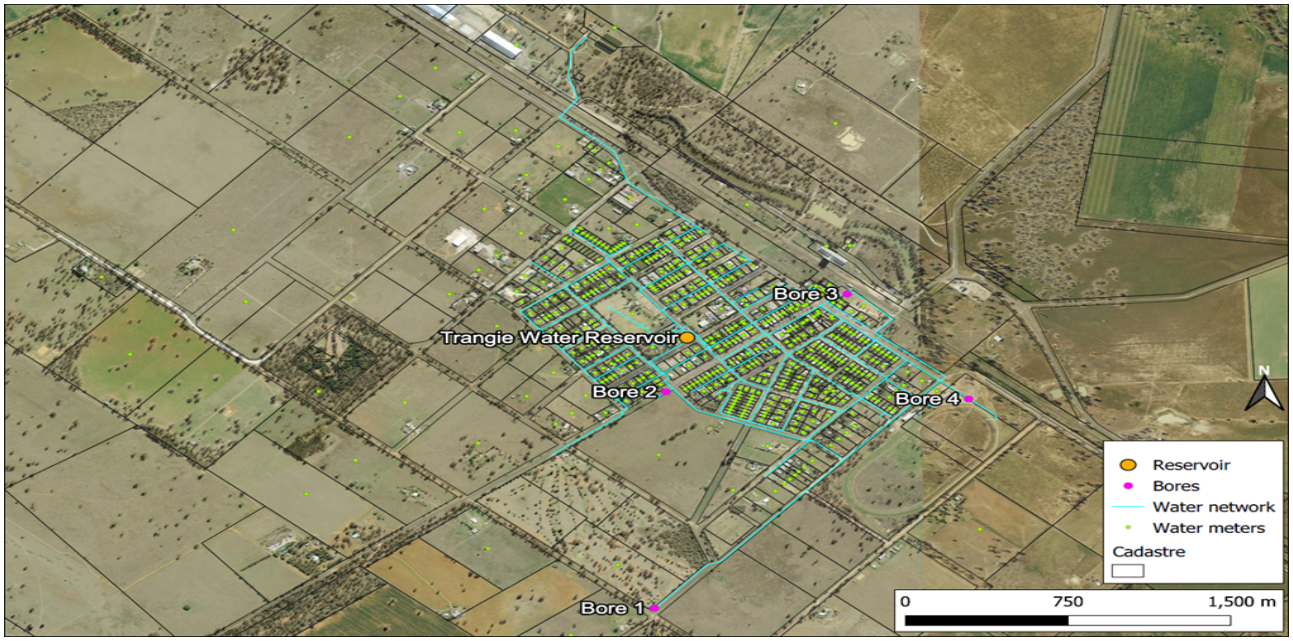

Figure 8-3: Trangie water supply – distribution system

The historical raw water volume extracted from the bore field is measured in accordance with NRAR requirements and is accounted for to water NSW via its own telemetry network. The treated water volume and metered customer usage returned an average water balance for 2018/2019 and 2019/2020 as shown above graphically in figure 8-4.

This water balance broadly highlights the amount of authorised consumption from which revenue is generated and quantifies the non-revenue water (NRW).

8.4 Non-revenue and unaccounted for water

The Trangie water supply scheme had an ILI (current annual real losses / unavoidable real losses) of 12.6 (Figure 8-4) which placed it in the highest leakage category, which indicated there was significant potential for Council to reduce leakage. Historical average unit water loss (both apparent and real) was estimated at 24% and around 455 L/connection/day, which was significantly higher than the state median of 92 L/connection/day.

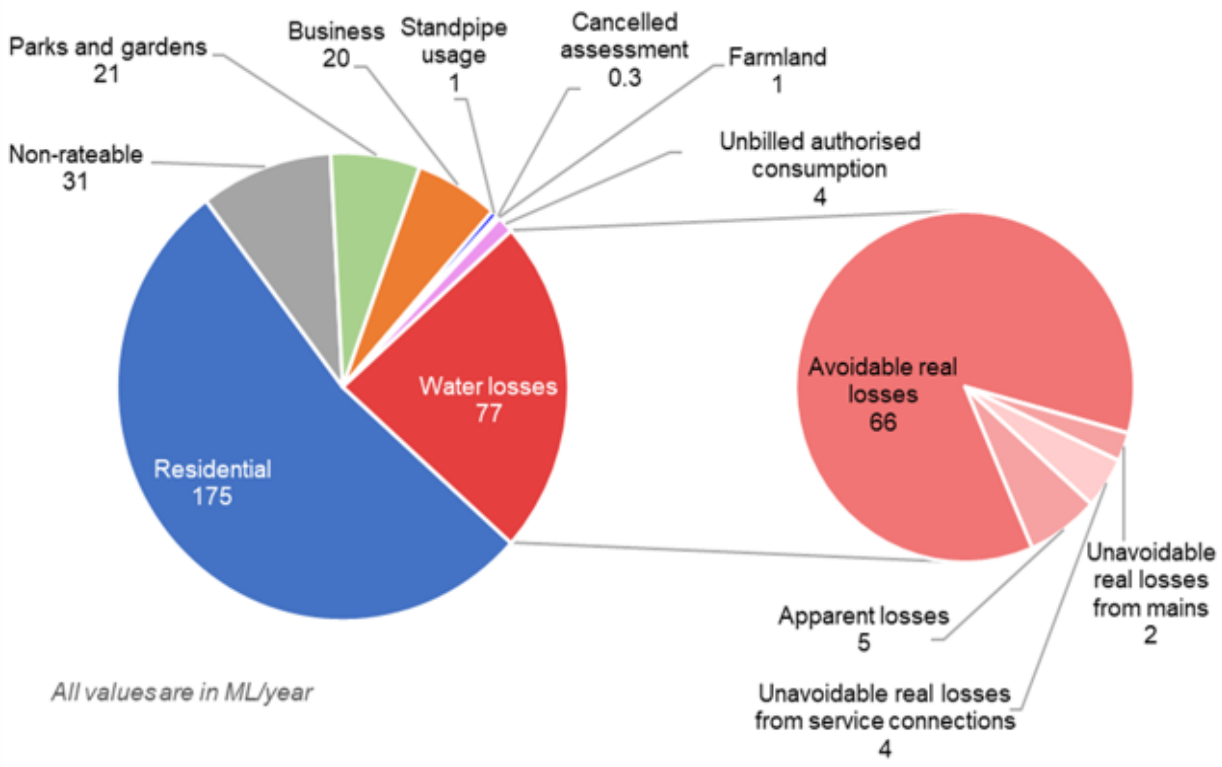

Figure 8-4: Trangie water supply scheme – water balance 2018 -2020

Council has implemented the same strategy for system performance improvement as that carried out on the Narromine water supply scheme. Starting from 2021 through to 2024 NSC staged the introduction of a smart water meters roll out for Trangie consumers and instituted a water loss management program. This was to deal with the high levels of water losses discussed above. The program has been successful in delivering a significant reduction to the leakage rates as shown below in Figure 8-5.

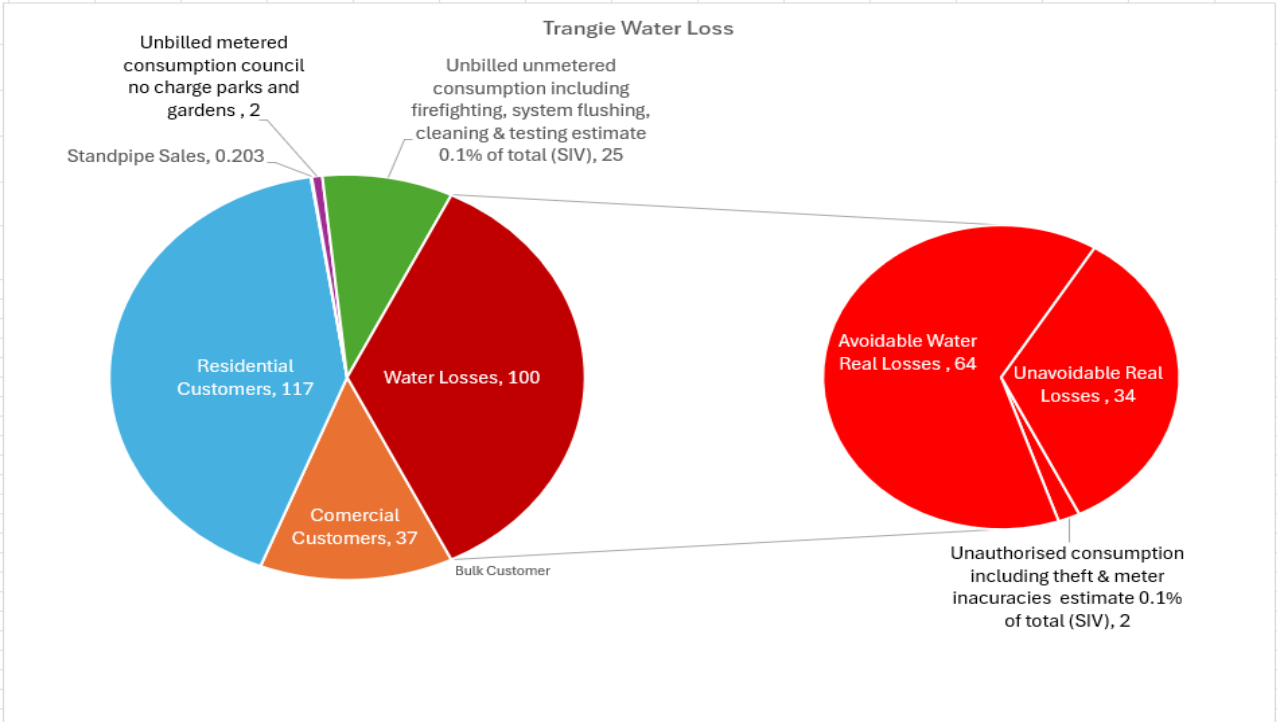

Figure 8-5: Trangie water supply scheme – water balance 2024-2025

8.5 Water projections

Projections for average year, unrestricted dry year and peak day demands are provided in Table 8-1, Table 8-2 and Table 8-3.

Table 8-1: Trangie water supply scheme – Average year demand projections

	2022	2027	2032	2037	2042	2047	2052
Residential	150	152	156	160	160	160	160
Non-residential	64	64	64	64	64	64	64
Total Demand	**214**	**216**	**220**	**224**	**224**	**224**	**224**

Table 8-2: Trangie water supply scheme – Unrestricted dry year demand projections

	2022	2027	2032	2037	2042	2047	2052
Water extraction from borefield	352	354	360	364	364	364	364

Table 8-3: Trangie water supply scheme – Peak day demand projections

	2022	2027	2032	2037	2042	2047	2052
Residential	1.4	1.5	1.5	1.5	1.5	1.5	1.5
Non-residential	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Losses on peak day	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Peak day production	**2.4**	**2.4**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**

8.6 Water security assessment

Entitlement

Council's Local Water Utility Water Access Licenses (WAL), issued under the Water Management Act 2000 for Trangie is provided in Table 8-4. The 1 in 100-year unrestricted future extraction for Trangie water supply is expected to exceed Council's entitlement. A reduction in system leakage could keep the unrestricted dry year consumption below the WAL entitlement. If the extraction is still forecast to exceed the WAL Council could apply for an increase in WAL to cater for population growth.

Table 8-4: Trangie water supply scheme – Water Access License

WAL license number	WAL11645
Category [Subcategory]	Local Water Utility
Entitlement	350 ML/year
Water Source	Lower Macquarie Zone 3 Groundwater Source
Water Sharing Plan (WSP)	Macquarie-Castlereagh Groundwater Sources 2020

9. Tomingley water supply scheme

The Tomingley water supply scheme (WSS) supplies potable water to the town of Tomingley. The Tomingley WSS was a non-potable water supply until the commissioning of the new water treatment plant (WTP) in April 2022. Figure 9-1 shows the schematic diagram of the Tomingley WSS.

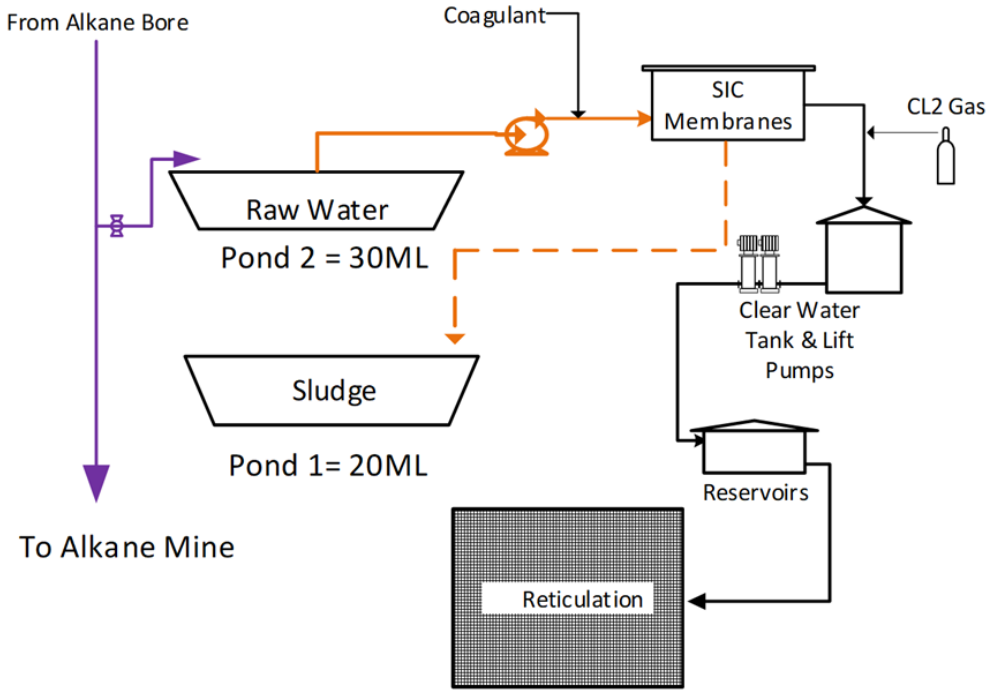

Figure 9-1: Tomingley water supply scheme – schematic diagram

9.1 Water source

Previously, raw water was sourced from off-channel storages in Gundong Creek when flowing. These off-channel storages have not been a reliable supply of water and documented as being contaminated with pesticides. In 2018 a pipeline that supplies water to a nearby mine (ALKANE Resources Mine site) at Tomingley was extended and connected to the two raw water ground storage ponds at the water treatment plant. This pipeline runs from a bore near Narromine to the mine near Tomingley. Council advised that the mine provides approximately 10 ML/year to the Tomingley WSS.

The current water supply agreement for Tomingley is contained in an existing voluntary planning agreement with Tomingley Gold Operations. Should this agreement cease an alternate water source needs to be found.

9.2 Water treatment

Raw water from Pond 2 is pumped and dosed with a coagulant to the silicon carbide (SIC) membranes for filtration. Filtered water is treated with UV and chlorinated with chlorine gas and stored in the clear water tank from where it is pumped to the town reservoir for distribution to the township. Backwash water from the SIC membranes is transferred to Pond 1 which has been re-purposed as a sludge lagoon.

9.3 Distribution system

Figure 9-2 shows an aerial view of the Tomingley village, and the location of customer meters.

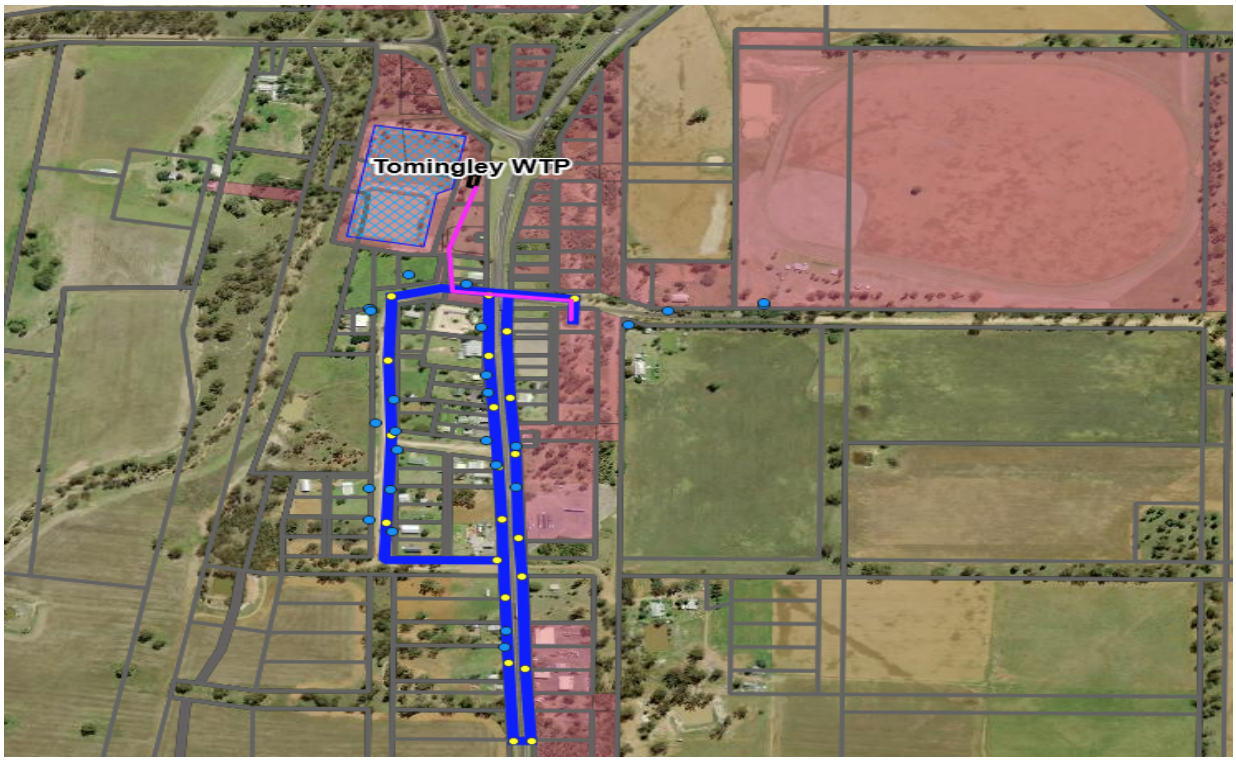

Figure 9-2: Tomingley water supply scheme – distribution system

9.4 Non-revenue and unaccounted for water

The volume of water supplied into the Tomingley WSS is now (since 2024-2025) fully metered and recorded smart water meters are now installed on every customer service. Magflow master meters are installed at the reservoir and water treatment plant these meters enable a full water balance to be performed. The 2024-2025 Tomingley water balance shows an ILI of 0.1 this is an outstanding result and is due to a new reticulation system and water services plus the installation of smart water meters.

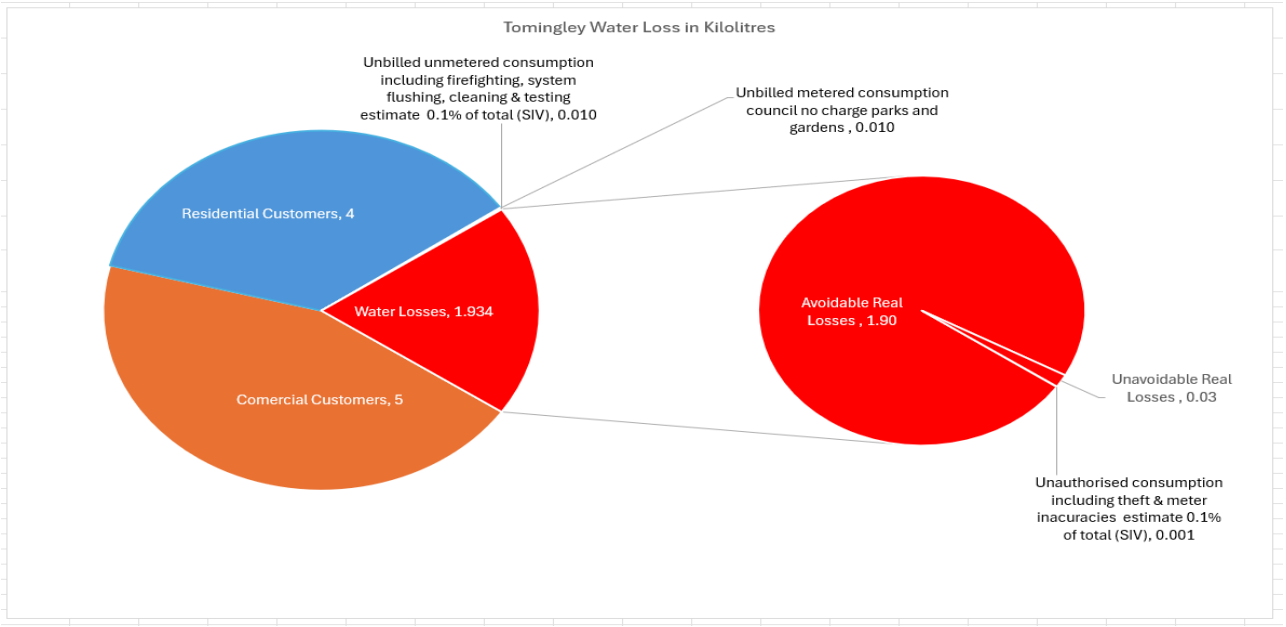

Figure 9-3: Tomingley Water Supply Scheme water balance 2024-2025

9.5 Water projections

No growth has been nominated for Tomingley hence the current demands, presented in Table 9-1, are expected to remain stable.

Table 9-1: Tomingley water supply scheme – Estimated customer demands

User class	Average Year Demand (ML/year)	Dry Year Demand (ML/year)	Average Day (kL/day)	Peak Day (kL/day)
Residential*	2.3	3.0	6.3	20.7
Business	4.18	4.09	11.2	13.7
Non-Rateable	0.06	0.09	0.2	0.3
Farmland	0.18	0.25	0.7	0.8
Total*	**6.7**	**7.4**	**18.4**	**35.5**

9.6 Water system issues

No issues were identified in the Tomingley water supply system

9.7 Water security assessment

Council holds a WAL entitlement of 22 ML/year for surface extraction from Gundong Creek which is as previously mentioned polluted with Atrazine above safe limits.Council has no water source of its own at or near Tomingley that is suitable for town water supply. Tomingley's water supply is dependent on the supply of 11ML/year via the Tomingley Gold Operations pipeline under the terms of their voluntary planning agreement with Council. The current usage is 10ML/year including plant backwash and operations. As no growth is anticipated in Tomingley it is anticipated that this volume will be sufficient for the next few years or until another source is found.

10. Narromine sewerage scheme

10.1 Scheme description

The Narromine Sewerage Scheme (SS) is a gravity sewage collection system that services a catchment made up of urban and some light industrial properties. This system is comprised of 31.8 km of gravity collection mains with 484 manholes, 11 pump stations and 12 km of pressure mains. Eight of the pump stations plus the collection from SPS 1 pump approximately 7 km to the Narromine Sewage Treatment Plant (STP).

The existing serviced area of the Narromine SS is shown in Figure 10-1, and the SPS pump hierarchy diagram is shown in Figure 10-2.

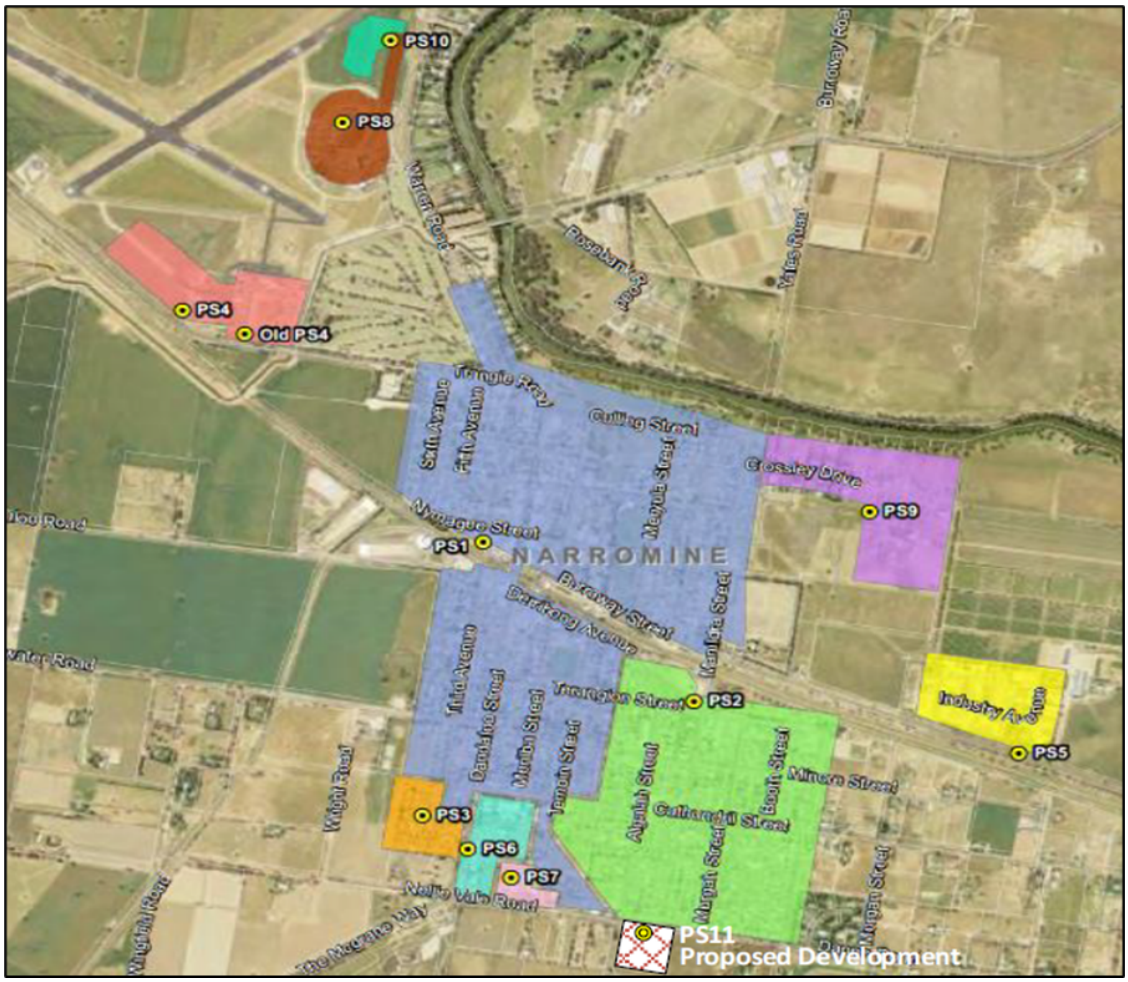

Figure 10-1: Narromine sewerage scheme

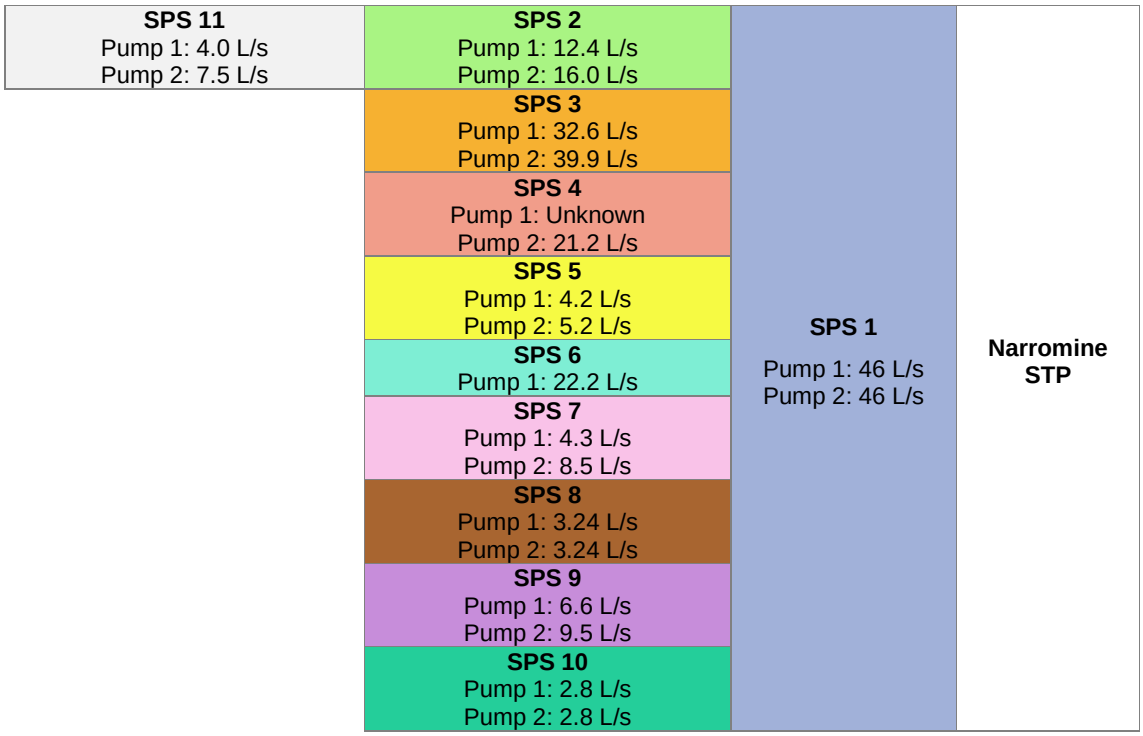

Figure 10-2: Narromine sewerage scheme – pumping hierarchy diagram

All SPSs are of the conventional wet well type and equipped with dual submersible sewage pumps for operation on 1 duty, 1 standby basis. If available, both pump capacities were provided above.

10.2 Hydraulic loadings

STP inflow is recorded at sewage pumping station 1, as there is no inflow meter at the STP. Daily data from September 2017 to June 2021, was provided. The historical sewage inflow to the Narromine STP is shown in Figure 10-3.

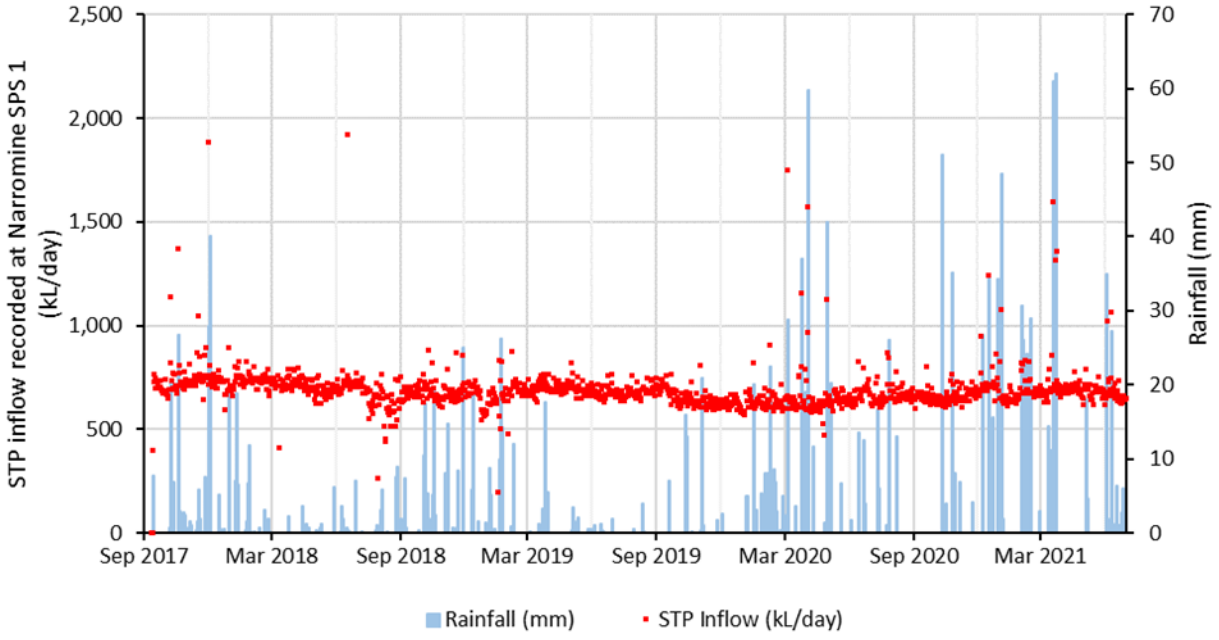

Figure 10-3: Historical daily inflows at Narromine STP

The average dry weather flow (ADWF) was assessed from STP inflows and from the water consumption data. The ADWF was assessed as being 670 kL/day with a hydraulic loading of about 165 L/EP/day.

10.3 Projections

Council nominated growth rates and total new connections within specific SPS catchments of Narromine sewerage scheme. The projected ADWF for each catchment and the scheme, s is summarised in Table 8 1.

Table 10-1: Projected ADWF for the Narromine sewerage scheme

SPS catchment	2022	2027	2032	2037	2042	2047	2052
SPS1	406	429	464	487	493	493	493
SPS2	191	191	191	202	202	202	202
SPS3	25	31	31	31	31	31	31
SPS4	3	15	15	15	15	15	15
SPS5	15	16	18	19	20	20	20
SPS6	8	8	8	8	8	8	8
SPS7	5	8	8	8	8	8	8
SPS8	10	10	10	10	10	10	10
SPS9	12	12	12	12	12	12	12
SPS10	5	11	11	11	11	11	11
SPS11	0	14	21	28	32	32	32
Total to Narromine STP	**681**	**744**	**788**	**831**	**842**	**842**	**842**

10.4 Assessment of collection and transfer system

The performance of the collection and transfer system was assessed using a hydraulic model for different Average Recurrence Interval (ARII rainfall events. Council selected the 1 in 10 year (10% annual exceedance probability), 1-hour event as the containment standard for the collection and transfer system. The analysis showed that for the selected containment standard, sewage pumping stations 1 and 2 would require a capacity upgrade for the current network and to service future growth.

Current upgrades

The major upgrade required is for the SPS 1 to prevent overflows from the pumping station.

- If the overflow level is correct, then either provide new pumps with pumping rate upgraded to 68 L/s and related switchboard upgrades OR increase the storage within the SPS 1 probably by converting the SPS to wet well pumping station.

