Southern Grampians
SHIRE COUNCIL

DOMESTIC WASTEWATER MANAGEMENT PLAN

Final Report

November 2006

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STRUCTURE AND CONTEXT OF PLAN

Structure

The report has four parts. These are:

Part A – General

This Part is divided into seven sections. It contains information about the objectives of the plan and its methodology; a review of legislation and policy relating to wastewater, a description of the roles and responsibilities of the various agencies involved in domestic wastewater management, the outcomes of the consultation with these agencies and wastewater contractors, an audit of domestic wastewater systems and an analysis of development activity in the Shire.

Part B – Detailed Assessment of Townships

This Part contains an audit of the individual townships in the Shire. It describes their physical characteristics and the condition of their septic tank systems. It identifies the environmental and health problems associated with septic tanks and makes recommendation about how these problems can be addressed.

Part C – Key Findings and Major Issues

Part C provides a summary of the findings of Parts A and B and a discussion on the major issues that emerge from these findings.

Part D – Management Plan

Part D contains the detailed management plan. It describes Council's domestic wastewater goals, objectives and functions and lists the key actions that Council should undertake over the next 5 to 10 years. It provides indicative costs of implementing the plan.

Context

The Domestic Wastewater Management Plan is an operational plan of Council. It is consistent with Council's goal of improving the health of the community and protecting the Shire's environment.

The Plan will inform Council's community plan, framework development plans for unsewered townships, municipal health plan, municipal strategic statement and planning scheme.

Preparation of Plan

This Plan is the product of a joint planning process by Southern Grampians Shire Council with Warrnambool City Council and Moyne Shire Council. Separate plans have been produced by Warrnambool and Moyne. The development of the plan was overseen by a steering group comprising:

- Kevin O'Brien, Manager Community and Leisure Services, Southern Grampians Shire.
- Murray Young, Environmental Health Officer Southern Grampians Shire.
- Robert Handby, Manager of Health and Regulation, Moyne Shire Council.
- Murray Murfett, Manager of Health and Amenity, Warrnambool City Council.
- Rebecca McCullough, Administration Officer, Environment and Planning, Moyne Shire Council.

Valuable input was also provided by Vanessa Lenihan from Wannon Water who attended one of the Steering Group meetings and supplied information on the Wannon Water's wastewater programs.

PART A – GENERAL

Section One – Introduction

1.1 Objectives of Plan

The objectives of the domestic wastewater management plan are to:

- Review Council's wastewater management processes and practices and suggest improvements where needed.
- Identify problems with domestic wastewater treatment and disposal in the Shire and recommend solutions.
- Identify potential development activity in the unsewered areas of the Shire and discuss the implications of this activity for Council's wastewater management programs.
- Draw the findings and recommendations from the Study together into a coherent and achievable long term strategy plan.

1.2 Key Tasks/Methodology

The key tasks of the Study and the steps taken to complete these tasks are listed below. A complete outline of the methodology is provided in Appendix A.

Key tasks

1. Document current wastewater management issues/arrangements/practices/problems in Southern Grampians Shire.
2. Conduct a detailed assessment of risk/problem areas and identify potential solutions.
3. Develop a draft management plan.
4. Develop a final plan.

Steps

- Analysis of current and impending Government legislation and policies in relation to domestic wastewater disposal.
- Description of the roles and responsibilities of the various Government Authorities in domestic wastewater management and consultation with these Authorities on the key issues the plan should address.

- Review of Council's processes with respect to the approval and installation of domestic wastewater disposal systems.
- Inspection of a sample of properties in the unsewered townships to identify the age, condition and performance of septic tank systems.
- Inspection of drains and streams in unsewered townships to monitor pollution and nuisance conditions caused by the discharge of domestic wastewater.
- Review of the current and projected levels of development activity in each township and discussion of the implications of this activity for wastewater management.
- Identification of vacant blocks (in each township) where future development from a wastewater perspective may be problematic.
- Consultation with local contractors involved in the planning and installation of domestic wastewater systems about how wastewater management processes could be improved.
- Identification of the key findings that emerge from the research and suggested actions to respond to these findings.
- Development of a draft and then final strategy plan.

Section Two – Legislation / Policy Review

2.1 Introduction

This section provides a summary of current legislation, codes of practice and government policy relating to wastewater disposal and treatment.

2.2 Current legislation / Codes of Practice / Policies

2.2.1 Legislation

Environment Protection Act 1970 Part 1XB Section 53J-O

This legislation assigns to Southern Grampians Council the responsibility for approving the installation and alteration of wastewater disposal system for properties which generate 5000 litres of wastewater or less per day. The important provisions of the legislation are as follows:

- Any person wishing to install or alter a wastewater system must apply to Council for approval. This application must include a plan and the prescribed fee. The penalty for constructing a system without a permit is 300 penalty units. The penalty for non-compliance with the permit is 120 units.
- Council is required within 42 days of receiving the application, to approve the installation (with or without modifications) or refuse the permit.
- Council may refuse the permit if the site is unsuitable and / or the area available for the treatment of disposal of effluent is not sufficient. Council must refuse the permit if the septic tank system is not of a type approved by the EPA, is contrary to State Environment Protection Policies, or does not treat all sewage and is located in a specified part of the municipality which have been declare as an all waste area.
- The power to approve the installation of septic tank systems can be delegated to Council officers. However, any refusal to issue a permit must be ratified by Council.
- Use of septic tank systems is prohibited until they have been inspected and approved by the Council. Once approved, the owners of the properties on which the systems are located are required to operate and maintain the systems in accordance with the permits and EPA

licence requirements. Penalty for using the system without a permit to use is 120 units. Penalty for failing to maintain the system as per the permit to use conditions is 10 units.

