

COMMUNITY WASTEWATER MANAGEMENT SYSTEM (CWMS)

OVERVIEW INFORMATION

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1. **COMMUNITY WASTEWATER MANAGEMENT SCHEME (CWMS) OVERVIEW**

- 1.1 A number of suburbs in the Onkaparinga council area are not serviced by the SA Water sewerage network and wastewater generated at each premises must be managed by alternate means.
- 1.2 City of Onkaparinga (CoO) operates and maintains wastewater disposal systems in a number of distinct parts of the city. This wastewater system operating to collect and manage wastewater is called a Community Wastewater Management System (CWMS). CoO operates its CWMS in the following townships:
- Willunga
 - McLaren Vale
 - McLaren Flat
 - Clarendon
 - Maslin Beach
 - Sellicks Beach; and
 - Morphett Vale.

Properties connected to the City of Onkaparinga's CWMS require a septic tank before the wastewater is discharged to the community effluent system (unless connected to the Ocean View Estate (OVE) system which is sewer i.e. a septic tank is not required).

- 1.3 The CoO CWMS has been in operation for many years (back to 60's in some instances). The scheme relies on two wastewater treatment plants (WWTP) where treated effluent is disposed of to the Willunga Basin Water Company for reuse in the region. Three of the networks dispose of untreated effluent directly to SA Water sewer. Over all the CoO CWMS services approximately 4350 Customers with annual organic growth assumed to be around 10 connections. Larger developments and infill are also potential growth factors.
- 1.4 The business operates close to a break-even point with around \$3m expense and \$3m revenue annually. CoO has implemented a full cost recover path from 2017-18 (discussed in more detail below) which has the option of providing a return or profit. Within the approximately \$3m annual expense, council recovers around \$350k annually for its administration of the scheme.
- 1.5 The City of Onkaparinga became a licensed water industry entity in 2013 underpinning its operation and management responsibility for its CWMS. Details of the City of Onkaparinga's application are available for download [via:
http://www.escosa.sa.gov.au/water-overview/licensing/retail-licences.aspx](http://www.escosa.sa.gov.au/water-overview/licensing/retail-licences.aspx)
- 1.6 There are two privately owned CWMS located within the City of Onkaparinga - the OVE at Sellicks Beach (sewerage scheme) and the Aldinga Eco Village. The Aldinga scheme is not included within the scope of this EOI. The OVE scheme is however integrated with the CoO's CWMS.

The OVE wastewater collection infrastructure is under the ownership of council including the pipework connecting it to the Sellicks Beach WWTP. The OVE community corporation has an interest in these assets and owns infrastructure for the reuse of treated effluent in the development. Council is currently facilitating the transfer the CWMS assets from the OVE through a deed for absolute clarity. Responses to this EOI should assume that the OVE CWMS is part of the set of assets being presented to the market.

- 1.7 The City of Onkaparinga also own three storage lagoons with a total capacity of approximately 324ML in property areas adjacent to the Willunga WWTP. These storage lagoons provide a disposal path for treated wastewater emanating from the Willunga WWTP and they are currently leased by the Willunga Basin Water Company (WBWC). Only one of these dams (Dam 1) is necessary for the operation of the Willunga WWTP and considered part of the CWMS. The remaining two dams (Dams 2 & 3) were constructed to provide balancing storage for the WBWC and to enhance economic development in the region. Dams 2 & 3 are considered to be assets of the Water Business.

All three dam leases associated with these dams expire in 2039. The transfer of the Dam 1 lease and the ownership of Dam 1 (but not the land it is situated on) forms part of the CWMS assets being presented to the market.

Relevant information pertaining to the lease arrangements and operational obligations will be confidentially disclosed to shortlisted proponents should the City of Onkaparinga progress with the second procurement phase.

