

WOLLONDILLY SHIRE COUNCIL

ON-SITE SEWAGE MANAGEMENT STRATEGY Trim 1956

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Rural Living

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PART 1: INTRODUCTION

This Strategy has been prepared by Wollondilly Shire Council's Development and Environment Division and should be read in conjunction with Council's Policies for On-Site Sewage Management.

1.1 Background

There are approximately 300,000 unsewered sites within New South Wales. In the Wollondilly Shire area alone there are approximately 8,000 – reportedly the highest number of any Council within the State. The Wollondilly Shire also lies in arguably one of the most important catchments in the State, providing a potable water supply for over 4 million people.

In addressing this issue and the management of on-site sewage systems, the State Government introduced the *Local Government (Approvals) Amendment (Sewage Management) Regulation 1998.* This regulation was designed to allow better control over the operation of such systems, with a view to raising performance standards. This will allow Councils to prevent problems, rather than merely reacting to events after they have occurred.

Councils have been directed to formulate individual strategies and programs to facilitate improved management of these systems. The objective of this Strategy is to reduce environmental and public health risks posed by such systems whilst focusing on better land use planning, greater design criteria, and community participation and education as a means of achieving these goals.

Wollondilly Shire is located 75 kilometres south west of the Sydney CBD and constitutes an area of approximately 2560 km². The Local Government Area has a population of approximately 40,000, located throughout a number of small towns and villages – much of which is within rural and semirural areas. The Shire has over 30 towns and villages ranging in size from approximately 80 to over 4,000. At present, only Warragamba, Picton, Tahmoor, Thirlmere, The Oaks and Oakdale have a reticulated sewerage scheme. The townships of Belimbla Park, Silverdale, Wallacia, Menangle and Wilton are currently on Sydney Water's Priority Sewerage Program.

1.2 On-Site Sewage Management and Wollondilly Council

Local Government legislation places the onus on Councils to responsibly plan and manage the environment for which it is responsible. The Local Government (Approvals) Regulation 1999 stipulates that the management of sewage is a *"prescribed activity"*, which must be considered in Council's Management Plans. The Local Government Act 1993 also requires Council's to adopt a strategic approach to all of their activities.

Under the Regulations, Council must apply principles of ecologically sustainable development and it must involve the community in the development of environmental strategies. The Regulations also require Council's to consider relevant standards and guidelines issued in the preparation of its management plans (e.g. *Australian Standard 1547:2000* and *Environment and Health Protection Guidelines for "On-Site Sewage Management for Single Households"*).



Council and the community are also subject to other legislation that affects the regulation and management of on-site sewage management, such as the *Protection of the Environment Operations Act 1997 and State Environmental Planning Policy 58 (SEPP 58C).*

Council, as the local approval and regulating authority for the majority of activities which impact on the environment, clearly has a responsibility in effectively managing on-site sewage management within its area.

1.3 Integrated Environmental Management

On-site sewage management is an important component in a number of Council Plans and Strategies. These include Council's Management Plan, the Wollondilly Vision 2025, Development Control Plans and Local Approval Policies.

In order for Council to effectively manage development, public health and environmental protection, consideration must also be given to the following:

- Sydney Regional Environmental Plan No. 20 Hawkesbury-Nepean River
- Greater Metropolitan Regional Environmental Plan No. 2 Georges River Catchment
- State Environmental Planning Policy No. 58 Protecting Sydney's Water Supply;
- Section 79C of the Environmental Planning and Assessment Act 1979;
- Western Sydney Salinity Code of Practice;
- Stormwater Management Plans and Catchment Blueprints.

1.4 Scope

This strategy concerns all on-site sewage management facilities that do not discharge to a public sewer system and are not regulated by the Environment Protection Authority (EPA).

The following systems are all classified as on-site sewage management facilities under this Strategy:

- Septic tanks;
- Septic closets;
- Aerated wastewater treatment systems (AWTS);
- Composting toilets;
- Chemical closets;
- Holding tanks and collection wells used for the receipt and storage of effluent (other than those intended to be emptied after each, such as chamber pots);



- Waste treatment devices designed to physically break down (macerators) and discharge sewage to a reticulated sewerage system;
- Waste treatment devices that mechanically re-circulate sewage through a bed of sand to produce treated effluent;
- Waste treatment devices that receive and treat sewage before discharging effluent to a common effluent drainage scheme;
- Any other kind of sewage management facility specified in a notice published in the Government Gazette by the Director General (NSW Health accreditations).

