

MUSWELLBROOK SHIRE COUNCIL

*On-site Sewage Management Strategy*

This strategy was adopted by resolution of Council on 8<sup>th</sup> November 2004 Minute Number 79.

**Signed:**

A handwritten signature in black ink, appearing to read 'M. Colreavy', written in a cursive style.

**Mike Colreavy – General Manager**

**Date of Review: 8<sup>th</sup> November 2005**

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## 1. ABBREVIATIONS

AWTS – Aerated Wastewater Treatment Systems

DEC – Department of Environment & Conservation

DLG – Department of Local Government

EP – Equivalent Persons

EPHG – Environment & Health Protection Guidelines

OSMS – On-site Sewage Management Systems

SoE – State of the Environment Report

## 2. INTRODUCTION

### 2.1 Background Information

On-site sewage management systems (OSMS) are used by approximately 250,000 households throughout NSW. There have been increasing concerns that these systems are failing to adequately treat and dispose of wastewater leading to pollution of waters, risks to public health and environmental degradation.

Recent legislative changes, in the *Local Government (Approvals) Amendments (Sewage Management) Regulation 1998*, were introduced which require land holders to obtain Council approval to operate their on-site sewage management systems.

Under the new guidelines, householders were required to obtain approval in accordance with the regulation.

#### **Muswellbrook Shire**

Muswellbrook Shire is located in the Upper Hunter Valley of New South Wales, approximately 130 km north west Newcastle on the New England Highway. The Shire covers a large area – 3401.5 km<sup>2</sup>, much of which is rural, with only two sewerred communities; Muswellbrook (population around 10 500) and Denman (population around 1500). The main water-course in the Shire is the Hunter River, which is regulated upstream by Glenbawn Dam. Tributaries entering the Hunter within Muswellbrook Shire include the Goulburn River, Dart Brook, Sandy Creek and Muscle Creek.

Around 3500 people in the Shire rely on OSMS for waste-water treatment. Council estimates around 1800 systems in the Shire, many of which may have been installed many years ago without formal Council approval.

#### **Current Status**

Aging systems are prone to problems such as cracks in the tank and failure of absorption trenches due to overloading with phosphorus and sodium. Failure to desludge tanks ensures that they fill up and no longer effectively remove solids from the effluent before it is disposed of to absorption trenches, leading to further problems.

Many property owners take their septic tanks for granted, believing that they are effectively treating their waste and that they do not have an environmental hazard.

If effluent is not being effectively absorbed into the soil, it can temporarily pond on the surface where it is accessible to children and pets, putting them into contact with potentially harmful bacteria and viruses. Rainwater runoff from effluent-saturated areas can reach waterways, carrying the contamination downstream to other users and increasing the nutrient loading. Hence effective monitoring of domestic septic systems is vital to community and environmental health.

### 2.2 Scope

This document applies to all wastewater systems that are not connected to Council's reticulated sewage treatment systems or are not regulated by a Environmental Protection Licence issued by the Department of Environment & Conservation (DEC).

The following are classified as wastewater systems:

- Septic tank and absorption trenches
- Septic tank and transpiration areas
- Aerated wastewater treatment systems
- Septic tank to pump out
- Dry composting toilets and greywater treatment systems
- Wet composting toilets and subsurface application systems

- Any other system that stores, treats and/or disposes of sewage and wastewater on site, and is accredited by NSW Health

### **2.3 Purpose of this strategy**

- To provide a framework to manage and regulate the impact of on-site sewage management systems in the area and ensure community accountability
- To coordinate data collection, system approval, monitoring and environmental assessment

## 3.0 OBJECTIVES

### 3.1 Performance Objectives

Council's objective is to work together with householders, developers and service agents to ensure well-managed and efficiently performing on-site sewage systems, through correct installation and regular monitoring in order to achieve the following

