On-Site Sewage Management Plan 2014-2018

City of Wagga Wagga

Contents

1. INTRODUCTION

Effective management of domestic sewage and wastewater is an important consideration for human health and the environment. Effective management requires the active involvement of both the Council and landholders. This Management Plan is prepared in accordance with the requirements of the Local Government (General) Regulation 2005 and has been developed to help Wagga Wagga City Council assess, regulate and manage the selection, design, installation, operation and maintenance of On-site Sewage Management Systems (OSMS).

The benefits of an On-site Sewage Management plan are:

- Better catchment management;
- A consistent message to householders and on-site sewage operators;
- A coordinated approach to liaise with industry, including developers, professionals, consultants, private certifiers, service agents and plumbers and
- Develop information and education strategies.

Regulations gazetted on March 1998 by the Minister for Local Government requires owners of household septic systems and other small On-site Sewage Management facilities to apply to Council for approval to operate or amend a system. The granting of any such approval allows the Council to monitor performance on a regular basis. In accordance with Local Government Act 1993 all OSMS are required to be licensed by Council. Effective and strategic management of existing septic systems and attention to address sewage management issues in new release areas is an important task of Council.

Council at its Supplementary Council meeting 16 June 2014 resolved to include the following provisions in the draft On-site Sewage Management Plan 2014 - 2018:

(i) All OSMS on farmland with an area of 20 Hectares or greater be exempt from inspection, licensing and compliance action unless council receives a complaint relating to the OSMS.

(ii) Conduct an education campaign to advise owners of OSMS located on farmland with an area of 20 Hectares or greater of their responsibilities and possible liability due to a substandard OSMS.

(iii) Maintain a register of all OSMS.

(v) Allow owners of farmland with an area of 20 hectares or greater to construct an OSMS and then have it inspected by Council staff or a licensed plumber for endorsement.

It was also resolved to advise any OSMS owners who are the subject of compliance action and occupy farmland with an area of 20 Hectares or greater that no enforcement action will be taken by council to require compliance unless a complaint relating to their system is received.

2. PURPOSE

The purpose of the On-site Sewage Management Plan is to:

- Guide landholders towards sustainable on-site management of domestic sewage and effluent water.
- Protect and enhance the quality of public health and the environment within the Wagga Wagga Local Government Area (LGA).
- Assist Council to prioritise resources for the efficient regulation and monitoring of OSMS.
- Coordinate monitoring, environmental assessment and data collection related to On-site Sewage Management.
- Allow for site assessment on risk management basis and consideration of alternate solutions on environmentally sensitive sites.

3. OBJECTIVES

On-site Sewage Management systems should be selected, sited, designed, constructed, operated and maintained to ensure the following objectives are met:

- **Reduction of public health risk** - sewage contains bacteria, viruses, parasites and other disease-causing organisms. Contact with effluent should be minimised or eliminated, particularly for children. Insects can also act as a vector for disease where they have access to effluent. Residuals, such as composted material, should be handled carefully. Treated sewage should not be used on edible plants that are consumed without cooking.
- **Protection of surface water -** surface waters are not contaminated by any flow from treatment systems and land application areas (including effluent, rainfall run-off and contaminated groundwater flow).
- **Protection of groundwater-** groundwater will not be contaminated by any flow from either the treatment systems or land application areas.
- **Protection of land and vegetation -** land is not contaminated by any flow from treatment systems, effluent, rainfall run-off or removed tank solids.

- **Protection of community amenity -** quality of life shall not be unreasonably interfered with. Where possible, systems should enhance the local amenity - special consideration should be given to aesthetics, odour, dust, disease vectors and excessive noise.
- **Conservation and reuse of resources-** the resources in domestic wastewater (including nutrients, organic matter and water) should be identified and utilised as much as possible within the bounds posed by the other performance objectives. Water conservation should be practiced and wastewater production should be minimised.

DISEASES WHICH MAY BE TRANSMITTED BY CONTACT WITH UNTREATED EFFLUENT

Diseases are caused by:	
Viral**:**	gastroenteritis hepatitis A rotavirus
Bacterial:	diarrhoea cholera typhoid bacillary dysentery
Parasites:	cryptosporidiosis giardiasis

The above listed disease-causing micro-organisms (pathogens) can be spread from untreated sewage. These pathogens can be spread directly by people coming into contact with sewage, for example, contact with untreated sewage which has discharged onto the ground surface from broken sewage pipes or indirectly by people coming into contact with pests such as flies and cockroaches which carry pathogens in or on their bodies. Livestock and domestic animals such as dogs and cats can also spread these diseases through coming into contact with or drinking, water which has been contaminated by sewage.