Future upgrades

The major upgrade required is for the SPS 1 to remove overflows from the pumping station.

- If the overflow level is correct, then either provide new pumps in the SPS 1 with a pumping rate of 85 L/s with associated switchboard upgrades OR increase the storage within the SPS 1 probably by converting the redundant dry well in in the centre of the station to a wet well pumping station.
- Discharge sewage from new developments named ‘Existing Area 2” to manhole AI/4 of Catchment 1
- Discharge sewage from new developments named ‘Existing Area 1” to Line YA in Catchment 9

- Discharge sewage from new developments named “Future Area 3” to manhole AB/2 in Catchment 1 (with no upgrades required) OR to manhole AB/5a and upgrade the gravity line from AB/5a to AB/2 to a 225mm diameter main (after verifying the actual diameter of the line.)

Davis Drive Development

The lots in the Davis Drive, are serviced by onsite sewage management systems (OSSMS). There are 10 lots spread across approximately 5 ha and are within the zone of influence of the Narromine Bore field. If these OSSMS do not perform well there is a risk of contaminating the groundwater. Accordingly, options were assessed to transfer the sewage from these properties to the reticulation network of the Narromine sewerage scheme. Three options were considered:

1. Gravity discharge to the existing network
2. Pumping to a manhole in the network
3. Low pressure sewer system

Options 1 and 3 were taken forward to the Scenario development by Council and option 3 low pressure sewer system option has been selected as the solution. Planning for this development has commenced and will start with community consultation with the affected residents.

10.5 Sewage treatment plant

The Narromine STP uses an oxidation pond system to treat raw sewage. The treated effluent is discharged into the maturation pond and the effluent storage pond for further polishing the treated effluent quality prior to irrigation under the NSW Environment Protection Authority (EPA) Environment Protection Licence (EPL) 11715.

The treatment processes are comprised of the following main treatment units:

- One inlet pit,
- Two (2) oxidation ponds 1 and 2,
- One (1) maturation pond,
- One (1) effluent storage pond (160 ML),
- One (1) reticulation pump, and
- An effluent irrigation system consisting of a pump station drawing the effluent from the effluent storage pond to a 45 ha centre pivot irrigator.

An aerial image of the Narromine STP is shown in Figure 2-1.

Figure 10-4: Aerial view of Narromine STP

The design criteria for the Narromine STP are summarised below:

DESIGN CRITERIA

(i) DESIGN LOADING	4000 EP	YEAR 2003
	5300 EP	YEAR 2021
(ii) UNIT LOADING		
ADWF	200 L/EP.d	
PWWF	4 x ADWF	
BOD_5	60 g/EP.d	
(iii) FLOWS ADWF (YEAR 2003)	9.3 L/s	
PWWF (YEAR 2003)	37.2 L/s	
PUMPED FLOW	40 L/s	
(iv) PROCESS DESIGN CRITERIA		
OXIDATION PONDS 1 & 2		
(a) EFFECTIVE DETENTION AT CURRENT ADWF/POND	31 DAYS	
(b) MIN. SURFACE AREA/POND AT TWL	21360 m^2	
(c) DEPTH TO TWL	1.2 m	
(d) BOD LOADING RATE POND 1	212 kg/ha.d	
(e) LENGTH TO WIDTH RATIO AT TWL	3	
MATURATION POND		
(a) EFFECTIVE DETENTION AT CURRENT ADWF/POND	20 DAYS	
(b) MIN. SURFACE AREA/POND AT TWL	12025 m^2	
(c) DEPTH TO TWL	1.65 m	
EFFLUENT STORAGE POND		
(a) STORAGE VOLUME	160 ML AT TWL ✓	
EFFLUENT IRRIGATION AREA	45 ha	
EXPECTED EFFLUENT QUALITY		
BOD_5	20 - 30 mg/L	
SS	30 - 50 mg/L	
NH_3	5 - 20 mg/L	
TN	21 - 40 mg/L	
TP	5 - 9 mg/L	

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Figure 10-5: Narromine STP design criteria

Performance assessment

The Environment Protection Licence (EPL 11715) specifies the concentration and load limits for discharge to waters and are summarised below in Table 10-2 and Table 10-3: Concentration limits for EPL 11715 .

Table 10-2: Narromine STP EPL monitoring and discharge points

EPA ID point	Type of monitoring/discharge point	Location description
3	Total effluent volume monitoring	Pump station one
4	Discharge of effluent from the Effluent Storage Pond to Effluent Irrigation area	Effluent quality and discharge volume monitoring at the northern wall of the Effluent Storage Pond
5	Monitoring effluent quality	Effluent quality monitoring point at the discharge from the maturation pond to the effluent storage ponds
6	Discharge and monitoring	Emergency discharge point on the southern wall of the Effluent Storage Pond
7	Soil monitoring in effluent irrigation area	In Effluent Irrigation area

Table 10-3: Concentration limits for EPL 11715

EPA ID point	Pollutant	100th percentile concentration limit
6	BOD	30 mg/L
6	Nitrogen (ammonia)	20 mg/L
6	pH	6.5 to 8.5
6	Phosphorus (total)	9 mg/L
6	Total Kjeldahl Nitrogen	40 µg/L
6	Total suspended solids	50 mg/L

Table 10-4 below summarises the STP performance assessed from grab samples taken during the 72-hour composite sampling.

Table 10-4: Narromine STP process unit performance assessment

Treatment Unit	Reduction Rate Across Process Unit				
	BOD_5	SS	TN	NH_3-N	TP
Oxidation Pond 1	78.2%	50.4%	34.0%	38.1%	32.6%
Oxidation Pond 2	-13.6%	-17.7%	43.6%	98.3%	6.9%
Maturation Pond	44.6%	30.1%	45.8%	0.0%	-1.9%
Effluent Storage Pond	11.8%	3.8%	12.1%	0.0%	78.2%
Overall STP reduction rate	**87.9%**	**60.7%**	**82.2%**	**99.0%**	**86.1%**

Capacity assessment

A capacity assessment was undertaken for the Narromine STP to identify the headroom available within each process unit and determine the timing for augmentation based on the forecast growth. The results are summarised in Table 10-5:.

Table 10-5: Capacity assessment of the Narromine STP

Treatment Unit/System	Unit Capacity	Design Criteria	Current Capacity	Over/ Under Design Capacity
Inlet Chamber		4,000 EP (Year 2003) 5,300 EP (Year 2021) 800 m^3 in year 2003 at 200 L/EP/d 1,060 m^3 in year 2021 at 200 L/EP/d	Projected 842 m^3/d ADWF in 2052 535 m^3/d at ADWF during monitoring period	Under design capacity
Oxidation Ponds (2 off)	25,632 m^3, each	200 L/EP/d 240 kg.BOD/d at 60 g.BOD/EP/d in Year 2003 318 kg.BOD/d at 60 g.BOD/EP/d in year 2021	535 m^3/d 66 kg.BOD/d at 34 g.BOD/EP/d during monitoring period	Under design capacity
Maturation Pond (1 off)	19,841m^3	Detention time: 25 days at 800 m^3/d Detention time: 19 days at 1,060 m^3/d	Detention time: 24 days at 842 m^3/d in 2052. Detention time: 37 days at 535 m^3/d during monitoring period	Under design capacity
Effluent Storage Pond (1 off)	160,000m^3	Detention time: 200 days at 800 m^3/d Detention time: 151 days at 1,060 m^3/d	Detention time: 190 days at 842 m^3/d in 2052. Detention time: 299 days at 535 m^3/d during monitoring period	Under design capacity

Identified works

The following works were identified at the STP to overcome the issues:

- Install a screening system at the inlet works
- De-sludge primary oxidation pond to avoid impacting on the performance of the plant
- Provide septage receival system to receive sullage and other pump outs form the Shire

Measures are already in hand to commence all these works with a sludge Study now completed and Tenders being prepared for all these activities in readiness for when budget is available potentially in the 2026/2027 financial year.

11. Trangie sewerage scheme

11.1 Scheme description

Trangie has a gravity collection sewage system that services a catchment made up of urban and light industrial properties. This system comprises of 11.8 km of gravity collection mains with 201 manholes, 4 pump stations and 2.78 km of rising mains.

The existing serviced area of the Trangie sewerage scheme is shown in Figure 11-1, and the SPS pump hierarchy diagram is shown in Figure 11-2.

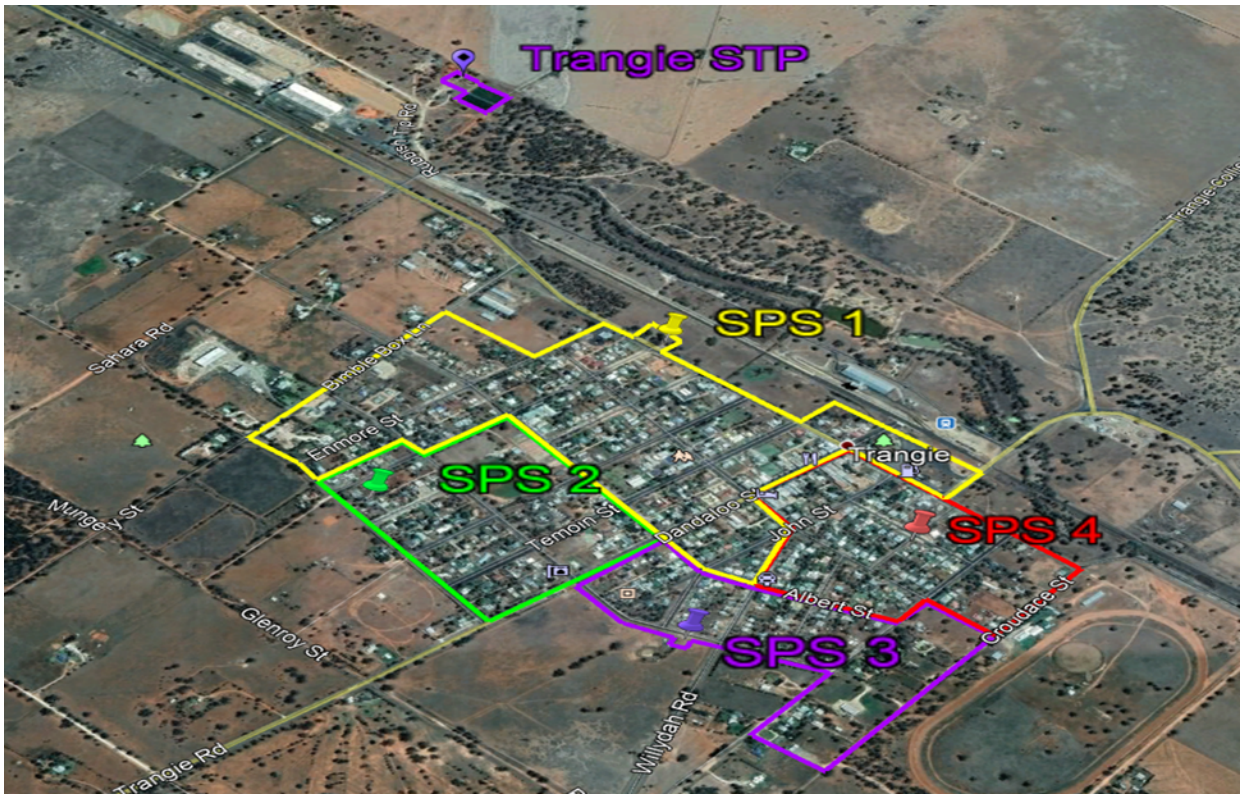


Figure 11-1: Trangie sewerage scheme

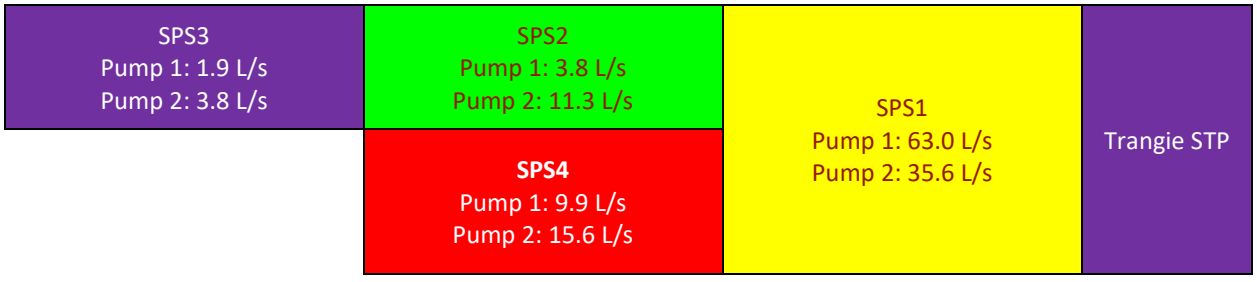


Figure 11-2: Trangie SPS pump hierarchy

11.2 Hydraulic loadings

STP inflow is now recorded via a flowmeter installed in August 2023 on the incoming line at the STP. The historical sewage inflow to the Trangie sewage treatment plant shown in Figure 11-3 were prior to repairs at SPS 1 (including nonreturn valve replacement) and installation of the flow meter at the STW. The daily inflows and rainfall since august 2023 are shown in Figure 11-4

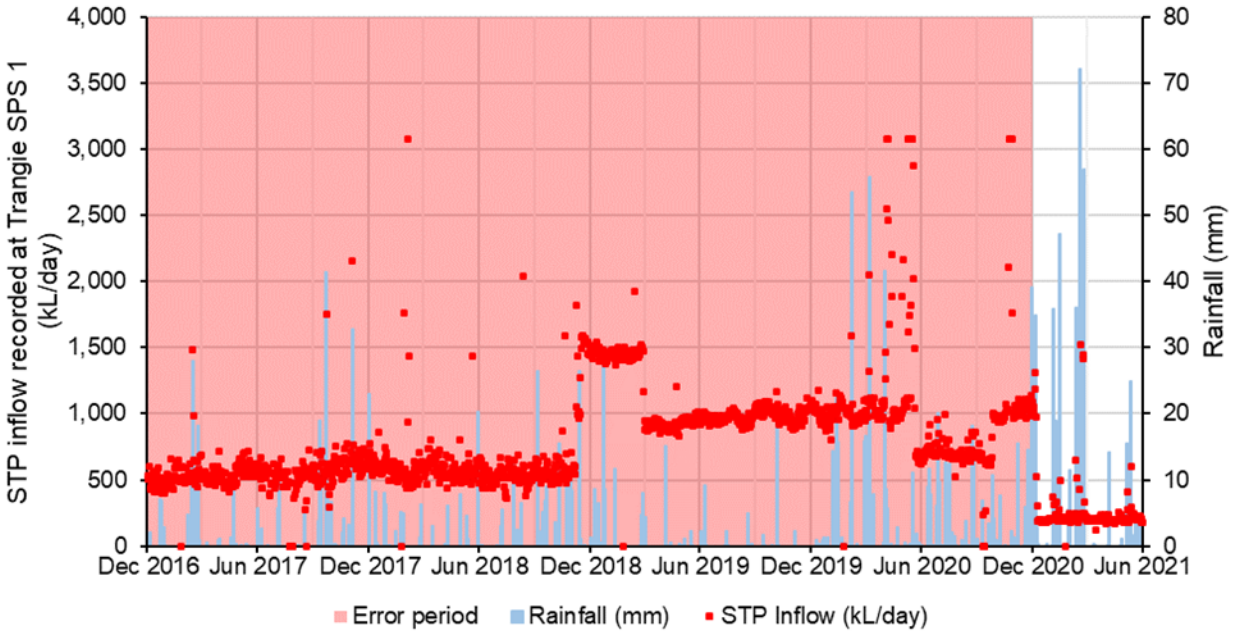


Figure 11-3: Historical daily inflows at Trangie STP prior to installation of flowmeter

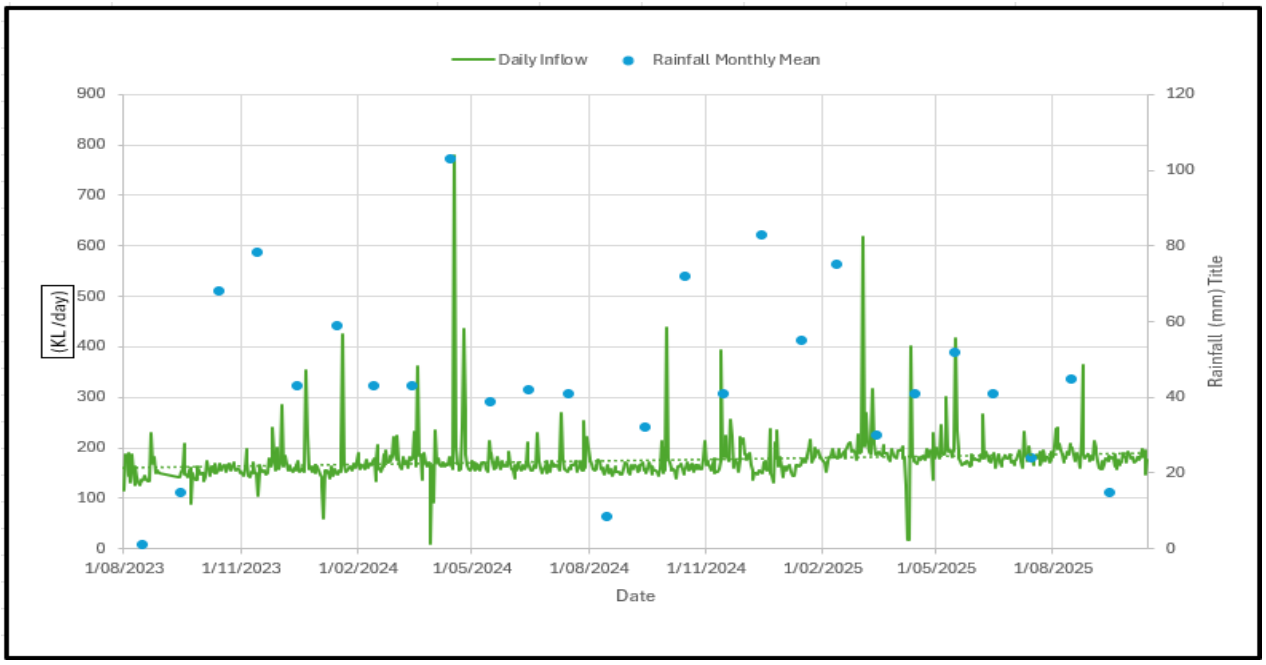


Figure 11-4: Historical daily inflows at Trangie STP since installation of flow meter in August 2023

The average dry weather flow (ADWF) was assessed from STP inflows and from the water consumption data. The ADWF was assessed as being 190 kL/day with a hydraulic loading of about 175 L/EP/day.

11.3 Projections

Council nominated growth rates and total new connections within specific SPS catchments of the Trangie sewerage scheme. The projected ADWF at a sewer catchment level and at the scheme level, is summarised in Table 11-1.

Table 11-1: Projected ADWF for the Trangie sewerage scheme in Kilolitres per day

SPS catchment	2022	2027	2032	2037	2042	2047	2052
SPS1	91	92	96	99	99	99	99
SPS2	33	33	33	33	33	33	33
SPS3	24	24	24	24	24	24	24
SPS4	44	44	44	44	44	44	44
Total to Trangie STP	**191**	**192**	**196**	**199**	**199**	**199**	**199**

11.4 Assessment of collection and transfer system

The performance of the collection and transfer system was assessed using a hydraulic model. The performance of the network was assessed for different ARI events. Council selected the 1 in 10 year (10% annual exceedance probability), 1-hour event as the containment standard for the collection and transfer system. The Trangie sewage collection and transfer system can contain a 1 in 10-year 1 hour rainfall event without any major surcharges or overflows. Accordingly, no system upgrades are required.

11.5 Sewage treatment plant

The Trangie STP is a Pasveer Channel activated sludge treatment plant built in 1977 which has undergone significant renewal over the last three years including full refurbishment of both aeration pontoons, replacement of the sludge pump and refurbishment of the decant lift system. The current STP comprises of the following main treatment units:

- Bar screening (now being replaced with a Spirac Brush Screen as part of WHS upgrades)
- Pasveer P1000 Aeration Channel
- Two maturation ponds
- Two sludge ponds

An aerial image of the Trangie STP is shown in Figure 11-55.

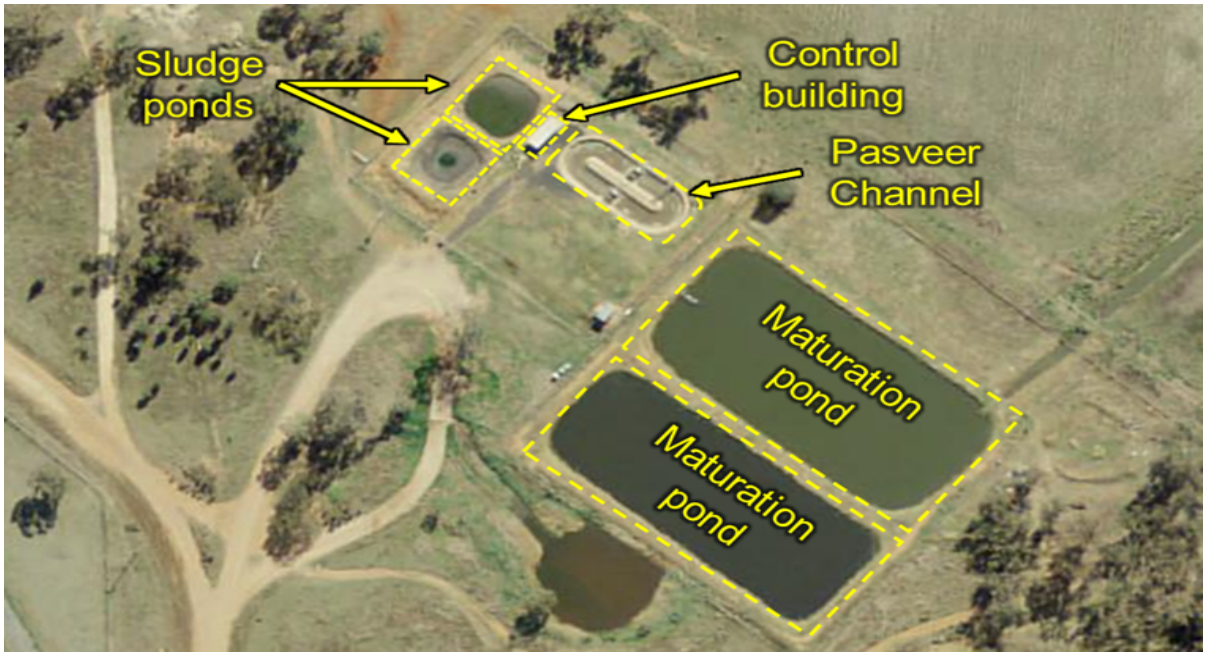


Figure 11-55: Aerial view of Trangie STP

Treated effluent from the Pasveer Channel gravitates to the maturation ponds, where it is disposed of by evaporation.

Overflow from the maturation pond is discharged via the effluent outlet structure where it flows along a 2 km effluent discharge channel and terminates at the Trangie Agricultural Research Station. This has potential WHS and environmental risks as the overflows are uncontrolled and discharged through an area where access by livestock and potentially human contact is possible.

Solids are excavated from the sludge drying beds and buried at the nearby landfill site.

Performance assessment

Council does not hold an EPL for the Trangie STP. Table 11-2 below summarises the STP performance assessed from grab samples taken during the 72-hour composite sampling.

Table 11-2: Trangie STP process unit performance assessment

Treatment Unit	Reduction Rate Across Process Unit				
	BOD_5	SS	TN	NH_3-N	TP
Pasveer channel	96.5 %	96 %	66.3 %	98.8 %	35 %

Capacity assessment

A capacity assessment was undertaken for the Trangie STP to identify the headroom available within each process unit and determine the timing for augmentation based on the forecast growth. The results are summarised in Table 11-3.

Table 11-3: Capacity assessment of Trangie STP

Treatment Unit/System	Unit Capacity	Design Criteria	Current Capacity	Over/ Under Design Capacity
Inlet Chamber		240 kL/d at ADWF	Projected 199 m^3/d ADWF in 2052 144 m^3/d at ADWF during monitoring period	Under design capacity
Pasveer Channel (1 off)	240 m^3/d 1,000 EP @ 240 L/EP/d	240 L/EP/d* 70 kg.BOD/d at 70 g.BOD/EP/d* 70 kg.TSS/d at 70 g.TSS/EP/d*	144 m^3/d 21 kg.BOD/d 31 kg.TSS/d during monitoring period	Under design capacity
Sludge Lagoon (2 off)	329 m^3, each	Thickened sludge volume: 2.0 m^3 TSS/d Storage capacity at depth of 2.6 m: 329 days	Thickened sludge volume: 0.6 m^3 TSS/d Storage capacity at depth of 2.6 m: 551 days during monitoring period	Under design capacity
Maturation Ponds (2 off)	5,300 m^3, total	Detention time: 22 days at 240 m^3/d	Detention time: 27 days at 199 m^3/d in 2052. Detention time: 37 days at 144 m^3/d during monitoring period	Under design capacity

Short-term recommendations

Council engaged GHD Pty Ltd (GHD) to review the potential causes of effluent quality concerns and identify possible improvements. The short-term recommendations identified by GHD in their report 'Trangie STP Preliminary Assessment' 8 April 2022, are listed below as well as the responses and actions implemented so far in response to this report.

- Discuss with the users of water from the open channel the performance of Trangie STP, particularly the limited pathogen reduction, and the risks of using the water. Agree on risk mitigation measures to be taken by Council and the users, guided by the Australian Guidelines for Water Recycling. Preliminary discussions in relation to this so far has not settled on a full strategy beyond general awareness. Council had already constructed a new laboratory prior to receiving this report and has been implementing a monitoring program on effluent quality.
- Trial operating the Pasveer channel aerators continuously throughout the aeration phase. This action has been carried out and following a successful trial implemented permanently into the plant control philosophy.
- Identify the Pasveer channel aerator power rating and adjust the aerator immersion to suit the rated power. This has also been completed and is noted for checking within the plant standard operating procedures.
- Investigate the cycle duration and frequency mismatch observed during the site visit and address flaws in the control code. This work has been completed and the fault rectified.
- Consider adopting longer cycle duration, such as 4 h (i.e. 6 no. cycles/d) to increase the daily aerator run time (e.g 2.5 h aeration, 1 h settle, 0.5 h decant). This has been implemented, and the current operating cycle of the aerators is 6 cycles per day this has led to an improvement in effluent quality.
- Measure the sewage flow pumped from the upstream sewage pump station or at the Trangie STP inlet, perhaps using a temporary external flow meter (e.g. clamp-on ultrasonic type) or a permanent installed flow meter (e.g. electromagnetic type). A permanent Magflow meter has been installed on the inlet to the treatment plant.
- Assess the capacity of Trangie STP for its intended or a practicable target treated sewage quality and estimate its pathogen removal performance and identify capacity bottlenecks. This assessment is currently taking place.
- Carry out minor works to address capacity bottlenecks or improve performance. This is being done predominately in the form of upgraded inlet works.
- Investigate the timing of waste activated sludge (WAS) pump operation and consider modifying Pasveer channel process control so WAS is pumped shortly after the start of the aeration phase, which both facilitates solids residence time control and the mid-level location of the WAS offtake. A delay from the start of the aeration phase is needed to provide time for the mixed liquor to be well-mixed following the settle and decant phases. These programming changes were implemented at the same time as the changes to the aeration cycle.
- Identify key operational parameters and methods to control them, e.g. select a target Pasveer channel solids residence time range, monitor by MLSS at BWL and control by adjustments to WAS pump operation and maintain MLSS at suitable concentration, likely to be 3,000 - 3,750 mg/Investigation is currently underway into the installation of a permanent MLSS monitoring station and the possible additional automation of WAS pump controls.
- Estimate the volume of the effluent ponds occupied by sludge and consider desludging one or both. A preliminary survey has been conducted with initial results questioning the need for any further work at this stage.
- Identify the locations of feed pipes and interconnections between the two effluent ponds, assess the potential for short-circuiting or dead zones and consider install floating baffle curtains to reduce short-circuiting or dead zones. This advice is still under consideration.

12. Unserviced communities

Tomingley is the only village in the Shire which has potable water but no sewer. Council does not have a policy for management of OSSMS.

The performance of the OSSMSs were assessed for the unserviced area of Tomingley. A preliminary assessment of the operating environment at Tomingley was undertaken in accordance with the Department of Local Government document "On-site sewage management for single households", Jan 1998. A summary of the assessment, with the identified issues, is presented in Table 12-1

Table 12-1: Assessment of on-site sewage management system performance at Tomingley

Parameter	Site drainage	Lot size	Buffer distance to permanent surface water
OSSMS requirements			
Requirement	Well drained	Well drained soil: minimum 2,000 m^2 Poorly/imperfectly drained soil: 2,000 to 4,000 m^2 Practically impervious soil: minimum 4,000 m^2	Minimum 100 metres
Risk if requirement is not met	Resurfacing hazard (leading to potential human contact)	Public health risk: insufficient area for effluent disposal leading to potential human contact	Contamination of surface water
Village assessment			
Tomingley	Clayey sand in first 60 cm of soil, followed by 70 cm of clay soils, followed by shale and claystone. This is generally poorly drained soil.	Clayey sand and clay soils are generally poorly drained soils. Most lots average 1,020 m^2 in the RU5 village zone.	Two properties within 100 metres from Gundong Creek. These properties treat sewage via septic tanks and dispose of effluent via surface irrigation and soil absorption.

Council provided their septic register, which contains details of properties that are on OSSMS. In Tomingley, there are 34 properties that are on OSSMS, of which:

- 30 properties are septic tanks, of which 2 properties dispose of their effluent by rubble drains, 20 properties via soil absorption, 7 properties via surface irrigation, and one property via sub-surface irrigation.
- Three properties are pump-out tanks with effluent disposal by soil absorption.
- One property is AWTS (aerated wastewater treatment system) with effluent disposal by surface irrigation.

An aerial image of Tomingley is shown in Figure 12-1.

Figure 12-1: Unsewered community – Tomingley

Council has decided not to sewer Tomingley.

Council can review any inspection reports to confirm the outcome of the desktop assessment. If no inspection reports are available, the action can be for Council to undertake septic tank inspections and collect information on the performance of the systems. Council could then direct homeowners under Section 68 of the Local Government Act, to address any performance related issues with the systems.

13. Future actions and implementation plan

13.1 Scenarios

Table 13-1 and Table 13-2 show the bundled Scenarios segregated for convenience into water supply and sewerage schemes. The issues that are being addressed by each option are also listed.

Table 13-1: Shire wide water supply scenario – infrastructure needs

Target for compliance	Issue	Option	Scenario 1	Scenario 2
Narromine water supply scheme				
Water security	Drought reliability of the water supply	Utilise the existing bores and supplement with water from	✓ **2040**	

Target for compliance	Issue	Option	Scenario 1	Scenario 2
		Macquarie River. Construct a raw water pump station and intake and a pipeline to the existing water treatment plant – Pipeline route from the River intake to the WTP to be finalised later.		
		Continue to use groundwater bores and locate sites for additional bores to meet demand.		✓ **2040**
Water quality	High risk of chlorine sensitive and chlorine resistant pathogens in the water supply.	Upgrade existing temporary plant	✓ **2025**	
		New conventional treatment plant with sedimentation tank and mechanical sludge dewatering		✓ **2025**
System performance				
Non-revenue water at Narromine and Trangie water supply schemes	The infrastructure leakage index (ILI) for the Narromine and Trangie potable water supply schemes are 6.7 and 12.6 respectively indicating very high water losses.	• Develop and implement a community education program on water saving measures. • Develop and implement a water loss management plan • Consider limited time rebates for replacement of water fittings and appliances (including evaporative coolers)	✓ **2026**	✓ **2026**

Table 13-2: Shire wide sewerage scenario – infrastructure needs

Target for compliance	Issue	Option	Scenario 1	Scenario 2
Sewerage system issues				
Narromine sewerage scheme				
Reliability of infrastructure – collection and transfer system	Reduce overflows at SPS1: Check overflow level in the pumping station	<u>Option 1</u> provide new pumps in SPS 1 with pumping rate upgraded to 68 L/s and related switchboard upgrades	✓ **2025**	
		Increase the storage capacity by the construction of a new wet well	✓ **2040**	
		<u>Option 2</u> Increase the storage by construction of a new wet well		✓ **2025**
	Surcharging in Catchment 2	upgrade the SPS 2 pumping rate to at least 25 L/s with associated switchboard upgrades	✓ **2040**	✓ **2040**

Target for compliance	Issue	Option	Scenario 1	Scenario 2
Reliability of infrastructure - STP	Raw sewage at the STP is not screened and could lead to build up of solids and grit	Install screening system at the STP inlet works.	✓ **2025**	✓ **2030**
	System performance impacted by lack of sullage pump out facilities.	Provide septage receival system at the Narromine STP	✓ **2025**	✓ **2030**
Infrastructure performance	Oxidation pond has not been de-sludged and performance may be impacted	De-sludge primary oxidation pond	✓ **2026**	✓ **2026**
Trangie sewerage scheme				
Infrastructure performance	Improve effluent quality	Undertake investigations recommended in the GHD report	✓ **2025**	✓ **2025**
Unserviced areas				
On-site sewage management systems	Systems in lots on Davis Drive are in proximity to the water supply bores	Gravity reticulation and pumped sewerage system	✓ **2030**	
		Low-pressure sewerage system		✓ **2030**

13.2 Present value analysis

A present value analysis of the Scenario at annual real discount rates of 4%, 7% and 10% has been undertaken. Detailed net present value cost estimates for the Scenario are provided in Appendix A.

A summary of the estimated total cost of capital outlay and the present value (PV) of the capital, and the operating and maintenance (O&M) cost estimates over the 30 years for the water supply and sewerage services in the Scenario is shown in Table 13-3 and Table 13-4 respectively.