- a) *Prevention of public health risk* – sewage contains pathogens such as bacteria, viruses, parasites and other disease causing organisms. Contact with sewage effluent should be minimised or eliminated. Insects can also act as vectors for disease where they have access to sewage effluent.
- b) *Protection of community amenity* – on-site sewage management systems should be selected, sited, designed, constructed, operated and maintained to ensure that they do not unreasonably interfere with quality of life or the environment. Where possible, such systems should enhance the local amenity – special consideration should be given to groundwater pollution, aesthetics, odour, dust, vectors and excessive noise.
- c) *Protection of land and vegetation* – on-site sewage management systems should be selected, sited, designed, constructed, operated and maintained to ensure that on-site disposal of effluent minimises soil structure degradation, salination, waterlogging, chemical contamination and soil erosion
- d) *Protection of surface water and groundwater* – on-site sewage management systems should be selected, sited, designed, constructed, operated and maintained to ensure surface and ground waters are not contaminated by any flow from either the treated systems and land application areas. Buffer distances to water bodies should be as stated in the Environmental and Health Protection Guidelines (EHPG) as developed by the Department of Local Government (DLG)1998.
- e) *Conservation and re-use of resources* – the resources in the wastewater, such as the water and nutrients should be utilised in the best possible way within the bounds posed by these performance objectives. Water conservation should be practised and wastewater production should be minimised.
- f) *Ecologically sustainable development* – on-site sewage management systems should be selected, sited, designed, constructed, operated and maintained to ensure that the principles of Ecological Sustainable Development impacts directly on any consideration of on-site sewage management.

### 3.2 Aims

Through the implementation of this strategy, Council aims to achieve the following:

- Minimise the impact of OSMS on the environment
- Identify the location of all systems in the Shire area and maintain of a register of all systems and the operational status
- Provide owners with the necessary information and support for the systems
- Ensure owners are aware of the need to maintain systems and of the limitations which may exist on the operation of those systems
- Completing an audit of registered on-site sewage management systems
- Identify installations by category of risk
- Requiring upgrading of systems where they cannot meet the performance standards
- Encouraging a cost-effective strategy

### 3.3 Education / Promotion

It is important that users and owners of wastewater systems understand how their systems operate and the possible consequences of a faulty or mismanaged system.

Council recognises its ongoing responsibility to provide appropriate information to owners. This will be through a program of inspections and public education programs which will include the informal education of owners and the distribution of information and fact sheets. It will also involve the education of service contractors, plumbers, builders and developers to ensure a consistent approach in inspection and certification procedures.

Information is provided to the occupiers of a property where a wastewater system exists which contains information sourced from the “Safe Septic Guide” published by the Department of Local Government.

## 4.0 LEGISLATION & GUIDELINES

### 4.1 Local Government Act (1993)

The Local Government (Approvals) Regulation 1999 was gazetted on 6<sup>th</sup> March 1998 and operates in terms under the Local Government Approvals in Chapter 7 of the Local Government Act. The regulation

- Prescribes the operation of a system of sewage management for the purposes of Council approval under s68 of the Local Government Act 1993
- Specifies performance standards for on-site sewage management (see Performance Objectives section 2.1)
- Clarifies the accreditation roles and responsibilities of NSW Health.
- Makes provision for the charge of inspection fees under s608 authorised by:
  - Part (2) – providing a service in connection with the exercise of the council’s regulatory functions
  - Part (3) – inspecting premises that are reasonably required to be inspected in the exercise of council’s functions, whether or not the inspection is requested or agreed to by the owner or occupier of the premises

The primary effects of the regulation are:

- The operation of a sewage management facility is subject to Council approval under s68 of the Act.
- Council must develop a strategy for on-site sewage management.
- Council must consider applications for approval to operate a sewage management system and implement appropriate supervision.
- Council may charge application, renewal and inspection fees to recover the cost of supervising systems which are subject to an operating approval.
- Council must not approve a commercially distributed system unless plans are provided and a certificate of accreditation is in force.
- Council must apply the prescribed performance standards when determining applications for approval.
- Council must consider guidelines or directions issued by the Director General of the Department of Local Government in relation to the prescribed performance standards when determining applications for approval.