Land application systems that use primary treatment such as conventional septic tanks with trenches or absorption beds will not adequately treat sewage if the sewage is not disposed of underground properly, or the sewage disposal system is not properly maintained. For these sewage systems to be properly maintained, all faulty (blocked, damaged, broken or worn-out) parts must be repaired as soon as possible after they stop working correctly. This will prevent any potential spread of disease.

Secondary treatment systems (Aerated Wastewater Treatment Systems) also have the potential to spread disease if they are not serviced and maintained regularly as recommended by the system accreditations. All parts and equipment should be operated and maintained as per manufacturer requirements to ensure that sewage is effectively treated by the system.

4. GOALS

The goals of the On-site Sewage Management Plan are to:

- Review Council development standards and approval criteria to ensure sustainable On-site Sewage Management when development occurs in non- sewered areas.
- Register OSMS and maintain a database of all sites.
- Identify the additional resources needed by Council to supervise On-site Sewage Management.
- Identify additional public infrastructure needed to replace areas of failing OSMS.
- Adopt a partnership approach with households and service agents to support continual improvement of On-site Sewage Management.
- Specify qualifications and accreditation processes for third parties wishing to certify maintenance work and/or compliance with approval standards for all types of systems.
- Consult with local service agents and plumbers to ensure that they are aware of qualification and accreditation procedures recommended by the NSW Department of Health.
- Develop site-specific Sewage Management plans that resolve identified problems.
- Offer prompt and efficient service for complaint and approval services for on-site sewage management.
- Educate owners of OSMS located on farmland with an area of 20 Hectares or greater of their responsibilities and possible liability due to a substandard OSMS.

5. ENVIRONMENTAL OVERVIEW OF THE WAGGA WAGGA LOCAL GOVERNMENT AREA

The purpose of the environmental overview is to outline factors that will affect the efficient and appropriate functioning of OSMS within the Wagga Wagga LGA.

On-site Sewage Management refers to the various methods used in the treatment and disposal of household waste water and sewage within the confines of a property. The end product from the treatment process that has to be managed on-site will vary in terms of the risk it poses to human and environmental health. The level of effluent treatment will primarily govern the method of disposal considered to be the safest. As an example conventional septic tank waste must be disposed of underground as a final treatment

stage. An Aerated Wastewater Treatment System (AWTS) treats effluent to a standard that allows irrigation onto the ground surface.

There are a variety of factors that will influence how well an effluent application system may function; these include system maintenance geology, soil type, topography, water table, vegetation and climate. Across the LGA the importance of each factor will vary as conditions on individual sites vary. The constraints they place on systems must be recognised and taken into account when a system is to be installed or altered.

5.1 Soil Type

The geology of an area influences the soil types that are likely to have developed in an area. The soil type in turn will have an impact on activities that can be carried out in a safe and sustainable manner on a site. Disposal of effluent is one such activity that is affected by soil type. Within boundaries of the geological units the soil types will vary considerably and each system's location will have its own limitations. How well a disposal area functions will depend largely on the soil in which it is constructed or the soil the effluent is irrigated onto.

An effluent disposal area is functioning efficiently and appropriately when:

- effluent is absorbed by the soil.
- there is no untreated effluent discharging on ground surface or groundwater contamination.
- soils and vegetation on the effluent disposal site is capable of assimilating the nutrient and organic loading of the effluent applied.

5.1.1 Soil Texture

Soils with a high clay content often have low permeability. This means water is likely to pond on the surface and not drain away or be readily absorbed by the soil. Irrigated effluent may pond and underground disposal areas will quickly fail if they are not correctly sized. This can pose risks to human health and the environment. Soils with a high sand and gravel content will have very high permeability. Water will drain freely through the profile to groundwater reserves. Disposal areas on sites with highly permeable soils may contaminate groundwater with effluent if not correctly treated or constructed (Chen and McKane 1996). Soils with a high proportion of stone will contain less soil material that can absorb moisture. This may also cause the disposal area to fail. Soils with low wet bearing strengths can be easily compacted once moist (Chen and McKane 1996). The compaction of a disposal area by heavy vehicles or stock will inhibit water absorption and drainage and may damage pipe work.