1.5 Strategy Objectives

The main objectives of this Strategy are to:

- Define Council's role and programs in managing and regulating on-site sewage management in the Wollondilly Shire;
- Identify strategies to reduce the impact from on-site sewage management facilities on the environment, public health and public amenity;
- Facilitate procedures to ensure that on-site sewage management within the Shire is environmentally sustainable and assist with the maintenance of public health standards;
- Encourage community ownership, awareness and acceptance of on-site sewage management as a critical issue affecting public and environmental health;
- Provide a framework for the assessment of environmental factors, which can be used to monitor the performance of on-site sewage management activities within the Shire;
- Integrate and coordinate issues relating to on-site sewage management with Council management plans and growth strategies;
- Facilitate the desktop assessment process of on-site sewage management systems.

1.6 Accreditation for Aerated Wastewater Treatment System (AWTS) Maintenance Operators

Accredited Maintenance Operators (or service agents) servicing domestic AWTS's are required to satisfy Council that they possess adequate skills and knowledge to maintain such systems.

Any maintenance operator wishing to service AWTS's within the Shire must provide Council with appropriate documentation demonstrating satisfactory completion of a relevant training course prior to commencing operations.



1.7 Approval to Operate a System of Sewage Management – 1, 3 or 5 years

Operating a system of sewage management is a "prescribed activity" under section 68(F10) of the Local Government Act 1993 and clause 45 of the Local Government (Approvals) Regulation 1999. This means that an "Approval to Operate" a system of sewage management must be obtained from Council.

The nature of the particular sewage management facilities in use is a relevant matter for consideration. However, it is the activity of sewage management, not the facilities, which are the subject of the approval. The design and construction of sewage management facilities and land application areas is properly regulated by the requirement to obtain either development consent under the Environmental Planning and Assessment Act 1979, or activity approval under the Local Government Act 1993. Facility upgrading requirements are properly dealt with by an order under s.124 of the Local Government Act 1993 (ie. Order number 22).

The frequency of issuing approvals for operating on-site sewage management facilities will largely depend on the level of risk (ie. high, medium or low) to public and environmental health and may be issued annually, every three years, or every five years. In determining the risk classification, and subsequently the approval period for each sewage management facility, Council has taken into consideration the following factors:

- Land Capability Assessment and Site Evaluation Procedure developed by Martens and Associates;
- Practical experience (eg. investigation of complaints, site inspections);
- Size of allotment;

Tabla 4

- Environmental sensitivity (ie. Water Catchment Areas, creeks and rivers, etc.)
- Purpose for which land is used (ie. residential, commercial or industrial).

Table 1 – Determination of license renewal freque	ency
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Determination of licence renewal frequency

Site Type	License Renewal Frequency
Allotments <2000m ² -4000m ²	Annually
Commercial/Industrial Applications	Annually
Packaged Sewage Treatment Plants	Annually
Allotments >4000m ² -10 000m ² (1ha)	Every 3 Years
Allotments >10 000m ² (1ha)	Every 5 Years

<u>Note:</u> On-site sewage management facilities located in designated water catchment areas and on residential allotments will be subject to a greater number of random and routine audits due to the increased risk they pose to public and environmental health.



1.8 Inspections of Sewage Management Facilities

Council officers will audit individual sewage management facilities having regard to the performance standards specified in AS/NZS 1547:2000 – On-site Domestic Wastewater Management, the Environment and Health Protection Guidelines for *"On-Site Sewage Management for Single Households"* and the NSW Department of Health's Greywater Re-use Policy. Information will be recorded about the location, type and condition of the system in operation and Council may direct the property owner to carry out rectification works on the system to achieve compliance with the relevant statutory requirements for on-site wastewater management.

AS/NZS 1547:2000 provides the requirements for primary and secondary treatment units and associated land application systems. The Standard gives specific details for septic tanks for domestic wastewater, and for land application and absorption systems including:

- Conventional trenches and beds;
- Evapo-transpiration systems;
- Mound systems;
- Surface and sub-surface irrigation systems.

Information regarding system selection and sizing, site and soil evaluations, and general management of on-site domestic wastewater systems (including operation and maintenance) is also covered in the Standard.



PART 2: OPERATIONAL PROGRAMS

This section of the Strategy addresses the following issues related to on-site sewage management:

- Information database;
- Inspection programs;
- Enforcement;
- Education and consultation;
- Monitoring;
- Resources.

