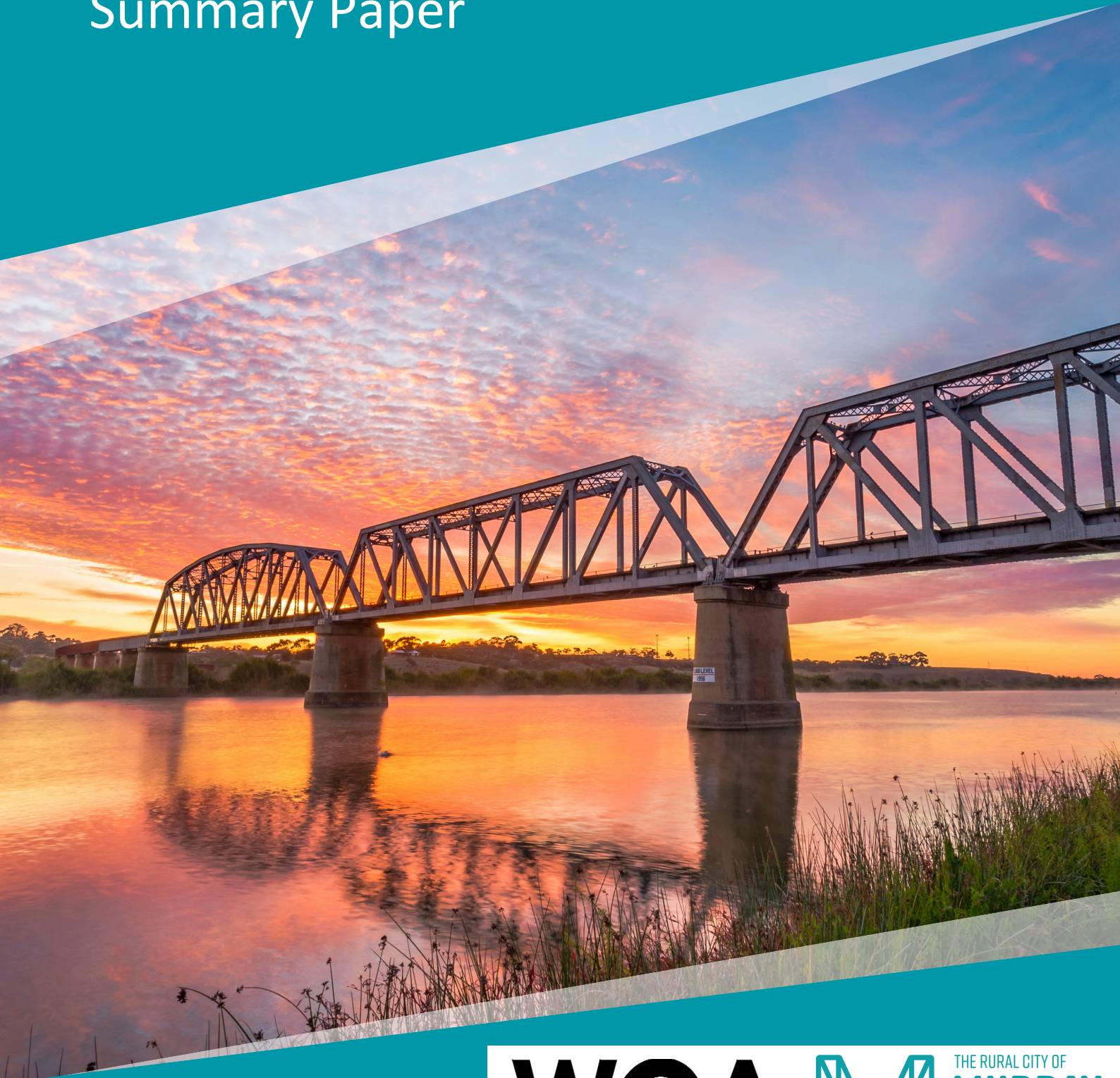


Murray Bridge East CWMS Concept Design

Summary Paper



WGA



THE RURAL CITY OF
**MURRAY
BRIDGE**

Introduction

The Murray Bridge East Community Wastewater Management System (CWMS) Concept Design proposes different options for the management of wastewater to service properties in the Murray Bridge East Township. This concept considers sizing, system details and preliminary costings, and aims to assist in making an informed decision as to whether Council should continue to detailed design and construction.