5.1.2 Soil Chemistry

Sodic soils contain an elevated amount of sodium and are generally high in clay and silt. They have poor structure which inhibits drainage both underground and on the surface. Sodic soils can be conditioned with the addition of lime or gypsum to improve drainage (Chen and McKane 1996). Effluent from residential premises contains sodium in moderate amounts. Prolonged application of residential effluent to an area will elevate soil sodium levels. Any nutrient deficiency or toxicity in the soil that inhibits plant growth should be addressed. The soil on a new disposal area may initially need fertilising. Once the system is established the nutrients added by effluent should perpetuate vigorous plant growth. Year round plant growth on a disposal area will increase water usage therefore lessening the hydraulic load on the soil. Plant growth in winter is desirable.

5.1.3 Geotechnical Soil Report

The purpose of Geotechnical soil testing is to obtain useful information about the soil/water dynamics of a site, to enable appropriate site selection and to obtain information enabling the design and assessment of an ecologically sustainable Sewage Management system. The purpose of this assessment is to confirm constraints and to allow appropriate design adjustment to be made.

5.2 Landform

Landforms of the Wagga Wagga LGA vary markedly from the west to the southeast. The western areas are dominated by flat plains and low hills; the south-east is dominated by hills that range from gentle to very steep in slope. The elevation also increases significantly from west to south-east. Factors associated with steep slopes that will affect OSMS include shallow soils, stony outcrops, increased erosion risk and increased storm water run-on and runoff.

The positioning of an OSMS will be influenced by the local geography, particularly landform. Land with excessive slope will make construction and effluent disposal difficult. The greater the slope the more likely water run-on will affect disposal areas. A diversion bank should be placed above the effluent disposal area to divert any storm water around the disposal area. Trenches should be installed so they run directly across the slope. This will ensure the whole trench has the same wastewater load applied to it. This is necessary on both flat and steep sites but may be harder to achieve on a steep site.

Steep sites will also be more prone to erosion. Erosion on a disposal area will increase run-off of irrigated effluent into creeks and streams. It may also inhibit the proper function of an underground disposal area. Eroded sites are

also difficult to establish vegetation on. Vegetation is vital for effective effluent disposal as it absorbs excess water preventing ponding and uptakes residual nutrients found in treated effluent. Skeletal or shallow soils associated with steep slopes will only allow minimal absorption of effluent and nutrients. In this case soil may need to be imported.

5.3 Groundwater

The river and underground water resources of the Murrumbidgee Valley form the major sources of water supply for Wagga Wagga. Groundwater across the Wagga Wagga LGA varies in both quality and availability. The depth and quality of groundwater depends largely on the underlying geology of the area. The ability of additional water to percolate down into groundwater also depends on the site geology and soils.

The Murrumbidgee floodplain is composed of sand, clay and gravel sediments. Water is contained in both the sand and gravel sediments. The best quality water comes from the deeper gravel sediment. The aquifer has a supply that is plentiful but not infinite and of very high quality. A large percentage of the water supply for Wagga Wagga is drawn from gravel sediment at a depth of approximately 70-90 metres. Remaining water is supplied from surface waters drawn from the Murrumbidgee.

Shallow groundwater is also present in the LGA but tends to be of moderate to poor quality and is generally of limited supply. Normally groundwater associated with heavy clays, granite country and sedimentary rock (variable) is of poor quality, because of low rates of supply, high salt levels or elevated nutrient levels. Effluent contaminating groundwater is a form of pollution but also poses a health risk to humans. Groundwater that occurs close to the surface will be easily contaminated. Groundwater that occurs at great depth but is overlain with highly permeable soils can also be contaminated. Where groundwater resources are to be protected the disposal area should be designed to encourage total evapo-transpiration.

Disposal areas that are positioned in areas of shallow groundwater will not only cause contamination but will not absorb moisture as effectively which will lead to failure. This failure may cause effluent to be on the ground surface, presenting a human health risk.

5.4 Storm Water and Disposal Areas

Measures should be taken to limit or prevent storm water from ponding or running across disposal areas. Increasing the amount of water that has to be absorbed by the disposal area with extra storm water will cause the disposal area to fail prematurely. Piped diversions of storm water, doming of the disposal site or construction of diversion banks on the up slope side are water

shedding methods. This should be done on all sites but is crucial in the higher rainfall/lower evaporation areas.

5.5 Water Supply

The capacity of OSMS and sizes for disposal areas will be affected by household water supplies. Houses with a reliable and plentiful water supply will generally use more water. Areas without this reliable supply will generally be more conscious of water use, therefore the amount of water to be disposed of will be less. The presence of household fixtures such as spas, dishwashers etc must also be considered. Households that have a reticulated water supply and on-site effluent disposal will require larger disposal systems due to additional wastewater loading. Water conservation practices are strongly encouraged to reduce the amount of wastewater generated.