Information regarding specific Council requirements for new and existing on-site sewage management facilities (including installation and operation) is detailed in Council's "Local Approvals Policy for New/Existing Installations of On-Site Sewage Management Systems for Residential Dwellings".

2.1 Information Database

2.1.1 Description

The information collected during receipt of *"Approval to Operate"* applications will be used to develop a database of registered sewage management facilities within the Shire.

2.1.2 Objective

To ensure that Council has an accurate record of all on-site sewage management facilities that can be used as a tool to promote the effective management of on-site sewage management facilities.

2.1.3 Means of Achievement

- Assess applications and renewals for the continued use of existing on-site sewage management facilities;
- Issue generic approvals for an "Approval to Operate" on-site sewage management facilities based on available Council records (history) and details included on the application;
- Process applications for approvals to operate and produce and maintain a database of all existing on-site sewage management facilities;
- Enter information into Council records gathered from inspections and the development approval process.



2.2. Inspection Programs

2.2.1 Description

Council Officers will perform systematic scheduled and random inspections of individual on-site sewage management facilities with priority given to areas with a reticulated sewerage scheme and those recognised by Council to have a large number of failing or poorly operated systems. Follow up inspections will also be carried out to ensure that remedial action is undertaken where systems are not operating satisfactorily and works have been directed. Council and Sydney Catchment Authority are currently in the process of identifying and evaluating options for a strategic and financial partnership to implement systematic inspection/auditing programs with a particular focus on the recently sewered townships of The Oaks and Oakdale, with Belimbla Park to be included in the program once the Sewerage Scheme is commissioned.

Council will also continue to utilise its database as a means of monitoring the servicing of aerated wastewater treatment systems, in ensuring that they are regularly serviced.

2.2.2 Objective

To ensure on-site sewage management facilities meet public health and environmental performance standards.

2.2.3 Means of Achievement

- Carry out random and scheduled inspections of on-site sewage management systems to ensure that they are meeting the required performance standards focusing on high priority areas (ie. water catchment areas, sewered areas and recognised problem areas);
- Develop criteria and detailed check list for the assessment of on-site sewage management facilities;
- Work with residents to ensure that facilities are adequately maintained and operating effectively;
- Utilise where considered appropriate, legislative powers if cooperation between the owner and the Council has not succeeded in achieving the required health and environment performance standards;
- Use the database of on-site sewage management facilities to monitor and improve the management and servicing of facilities within the Shire.



2.3 Enforcement

2.3.1 Description

In circumstances where sewage management facilities are causing health and environmental problems, Council will take action by using its legislative powers. This may include the use of Notices and Orders to require certain works to be undertaken or the issuing of fines.

Notices and Orders can be issued under the Local Government Act 1993 directing owners to undertake such remedial action as necessary to ensure that the system is operating correctly or requiring the premises to be connected to the reticulated sewerage scheme if available. Various Notices can be issued under the Protection of the Environment Operations Act 1997 and under this Act an administrative fee may be charged.

On the spot fines can be issued for non-compliance with an Order or for potentially causing water pollution under the Protection of the Environment Operations Act 1997.

2.3.2 Objective

To ensure a fair and reasonable enforcement regime is implemented in relation to on-site sewage management facilities.

2.3.3 Means of Achievement

- Issue Notices and Orders when required;
- Carry out random audits of sewage management facilities;
- Issue fines when required;
- Utilising Council's Action Request system (complaints management system).

2.4 Education and Consultation

2.4.1 Description

Consultation and education involves the communication of information relating to on-site sewage management facilities between Council and all stakeholders.

2.4.2 Objective

To ensure that all stakeholders are aware of their responsibilities concerning the operation of onsite sewage management facilities and to reduce the need for corrective actions and enforcement (eg. fines), and to encourage innovation which supports environmental sustainability.



2.4.3 Means of Achievement

- Develop information material to educate residents in the correct operation of on-site sewage management facilities;
- Provide advice concerning on-site sewage management facilities as requested by the community;
- Link the activities proposed in this Strategy with Council's Environmental Education Strategy;
- Consult with stakeholders to improve installation, servicing and management of facilities;
- Consult with stakeholders to improve and refine Council policies;
- Provide stakeholders with appropriate knowledge on relevant aspects of on-site sewage management facilities;
- Develop partnerships between all stakeholders to improve the management of on-site sewage management facilities;
- Ensure the community is aware of the responsibilities involved in operating an on-site sewage management system;
- Encourage development and installation of test systems where the risk to public health and the environment is minimal.