2. CONTRACTUAL CONSIDERATIONS AND CONSTRAINTS

- 2.1 The operations and maintenance of the City of Onkaparinga CWMS network is currently performed under a long term contract and several associated variation agreements (the Project Agreement) by TRILITY. TRILITY also own and operate the waste water treatment plant at Willunga (Willunga WWTP) under a Build Own and Operate (BOOT) element of the Project Agreement. The Willunga WWTP will be transferred to the CoO at the expiration of the current management contract in 2028. The contract provides for the City of Onkaparinga to pay out the remaining term if required. The variations relate to:
- 2.1.1 Operation and maintenance of the Sellicks Beach CWMS and WWTP
 - 2.1.2 Additional operational trade waste requirements for one particular customer
 - 2.1.3 The mothballed maintenance of the Trade Waste Pump station on Rifle Range Road.
- 2.2 As part of the Project Agreement, TRILITY also manage the septic tank desludge program - A four year cyclic emptying of all septic tanks connected to the network provided to customers as part of the annual CWMS service charge. TRILITY are in the process of procuring a provider for the service from 2018-2022.
- 2.3 Wastewater from the Sellicks Beach CWMS and Bluewater CWMS is disposed of to the Willunga Basin Water Company via a dedicated pipeline constructed in 2016. A water transfer agreement governs this arrangement and expires in 2039.
- 2.4 Three of CoO's schemes discharge untreated effluent into SA Water sewers. At present there is no agreement in place although this service has been in place for many years. A number of councils including CoO are currently negotiating terms with SA Water. The risks are associated with this situation are SA Water requiring the installation of monitoring infrastructure in councils networks and infrastructure upgrades for the protection of SA Water's infrastructure and possible increases in operating expenditure/complexity.

- 2.5 Respondents to this EOI should note that Council will need to negotiate the release, assignment or novation of the contractual arrangements described above. This negotiation process may impact on any second stage of this divestment process, should it occur, by introducing uncertainty around the cost to council for the sale of its Water Assets (and therefore relative benefit of any commercial offers) and the time frame required to complete this process.
- 2.6 Relevant information pertaining to the contracts, lease arrangements and operational obligations will be confidentially disclosed to shortlisted proponents should the City of Onkaparinga progress with the second procurement phase should it occur.

3. CUSTOMER AGREEMENTS

- 3.1 With the exception of its trade waste customers, CoO does not enter individual contracts with its customers. As our CWMS charges are billed as part of the Council rating charge, we have a Customer Charter as provided for under ESCOSA's Water Retail Code. A copy of this charter is available on the council website.
http://www.onkaparingacity.com/onka/living_here/sustainable_onkaparinga/managing_water/onkaparinga_water_services/new_and_existing_customers/customer_charter.jsp?sstat=933117

4. TREATMENT OF COUNCIL OWNED LAND

- 4.1 There is a range of Council owned land potentially involved in the sale of its Water Assets. It is not proposed that any of this land is transferred to another part as part of a divestment should it eventuate. Rather a new owner of the Water Assets would be expected to enter lease agreements with Council within the bounds of the local Government act for the use of these assets on Council land.

Council may also request (should a sale proceed) that infrastructure on its land be covered by easements.

5. FINANCIAL PARAMETERS

- 5.1 The Current Replacement Cost of CoO's CWMS at 30 June 2017 was \$36,570,868. The following table reflects the written down value and value movements for the asset during the preceding period (source: 2016-17 CoO Annual Report).

Value at 30 June 2016	Depreciation	Revaluation	Transfers and Upgrades	Value 30 June 2017
\$24,236,000	(\$542,000)	\$568,000	\$3,366,000	\$27,628,000

Council is seeking a non-binding commercial offer which reasonably reflects its investment in these assets as well as their value in the market. Any offers provided must be accompanied by a discussion that clearly articulates any assumptions or qualifiers that have been made to inform the development of the commercial offer and quantify the level of influence that assumption may have on the commercial offer.

For example, respondents should articulate any assumptions that have been made around their expected operating efficiencies, strategic gain and asset condition.

- 5.2 TRILITY provides a rolling 5 year repair and refurbishment plan which is funded on an annual basis depending on works prioritisation. In the, longer term councils pricing model assumes that maintenance and capital upgrade expenditure is equivalent to depreciation. Certain major works are priced in as standalone expenses (refer scheme descriptions for details).
- 5.3 Council is currently implementing a detailed condition assessment and revaluation of all readily accessible infrastructure which will be used to confirm the Remaining Useful Lives of its CWMS assets. It is envisaged that this information would be released to the market confidentially should a second stage of the divestment process occur.
- 5.4 CoO has adopted ESCOSA's full cost recovery pricing model as of 1 July 2017. To ease the impact on our customers, a 5 year transition has been negotiated with ESCOSA whereby we increase the Return on Asset is being charge each year from 2017-18 until 2022-23 until our full Cost of Capital and an allowance for unquantifiable risk is being recovered. COO has priced in the recovery of a Cost of Capital of 5.91% including a risk allowance of 1.25% by the end of this period. CoO has also determined to annually rebate the portion of this ROA charge which is not required for the management of a sustainable CWMS contingency reserve.