Table 13-3: Summary of capital and PV costs for the IWCM Scenario – water supply

Scenario	Total capital cost over 30 years ($'000)	Present value of capital cost @ 7% ($'000)	Present value of operating cost @ 7% ($'000)	Total present value @ 7% ($'000)
Scenario 1	36,170	31,497	4,800	36,297
Scenario 2	47,120	34,350	8,479	42,829

Table 13-4: Summary of capital and PV costs for the IWCM Scenario – sewerage

Scenario	Total capital cost over 30 years ($'000)	Present value of capital cost @ 7% ($'000)	Present value of operating cost @ 7% ($'000)	Total present value @ 7% ($'000)
Scenario 1	3,660	2,663	235	2,898
Scenario 2	3,100	2,533	257	2,791

14. Typical residential bill (TRB) analysis

As part of the assessment of IWCM scenarios, approximate annual Typical Residential Bills (TRBs) for the Council's water supply and sewerage services have been estimated by developing water and sewer fund financial models.

14.1 Input details

The water and sewer fund financial models were developed using DCCEEW's FINMOD 4 financial modelling software with reference to the historical financial input details based on Council's 2021-22 and 2022-23 water and sewer income and financial position statements. These were the financial data submitted as part of the Council's financial data returns (FDRs) to the Office of Local Government (OLG). Approximate TRBs forecast by the models are expected to be within about 10% of the final TRBs that will be forecast in the Financial Plan for the Council adopted IWCM strategy. All additional inputs and forecast details are in 2023-24 $.

The financial models for IWCM scenarios have been built upon the base line scenario which corresponds to the Council's 'business-as-usual' 30-year water supply and sewerage asset renewal plans. 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 a comparative TRB analysis of IWCM scenarios.

The 30-year capital works programs for the IWCM scenarios and the 'baseline' scenarios for water supply and sewerage services are compared in Figure 14-1 and Figure 14-2 respectively. Detailed 30-year capital works programs are in Appendix B and Appendix C.

The operation, maintenance and administration (OMA) cost estimates for the scenarios including additional expenses for IWCM initiatives and the recommended management system improvement measures for water supply and sewerage services are compared in Figure 14-3 and Figure 14-4.

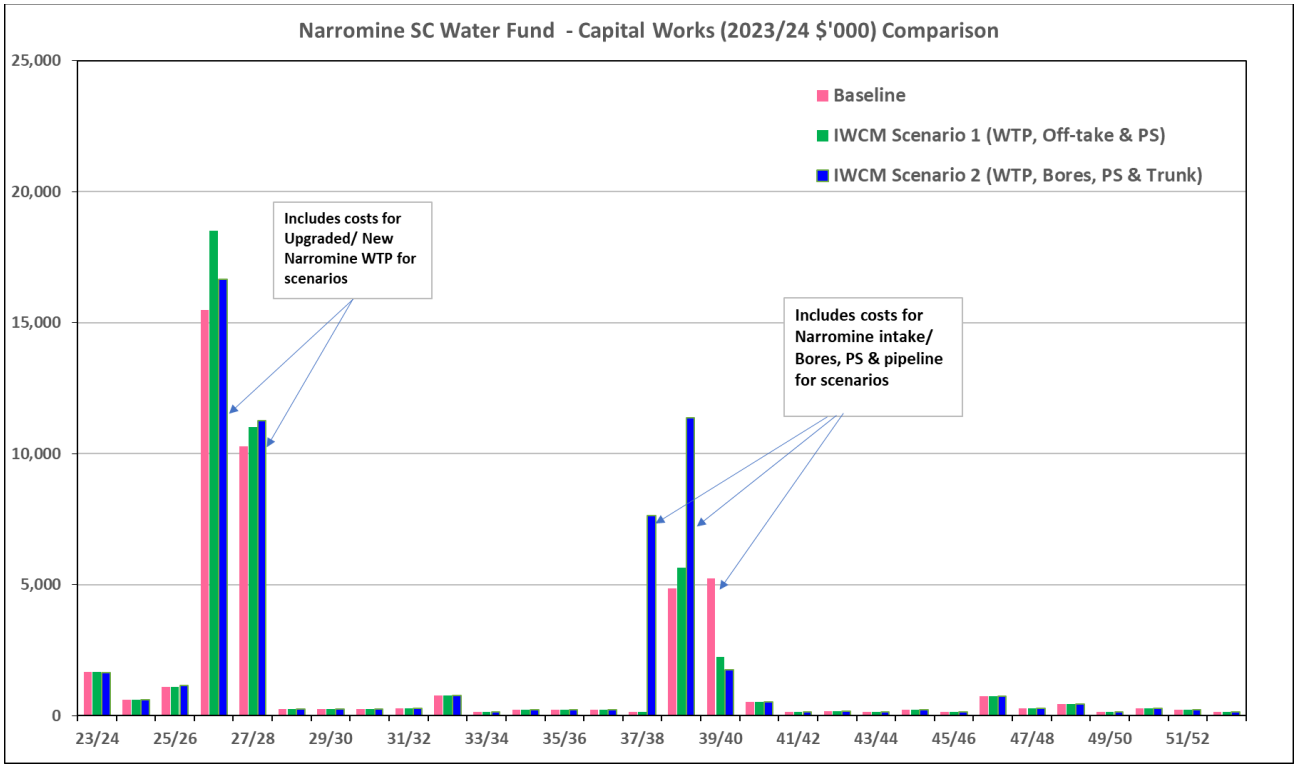


Figure 14-1: Comparison of 30-year capital works program – Water supply

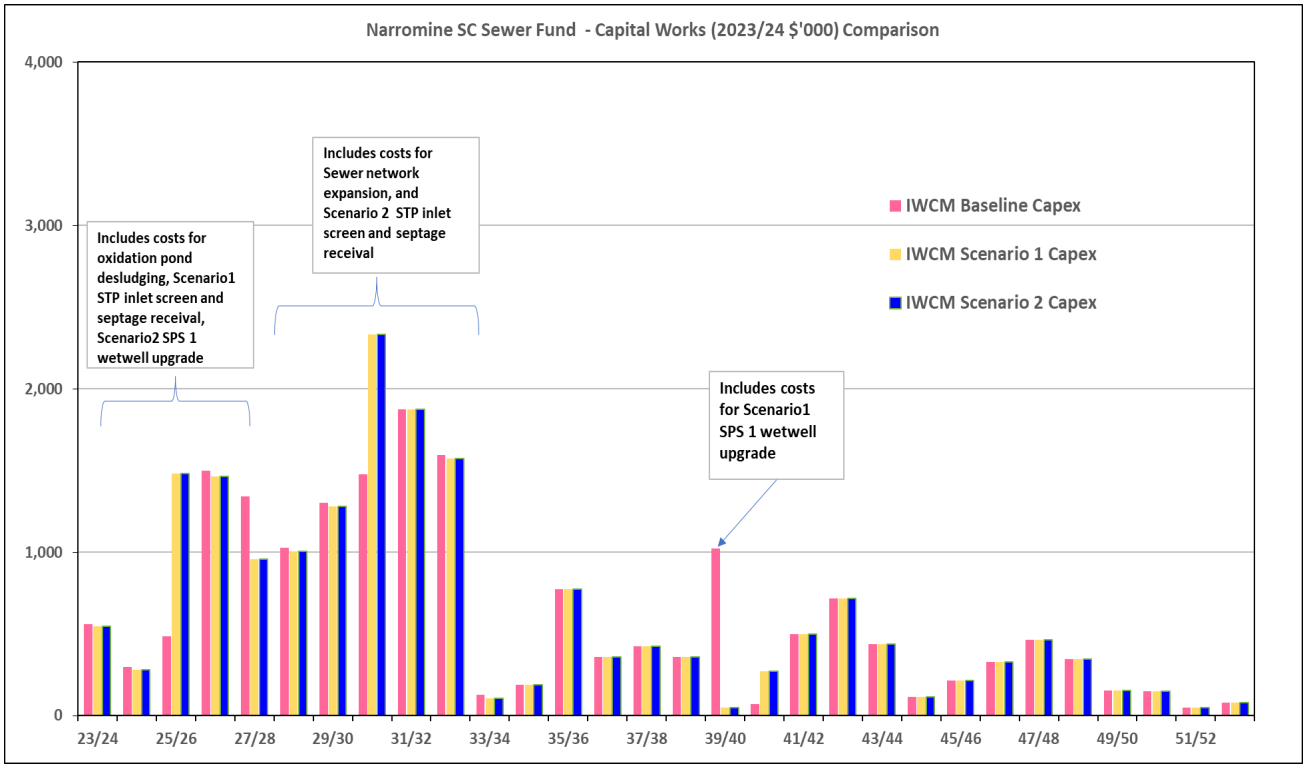


Figure 14-2: Comparison of 30-year capital works program – Sewerage

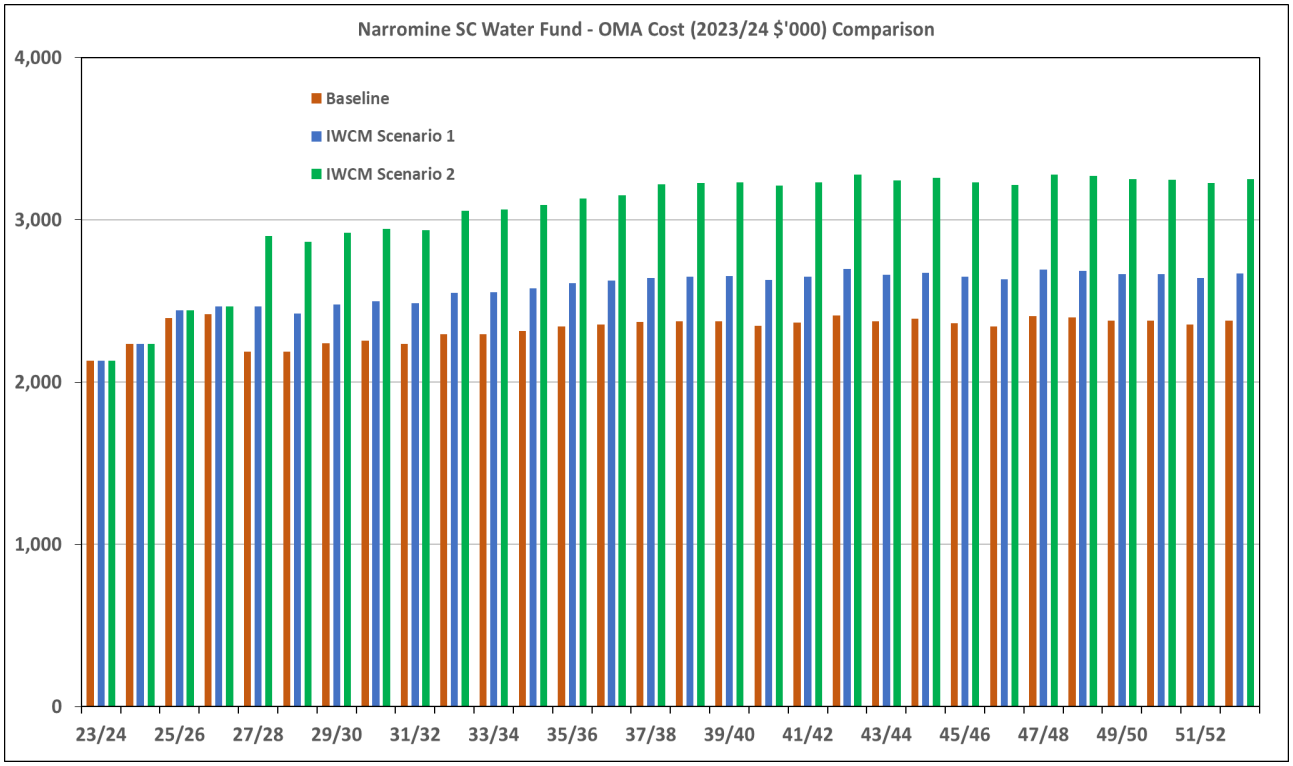


Figure 14-3: Comparison of 30-year OMA expenditures – Water supply

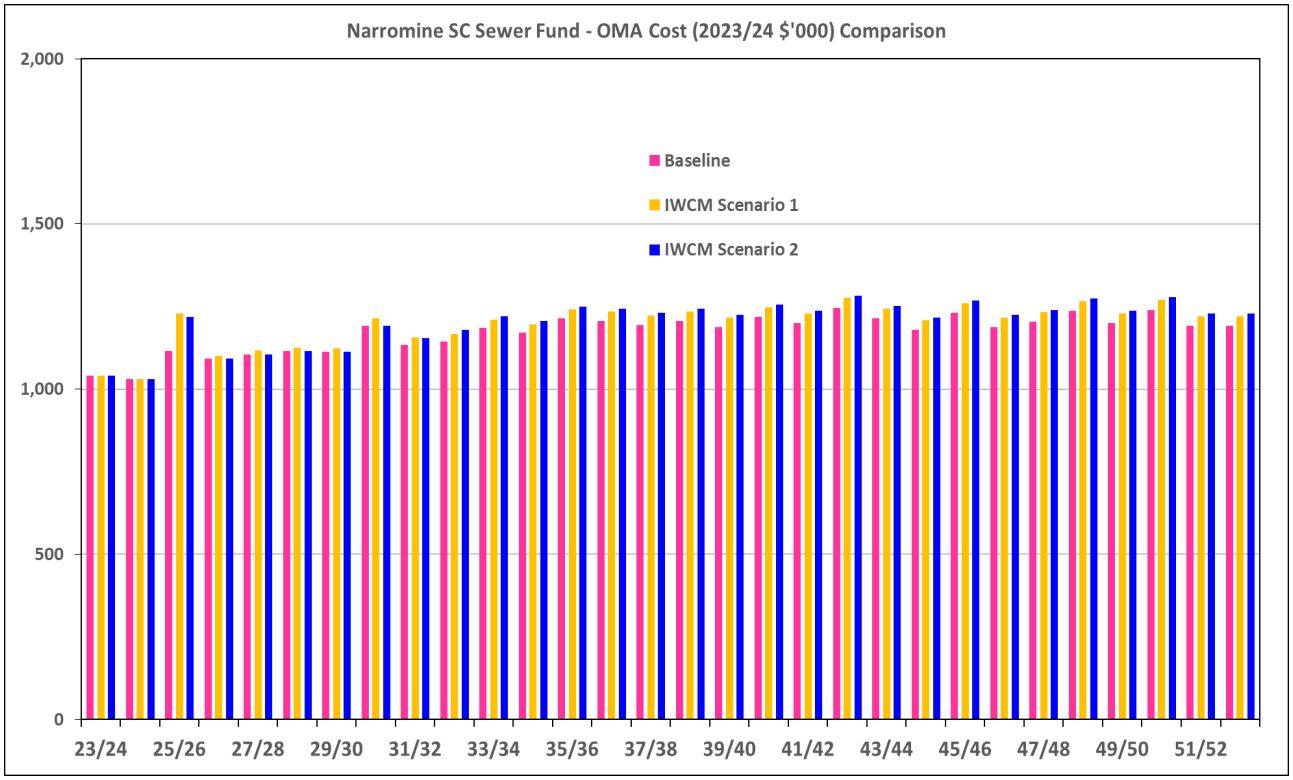


Figure 14-4: Comparison of 30-year OMA expenditure – Sewerage

14.2 Developer charges

Developer Charges (DCs) for water supply and sewerage services represent a significant revenue source for Council's water and sewer funds. They are directly influenced by future capital works programs for both service level improvements and extensions to new development areas. Accordingly, DCs are an important input in the financial modelling process.

For the purpose of the IWCM scenario assessment, 'first-cut' DCs have been developed based on the estimated costs and timing of major capital works within each scenario. These preliminary estimates have been calculated in accordance with the 2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater, and applied within the Total Revenue Requirement (TRR) forecasts.

It should be noted that these first-cut DCs are initial estimates only, based on 100% cost recovery from development (i.e. no cross-subsidy). They are intended to provide an initial indication of potential charge levels and will require further review and refinement once Council's preferred IWCM strategy is selected. This refinement will consider factors such as additional service areas, potential cross-subsidy arrangements, and Council's overall appetite for subsidisation.

First-cut DCs have been estimated for water supply across the three independent schemes (Narromine, Trangie, and Tomingley) and for sewerage services in Narromine and Trangie. The resulting preliminary estimates used for the IWCM scenario TRR forecasts are presented in Table 14-1 and Table 14-2 respectively.

Table 14-1: First-cut Developer Charges – Water Supply

Scenario	Current (2023 -24) Developer Charge per ET	First-cut Developer Charge per ET (2023-24$)		
		Narromine	Trangie	Tomingley
Baseline	3,000	15,898	207	Nil
IWCM Scenario 1	3,000	16,914	207	Nil

IWCM Scenario 2	3,000	16,489	207	Nil

Table 14-2: First-cut Developer Charges – Sewerage

Scenario	Current (2023 -24) Developer Charge per ET	First-cut Developer Charge per ET (2023-24$)	
		Narromine	Trangie
Baseline	3,500	4,275	4,275
IWCM Scenario 1	3,500	4,675	4,675
IWCM Scenario 2	3,500	4,775	4,775

14.3 Water supply TRB forecasts for Scenarios

The water financial model for the scenarios considered 75% government grant/subsidy secured by the Council for undertaking Narromine water supply upgrade projects. Note, all the forecasts are in 2023-24 $ values and need to be adjusted for CPI/ inflation.

Based on the reported billing revenue and the water supply tariff structure adopted by the Council, following TRBs for 2023-24 and 2024-25 have been estimated and used in the model forecasts.

- TRB for 2023-24: $1,030 p.a.
- TRB for 2024-25: $1,145 p.a. ($1,184 p.a. in 2024-25$)

TRB forecasts have been made with a view to maintain a minimum level of cash and investment of $500K in the water fund throughout the forecast period. Water supply TRBs from 2025-26 onwards for the baseline and the IWCM scenarios over the 30-year forecast period are compared in Figure 14-5.

At the forecast levels of TRBs, after due consideration of the government grants/ subsidy, new loans will be required to fund the Narromine water supply upgrade projects. A comparison of new loan requirements for the IWCM scenarios is shown in Figure 14-6.

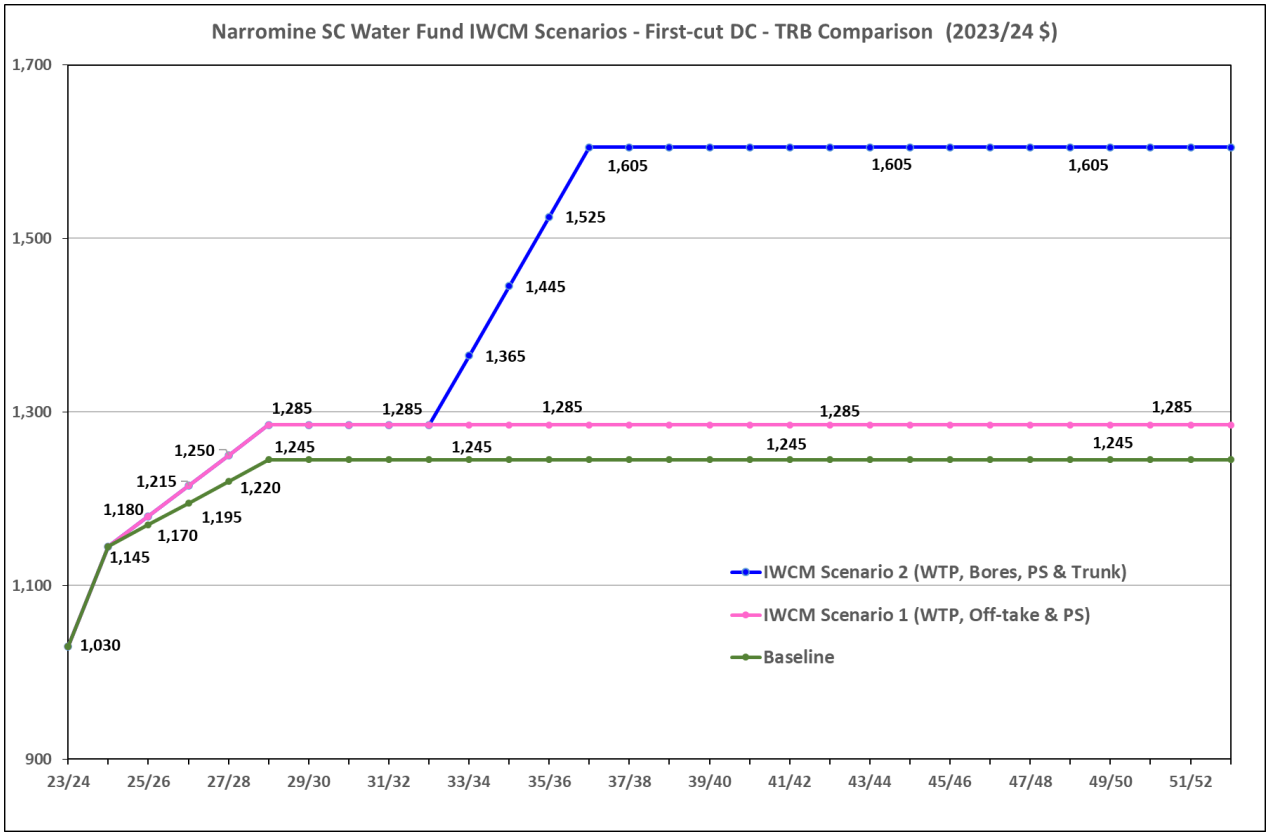


Figure 14-5: Comparison of TRB forecasts for IWCM scenarios – Water supply

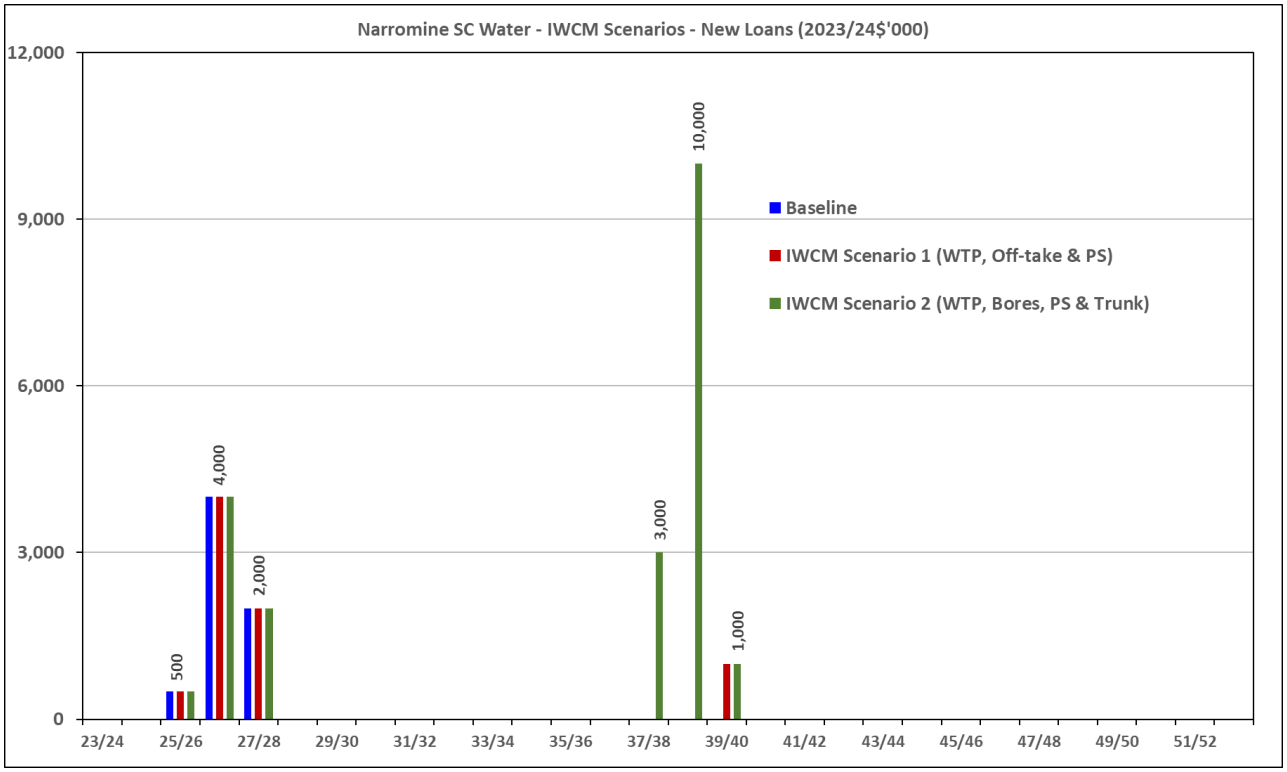


Figure 14-6: Comparison of new loans for IWCM scenarios – Water supply

14.4 Sewerage TRB forecasts for Scenarios

The financial model has been developed and with the no consideration of government grant/subsidy for any of the planned capital works. Note, all the forecasts are in 2023-24 $ values and need to be adjusted for CPI/ inflation.

Based on the residential sewerage availability charges adopted by the Council, following TRBs for 2023-24 and 2024-25 have been used in the model forecasts.

- TRB for 2023-24: $702 p.a.
- TRB for 2024-25: $712 p.a. ($738 p.a. in 2024-25$)

TRB forecasts have been made with a view to maintain a minimum level of cash and investment of $500 K in the sewer fund throughout the forecast period. Sewerage TRBs from 2025-26 onwards for the baseline and the IWCM scenarios over the 30-year forecast period are compared in Figure 14-7.

At the forecast levels of TRBs, no new loans will be required to fund any of the planned sewer fund capital works.

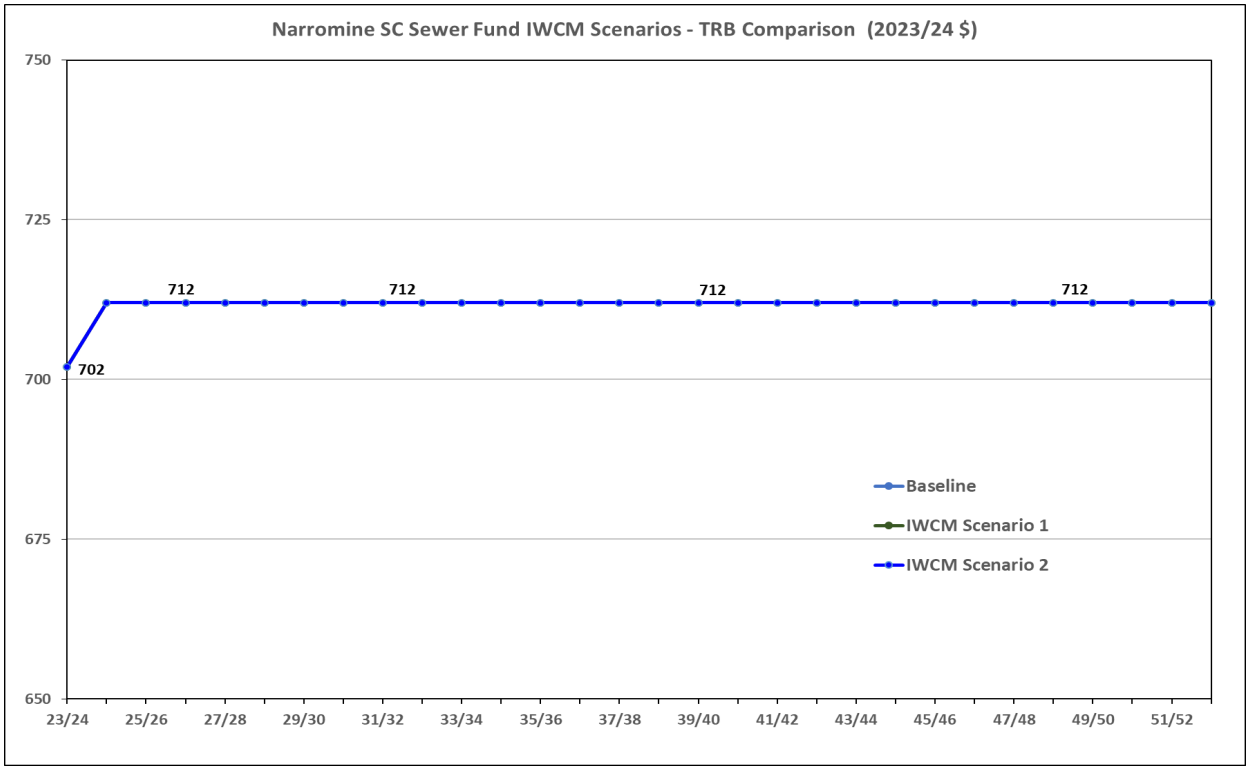


Figure 14-7: Comparison of TRB forecasts for IWCM scenarios – Sewerage

15. Asset management

Council's Water supply and Sewerage Asset Management Plans provide a detailed overview of the asset management systems, procedures and strategies in place to ensure delivery of services in a safe, reliable and cost-effective manner. Council's systems to manage assets include:

- Maintaining up to date water supply and sewer asset registers with required physical and financial details
- Geographic Information Systems (GIS)
- Reports of routine asset inspections for condition, operation and compliance
- Records of planned and unplanned maintenance incidents and customer requests

15.1 Total asset management plan

The total asset management plan (TAMP) provides the details of planned capital works and recurrent operations, maintenance, and management (OMA) expenditure over a 30-year planning horizon. TAMP provides vital inputs for managing infrastructure assets to meet the levels of service in the most cost-effective manner for the present as well as the future customers. It also helps Council to develop their long-term funding strategies by linking to a long-term financial plan which identifies funds required to implement capital and recurrent expenditure at affordable levels of customer charges.

15.1.1 Capital works

Capital works are generally categorised as follows.

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

Asset creation/ upgrade/ expansion

The recommended IWCM strategy has enabled Council to develop and maintain a schedule of capital works into the future to satisfy the forecast service demands in terms of growth and improved levels of service over the planning horizon. Capital works identification and finalisation is based on the preferred options to address the asset system and performance issues.

All viable options for the provision of new assets or upgrades/ expansion of existing assets to cater for community requirements have been developed and assessed in terms of their economic, social and environmental benefits to achieve optimum solutions for creation of new assets or upgrading/ expansion existing infrastructure.

Asset renewal

Anticipating the need and timing for asset renewal and replacement is critically important to ensure that funding is available to carry out the identified renewal/ replacement works in a timely manner. For the purpose of strategic planning, identification of the timing and costs of renewal requirements for water supply and 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 the current replacement costs of the assets/ components based on the latest revaluation records to the 2023-24 financial year using the relevant Construction Cost Index (CCI) prescribed by the NSW Reference Rates Manual – Valuation of water supply, sewerage, and stormwater assets (2023 update)
- Estimation of 'condition adjusted' remaining useful lives as a % of adopted useful lives of components listed in the asset registers. Where condition rating details of asset component levels are unavailable (underground assets), age based remaining useful lives have been considered. 'Condition adjusted' remaining useful lives of water and sewer asset components have been estimated during Council's asset revaluation as of 30 June 2022 for the purpose of reporting to OLG.
- Prioritisation of renewal of assets that are considered critical by adjusting the estimated remaining useful lives for 'criticality' of the assets/ facilities in consideration of the consequences of asset failure. The assets/ facilities with severe consequences of failure as identified by the Council have been assigned higher criticality ratings, and have been prioritised for earlier renewal to avoid probable major failures to service provision
- Development of asset renewal plans by collating the scheme/ facility-wise timing and costs of components (in terms of current replacement costs) for a 30-year period starting 2023/24, following the adjustment to the remaining useful life for asset criticality.
- Further review and refinement of the collated 30-year asset renewal works to align with the adopted 10-year capital budget of the Council, and to disaggregate the lumped-up renewal requirements, particularly for water and sewer mains, with a view to spread-out the renewal capital funding requirements.

Capital costs summaries

Council has further reviewed the new and renewal capital works recommended by the IWCM scenario 1 strategy for their impact on the customer bills and refined the timings of some of the major works. The Council adopted 30-year capital works plans for water supply and sewerage are summarised in Figure 15-1 and Figure 15-2. Detailed schedule of 30-year capital works for water supply and sewerage are presented in Appendix B and Appendix C.