2.5 Monitoring

2.5.1 Description

Poorly designed or faulty on-site sewage management facilities have deleterious environmental effects, including reduced water quality in receiving streams and impacts upon public health and amenity.

The evaluation of impacts from on-site sewage management facilities will involve both long and short term monitoring of environmental parameters, which are indicative of sewage contamination.

2.5.2 Objective

To identify trends concerning the impact of on-site sewage management facilities on the environment, public health and public amenity.

2.5.3 Means of Achievement

 Access information with respect to ground and surface water quality monitoring programs utilising both in-house and external resources;



- Compare water quality trends where appropriate, in areas likely to be affected by poorly operating and/or illegal discharges from on-site sewage management systems;
- Utilise Council's Action Request system (complaints management system) to develop a database concerning the impact on public amenity;
- Development of a detailed environmental auditing program (including industrial & commercial centres);

2.5.4 Inspection/Auditing Program

Given the number of systems of on-site sewage management currently within the Wollondilly Shire (approximately 8000), it is not practical or economically viable to inspect each individual system. For this reason, it is considered prudent to carry out strategic inspections and auditing of systems throughout the Shire based on their levels of risk to both the environment and public health. For the purposes of the inspection/auditing program only, this strategy provides for the following inspection criteria based on risk factors relevant to the Shire. The various categories are listed below in order of risk and the stage at which inspection/auditing of the system is proposed.

A. High Risk Areas

- 1. Residential allotments smaller than 4000m²;
- 2. Residential areas situated within the water catchment areas serving the Warragamba Dam and contributory waters;
- 3. Dwellings where the on-site sewage management system is located within 100 metres of a watercourse, or 40 metres of intermittent watercourses;
- 4. Properties identified through Council's Action Request records system (via community complaints/enquiries or effluent contractors referrals);
- 5. Properties situated in sewered residential areas (which will identify residents not connected to the sewer due to financial constraints or other socio-economic situations, which also allows further investigation or assistance). Sewered areas were originally identified by the New South Wales Government as priorities for sewage connection as they were determined to be environmentally sensitive areas; and
- 6. Pumpout and aerated wastewater treatment systems located in residential areas (identified through Council records and audit).

B. Medium Risk Areas

1. Allotments with land area of between 4000m² and 10000m² that do not meet the criteria outlined in 'High Risk Areas'.

C. Low Risk Areas

- 1. Allotments with land area equal to or more than 10 000m² that do not meet the criteria outlined in 'High Risk Areas';
- 2. Industrial / commercial zoned areas.



2.6 Resources

2.6.1 Description

The previous section of the Draft On-Site Sewage Management Strategy identifies an inspection/auditing program that allows systems to be classified in terms of the level of risk they pose to public health and the environment. Inspecting facilities located in 'High Risk Areas' will assist Council to identify poorly operating and failing systems that are likely to adversely impact upon public health, the environment and community amenity.

It is a statutory requirement that Council utilise funds achieved from the processing of applications for Approval to Operate Systems of On-Site Sewage Management, for the development and implementation of programs to further improve the overall management of such systems within the Wollondilly Shire. The Sydney Catchment Authority and Council have also evaluated options for a strategic and financial partnership to effectively implement the inspection/auditing program which will require the resources and processes identified in the section below.

2.6.2 Means of Achievement

- 1. Council will appoint a suitably trained officer to inspect and assess the performance and operation of on-site sewage management facilities.
- 2. On-site sewage management facilities will be systematically or randomly selected and audited, having regard to the level of risk they pose to public health, the environment and community amenity.
- 3. Council currently employs a clerical officer to process new and renewal applications for Approval to Operate Systems of On-Site Sewage Management. The officer also assists with telephone enquiries and general clerical functions associated with the position.
- 4. Inspection checklists.

2.6.3 Role of On-Site Sewage Management Assessment Officer

- 1. Process applications and inspect systems for 'Approval to Operate Systems of On-Site Sewage Management' for new dwelling/buildings associated with privately certified development. Applications are to be processed prior to the occupation of the building or commission of the system.
- 2. Where Council is the certifying authority (carrying out the building inspections) for dwellings and buildings requiring an 'Approval to Operate an On-Site Sewage Management System' where it is observed or identified at the final inspection stage that the system is incomplete, Council's On-Site Sewage Management Assessment Officer will carry out a final inspection.