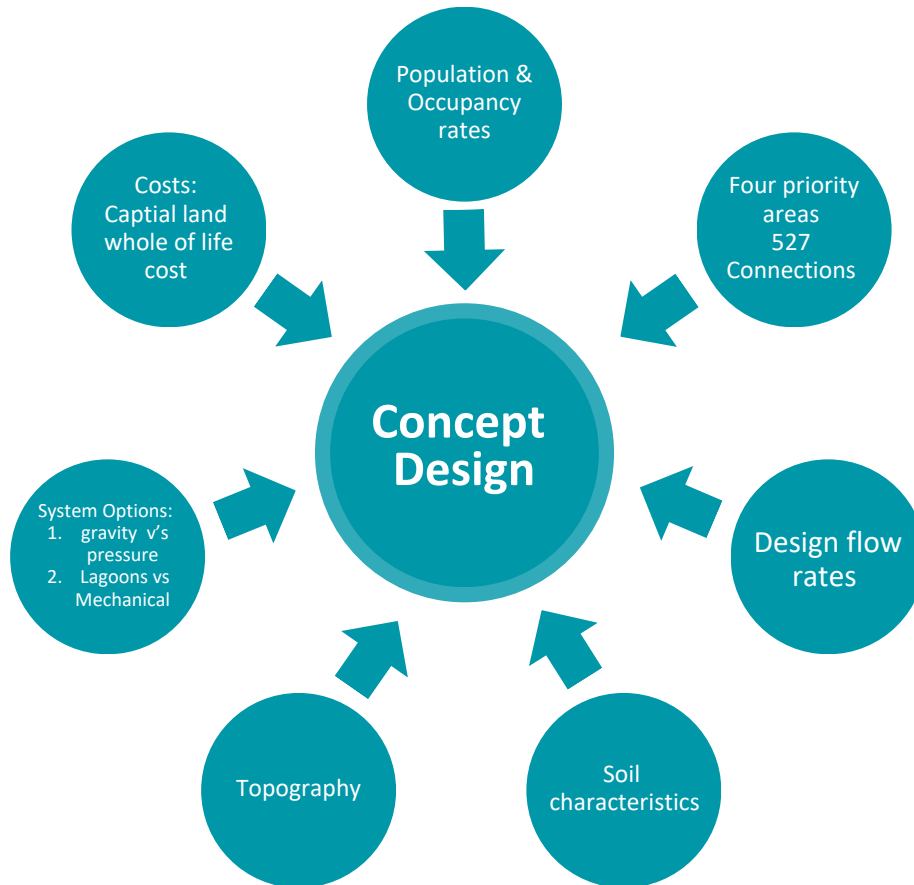
Background

Properties on Murray Bridge East are currently serviced by individual onsite wastewater systems. A study conducted in 2021, assisted with determining the current condition of wastewater systems and identifying sites with limited reserve areas for system upgrades. A summary of the result can be found on the Council webpage.

This study provided the necessary data to proceed with the CWMS Concept Design, in conjunction with the engineer consultants and the LGA.