5.6 Population Density

OSMS functioning in areas with a dense population pose additional health risks. When these systems fail a larger population is exposed and the risk is increased. Wagga Wagga has a large number of on-site systems functioning near the principle population centre. There is potential here for a serious disease outbreak to spread quickly and affect large numbers of people if it is related to failing septic systems.

5.7 Climate

5.7.1 Precipitation

Differences in rainfall and evaporation rates across the LGA may result in different recommendation for OSMS. To ensure that the disposal system works effectively and does not pose a human or environmental health risk the hydraulic load from rainfall and evaporation must be considered and the system designed and installed accordingly. Generally larger disposals systems will be needed in the higher rainfall, low evaporation areas, whilst smaller disposals systems will be sufficient in the drier areas.

Rainfall across Wagga Wagga increases significantly from the west to the southeast. This increase in rainfall is the opposite of evaporation rates which decreased markedly from the west to the south-east. In summary the western portion of the LGA has significantly lower rainfall and higher evaporation rates. The south-east has significantly higher rainfall and lower evaporation rates. Differences in rainfall will result in differing hydraulic loads being placed on soils. Areas designated for the disposal of effluent, (underground and irrigation), must be able to assimilate the waste water load from a household as well as the natural hydraulic load.

5.7.2 Evaporation

Across the LGA, evaporation rates are generally lower than precipitation in winter, June, July and August. During this period the soil is normally at or above field capacity. This means the ability of the soil to absorb extra moisture, in the form of effluent and household wastewater, will be minimal. Therefore underground disposal areas should be sized to provide wet weather storage capacity, or an alternative storage disposal means provided. Storage of this excess wastewater on site can create additional health risks and management problems. In domestic applications all other practical water conservation and effluent management options should be considered before requiring wet weather effluent storage facilities.

Information of precipitation and evaporation levels for the system shall be included in the Geotechnical Soil Reports.

6. ADMINISTRATION

6.1 Approval

Council has the responsibility under the provision of the Local Government Act 1993 to:

- Maintain a register of OSMS within the Local Government Area;
- Ensure that approved system are installed and operated according to approved specifications and any special requirement or condition and
- Ensure that each system is maintained and serviced correctly.

Under Section 68 of the Local Government Act 1993, Council approval is required for the installation, construction or alteration of a human waste water treatment device or storage facility and drains connected to it.

A Council issued licence or approval to operate is also required for the ongoing operation of the OSMS. Failure to obtain a licence/ approval to operate or failing to comply with the conditions of an approval is an offence under the Local Government Act 1993.

6.2 Performance Standards

In 1998 the Local Government Act 1993 was amended to include new regulations for OSMS. The current regulations specify that OSMS should be designed, installed, and operated to ensure the following environmental and health performance objectives will continue to be met over the long term:

- Prevention of health risk
- Protection of land
- Protection of surface waters
- Protection of ground waters
- Conservation and reuse of resources
- Protection of community amenities

The Local Government (General) Regulation 2005 (s44) requires that a system of Sewage Management must be operated in a manner that achieves the following specific performance standards:

- To prevent the spread of disease by micro organism
- To prevent the spread of foul odours
- To prevent the contamination of water
- To prevent the degradation of soil and vegetation
- To discourage insects and vermin
- To ensure that persons do not come into contact with untreated sewage or effluent in their ordinary activities on the premise
- To provide for reuse of resources
- To minimise adverse impacts on the amenity of the land on which it is installed or constructed and other land in the vicinity of that land

6.3 Associated Legislation

The following legislation applies to On-site Sewage Management Systems:

- NSW Local Government Act 1993
- NSW Local Government (General) Regulation 2005
- Public Health Act 2010
- Protection of the Environmental Operation Act 1997
- NSW Department of Health Certificate of Accreditation
- Environmental Planning and Assessment Act 1979
- AS3500.2.2003 Plumbing and Drainage Code as amended
- AS1546.1:2008 On-site Domestic Wastewater Treatment Units (part 1 applies to septic tanks)
- AS1547:2012 Disposal Systems for Effluent from Domestic Premises
- AS4419:2003 Soils for Landscaping and Garden Use
- AS2698.2:2000 Plastic Pipes and Fittings for Rural Applications
  Part I Polyethylene, micro irrigation pipes
  Part II Polyethylene, rural pipes
  Part III Mechanical joint fittings for use with polyethylene micro irrigation pipes
- AS3000:2007 Wiring Rules – Electrical Installation – Buildings, Structures and Premises

- AS1319 Safety Signs for the Occupational Environment
- Plumbing and Drainage Code of Australian Part F

6.4 Non Compliance

A system is deemed to have failed when it does not satisfactorily address the above performance standards. Existing systems that are failing and require modifications, are to be upgraded or replaced to comply with the legislated requirements. An OSMS Application is required to be lodged and approved by Council prior to commencement of works.