For the purposes of the EOI, CoO is seeking response that can provide non-binding indicative pricing within 5% of CoO's price trajectory before the application of a rebate. This pricing is applied using the Property Units Code.

2017-18	2018-19	2019-20	2020-21	2022-23	2023-24
\$781	\$857	\$942	\$1,028	\$1,121	\$1,144

- 5.5 The table below highlights the Operating Budgets as detailed in CoO's Annual Business plan for the last three years.

	2014-15	2015-16	2016-17
Expenditure	\$2,339,462	\$2,440,013	\$3,373,929
Income	\$2,655,396	\$2,809,280	\$3,473,108

- 5.6 CoO as part of its consideration of EOI responses is looking to understand the pricing methodology which will be applied by respondents. It is expected at a minimum that respondents will apply the pricing rules required by ESCOSA and established through the National Water Initiative Pricing Principles. However we are also seeking indicative customer pricing going forwards (IE annual cost per connection) as far as it is possible to create from the limited information provided in this EOI brief.

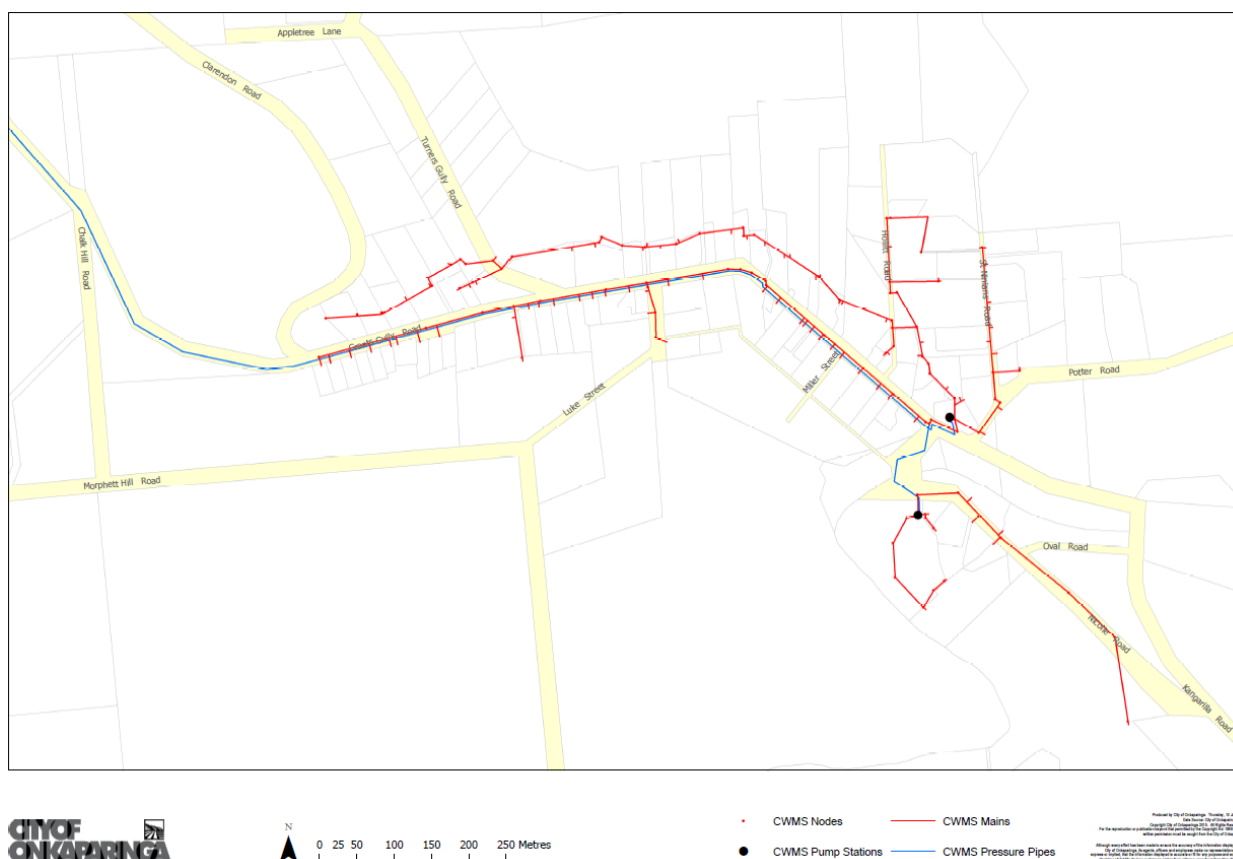
A key part of CoO's consideration of responses to this EOI and a second stage should it eventuate is the impact of any transfer of asset ownership on consumer pricing.