- At the end of each financial year, Council is required to lodge an annual return with the EPA which outlines the number of permits issued, systems disconnected, systems inspected and systems in use within the municipality during the year.

Health Act 1958

Section 29 of Health Act 1958 requires Council to seek to 'prevent disease, prolong life and promote public health through programs which control or prevent environmental health dangers and disease'.

The Act requires Council to remedy, as far as is reasonable, all nuisances which exist in the municipality. Nuisances are defined as activities which are dangerous to health or offensive. If Council is notified of a nuisance and fails to act, the person making the complaint can refer the matter to the court. If the court finds that the complaint has merit, it may order Council to pay the costs and expenses incurred by the complainant.

Local Government Act 1989

The Local Government Act empowers Council to enact local laws and set special charges for Council activities. Council may be able to use these powers to raise revenue for its wastewater management programs and develop local regulations for wastewater management as long as these regulations are consistent with State policy and legislation.

Water Act 1987

This Act regulates the Water Industry and describes the powers and responsibilities of Water and Sewerage Authorities. The Act contains the following provisions relating to septic tank systems:

- Councils are required to refer septic tank applications to Authorities prior to approval if the property is in a sewer district or area of interest or the Authority formally requests to see all permits. The Authority has the power to specify conditions on the permits.
- Within their sewer districts, Authorities may inspect and require owners to repair or maintain their septic tank systems. If the owners fail to undertake these works, Authorities can perform the works and recover the costs from the owners

- Within their sewer districts, Authorities are able (following the adoption of a by-law) to require regular maintenance of septic tanks, the payment of fees by the owners for works carried out by the Authorities on their septic tank systems, prohibit septic tank discharge and impose penalties for breaches of septic tank provision of the Water Act.
- Authorities can require properties in sewered areas that remain on septic tanks to connect to the sewer. If the property does not connect, the Authorities can organise the connection and recover the cost from the property owner.

The Act has particular importance to Council's wastewater strategy as it provides Water Authorities with the power to force connection to the sewer where available and/or inspect, repair and recover the cost of repair of septic tanks systems in their sewer districts.

Planning and Environment Act 1987 - Direction No 6 Rural Residential Development (October 1997 Guidelines)

This document provides guidelines for planning authorities preparing amendments to allow rural residential development. The guidelines apply to residential use of land where the lots are larger than standard residential lots (usually at least 0.4ha). The document lists the actions that Council must take in preparing any amendments. With respect to domestic wastewater management, the document indicates that the amendment can only proceed if the land has been:

- The subject of a land capability assessment, the results of which have been submitted to the EPA and the EPA has subsequently confirmed that the land will comply with the State Environment Protection Policy (Waters of Victoria).
- Found to have satisfactory physical characteristics for on-site sewage disposal or can connect to the sewer.

Catchment and Land Protection Act 1994

This Act outlines a framework for the integrated management and protection of catchments and the encouragement of community participation in the management of land and water resources. The Act provides for the designation of special water catchment areas. 5 areas have been designated in the Southern Grampians Shire – Rocklands, Yuppeckkiar Creek Reservoir (Glenthompson), Konong Wootong Reservoir (Coleraine), Sierra Range Tributaries (Dunkeld), and Little Tea Tree Creek (Hamilton). The Act provides for the development of a special area plans for these catchments.

These plans can state what land in the areas can be used and for what purpose and, therefore, can regulate residential development and prescribe land use conditions.

Guidelines have been prepared under the Act to assist planning authorities in their assessment of permit applications for developments and land-use in these special catchment areas. The guidelines focus on density of dwellings within catchments, effluent disposal and protection of waterways and water storage areas. They specify setback distances from surface waters, domestic water supply channels and water supply reservoirs. They require Council to refer development applications to the relevant catchment authorities if the properties are in the special water catchment areas.

Building Regulations 2006

Regulation 801 requires the issue of a 'report and consent' by Council before a permit is issued for any development that will involve the installation or alteration of a septic tank system. The report from Council indicates whether the block is suitable for development from a wastewater management perspective. The 'report and consent' is not required if a 'permit to install the septic tank system' has already been issued by Council.

Regulation 1003 requires the issue of 'a report and consent' by Council prior to a certificate of occupancy being provided for any building development in an unsewered area where a septic tank system has been installed. The report from Council indicates that the septic tank system has been approved and is suitable for use. The 'report and consent' is not required if a 'permit to use the septic tank system' has already been issued by Council.

2.2.2 State Environment Protection Policies

Waters of Victoria Policy 2003

This document outlines the State Government's Policy with respect to the protection of waterways. Clause 32 of the Policy sets out the requirements for managing domestic wastewater. It requires:

- Owners of unsewered premises to manage their wastewater systems in accordance with permit conditions and the Septic Tank Code of Practice 2003.

- Local Councils to assess the suitability of land that is proposed for development for its capacity to absorb wastewater on-site. This may include the conduct of a land capability assessment.
- Local Councils to ensure that wastewater systems installed in unsewered areas are consistent with EPA guidelines and the Septic Tank Code of Practice 2003.
- Local Councils to identify properties in unsewered areas which are discharging off-site or contaminating ground water.
- Local Councils to develop wastewater management plans to address problems relating to wastewater disposal and ensure the proper design and management of future systems.
- Local Councils to ensure that land which cannot absorb wastewater on-site is either not developed or, if developed, is connected to a sewerage system.

Groundwaters of Victoria Policy 1997

This document outlines the State Government's Policy with respect to the protection of ground water. The goal of the Policy is to protect beneficial uses of groundwater throughout Victoria such as potable water supply and primary contact recreation (swimming). The policy specifies that all practicable measures must be taken to prevent the pollution of groundwater and all planning schemes must be consistent with the policy.