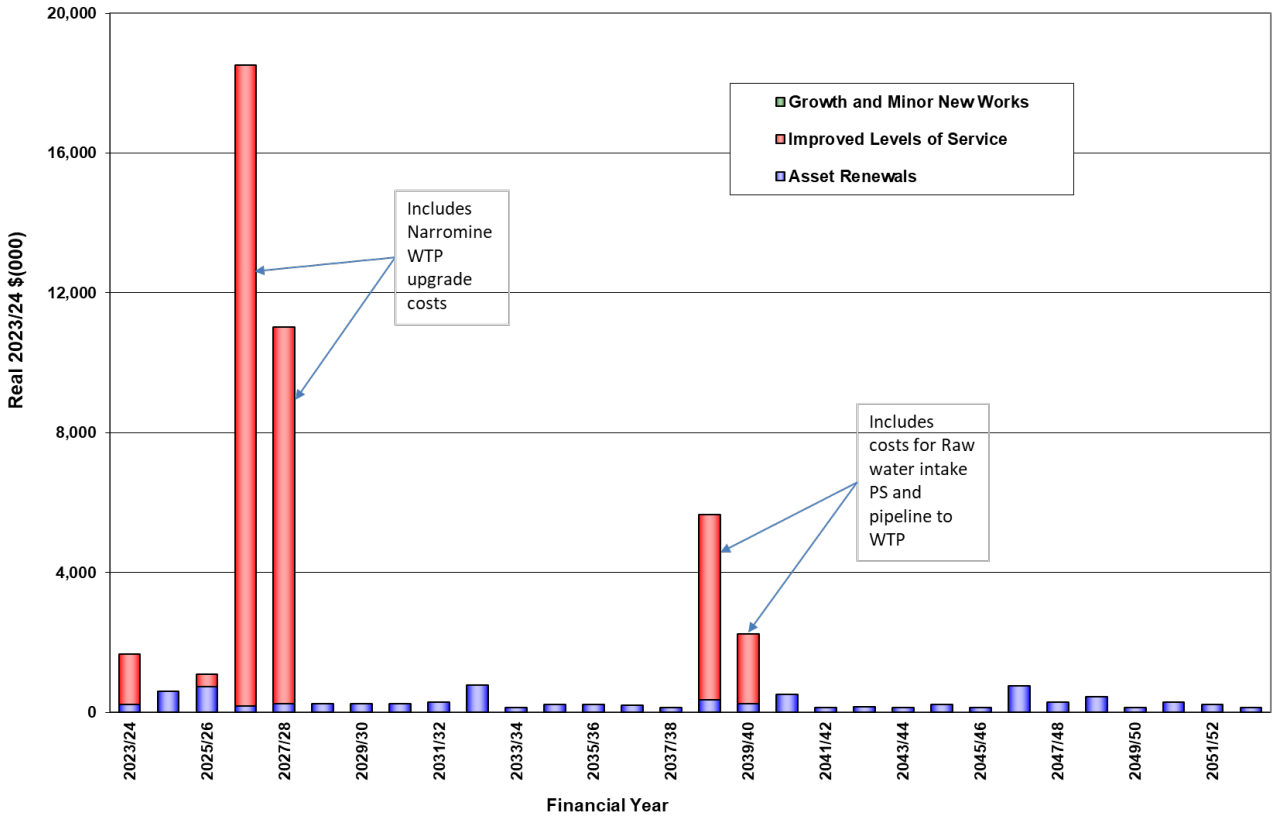


Figure 15-1: 30-year Capital cost summary – Water supply

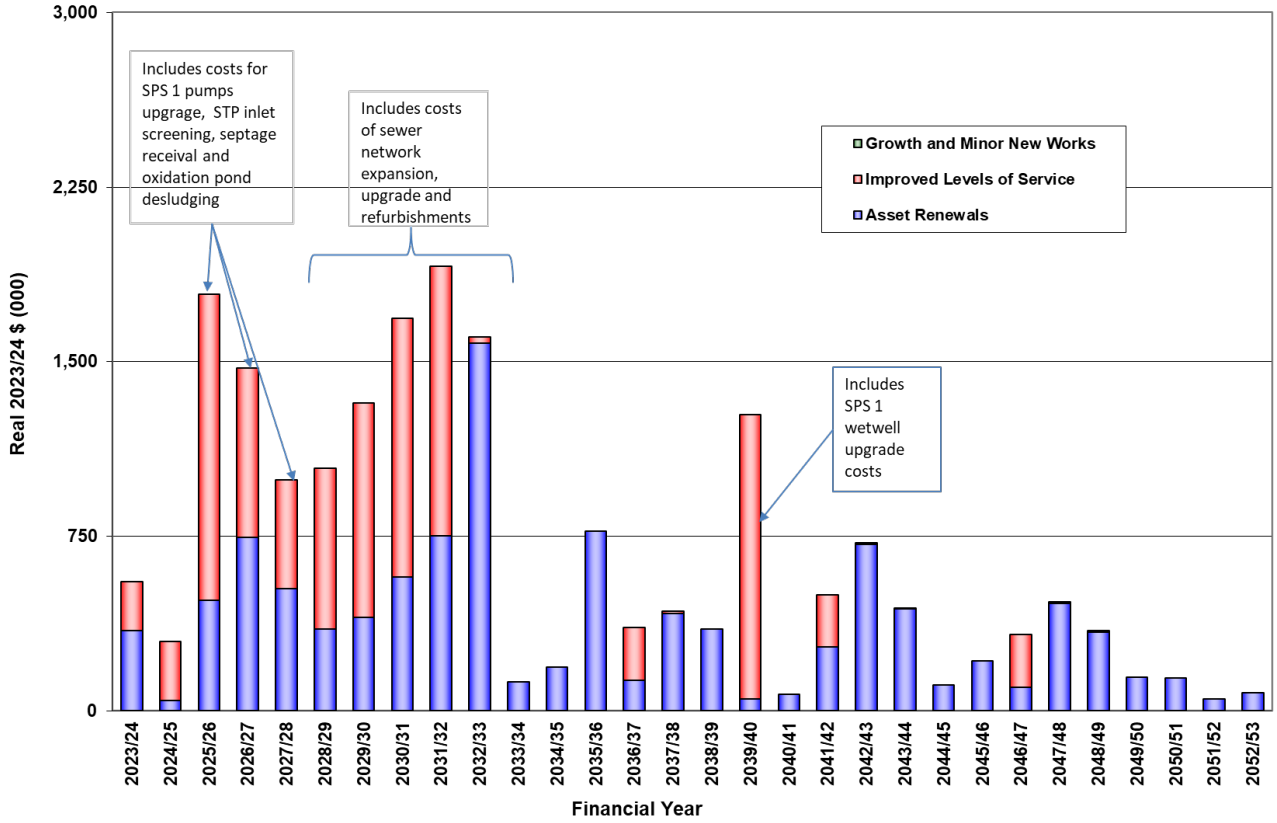


Figure 15-2: 30-year Capital cost summary – Sewerage

15.1.2 Recurrent operation and maintenance works

Operation of the systems includes regular activities to deliver services to customers using the asset/ infrastructure. Maintenance includes all actions necessary for retaining an asset as near practicable to an appropriate service condition to keep assets operating. Routine maintenance involves regular ongoing work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again. Recurrent and ongoing costs of the TAM plan include the following:

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.
Additional OMA costs	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.

Routine operation and maintenance expenditure is expected to trend in line with the value of asset stock. Additionally, Council has identified a number of best practice asset management initiatives that will require additional recurrent expenditure.

Summary of 30-year recurrent cost forecasts including for management, operation and maintenance for water supply and sewerage services are presented in Figure 15-3 and Figure 15-4. Detailed schedules of additional operation, maintenance and administration (OMA) costs are presented in Appendix D.

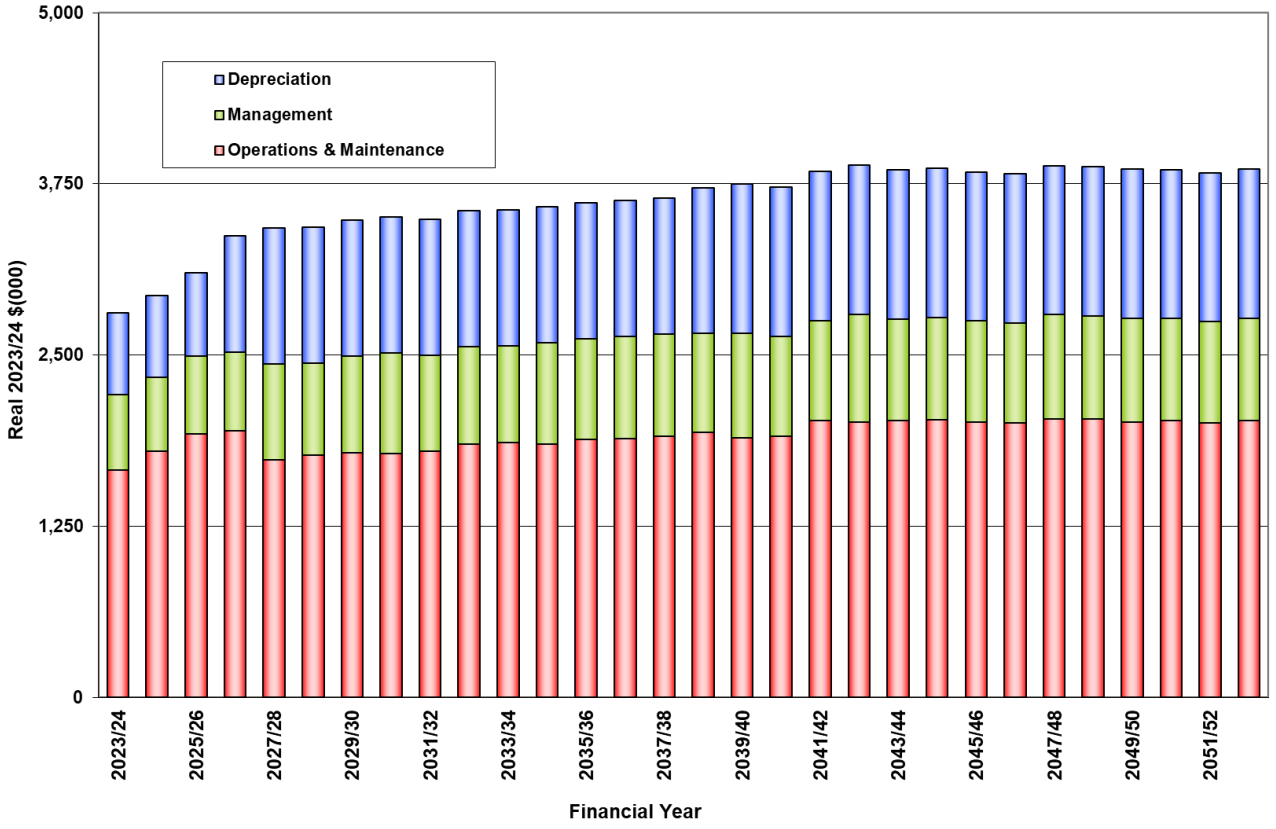


Figure 15-3: 30-year Recurrent O&M cost summary –Water supply

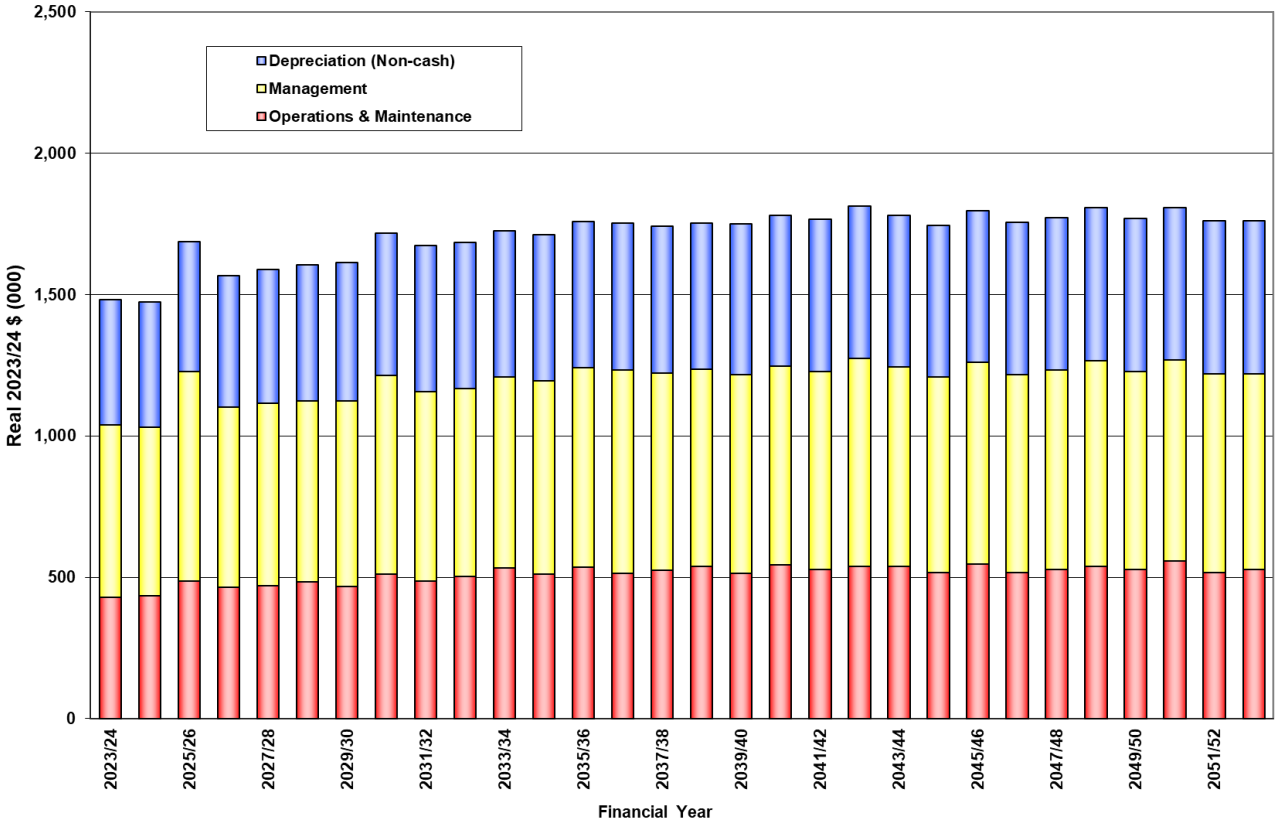


Figure 15-4: 30-year Recurrent O&M cost summary –Sewerage

16. Financial plan

This section presents the details of long-term financial plans for water supply and sewerage services for the Council preferred IWCM scenario TAM Plans. The overall goal of financial planning is to determine the lowest, sustainable price path for the water supply and sewerage services on which to base Council's tariff structures. The details of assumptions, input data and output financial projections for the preferred IWCM scenarios are presented in this plan. Sensitivity of financial forecasts to possible changes to key financial model input parameters are also presented in this section.

16.1 Financial modelling methodology

FINMOD 4.0, the software developed by DCCEEW was used to develop the water and sewer fund financial models. The financial models have been developed for a 30-year planning horizon.

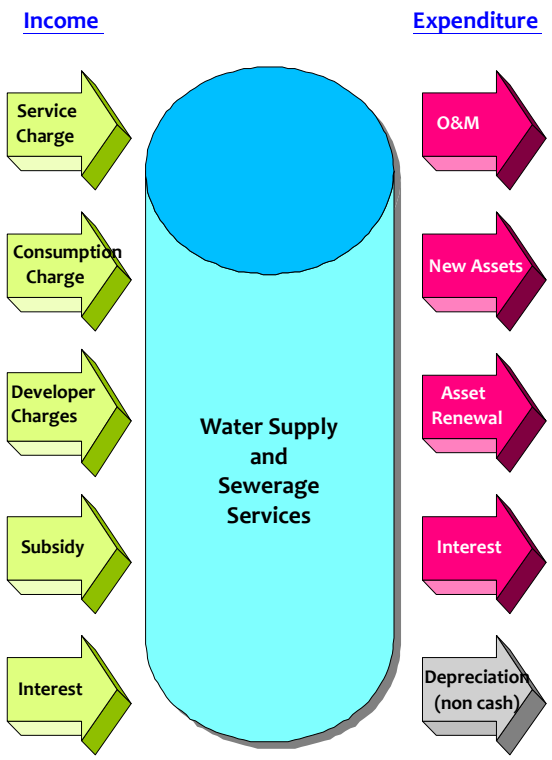
A stable level of annual residential charges for water supply and sewerage services has been achieved using Finmod by optimising the long-term funding strategy in meeting the demands of the capital works programs and day-to-day operations, while ensuring a minimum level of cash liquidity. For a particular Level of Service (LOS), FINMOD enables examination of the financial models for 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 16-1 illustrates the main income and expenditure elements which affect the financial modelling.

The goals of the financial modelling 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 typical residential annual charges over the long- term.

Figure 16-1: Elements of financial modelling



The long-term financial plans demonstrate the sustainability of future actions and also 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.

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. DCCEEW encourages the use of long-term loans because they support the idea of intergenerational equity and 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 negotiated to arrive at a satisfactory levels of annual charges. For example, to reduce the level of annual charges, Council may delay some of the capital works, reduce customer levels of service for service interruptions, or may take long-term 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.

DCCEEW's Regulatory and Assurance Framework for Local Water Utilities, July 2022 suggests that several sensitivities should be carried out to test the robustness of the forecasts. With regards to controllable variables, such as type of

loan structure, and levels of developer charges, the financial 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.

On-going Review

Over time, changes in model variables can have a significant impact on the accuracy of model forecasts, 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. The Regulatory and Assurance Framework for Local Water Utilities recommends annual updates if a Council has an active capital works program that requires government grant or subsidy.

16.2 Financial model inputs

Several variables and assumptions have been used in the development of the base case of the water and sewer fund financial models (Appendix E) and are summarised in Table 16-1 and Table 16-2. All costs and revenues of the input data (and the model outcomes) are in 2023-24 dollars unless stated otherwise.

The model assumptions are based on a representative view of the impact of a number of factors. They have been grouped into the following 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 16-1: Key Input Parameters – Water Fund Financial Model

Data Type	Input Data/ Assumption
Historical Data Source	Council's Financial Data Returns (FDRs) for 2021-22 and 2022-23
Financial Data	Average annual long-term inflation rate: 3.5% p.a. Annual Investment Interest Rate: 5.5% p.a. (default) – 5.0% p.a. adopted Annual Borrowing Interest Rate: 6.5% p.a. (default) – 6.5% p.a. adopted
Opening balances as of June 2023	Total cash & investments: $563 K; Borrowing outstanding: Nil Minimum cash & investments: $500 K Terms of new loans: 20 years
Demographic Base Data (2022-23)	Total residential assessments – 2,038 (including 61 unoccupied/ vacant) Total non-residential assessments – 410 (including 32 unoccupied/ vacant) Long-term (30 years) average assessment growth: 0.5% p.a. - Average 25 new customers p.a. for the first 15 years - Average 5 new customers p.a. during 16th to 20th years - Nil growth after 20 years
Revenue Splits	From 2023-24 onwards – 78%: 22% (Residential: Non-residential)

Current Annual Charges (2023-24)*	**Residential and Commercial:** Access Charge : $285 p.a. (20mm meter size) - $294 p.a. for 2024-25 Usage Charge: $2.35 per KL – For all consumption - $2.70 per KL for 2024-25 Av. residential water consumption: 315 KL/a Typical Residential Bill for 2023-24: $1,030 p.a. - $1,150 p.a. for 2024-25

* - For larger than 20 mm meter size water connections, the annual access charges increase by the square of the proportion of larger meter sizes to 20 mm.

Table 16-2: Key Input Parameters – Sewer Fund Financial Model

Data Type	Input Data/ Assumption
Historical Data	Council's Financial Data Returns (FDRs) for 2021-22 and 2022-23
Financial Data	Average annual long-term inflation rate: 3.0% p.a. Annual Investment Interest Rate: 5.5% p.a. (default) – 5.0% p.a. adopted Annual Borrowing Interest Rate: 6.5% p.a. (default) – 6.5% p.a. adopted
Opening Balances (as of June 2023)	Total cash and investments: $7,089 K; Borrowing outstanding: Nil Minimum cash & investments: $500 K Terms of new loans: 20 years
Demographic Base Data (2023-24)	Total residential assessments: 1,844 (including 84 unoccupied/ vacant) Total non-residential assessments: 391 (including 53 unoccupied/ vacant) Long-term average assessment growth: 0.5% p.a. (same as for water) - Average 25 new customers p.a. for the first 15 years - Average 5 new customers p.a. during 16th to 20th years - Nil growth after 20 years
Revenue Splits	From 2024-25 onwards – 77%: 23% (Residential: Non-residential)
Current Annual Charges (2023-24)	**Residential annual charge (all meter sizes):** - Occupied: $702 p.a. - $738 for 2024-25 - Vacant: $702 p.a. (100%) - $738 for 2024-25 **Non-residential charge (20mm meter size)*:** - Annual charge: $249.40 p.a. (20 mm meter size) - $262 for 2024-25 - Usage Charge: $2.70 per KL - $2.90 per KL for 2024-25

* - For larger than 20 mm meter size non-residential water connections, the annual sewerage access charges increase by the square of the proportion of larger meter sizes to 20 mm.

16.2.1 Charges

Charging Structure

The projection of typical residential bills (TRBs) for water supply and sewerage are made in 2023-24 dollars. Where feasible, the forecast TRBs are maintained at constant level in real terms to demonstrate that a stable price path is maintained at the lowest level in the long-term based on model assumptions. Any increase in the forecast TRBs where required for the long-term financial viability also are in real 2023-24 dollar values. All 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 for setting its tariff structure for service pricing. The tariff structure is to be reviewed at least every 5 years and indexed in the interim.

Developer charges

First-cut DCs in consideration of the updated costs and timings of the Council preferred IWCM scenario capital work programs have been estimated in accordance with the 2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater. Refer to Section 14.2 for details.

For strategic planning purposes, Council has resolved to cap and adopt the estimated developer charges at the following levels for the financial model forecasts for the preferred IWCM strategy and the corresponding TAMP.

- For water services in all service areas: $5,000 per ET
- For sewerage services in all service areas: $2,000 per ET

16.2.2 Revenues and expenditures

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 Strategy as incorporated in the 30-year Total Asset Management Plan (refer to Section 15.1).

Recurring 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 15.1.

16.2.3 Service provision

Growth projections

The assessment growth forecast as listed in input parameter Tables (refer to section 16.2) for the strategy development has been used for the financial forecasts.

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 for water supply and 90 years for sewerage.

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.

16.2.4 Funding capital works

Some, or all, capital works can be funded directly from accumulated cash reserves. To overcome intergenerational equity issues, it is considered to be a good practice to fully fund renewal programs out of internally generated cash (where practicable) and to borrow only for full or partial funding of new capital acquisitions.

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

Loans are taken out as required also to maintain the adopted minimum cash levels to achieve acceptable levels of TRBs.

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, Infrastructure NSW and Commonwealth Department of Infrastructure and Regional Development, define the extent of the available grants/ subsidies.

The water fund financial model considered 75% government grant/subsidy already secured by the Council for undertaking Narromine water treatment plant upgrade project identified in the 30-year capital works program. The

sewer fund model has not considered availability of grants for any of the planned capital works during the 30-year planning horizon.

16.2.5 Performance measures

Council will annually review and report the performance of the water and sewer funds as required under the strategic planning processes of the Regulatory and Assurance Framework for Local Water Utilities, July 2022.

16.3 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) as identified and adopted by Council.

The Total Asset Management Plan shows the best available cost estimates for the long-term capital, operational and maintenance expenditures and are 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 regular annual budgeting (i.e., short-term financial planning). The model assumes that all expenses and income occur at the beginning of the year and therefore not suitable to track cash flow throughout the year. It is important, however, that the budgeting process is carried out within the framework of the forecasts made in the long-term financial plan.

16.4 Financial model outcomes – Water supply

16.4.1 Projected financial position

The water fund financial model has been developed with reference to the historic input details based on Council's 2021-22 and 2022-23 water income and financial position statements submitted as part of the financial data returns to the Office of Local Government. All costs and revenues in the additional input data and the model outcomes are in 2023-24 dollars unless stated otherwise, and CPI should be applied annually for the forecast years. The financial projections should be reviewed annually with respect to material changes to the proposed capital works program and/or to any of the underlying assumptions.

The preferred IWCM strategy of Council's water fund financial model assumed 75% of the estimated capital cost for undertaking the Narromine water treatment plant upgrade project to be funded through government grant or subsidy (a contribution of $21.5 Million).

Typical residential water bills for the water supply tariff structure adopted by Council for the following years have been estimated and used in the model.

- TRB for 2023-24: $1,030 p.a.
- TRB for 2024-25: $1,150 p.a.
- TRB for 2025-26: $1,275 p.a.

Accordingly, the Typical Residential Bill (TRB) forecasts for the customers for the next 30 years are presented in Figure 16-2 below. The financial model demonstrates that the 2025-26 typical residential water bill of $1,275 p.a. ($1,365

p.a. in 2025-26 dollars) needs to increase by $50 to achieve a TRB of $1,325 p.a. in 2026-27 and can be maintained at that level for all the remaining forecast period (i.e. increases in line with CPI only).

Council's water fund had no outstanding borrowing as of 30 June 2025. The model forecasts indicates that with the recommended price path, new loans to the tune of $7.0 Million will be required to fund Council's contribution of the WTP upgrade works. An additional loan (estimated at $1.0 Million) will be required in 2039-40 to fund Council's contribution of the raw water intake PS and pipeline to WTP project capital works. Note: At this point in time Council has not secured grant funding or subsidy for the pipeline project.

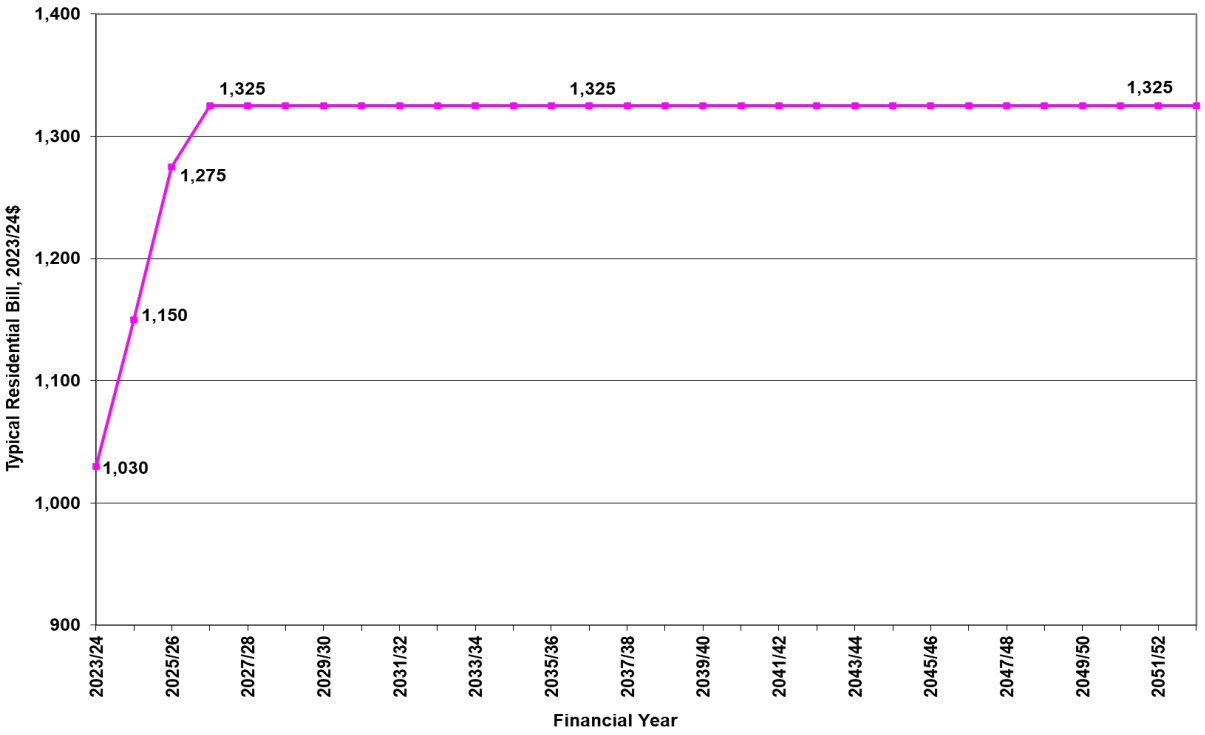


Figure 16-2: Typical Residential Bill - Water supply

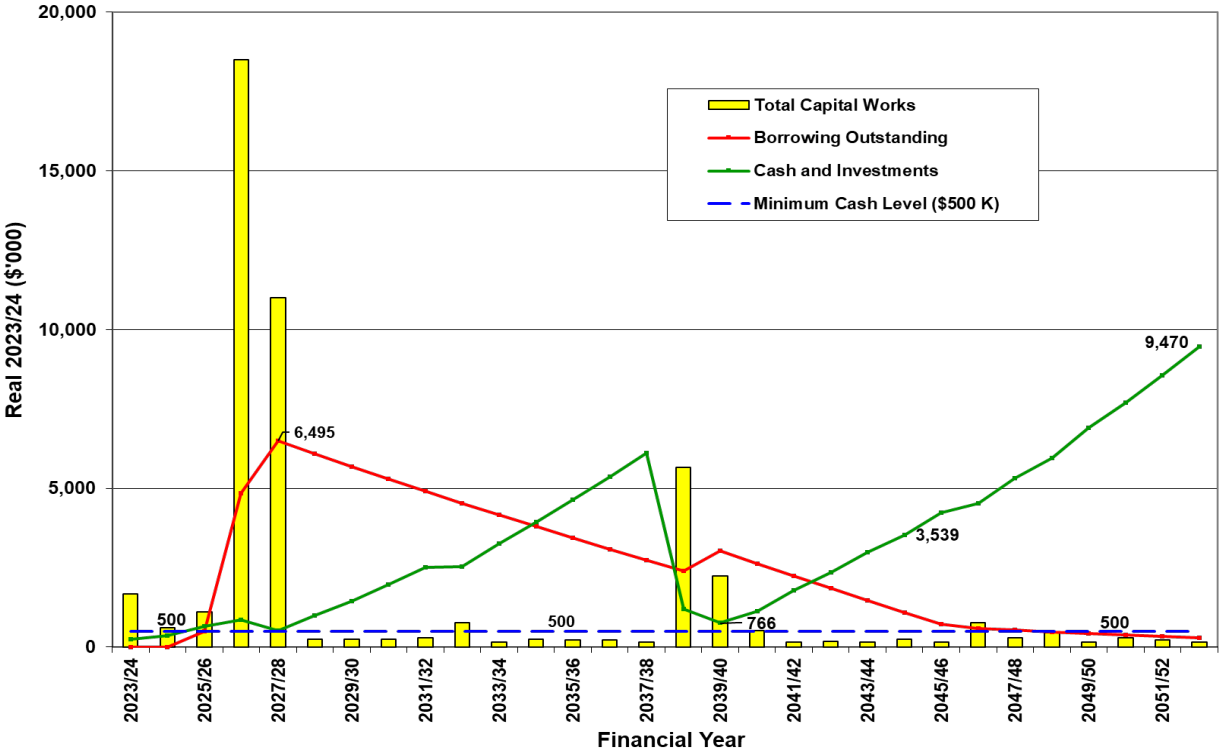


Figure 16-3: Cash and borrowing outstandings projections - Water supply

The levels of cash and borrowing outstandings during the forecast period are presented in Figure 16-3. Forecast borrowing outstandings show that the new loans can be fully paid-off towards the end of forecast period.

The projected levels of TRBs is sufficient to maintain liquidity with a minimum level of cash and investment of $500 K in the water fund from 2025-26 onwards and throughout the forecast period.

Projected financial results for the water fund is presented in Table 16-3. Note that all the projected values are in 2024-25 dollars and will require indexing for CPI for the future years. More detailed financial output statements are presented in Appendix F.

Table 16-3: Projected Financial Results – Water supply

2023/24 ($'000)	Revenue and Expenses			Capital Transactions		Financial Position					System Assets			
Financial Year	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
2023/24	3,593	2,810	-280	1,663	0	254	0	31,987	0	31,987	39,926	8,797	31,129	1,030
2024/25	3,088	2,935	153	606	0	363	0	32,098	0	32,098	39,926	8,790	31,135	1,150
2025/26	3,470	3,130	340	1,103	13	651	487	32,861	487	32,374	40,286	8,651	31,635	1,275
2026/27	17,243	3,689	54	18,510	128	865	4,843	50,703	4,843	45,860	58,599	9,304	49,296	1,325
2027/28	11,784	3,861	-118	11,015	184	525	6,495	60,408	6,495	53,913	69,365	10,047	59,318	1,325
2028/29	3,790	3,839	-49	249	188	987	6,087	60,044	6,087	53,957	69,365	10,791	58,574	1,325
2029/30	3,847	3,867	-20	249	194	1,455	5,687	59,658	5,687	53,971	69,365	11,535	57,830	1,325
2030/31	3,905	3,860	45	249	200	1,967	5,295	59,283	5,295	53,988	69,364	12,278	57,087	1,325
2031/32	3,962	3,822	140	295	205	2,505	4,911	58,947	4,911	54,036	69,365	12,976	56,389	1,325
2032/33	4,004	3,861	143	775	213	2,541	4,532	58,697	4,532	54,165	69,365	13,194	56,171	1,325
2033/34	4,057	3,841	216	150	218	3,267	4,161	58,312	4,161	54,151	69,365	14,037	55,328	1,325
2034/35	4,114	3,840	274	240	224	3,932	3,796	57,942	3,796	54,146	69,365	14,790	54,575	1,325
2035/36	4,172	3,848	324	225	232	4,631	3,436	57,550	3,436	54,114	69,365	15,559	53,806	1,325
2036/37	4,228	3,843	385	220	238	5,367	3,082	57,149	3,082	54,067	69,365	16,332	53,033	1,325
2037/38	4,178	3,835	343	150	245	6,102	2,733	56,645	2,733	53,912	69,365	17,176	52,189	1,325
2038/39	4,067	3,891	177	5,664	252	1,196	2,388	58,190	2,388	55,802	74,665	17,876	56,789	1,325
2039/40	4,038	3,960	78	2,248	285	766	3,022	59,077	3,022	56,055	76,665	18,719	57,946	1,325
2040/41	4,051	3,913	138	520	294	1,130	2,626	58,696	2,626	56,070	76,665	19,289	57,376	1,325
2041/42	4,075	4,001	74	150	303	1,779	2,234	58,085	2,234	55,851	76,665	20,230	56,435	1,325
2042/43	4,070	4,023	47	170	312	2,351	1,847	57,429	1,847	55,582	76,665	21,151	55,515	1,325
2043/44	4,085	3,961	124	150	321	2,991	1,463	56,769	1,463	55,306	76,665	22,091	54,574	1,325
2044/45	4,098	3,951	147	233	331	3,539	1,082	56,128	1,082	55,046	76,665	22,948	53,717	1,325
2045/46	4,112	3,901	211	150	319	4,228	727	55,453	727	54,726	76,665	23,888	52,777	1,325
2046/47	4,116	3,866	250	760	121	4,521	582	55,188	582	54,606	76,665	24,218	52,447	1,325
2047/48	4,131	3,920	212	299	32	5,315	530	54,676	530	54,146	76,665	25,009	51,656	1,325
2048/49	4,141	3,909	231	456	33	5,944	479	54,229	479	53,750	76,665	25,643	51,022	1,325
2049/50	4,160	3,887	273	150	34	6,898	428	53,594	428	53,166	76,665	26,583	50,082	1,325
2050/51	4,171	3,882	289	298	35	7,688	379	53,018	379	52,639	76,665	27,376	49,290	1,325
2051/52	4,184	3,856	329	225	36	8,562	330	52,384	330	52,054	76,665	28,241	48,425	1,325
2052/53	4,197	3,878	319	150	38	9,470	281	51,668	281	51,387	76,665	29,181	47,485	1,325

16.4.2 Sensitivity of financial projections – Water supply

Following sensitivities of the water fund financial model forecasts for the preferred strategy were analysed:

- No grant/ subsidy for the WTP upgrade program
- 30% increase to cost estimates of all planned capital works
- Interest rates for new loans are at 9% p.a. instead of default 6.5% p.a.