We are looking for proponents to provide an outline of their proposed pricing methodology including an indicative retail price stack, their Weighted Average Cost of Capital (that will to be applied to generate a Return on Asset (ROA) charge) and a Risk Premium if it is intended to be recovered separately from the ROA. We are particularly interested in the assumptions and qualifiers that need to be applied by the proponent to generate this kind of pricing information.

As a key driver of price, we are also interested in the respondent's proposed asset revaluation policy and fair value revaluation model as per AASB 116 as may be applied should the Water Assets transfers ownership through this process.

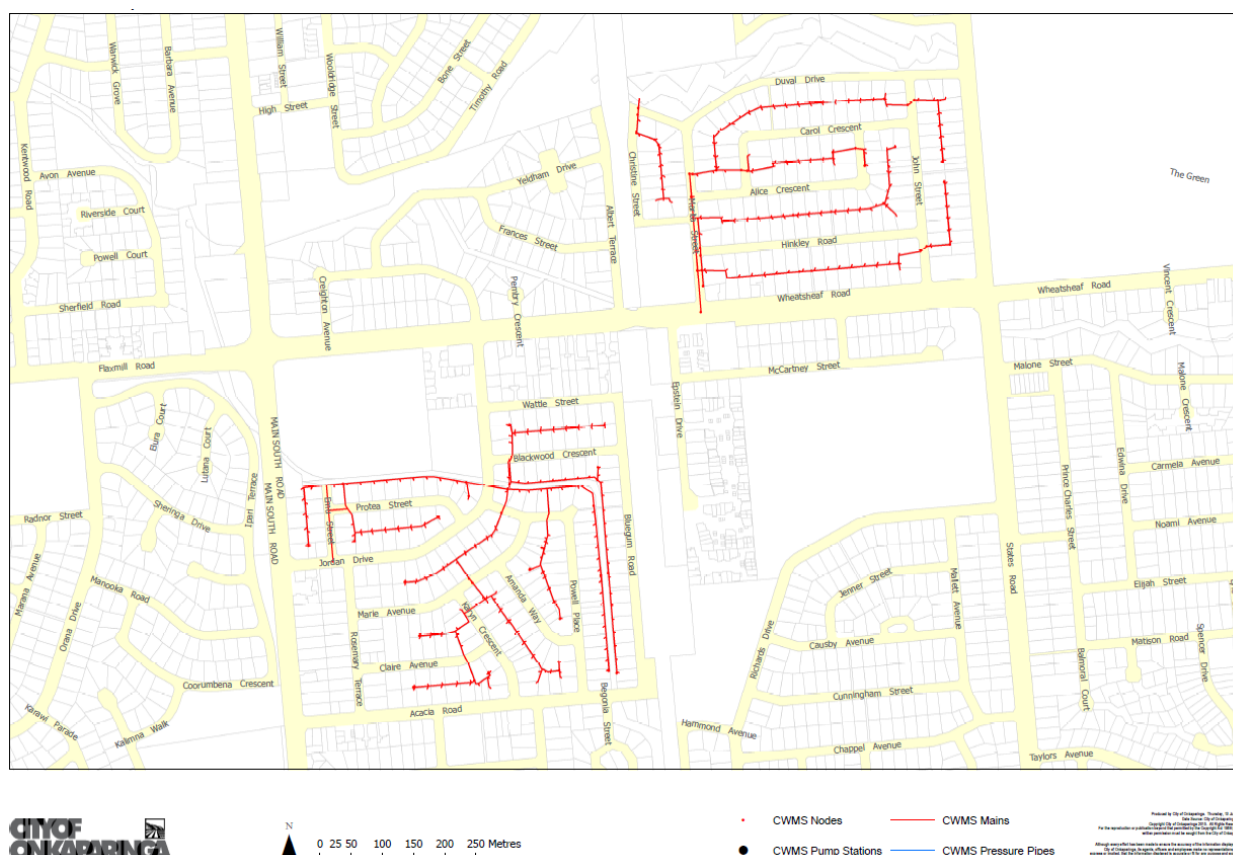
6. INDIVIDUAL SCHEME INFORMATION

6.1 Clarendon Scheme



- 6.1.1 The Clarendon network was constructed in the early 1980s. The system is comprised of PVC pipes that gravitate effluent to a series of pump stations which pump effluent up to Mount Malvern Road, Chandlers Hill for disposal to the SA Water sewer.
- 6.1.2 The scheme services 100 customers (predominately residential) and generated around \$67,000 income in 2017-18. There is limited opportunity on this network for additional residential and/or trade waste customers due to current planning/development constraints.
- 6.1.3 A number of pump station compliance upgrades are required over the next three years with three of four pump stations requiring additional in-ground emergency storage tanks to comply with regulatory requirements.
- 6.1.4 An agreement is currently being negotiated with SA Water for the discharge of untreated effluent to their network. At this stage this agreement presents financial risks through:
- Operational costs increase to meet target water quality requirements (IE dosing effluent to reduce Hydrogen Sulphide concentrations).
 - Capital expense to install venting at SA Water discharge point (to reduce infrastructure corrosion) and install flow monitoring equipment.
 - Capital expense estimated at \$72,000

6.2 Morphett Vale



- 6.2.1 The Morphett Vale network was constructed in mid 1960s and has two distinct networks providing a gravity effluent collection system with gravity discharge to the SA Water sewer. The Network is predominantly earthenware (clay) pipes that gravitates effluent to the SA Water sewer at two (and possibly three TBC) separate locations. Surrounding properties are serviced by SA Water sewer. Some streets have SA Water on one side and Council CWMS on the other side.
- 6.2.2 The scheme services 296 customers (residential only) with \$198,320 income generated in 2017-18.