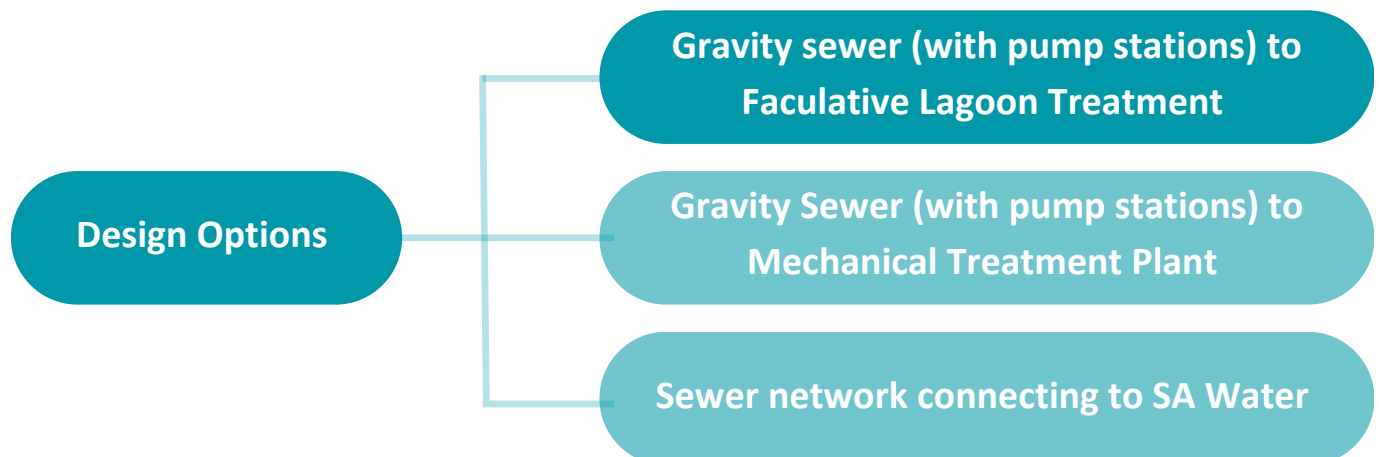
The Concept Design

What was considered for the CWMS concept design?



The Options

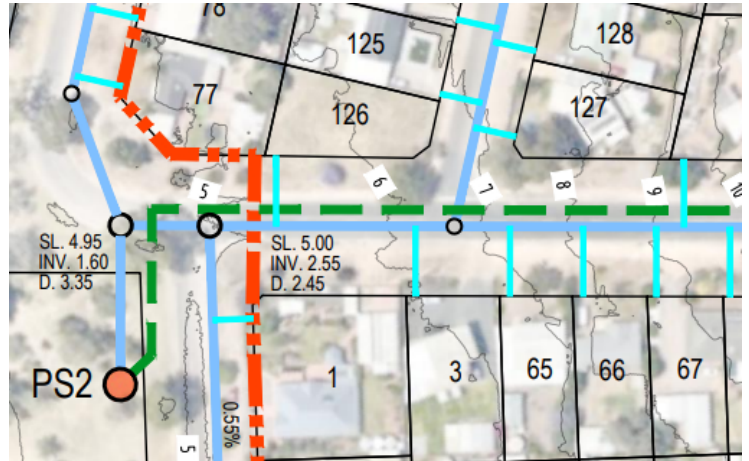
Three different options were considered for the proposed CWMS concept design; with a facultative (non-mechanical) lagoon being the proposed option. This option was selected due to the lower whole of life costs (capital, maintenance and operational costs).