2.2.3 EPA Codes of Practice

Septic Tanks Domestic Wastewater Management 1996

This document is essentially the manual for the design, construction, selection and installation of septic tank systems. It contains information on treatment and disposal options, the permit process, and the design and construction of septic tanks, effluent disposal systems and off-site disposal systems. Although replaced by the 2003 Code, Councils still extensively use the document when designing their local guidelines for septic tank installations.

Septic Tanks Domestic Wastewater Management 2003

This document describes the measures that should be taken to ensure that domestic wastewater is treated and disposed of in a manner which minimises health and environmental risks. The Code sets out requirements for:

- The consideration of on-site wastewater management with the land development process.
- Designing on-site wastewater treatment systems.
- Installing on-site wastewater treatment systems.
- Operating and maintaining on-site wastewater treatment systems.

The Code provides information and material about:

- The legislative and policy framework for domestic wastewater management.
- The roles and responsibilities of State and Local Government, land assessors, building surveyors, installers of systems and householders operating the systems.
- Wastewater treatment and disposal options.
- Maintenance of treatment systems.
- The planning design and approval process for systems.
- The assessment of land capability.
- Council domestic wastewater management plans.

This Code, together with the 1996 Code, the Australian Standards for Domestic Wastewater Management and the Guidelines for Aerated On-site Wastewater Treatment Systems have informed Southern Grampians Council's guidelines for domestic wastewater management.

Small Wastewater Treatment Plants 1997

This Code provides design and operational guidelines for treatment plants which serve less than 500 people.

2.2.4 Australian Standards and Other Requirements

There are a number of Australian standards which have relevance to the construction and design of wastewater disposal systems. These are as follows:

- AS/NZS 1547:2000 – On-site Domestic Wastewater Management.
- AS1546 – On-site Domestic Wastewater Treatment Systems.
- AS/NZS 1546.2:2000 – On-site Domestic Wastewater Treatment, Part 2 (Waterless Composting Toilets).

- AS/NZS 1546.3:2000 – On-site Domestic Wastewater Treatment, Part 3 (Aerated Wastewater Treatment Systems).
- AS139 – Safety Signs for the Occupational Environment.
- AS2698 – Plastic Pipes and Fittings for Rural Applications.
- AS3000 – Wiring Rules, Electrical Installations, Buildings, Structures and Premises.
- AS3500 – Plumbing and Drainage Code.

The most important of these documents is AS/NZS 1547:2000. This comprehensive standard provides information on the following:

- The design, performance, operation, and installation of wastewater disposal systems.
- On-site evaluation processes and selection of systems.
- Education and training related to wastewater management.

2.2.5 EPA Policies, Guidelines and Other Relevant Publications

Re-use Options for Household Wastewater 812.1 – February 2006

This document identifies the household wastewater re-use practices that may be acceptable, outlines the approvals that are required to allow re-use, identifies the risks that are associated with re-using wastewater and suggest measures to minimise these risks.

Land Capability Assessment for On-site Domestic Wastewater Management 746 - March 2003

These guidelines expand on the section in the Code of Practice about land assessment for effluent disposal. Their aim is to ensure that appropriate attention is given to on-site wastewater management at the rezoning and subdivision stages of the planning process as well as the installation phase of the treatment system. The guidelines have significant relevance for Council planners and EHOs who are assessing the suitability of unsewered land for development.

The guidelines recommend that a comprehensive land capability assessment be undertaken prior to a permit being granted for any proposed new residential subdivision. This land assessment should identify the capability of areas for use as effluent fields and appropriate management measures for

areas where on-site wastewater treatment and disposal systems are feasible. The guidelines provide material on the following:

- The overall land assessment procedure.
- The information that could be included in an assessment.
- The issues that should be covered by the assessment.
- A management program which shows how constraints and associated risks can be addressed.
- A rating system for land which indicates suitability for development.

The guidelines recommend that Council require the owner/developer applying for residential subdivision/rezoning to provide Council with the following information:

- The land features of the site and surrounds.
- The type of wastewater treatment system proposed.
- The land capability assessment for the specific development including the potential impact to adjacent lands.
- The management program which will ensure ongoing environmental sustainability and protection of human health.
- Where the wastewater envelopes are to be located on the lots.

The guidelines recommend that this information should be produced by land capability assessors on behalf of the owner/developer.

EPA Guidelines for Domestic Wastewater Management - No 629

These guidelines outline the responsibility of Council and building surveyors with respect to the approval and installation of domestic wastewater management systems and the submission by Council of annual returns. The guidelines specify that:

- Within subdivisions created after 15/3/1988, development of allotments can only proceed if Council is satisfied that wastewater can be treated and contained on-site.
- Within subdivisions created before 15/3/1988, development of allotments can only proceed if Council is satisfied that wastewater can be treated and contained on-site or if this cannot be achieved, the wastewater is properly treated and can be discharged off-site in a manner

which is consistent with the SEPP. To ascertain this consistency, the Council must apply the following assessment.

- Which stream (which includes table drains) will receive the effluent and what is its minimum flow rate?
- What is the current status of the stream in relation to the objectives of the relevant SEPP? If the streamwater quality exceeds policy objectives, no new waste discharge should be permitted.
- If the quality of the stream meets the SEPP objectives, will the input from the septic tank system cause the objectives to be exceeded?
- What is the quality of the effluent produced by the septic tank system?
- Will the input cause the nutrient levels of the receiving waters to exceed those set out in the relevant EPA guideline?
- Will the requirements of the regional water catchment strategy be met?
- Has provision been made for ongoing maintenance and monitoring of the septic tank system to ensure good performance?

- For developments on existing unsewered built allotments (such as extensions, renovations etc), Council should determine the modifications to the septic tank system on a case by case basis and may include off-site discharge.
- With respect to the installation of septic tank systems, Building Surveyors must obtain the 'consent and report' from the Council at two stages in the building approval process - before issuing the permit and before issuing an occupancy permit.