Failing to comply to operate or maintain a system in accordance with Council Approval or the requirements of NSW Department of Health is an offence and could result in action taken in line with Councils Enforcement Policy.

No compliance action will be taken on farmland with an area of 20 Hectares or greater unless a complaint relating to an OSMS is received**.**

6.5 Council Reticulated Sewer

In accordance with NSW Local Government Act Section 124 (24) premises within 75 metres of a sewer of the Council is required to connect with the Councils sewage system. WWCC Sewer Policy generally requires properties within the defined sewer district to connect to sewer.

7. ON-SITE SEWAGE TREATMENT AND DISPOSAL

7.1 On-Site Sewage Treatment Processes

Human health and the environment can be adversely affected by neglected or failing OSMS.

Treatment by a conventional septic tank involves the settling out of solids, floatation of fats and grease and the breakdown of both by bacteria. The level of treatment achieved means the effluent can only be safely disposed of underground via absorption trenches, transpiration beds or evapo-transpiration beds

Aerated Wastewater Treatment Systems (AWTS) use mechanised aeration and disinfection processes that allow irrigation of effluent on a designated area as a safe means of disposal. Disposal areas must restrict access for humans, especially children, vehicles and stock for human consumption. AWTS must be operated and maintained in accordance to the NSW Department of Health Accreditations. They must be serviced by a suitably qualified service provider at the frequency specified in the accreditations.

7.2 On-Site Disposal Methods

A major risk may be posed to human health and the environment by OSMS from the failure of the disposal area. Failing underground disposal or the inappropriate method of irrigation of effluent is cause for concern.

Failing underground disposal areas result in untreated effluent ponding or being pumped onto the ground surface. Untreated effluent on the soil surface allows human health to be compromised through direct contact with the effluent, or via disease carrying vectors such as insects.

Failing underground disposal systems near waterways or water bodies will increase the risk of water being contaminated with effluent. This contamination will have an adverse effect on the environment and human health. Underground disposal areas can also add significantly to the recharge of groundwater. When this is coupled with recharge from over-watering of garden areas the water table can be raised sufficiently which can cause salinity to occur. This will most likely occur in areas that have a large number and high density of OSMS. Community amenity can also be affected by failures of OSMS with the creation of offensive odours, insect breeding sites and unsightly land.

The inappropriate irrigation of treated effluent, such as watering fruit/vegetable gardens or unrestricted access to irrigation areas creates a human health hazard. Inappropriate irrigation techniques may also lead to ponding of wastewater and contamination of water bodies. An exclusion method for vehicles and livestock on effluent disposal areas is required and is a condition of approval.

7.3 Approval and Installation - New OSMS

The installation and operation of any new OSMS requires an approval. An application to install such a system on a specific site shall include:

A) OSMS Application with a Soil Report by a suitably qualified and accredited Soil Consultant / Engineer detailing.
   - Site and soil assessment which addresses climate, topography, geology and vegetation aspects
   - The most appropriate system for the subject property.
   - A recommendation for the proposed configuration and location of the system within the property together with supporting calculations

B) Site plan
   - Drawn to scale 1:100 or larger
   - Showing the location of the septic tanks and disposal area with distance from all building and property boundaries

- Indicating position of all fittings and drainage lines
- Indicating distances to any environmentally sensitive area eg rivers, creeks, bores, drainage gullies, farm dams etc

C) Manufacturers Specifications with Accredited Certificates
- Full specification for the proposed system
- NSW Department of Health -Certificate of Accreditation

7.3.1 Exemptions

Owners of farmland with an area of 20 hectares or greater are permitted to construct an OSMS system and then have it inspected by Council staff or a licensed plumber to provide an installation certificate at the completion of works**.**

7.4 Approval and Installation- To Alter an Existing OSMS

An OSMS Application is required to be lodged and approval obtained prior to commencement of works.

Throughout the LGA soil types have a diverse range of characteristics. These soil characteristics strongly influence the degree to which effluent can be readily absorbed by the soil profile. Consequently this determines the extent of the required effluent disposal area and a Geotechnical Soil report will assist in determining the appropriate size.