The impacts of these variables on the water supply TRB forecasts, borrowing outstandings and cash levels for water fund are summarised in the following figures.

The sensitivity analysis demonstrates that the model forecast TRBs are sensitive to all of the above parameters as shown in the following sensitivity analysis graphs.

In particular, in a no grant/ subsidy for the WTP upgrade scenario, the planned upgrade works will need to be fully funded by new loans to the tune of $30 Million. The huge increase in TRB and the borrowing outstandings as shown in the following graphs demonstrate the impacts due to the additional revenue required to servicing this loan.

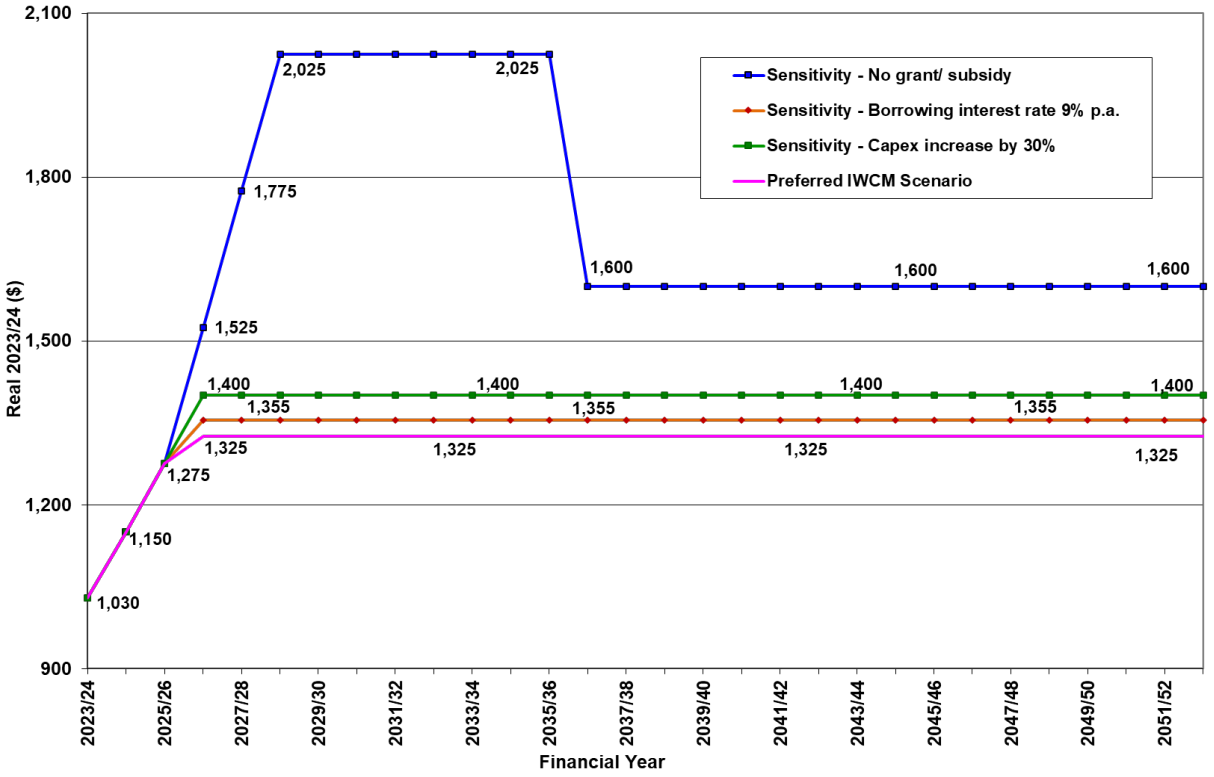


Figure 16-4: Sensitivity of TRB forecasts – Water supply

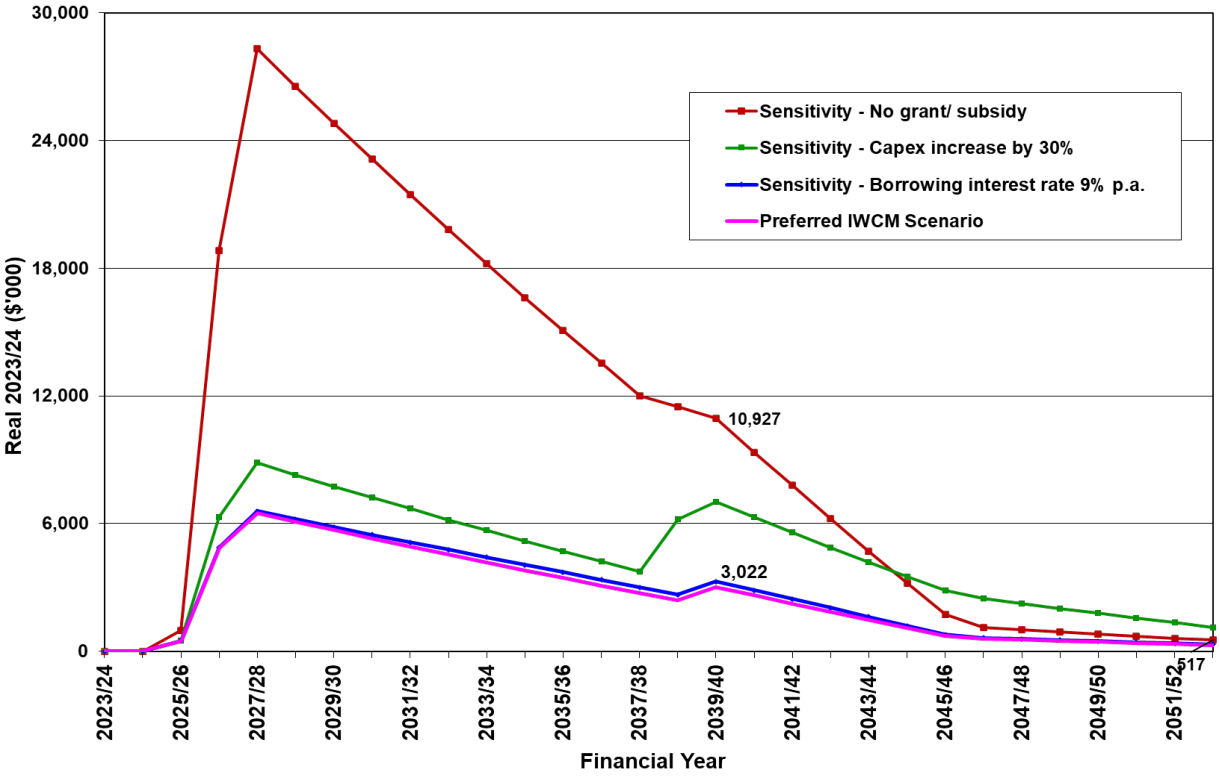


Figure 16-5: Sensitivity of Borrowing outstandings – Water supply

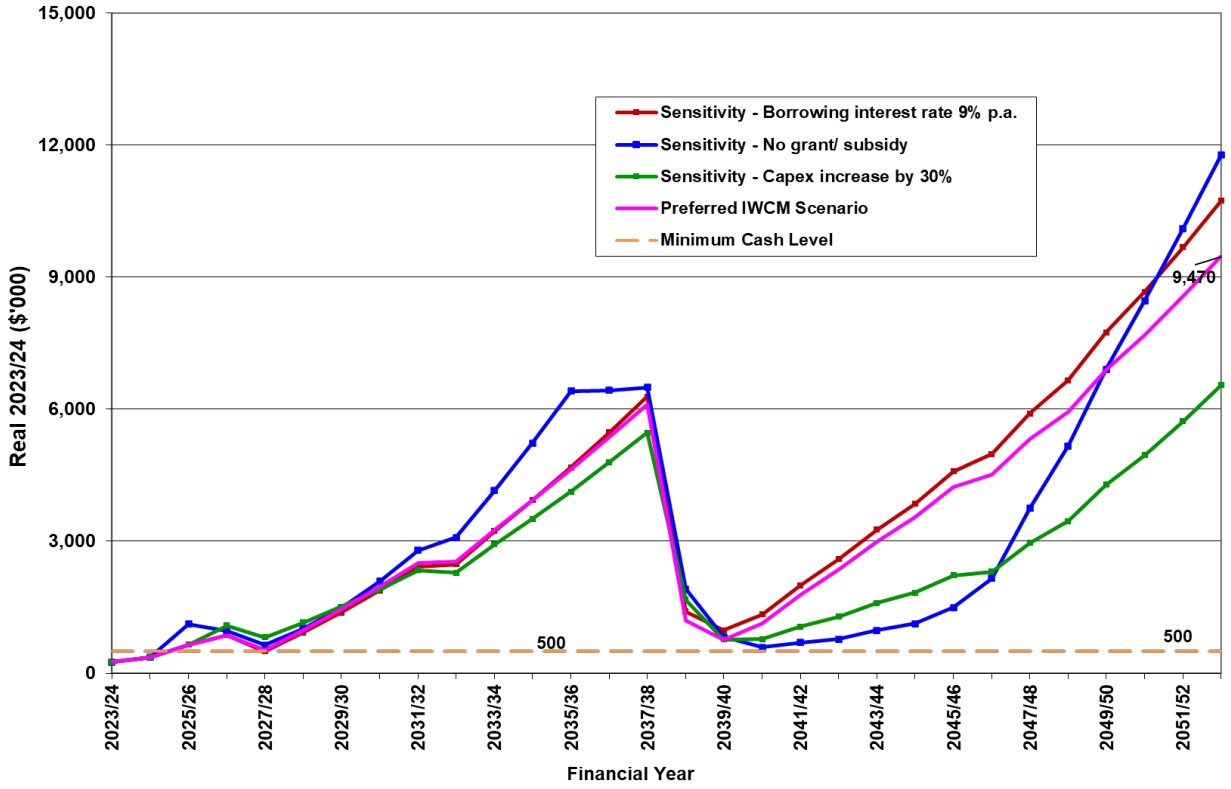


Figure 16-6: Sensitivity of Cash & Investments – Water supply

16.5 Financial model outcomes – Sewerage

16.5.1 Projected financial position

All costs and revenues in the input data and the model outcomes are in 2023-24 dollars unless stated otherwise, and CPI should be applied annually for the forecast years. The financial projections should be reviewed annually with respect to material changes to the proposed capital works program and/or to any of the underlying assumptions.

The preferred IWCM strategy of Council's sewer fund financial model has not considered any government grants or subsidies for any of the planned capital works during the 30-year forecast period.

Typical residential sewerage bills based on the annual sewerage access charges for the residential customers adopted by Council for the following years have been used in the model.

- TRB for 2023-24: $702 p.a.
- TRB for 2024-25: $715 p.a.
- TRB for 2025-26: $715 p.a.

Accordingly, the Typical Residential Bill (TRB) forecasts for the customers for the next 30 years are presented in Figure 16-7 below. The financial model demonstrates that the 2025-26 typical residential sewerage access charges of $715 p.a. ($761 p.a. in 2025-26 dollars) can be maintained at that level for all the remaining forecast period (i.e. increases in line with CPI only).

Council's water fund had no outstanding borrowing as of 30 June 2025. The model forecasts demonstrate that with the recommended price path, no new loans will be required fund any of the planned capital works during the 30-year forecast period.

The forecast levels of TRBs is sufficient to maintain liquidity with a minimum level of cash and investment of $500 K in the sewer fund throughout the forecast period. The levels of cash and borrowing outstandings during the forecast period are presented in Figure 16-8.

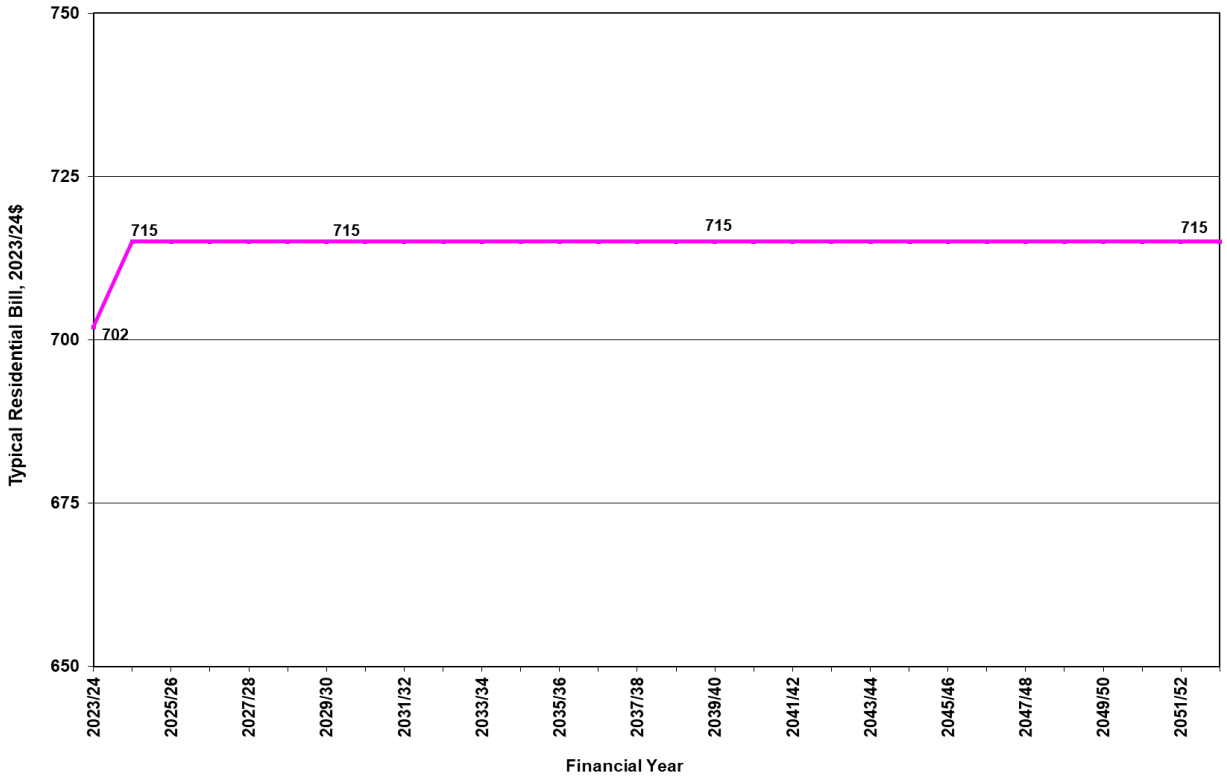


Figure 16-7: Typical Residential Bill - Sewerage

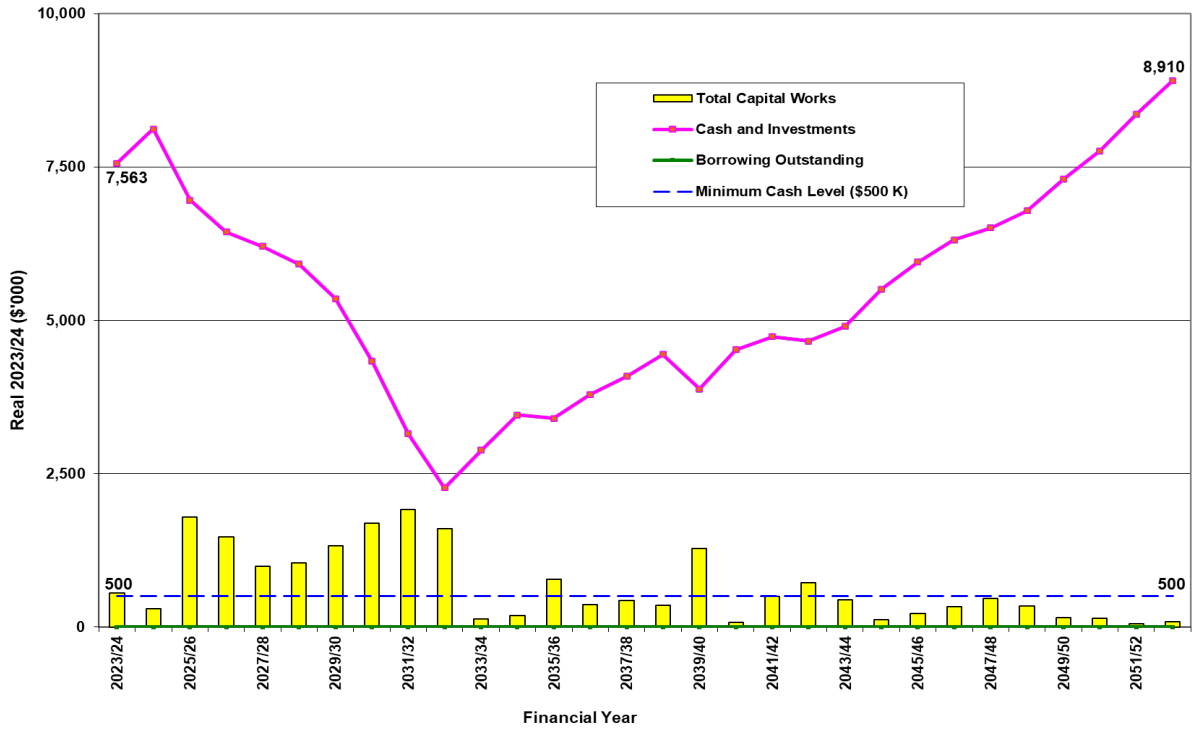


Figure 16-8: Cash and borrowing outstandings projections – Sewerage

Projected financial results for the water fund is presented in Table 16-4. Note that all the projected values are in 2024-25 dollars and will require indexing for CPI for the future years. More detailed financial output statements are presented in Appendix F.

Table 16-4: Projected Financial Results – Sewerage

2023/24 ($'000)	Revenue and Expenses			Capital Transactions		Financial Position					System Assets			
Financial Year	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
2023/24	2,086	1,482	604	554	0	7,563	0	37,834	0	37,834	38,290	8,415	29,875	702
2024/25	2,159	1,475	684	300	0	8,118	0	38,248	0	38,248	38,545	8,815	29,729	715
2025/26	2,153	1,689	464	1,788	0	6,960	0	38,424	0	38,424	39,856	8,798	31,058	715
2026/27	2,307	1,568	739	1,472	0	6,440	0	38,913	0	38,913	40,582	8,520	32,062	715
2027/28	2,110	1,589	521	993	0	6,206	0	39,203	0	39,203	41,048	8,466	32,582	715
2028/29	2,109	1,605	504	1,044	0	5,918	0	39,483	0	39,483	41,742	8,595	33,147	715
2029/30	2,100	1,613	487	1,323	0	5,355	0	39,757	0	39,757	42,663	8,684	33,979	715
2030/31	2,078	1,717	361	1,686	0	4,334	0	39,922	0	39,922	43,773	8,611	35,162	715
2031/32	2,047	1,673	374	1,911	0	3,149	0	40,135	0	40,135	44,933	8,376	36,557	715
2032/33	2,021	1,684	337	1,606	0	2,271	0	40,351	0	40,351	44,958	7,312	37,646	715
2033/34	2,041	1,726	315	126	0	2,881	0	40,574	0	40,574	44,958	7,702	37,256	715
2034/35	2,076	1,712	364	187	0	3,459	0	40,826	0	40,826	44,958	8,032	36,926	715
2035/36	2,093	1,758	335	773	0	3,402	0	41,029	0	41,029	44,958	7,776	37,182	715
2036/37	2,117	1,754	363	360	0	3,790	0	41,263	0	41,263	45,189	8,165	37,023	715
2037/38	2,091	1,741	350	430	0	4,085	0	41,470	0	41,470	45,202	8,267	36,935	715
2038/39	2,102	1,754	349	353	0	4,446	0	41,665	0	41,665	45,202	8,433	36,768	715
2039/40	2,092	1,749	343	1,274	0	3,882	0	41,842	0	41,842	46,426	8,917	37,509	715
2040/41	2,104	1,781	323	70	0	4,521	0	42,019	0	42,019	46,426	9,381	37,046	715
2041/42	2,111	1,765	346	499	0	4,736	0	42,197	0	42,197	46,651	9,643	37,008	715
2042/43	2,098	1,812	286	723	0	4,661	0	42,308	0	42,308	46,657	9,463	37,194	715
2043/44	2,100	1,781	319	443	0	4,901	0	42,454	0	42,454	46,663	9,563	37,100	715
2044/45	2,111	1,745	366	113	0	5,510	0	42,638	0	42,638	46,663	9,988	36,676	715
2045/46	2,118	1,797	320	214	0	5,952	0	42,757	0	42,757	46,664	10,311	36,352	715
2046/47	2,123	1,756	366	327	0	6,315	0	42,907	0	42,907	46,888	10,750	36,139	715
2047/48	2,123	1,772	350	469	0	6,508	0	43,028	0	43,028	46,894	10,827	36,067	715
2048/49	2,125	1,807	318	346	0	6,785	0	43,111	0	43,111	46,900	11,027	35,873	715
2049/50	2,132	1,769	363	146	0	7,297	0	43,229	0	43,229	46,900	11,421	35,479	715
2050/51	2,137	1,810	327	141	0	7,761	0	43,294	0	43,294	46,900	11,821	35,079	715
2051/52	2,144	1,761	383	50	0	8,357	0	43,399	0	43,399	46,900	12,311	34,589	715
2052/53	2,150	1,760	390	79	0	8,910	0	43,492	0	43,492	46,900	12,772	34,128	715

16.5.2 Sensitivity of financial projections – Sewerage

As no grant/ subsidy or new loans are forecast for the sewer fund financial model, only one sensitivity of the model forecasts, namely, for a 30% increase to the estimated costs of all planned capital works was analysed. The impacts of this variable on the sewerage TRB forecasts, borrowing outstandings and cash levels for sewer fund are summarised in the following figures.

The sensitivity analysis demonstrates that the model forecast TRBs are sensitive to increase in estimated costs of the major capital projects that will required TRB increases from 202627 onwards.

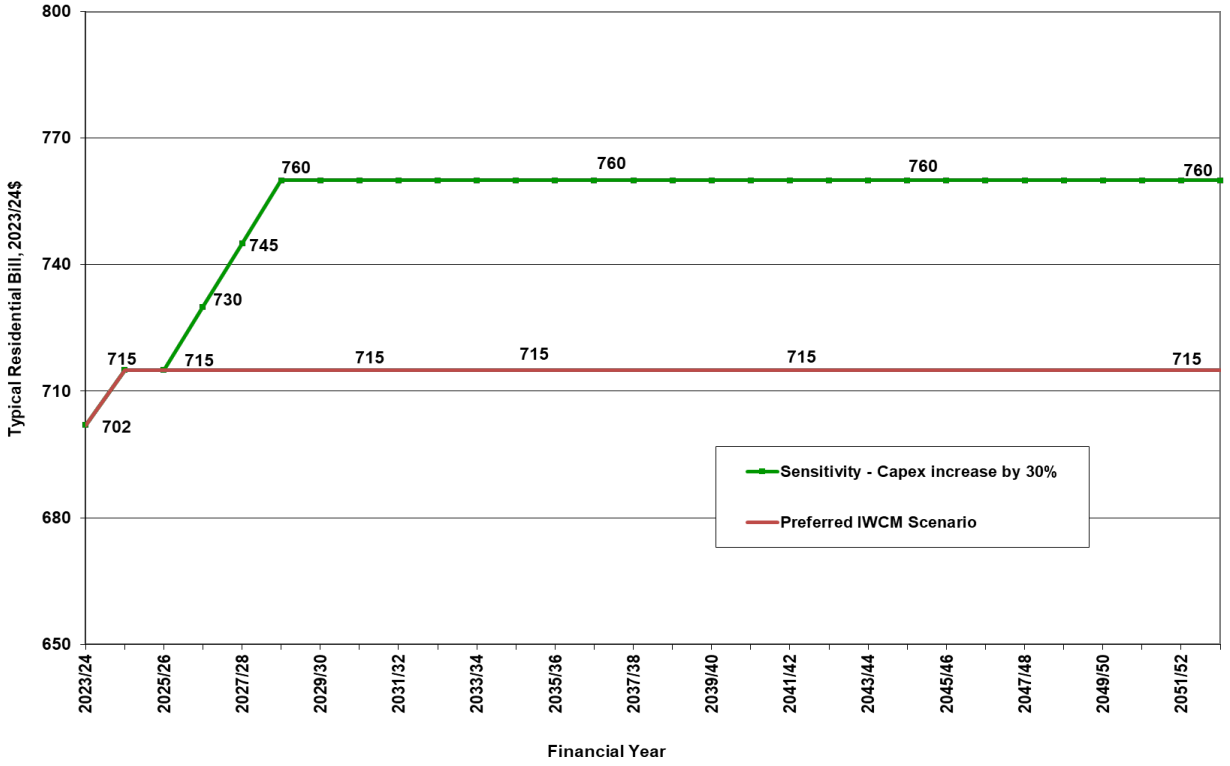


Figure 16-9: Sensitivity of TRB forecasts – Sewerage

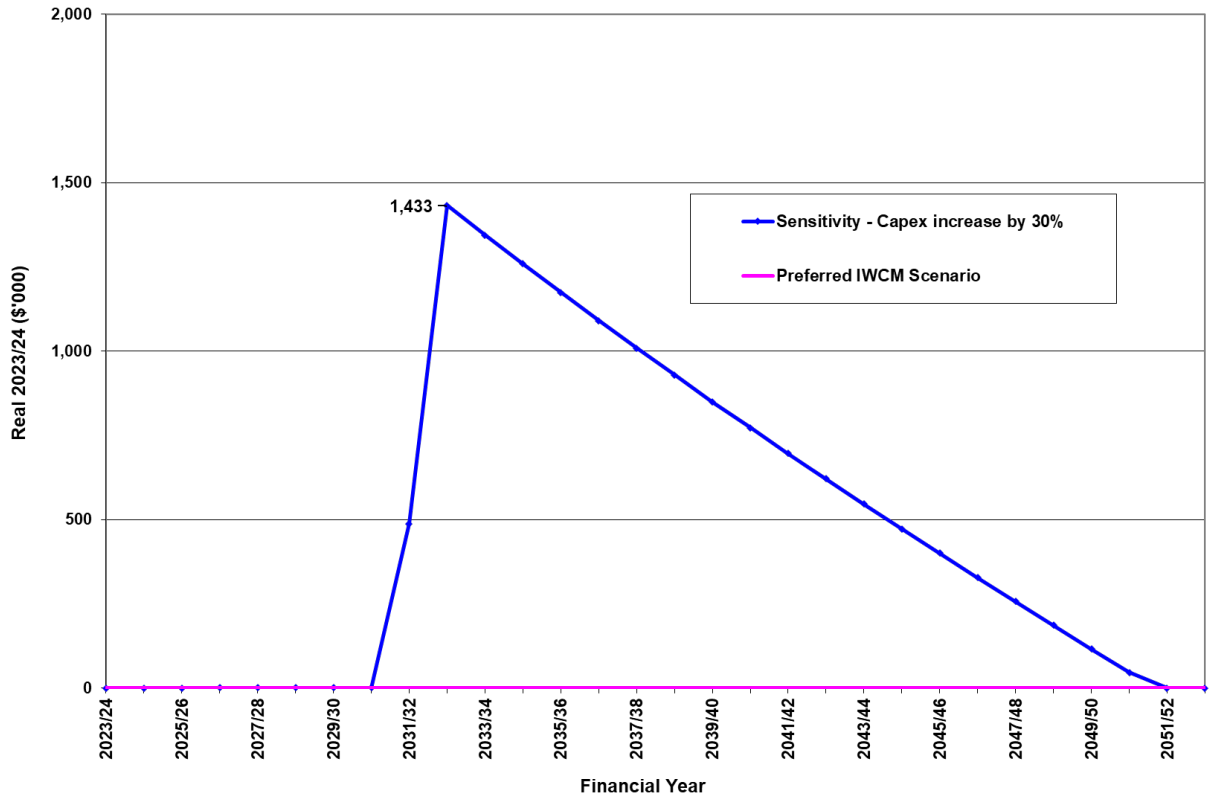


Figure 16-10: Sensitivity of Borrowing outstandings – Sewerage

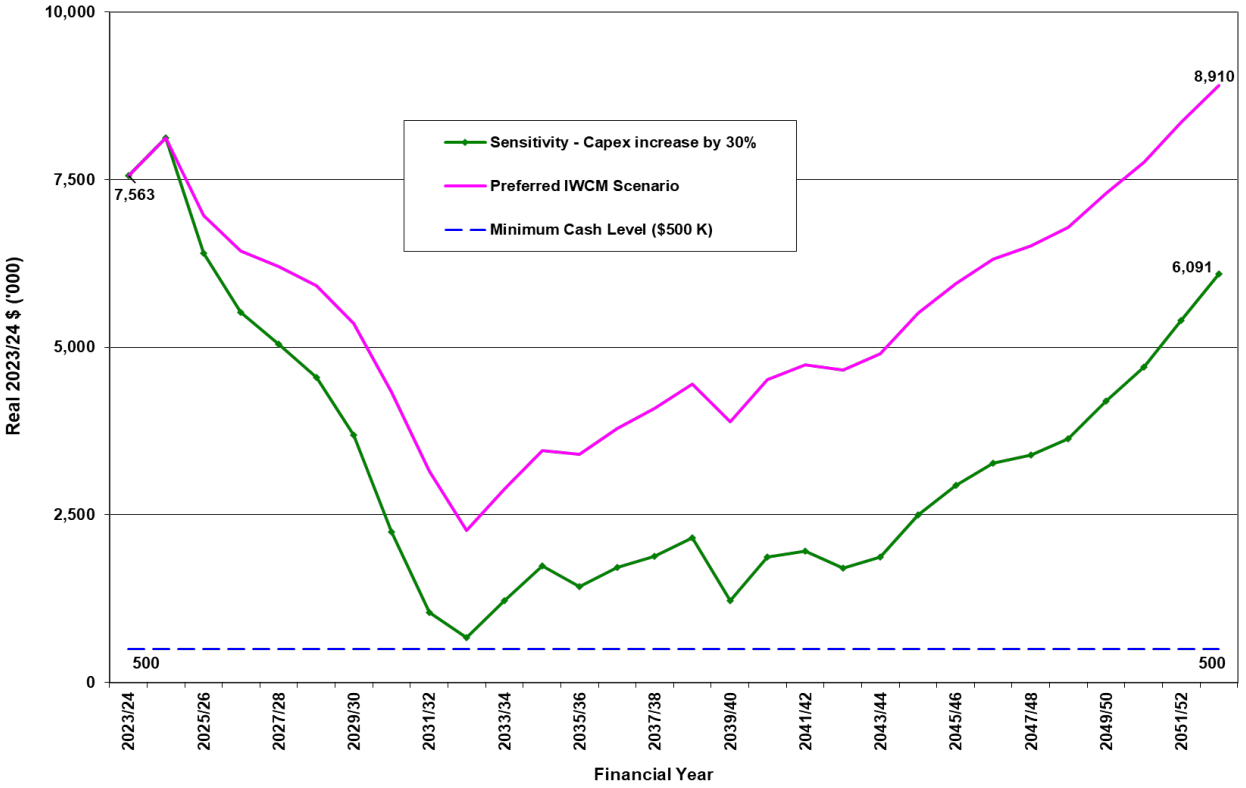


Figure 16-11: Sensitivity of Cash and Investments – Sewerage

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Appendix A Present value cost analysis

A.1 Scenario 1 – water supply

A.2 Scenario 1 – sewerage

A.3 Scenario 2 – water supply

A.4 Scenario 2 - sewerage

Narromine Shire Council - Scenario 1

Water Supply

ITEM	ILOS %	Growth %	DESCRIPTION	AMT $'000	PRESENT WORTH ($'000) 4%	7%	10%	All costs in $'000 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	2053	2054	2055
1.0			**CAPITAL COSTS**																																			
1.1	90%	10%	**Drought reliability of the water supply - supplement existing source with water from Macquarie River**																																			
			Raw water pumping station, intake and pipeline to water treatment pla	7,300	4,053	2,646	1,748	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.2	90%	10%	**High risk of chlorine sensitive and chlorine resistant pathogens**																																			
			Upgrade existing temporary plan	28,720	28,720	28,720	28,720	28,720		0	0	0	0	0	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%	**Non-revenue water**																																			
			Community education program, water loss management plan, appliance replaceme rebate	150	139	131	124	0	50	50	50		0	0	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 contingency, SID & PM & CM)	**36,170**	**32,912**	**31,497**	**30,592**	**28,720**	**50**	**50**	**50**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7,300**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
2.0			**OPERATION AND MAINTENANCE COSTS**																																			
2.1	90%	10%	**Drought reliability of the water supply - supplement existing source with water from Macquarie River**																																			
			Raw water pumping station, intake and pipeline to water treatment pla	1,193	491	262	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	79	79	80	80	80	80	80	80	80	80	80	80	80	80
2.2	90%	10%	**High risk of chlorine sensitive and chlorine resistant pathogens**																																			
			Upgrade existing temporary plan	11,120	6,360	4,538	3,429	0	350	352	354	357	359	361	363	364	366	368	369	371	373	374	376	376	377	377	378	378	378	378	378	378	378	378	378	378	378	378
			TOTAL OPERATION & MAINTENANCE COSTS	**12,313**	**6,851**	**4,800**	**3,574**	**0**	**350**	**352**	**354**	**357**	**359**	**361**	**363**	**364**	**366**	**368**	**369**	**371**	**373**	**374**	**376**	**456**	**456**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**
3.0			**AVOIDED COSTS**																																			
			None	0	0	0	0	0	0	0	0	0	0	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	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**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	**19,763**	**39,763**	**36,297**	**34,166**	**28,720**	**400**	**402**	**404**	**357**	**359**	**361**	**363**	**364**	**366**	**368**	**369**	**371**	**373**	**374**	**7,676**	**456**	**456**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**	**457**
			Average demand					662	675	688	700	713	726	735	744	752	761	770	779	788	796	805	814	816	818	821	823	825	825	825	825	825	825	825	825	825	825	825