Guidelines for Aerated On-site Wastewater Treatment Systems 2002

This document outlines the design criteria, construction requirements and performance objectives that Aerated Wastewater Treatment systems must achieve to gain approval for use in domestic and small commercial situations. The document provides information on approval procedures, systems design, test criteria and renewal of application.

The sections of the document that are of particular interest to Council are the permit conditions and the requirements for testing. Council is expected to ensure that the systems are installed, operated maintained and tested as per the permit conditions. These conditions require the householders to ensure that the systems are regularly checked by maintenance contractors and the effluent produced by the systems is regularly tested. The results of these tests and checks are to be provided to Council.

EPA's Certificate of Approval System 748 – 2001

This bulletin explains how manufacturers of on-site wastewater treatment systems obtain approval for their package plants, systems or processes.

Approving Household On-site Wastewater Systems 747 - 2001

This bulletin provides information to householders on their responsibilities when installing a septic tank system.

2.2.6 Council's Planning Scheme

The Shire's Planning Scheme outlines the permit and application requirements and decision guidelines for the rezoning and subdivision of land and the approval requirements for the construction of dwellings. With respect to domestic wastewater disposal and subdivisions/rezonings, the Scheme provides as follows:

- Permits are required for new subdivisions and proposed rezonings.
- For land zoned or proposed to be rezoned residential, all allotments must be serviced by sewer.
- For land or proposed to be rezoned township and low density residential, allotments must be serviced by sewer or be capable of treating wastewater on-site. Permit applications must include a land capability assessment. A minimum lot size is not specified for the township zone. 0.4ha is specified for the low density residential zone.
- For land zoned rural living and rural, the allotments must be serviced by sewer or capable of treating and retaining all waste on-site. Land capability assessments are not automatically required. Minimum lot sizes of 8ha and 40ha respectively are specified. Smaller lot sizes down to 0.4ha can be approved in certain circumstances.

With respect to the erection of dwellings, the Scheme provides as follows:

- In areas zoned township, permits to build are required for lots that are less than 500m2 and/or are subject to an overlay that requires a permit.
- In areas zoned low density residential, permits to build are required for a second dwelling on any lot and/or for lots that have planning overlays which require a permit.

- In areas zoned rural living, permits to build are required for a second dwelling on any lot, for lots that are less than 8ha and for lots that have planning overlays which require a permit.
- For lots zoned rural, permits to build are required for a second dwelling on any lot, for lots that are less than 40ha and for lots that have planning overlays which require a permit.
- In all other cases, permits are not required.

In addition to the zonings, there are four planning overlays provisions which need to be considered when assessing development applications from a wastewater perspective. These are environment significance, vegetation protection, land subject to inundation and wildfire management

2.3 Impending changes to legislation, codes and policies

There are no impending changes to the regulatory environment or codes of practice for septic tanks systems

2.4 Summary and Implications

The implications of the review of legislation and policy are as follows:

- There is some uncertainty about Council's legal power to require owners of septic tank systems to modify their septic tank systems. Council has the power to order property owners to repair failing systems e.g. water surfacing from effluent lines. It also has the power to order property owners to repair or even modify their systems if the systems are causing a nuisance e.g. an effluent discharge which is causing an offensive odour. However, it appears that Council does not have the power to require a person to modify a system which is not causing a nuisance and is performing as per the conditions of its original permit e.g. an approved split system with grey water is discharging off-site but not in a manner which causes offence. If this is an accurate interpretation of Council's powers, it may diminish Council's ability in some circumstances to deal with off-site discharges of grey water.
- Council may be able to strengthen its power to deal with 'approved' off-site discharges of grey water. The Local Government Act gives Council the power to enact local laws to regulate wastewater management as long as these laws are consistent with State policy and legislation. State policy currently recommends that all wastewater be contained on-site. Therefore, Council may be able enact regulations which it can apply to properties with split systems.

- The Local Government Act gives Council the power to introduce a special charge on homeowners to fund any 'genuine function if the function benefits the persons being charged'. Therefore, Council may be able to raise a charge to fund a domestic wastewater management program if it can demonstrate the 'genuineness' and benefits of the program.
- Council is required to remedy nuisance conditions 'as far as reasonable' which exist in its municipality. Therefore, Council must act if it is aware of a nuisance condition being caused by a septic tank system. However, the qualification 'as far as reasonable' provides Council with some leeway in determining what to do. In some situations, the solution may be difficult and costly or there may be no practical solution. Council may be able to say that it cannot resolve the problem.
- Water Authorities have the power to inspect septic tank systems and order owners to repair and/or properly maintain their systems within their sewer districts. They also have the power to carry out works on septic systems and impose charges for these works (if a by-law is created). These provisions appear to give Wannon Water in its sewer district more effective powers than Council to facilitate the repair of septic systems.
- Building Surveyors cannot legally issue a certificate of occupancy until a permit to use has been issued. It is apparent that some owners are occupying homes without a permit to use. They may be doing this with or without a certificate of occupancy. This need to be addressed.
- Council's planning scheme promotes good wastewater management practices. It requires all properties to be able to contain their wastewater on-site, specifies minimum lot sizes which are based on allowing sufficient land for wastewater disposal, provides for rigorous scrutiny of proposals in environmentally sensitive areas (near watercourses, in water catchment zones etc), requires land capability assessments in some circumstances and provides for referrals to key agencies for their input.

Section Three - Responsibilities of Authorities

3.1 Introduction

This section outlines the roles and responsibilities of the various authorities involved in domestic wastewater management.