The Officer will also be required to undertake inspections of systems resulting from an action request alleging a poorly/illegally operating on-site system of sewage management. (This will greatly reduce the impact on the current staff levels as currently the inspection of such action requests is the responsibility of Council's Environmental Health Officer).



CONCLUSION

Council considers the approach identified as being the most simple, yet effective means of addressing the issue of on-site sewage management within the Wollondilly Local Government Area. The following summarises the approaches proposed:

- Develop and implement a cost effective, sustainable and manageable inspection regime;
- Development of criteria and detailed check list for the assessment of on-site sewage management facilities;
- Completion of random and scheduled inspections of on-site sewage management facilities according to the level of risk they pose to public health, the environment and community amenity;
- The use of legislative powers if cooperation between the owner and the Council has not succeeded in achieving the desired health and environment performance standards;
- Use of a database of on-site sewage management facilities to monitor and improve the management and servicing of facilities within the Shire;
- Dissemination of brochures and other educational information for the community.



GLOSSARY

- Aerated Wastewater Treatment System (AWTS) a wastewater process typically involving settling of solids & flotation of scum, oxidation & consumption of organic matter through aeration, clarification (secondary settling of solids & disinfection of wastewater before surface or sub-surface irrigation.
- "Approval to Operate" licence obtained by landowners from a local council permitting the operation of an on-site sewage management facility
- "Buffer Distance" a distance measured in metres that represents the length of flow line (ie. not necessarily direct pathway) between a wastewater disposal area and the high water mark of a waterbody or watercourse
- CBD Central Business District
- DCP Development Control Plan
- Ecologically Sustainable Development development that improves the quality of life, both now & in the future, in a way that maintains the ecological processes on which life depends
- Effluent wastewater discharged from a sewage management facility (treated or untreated);
- EPA Environment Protection Authority
- *"Land Application Area"* the area over which wastewater is applied
- Land Application System a system that can consist of pumps, pipes, nozzles, or trenches designed to apply wastewater evenly over a land application area. Includes both irrigation systems & soil absorption systems
- LEP Local Environmental Plan
- LGA Local Government Authority
- "On-Site Sewage Management Facility" a human waste storage facility or a waste treatment device intended to process sewage & including any related/ connected drain
- **REP** Regional Environmental Plan
- **SEPP 58C** State Environmental Planning Policy No. 58
- Septic Tank a wastewater treatment device that provides a preliminary form of treatment for wastewater, comprising sedimentation of settleable solids, flotation of oil and fats, and anaerobic digestion of sludge
- Soil Absorption System subsurface land application systems that rely on the capacity of the soil to accept & transmit the applied hydraulic load (includes leach drains, drain fields adsorption trenches, seepage beds & seepage pits)



- Wet Weather Storage a storage containment area designed to accommodate effluent as a means of reducing soils becoming saturated during or following periods of high rainfall and where effluent may flow or seep from the designated *"land application area"*. At present, this may take the form of a series of *"micro-trenches"* with sufficient storage capacity, or an additional storage tank
- **Vectors** insects or animals, such as flies, mosquitoes or rodents, that are attracted to the putrescible organic matter in wastewater treatment systems & that spread disease



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APPENDIX A

Performance Standards

The following performance standards have been developed to assist in measuring the effectiveness of the Strategy and its defined activities:

Activities	Performance Targets	Performance Indicators
Poorly operating & discharging systems	Maintaining of public & environmental health standards	Reduction in the number of complaints received by Council Improvement in local waterways
Poorly maintained/ managed systems	Preventing the spread of foul odours	Reduction in the number of complaints received by Council
Overloading of effluent disposal areas – surface effluent/ waterlogging of soils	Preventing contamination of surface & groundwaters Preventing the spread of disease by microorganisms	Improvement in the quality of local waterways Auditing of individual systems
Improper maintenance – poorly sealed units	Discourage insects & vermin	Reduction in the number of complaints received by Council Auditing of individual systems
Discharging/ overflowing systems, high hands-on mgt. required	Ensure that persons do not come into contact with untreated or treated sewage or effluent on the premises	Action Request/ Complaint System Auditing of individual systems
Inappropriately designed land application areas, migration of effluent	Minimise adverse impacts on public health & the amenity of the premises & surrounding lands	Reduction in the number of complaints received by Council Reduction in observed runoff of effluent
Use of higher performing sewage treatment systems	Where appropriate make provision for reuse of resources (e.g. water, nutrients)	Council approval of increasing numbers of advanced sewage treatment systems