The legislation provides that a system of sewage management must be operated in a manner which achieves the following performance standards:

- a) The prevention of the spread of disease by micro-organisms;
- b) The prevention of the spread of foul odours;
- c) The prevention of contamination of water;
- d) The prevention of degradation of soil and vegetation;
- e) The discouragement of insects and vermin;
- f) Ensuring that persons do not come into contact with untreated sewage or effluent (whether treated or not) in their ordinary activities on the premises concerned;
- g) The minimising of any adverse impacts on the amenity of the premises and surrounding lands;
- h) If appropriate, provision for the reuse of resources (including nutrients, organic matter and water).

### 4.2 Environment and Health Protection Guidelines (DLG 1998)

The Environment and Health Protection Guidelines – On-site sewage management for Single Households was released to Councils in 1998 to assist local Councils to assess, regulate and manage the selection, design, installation, operation and maintenance of single household on-site sewage management systems. The guidelines address

- The regulatory framework of Council’s operations
- Development of Local on-site sewage management strategies
- On-site sewage System options

- Methodologies of applying treated wastewater to land
- Site evaluations

These guidelines are specified for the purposes of the Local Government (Approvals) Regulation 1999 and are a matter for consideration by Council in relation to

- Applications for approval to install, construct or alter a relevant waste treatment device or human waste storage facility
- Applications for approval to operate a sewage management system.

### **4.3 Australia/New Zealand Standards**

The primary standard relevant to this strategy and the operation, construction and installation of on-site sewage management systems is AS/NZS 1547:2000 (or as updated). It specifies means of compliance with the performance criteria under

- Site & soil evaluation
- Land application systems
- Wastewater treatment units
- Other wastewater systems
- Construction and installation

## **5.0 OPERATIONAL STRATEGY**

### **5.1 Approvals to Operate**

#### **5.1.1 Existing Systems**

Amendments to the Approvals Regulation of the Local Government Act 1993, required that all existing on-site sewage system owners must apply for approval to operate their system by 30<sup>th</sup> June 1999.

To implement this process the following has occurred

- Those property owners not being serviced by Council's reticulated sewer were sent a registration form requesting information pertaining to the existence of OSMS and what the distances were from the system to waterways and property boundaries.
- Approximately 1200 registration forms have been received to date identifying the location of on-site sewage management systems.
- Establishment of a database of all installations in the Council's area
- Carrying out a desktop audit of those applications received to assign a risk category based on the information provided with the registration form (see appendix 1) to each registered system.
- Inspections of the registered systems are currently being undertaken and satisfactory systems were issued with an Approval to Operate subject to conditions.

At the completion of the audit program, actions will be taken to identify those systems within the Shire which have not yet been registered. These systems will then be registered and inspected in the same manner as above.

#### **5.1.2 New Systems**

Applications to operate a new sewage management system are made on the same form as the approval to install, construct or alter an on-site sewage management systems.

Council Officers assess each application based on prescribed performance criteria and impose appropriate operational and installation conditions of approval and are assigned an appropriate risk classification. New systems are not to be commissioned until approval has been obtained from Council.

#### **5.1.3 Matters to be considered during inspections**

- Service history
- Operation of electrical components
- Tank soundness
- Stormwater diversion
- Potential for stormwater inundation
- Sludge levels
- Disposal field condition including irrigation areas and any discharge from area
- Greywater disposal
- Plumbing
- Grease trap condition

## **5.2 Enforcement**

### **5.2.1 Existing Systems**

Those systems not achieving the required performance standards as a result of the initial audit are issued with a failure to comply notice which requires specific remedial works to be undertaken prior to an Approval to Operate the system is issued. A period of three months is provided for required remedial works to be undertaken. Should works not be completed within this period, orders may be issued under s124 of the Local Government Act or the Protection of the Environment (Operations) Act for the completion of the required remedial works to ensure that the system is operating to prescribed performance standards.