- 6.2.3 There may be opportunity for additional customers on this network if zoning rules allow. Original properties within the medium density policy area are generally able to be divided from 1 into 3 when connected to SA Water sewer. Original properties within the medium density policy area are generally able to be divided from 1 into 2 when connected to CWMS (due to constraints associated with installing septic tanks). Respondents financial modelling around this point would require confirmation by council policy planners.
- 6.2.4 Due to the age of the houses the majority of the septic tanks are undersized – leading to increased maintenance requirements for CWMS (through solids transfer). We have also noted instances of the Earthenware pipes cracking due to ground movement. This leads to increased maintenance to clear out and/or prevent root intrusion and the requirement for root inhibitor in problematic areas.
- 6.2.5 There are no easements across this section of the network leading to significant encroachments over the CWMS (IEsheds, retaining walls, etc.)

6.2.6 An agreement is currently being negotiated with SA Water for the discharge of untreated effluent to their network. At this stage this agreement presents financial risks through:

- Capital expense to install venting at SA Water discharge point to reduce infrastructure corrosion and install flow monitoring equipment.
- Capital expense estimated at \$237,000.

6.3 McLaren Flat



- 6.3.1 The McLaren Flat network is a PVC collection system originally constructed in mid 1990s. Since then expansion/extension has been developer funded and gifted to Council. The scheme operates as a Gravity effluent collection system with a single pump station transfers effluent to the McLaren Vale CWMS.
- 6.3.2 This network services 413 customers (predominantly residential) with \$276,710 income generated in 2017-18.
- 6.3.3 An additional pipeline was installed from the McLaren Flat CWMS Pump Station to the Rifle Range Road Booster Pump Station (currently mothballed) to provide for winery trade waste customers and reduce pressure on the McLaren Vale to Willunga WWTP pipeline. This pressure pipe was installed as part of the Water Proofing the South project (part Federal Funding).
- 6.3.4 The scheme presents a reasonable opportunity for additional customers through the subdivision of large parcels of land in the residential zone. There is also the opportunity to utilise the McLaren Flat to Rifle Range Road pipeline and explore trade waste

opportunities with potential customers to enhance their businesses which include:

- Wirra Wirra winery
- Goodieson's Brewery
- and other wineries along the route.

6.3.5 A key risk on this network is stormwater intrusion leading to the risk of effluent overflow. There appears to be a large number of household stormwater cross connections to the CWMS.