3.2 Authorities

3.2.1 Environment Protection Authority

The EPA's responsibilities in relation to domestic wastewater disposal are as follows:

- Formulating Government policies and legislation in relation to wastewater disposal.
- Developing and reviewing the Code of Practice for domestic wastewater systems.
- Monitoring the performance of local Councils in carrying out their functions as approval authorities and acting on problems arising from the operation of septic tank systems.
- Approving the design of domestic wastewater treatment systems.
- Maintaining a database on septic tank activity in the State.
- Advocating for the provision of sewerage in unsewered areas when considered necessary.

3.2.2 Department of Sustainability and Environment (DSE)

The Department of Sustainability and Environment is responsible for the integrated management of Victoria's natural resource base, including land identification, resource development and utilisation and the protection, conservation and management of Victoria's natural environment.

The Department has ultimate responsibility for groundwater, waterways, land and coastal management and the operation of the Western Coastal Board, Glenelg Hopkins Catchment Authority and Wannon Water.

3.2.3 Southern Grampians Shire Council

Council has responsibility for the following functions relating to the treatment and disposal of wastewater:

- Considering wastewater management matters when approving rezonings, residential subdivisions and building construction and site plans.
- Approving septic tank installations and alterations.
- Supervising installations and issuing permits to use.
- Ensuring that septic tank systems are functioning properly.
- Ensuring that any nuisance conditions arising from septic tank systems are abated.
- Submitting an annual report to the EPA on septic tank activity eg. number installed, number disconnected etc.
- Ensuring that septic tank sludge is collected and disposed of in an appropriate manner.

3.2.4 Glenelg Hopkins Catchment Management Authority

The role of the Catchment Authority is to protect and restore land and water resources, encourage the sustainable development of natural resource based industries and conserve the natural heritage. The Authority's region spans from Ballarat to the South Australian border and from the southern coast to Harrow and Ararat in the north and includes Southern Grampians Shire. The responsibilities of the Catchment Management Authority are as follows:

- Improving the condition of waterways and maintaining them in a healthy condition to meet community expectations.
- Minimising flood risks.
- Reducing the sedimentation of waterways, lakes and water storages.
- Reducing the incidence of algal blooms in waterways.

The Authority is a referral agency for planning applications for properties that are located in water catchment areas. The Agency considers wastewater management issues when reviewing these applications and can require conditions to be included in the permit.

3.2.5 Wannon Water

Wannon Water is responsible for the provision of reticulated water and sewerage in south-west Victoria. Its region includes Southern Grampians Shire. Wannon Water is a referral agency for planning applications for properties that are located in water catchment areas and sewer districts. The Authority considers wastewater management issues when reviewing these applications and can require conditions to be included in the permit.

3.2.6 Western Coastal Board

The Western Coastal Board is responsible for the protection and conservation of the Western Victorian coastline. It oversees strategic coastal and marine planning issues for the region which extends from Breamlea, near Torquay to the South Australian border. It is required to develop a regional coastal strategy and implement the recommendations of the State and National coastal protection policies and strategies. One of its critical roles is to ensure that the coastline in its region is not damaged by the discharge of wastewater (note Southern Grampians does not have a coastline but its regional partners in the development of this plan, Moyne and Warrnambool have extensive coastlines).

3.2.7 Municipal Association of Victoria

The Association is the peak body for local government in Victoria. In recent years, it has become active in wastewater management and is coordinating the Country Towns Water Supply and Sewerage Program with DSE.

3.3 Implications

The review of the role of Council and other agencies indicates that many local and regional agencies have an important role to play in wastewater management. Council needs to work closely with these bodies and keep them fully informed of any actions it is taking which may have relevance to their operations.

Section Four – Wastewater Management Processes

4.1 Introduction

The purpose of the section is to review the Council's town planning referral and septic tank permit and approval processes.

4.2 Planning Applications

4.2.1 Processes

The Environmental Health Officer (EHO) provides advice to the Planning Unit on domestic wastewater management with respect to the following planning/permit matters:

- Subdivision plans for unsewered land where there is environmental sensitivity (watercourses etc), the topography may be unfavourable or where the proposed blocks are less than 4000sqms.
- Applications to rezone land from low density residential to township.
- Excision of dwellings on land zoned rural or rural living.
- Approval of the construction or extension of dwellings on unsewered blocks less than 4000sqms.

The processes involved in the referral of these matters to the EHO are as follows:

New Subdivisions

All relevant applications for subdivision referred to the EHO. The referral/approval process is as follows:

- The property owner seeks advice from the Planning Unit on the potential to subdivide his/her land. The Planning Unit advises the property owner that the allotments must have the capability to treat and dispose of wastewater on-site. If considered necessary to confirm this capability, the owner is advised that a land capability assessment must be submitted with

these applications. If clarification is required on these matters, the EHO may be requested to be involved in the discussions.

- The property owner submits an application. The application will include a plan showing the proposed lot layout and the location of building and disposal envelopes. The application is referred to the EHO for comment about the ability of the sites to contain wastewater on-site. The land capability assessments and subsequent site inspections may indicate some instances where disposal is problematic. In these cases, the proposed lot layout may have to be modified.
- For applications where modifications have been requested, the property owners will submit amended plans. This information will be referred to the EHO for further comment. The Officer will assess the information and make a final determination. This determination will be communicated to the Planning Unit.

Rezoning of land

Land owners wishing to rezone their land have to demonstrate that the land, if it was rezoned, would be able to contain wastewater on-site. The process is the same as described above for new subdivisions.

Excision of dwellings

Owners of land zoned rural and rural living can seek approval to excise their dwellings and curtilage from the larger property. In considering the application, Council has to be satisfied that each lot has the long term capability of containing wastewater on-site. Owners are required to submit plans which are referred to the EHO. In some cases, land capability assessments are also required. The site is inspected to ensure that the septic tank system is contained within the excised land. In some cases, there may be a need to upgrade the septic tank system or provide a new system. These requirements become subdivision conditions.