Sewerage

ITEM	ILOS %	Growth %	DESCRIPTION	AMT $'000	PRESENT WORTH ($'000) 4%	7%	10%	All costs in $'000 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	2053	2054	2055
1.0			**CAPITAL COSTS**																																			
1.1	100%	0%	**Reduce overflows at SPS1**																																			
	100%	0%	provide new pumps in SPS 1 with pumping rate upgraded to 68 L/s and relate switchboard upgrades	430	430	430	430	430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0%	100%	Increase the storage capacity by the construction of a new wet we	1,000	555	362	239		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000																
1.2	100%	0%	**Surcharging in Catchment 2**																																			
			upgrade the SPS 2 pumping rate to at least 25 L/s with associated switchboard upgrad	200	115	78	53	0	0		0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.3	100%	0%	**Performance and reliability of Narromine STP**																																			
			Screening system at STP inlet work	350	350	350	350	350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Septage receival system at the STF	500	500	500	500	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			De-sludge primary oxidation pon	350	337	327	318	0	350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.4	100%	0%	**Trangie sewerage scheme**																																			
			Underake investigations recommended in the GHD repor	100	100	100	100	100		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.5	100%	0%	**Unserviced area**																																			
			Sewering of Davis Drive - gavity reticulatior	550	452	392	342	$0	$0	$0	$0	$0	550																											
			Sewering of Davis Drive - transfer pumping statior	180	148	128	112	0	0	0	0	0	180	0	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, 10% SID & 10% PM & CM)	**3,660**	**2,983**	**2,663**	**2,439**	**1,380**	**350**	**0**	**0**	**0**	**730**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,200**	**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%	**Reduce overflows at SPS1**																																			
			provide new pumps in SPS 1 with pumping rate upgraded to 68 L/s and related switchboard upgrades (O&M costs assumed to be similar as current pumps as this is just a replacement with a slight increase in capacity)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Increase the storage capacity by the construction of a new wet well replacing th existing well.	0	0	0	0	0	0	0	0	0	0	0	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%	**Surcharging in Catchment 2**																																			
			upgrade the SPS 2 pumping rate to at least 25 L/s with associated switchboard upgrad	0	0	0	0	0	0	0	0	0	0	0	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%	**Performance and reliability of Narromine STP**																																			
			Screening system at STP inlet work	368	198	135	97	0	7	7	7	7	7	11	11	11	11	11	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
			Septage receival system at the STF	75	43	31	24	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2.5	100%	0%	**Unserviced area**																																			
			Sewering of Davis Drive - gavity reticulatior	57	29	19	13	0	0	0	0	0	0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
			Sewering of Davis Drive - pumped sewerage systen	151	78	50	34	0	0	0	0	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
			TOTAL OPERATION & MAINTENANCE COSTS	**651**	**348**	**235**	**168**	**0**	**10**	**10**	**10**	**10**	**10**	**21**	**21**	**21**	**21**	**21**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**
3.0			**AVOIDED 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	0	0	0	0	0	0	0	0	0	0
			TOTAL AVOIDED 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**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
			TOTAL PRESENT VALUE	**2,931**	**3,331**	**2,898**	**2,606**	**1,380**	**360**	**10**	**10**	**10**	**740**	**21**	**21**	**21**	**21**	**21**	**25**	**25**	**25**	**25**	**1,225**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**

Narromine Shire Council - Scenario 2

Water Supply

ITEM	ILOS %	Growth %	DESCRIPTION	AMT $'000	PRESENT WORTH ($'000) 4%	7%	10%	All costs in $'000 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	2053	2054	2055
1.0			**CAPITAL COSTS**																																			
1.1	90%	10%	**Drought reliability of the water supply - Continue to use additional bores and augment capacity of the borefield to meet future demand**																																			
			Construct and equip 3 additional bores ($1.5M per bore	4,500	2,499	1,631	1,077	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Approx 20 km transfer pipeline (250mm HDPE/poly	10,000	5,553	3,624	2,394	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,000															
			Intermediate pumping statio	2,000	1,111	725	479	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000															
			Power supply	3,500	1,943	1,269	838	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,500															
1.2	90%	10%	**High risk of chlorine sensitive and chlorine resistant pathogens**																																			
			Conventional treatment plant with sedimentation tank and mechanical dewateri	26,970	26,970	26,970	26,970	26,970		0	0	0	0	0	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%	**Non-revenue water**																																			
			Community education program, water loss management plan, appliance replaceme rebate	150	139	131	124	0	50	50	50		0	0	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 contingency, SID & PM & CM)	**47,120**	**38,214**	**34,350**	**31,882**	**26,970**	**50**	**50**	**50**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20,000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
2.0			**OPERATION AND MAINTENANCE COSTS**																																			
2.1	90%	10%	**Drought reliability of the water supply - supplement existing source with water from Macquarie River**																																			
			Additional bores	180	96	61	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Pipeline	50	27	17	11		0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Intermediate pumping statio	40	21	14	9		0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	90%	10%	**High risk of chlorine sensitive and chlorine resistant pathogens**																																			
			Conventional treatment plant with sedimentation tank and mechanical dewateri	20,447	11,729	8,388	6,352	0	658	660	663	666	669	671	672	674	676	678	680	682	684	686	687	688	688	689	689	690	690	690	690	690	690	690	690	690	690	690
			TOTAL OPERATION & MAINTENANCE COSTS	**20,717**	**11,874**	**8,479**	**6,411**	**0**	**658**	**660**	**663**	**666**	**669**	**671**	**672**	**674**	**676**	**678**	**680**	**682**	**684**	**686**	**687**	**958**	**688**	**689**	**689**	**690**	**690**	**690**	**690**	**690**	**690**	**690**	**690**	**690**	**690**	**690**
3.0			**AVOIDED COSTS**																																			
			None	0	0	0	0	0	0	0	0	0	0	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	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**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	**40,867**	**50,088**	**42,829**	**38,293**	**26,970**	**708**	**710**	**713**	**666**	**669**	**671**	**672**	**674**	**676**	**678**	**680**	**682**	**684**	**686**	**20,687**	**958**	**688**	**689**	**689**	**690**	**690**	**690**	**690**	**690**	**690**	**690**	**690**	**690**	**690**	**690**
			Average demand					662	675	688	700	713	726	735	744	752	761	770	779	788	796	805	814	816	818	821	823	825	825	825	825	825	825	825	825	825	825	825

Sewerage

ITEM	ILOS %	Growth %	DESCRIPTION	AMT $'000	PRESENT WORTH ($'000) 4%	7%	10%	All costs in $'000 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	2053	2054	2055
1.0			**CAPITAL COSTS**																																			
1.1	100%	0%	**Reduce overflows at SPS1**																																			
	100%	0%	provide new pumps in SPS 1 with pumping rate upgraded to 68 L/s and relate switchboard upgrades	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0%	100%	Increase the storage capacity by the construction of a new wet we	1,000	1,000	1,000	1,000	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
1.2	100%	0%	**Surcharging in Catchment 2**																																			
			upgrade the SPS 2 pumping rate to at least 25 L/s with associated switchboard upgrad	200	115	78	53	0	0		0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.3	100%	0%	**Performance and reliability of Narromine STP**																																			
			Screening system at STP inlet works	350	288	250	217	0	0	0	0	0	350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Septage receival system at the STF	500	411	356	310	0	0	0	0	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			De-sludge primary oxidation pon	350	337	327	318	0	350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.4	100%	0%	**Trangie sewerage scheme**																																			
			Underake investigations recommended in the GHD repor	100	100	100	100	100		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.5	100%	0%	**Unserviced area**																																			
			Sewering of Davis Drive - Low pressure sewer system	600	493	428	373	$0	$0	$0	$0	$0	600																											
			TOTAL CAPITAL COST (including 30% contingency, 10% SID & 10% PM & CM)	**3,100**	**2,739**	**2,533**	**2,366**	**1,100**	**350**	**0**	**0**	**0**	**1,450**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**200**	**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%	**Reduce overflows at SPS1**																																			
			provide new pumps in SPS 1 with pumping rate upgraded to 68 L/s and related switchboard upgrades (O&M costs assumed to be similar as current pumps as this is just a replacement with a slight increase in capacity)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Increase the storage capacity by the construction of a new wet well replacing th existing well.	0	0	0	0	0	0	0	0	0	0	0	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%	**Surcharging in Catchment 2**																																			
			upgrade the SPS 2 pumping rate to at least 25 L/s with associated switchboard upgrad	0	0	0	0	0	0	0	0	0	0	0	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%	**Performance and reliability of Narromine STP**																																			
			Screening system at STP inlet works	252	127	80	53	0	0	0	0	0	0	0	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
			Septage receival system at the STF	60	30	19	13	0	0	0	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2.5	100%	0%	**Unserviced area**																																			
			Sewering of Davis Drive - pumped sewerage system	475	244	158	107	0	0	0	0	0	0	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
			TOTAL OPERATION & MAINTENANCE COSTS	**787**	**401**	**257**	**173**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**
3.0			**AVOIDED 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	0	0	0	0	0	0	0	0	0	0
			TOTAL AVOIDED 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**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
			TOTAL PRESENT VALUE	**2,787**	**3,140**	**2,791**	**2,539**	**1,100**	**350**	**0**	**0**	**0**	**1,450**	**19**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**232**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**	**32**

Appendix B 30-year Capital Works Programs – Water Supply

B.1 30-year Water capital works plan – Baseline

B.2 30-year Water capital works plan – Scenario 1

B.3 30-year Water capital works plan – Scenario 2

Narromine Shire Council - 30-year Capital Works Plan

Water Supply - 30-Year Capital Works Program - Baseline

Current Year 2023 /24

ALL COSTS IN 2023/24 $'000

ITEMS	GRANT	ILOS	GROWTH	RENEW	Total	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33	11 2033/34	12 2034/35	13 2035/36	14 2036/37	15 2037/38	16 2038/39	17 2039/40	18 2040/41	19 2041/42	20 2042/43	21 2043/44	22 2044/45	23 2045/46	24 2046/47	25 2047/48	26 2048/49	27 2049/50	28 2050/51	29 2051/52	30 2052/53
A - COUNCIL LTFP - AMP BUDGET																																		
Major Renewal																																		
Network Mains Replacement				100%	**4,960**	196	196	196	196	196	196	196	196	196	196	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Automated Meters -Capital Replacement Program				100%	**318**					53	53	53	53	53	53																			
Harris Street Trangie main replacment and relocation of Treated Water Standpipe				100%	**66**		66																											
Trangie Drinking Water Reservoir Rehabilitation				100%	**865**		318	547																										
Telemetry Capital Renewal Program				100%	**500**										500																			
Minor Renewal																																		
Water Quality Online Monitoring Systems				100%	**104**	26	26							26	26																			
Telemetry High End Server, Drives and Software				100%	**40**	20								20																				
Major New																																		
Pressure Management Booster Northern Zone DMA	79%	100%			**637**	637																												
Concept and Detailed Design WTP	75%	100%			**750**	750																												
Concept and Detailed Design Reservoir and Rising Mains	0%	100%			**0**																													
Concept and Detailed Design River Offtake for Raw Water to	0%	100%			**0**																													
Water Treatment Plant New	75%	100%			**25,000**				15,000	10,000																								
Reservoir and Rising Mains	0%	100%			**6,000**																3,000	3,000												
River Offtake for Raw Water to WTP	0%	100%			**3,500**																1,500	2,000												
Major capital projects administraiton		100%			**732**	42		360	290	40																								
B - RENEWALS																																		
Based on asset register																																		
Narromine																																		
Bore 3				100%	**215**												15											100		25			75	
Bore 6				100%	**362**														20										149	193				
Bore 7				100%	**65**												65																	
Bore 8				100%	**120**														20									100						
Bore 9				100%	**108**														20											88				
Duffy St Res & WTP				100%	**472**													20							20		22	410					
Narromine High Lift PS & WTP				100%	**0**																													
Nymagee Street Res				100%	**18**																						18							
Raw Main				100%	**0**																													
Water Main				100%	**43**																						43							
Water Meter				100%	**0**																													
Tomingley																																		
Reservoir				100%	**105**													55					50											
WTP				100%	**355**																		320										35	
Trangie																																		
Bore 1				100%	**109**																109													
Bore 2				100%	**115**												10				105													
Bore 3				100%	**123**														10														113	
Temoin st Res				100%	**0**																													
Shared																																		
Water Control System Item				100%	**0**																													
Water Monitoring Item				100%	**0**																													
Water Safety Equipment Item				100%	**0**																													
Water Valve Item				100%	**98**																	98												
GRAND TOTAL					45,780	**1,671**	**606**	**1,103**	**15,486**	**10,289**	**249**	**249**	**249**	**295**	**775**	**150**	**240**	**225**	**220**	**150**	**4,864**	**5,248**	**520**	**150**	**170**	**150**	**233**	**150**	**760**	**299**	**456**	**150**	**298**	**225**	**150**
Expected Gov. Grant/ Subsidy					**19,813**	1,063	-	-	11,250	7,500	-	-	-	-	-	-	-																		

Narromine Shire Council - 30-year Capital Works Plan

Water Supply - 30-Year Capital Works Program - Scenario 1

Current Year 2023 /24

ALL COSTS IN 2023/24 $'000

ITEMS	GRANT	ILOS	GROWTH	RENEW	Total	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33	11 2033/34	12 2034/35	13 2035/36	14 2036/37	15 2037/38	16 2038/39	17 2039/40	18 2040/41	19 2041/42	20 2042/43	21 2043/44	22 2044/45	23 2045/46	24 2046/47	25 2047/48	26 2048/49	27 2049/50	28 2050/51	29 2051/52	30 2052/53
IWCM SCENARIO 1																																		
Raw water PS, intake and pipeline to WTP	0%	100%			7,300															5,300	2,000													
Upgrade existing temporary WTP	75%	100%			28,720				18,000	10,720																								
Community education etc. - Operating exp.																																		
A - COUNCIL LTFP - AMP BUDGET																																		
Major Renewal																																		
Network Mains Replacement				100%	4,960	196	196	196	196	196	196	196	196	196	196	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Automated Meters -Capital Replacement Program				100%	318					53	53	53	53	53	53																			
Harris Street Trangie main replacment and relocation of Treated Water Standpipe				100%	66		66																											
Trangie Drinking Water Reservoir Rehabilitation				100%	865		318	547																										
Telemetry Capital Renewal Program				100%	500										500																			
Minor Renewal																																		
Water Quality Online Monitoring Systems				100%	104	26	26							26	26																			
Telemetry High End Server, Drives and Software				100%	40	20								20																				
Major New																																		
Pressure Management Booster Northern Zone DMA	79%	100%			637	637																												
Concept and Detailed Design WTP	75%	100%			750	750																												
Concept and Detailed Design Reservoir and Rising Ma	0%	100%			0																													
Concept and Detailed Design River Offtake for Raw W	0%	100%			0																													
Water Treatment Plant New	75%	100%			0																													
Reservoir and Rising Mains	75%	100%			0																													
River Offtake for Raw Water to WTP	75%	100%			0																													
Major capital projects administraiton		100%			754	34		360	314	46																								
B - RENEWALS																																		
Based on asset register																																		
Narromine																																		
Bore 3				100%	215												15											100		25			75	
Bore 6				100%	362														20										149	193				
Bore 7				100%	65												65																	
Bore 8				100%	120														20									100						
Bore 9				100%	108														20											88				
Duffy St Res & WTP				100%	472													20						20		22		410						
Narromine High Lift PS & WTP				100%	0																													
Nymagee Street Res				100%	18																					18								
Raw Main				100%	0																													
Water Main				100%	43																					43								
Water Meter				100%	0																													
Tomingley																																		
Reservoir				100%	105													55				50												
WTP				100%	355																	320										35		
Trangie																																		
Bore 1				100%	109															109														
Bore 2				100%	115												10			105														
Bore 3				100%	123														10													113		
Temoin st Res				100%	0																													
Shared																																		
Water Control System Item				100%	0																													
Water Monitoring Item				100%	0																													
Water Safety Equipment Item				100%	0																													
Water Valve Item				100%	98																98													
GRAND TOTAL					47,322	1,663	606	1,103	18,510	11,015	249	249	249	295	775	150	240	225	220	150	5,664	2,248	520	150	170	150	233	150	760	299	456	150	298	225	150
Expected Gov. Grant/ Subsidy					22,603	1,063	-	-	13,500	8,040	-	-	-	-	-	-	-																		

Narromine Shire Council - 30-year Capital Works Plan

Water Supply - 30-Year Capital Works Program - Scenario 2

Current Year 2023 /24

ALL COSTS IN 2023/24 $'000

ITEMS	GRANT	ILOS	GROWTH	RENEW	Total	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33	11 2033/34	12 2034/35	13 2035/36	14 2036/37	15 2037/38	16 2038/39	17 2039/40	18 2040/41	19 2041/42	20 2042/43	21 2043/44	22 2044/45	23 2045/46	24 2046/47	25 2047/48	26 2048/49	27 2049/50	28 2050/51	29 2051/52	30 2052/53
IWCM SCENARIO 2																																		
Construct and equip 3 additional bores ($1.5M per bore)	0%	100%			**4,500**			3,000	1,500																									
Approx 20 km transfer pipeline (250mm HDPE/poly)	0%	100%			**10,000**			4,500	5,000	500																								
Intermediate pumping station	0%	100%			**2,000**				1,500	500																								
Power supply	0%	100%			**3,500**				3,000	500																								
Conventional WTP with sedimtn tank and mech. dewater	75%	100%			**26,970**			16,000	10,970																									
Community education etc. - Operating exp.																																		
A - COUNCIL LTFP - AMP BUDGET																																		
Major Renewal																																		
Network Mains Replacement				100%	**4,960**	196	196	196	196	196	196	196	196	196	196	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Automated Meters -Capital Replacement Program				100%	**318**					53	53	53	53	53	53																			
Harris Street Trangie main replacment and relocation of Treated Water Standpipe				100%	**66**		66																											
Trangie Drinking Water Reservoir Rehabilitation				100%	**865**		318	547																										
Telemetry Capital Renewal Program				100%	**500**										500																			
Minor Renewal																																		
Water Quality Online Monitoring Systems				100%	**104**	26	26							26	26																			
Telemetry High End Server, Drives and Software				100%	**40**	20								20																				
Major New																																		
Pressure Management Booster Northern Zone DMA	79%	100%			**637**	637																												
Concept and Detailed Design WTP	75%	100%			**750**	750																												
Concept and Detailed Design Reservoir and Rising Mains	0%	100%			**0**																													
Concept and Detailed Design River Offtake for Raw Water t	0%	100%			**0**																													
Water Treatment Plant New	75%	100%			**0**																													
Reservoir and Rising Mains	75%	100%			**0**																													
River Offtake for Raw Water to WTP	75%	100%			**0**																													
Major capital projects administraiton		100%			**965**	26		420	459	60																								
B - RENEWALS																																		
Based on asset register																																		
Narromine																																		
Bore 3				100%	**215**												15											100		25			75	
Bore 6				100%	**362**														20										149	193				
Bore 7				100%	**65**										65		65																	
Bore 8				100%	**120**														20									100						
Bore 9				100%	**108**														20											88				
Duffy St Res & WTP				100%	**472**													20						20		22		410						
Narromine High Lift PS & WTP				100%	**0**																													
Nymagee Street Res				100%	**18**																					18								
Raw Main				100%	**0**																													
Water Main				100%	**43**																					43								
Water Meter				100%	**0**																													
Tomingley																																		
Reservoir				100%	**105**													55					50											
WTP				100%	**355**																		320										35	
Trangie																																		
Bore 1				100%	**109**																109													
Bore 2				100%	**115**												10				105													
Bore 3				100%	**123**														10														113	
Temoin st Res				100%	**0**																													
Shared																																		
Water Control System Item				100%	**0**																													
Water Monitoring Item				100%	**0**																													
Water Safety Equipment Item				100%	**0**																													
Water Valve Item				100%	**98**																	98												
GRAND TOTAL					58,483	**1,655**	**606**	**24,663**	**22,625**	**1,809**	**249**	**249**	**249**	**295**	**775**	**150**	**240**	**225**	**220**	**150**	**364**	**248**	**520**	**150**	**170**	**150**	**233**	**150**	**760**	**299**	**456**	**150**	**298**	**225**	**150**
Expected Gov. Grant/ Subsidy					**21,290**	1,063	-	12,000	8,228	-	-	-	-	-	-	-	-																		

Appendix C 30-year Capital Works Programs – Sewerage

C.1 30-year Sewerage capital works plan – Baseline

C.2 30-year Sewerage capital works plan – Scenario 1

C.3 30-year Sewerage capital works plan – Scenario 2

Narromine Shire Council - 30-year Capital Works Plan

Sewerage - 30-Year Capital Works Program - Baseline

Current Year 2023 /24 - Latest - June 2025 changes by Council

ALL COSTS IN 2023/24 $'000

ITEMS	GRANT	ILOS	GROWTH	RENEW	Check	Total	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33	11 2033/34	12 2034/35	13 2035/36	14 2036/37	15 2037/38	16 2038/39	17 2039/40	18 2040/41	19 2041/42	20 2042/43	21 2043/44	22 2044/45	23 2045/46	24 2046/47	25 2047/48	26 2048/49	27 2049/50	28 2050/51	29 2051/52	30 2052/53
A - COUNCIL LTFP - AMP BUDGET																																			
Minor Renewal																																			
Telemetry High End Server, Drives and Software				100%	100%	**220**	20	20	20	20	20	20	20	20	20	20	20																		
Minor Capital Works				100%	100%	**1,214**	24	24	24	24	24	24	24	24	24	24	24	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Narromine pump replacement program				100%	100%	**540**			60	60	60	60	60	60	60	60	60																		
Trangie pump replacement program				100%	100%	**198**			22	22	22	22	22	22	22	22	22																		
Major Renewal																																			
New Switch Boards - Narromine /4 Stations				100%	100%	**440**				220	220																								
New Switch Boards - Trangie/8 Stations				100%	100%	**240**	240																												
Narromine SPS 1 Upgrade - refurbishment				100%	100%	**110**				110																									
Trangie SPS upgrade - refurbishment				100%	100%	**120**	60		60																										
Generational Mass RTU/ Telemetry renewal				100%	100%	**600**										600																			
Major Upgrades and Refurbishment				100%	100%	**2,405**					180	225	275	450	625	650																			
Sewer Main Replacement - Relining Program				100%	100%	**2,320**			290	290					0						290	290			290	290				290	290				
CCTV inspection pre-relining		100%			100%	**1,375**		250				225		0	225					225				225	0				225						
Major New																																			
Narromine Head of works and Tankered Waste Recieval Station		100%			100%	**720**				360	360																								
Treatment Plant - Desludging project		100%			100%	**0**																													
Sewer Network Expansion (Design and Construction)		100%			100%	**3,780**				180	450	450	900	900	900																				
Remediation of Old STP Site		100%			100%	**60**	60																												
Non Destructive Excavation Vacuum Trailer (Plant)		100%			100%	**140**	140																												
Narromine RV Dump Point Improvement (Subject to Grai	100%	100%			100%	**180**				180																									
Major capaital projects administration		100%			100%	**115**	15	5	8	35	6					12				5	6	6									5	6	6		
A - RENEWALS																																			
Based on asset register																																			
Narromine																																			
Sewerage Treatment Plant				100%	100%	**688**												20	370					134				164							
SPS 1 Nymagee Street West / Coles Lane				100%	100%	**971**																	971												
SPS 10 Nancy Bird Walton Dr				100%	100%	**30**																											30		
SPS 2 Manildra Street				100%	100%	**170**																13		90					52				15		
SPS 3 Third Avenue (South)				100%	100%	**90**												40		40													10		
SPS 4 Narromine Aerodrome				100%	100%	**46**													10														36		
SPS 5 Mitchell Highway Industrial Estate				100%	100%	**37**															37														
SPS 6 Dandaloo Street / Commodore Crescent				100%	100%	**60**															20				40										
SPS 7 Wattle Crescent				100%	100%	**0**																													
SPS 8 Skypark Estate				100%	100%	**40**														40															
SPS 9 Crossley Drive Sewer Pump Station				100%	100%	**80**															20					60								
Trangie																																			
Sewerage Treatment Plant				100%	100%	**414**												262												123					29
SPS 1 Mitchell Highway				100%	100%	**205**										205																			
SPS 2 Mungery Street				100%	100%	**140**												77										63							
SPS 3 Nicholas Street				100%	100%	**68**																		20							48				
SPS 4 Allen Street / Poincare Street				100%	100%	**145**													60							37					48				
Shared																																			
Control System Item				100%	100%	**21**													21																
Monitoring Item				100%	100%	**337**																			337										
Power Supply Item				100%	100%	**0**																													
GRAND TOTAL						**18,319**	**559**	**299**	**484**	**1,501**	**1,342**	**1,026**	**1,301**	**1,476**	**1,876**	**1,593**	**126**	**187**	**773**	**360**	**423**	**359**	**1,021**	**70**	**499**	**717**	**437**	**113**	**214**	**327**	**463**	**345**	**152**	**147**	**50**	**79**

Narromine Shire Council - 30-year Capital Works Plan

Sewerage - 30-Year Capital Works Program - Scenario 1

Current Year 2023 /24

ALL COSTS IN 2023/24 $'000

ITEMS	GRANT	ILOS	GROWTH	RENEW	Check	Total	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33	11 2033/34	12 2034/35	13 2035/36	14 2036/37	15 2037/38	16 2038/39	17 2039/40	18 2040/41	19 2041/42	20 2042/43	21 2043/44	22 2044/45	23 2045/46	24 2046/47	25 2047/48	26 2048/49	27 2049/50	28 2050/51	29 2051/52	30 2052/53
IWCM SCENARIO 1																																			
SPS 1 - Pumping upgrade to reduce overflow		100%			100%	**430**			430																										
SPS 1 - New wet well to increase capacity		100%			100%	**1,000**																1000													
SPS 2 - Pumping upgrade to reduce surcharging		100%			100%	**200**																200													
Narromine STP - Inlet screening system at STP		100%			100%	**350**			350																										
Narromine STP - Septage receival system at STP		100%			100%	**500**			500																										
Narromine STP - Desludge primary Oxi. Pond		100%			100%	**350**				350																									
Narromine - Sewering Davis Drive - Gravity retic		100%			100%	**550**								550																					
Narromine - Sewering Davis Drive - Transfer SPS		100%			100%	**180**								180																					
Trangie Scheme - Investigations recommended by GHD (Opex)		100%			100%	**0**																													
A - COUNCIL LTFP - AMP BUDGET																																			
Minor Renewal																																			
Telemetry High End Server, Drives and Software				100%	100%	**220**	20	20	20	20	20	20	20	20	20	20	20																		
Minor Capital Works				100%	100%	**1,214**	24	24	24	24	24	24	24	24	24	24	24	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Narromine pump replacement program				100%	100%	**540**			60	60	60	60	60	60	60	60	60																		
Trangie pump replacement program				100%	100%	**198**			22	22	22	22	22	22	22	22	22																		
Major Renewal																																			
New Switch Boards - Narromine /4 Stations				100%	100%	**440**				220	220																								
New Switch Boards - Trangie/8 Stations				100%	100%	**240**	240																												
Narromine SPS 1 Upgrade - refurbishment				100%	100%	**110**				110																									
Trangie SPS upgrade - refurbishment				100%	100%	**120**	60		60																										
Generational Mass RTU/ Telemetry renewal				100%	100%	**600**										600																			
Major Upgrades and Refurbishment				100%	100%	**2,405**					180	225	275	450	625	650																			
Sewer Main Replacement - Relining Program				100%	100%	**2,320**			290	290					0						290	290			290	290				290	290				
CCTV inspection pre-relining		100%			100%	**1,375**		250				225		0	225					225				225	0				225						
Major New																																			
Narromine Head of works and Tankered Waste Recieval Station		100%			100%	**0**																													
Treatmrent Plant - Desludging project		100%			100%	**0**																													
Sewer Network Expansion (Design and Construction)		100%			100%	**3,230**				180	450	450	900	350	900																				
Remediation of Old STP Site		100%			100%	**60**	60																												
Non Destructive Excavation Vacuum Trailer (Plant)		100%			100%	**140**	140																												
Narromine RV Dump Point Improvement (Subject to Grant)	100%	100%			100%	**180**				180																									
Major capaital projects administration		100%			100%	**275**	10	5	32	16	16	18	22	30	35	25				5	13		24			6	6			6	6				
A - RENEWALS																																			
Based on asset register																																			
Narromine																																			
Sewerage Treatment Plant				100%	100%	**688**											20	370						134				164						
SPS 1 Nymagee Street West / Coles Lane				100%	100%	**0**																													
SPS 10 Nancy Bird Walton Dr				100%	100%	**30**																												30	
SPS 2 Manildra Street				100%	100%	**170**																13		90					52				15	
SPS 3 Third Avenue (South)				100%	100%	**90**											40			40													10	
SPS 4 Narromine Aerodrome				100%	100%	**46**												10															36	
SPS 5 Mitchell Highway Industrial Estate				100%	100%	**37**															37													
SPS 6 Dandaloo Street / Commodore Crescent				100%	100%	**60**															20				40									
SPS 7 Wattle Crescent				100%	100%	**0**																													
SPS 8 Skypark Estate				100%	100%	**40**														40														
SPS 9 Crossley Drive Sewer Pump Station				100%	100%	**80**															20					60								
Trangie																																			
Sewerage Treatment Plant				100%	100%	**414**												262												123				29
SPS 1 Mitchell Highway				100%	100%	**205**									205																			
SPS 2 Mungery Street				100%	100%	**140**											77											63						
SPS 3 Nicholas Street				100%	100%	**68**																		20							48			
SPS 4 Allen Street / Poincare Street				100%	100%	**145**												60								37					48			
Shared																																			
Control System Item				100%	100%	**21**												21																
Monitoring Item				100%	100%	**337**																			337									
Power Supply Item				100%	100%	**0**																													
GRAND TOTAL						**19,798**	**554**	**299**	**1,788**	**1,472**	**992**	**1,044**	**1,323**	**1,686**	**1,911**	**1,606**	**126**	**187**	**773**	**360**	**430**	**353**	**1,274**	**70**	**499**	**723**	**443**	**113**	**214**	**327**	**469**	**346**	**146**	**141**	**50**	**79**

Narromine Shire Council - 30-year Capital Works Plan

Sewerage - 30-Year Capital Works Program - Scenario 2

Current Year 2023 /24

ALL COSTS IN 2023/24 $'000

ITEMS	GRANT	ILOS	GROWTH	RENEW	Check	Total	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33	11 2033/34	12 2034/35	13 2035/36	14 2036/37	15 2037/38	16 2038/39	17 2039/40	18 2040/41	19 2041/42	20 2042/43	21 2043/44	22 2044/45	23 2045/46	24 2046/47	25 2047/48	26 2048/49	27 2049/50
IWCM SCENARIO 1																																
SPS 1 - Pumping upgrade to reduce overflow		100%			100%	**0**																										
SPS 1 - New wet well to increase capacity		100%			100%	**1,000**			1000																							
SPS 2 - Pumping upgrade to reduce surcharging		100%			100%	**200**																	200									
Narromine STP - Inlet screening system at STP		100%			100%	**350**								350																		
Narromine STP - Septage receival system at STP		100%			100%	**500**								500																		
Narromine STP - Desludge primary Oxi. Pond		100%			100%	**350**				350																						
Narromine - Sewering Davis Drive - Low Pressure Sewer		100%			100%	**600**								600																		
Narromine - Sewering Davis Drive - Transfer SPS		100%			100%	**0**																										
Trangie Scheme - Investigations recommended by GHD (Opex)		100%			100%	**0**																										
A - COUNCIL LTFP - AMP BUDGET																																
Minor Renewal																																
Telemetry High End Server, Drives and Software				100%	100%	**40**	20								20																	
Minor Capital Works				100%	100%	**1,214**	24	24	24	24	24	24	24	24	24	24	24	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Narromine pump replacement program				100%	100%	**540**			60	60	60	60	60	60	60	60	60															
Trangie pump replacement program				100%	100%	**198**			22	22	22	22	22	22	22	22	22															
Major Renewal																																
New Switch Boards - Narromine /4 Stations				100%	100%	**440**				220	220																					
New Switch Boards - Trangie/8 Stations				100%	100%	**240**	240																									
Narromine SPS 1 Upgrade - refurbishment				100%	100%	**110**				110																						
Trangie SPS upgrade - refurbishment				100%	100%	**120**	60		60																							
Generational Mass RTU/ Telemetry renewal				100%	100%	**600**										600																
Major Upgrades and Refurbishment				100%	100%	**2,405**					180	225	275	450	625	650																
Sewer Main Replacement - Relining Program				100%	100%	**2,320**			290	290					0						290	290			290	290				290	290	
CCTV inspection pre-relining		100%			100%	**1,375**		250				225		0	225					225				225	0			225				
Major New																																
Narromine Head of works and Tankered Waste Recieval Station		100%			100%	**0**																										
Treatmrent Plant - Desludging project		100%			100%	**0**																										
Sewer Network Expansion (Design and Construction)		100%			100%	**3,180**				180	450	450	900	300	900																	
Remediation of Old STP Site		100%			100%	**60**	60																									
Non Destructive Excavation Vacuum Trailer (Plant)		100%			100%	**140**	140																									
Narromine RV Dump Point Improvement (Subject to Grant)	100%	100%			100%	**180**				180																						
Major capaital projects administration		100%			100%	**134**	2	5	26	26				29		12				5	6	6									5	6
A - RENEWALS																																
Based on asset register																																
Narromine																																
Sewerage Treatment Plant				100%	100%	**688**											20	370						134				164				
SPS 1 Nymagee Street West / Coles Lane				100%	100%	**0**																										
SPS 10 Nancy Bird Walton Dr				100%	100%	**30**																										
SPS 2 Manildra Street				100%	100%	**170**																13		90					52			
SPS 3 Third Avenue (South)				100%	100%	**90**											40		40													
SPS 4 Narromine Aerodrome				100%	100%	**46**												10														
SPS 5 Mitchell Highway Industrial Estate				100%	100%	**37**														37												
SPS 6 Dandaloo Street / Commodore Crescent				100%	100%	**60**														20					40							
SPS 7 Wattle Crescent				100%	100%	**0**																										
SPS 8 Skypark Estate				100%	100%	**40**													40													
SPS 9 Crossley Drive Sewer Pump Station				100%	100%	**80**														20						60						
Trangie																																
Sewerage Treatment Plant				100%	100%	**414**												262												123		
SPS 1 Mitchell Highway				100%	100%	**205**									205																	
SPS 2 Mungery Street				100%	100%	**140**											77										63					
SPS 3 Nicholas Street				100%	100%	**68**																	20									48
SPS 4 Allen Street / Poincare Street				100%	100%	**145**												60								37						48
Shared																																
Control System Item				100%	100%	**21**												21														
Monitoring Item				100%	100%	**337**																			337							
Power Supply Item				100%	100%	**0**																										
GRAND TOTAL						18,867	**546**	**279**	**1,482**	**1,462**	**956**	**1,006**	**1,281**	**2,335**	**1,876**	**1,573**	**106**	**187**	**773**	**360**	**423**	**359**	**50**	**270**	**499**	**717**	**437**	**113**	**214**	**327**	**463**	**345**	**152**