6.3.6 The McLaren flat Pump station also requires additional in ground emergency storage and the main CWMS drain in the township requires rerouting. The trunk main that runs through the back of residential properties overflows into private properties during rainfall events. The approved design includes the installation of a new CWMS drain down the main street in McLaren Flat and installation of 2 in ground concrete tanks at the pump station. The original estimate (and priced in budget) for the construction work is \$250,000 – the final cost is likely to be higher than this.

6.3.7 Failure to carry out the required upgrade may lead to action being taken by the DHA/EPA/OTR due to regular overflows in to private land – it is also possible claims could arise from impacted home owners.

6.4 McLaren Vale



6.4.1 The McLaren Vale Scheme was originally constructed in early 1970s with more recent expansion expansion/extension being developer

The scheme services 1,619 customers (residential and commercial) with \$1,084,730 income generated in 2017-18.

6.4.3 There is may be opportunity for additional customers via the subdivision of large parcels of land surrounding the current residential zone – however zoning may require amendment to allow significant expansion. This is currently limited to infill development. There are also opportunities for winery connections in this area – e.g. Hardys Tintara. Respondents financial modelling around this point would require confirmation by council policy planners.

Willunga

2



6.5.2 The system services 985 customers (residential and commercial) with \$659,950 income generated in 2017-18.

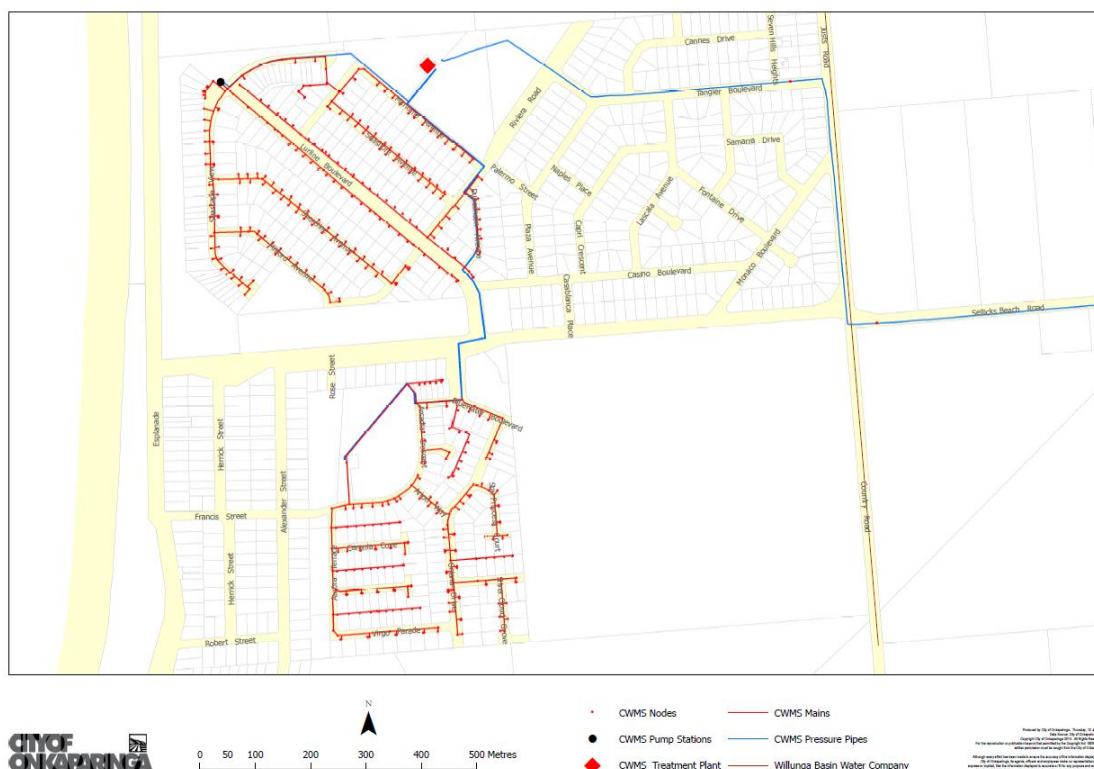
- 6.5.3 The Willunga WWTP was constructed in 2003 and is owned and operated by TRILITY under the Project Agreement. The plant was designed for expansion through the installation of additional treatment tanks. The plant provides reliable and compliant treated effluent with disposal to the Willunga Basin Water Company.
- 6.5.4 As part of the Water Proofing the South project, the Willunga WWTP was upgraded to provide for trade waste treatment capability through increased aeration.
- 6.5.5 There may be opportunities for additional residential customers on this network (predominately in-fill development), via the subdivision of large parcels of land surrounding current residential zone. Zoning may require amendment to allow significant expansion in the area and is currently limited to infill development. Respondents financial modelling around this point would require confirmation by council policy planners.
- 6.5.6 There is also an opportunity to expand the CWMS to Willunga South. There is an existing 50mm rising main that connects four properties in Willunga South to the Willunga CWMS and there is the opportunity to install a CWMS collection system and pump station in Willunga South and service the broader area utilising this 50mm rising main. Parts of this area also contain potentially filing septic systems. A commitment to extending the CWMS network into this part of Willunga would be looked upon favourably through this EOI process.
- 6.5.7 The main risk on this network is that the capacity/utilisation of existing pipework is not fully understood in some areas. A recent capacity assessment of the Willunga CWMS highlighted areas (closer to the WWTP) where the CWMS infrastructure may be over utilised. This capacity assessment was carried out assuming the CWMS was installed at a minimum grade. These drains need to be surveyed to properly understand their slope/capacity.