7.4.1 Exemptions

Owners of farmland with an area of 20 hectares or greater are permitted to construct an OSMS system and then have it inspected by Council staff or a licensed plumber to provide an installation certificate at the completion of works.

8. RISK ASSESSMENT PROGRAM

Council will undertake an assessment of each site using the criteria contained in the Risk Assessment Matrix. In undertaking this assessment Council officers will be mindful of the micro environment in which the system is to be located. Additionally officers should determine the total impact the system is likely to have on the immediate environment as well as the environment of the Council area as a whole. Council officers will also assess the impact to human health.

8.1 Risk Assessment Matrix

The matrix is designed to adapt to individual situation and for that reason is not prescriptive. The matrix will enable the majority of OSMS to be assessed. This matrix takes into account the major risk factors encountered with OSMS. These factors are location in regard to a major population, proximity of water-bodies and the size of the site.

Existing OSMS are subject to inspection after the initial inspection if the system is:

- Within 100m of another occupied dwelling;
- Within 100m of a water source;
- Situated in a residential, rural/residential area;
- Multiple user system;
- Deemed to pose a significant risk to the environmental or human health;
- Receipt of a complaint.

8.2 Monitoring Program

All OSMS on farmland with an area of 20 Hectares or greater are exempt from inspection, licensing and compliance action unless council receives a complaint relating to the OSMS.

The following process is in place for all other OSMS to ensure that both existing and proposed systems are adequately monitored:

All new OSMS will be registered with Council. Council has developed and maintained a database of all existing OSMS operating within its boundaries. For new installations, upon approval it is Councils intention to inspect the work at critical stages. Soil testing by an accredited geotechnical engineer or consultant will be required to be carried out prior to the installation of new systems, to assess the soils ability to assimilate and or transpire waste water. The specifications of on-site systems will be assessed by Council to ensure they meet the minimum requirements of the relevant Australian standards.

All owners/occupiers with OSMS are to be advised in writing of the assessment of the site. This may include the need for inspection or repairs.

Inspections are to be carried out on existing sites where deemed necessary by the nominated Council Officer. On-going inspections of OSMS are to be carried out in accordance with the inspection regime determined at the time of assessment.

To ensure a consistency of approach to inspections of OSMS all inspections will utilise a common assessment checklist. An inspection charge and license fee will accompany the licence.

There will be no charge for initial license and inspection. All inspection details will be entered into Councils on-site sewage database. The database will be used to ensure that inspections of OSMS have occurred by the due date and that the results of those inspections have been lodged with council. Where inspections indicate faulty, defective or unhealthy systems the owner or occupier will be notified in writing.

Where inspections and maintenance certificates have not occurred or have not been received by the due date, owners/occupiers will be sent reminder letters. In some cases depending on the risk to public health and the environment Clean-up Notices or Orders for unhealthy conditions created by defective or failed OSMS will be issued.

9. EMERGENCY RESPONSE PROGRAM

Response procedures pertaining to single system emergencies shall be:

- inspection of site within 48 hours
- contact the owner/occupier of the property(s) affected by the emergency
- issue Council Clean up Notices or Order if necessary.

10. EDUCATIONAL PROGRAM

Council will undertake the following educational activities in relation to OSMS:

- Ensure staff are appropriately trained to assess, monitor and inspect OSMS.
- Conduct public awareness activities for households with OSMS to ensure they understand the best and most effective ways to maintain their systems. Educational resource packs will be designed and provided to residents during routine inspections.
- Utilise resources to the community such as brochures on effluent disposal system design and method, fact sheets on legislative requirements AS1547.2012 to assist in the educational process.
- Arrange workshops to update trade and service providers on legislative requirements.
- Conduct an education campaign to advise owners of OSMS located on farmland with an area of 20 Hectares or greater of their responsibilities and possible liability due to a substandard OSMS

- Maintain up to date information on Council's website.

11. FEES AND CHARGES

Council will adopt a user-pays approach to OSMS

- Charges for On-site Sewage Management Services provided to properties.
- Approved fees for services (including regulatory services).
- Fees and charges will be determined in line with Council's Revenue and Pricing Policy

12. EVALUATION

Council will maintain an on-going evaluation of the Plan. The plan will be progressively modified as a result of the evaluation. Any additional items requiring significant expenditure or impact on the public will be reported to Council.

13. CONTINUING IMPROVEMENT – REVIEW OF THE PLAN

Wagga Wagga City Council makes a commitment to the continuing improvement in the regulation and operation of OSMS. To that end, Council undertakes to review this Plan once every four years to ensure that it reflects the needs and concerns of the community as well as meeting changes to legislation.

