



DIRECTOR SHIRE SERVICES SUPPLEMENTARY REPORT

13th June 2006

DSS10	ALDAVILLA SEWERAGE SYSTEM
FILE: 223 SLM	{Folio No. 323499}

SUMMARY:

Report on the viability and cost of constructing a sewerage system for properties on Sherwood Road, Aldavilla.



DESCRIPTION:

In 2001, a report (Cardno MBK 2001) assessed the various sewerage reticulation technologies for the whole Aldavilla rural residential area. At that point in time, reticulated sewerage was a recommended option for the Aldavilla area. Current on-site septic assessments processes and newer disposal processes have indicated that previous concerns for the whole Aldavilla area are no longer valid. However the poor function of on-site septic systems on a small number of properties along Sherwood Road could not be addressed. This report explains the results of investigations into the sewerage options for these properties.

An area comprising a total of 33 existing properties (see attached map in [Appendix 1](#)) on Sherwood Road, Aldavilla, has been highlighted for investigation of a new sewerage system due to failing septic systems.

Failing septic systems present an unpleasant situation and a considerable environmental concern. These properties have septic waste surfacing on the ground across the backyards and into the property behind and adjacent. The stench and health issues are occurring in their own and neighbouring properties.

Most of these properties have an average lot size of 750m², with others being only slightly larger. All are within close proximity to a local creek, which ultimately discharges into the Macleay River. These allotments have insufficient size to be able to accommodate

an on-site sewage management system (septic or Aerated Wastewater Treatment System) and the soil absorbency is also unsuitable for these types of systems.

In addition, the development (land subdivision) of the property behind (Lot 150 Sherwood Road – LA22691) has been delayed until the septic problem of the Sherwood Road properties could be addressed.

The Cardno MBK report (2001) considered the use of a common effluent drainage system, vacuum system and connection to the Mid North Coast Correctional Centre system. The vacuum system was discounted due to extremely high costs. The common effluent system was discounted due to not removing the sewer disposal problem from the site. Further investigation was required on the capability of connecting into the correctional centre's system.

Hunter Water Australia (HWA) was engaged in late 2005 to complete the investigation into the sewerage options for the Sherwood Rd properties. The HWA investigation took on board the findings of the Cardno report and completed the necessary further detailed assessments.

The use of the Correctional Centre's sewerage main to the West Kempsey Sewage Treatment Works is considered not to be a viable option. The Correctional Centre's sewerage system has had operational problems since shortly after the Centre was opened. The sewage main has had a continual series of surcharges and blockages. In order to keep the Centre with a sewerage service, the sewage has had to be bypassed to the Council sewerage system for many months instead of a direct feed to the Treatment Works. The direct feed was reinstated mid-May after the main was recommissioned. There have been no further surcharges or main blockages or main breaks as yet. The pump station located at the Correctional Centre, at the start of the 9km sewage main has current pump problems including pump leaks, pump seating, power continuity, and poor efficiency. The Department of Correctional Services and the Department of Commerce were contacted regarding the possibility of connection into the Centre's sewerage system and any likely spare capacity. It was indicated that no spare capacity was available in this sewerage system. The lack of spare capacity and the continual operating problems occurring with the system confirms this opportunity as an unviable option. It should also be noted that the intention is to handover ownership of the pump station and 9km main to Council. This has not yet occurred.

An assessment of a shared pump-out tank for these Sherwood Road properties was also considered. However, the large tank size required and the lack of flood-free land discounted the shared pump-out tank as being a viable option.

Before committing to further investigations Macleay Water seeks Council's consideration and support of the HWA report's results to date. Further investigation of the sewerage options is required, or, Council may consider that the better option is for property owners to install pump-out septic systems. Table 1 lists suitable systems available, their preliminary costs and other relevant considerations.

The Sherwood Road Aldavilla sewerage budget was part of the Greenhill / Aldavilla sewerage project. There is a budget allocation in this financial year of \$1.2m. The construction at Greenhills is estimated at approximately \$420,000 (including materials) and design / investigation work has to date cost \$25,000. This leaves approximately \$780,000 for the Sherwood Road area.

The most economical option for Council within Table 1 that addresses the environmental integrity and property amenity is to replace the existing septic systems with new pump-out septic systems. All options for reticulated sewerage are comparatively expensive both in capital cost and ongoing operational costs. Additional cost and protracted delays are posed by land acquisitions, whether for easements or direct purchase.

The new pump-out systems would require annual inspections. These inspections would be similar to other on-site septic system inspections, conducted by Sustainable Development Services and paid for by the land owner.

The estimation of ongoing operational costs to the property owners of the pump-out septic systems has been challenging. There are currently no pump-out septic systems in the Kempsey Shire with which to directly compare costs. The costs have been determined from the experience of pump-out costs in the Hunter region, discussions with local contractors, assessment of water usage per household and consideration of disposal costs to the contractors (potential reduced cost for effluent versus septic sludge at the South Kempsey Septic reception unit). It is estimated that ongoing operational costs of \$4,000 - \$5,000 per annum would be borne by the property owners.