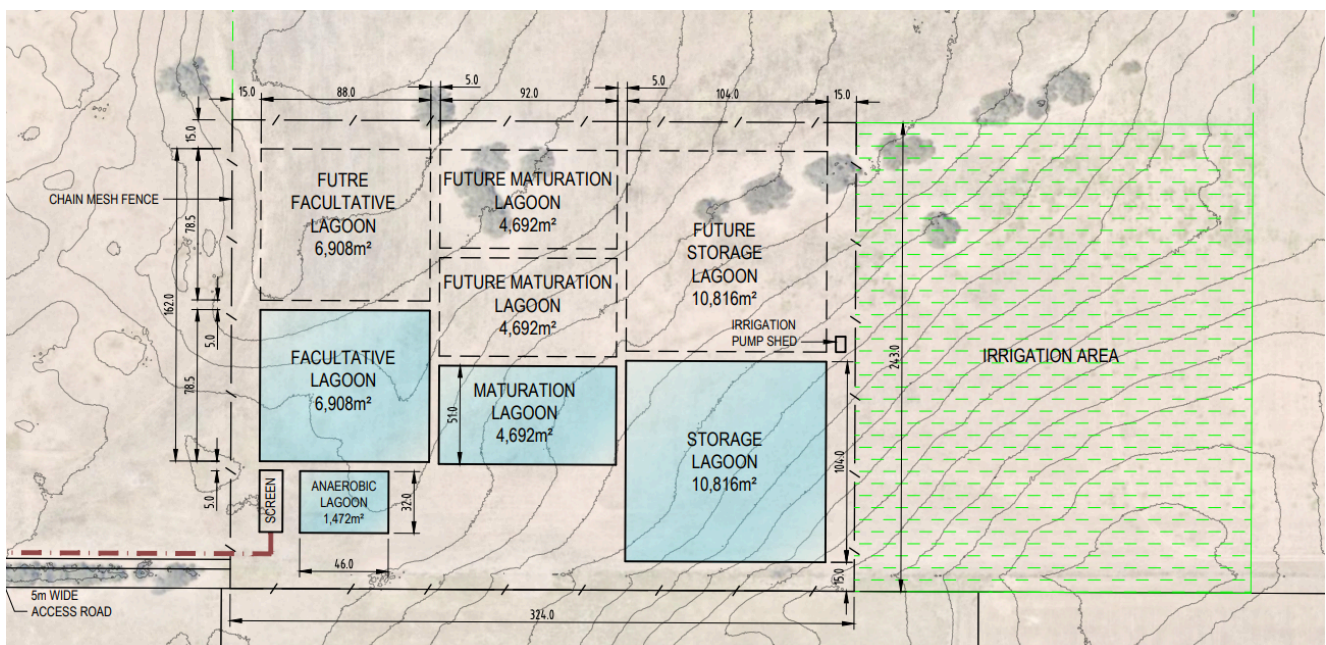
How would a gravity sewer and facultative lagoon system work?

Four key priority areas were identified to be included within the proposed concept design.

- Each property would have a connection point. The majority of properties would have a gravity connection, with some properties requiring an individual pump.
- Wastewater from each property would enter into a main external line and flow to pump stations.
- Wastewater will then be pumped to facultative lagoons for further treatment.
- Treated wastewater could then be used for irrigation.



Example of connection points for the proposed concept design



Proposed facultative lagoon treatment system

Advantages and Disadvantages – Facultative Lagoons

Advantages	Disadvantages
• Easy to operate • Very low energy consumption • Can provide Robust treatment during power failure at WWTP site. • It is the simplest & lowest maintenance wastewater management system	• Requires a 350m buffer zone to residential areas • Larger area of land required for construction • More water loss due to evaporation • Requires cut and fill to build earthen water storages. • Poor soil conditions and high ground water could significantly increase construction costs.

Costs – Facultative Lagoons

	Capital Cost	Capital Cost Per Connection	Whole of Life Cost	Whole of Life Cost per connection only (what you would need to pay)
Gravity sewer and facultative lagoon	\$18,230,000	\$34,590	\$21,140,000	\$40,120 (without funding) \$8,000 approx. (with subsidy)

LGA Funding

The cost estimates provided within the proposed concept design report do not factor in funding opportunities. The LGA CWMS program provides funding any further investigation into detailed design and construction of a CWMS would be subject to available funding.

The current estimate for connection to the CWMS is \$8,000. This is subject to change but would be equivalent to SA Water charges. Council would explore other funding opportunities (Federal and State) to further support construction if this project proceeds.

Conclusion

The proposed concept design for a CWMS on Murray Bridge East is for a gravity scheme to a facultative lagoon treatment system. This design was considered to have the lowest whole of life costs.

This concept design is only a proposal and is not for construction. A decision will be made by Council following public consultation, as to whether we will proceed to detailed design and construction.

Please refer to the full report for full details and plans of the Murray Bridge East Concept Design.

A copy of the full report can be found at
<https://letstalk.murraybridge.sa.gov.au/cwmsmurraybridgeeast>
or scan the QR Code.



**This document is a summary based on the Murray Bridge East CWMS
Concept Design Report by WGA**

A copy of the full report can be found on Council's website.



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