### **5.2.2 Approvals to Operate**

The conditions as set by Council in the Approval to Operate documentation provide those performance standards which must be kept or any other standards which Council deems fit. Should Council become aware of any breaches of this Approval to Operate, remedial works will be required to ensure the system operates in accordance with the Approvals to Operate conditions. Action may be taken under the enforcement provisions within the Local Government Act 1993, and/or the Protection of the Environment (Operations) Act 1997.

## **6.0 EVALUATION, MONITORING & REPORTING**

### **6.1 Evaluation**

Due to the potential impact of OSMS operation on the environment, the above methods will be implemented. The evaluation of this strategy will involve the assessment of systems over time to the performance objectives of this strategy and the percentage of systems that meet these objectives.

### **6.2 Monitoring**

The monitoring program will include the monitoring of existing service documentation and on-site inspections.

Council additionally undertakes monthly water quality assessments which may identify potential pollution events from OSMS.

### **6.3 Reporting**

Reporting will be undertaken in

- Council's monthly Business Paper
- Annual State of the Environment Report

and will include:

- Number of systems registered
- Number of systems inspected
- Compliance/non-compliance of systems
- Trends of non-compliance
- Number of applications for the installation and operation of new on-site sewage management systems.

## 7.0 PERFORMANCE INDICATORS FOR THE STRATEGY

Aims	Performance Indicator/Target
Review Council development standards and approval criteria for new on-site sewage management systems	<ul style="list-style-type: none"> <li>▪ All approval criteria reviewed and amended as necessary</li> <li>▪ All development standards reassessed and amended as required</li> <li>▪ Specify requirements for land application areas for AWTSS</li> </ul>
Raise the awareness of property owners and/or occupiers using on-site sewage management systems with regard to their system	<ul style="list-style-type: none"> <li>▪ Prepare an information package to distribute to residents relying on on-site systems during inspections</li> <li>▪ Utilise the media at every opportunity to assure residents that Council staff are available for information if required</li> </ul>
Identify the location and ownership of all on-site sewage systems in Muswellbrook Shire	<ul style="list-style-type: none"> <li>▪ Establish list of all systems</li> <li>▪ Establish ownership of all systems</li> <li>▪ Procedure to ensure database is updated if ownership changes</li> </ul>
Prepare and maintain a database of all identified systems	<ul style="list-style-type: none"> <li>▪ Database established that meets the needs of Council staff implementing the approval process</li> </ul>
Ensure that all systems are inspected, beginning with High risk systems	<ul style="list-style-type: none"> <li>▪ All high risk systems inspected on a first priority basis</li> <li>▪ All medium risk systems inspected as a secondary priority</li> <li>▪ All low risk systems inspected as a tertiary priority</li> </ul>
Ensure that all Council staff involved in the planning and approval process are familiar with this Strategy	<ul style="list-style-type: none"> <li>▪ Make the strategy available to all Council staff</li> </ul>
Establish links between Council's Management Plan and State of the Environment (SoE) Report	<ul style="list-style-type: none"> <li>▪ Fees and charges established in management Plan</li> <li>▪ Strategy linked to State of the Environment Report</li> <li>▪ Progress of approval process and inspections included in SoE Report</li> </ul>
To ensure all pump-out contractors & AWTSS service contractors are registered with Council	<ul style="list-style-type: none"> <li>▪ Develop and maintain a list of registered and accredited contractors</li> </ul>