Council could consider assisting the Sherwood Road property owners with interest free loans for the capital cost of the pump-out septic systems. Council could also consider bearing the full capital cost of the pump-out septic systems. Either of these two financial assistance options would ensure the environmental integrity and property amenity issues are resolved.

The options to provide a reticulated sewerage system requires a high capital cost which is outside the current budget allocated for this project. The cheapest reticulated system (low pressure grinder system) is estimated to cost \$1.05M which equates to \$32,000 per

property serviced. Land costs associated with the project would be additional.

In order to offset part of the initial capital costs of other reticulated sewerage schemes, Council has in the recent past required the benefiting property owners to contribute towards the cost of the scheme. If Council were of a mind to provide a reticulated sewerage system in this area, the amount of contribution would need to be determined. For example, if an amount of say one-third contribution was deemed to be required, property owners would be required to contribute approximately \$11,000. This could be paid off over time say at \$1,000 per year. This repayment would be in addition to the annual sewerage rate.

Either option, i.e. sewer pump-out system or a reticulated system, is going to require a sizeable financial contribution by the property owners and likely to involve some subsidy by Council. Accordingly, it is recommended that consultation with the property owners be undertaken to determine their preferred option.

Table 1

	Option	Total capital Cost	Capital Cost per Property	Major Advantages	Major Disadvantages
On-Site Septic Systems	Pump-out septic tank system	\$0 to Council, approx \$165,000 in total for all properties at owners expense	\$5,000	<ul style="list-style-type: none"> Promotes water conservation. Low risk of pollution to creek and neighbouring land. 	<ul style="list-style-type: none"> Increased truck movements. Householders responsible for maintenance. Ongoing operational cost (estimated at \$180/month) borne by property owner \$4,000 - \$5,000/pa
Town Sewerage Systems	Conventional gravity and pump to closest town system (K30 in Greenhill)	\$1,845,000 +	\$56,000	<ul style="list-style-type: none"> Low risk of pollution to creek and neighbouring land. 	<ul style="list-style-type: none"> High pumping costs. Various pump station upgrades. Long pumping distance would cause odour issues at discharge point. Additional pump operations and maintenance costs approx. \$11,000/yr. No land acquisition cost included (easements for mains, pump station land)
	Conventional gravity and pump directly to West Kempsey STP	\$2,126,000 +	\$65,000	<ul style="list-style-type: none"> Low risk of pollution to creek and neighbouring land. 	<ul style="list-style-type: none"> High pumping costs. Long pumping distance would cause odour issues at discharge point. Additional pump operations and maintenance costs approx. \$13,000/yr. No land acquisition costs included (easements for mains, pump station land)
	Low Pressure Grinder Pump system pumped to a Packaged Treatment Plant (PTP) located at the airport.	\$1,049,000 +	\$32,000	<ul style="list-style-type: none"> Low risk of pollution to creek and neighbouring land. 	<ul style="list-style-type: none"> Airport review currently being undertaken to determine viability of airport. Required buffer area. Potential odour issues. LPGP maintenance costs. Additional PTP operations and maintenance costs approx. \$15,000/yr. No land acquisition costs included (treatment plant and buffer zone, easements for mains, disposal areas)

REPORT IMPLICATIONS:

- ***Environmental***

Failing septic systems present an unpleasant situation and a considerable environmental concern. These properties have septic waste surfacing on the ground across the backyards and into the properties behind and adjacent. The stench and health issues are occurring in their own and neighbouring property. The proximity of the Sherwood Road properties to the creek line behind means these failing septic systems are finding their way into the local creek and ultimately into the Macleay River.

Ensuring environmental integrity is possible and comes at significant cost to Council unless the pump-out septic system is chosen.

- ***Social***

Sewering these properties by whatever option is the only way to properly address the health risks to these owners, neighbouring properties and the more general community. The improvement to the amenity of these properties would be significant.

There would be an ongoing cost for the operation of the pump-out systems that would be borne by the property owners.

- ***Economic (Financial)***

There is a budget of \$1.2M in this financial year for sewerage of both Aldavilla and Greenhills areas. The construction at Greenhills is estimated at \$420,000 and is planned to begin in June/July 2006, leaving approximately \$780,000 for the Aldavilla area. Current budget allocations are insufficient to complete all except the pump-out septic option.

- ***Policy or Statutory***

There are no Policy or Statutory implications arising from this report.

- ***Director's Review***

The investigation indicates the provision of a reticulated sewerage system to service the properties along Sherwood Road would be a very high capital cost per property serviced. If Council were to provide such a service, the capital cost of that service would need to be subsidised heavily by users elsewhere throughout the Shire unless significant contributions from property owners are received.

RECOMMENDATION:

That community consultation be undertaken with the affected property owners to discuss the issues raised within this report.

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A P Vermeulen
DIRECTOR SHIRE SERVICES