COUNCIL DOCUMENTS LINKED TO ON-SITE SEWAGE MANAGEMENT

Other Council planning tools and documentation that impact on the implementation of this On-site Sewage Management Plan are:

- Wagga Wagga Development Control Plan 2010
- Wagga Wagga Local Environmental Plan 2010
- Wagga Wagga City Council Strategic Plan 2008 -2018
- Wagga Wagga City Council Compliance and Enforcement Policy
- Wagga Wagga City Council Revenue and Pricing Policy

City of Wagga Wagga

Glossary of Terms

Term	*Description*
Absorption	Uptake of liquid into soil by infiltration and capillary action.
Adsorption	The physical or chemical attachment of substances to the soil surface.
Aerated wastewater treatment system (AWTS)	A wastewater treatment process typically involving setting of solids and flotation of scum, oxidation and consumption of organic matter through aeration, clarification- secondary settling of solids, and disinfection of wastewater before surface irrigation.
Anaerobic digestion	Decomposition of sludge in the absence of free oxygen.
Blackwater	Human excreta and water grossly contaminated with human excreta, for example toilet wastewater. Although not strictly water-based, human excreta entering waterless composting toilets is considered as `black-water'.
Compost	The material produced by the aerobic biological decomposition of the organic constituents of a material. The material produced by the aerobic biological decomposition of the organic constituents of a material.
De-sludge	Withdrawing sludge, scum and liquid from a tank.
Disinfection	A process that destroys, inactivates or removes pathogenic microorganisms.
Domestic wastewater	Wastewater arising from household activities including wastewater from bathrooms, kitchens and laundries.
Evapo-transpiration	Removing water from soil by evaporation and from plants by transpiration.
Effluent	The liquid discharge from a wastewater treatment unit.
Greywater (sullage)	Domestic wastewater, excluding toilet waste.
Groundwater	All underground waters.
Human Excreta	Human faeces and urine.

Hydraulic loading rate	The amount of liquid applied to land over a specified time interval. Can be expressed as either a depth or a volume (with one millimetre of application equal to one litre per square metre).
Land application area	The area over which treated wastewater is applied.
Land application system	System that can consist of pumps, pipes, nozzles, or trenches designed to apply wastewater evenly over a land application area. Includes both irrigation systems and soil absorption systems.
Nutrients	Chemical elements that are essential for sustained plant or animal growth; the major nutrients essential for plant growth are nitrogen, phosphorus and potassium; in excess, nitrogen and phosphorus are potentially serious pollutants encouraging nuisance growths of algae and aquatic plants in waters and (in the case of nitrate) posing a direct human health risk.
Organic matter	Material consisting of chemical compounds based upon proteins, carbohydrates and fats that may be present in dissolved, suspended and colloidal form; it is usually measured as BOD in a liquid.
Organic matter loading	The amount of organic matter applied to land over a specified time interval. The amount of organic material in effluent is usually expressed as BOD.
Pathogens	Micro-organisms that are potentially disease-causing; these include but are not limited to bacteria, protozoa, parasites and viruses.
Percolation	The descent of water through the soil profile.
Permeability	The general term used to describe the rate of water movement through a soil.
pH	A measure of hydrogen ion concentration. It is an indicator of acidity or alkalinity and ranges from 0-14, where 0 is the most acid, 14 the most alkaline, and 7 neutral.
Potable	Water of a quality suitable for drinking and domestic use that does not deteriorate on storage and does not contain pathogenic organisms.

Precipitation	Deposits of water, either in liquid or solid form that reaches the earth from the atmosphere.
Residual chlorine	Chlorine remaining in solution after a specified period of contact between the solution and the chlorine.
Reticulated water supply	The provision by a water authority of water for potable and non-potable uses to households through a network of pipes.
Run-off	The part of the precipitation and/or irrigated effluent that becomes surface flow because it is not immediately absorbed into or detained on the soil.
Run-on	Surface water flowing on to an irrigation area as a result of run-off occurring higher up the slope.
Sanitary drainage system	An assembly of pipes, fittings and apparatus used to collect the discharge from the sanitary plumbing system and convey it to a centralised wastewater management facility.
Sanitary plumbing system	An assembly of pipes, fittings, fixtures and appliances used to collect wastewater from household drains and convey it to the sanitary drainage system.
Scum	Material that collects at the top of primary wastewater treatment tanks, including oils, grease, soaps and plastics.
Septage	Materials pumped out from septic tanks during de-sludge; contains partly decomposed scum, sludge and liquid.
Septic tank	Wastewater treatment device that provides a preliminary form of treatment for wastewater, comprising sedimentation of settle able solids, flotation of oils and fats, and anaerobic digestion of sludge.
Septic wastewater	Wastewater that contains no dissolved oxygen; it is black, has a foul odour, and contains high numbers of pathogenic organisms.
Sewage	Sewage includes any effluent of a kind referred to in paragraph (a) of the definition of *waste* in the Local Government Act.