28	29	30	
2050/51	2051/52	2052/53	
50	50	50	
			6
			30
			15
			10
			36
			29
147	50	79	

Appendix D Additional OMA cost schedules

D.1 30-year additional OMA cost schedule - Water supply

D.2 30-year additional OMA cost schedule - Sewerage

NARROMINE SHIRE COUNCIL																														
WATER - AOM&M		2023 /24		Current Year																										
Additional/ Increased Recurrent Expenditure		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
	Totals	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	2046/47	2047/48	2048/49	2049/50	2050/51	2051/52
Management:																														
Risk Based WQM Plan (5-yearly review/update)-mandatory	**120**					20					20					20					20					20				
Annual DWQ Audit and reporting	**290**		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	10	10	10
Water Quality CCPs monitoring-mandatory requirement	**672**			24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
IWCM Strategy (ex. Grant)	**58**	58																												
Water Security Options Study (ex. Grant)	**29**	29																												
Water Quality Options Study (ex. Grant)	**28**	28																												
Smart meter data service agreement	**1,044**		36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Water Loss Investigation/ Management	**205**		15	5	5	5	5	15	5	5	5	5	15	5	5	5	5	15	5	5	5	5	15	5	5	5	5	15	5	5
Best Practice Tariff /Pricing Review for Water Supply	**60**			10					10					10					10					10					10	
Review and update of Sec.64 developer charges and DSP	**140**		20						30						30						30						30			
Conduct customer survey/ education - NAE	**0**																													
Undertake Energy Audit (Monitor and review energy usage)	**49**			7				7				7				7				7				7			7			
Due Diligence Plans (Emergency Response, Risk Mgmt Plans	**90**		15					15					15					15					15				15			
HR Plan - Position /Needs (Skills) Analysis	**56**				8				8				8				8				8				8				8	
Recruit new staff - Project Engineer (W&S)	**840**			30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
WTP operator						90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Update Financial Plan	**105**					15				15				15				15				15				15				15
Total	**3,786**	**115**	**96**	**122**	**113**	**230**	**195**	**227**	**243**	**210**	**215**	**202**	**228**	**220**	**225**	**222**	**203**	**235**	**205**	**202**	**253**	**210**	**220**	**212**	**203**	**230**	**225**	**227**	**213**	**210**
Operation & Maintenance																														
Prepare and maintain Operations Plan	**45**		10				5				5				5				5				5				5			
Prepare and maintain Maintenance Plan	**40**			10				5				5				5				5				5				5		
Bore inspection and cleaning (2 bores annually)	**1450**		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
Reservoirs inspection for cleaning/re-painting (5 yearly rotation)	**160**	16			16			16			16			16			16			16				16			16			16	
Structural assessment of Raw water reservoirs	**0**																													
Annual valve easing - 3 yearly rotation	**420**	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Annual Telemetry support incldng licensing and security	**450**	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Emergency Telemetry hardware replacement	**240**	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	8	8	8	8
Standby Power Generator servicing	**1050**	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Narrmone bulk drinking water treatment to meet ADWG standard	**1150**	200	250	350	350		- Not required after commissioning the new/ upgraded WTP																							
Develop and implement asset management system -Civica in plac	**0**																													
Update and Maintain Asset Register - 5 yearly	**60**					10					10					10					10					10				
Asset Revaluation (Fair Value) - 5 yearly	**100**						20					20					20					20					20			
Total	**5,165**	**288**	**382**	**482**	**488**	**132**	**147**	**143**	**122**	**122**	**153**	**147**	**122**	**138**	**127**	**137**	**158**	**122**	**127**	**143**	**132**	**142**	**143**	**127**	**122**	**148**	**147**	**127**	**138**	**122**

NARROMINE SHIRE COUNCIL

WATER - AOM&M

Additional/ Increased Recurrent Expenditure

		2023 /24	Current Year																											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
	Totals	**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**	**2046/47**	**2047/48**	**2048/49**	**2049/50**	**2050/51**	**2051/52**
Management:																														
Risk Based WQM Plan (5-yearly review/update)-mandatory	**120**					20					20					20					20					20				
Annual DWQ Audit and reporting	**290**		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	10	10	
Water Quality CCPs monitoring-mandatory requirement	**672**			24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	
IWCM Strategy (ex. Grant)	**58**	58																												
Water Security Options Study (ex. Grant)	**29**	29																												
Water Quality Options Study (ex. Grant)	**28**	28																												
Smart meter data service agreement	**1,044**		36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	
Water Loss Investigation/ Management (education, rebates etc.)	**340**		15	50	50	50	5	15	5	5	5	5	15	5	5	5	5	15	5	5	5	5	15	5	5	5	5	15	5	
Best Practice Tariff /Pricing Review for Water Supply	**60**			10					10					10					10					10				10	
Review and update of Sec.64 developer charges and DSP	**140**		20						30						30						30						30			
Conduct customer survey/ education - NAE	**0**																													
Undertake Energy Audit (Monitor and review energy usage)	**49**			7				7				7				7				7				7				7		
Due Diligence Plans (Emergency Response, Risk Mgmt Plans etc)	**90**		15					15					15					15					15				15		
HR Plan - Position /Needs (Skills) Analysis	**56**				8				8				8				8				8				8				8	
Recruit new staff - Project Engineer (W&S)	**840**			30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
WTP operator						90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	
Update Financial Plan	**105**					15				15				15				15				15				15				
Total	**3,921**	**115**	**96**	**167**	**158**	**275**	**195**	**227**	**243**	**210**	**215**	**202**	**228**	**220**	**225**	**222**	**203**	**235**	**205**	**202**	**253**	**210**	**220**	**212**	**203**	**230**	**225**	**227**	**213**	**2**
Operation & Maintenance																														
Prepare and maintain Operations Plan	**45**		10				5				5				5				5				5				5			
Prepare and maintain Maintenance Plan	**40**			10				5				5				5				5				5				5		
Bore inspection and cleaning (2 bores annually)	**1450**		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	5
Reservoirs inspection for cleaning/re-painting (5 yearly rotation)	**160**	16			16			16			16			16			16			16				16			16		16	
Structural assessment of Raw water reservoirs	**0**																													
Annual valve easing - 3 yearly rotation	**420**	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
Annual Telemetry support incldng licensing and security	**450**	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
Emergency Telemetry hardware replacement	**240**	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	8	8	8	
Standby Power Generator servicing	**1050**	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	
Narrmone bulk drinking water treatment to meet ADWG standards	**1150**	200	250	350	350		- Not required after commissioning of new/upgraded WTP																							
Develop and implement asset management system -Civica in place	**0**																													
Update and Maintain Asset Register - 5 yearly	**60**					10					10					10					10					10				
Asset Revaluation (Fair Value) - 5 yearly	**100**						20					20					20					20					20			
Total	**5,165**	**288**	**382**	**482**	**488**	**132**	**147**	**143**	**122**	**122**	**153**	**147**	**122**	**138**	**127**	**137**	**158**	**122**	**127**	**143**	**132**	**142**	**143**	**127**	**122**	**148**	**147**	**127**	**138**	**12**

	NARROMINE SHIRE COUNCIL																													
	SEWERAGE - AOM&M			2023 /24		**Current Year**																								
	Additional/ Increased Recurrent Expenditure		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
		Totals	**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**	**2046/47**	**2047/48**	**2048/49**	**2049/50**	**2050/51**	**2051/52**
	Management:																													
	Best Practice Tariff/ Pricing for Sewerage	**60**			10					10					10					10					10				10	
	Review and update of Sec.64 developer charges and DSP	**140**		20						30						30						30						30		
	Conduct customer survey/ education - NAE	**0**																												
	IWCM Strategy (ex. Grant?)	**58**	58																											
	Undertake Energy Audit (Monitor and review energy usage)	**56**			8				8				8				8				8				8				8	
	Due Diligence Plans (Emergency Response, Risk Mgmt Plans etc)	**155**		15	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	HR Plan - Position /Needs (Skills) Analysis	**49**				7				7				7				7				7				7			7	
	Recruit new staff - Project Engineer (W&S)	**1,260**			45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
	Update Financial Plan	**70**					10				10				10				10				10				10			10
	Total	**1,848**	**58**	**35**	**68**	**57**	**60**	**50**	**58**	**97**	**60**	**50**	**58**	**57**	**70**	**80**	**58**	**57**	**60**	**60**	**58**	**87**	**60**	**50**	**68**	**57**	**60**	**80**	**58**	**67**	**60**
	Operation & Maintenance																													
	Prepare and maintain Operations Plan	**40**			10								10								10								10	
	Prepare and maintain Maintenance Plan	**40**				10								10								10								10	
	Inflow/ Infiltration monitoring program (Smoke Testing) - Trangie	**150**			25					25					25					25					25				25	
	Mains inspection - CCTV monitoring for relining - moved to capex	**0**																												
	SPS inspection and maintnance	**300**	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	10	10	10	10
	STPs - Testing and monioring - already included the budget	**0**																												
	Biosolids management (bi-annual)? - not required	**0**																												
	Annual Telemetry support inclding licensing and security	**270**	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	Emergency Telemetry hardware replacement	**120**	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Standby Power Generator servicing	**450**	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	Develop and implement asset management system -Civica in place	**0**																												
	Update and Maintain Asset Register	**60**					10					10					10					10					10				
	Asset Revaluation (Fair Value) - 5 yearly	**100**						20					20					20					20					20			
	Total	**1,530**	**38**	**38**	**73**	**48**	**48**	**58**	**38**	**63**	**38**	**48**	**68**	**48**	**63**	**38**	**48**	**58**	**38**	**63**	**48**	**58**	**58**	**38**	**63**	**38**	**48**	**58**	**48**	**73**	**38**

	NARROMINE SHIRE COUNCIL																													
	SEWERAGE - AOM&M			2023 /24		Current Year																								
	Additional/ Increased Recurrent Expenditure		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
		Totals	**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**	**2046/47**	**2047/48**	**2048/49**	**2049/50**	**2050/51**	**2051/52**
	Management:																													
	Best Practice Tariff/ Pricing for Sewerage	**60**			10					10					10					10					10				10	
	Review and update of Sec.64 developer charges and DSP	**140**		20						30						30						30						30		
	Conduct customer survey/ education - NAE	**0**																												
	IWCM Strategy (ex. Grant?) + Trangie Scheme investigations	**158**	58		100																									
	Undertake Energy Audit (Monitor and review energy usage)	**56**			8				8				8				8				8				8				8	
	Due Diligence Plans (Emergency Response, Risk Mgmt Plans etc)	**155**		15	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	HR Plan - Position /Needs (Skills) Analysis	**49**				7				7				7				7				7				7				7	
	Recruit new staff - Project Engineer (W&S)	**1,260**			45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
	Update Financial Plan	**70**					10				10				10				10				10				10				10
	Total	**1,948**	**58**	**35**	**168**	**57**	**60**	**50**	**58**	**97**	**60**	**50**	**58**	**57**	**70**	**80**	**58**	**57**	**60**	**60**	**58**	**87**	**60**	**50**	**68**	**57**	**60**	**80**	**58**	**67**	**60**
	Operation & Maintenance																													
	Prepare and maintain Operations Plan	**40**			10								10								10								10	
	Prepare and maintain Maintenance Plan	**40**				10								10								10								10	
	Inflow/ Infiltration monitoring program (Smoke Testing) - Trangie	**150**			25					25					25					25					25				25	
	Mains inspection - CCTV monitoring for relining - moved to capex	**0**																												
	SPS inspection and maintnance	**300**	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	10	10	10	10
	STPs - Testing and monioring - already included the budget	**0**																												
	Biosolids management (bi-annual)? - not required	**0**																												
	Annual Telemetry support inclding licensing and security	**270**	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	Emergency Telemetry hardware replacement	**120**	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Standby Power Generator servicing	**450**	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	Develop and implement asset management system -Civica in place	**0**																												
	Update and Maintain Asset Register	**60**					10					10					10					10					10				
	Asset Revaluation (Fair Value) - 5 yearly	**100**						20					20					20						20				20			
	Total	**1,530**	**38**	**38**	**73**	**48**	**48**	**58**	**38**	**63**	**38**	**48**	**68**	**48**	**63**	**38**	**48**	**58**	**38**	**63**	**48**	**58**	**58**	**38**	**63**	**38**	**48**	**58**	**48**	**73**	**38**

Appendix E Financial Model Input Data

E.1 Financial model input data – Water Supply

E.2 Financial model input data – Sewerage

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Historical Operating Statement

FINMOD
DEPARTMENT OF COMMERCE

	2021/22*	2022/23*
EXPENSES		
Management Expenses	*381*	*414*
Administration		286
Engineering and Supervision	381	128
Operation and Maintenance Expenses	*1439*	*1231*
Operation Expenses		366
Maintenance Expenses	1439	587
Energy Costs		69
Chemical Costs		28
Purchase of Water		181
Depreciation	*570*	*436*
System Assets	569	436
Plant & Equipment	1	
Interest Expenses		
Other Expenses		146
TOTAL EXPENSES	**2390**	**2227**
REVENUES		
Rates & Service Availability Charges	*732*	*899*
Residential	732	718
Non-Residential		181
User Charges	*1231*	*1465*
Sales of Water : Residential	1208	1129
Sales of Water : Non-Residential	23	336
Extra Charges	19	
Interest Income	18	92
Other Revenues		4
Grants	*512*	*314*
Grants for Acquisition of Assets	492	220
Pensioner Rebate Subsidy	20	19
Other Grants		75
Contributions	*0*	*0*
Developer Charges		
Developer Provided Assets		
Other Contributions		
TOTAL REVENUES	**2512**	**2774**
OPERATING RESULT	**122**	**547**
OPERATING RESULT (less Grants for Acq of Assets)	**-370**	**327**

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Historical Statement of Financial Position

FINMOD
DEPARTMENT OF COMMERCE

	2021/22*	2022/23*
Cash and Investments	1155	563
Receivables	643	576
Inventories		0
Property, Plant & Equipment	*25230*	*29048*
System Assets (1)	25230	29048
Plant & Equipment		
Other Assets		
TOTAL ASSETS	**27028**	**30187**
LIABILITIES		
Bank Overdraft		
Creditors		
Borrowings	63	
Provisions		
TOTAL LIABILITIES	**63**	**0**
NET ASSETS COMMITTED	**26965**	**30187**
EQUITY		
Accumulated Operating Result	10910	11977
Asset Revaluation Reserve	16055	18210
TOTAL EQUITY	**26965**	**30187**
(1) Notes to System Assets		
Current Replacement Cost	29812	37203
Less: Accumulated Depreciation	4582	8155
Written Down Current Cost	25230	29048

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Base Forecast Data

	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	2046/47	2047/48
Financial Data																									
Inflation Rate - General (%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Inflation Rate - Capital Works (%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Borrowing Interest Rate for New Loans (%)	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Investment Interest Rate (%)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Number of Assessments																									
Growth Rate (%)																									
Residential Assessments	1.47	1.45	1.43	1.41	1.07	1.05	1.04	1.03	1.02	0.97	0.96	0.95	0.94	0.93	0.21	0.21	0.21	0.21	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Non-Residential Assessments	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.23	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Total Assessments	1.27	1.25	1.24	1.22	0.93	0.92	0.92	0.91	0.90	0.85	0.85	0.84	0.83	0.83	0.21	0.21	0.21	0.21	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Number of New Assessments																									
Residential	30	30	30	30	23	23	23	23	23	22	22	22	22	22	5	5	5	5	5	0	0	0	0	0	0
Non-Residential	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
Total New Assessments	31	31	31	31	24	24	24	24	24	23	23	23	23	23	6	6	6	6	6	0	0	0	0	0	0
Projected Number of Assessments																									
Residential	2068	2098	2128	2158	2181	2204	2227	2250	2273	2295	2317	2339	2361	2383	2388	2393	2398	2403	2408	2408	2408	2408	2408	2408	2408
Non-Residential	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	429	429	429	429	429	429
Total Projected Assessments	2479	2510	2541	2572	2596	2620	2644	2668	2692	2715	2738	2761	2784	2807	2813	2819	2825	2831	2837	2837	2837	2837	2837	2837	2837
Backlog Assessments																									
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
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Charges / Vacant Assessments (Values in 2023/24 $)																									
Developer Charges $/Assessment																									
Residential	3000	3000	3000	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357
Non-Residential	3000	3000	3000	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357	4357
Number of Vacant Residential Assessments	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Average Charge of Vacant Assessments	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
% 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 2023/24 $'000)																									
Current Replacement Cost of System Assets	38505																								
Override																									
Written Down Current Cost of System Assets	30065																								
Override																									
Annual Depreciation of Existing System Assets	451																								
Override	580																								
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

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Base Forecast Data

	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	2046/47	2047/48
Existing Loan Payments (Values in Inflated $'000)																									
Existing Loan Payments : Principal (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
Existing Loan Payments : Interest (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
Capital Works Program (Values in 2023/24 $'000)																									
Subsidised Scheme (Total:38161)	1421	0	360	18314	10766	0	0	0	0	0	0	0	0	0	0	5300	2000	0	0	0	0	0	0	0	0
Other New System Assets (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Renewals (Total:9161)	242	606	743	196	249	249	249	249	295	775	150	240	225	220	150	364	248	520	150	170	150	233	150	760	299
Total Capital Works (Total:47322)	1663	606	1103	18510	11015	249	249	249	295	775	150	240	225	220	150	5664	2248	520	150	170	150	233	150	760	299
Grant For Acquisition of Assets (% of Subsidised Scheme)	74.81	0.00	0.00	73.71	74.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grant For Acquisition of Assets ($) (Total:22603)	1063	0	0	13500	8040	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
Plant and Equipment Expenditure / Asset Disposal (Values in 2023/24 $'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
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
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
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
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
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
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

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Revised/Additional Forecast Data

	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	2046/47	2047/48
OMA / Revenue Overrides (Values in 2023/24 $'000)																									
Administration	300	304	308	312	315	318	321	324	327	330	333	336	339	342	343	344	345	346	347	347	347	347	347	347	347
Override	416	402	434	430	558	526	565	587	556	567	557	591	587	597	595	575	613	579	577	636	587	599	590	579	611
Engineering and Supervision	134	136	138	140	141	142	143	144	145	146	147	148	149	150	150	150	150	150	150	150	150	150	150	150	150
Override																									
Operating Expenses	384	389	394	399	403	407	411	415	419	423	427	431	435	439	440	441	442	443	444	444	444	444	444	444	444
Override	675	780	894	911	690	715	720	706	715	757	759	739	765	761	776	803	765	775	889	877	889	891	874	869	899
Maintenance Expenses	615	623	631	639	645	651	657	663	669	675	681	687	693	699	700	701	702	703	704	704	704	704	704	704	704
Override																									
Energy Costs	72	73	74	75	76	77	78	79	80	81	82	83	84	85	85	85	85	85	85	85	85	85	85	85	85
Override																									
Chemical Costs	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
Override																									
Purchase of Water	190	192	194	196	198	200	202	204	206	208	210	212	214	216	216	216	216	216	216	216	216	216	216	216	216
Override																									
Other Expenses	153	155	157	159	160	161	162	163	164	165	166	167	168	169	169	169	169	169	169	169	169	169	169	169	169
Override	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Other Revenue	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Override																									
Other Grants	79	80	81	82	83	84	85	86	87	88	89	90	91	92	92	92	92	92	92	92	92	92	92	92	92
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 2023/24 $'000)																									
Calculated from Scheme Data	93	93	93	135	105	105	105	105	105	100	100	100	100	100	26	26	26	26	26	0	0	0	0	0	0
Override	50	50	50	132	99	99	99	99	99	98	98	98	98	98	20	20	20	20	20	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	401	407	412	418	423	427	432	436	441	445	449	453	458	462	463	464	465	466	467	467	467	467	467	467	467
Override																									
Percentage of Pensioners (%)	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38	19.38
Override																									
Pensioner Rebate	35	36	36	37	37	37	38	38	39	39	39	40	40	40	41	41	41	41	41	41	41	41	41	41	41
Pensioner Rebate Subsidy	19	20	20	20	20	20	21	21	21	21	21	22	22	22	23	23	23	23	23	23	23	23	23	23	23
Revenue Split (%)																									
Residential Rates	33.42	33.47	33.52	33.57	33.60	33.63	33.67	33.70	33.73	33.76	33.79	33.82	33.85	33.87	33.87	33.87	33.87	33.87	33.87	33.86	33.85	33.84	33.83	33.82	33.82
Override		36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
Non-Residential Rates	4.12	4.08	4.04	3.99	3.97	3.94	3.91	3.88	3.85	3.83	3.81	3.78	3.76	3.73	3.74	3.74	3.74	3.74	3.74	3.74	3.75	3.75	3.76	3.77	3.78	3.78
Override		7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Sales of Water: Residential	53.86	53.93	54.02	54.10	54.14	54.21	54.26	54.31	54.37	54.41	54.45	54.50	54.55	54.60	54.59	54.59	54.59	54.59	54.59	54.57	54.57	54.55	54.53	54.51	54.50
Override		44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00
Sales of Water: Non-Residential	8.17	8.09	8.00	7.92	7.87	7.81	7.75	7.70	7.65	7.60	7.55	7.50	7.45	7.41	7.41	7.41	7.41	7.41	7.41	7.43	7.44	7.46	7.47	7.49	7.50
Override		12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50
Extra Charges	0.43	0.43	0.42	0.42	0.42	0.41	0.41	0.41	0.40	0.40	0.40	0.40	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.40	0.40	0.40
Override		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Total Non-Residential Revenue (%)	12.29	12.17	12.04	11.91	11.84	11.75	11.66	11.58	11.50	11.43	11.36	11.28	11.21	11.14	11.15	11.15	11.15	11.15	11.15	11.18	11.19	11.22	11.24	11.27	11.28
Total Residential Revenue (%)	87.28	87.40	87.54	87.67	87.74	87.84	87.93	88.01	88.10	88.17	88.24	88.32	88.40	88.47	88.46	88.46	88.46	88.46	88.46	88.43	88.42	88.39	88.36	88.33	88.32
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

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Revised/Additional Forecast Data

FINMOD
DEPARTMENT OF COMMERCE

	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	2046/47	2047/48

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Revised/Additional Forecast Data

FINMOD
DEPARTMENT OF COMMERCE

	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	2046/47	2047/48
New Loan Payment Overrides (Values in Inflated $'000)																									
Standard Loan Payments: Principal	0	0	14	142	211	223	239	254	270	290	308	327	350	372	396	423	495	528	562	600	639	682	679	266	73
Standard Loan Payments: Interest	0	0	34	356	496	482	466	451	434	416	398	376	354	332	307	281	364	333	297	261	220	178	133	96	83
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 Override	0	0	14	142	211	223	239	254	270	290	308	327	350	372	396	423	495	528	562	600	639	682	679	266	73
Total New Loan Payments: Interest Override	0	0	34	356	496	482	466	451	434	416	398	376	354	332	307	281	364	333	297	261	220	178	133	96	83
Capitalised Interest 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

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Historical Operating Statement

	2021/22*	2022/23*
EXPENSES		
Management Expenses	*825*	*528*
Administration	200	400
Engineering and Supervision	625	128
Operation and Maintenance Expenses	*730*	*371*
Operation Expenses	686	135
Maintenance Expenses		201
Energy Costs	44	35
Chemical Costs		
Depreciation	*479*	*246*
System Assets	478	246
Plant & Equipment	1	
Interest Expenses		
Other Expenses		
TOTAL EXPENSES	**2034**	**1145**
REVENUES		
Rates & Service Availability Charges	*1528*	*1594*
Residential	1214	1229
Non-Residential	314	365
Trade Waste Charges	20	29
Other Sales and Charges		
Extra Charges		
Interest Income	10	83
Other Revenues		
Grants	*19*	*18*
Grants for Acquisition of Assets		
Pensioner Rebate Subsidy	19	18
Other Grants		
Contributions	*0*	*188*
Developer Charges		188
Developer Provided Assets		
Other Contributions		
TOTAL REVENUES	**1577**	**1912**
OPERATING RESULT	**-457**	**767**
OPERATING RESULT (less Grants for Acq of Assets)	**-457**	**767**

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Historical Statement of Financial Position

FINMOD
DEPARTMENT OF COMMERCE

	2021/22*	2022/23*
Cash and Investments	7007	7089
Receivables	355	378
Inventories		
Property, Plant & Equipment	*25875*	*28757*
System Assets (1)	25151	28757
Plant & Equipment	724	
Other Assets		
TOTAL ASSETS	**33237**	**36224**
LIABILITIES		
Bank Overdraft		
Creditors		
Borrowings		
Provisions		
TOTAL LIABILITIES	**0**	**0**
NET ASSETS COMMITTED	**33237**	**36224**
EQUITY		
Accumulated Operating Result	11024	11876
Asset Revaluation Reserve	22213	24348
TOTAL EQUITY	**33237**	**36224**
(1) Notes to System Assets		
Current Replacement Cost	32222	36792
Less: Accumulated Depreciation	7071	8035
Written Down Current Cost	25151	28757

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Base Forecast Data

	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	2046/47	2047/48
Financial Data																									
Inflation Rate - General (%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Inflation Rate - Capital Works (%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Borrowing Interest Rate for New Loans (%)	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Investment Interest Rate (%)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Number of Assessments																									
Growth Rate (%)																									
Residential Assessments	1.57	1.55	1.52	1.50	1.07	1.06	1.05	1.04	1.03	1.02	1.01	1.00	0.99	0.98	0.23	0.23	0.23	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Non-Residential Assessments	0.26	0.26	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Total Assessments	1.34	1.32	1.31	1.29	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.23	0.23	0.23	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Number of New Assessments																									
Residential	29	29	29	29	21	21	21	21	21	21	21	21	21	21	5	5	5	5	5	0	0	0	0	0	0
Non-Residential	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
Total New Assessments	30	30	30	30	22	22	22	22	22	22	22	22	22	22	6	6	6	6	6	0	0	0	0	0	0
Projected Number of Assessments																									
Residential	1873	1902	1931	1960	1981	2002	2023	2044	2065	2086	2107	2128	2149	2170	2175	2180	2185	2190	2195	2195	2195	2195	2195	2195	2195
Non-Residential	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	410	410	410	410	410	410
Total Projected Assessments	2265	2295	2325	2355	2377	2399	2421	2443	2465	2487	2509	2531	2553	2575	2581	2587	2593	2599	2605	2605	2605	2605	2605	2605	2605
Backlog Assessments																									
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
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Charges / Vacant Assessments (Values in 2023/24 $)																									
Developer Charges $/Assessment																									
Residential	3500	3500	3500	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Non-Residential	3500	3500	3500	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Number of Vacant Residential Assessments	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
Average Charge of Vacant Assessments	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
% 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 2023/24 $'000)																									
Current Replacement Cost of System Assets	38080																								
Override																									
Written Down Current Cost of System Assets	29763																								
Override																									
Annual Depreciation of Existing System Assets	255																								
Override	440																								
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

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Base Forecast Data

	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	2046/47	2047/48
Existing Loan Payments (Values in Inflated $'000)																									
Existing Loan Payments : Principal (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
Existing Loan Payments : Interest (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
Capital Works Program (Values in 2023/24 $'000)																									
Subsidised Scheme (Total:8820)	210	255	1312	726	466	693	922	1110	1160	25	0	0	0	230	13	0	1224	0	225	6	6	0	0	225	6
Other New System Assets (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Renewals (Total:10978)	344	44	476	746	526	351	401	576	751	1581	126	187	773	130	417	353	50	70	274	717	437	113	214	102	463
Total Capital Works (Total:19798)	554	299	1788	1472	992	1044	1323	1686	1911	1606	126	187	773	360	430	353	1274	70	499	723	443	113	214	327	469
Grant For Acquisition of Assets (% of Subsidised Scheme)	0.00	0.00	0.00	24.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grant For Acquisition of Assets ($) (Total:180)	0	0	0	180	0	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
Plant and Equipment Expenditure / Asset Disposal (Values in 2023/24 $'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
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
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
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
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
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
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

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Revised/Additional Forecast Data

	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	2046/47	2047/48
OMA / Revenue Overrides (Values in 2023/24 $'000)																									
Administration	420	426	432	438	442	446	450	454	458	462	466	470	474	478	479	480	481	482	483	483	483	483	483	483	483
Override	478	461	605	496	504	498	512	559	524	518	531	535	555	571	547	547	551	552	551	585	554	542	563	550	554
Engineering and Supervision	134	136	138	140	141	142	143	144	145	146	147	148	149	150	150	150	150	150	150	150	150	150	150	150	150
Override																									
Operating Expenses	142	144	146	148	149	150	151	152	153	154	155	156	157	158	158	158	158	158	158	158	158	158	158	158	158
Override																									
Maintenance Expenses	211	214	217	220	222	224	226	228	230	232	234	236	238	240	241	242	243	244	245	245	245	245	245	245	245
Override	249	253	302	280	283	296	277	320	295	309	335	315	339	313	325	338	315	345	328	340	340	316	346	316	328
Energy Costs	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
Override	37	37	38	38	39	39	39	40	40	40	41	41	42	42	42	42	42	42	42	42	42	42	42	42	42
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	0	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 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 2023/24 $'000)																									
Calculated from Scheme Data	105	105	105	60	44	44	44	44	44	44	44	44	44	44	12	12	12	12	12	0	0	0	0	0	0
Override	50	50	50	50	44	44	44	44	44	44	44	44	44	44	9	9	9	9	9						
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	380	386	392	397	402	406	410	415	419	423	427	432	436	440	441	442	443	444	445	445	445	445	445	445	445
Override																									
Percentage of Pensioners (%)	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28	20.28
Override																									
Pensioner Rebate	33	34	34	35	35	36	36	36	37	37	37	38	38	39	39	39	39	39	39	39	39	39	39	39	39
Pensioner Rebate Subsidy	18	19	19	19	19	20	20	20	20	20	20	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Revenue Split (%)																									
Residential Rates	77.25	77.47	77.67	77.87	77.96	78.04	78.13	78.21	78.30	78.38	78.47	78.54	78.62	78.69	78.73	78.77	78.80	78.84	78.88	78.88	78.88	78.88	78.88	78.88	78.88
Override																									
Non-Residential Rates	21.20	20.98	20.77	20.57	20.48	20.39	20.30	20.22	20.13	20.05	19.96	19.88	19.80	19.73	19.69	19.65	19.62	19.58	19.54	19.54	19.54	19.54	19.54	19.54	19.54
Override																									
Trade Waste Charges	1.55	1.55	1.56	1.56	1.56	1.57	1.57	1.57	1.57	1.57	1.57	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
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 (%)	22.75	22.53	22.33	22.13	22.04	21.96	21.87	21.79	21.70	21.62	21.53	21.46	21.38	21.31	21.27	21.23	21.20	21.16	21.12	21.12	21.12	21.12	21.12	21.12	21.12
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 (%)	77.25	77.47	77.67	77.87	77.96	78.04	78.13	78.21	78.30	78.38	78.47	78.54	78.62	78.69	78.73	78.77	78.80	78.84	78.88	78.88	78.88	78.88	78.88	78.88	78.88

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Revised/Additional Forecast Data

	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	2046/47	2047/48
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 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
Total New Loan Payments: Interest 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
Capitalised Interest 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