## 8.0 APPENDICES

### 8.1 Risk Criteria

#### 8.1.1 Low risk indicative criteria

- A system used for no more than 10EP
- located on a property with a total land area of at least 2 hectares
- located so that any part of the system is at least 100 metres from any property boundary
- located so that any part of the system is at least 250 metres from a domestic ground water well used for domestic water supply
- located so that any part of the system is at least 200 metres from any permanent surface waters or any other waters (eg farm dams, intermittent waterways and drainage channels)
- not located in an area with a known high water table (less than 1.5 metres)
- not located within an area prone to flooding in a 1 in 100 year flood
- located so that any part of the system is at least 20 metres from any swimming pool; and

#### 8.1.2 Medium Risk Indicative Criteria

- Located on a property within a rural or residential zone having an area between 2 and 40 hectares
- Aerated waste-water treatment plant
- located so that any part of the system is between 100 and 200 metres from any permanent surface waters or any other waters (eg farm dams, intermittent waterways and drainage channels)
- Within 100m of another system
- System defined as a “chemical closet”
- >50m but <100m from a well or bore
- >20m but <50m off a property boundary
- Systems with a capacity of < 2400 litres, serving a building(s) with more than 5 persons.

#### 8.1.3 High Risk Indicative Criteria

- Located on a property, which is located within a village zone (i.e. Sandy Hollow)
- Located so that any part of the system is less than 20 metres from any property boundary
- located so that any part of the system is less than 100 metres from any permanent surface waters or any other waters (eg farm dams, intermittent waterways and drainage channels)
- Located in an area with known high water tables (less than 1 metre)
- Located within an area prone to flooding in a 1 in 100 year flood
- Located so that any part of the system is less than 20 metres from any swimming pool; or
- Pump out installations either by tanker or to a public reticulated sewer system; and
- A type of a sewerage management system which serves more than 10 people.



### 8.3 Audit Form

#### MUSWELLBROOK ON-SITE SEWAGE AUDIT

Date: \_\_\_\_\_ File No. \_\_\_\_\_

Owner: \_\_\_\_\_

Owner Present: YES / NO

Postal Address: \_\_\_\_\_

Rural Address: \_\_\_\_\_

Type of property: \_\_\_\_\_

Number of bedrooms in the residence: \_\_\_\_\_

#### A) HOUSE TO TANK

Toilet cracked: YES / NO

Flushing properly: YES / NO

Vent condition: Good Fair Poor

Pipework acceptable: YES / NO

Grease-trap present: YES / NO

Greywater goes to tank: YES / NO

Comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### B) SEPTIC TANK INFORMATION

Number of Tanks: \_\_\_\_\_

Pump to disposal field YES / NO

Tank condition: \_\_\_\_\_  
\_\_\_\_\_

Crust condition: \_\_\_\_\_

Sludge condition: \_\_\_\_\_

T-Pieces in place: YES / NO

Odour present: YES / NO

Comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**AWTS INFORMATION:**

Make & Model: \_\_\_\_\_

Air dispersal in Tank:    Good                      Fair                      Poor

Chlorine Present    Yes                      No    (%)

Sludge & Crust Condition: \_\_\_\_\_

Comment: \_\_\_\_\_

**PIPEWORK & DRAWOFF LINES:**

Comment: \_\_\_\_\_

**C) DISPOSAL FIELD**

Type of Disposal field: \_\_\_\_\_

Dimensions: \_\_\_\_\_ Approx Area: \_\_\_\_\_

Number of Sprinklers: \_\_\_\_\_ Type: \_\_\_\_\_

Conditions of disposal field: \_\_\_\_\_

Vegetation cover: \_\_\_\_\_

Action Required:                                      Yes    /    No

Room for a second application area    Yes    /    No

**D) SITE DESCRIPTION**

Soil type: \_\_\_\_\_

Groundwater bore/well on-site                      Yes                      No

Water used for: \_\_\_\_\_

Distance of bore/well from disposal field: \_\_\_\_\_

If present note distance from disposal field to:-

Waterways.....

Dams.....

Dwellings.....

Boundaries.....

Swimming Pool.....

Driveways.....

