



KEMPSEY
Shire Council

DIRECTOR SHIRE SERVICES REPORT

12th December 2006

DSS1

ALDAVILLA SEWERAGE SYSTEM

FILE: 223 SLM

{ Folio No. * }

SUMMARY:

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

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BACKGROUND:

At the June 2006 Council meeting, a report (DSS10) was tabled stating the findings of a consultants investigation into the suitability of sewerage services on Sherwood Road, Aldavilla (see attached map and report at [Appendix A](#)). These properties were being considered for sewerage services as Council's assessment of the septic systems of these properties revealed operational failures. There was also a low potential for rectification or alternative systems, except pump-out systems, due to the small allotment sizes. It was resolved that this matter be deferred to a future meeting for further information to be provided. Further investigations have now been undertaken.

In June it was reported that a number of different sewerage options were investigated to determine the best option available. The options considered are listed below:

- connection to the Correctional Centre's system
- a vacuum system
- a common effluent drainage system
- a shared pump-out system
- a single pump-out systems (individual for each property)
- a low pressure grinder pump system
- a standard gravity sewerage systems

Properties identified with failing septic systems and little potential for alternatives would normally be served a notice to install a pump-out septic system. The majority of these Sherwood Road properties have an average lot size of 750m² and all are in close proximity to a local creek, which ultimately discharges into the Macleay River. All the blocks have insufficient area to be able to accommodate an on-site sewage management system (septic and associated trenches or Aerated Wastewater Treatment Systems) and the soil absorbency is also unsuitable for these types of systems.

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A connection to the Correctional Centre's sewerage main was deemed to be not viable as this system does not have sufficient spare capacity and is still in the process of resolving numerous operational issues. In addition, Council does not currently own this system and due to the operational problems is reserving the right to not accept this system should the operational problems not be satisfactorily resolved.

The vacuum, common effluent drainage and shared pump-out system options had also been deemed to be not viable. The vacuum system was discounted due to extremely high costs of approx \$1,900,000. The common effluent system was discounted on environmental grounds, as it did not remove the sewage disposal from the site. A shared pump-out tank system was discounted due to the required size of the storage tank and the restriction of available flood free land suitable to locate the tank.

Table 1 in [Appendix A](#) (previous report) lists the remaining suitable systems, their preliminary costs and other relevant considerations.

It was reported in June that the most economical and environmentally suitable option for Council within Table 1 was replacing the existing septic tanks with new individual pump-out septic systems. All options for reticulated sewerage are comparatively expensive both in capital cost and ongoing operational costs. Additional costs and protracted delays are also posed by land acquisitions, whether for easements or direct purchase.

INVESTIGATION:

The further investigations undertaken considered whether the options in Table 1 could become more viable by increasing the serviced area. Discussions were held to determine possible future amendments to land zoning for the area. It was revealed that it is not proposed to change the zoning in this area from Rural Residential 1(c) to Residential 2(a) in the foreseeable future. The investigations proceeded on the basis of a continued rural residential zoning and a reticulated sewerage system across the approximate 420 Ha area highlighted on the attached map in [Appendix B](#).

The option of installing pump-out septic tanks was not further investigated as it will not become significantly cheaper if more blocks are added to this system. The option of constructing conventional gravity and pumping to the closest reticulated system (K30 in Greenhills) would require major upgrades to the existing gravity system downstream of K30 deeming this option not viable.

The distances between properties in rural residential zoning and the topography of this area is not conducive to a cost effective reticulated sewerage system.

As detailed in [Appendix C](#), estimated capital costs for the various options range between approximately \$10.8M and \$17.25M with capital costs per property between \$43,000 and \$69,000. These capital costs do not include the costs for land acquisition.

CONCLUSION:

The capital costs required for a reticulated sewerage system to service the entire rural residential area make this proposal not viable. There are very large increases in overall capital costs with no significant decreases in

capital costs per property. There is also currently no need to provide a reticulated sewerage system to the surrounding rural residential area as they are currently adequately serviced by on-site septic disposal systems. Based on the above, it is concluded that the provision of sewer to a larger serviced area incorporating the rural residential area is not any more viable per property and would result in a substantial increase in capital outlay. Further consideration of the available options for servicing the properties only along Sherwood Road needs to be undertaken.

Sherwood Road Properties:

- i) On a triple bottom line assessment, **pump-out septic systems** is the most sustainable option economically and environmentally and to a lesser degree socially. Socially, whilst amenity and health risks are addressed, a financial burden will be placed on the property owner. The continual pump-out cost to be borne by each property owner is estimated at \$4,000 - \$5,000 pa. The new pump-out systems would also require annual inspections by Sustainable Development Services similar to inspections required for septic tanks, with these costs borne by the property owners. The cost to these property owners must be weighed against the cross subsidy by other sewerage customers in the Shire should an option other than septic pump-outs be considered. The affordability of adding another considerable capital project on the sewer fund given the existing projects proposed to be undertaken in the next 10 years must also be considered.

For pump-out septic systems, Council could consider assisting the Sherwood Road property owners with interest free loans for the capital costs, and may also consider bearing the full capital cost. Assistance to these properties by the provision of water saving devices could be given to lessen the resulting frequency of pump-outs required. Such financial assistance would ensure the environmental integrity and property amenity issues are resolved whilst lessening the financial impact.

- ii) The **low pressure grinder system** remains the cheapest reticulation option, yet acquisition costs for land for the package treatment plant and surrounding buffer area have not been included in these costs. If this option was to be adopted, an increase to the standard sewerage rate for these specific properties would be required to assist in the extensive capital and operational costs. It is estimated that the capital cost to service these properties with an LPG system is approximately \$35,000 per property.

This is approximately \$20,000 per property more expensive than the costs per property for the schemes currently being constructed at Jerseyville and Greenhills. It would seem unfair that the high capital costs per property for this scheme should be subsidised by other sewerage customers in the Shire.

If an increase to the standard sewerage rate to say \$2,000 per annum was proposed for these properties, this increased rate would, over time, recoup the additional initial capital costs for the scheme.

An ongoing sewerage rate of say \$2,000 per annum would be significantly cheaper than ongoing operational costs of \$4,000 – \$5,000 for a pump-out septic tank system. A reticulated sewerage system also has long term benefits for the property owner and the community over a pump-out septic system.

It is proposed that a meeting be held with the affected property owners along Sherwood Road outlining the investigations undertaken to date and the available options and their cost implications to provide sewerage services to their properties.

It must be highlighted that the costs included in this report have been estimated by using current construction costs. Construction costs in Australia have increased dramatically over the past few years and are continuing to increase at alarming and inconsistent rates. It is therefore difficult at the present time to accurately estimate costs in the water industry.

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.

- ***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.

- ***Economic (Financial)***

There is a remaining budget of \$275,000 in this financial year for sewerage of Aldavilla. Any additional capital outlay would result in a deferral of other projects in the capital works program.

- ***Policy or Statutory***

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

- ***Director's Review***

Feedback from the affected property owners should be sought to assist Council in determining the preferred option to provide sewerage to these properties.

RECOMMENDATION:

- 1 That a meeting be held with the Sherwood Road property owners to discuss the options and costs to provide a sewerage service to these properties.
- 2 That the feedback from the meeting be tabled at a future Council meeting to assist in adopting a suitable option.

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DIRECTOR SHIRE SERVICES