Erection or extension of a dwelling on land where a planning permit is required

Planning permits are required for the erection of new dwellings or extension of dwellings in unsewered areas in the following circumstances:

- On blocks smaller than 500sqm.
- On all lots zoned rural living.

- For a second dwelling on rural or rural living lots.
- On all land where there are planning overlays which require a permit for the erection of dwellings.

With respect to domestic wastewater management, the approval process for these permits is as follows:

- The owner submits the permit application indicating the proposed method of wastewater treatment and disposal. Where relevant, the application is forwarded to the EHO. If the application is straight forward - that is, there is no doubt that the property can treat and contain wastewater on-site, the EHO will indicate his approval for development to occur.
- If the proposal is complicated or there are concerns about the ability to treat and dispose of effluent on-site, the applicant may be asked to provide a land capability assessment to support the application. If it is apparent from the LCA and or an inspection of the site that wastewater cannot be treated and retained on-site, the EHO may recommend that the planning application be modified or refused.

Erection or extension of a dwelling on land where a planning permit is not required

Building permits for dwelling extensions on unsewered land where planning permits are not required could, in theory, be issued without reference to the EHO. If this occurred, there is a risk that the developments may not be suitable in terms of wastewater disposal. The Building Act requires Building Surveyors to contact Council's EHO to ensure that a septic tank system is feasible for the property before issuing a building permit. This ensures that all new dwellings are referred to the EHO. Extensions however may still be missed, particularly when no plumbing is involved. The Building Surveyor may not consider that the works have implications for the septic tank system and not refer the proposal to the EHO. The extension may however encroach on the septic tank system.

4.2.2 Number of referrals and suitability of process

About 5 planning applications are referred to the EHO each year. Council's planning and health staff indicated that the referral process worked effectively. Their only concern about the planning process is the possibility that a private Building Surveyor may issue a building permit for a dwelling or extension without reference to the EHO. This subsequently may complicate the issuing of a septic permit if there is insufficient land for disposal or may compromise the existing system if the extension is located over the tank or drains.

4.3 Septic Tank Approvals

4.3.1 Approval and Inspection Process

The approval and inspection process for septic tank systems is as follows:

- Building Surveyor submits a 'report and consent' form to the EHO requesting advice on whether the block is suitable for septic tank system. EHO responds to Building Surveyor within 7 days advising the suitability of the block and possibly indicating what types of system could be installed.
- Prior to installing the system, the owner (or the drainer/plumber on behalf of the owner) lodges an application to install the septic system. The application includes an indicative plan of the proposed system and the permit fee.
- The EHO assesses the application against Council's permit guidelines. He considers legislative, planning and State Environment Protection Policy requirements and site characteristics. An inspection of the site is conducted. If the EHO has concerns about the site, a land capability assessment may be requested.
- The permit with or without conditions is approved. Although refusal to install a septic system will generally occur at the planning permit stage there are instances where a refusal may occur at the time of installing the septic system. Council ratifies the refusal by Council's EHO.
- Installation commences. Inspection occurs during installation - normally just prior to backfilling. .
- A final inspection is conducted to ensure that the system has been installed properly. This inspection is conducted when the EHO is notified that installation has been completed.
- A copy of the Plumbers Guarantee for plumbing works upstream of the septic tank or package plant is submitted to the EHO. An amended septic tank plan is also submitted if the location and components of the final system vary from the original plan.
- Following the final inspection and submission of further material, an approval to use the system is issued. This approval may contain conditions.
- Information on the inspections and copies of the permits – to install and use - are entered on the Health Manager database.

4.3.2 Number of systems

Table 1 provides data on the number of permits that have issued since July 2001. The data indicates that the number of systems approved each year is around 50 with on-site absorption being most common form of treatment.

Table 1 – Septic tanks permits by system type

Year	Septic tank / Trenches	Treatment Plant	Septic Tank / Sand Filter	Compost	Worm farms	Total
2001/2	15	15	0	0	0	**30**
2002/3	30	20	0	0	0	**50**
2003/4	29	10	0	0	1	**40**
2004/5	41	10	0	0	1	**51**
2005/6	38	10	0	0	0	**48**
Total	**153**	**65**	**0**	**0**	**2**	**219**

4.3.3 Problems with processes

The EHO was asked to indicate whether it had any concerns with the approval processes planning or approval/inspection processes. His only concern was that some owners are using their systems without obtaining 'permits to use' and that Building Surveyors could be issuing certificates of occupancy without sighting the 'permit to use'.

4.3.4 Record Systems

System

Council's records system for septic tank systems is as follows:

- Hard copy files are kept of all applications, plans and permits and inspections notes. The old files where they exist are archived in Council's file storage facility at Coleraine. Recently finalised and active files are kept in the EHO's office.
- Electronic files with similar material (not the plans at this stage) are kept on the Council's property database. Electronic records date back to 2003.

Comments on record systems

The EHO was asked to comment on its level of satisfaction with Council septic tank records system. The EHO indicated that while he would like to have hard files for all Council's septic tanks permits (even very old permits), this was not possible because many had been lost during the amalgamation process or earlier. Instead, Council was concentrating its effort on ensuring that all recent and future files were accurate and kept in both hard copy and electronically. With respect to the electronic copies, the EHO indicated that he was keen for all the material contained in the hard copies plans, inspection notes, permit condition letters etc to be eventually stored in the electronic system. This was technically possible now but would require considerable data entry time.

In the absence of the older files, the EHO was keen to at least, map all the septic tank systems in Southern Grampians, if possible using GPS. Again it was recognised that this would be time intensive task.

4.4 Education and Monitoring Activities

No education activities are currently being carried other than attempting to meet owners of new systems to explain how their septic tank systems work and should be maintained.