Sewage management	Any activity carried out for the purpose of holding or processing, or re-using or otherwise disposing of, sewage or by-products of sewage.
Sludge	Mainly organic semi-solid product produced by wastewater treatment process.
Treated wastewater	Wastewater that has received treatment via a human waste treatment device.
Vectors	Insects or animals, such as flies, mosquitoes or rodents, that are attracted to the putrescibles organic material in wastewater and wastewater treatment systems, and that spread disease.
Waterbody	(a) a natural waterbody, includes: (i) a lake or lagoon either naturally formed or artificially modified, or (ii) a river or stream, whether perennial or intermittent, flowing in a natural channel with an established bed or in a natural channel artificially modifying the course of the stream, or (b) an artificial waterbody, includes any constructed waterway, canal, inlet, bay, channel, dam, pond or lake, but does not include a dry detention basin or other stormwater management construction that is only intended to hold water intermittently.

REFERENCES

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City of Wagga Wagga

Appendix 1

RISK ASSESSMENT OF OSMS SYSTEMS

☐ CONV.SEPTIC ☐ AWTS ☐ COMPOSTING ☐ OTHER ……

CONDITION	YES / NO	COMMENTS
Septic tank lid sealed		
Inspection openings sealed		
Induct vent sealed		
Pipe-work protected		
Inlet/Outlet T- Pieces		
Distribution box sealed		
Disposal area IO sealed		
Underground disposal		
Effluent discharging underground		
AWTS/ ADDITIONAL	**YES / NO**	**COMMENTS**
Non Aerosol Sprinklers		Number:
Regularly Serviced		Agent:
Disposal Area Size (m^2)		
Adequate For Usage		
Number of Bedrooms		
Number of Occupants		

REPAIRS / WORKS REQUIRED:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

LOCATION DIAGRAM:

SYSTEM FUNCTIONALITY:

☐ VERY POOR ☐ BELOW AVERAGE ☐ SATISFACTORY ☐ EXCELLENT

ENVIRONMENTAL FACTORS

FACTORS	VARIANCE		
Area Type:	Village 3	Rural Res 2	Rural 1
Land Size:	< 1 Ha 4	2-7 Ha 3	8-19 Ha 2
Land Slope:	Steep Slope 3	Gentle Slope 2	Flat 1
Soil Type:	Non Disp 3	Moderately Disp. 2	Highly Disp. 1
Water Body:	< 75 Metres 3	75 – 100 Metres 2	> 100 Metres 1

Name: _____ Date: _____

Signature: _____

SCORE: ☐

HIGH RISK: score of 13-16

MEDIUM RISK: score of 10-12

LOW RISK: score of 7-9

NEGLIGBLE: score of 5-6

OVERALL RISK RATING: SF_____+ EF_____ = Licence = ☐

OSMS RISK RATING TABLE

SYSTEM FUNCTIONALITY	ENVIRONMENTAL FACTORS	LICENSING PERIOD
VERY POOR	**HIGH RISK**	**Repair then re-inspection**
VERY POOR	**MEDIUM RISK**	**Repairs then re-insp. /1 yr**
VERY POOR	**LOW RISK**	**1 YEAR**
VERY POOR	**NEGLIGIBLE**	**1 YEAR**
BELOW AVERAGE	HIGH RISK	1 YEAR
BELOW AVERAGE	MEDIUM RISK	1-3 YEARS
BELOW AVERAGE	LOW RISK	3 YEARS
BELOW AVERAGE	NEGLIGIBLE	3-5 YEARS
SATISFACTORY	**HIGH RISK**	**1-3 YEARS**
SATISFACTORY	**MEDIUM RISK**	**3-5 YEARS**
SATISFACTORY	**LOW RISK**	**5-10 YEARS**
SATISFACTORY	**NEGLIGIBLE**	**10 YEARS/EXEMPT**
EXCELLENT	HIGH RISK	3-5 YEARS
EXCELLENT	MEDIUM RISK	5-10 YEARS
EXCELLENT	LOW RISK	EXEMPT
EXCELLENT	NEGLIGIBLE	EXEMPT