Appendix F Financial Model Output Data

F.1 Financial model output data – Water Supply

F.2 Financial model output data – Sewerage

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Operating Statement

FINMOD
DEPARTMENT OF COMMERCE

	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	2046/47	2047/48
EXPENSES																									
Management Expenses	*550*	*538*	*572*	*570*	*699*	*669*	*709*	*731*	*701*	*713*	*704*	*739*	*736*	*747*	*745*	*725*	*763*	*729*	*727*	*786*	*737*	*749*	*740*	*729*	*761*
Administration	416	402	434	430	558	526	565	587	556	567	557	591	587	597	595	575	613	579	577	636	587	599	590	579	611
Engineering and Supervision	134	136	138	140	141	142	143	144	145	146	147	148	149	150	150	150	150	150	150	150	150	150	150	150	150
Operation and Maintenance Expenses	*1581*	*1698*	*1822*	*1849*	*1637*	*1671*	*1686*	*1682*	*1699*	*1750*	*1762*	*1750*	*1785*	*1790*	*1806*	*1834*	*1796*	*1809*	*1923*	*1911*	*1923*	*1925*	*1908*	*1903*	*1933*
Operation Expenses	675	780	894	911	690	715	720	706	715	757	759	739	765	761	776	803	765	775	889	877	889	891	874	869	899
Maintenance Expenses	615	623	631	639	645	651	657	663	669	675	681	687	693	699	700	701	702	703	704	704	704	704	704	704	704
Energy Costs	72	73	74	75	76	77	78	79	80	81	82	83	84	85	85	85	85	85	85	85	85	85	85	85	85
Chemical Costs	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
Purchase of Water	190	192	194	196	198	200	202	204	206	208	210	212	214	216	216	216	216	216	216	216	216	216	216	216	216
Depreciation	*599*	*599*	*604*	*849*	*993*	*993*	*992*	*993*	*993*	*993*	*993*	*993*	*993*	*994*	*994*	*1064*	*1091*	*1090*	*1091*	*1091*	*1091*	*1090*	*1090*	*1090*	*1090*
System Assets	599	599	604	849	993	993	992	993	993	993	993	993	993	994	994	1064	1091	1090	1091	1091	1091	1090	1090	1090	1090
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	0	0	32	321	432	406	379	354	330	305	282	258	234	212	190	168	210	186	160	136	111	86	62	44	36
Other Expenses	80	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 EXPENSES	**2810**	**2935**	**3130**	**3689**	**3861**	**3839**	**3867**	**3860**	**3822**	**3861**	**3841**	**3840**	**3848**	**3843**	**3835**	**3891**	**3960**	**3913**	**4001**	**4023**	**3961**	**3951**	**3901**	**3866**	**3920**
REVENUES																									
Rates & Service Availability Charges	*885*	*1255*	*1415*	*1494*	*1509*	*1526*	*1544*	*1560*	*1577*	*1594*	*1609*	*1625*	*1641*	*1657*	*1661*	*1665*	*1670*	*1673*	*1677*	*1678*	*1678*	*1679*	*1678*	*1679*	*1679*
Residential	788	1051	1185	1250	1264	1278	1293	1306	1321	1334	1347	1360	1374	1387	1391	1394	1398	1401	1404	1404	1405	1405	1405	1406	1406
Non-Residential	97	204	231	244	246	248	251	254	257	260	262	264	267	270	271	271	272	272	273	273	273	273	273	273	273
User Charges	*1462*	*1649*	*1860*	*1962*	*1983*	*2007*	*2028*	*2051*	*2072*	*2093*	*2115*	*2134*	*2155*	*2177*	*2183*	*2189*	*2194*	*2199*	*2204*	*2204*	*2204*	*2205*	*2205*	*2206*	*2206*
Sales of Water : Residential	1269	1284	1448	1528	1544	1564	1579	1598	1614	1630	1647	1662	1678	1696	1700	1705	1708	1712	1716	1717	1717	1717	1718	1718	1718
Sales of Water : Non-Residential	193	365	412	434	439	444	449	454	459	463	468	473	477	481	483	484	486	486	488	487	487	488	488	488	488
Extra Charges	10	14	17	17	17	18	18	18	18	18	18	19	19	19	19	19	20	20	19	19	20	19	20	19	20
Interest Income	21	15	24	35	30	34	52	70	88	93	108	129	148	167	185	64	25	31	47	61	76	87	101	105	120
Other Revenues	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Grants	*1161*	*100*	*100*	*13600*	*8140*	*101*	*102*	*102*	*103*	*103*	*104*	*105*	*106*	*106*	*106*	*106*	*106*	*105*	*104*	*104*	*104*	*103*	*103*	*102*	*102*
Grants for Acquisition of Assets	1063	0	0	13500	8040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pensioner Rebate Subsidy	19	19	19	18	17	17	17	17	16	15	15	15	15	14	14	14	13	13	12	12	12	11	11	10	10
Other Grants	79	80	81	82	83	84	85	86	87	88	89	90	91	92	92	92	92	92	92	92	92	92	92	92	92
Contributions	*50*	*50*	*50*	*132*	*99*	*99*	*99*	*99*	*99*	*98*	*98*	*98*	*98*	*98*	*20*	*20*	*20*	*20*	*20*	*0*	*0*	*0*	*0*	*0*	*0*
Developer Charges	50	50	50	132	99	99	99	99	99	98	98	98	98	98	20	20	20	20	20	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	**3593**	**3088**	**3470**	**17243**	**11784**	**3790**	**3847**	**3905**	**3962**	**4004**	**4057**	**4114**	**4172**	**4228**	**4178**	**4067**	**4038**	**4051**	**4075**	**4070**	**4085**	**4098**	**4112**	**4116**	**4131**
OPERATING RESULT	**783**	**153**	**340**	**13554**	**7922**	**-49**	**-20**	**45**	**140**	**143**	**216**	**274**	**324**	**385**	**343**	**177**	**78**	**138**	**74**	**47**	**124**	**147**	**211**	**250**	**212**
OPERATING RESULT (less Grants for Acq of Assets)	**-280**	**153**	**340**	**54**	**-118**	**-49**	**-20**	**45**	**140**	**143**	**216**	**274**	**324**	**385**	**343**	**177**	**78**	**138**	**74**	**47**	**124**	**147**	**211**	**250**	**212**

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Cashflow Statement

FINMOD
DEPARTMENT OF COMMERCE

	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	2046/47	2047/48
Cashflow From Operating Activities																									
Receipts																									
Rates and Charges	2357	2919	3292	3472	3510	3551	3590	3630	3668	3705	3742	3778	3816	3853	3864	3873	3883	3892	3900	3901	3901	3904	3903	3905	3905
Interest Income	21	15	24	35	30	34	52	70	88	93	108	129	148	167	185	64	25	31	47	61	76	87	101	105	120
Other Revenues	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Grants	1161	100	100	13600	8140	101	102	102	103	103	104	105	106	106	106	106	106	105	104	104	104	103	103	102	102
Contributions	50	50	50	132	99	99	99	99	99	98	98	98	98	98	20	20	20	20	20	0	0	0	0	0	0
Total Receipts from Operations	**3593**	**3088**	**3470**	**17243**	**11784**	**3790**	**3847**	**3905**	**3962**	**4004**	**4057**	**4114**	**4172**	**4228**	**4178**	**4067**	**4038**	**4051**	**4075**	**4070**	**4085**	**4098**	**4112**	**4116**	**4131**
Payments																									
Management	550	538	572	570	699	669	709	731	701	713	704	739	736	747	745	725	763	729	727	786	737	749	740	729	761
Operations (plus WC Inc)	1609	1726	1850	1878	1664	1698	1714	1710	1727	1778	1790	1778	1813	1818	1831	1858	1821	1833	1948	1934	1947	1949	1931	1927	1956
Interest Expenses	0	0	32	321	432	406	379	354	330	305	282	258	234	212	190	168	210	186	160	136	111	86	62	44	36
Other Expenses	80	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 Payments from Operations	**2239**	**2364**	**2554**	**2869**	**2896**	**2873**	**2902**	**2895**	**2858**	**2896**	**2876**	**2875**	**2883**	**2878**	**2866**	**2851**	**2894**	**2847**	**2935**	**2956**	**2894**	**2884**	**2834**	**2799**	**2853**
Net Cash from Operations	**1354**	**724**	**916**	**14374**	**8888**	**917**	**945**	**1010**	**1104**	**1108**	**1181**	**1239**	**1288**	**1350**	**1312**	**1216**	**1144**	**1204**	**1140**	**1115**	**1191**	**1213**	**1277**	**1316**	**1278**
Cashflow from Capital Activities																									
Receipts																									
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
Payments																									
Acquisition of Assets	1663	606	1103	18510	11015	249	249	249	295	775	150	240	225	220	150	5664	2248	520	150	170	150	233	150	760	299
Net Cash from Capital Activities	**-1663**	**-606**	**-1103**	**-18510**	**-11015**	**-249**	**-249**	**-249**	**-295**	**-775**	**-150**	**-240**	**-225**	**-220**	**-150**	**-5664**	**-2248**	**-520**	**-150**	**-170**	**-150**	**-233**	**-150**	**-760**	**-299**
CashFlow from Financing Activities																									
Receipts																									
New Loans Required	0	0	500	4500	2000	0	0	0	0	0	0	0	0	0	0	0	1000	0	0	0	0	0	0	0	0
Payments																									
Principal Loan Payments	0	0	13	128	184	188	194	200	205	213	218	224	232	238	245	252	285	294	303	312	321	331	319	121	32
Net Cash from Financing Activities	**0**	**0**	**487**	**4372**	**1816**	**-188**	**-194**	**-200**	**-205**	**-213**	**-218**	**-224**	**-232**	**-238**	**-245**	**-252**	**715**	**-294**	**-303**	**-312**	**-321**	**-331**	**-319**	**-121**	**-32**
TOTAL NET CASH	**-309**	**118**	**300**	**236**	**-311**	**480**	**502**	**561**	**604**	**120**	**812**	**775**	**832**	**892**	**917**	**-4700**	**-390**	**390**	**687**	**633**	**720**	**649**	**809**	**436**	**947**
Current Year Cash	-309	118	300	236	-311	480	502	561	604	120	812	775	832	892	917	-4700	-390	390	687	633	720	649	809	436	947
Cash & Investments @Year Start	563	245	351	629	836	507	953	1406	1901	2421	2455	3157	3799	4475	5185	5896	1156	740	1092	1719	2272	2890	3420	4085	4368
Cash & Investments @Year End	254	363	651	865	525	987	1455	1967	2505	2541	3267	3932	4631	5367	6102	1196	766	1130	1779	2351	2991	3539	4228	4521	5315
Capital Works Funding:																									
nternal Funding for New Works ($'000)	358	0	360	314	726	0	0	0	0	0	0	0	0	0	0	5300	1000	0	0	0	0	0	0	0	0
Internal Funding for Renewals	242	606	243	196	249	249	249	249	295	775	150	240	225	220	150	364	248	520	150	170	150	233	150	760	299
New Loans	0	0	500	4500	2000	0	0	0	0	0	0	0	0	0	0	0	1000	0	0	0	0	0	0	0	0
Grants	1063	0	0	13500	8040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Works	**1663**	**606**	**1103**	**18510**	**11015**	**249**	**249**	**249**	**295**	**775**	**150**	**240**	**225**	**220**	**150**	**5664**	**2248**	**520**	**150**	**170**	**150**	**233**	**150**	**760**	**299**

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Statement of Financial Position

FINMOD
DEPARTMENT OF COMMERCE

	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	2046/47	2047/48
Cash and Investments	254	351	608	780	458	831	1184	1546	1902	1864	2316	2693	3065	3432	3770	714	442	630	958	1223	1503	1718	1984	2049	2328
Receivables	604	612	619	627	633	638	644	650	656	662	668	673	679	685	686	688	689	690	692	692	692	692	692	692	692
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	*31129*	*31135*	*31635*	*49296*	*59318*	*58574*	*57830*	*57087*	*56389*	*56171*	*55328*	*54575*	*53806*	*53033*	*52189*	*56789*	*57946*	*57376*	*56435*	*55515*	*54574*	*53717*	*52777*	*52447*	*51656*
System Assets (1)	31129	31135	31635	49296	59318	58574	57830	57087	56389	56171	55328	54575	53806	53033	52189	56789	57946	57376	56435	55515	54574	53717	52777	52447	51656
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	**31987**	**32098**	**32861**	**50703**	**60408**	**60044**	**59658**	**59283**	**58947**	**58697**	**58312**	**57942**	**57550**	**57149**	**56645**	**58190**	**59077**	**58696**	**58085**	**57429**	**56769**	**56128**	**55453**	**55188**	**54676**
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Borrowings	0	0	487	4843	6495	6087	5687	5295	4911	4532	4161	3796	3436	3082	2733	2388	3022	2626	2234	1847	1463	1082	727	582	530
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	**0**	**0**	**487**	**4843**	**6495**	**6087**	**5687**	**5295**	**4911**	**4532**	**4161**	**3796**	**3436**	**3082**	**2733**	**2388**	**3022**	**2626**	**2234**	**1847**	**1463**	**1082**	**727**	**582**	**530**
NET ASSETS COMMITTED	**31987**	**32098**	**32374**	**45860**	**53914**	**53956**	**53971**	**53987**	**54036**	**54165**	**54151**	**54146**	**54114**	**54067**	**53912**	**55802**	**56055**	**56070**	**55851**	**55583**	**55306**	**55045**	**54725**	**54606**	**54146**
EQUITY																									
Accumulated Operating Result	12760	12481	12399	25534	32593	31442	30359	29377	28523	27702	26981	26343	25776	25289	24777	24116	23378	22726	22031	21333	20735	20181	19709	19292	18851
Asset Revaluation Reserve	19227	20316	21444	22630	24543	26925	29359	31847	34389	36988	39668	42400	45188	48034	50937	53894	57224	60741	64345	68014	71750	75551	79423	83360	87410
TOTAL EQUITY	**31987**	**32110**	**32417**	**45945**	**53981**	**54112**	**54243**	**54409**	**54639**	**54841**	**55103**	**55385**	**55680**	**56002**	**56245**	**56284**	**56379**	**56571**	**56672**	**56711**	**56794**	**56866**	**56970**	**57078**	**57133**
(1) Notes to System Assets																									
Current Replacement Cost	39926	39926	40286	58599	69365	69365	69365	69364	69365	69365	69365	69365	69365	69365	69365	74665	76665	76665	76665	76665	76665	76665	76665	76665	76665
Less: Accumulated Depreciation	8797	8790	8651	9304	10047	10791	11535	12278	12976	13194	14037	14790	15559	16332	17176	17876	18719	19289	20230	21151	22091	22948	23888	24218	25009
Written Down Current Cost	31129	31135	31635	49296	59318	58574	57830	57087	56389	56171	55328	54575	53806	53033	52189	56789	57946	57376	56435	55515	54574	53717	52777	52447	51656

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Performance Indicators

FINMOD
DEPARTMENT OF COMMERCE

	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	2046/47	2047/48
Typical Residential Bills	1030	1150	1275	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325	1325
Average Residential Bills (2023/24$)	995	1113	1237	1287	1287	1289	1289	1291	1291	1291	1292	1292	1292	1294	1294	1295	1295	1295	1296	1296	1296	1297	1297	1297	1297
Mgmnt Cost / Assessment (2023/24$)	222	214	225	222	269	255	268	274	260	263	257	268	264	266	265	257	270	257	256	277	260	264	261	257	268
OMA Cost per Assessment (2023/24$)	783	814	866	864	824	817	830	828	815	831	824	825	829	827	830	831	829	820	858	874	861	867	858	852	873
Operating Sales Margin (%)	-12.00	4.47	10.08	9.17	7.67	8.61	8.10	8.59	9.84	9.08	9.87	10.11	10.18	10.60	8.71	7.01	6.55	7.28	4.64	3.04	3.95	3.63	4.28	4.70	3.18
Economic Real Rate of Return (%)	-0.97	0.44	1.10	0.69	0.48	0.55	0.53	0.58	0.68	0.63	0.70	0.74	0.76	0.81	0.67	0.49	0.45	0.51	0.33	0.22	0.29	0.27	0.33	0.36	0.25
Debt Service Ratio	0.00	0.00	0.01	0.12	0.16	0.16	0.15	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.10	0.10	0.12	0.12	0.11	0.11	0.11	0.10	0.09	0.04	0.02
Debt/Equity Ratio	0.00	0.00	0.02	0.11	0.12	0.11	0.10	0.10	0.09	0.08	0.08	0.07	0.06	0.06	0.05	0.04	0.05	0.05	0.04	0.03	0.03	0.02	0.01	0.01	0.01
Interest Cover	0.00	0.00	11.71	1.17	0.73	0.88	0.95	1.13	1.42	1.47	1.77	2.06	2.38	2.81	2.81	2.05	1.37	1.74	1.46	1.35	2.12	2.70	4.38	6.74	6.82
Return on capital (%)	-0.88	0.48	1.13	3.35	2.23	0.59	0.60	0.67	0.80	0.76	0.85	0.92	0.97	1.04	0.94	0.59	0.49	0.55	0.40	0.32	0.41	0.42	0.49	0.53	0.45
Cash and Investments (2023/24$'000)	254	363	651	865	525	987	1455	1967	2505	2541	3267	3932	4631	5367	6102	1196	766	1130	1779	2351	2991	3539	4228	4521	5315
Debt outstanding (2023/24$'000)	0	0	487	4843	6495	6087	5687	5295	4911	4532	4161	3796	3436	3082	2733	2388	3022	2626	2234	1847	1463	1082	727	582	530
Net Debt (2023/24$'000)	0	0	0	3978	5970	5100	4232	3328	2406	1991	894	0	0	0	0	1192	2256	1496	455	0	0	0	0	0	0

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

STANDARD LOAN PAYMENT SCHEDULE

FINMOD
DEPARTMENT OF COMMERCE

Drawdown			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	2046/47	2047/48
2025/26	Principal	536			14	14	16	16	18	19	20	22	23	24	26	28	29	31	33	36	38	41	43	46	0	0	0
	Interest				34	34	33	32	30	30	28	27	26	24	22	21	19	17	15	13	10	8	5	2	0	0	0
2026/27	Principal	4989				128	136	144	154	164	175	187	199	212	226	240	256	274	292	311	331	354	376	402	429	0	0
	Interest					322	314	305	295	285	275	263	251	237	223	208	192	176	157	139	117	96	72	48	21	0	0
2027/28	Principal	2295					59	63	67	71	75	81	86	91	98	104	111	118	126	134	143	152	163	173	185	197	0
	Interest						149	145	141	136	131	126	121	115	109	103	96	88	80	72	64	54	44	33	21	9	0
2039/40	Principal	1734																	44	47	50	53	57	61	65	69	73
	Interest																		112	109	106	103	99	95	91	87	83
Total Principal		**9554**	0	0	14	142	211	223	239	254	270	290	308	327	350	372	396	423	495	528	562	600	639	682	679	266	73
Total Interest			0	0	34	356	496	482	466	451	434	416	398	376	354	332	307	281	364	333	297	261	220	178	133	96	83

Narromine SC Water Fund Financial Model : IWCM Water - Preferred

Summary Report of Assumptions and Results

FINMOD
DEPARTMENT OF COMMERCE

	2023/24	2027/28	2032/33	2037/38	2042/43	2047/48	2052/53
Inflation Rates - General (%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Inflation Rates - Capital Works (%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Borrowing Interest Rate (%)	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Term of New Loans (years)	20	20	20	20	20	20	20
Investment Interest Rate (%)	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Growth Rate - Residential (%)	1.47	1.07	0.97	0.21	0.00	0.00	0.00
Developer Charges per Assessment - Residential (2023/24 $)	3000	4357	4357	4357	4357	4357	4357
Subsidised Scheme Capital Works ($m)	1.42	10.77	0.00	0.00	0.00	0.00	0.00
Grants on Acquisition of Assets ($m)	1.06	8.04	0.00	0.00	0.00	0.00	0.00
Renewals ($m)	0.24	0.25	0.78	0.15	0.17	0.30	0.15
Renewals (%)	0.61	0.36	1.12	0.22	0.22	0.39	0.20
Cash and Investments ($m)	0.25	0.46	1.86	3.77	1.22	2.33	3.49
Borrowing Outstanding ($m)	0.00	6.49	4.53	2.73	1.85	0.53	0.28
Mgmnt Cost / Assessment	222	269	263	265	277	268	263
Debt Equity Ratio	0.00	0.10	0.06	0.03	0.02	0.00	0.00
OMA Cost Per Assessment	783	824	831	830	874	873	864
Economic Real Rate of Return (%)	-0.97	0.48	0.63	0.67	0.22	0.25	0.33
Return on Capital (%)	-0.88	2.23	0.76	0.94	0.32	0.45	0.66
Net Debt ($m)	0.00	5.97	1.99	0.00	0.00	0.00	0.00
Debt Service Ratio	0.00	0.16	0.13	0.10	0.11	0.02	0.01
Average Residential Bills	995	1287	1291	1294	1296	1297	1299
Typical Residential Bills (2023/24$)	1030	1325	1325	1325	1325	1325	1325

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Operating Statement

FINMOD
DEPARTMENT OF COMMERCE

	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	2046/47	2047/48
EXPENSES																									
Management Expenses	*612*	*597*	*743*	*636*	*645*	*640*	*655*	*703*	*669*	*664*	*678*	*683*	*704*	*721*	*697*	*697*	*701*	*702*	*701*	*735*	*704*	*692*	*713*	*700*	*704*
Administration	478	461	605	496	504	498	512	559	524	518	531	535	555	571	547	547	551	552	551	585	554	542	563	550	554
Engineering and Supervision	134	136	138	140	141	142	143	144	145	146	147	148	149	150	150	150	150	150	150	150	150	150	150	150	150
Operation and Maintenance Expenses	*428*	*434*	*486*	*465*	*471*	*485*	*468*	*512*	*488*	*503*	*532*	*512*	*537*	*513*	*525*	*538*	*515*	*545*	*528*	*540*	*540*	*516*	*547*	*516*	*528*
Operation Expenses	142	144	146	148	149	150	151	152	153	154	155	156	157	158	158	158	158	158	158	158	158	158	158	158	158
Maintenance Expenses	249	253	302	280	283	296	277	320	295	309	335	315	339	313	325	338	315	345	328	340	340	316	346	316	328
Energy Costs	37	37	38	38	39	39	39	40	40	40	41	41	42	42	42	42	42	42	42	42	42	42	42	42	42
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	*442*	*444*	*459*	*467*	*472*	*480*	*491*	*503*	*516*	*517*	*517*	*517*	*517*	*519*	*519*	*519*	*533*	*534*	*537*	*537*	*537*	*538*	*538*	*540*	*540*
System Assets	442	444	459	467	472	480	491	503	516	517	517	517	517	519	519	519	533	534	537	537	537	538	538	540	540
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	0	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 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	**1482**	**1475**	**1689**	**1568**	**1589**	**1605**	**1613**	**1717**	**1673**	**1684**	**1726**	**1712**	**1758**	**1754**	**1741**	**1754**	**1749**	**1781**	**1765**	**1812**	**1781**	**1745**	**1797**	**1756**	**1772**
REVENUES																									
Rates & Service Availability Charges	*1634*	*1688*	*1709*	*1734*	*1748*	*1767*	*1786*	*1804*	*1823*	*1838*	*1857*	*1875*	*1891*	*1910*	*1913*	*1918*	*1924*	*1927*	*1932*	*1933*	*1934*	*1934*	*1935*	*1936*	*1937*
Residential	1282	1329	1349	1371	1385	1401	1417	1433	1450	1464	1481	1496	1511	1527	1530	1535	1540	1544	1548	1550	1550	1550	1551	1552	1553
Non-Residential	352	359	360	363	363	366	369	371	373	374	376	379	381	383	383	383	384	383	383	384	384	384	384	384	385
Trade Waste Charges	26	26	27	27	28	28	28	29	29	29	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31
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	358	377	348	299	274	253	226	185	136	95	96	113	114	119	125	131	115	125	128	123	124	135	142	146	145
Other Revenues	0	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	*18*	*18*	*18*	*198*	*17*	*17*	*16*	*16*	*15*	*15*	*14*	*14*	*14*	*13*	*13*	*13*	*12*	*12*	*11*	*11*	*11*	*10*	*10*	*10*	*9*
Grants for Acquisition of Assets	0	0	0	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pensioner Rebate Subsidy	18	18	18	17	17	17	16	16	15	15	14	14	14	13	13	13	12	12	11	11	11	10	10	10	9
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	*50*	*50*	*50*	*50*	*44*	*44*	*44*	*44*	*44*	*44*	*44*	*44*	*44*	*44*	*9*	*9*	*9*	*9*	*9*	*0*	*0*	*0*	*0*	*0*	*0*
Developer Charges	50	50	50	50	44	44	44	44	44	44	44	44	44	44	9	9	9	9	9	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	**2086**	**2159**	**2153**	**2307**	**2110**	**2109**	**2100**	**2078**	**2047**	**2021**	**2041**	**2076**	**2093**	**2117**	**2091**	**2102**	**2092**	**2104**	**2111**	**2098**	**2100**	**2111**	**2118**	**2123**	**2123**
OPERATING RESULT	**604**	**684**	**464**	**739**	**521**	**504**	**487**	**361**	**374**	**337**	**315**	**364**	**335**	**363**	**350**	**349**	**343**	**323**	**346**	**286**	**319**	**366**	**320**	**366**	**350**
OPERATING RESULT (less Grants for Acq of Assets)	**604**	**684**	**464**	**558**	**521**	**504**	**487**	**361**	**374**	**337**	**315**	**364**	**335**	**363**	**350**	**349**	**343**	**323**	**346**	**286**	**319**	**366**	**320**	**366**	**350**

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Cashflow Statement

FINMOD
DEPARTMENT OF COMMERCE

	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	2046/47	2047/48
Cashflow From Operating Activities																									
Receipts																									
Rates and Charges	1660	1714	1736	1761	1776	1795	1814	1833	1851	1867	1887	1905	1922	1941	1944	1949	1955	1959	1963	1965	1966	1965	1966	1967	1968
Interest Income	358	377	348	299	274	253	226	185	136	95	96	113	114	119	125	131	115	125	128	123	124	135	142	146	145
Other Revenues	0	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	18	18	18	198	17	17	16	16	15	15	14	14	14	13	13	13	12	12	11	11	11	10	10	10	9
Contributions	50	50	50	50	44	44	44	44	44	44	44	44	44	44	9	9	9	9	9	0	0	0	0	0	0
Total Receipts from Operations	**2086**	**2159**	**2153**	**2307**	**2110**	**2109**	**2100**	**2078**	**2047**	**2021**	**2041**	**2076**	**2093**	**2117**	**2091**	**2102**	**2092**	**2104**	**2111**	**2098**	**2100**	**2111**	**2118**	**2123**	**2123**
Payments																									
Management	612	597	743	636	645	640	655	703	669	664	678	683	704	721	697	697	701	702	701	735	704	692	713	700	704
Operations (plus WC Inc)	446	452	505	484	489	503	486	530	506	522	550	531	556	533	541	554	531	561	544	556	555	531	562	532	544
Interest 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
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	**1058**	**1049**	**1248**	**1120**	**1134**	**1143**	**1141**	**1232**	**1175**	**1186**	**1228**	**1214**	**1260**	**1254**	**1238**	**1250**	**1232**	**1263**	**1245**	**1291**	**1259**	**1223**	**1275**	**1232**	**1247**
Net Cash from Operations	**1028**	**1110**	**905**	**1187**	**976**	**967**	**960**	**846**	**872**	**835**	**813**	**862**	**833**	**863**	**853**	**852**	**860**	**841**	**867**	**808**	**841**	**888**	**843**	**891**	**875**
Cashflow from Capital Activities																									
Receipts																									
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
Payments																									
Acquisition of Assets	554	300	1788	1472	993	1044	1323	1686	1911	1606	126	187	773	360	430	353	1274	70	499	723	443	113	214	327	469
Net Cash from Capital Activities	**-554**	**-300**	**-1788**	**-1472**	**-993**	**-1044**	**-1323**	**-1686**	**-1911**	**-1606**	**-126**	**-187**	**-773**	**-360**	**-430**	**-353**	**-1274**	**-70**	**-499**	**-723**	**-443**	**-113**	**-214**	**-327**	**-469**
CashFlow from Financing Activities																									
Receipts																									
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
Payments																									
Principal Loan Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Cash from Financing Activities	**0**	**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 NET CASH	**474**	**811**	**-883**	**-285**	**-17**	**-77**	**-363**	**-840**	**-1039**	**-771**	**687**	**675**	**60**	**503**	**423**	**499**	**-414**	**771**	**368**	**85**	**398**	**774**	**629**	**564**	**406**
Current Year Cash	474	811	-883	-285	-17	-77	-363	-840	-1039	-771	687	675	60	503	423	499	-414	771	368	85	398	774	629	564	406
Cash & Investments @Year Start	7089	7307	7843	6725	6222	5996	5718	5174	4187	3042	2194	2784	3342	3287	3662	3947	4296	3751	4368	4576	4503	4735	5323	5751	6102
Cash & Investments @Year End	**7563**	**8118**	**6960**	**6440**	**6206**	**5918**	**5355**	**4334**	**3149**	**2271**	**2881**	**3459**	**3402**	**3790**	**4085**	**4446**	**3882**	**4521**	**4736**	**4661**	**4901**	**5510**	**5952**	**6315**	**6508**
Capital Works Funding:																									
nternal Funding for New Works ($'000)	210	255	1312	546	466	693	922	1110	1160	25	0	0	0	230	13	0	1224	0	225	6	6	0	0	225	6
Internal Funding for Renewals	344	44	476	746	526	351	401	576	751	1581	126	187	773	130	417	353	50	70	274	717	437	113	214	102	463
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	0	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Works	**554**	**300**	**1788**	**1472**	**993**	**1044**	**1323**	**1686**	**1911**	**1606**	**126**	**187**	**773**	**360**	**430**	**353**	**1274**	**70**	**499**	**723**	**443**	**113**	**214**	**327**	**469**

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Statement of Financial Position

	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	2046/47	2047/48
Cash and Investments	7563	8118	6960	6440	6206	5918	5355	4334	3149	2271	2881	3459	3402	3790	4085	4446	3882	4521	4736	4661	4901	5510	5952	6315	6508
Receivables	396	401	406	411	415	418	422	426	430	434	437	441	445	449	450	451	452	452	453	453	453	453	453	453	453
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	*29875*	*29729*	*31058*	*32062*	*32582*	*33147*	*33979*	*35162*	*36557*	*37646*	*37256*	*36926*	*37182*	*37023*	*36935*	*36768*	*37509*	*37046*	*37008*	*37194*	*37100*	*36676*	*36352*	*36139*	*36067*
System Assets (1)	29875	29729	31058	32062	32582	33147	33979	35162	36557	37646	37256	36926	37182	37023	36935	36768	37509	37046	37008	37194	37100	36676	36352	36139	36067
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	**37834**	**38248**	**38424**	**38913**	**39203**	**39483**	**39757**	**39922**	**40135**	**40351**	**40574**	**40826**	**41029**	**41263**	**41470**	**41665**	**41842**	**42019**	**42197**	**42308**	**42454**	**42638**	**42757**	**42907**	**43028**
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Borrowings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NET ASSETS COMMITTED	**37834**	**38248**	**38424**	**38913**	**39203**	**39483**	**39757**	**39922**	**40135**	**40351**	**40574**	**40826**	**41029**	**41263**	**41470**	**41665**	**41842**	**42019**	**42197**	**42308**	**42454**	**42638**	**42757**	**42907**	**43028**
EQUITY																									
Accumulated Operating Result	12480	12742	12775	13082	13161	13220	13260	13172	13101	12994	12870	12798	12700	12634	12557	12481	12401	12305	12235	12108	12017	11977	11892	11856	11806
Asset Revaluation Reserve	25354	25506	25649	25832	26042	26264	26497	26750	27034	27356	27705	28028	28329	28629	28913	29184	29441	29714	29962	30200	30436	30662	30865	31051	31223
TOTAL EQUITY	**37834**	**38248**	**38424**	**38913**	**39203**	**39483**	**39757**	**39922**	**40135**	**40351**	**40574**	**40826**	**41029**	**41263**	**41470**	**41665**	**41842**	**42019**	**42197**	**42308**	**42454**	**42638**	**42757**	**42907**	**43028**
(1) Notes to System Assets																									
Current Replacement Cost	38290	38545	39856	40582	41048	41742	42663	43773	44933	44958	44958	44958	44958	45189	45202	45202	46426	46426	46651	46657	46663	46663	46664	46888	46894
Less: Accumulated Depreciation	8415	8815	8798	8520	8466	8595	8684	8611	8376	7312	7702	8032	7776	8165	8267	8433	8917	9381	9643	9463	9563	9988	10311	10750	10827
Written Down Current Cost	29875	29729	31058	32062	32582	33147	33979	35162	36557	37646	37256	36926	37182	37023	36935	36768	37509	37046	37008	37194	37100	36676	36352	36139	36067

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Performance Indicators

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DEPARTMENT OF COMMERCE

	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	2046/47	2047/48
Typical Residential Bills	702	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715
Average Residential Bills (2023/24$)	684	699	698	700	699	700	700	701	702	701	703	703	703	703	704	704	705	705	705	706	706	706	707	707	707
Mgmnt Cost / Assessment (2023/24$)	270	260	319	270	271	267	271	288	271	267	270	270	276	280	270	269	270	270	269	282	270	266	274	269	270
OMA Cost per Assessment (2023/24$)	459	449	528	467	470	469	464	497	469	470	482	472	486	480	473	477	469	480	472	489	477	464	484	467	473
Operating Sales Margin (%)	14.24	17.24	6.41	14.17	13.48	13.52	13.93	9.26	12.44	12.57	11.26	12.77	11.17	12.22	11.47	11.02	11.50	10.02	10.99	8.27	9.87	11.65	9.05	11.14	10.37
Economic Real Rate of Return (%)	0.82	1.03	0.37	0.81	0.76	0.76	0.77	0.50	0.65	0.64	0.59	0.68	0.59	0.66	0.61	0.59	0.61	0.54	0.59	0.44	0.53	0.63	0.49	0.61	0.57
Debt Service Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt/Equity Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Cover	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Return on capital (%)	1.60	1.79	1.21	1.48	1.33	1.28	1.23	0.90	0.93	0.83	0.78	0.89	0.82	0.88	0.84	0.84	0.82	0.77	0.82	0.68	0.75	0.86	0.75	0.85	0.81
Cash and Investments (2023/24$'000)	7563	8118	6960	6440	6206	5918	5355	4334	3149	2271	2881	3459	3402	3790	4085	4446	3882	4521	4736	4661	4901	5510	5952	6315	6508
Debt outstanding (2023/24$'000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Debt (2023/24$'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

Narromine SC Sewer Fund Financial Model April 2024 : IWCM Sewer - Preferred

Summary Report of Assumptions and Results

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DEPARTMENT OF COMMERCE

	2023/24	2027/28	2032/33	2037/38	2042/43	2047/48	2052/53
Inflation Rates - General (%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Inflation Rates - Capital Works (%)	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Borrowing Interest Rate (%)	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Term of New Loans (years)	20	20	20	20	20	20	20
Investment Interest Rate (%)	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Growth Rate - Residential (%)	1.57	1.07	1.02	0.23	0.00	0.00	0.00
Developer Charges per Assessment - Residential (2023/24 $)	3500	2000	2000	2000	2000	2000	2000
Subsidised Scheme Capital Works ($m)	0.21	0.47	0.03	0.01	0.01	0.01	0.00
Grants on Acquisition of Assets ($m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals ($m)	0.34	0.53	1.58	0.42	0.72	0.46	0.08
Renewals (%)	0.90	1.28	3.52	0.92	1.54	0.99	0.17
Cash and Investments ($m)	7.56	6.21	2.27	4.09	4.66	6.51	8.91
Borrowing Outstanding ($m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mgmnt Cost / Assessment	270	271	267	270	282	270	266
Debt Equity Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OMA Cost Per Assessment	459	470	470	473	489	473	468
Economic Real Rate of Return (%)	0.82	0.76	0.64	0.61	0.44	0.57	0.64
Return on Capital (%)	1.60	1.33	0.83	0.84	0.68	0.81	0.90
Net Debt ($m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt Service Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Residential Bills	684	699	701	704	706	707	708
Typical Residential Bills	702	715	715	715	715	715	715