No regular and routine monitoring activities are performed. Instead systems are inspected as a result of a complaint, as part of special investigations undertaken in response to environmental or public health concerns or State Government programs, or as part of building a case for the sewering of specific townships.

The permit conditions of treatment plans are not being rigorously enforced. Records are being kept of the maintenance reports and test results that are submitted. However, installers/owners that do not submit reports or test results are not being followed up and often the reports that are submitted are not being read because of doubts about their quality.

4.5 Summary

The key findings of the review of wastewater management practices are as follows:

- The processing of planning applications from a wastewater management perspective is handled effectively. All relevant applications are referred to the EHO and where appropriate

to the relevant Authorities. The capacity of the proposed sites to treat and dispose of wastewater in a manner which is safe to public health and the environment is given paramount importance. Permits are refused, modified or approved with conditions if there are problems with wastewater disposal. The process (planning and approval) though had not been formally documented. This should occur.

- There is a concern that house extension projects could occur without consideration of wastewater implications. Planning permits are not required for some home extensions and Council relies on Building Surveyors and homeowners to consider the impact the extension may have on the septic tanks systems. They may not do this and the septic system could be compromised.
- The septic tank approval and inspections process works effectively and efficiently and to the satisfaction of installers and owners.
- Council is operating an electronic database of septic tank permits together with hard files. The database is linked to Council's main property database which allows for the effective integration and recovery of information. The database appears to be working well.
- The database has the facility to store inspection notes and scanned maps of septic tank plans. This information is currently not being kept in the database but Council intends to do this in the near future.
- Some old septic tank files cannot be easily accessed. Some files are missing and those that are available are archived at file storage facilities in Coleraine.
- Council does not undertake regular and routine monitoring of septic tanks. It inspects systems as a result of complaints, if asked by the homeowner or as part of special investigations. Council is not following up on owners of treatment plants who fail to submit maintenance reports or conduct effluent tests.
- Council does not conduct education activities other than attempting to meet with owners on-site during or post the installation of their septic tank systems to explain how the systems work and should be maintained.
- The EHO assesses around 5 planning referrals each year and approves 50 septic tank permits. The most common form of treatment is all waste on-site absorption

Section Five – Audit of Wastewater Systems

5.1 Introduction

This section provides information on the findings of the recently conducted audit of septic tank systems in the Shire.

5.2 Unsewered Townships

Reticulated sewerage is provided to Hamilton, Coleraine and Dunkeld. The remainder of the Shire is unsewered. It is estimated that there are around 5000 properties in the Shire on septic systems. Of these, an estimated 1000 are in the unsewered townships.

5.3 Types of Septic Tank Systems

Early disposal methods were split systems with drop toilets, wastewater wells and a pan closet collection with grey water discharging to the surface.

These were superseded in the 1930s by split septic systems where black water (toilet waste) was treated and retained on-site normally in an 1800 litre tank and 20 metres of drain and grey water (kitchen, bathroom and laundry waste) was contained on-site or discharged off-site to a stormwater drainage system, land or surface water.

Split systems were superseded in the early 1980s by all waste septic systems with effluent retained on-site in absorption drains or treated and then retained on-site or discharged off-site. Normally one 3200 litre or two 1800 litre tanks in series were installed. The effluent then discharged into 60m of reln drain or 90m of slotted PVC. Properties that could not retain waste on-site were permitted to install an all waste sand filters of approximately 18 sqms or package treatment plants with an off-site disposal to an approved point of discharge.

Off-site discharge ceased in 1999 due to EPA guidelines and changes to Statewide planning controls. All new systems now retain wastewater on-site.

5.4 Township Audits

5.4.1 Audit / Inspection process

The audit process involved the following steps:

- A walk around each town to note topographical features, property sizes, age of houses and other buildings, properties that were discharging off-site, locations where wastewater was pooling, offensive conditions etc.
- Discussions with Council's environmental health officer (EHO) about the performance and condition of septic tanks systems in each township. The EHO was asked for:
  - His general views about the suitability of each town for the disposal of wastewater (topography, soil type, climate, proximity of surface water, depth of ground water etc).
  - Specific information about the numbers of complaints Council had received about septic tank systems in each town.
  - His knowledge of any failing systems or nuisance conditions / environmental damage caused by the disposal of wastewater.
- Inspections of a sample number of properties in each township to note the:
  - Size of the block and the type of building.
  - Type of wastewater system and the method of treatment and disposal of effluent.
  - Condition and age of the system.
  - The owner's awareness of where the system was located and how it operates.
  - The date when the tank was last desludged.
- Discussions with local contractors (plumbers, liquid waste removal contractors) about the problems occurring with systems in each township and the regularity of tanks being pumped out etc.

5.4.2 Audit findings

General

The positive findings of the audit were as follows:

- A surprisingly high proportion of owners knew the location of their septic tank systems but a minority indicated that they had desludged their tanks in the past five years. Many admitted

that the letter advising of the audit visits prompted them to find their tanks and in some cases to desludge.

- A high proportion of owners were aware of the importance of desludging their tanks, not building over the septic system, not disturbing the effluent drains and not planting inappropriate vegetation.
- Considering the age of the houses in many of the townships, a relatively low proportion had failing WC effluent drains and a high proportion of owners indicated that they had little problem with their systems.
- A number of properties were successfully re-using their grey water through controlled irrigation systems.