6.6 Maslin Beach



- 6.6.1 The Maslin Beach network was originally constructed in the mid 1990s with federal funding and is PVC collection system gravitating a single pump station. Effluent is discharged to SA Water sewer (Karko Drive, Moana).
- 6.6.2 The scheme services 558 customers (residential only) with \$373,860 income generated in 2017-18.
- 6.6.3 A major compliance upgrade of the pump station and trunk main (at approx. \$200,000) was completed in 2016-17 providing essential emergency storage with 3 x 20,000L in ground tanks installed. The Trunk main from Gulf Parade to the pump station was also upgraded to larger diameter pipe.
- 6.6.4 There may be opportunity for some additional residential customers on this network but could be limited to infill development (1 into 2 developments). Further opportunity may exist for additional residential customers on the northern side of the creek where there are large parcels of land (i.e. between Moana and Maslin Beach) and the topography provides for gravity connection to the Maslin Beach CWMS (noting that SA Water sewer is also located near this area). Respondents financial modelling around this point would require confirmation by council policy planners.

6.7 Sellicks Beach

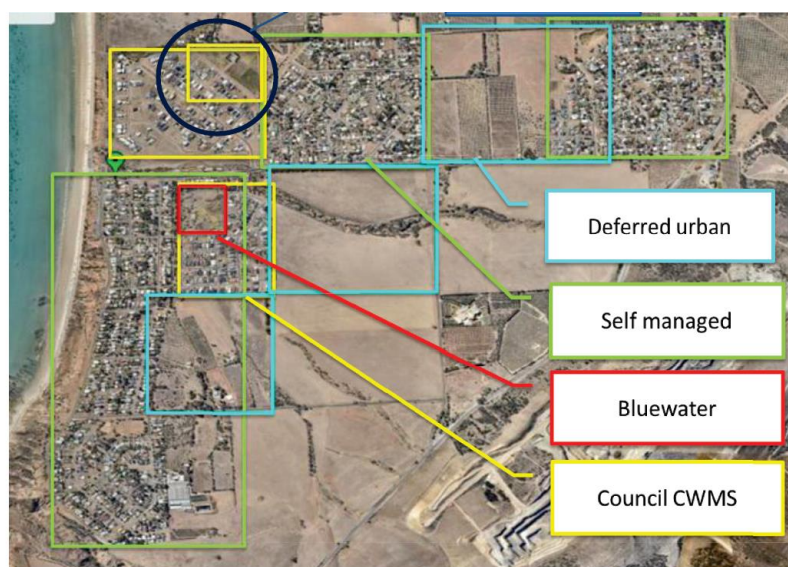


- 6.7.1 The Sellicks Beach scheme is comprised of two separate residential developments (Prodec and OVE). Prodec is a Septic Tank Effluent Discharge collection system and OVE is a sewer collection system. Wastewater discharges to Sellicks Beach. The scheme services 382 customers (residential only) with \$263,580 income generated in 2017-18.

- 6.7.2 The Sellicks Beach WWTP was originally constructed by the developer in 2003 to treat Prodec wastewater (flow capacity of 59.5kl per day) and transferred to council's ownership. The plant was upgraded in 2006 to accept wastewater from the Bluewater development (238KL per day – 399 connections).
- 6.7.3 In 2016 a 4km pipeline and connection to WBWC's network was also installed to provide a sustainable disposal path for the treated effluent. These recent works were undertaken at a cost of \$1.7M. The Sellicks WWTP is operated under EPA licence no. 15278.
- 6.7.4 The WWTP site has maximum flow capacity of 238KL per day due to its proximity to residential housing.
- 6.7.5 Prodec is a residential development on northern side of Sellicks Beach Road. The network is a gravity effluent collection system servicing 260 residential properties with a single pump station that transfers effluent to the Sellicks Beach WWTP.
- 6.7.6 OVE is a community title residential development on southern side of Sellicks Beach Road. The system services 156 residential properties and is a gravity sewer collection system (no septic tanks) with a single sewer pump station with grinder pumps that transfer wastewater to Sellicks Beach WWTP.
- 6.7.7 There may some opportunities in this system for additional residential customers (requires planning zone changes). The required approval would need approval from the Department for Health and Ageing (DHA) for an increase in the number of connections to the WWTP.
- The WWTP is approved for the number of existing allotments connected. However, this approval was based on theoretical flow rates. We have demonstrated that the actual flow rates are much less than estimated originally. We have now negotiated with DHA for staged increase of 20 connections to the Sellicks Beach CWMS. Once the 20 connections have been utilised the plant capacity can be reassessed with the potential for an additional 20 connections.
- The planning rules do not allow the subdivision of land due to limitations including the wastewater service and may require development plan amendment. Respondents financial modelling around this point would require confirmation by council policy planners.
- 6.7.8 The connection to the WBWC provides future options for wastewater service provision to the Sellicks Beach old survey area for (1200+ customers).

7. SELICKS BEACH OLD SURVEY AREA AND EXPANSION POTENTIAL

- Councils owned and operated CWMS
(* the same system that services the entire McLaren Vale Region)
- Bluewater Community Corporation's responsibility for the management of its recycled water system
- Self-managed onsite wastewater systems
- Deferred urban areas are currently constrained without a wastewater disposal path



NB: Circle shows location of CoO Sellicks beach WWTP.

7.1 The provision of sewerage infrastructure to the greater Sellicks Beach areas is essential to the development of the currently unserved landholdings - the old survey area (OSA) and to facilitate development potential in the deferred urban land areas.

7.2 Wastewater management in the OSA occurs on site through existing septic tank systems which are known to be failing and onsite wastewater disposal. The development of a solution to this issue is a core priority that CoO is seeking through this EOI and any second stage should it occur.

The Sellicks Beach Old Survey area is comprised of 1,154 connections and has infill potential of up to 1,240 connections based on subdividing only those allotments with 800+sqm.

In 2010, at the request of CoO, SA Water prepared a concept plan for the sewerage of Sellicks Beach (including Aldinga Beach (Silver Sands) to alleviate the use of existing septic tanks. Although council understands this concept is still being considered, the South Australian Government's enactment of the Water Industry Act 2012 provides a mechanism through which other parties could provide comparable services.

The City of Onkaparinga is also continuing to investigate alternative strategies to provide a sustainable wastewater disposal path for these areas and facilitate urban development and growth in the area. This EOI provides a mechanism to identify possible alternative solutions from the market.

7.3 Through this EOI and a second stage should it eventuate, Council is looking to identify a party that will commit to investment in the expansion of the CWMS network or other solution to provide a viable solution to the Sellicks Beach OSA.

Respondents should provide a high level project plan/business case showing indicative infrastructure requirements and project costings, relevant commercial requirements (eg agreements with third parties and customers), investment criteria (eg bank or investment partner requirements), risk identification/mitigation and proposed project timing.

This plan should have its assumptions and qualifiers clearly stated so we can understand the risks and opportunities it presents.

- 7.4 In addition to the infill opportunities, the Sellicks Beach area comprises 138 hectares of developable vacant land (subject to the relevant zoning and approvals through the relevant planning authority). According to projections published through the CoO 2014 CWMS EOI (data was derived from internal projections and agreed with South Australian Government through their Housing and Employment Land supply (HELSP) program), the potential future development to 2032 is thought to be 1,980 additional dwellings and additional population of 4,950.
- 7.5 This development potential offers the opportunity to increase the number of connections serviced in the area and for the potential to introduce the sale of reclaimed water at the same time as the new system is being installed.