The negative findings of the audit were as follows:

- The majority of systems over 25 years old. Many were split systems with WC effluent being retained on-site and grey water being discharged off-site.
- Failing septic tank effluent drains (not large number).
- Septic tanks system with broken lids, vents, distribution pits etc (including some Council properties).
- Systems that are being constantly driven over or parked on by vehicles.
- Systems that are virtually inaccessible and as a result have not been desludged for many years.
- Septic tank systems being modified without reference to Council. In some cases, the modifications have been successful; in others they have compounded the problem. In some instances, the modifications breach the code of practice with respect to setback distances from boundaries etc.
- Houses, outbuildings, access roads etc being constructed without reference to Council and in a manner which has compromised the septic tank systems on the block.
- WC effluent drains suspected to be tapped into grey water/stormwater drains.
- Reasonably large blocks (1 to 2 acres) directly piping their grey water onto neighbouring properties without attempting to treat or contain on-site.
- Reasonably large blocks piping their grey water to an indiscriminate spots on their properties and allowing the water to drain in an uncontrolled manner.

- Houses, which are set to the front of large blocks and where fall is attainable to the rear of the property, discharging their grey water virtually untreated to table drains (it should be noted however that the original permits approved this type of disposal).
- Small blocks discharging grey water off-site with no capacity to contain on-site.
- Blocks piping their grey water into gullies and other depressions which drain to creeks.
- Grey water ponding in table and Council barrel drains and causing offensive odours.
- Table and Council barrel drains discharging grey water to rivers and streams. It should be noted that due to the dry conditions, the water in many table drains is dissipating before reaching the rivers and streams. In winter, the discharge may reach the streams but would be diluted.
- Many treatment plants not being checked on a quarterly basis. Almost all are not having their effluent sampled on an annual basis.

Priority townships

A detailed outline of the audit findings for each town is provided in Part B. A summary is as follows:

- Balmoral
  - Predominant method of disposal is split systems.
  - Ageing systems with evidence of failing WC effluent lines.
  - Many houses which fall to street discharging grey water into table and barrel drains.
  - Most houses with fall to rear seem to be able to contain wastewater on-site.
  - Discharge from barrel drain flowing into creek.
  - Inadequate system at hotel. Failing system at public hall and toilet block.
  - Systems on larger blocks working satisfactorily.
- Cavendish
  - Predominant method of disposal is split systems.
  - Ageing systems with evidence of failing WC effluent lines.
  - Many houses which fall to street discharging grey water into table and barrel drains.
  - Some houses which fall to rear and with spare land are discharging grey water into neighbouring properties.
  - Evidence of some properties piping their grey water across roads and discharging on neighbouring properties by agreement with other property owner.

  - Properties in Main St (including a busy general store/cafe) discharging to street drain which outfalls to Wannon River.
  - Systems on larger blocks working satisfactorily.
- Glenthompson
  - Predominant method of disposal is split systems.
  - Ageing systems with evidence of failing WC effluent lines.
  - Many houses which fall to street discharging grey water into table and barrel drains. Offensive odours from grey water discharge on the main highway.
- Tarrington
  - Predominant method of disposal is split systems.
  - Properties on high south side of main road near shops discharging grey water to barrel drain. Offensive odour emanating from drain.
  - Properties of north side of main road east of the football ground discharging grey water into barrel drain. Drain outfalls into a table drain which connects to creek. Grey water currently dissipates in drain.
  - Evidence of failing WC effluent lines.
  - Some people on large blocks which slope to rear discharging wastewater onto neighbouring properties or piping to spots on their own properties and allowing to discharge above ground.
- Branxholme
  - Predominant method of disposal is split systems.
  - Ageing systems with evidence of failing WC effluent lines.
  - Many houses which fall to street discharging grey water into and barrel drain which outfalls to Creek.
  - Systems on most larger blocks working satisfactorily.
- Penshurst
  - Predominant method of disposal is split systems. No evidence of failing systems.
  - Some grey water discharge off-site. Only minor and quickly drains.
  - At most houses all water – WC, stormwater and grey water - is contained on-site.
  - Probable contamination of groundwater.

5.5 Summary

The key findings of the audit of wastewater systems are as follows:

- The common form of treatment is split systems with WC waste and grey water being treated separately and then contained on the block or, reasonably frequently for grey water, being piped off-site.
- An estimated 15% of all the unsewered properties in the townships are discharging wastewater off-site (if Penshurst was disregarded, the figure would be much higher). Glenthompson has the highest proportion of properties followed by Branxholme and Balmoral. Penshurst has very few properties which discharge off-site.
- Some of the properties inspected had defective systems. The most common defect was inaccessible systems followed by damaged tanks/pits/pipes/effluent drains.
- About 88% of systems in the townships were more than 24 years old. 25 years is considered to be the typical lifespan of septic systems. Therefore many systems have reached or will soon reach the end of their serviceability.
- Some properties located near watercourses are discharging wastewater off-site. This discharge would be contaminating the watercourses. This needs further investigation.

Section Six - Development Activity

6.1 Introduction

This section identifies the development activity that is occurring or could occur in the unsewered townships and discusses their implications for wastewater management. This section should be read in conjunction with Part B – Detailed Assessment of Townships.

6.2 Development Activity

6.2.1 Recent and potential development activity

Very little development activity has occurred during the past decade in the unsewered townships. Most of the activity in unsewered areas has occurred on the fringes of Hamilton and Dunkeld. However, there is potential for some of the towns particularly those close to Hamilton (Branxholme, Penshurst, Cavendish) to grow in future years as housing becomes less affordable in Hamilton.

6.2.2 Problematic sites

Each unsewered township has a number of subdivided blocks which are zoned township or low density residential. Many of these subdivisions were approved prior to the requirement that all blocks be capable of treating and containing their wastewater on-site. As a consequence, there are lots which because of their size, slope, soil type and/or proximity to water bodies etc may be difficult to develop. There are also a number of developed blocks that could be unsuitable for further building (extensions, decks, pools etc) or redevelopment (building demolition and upgrade) because of similar factors.

It would be beneficial for Council to identify and map these potentially problematic blocks. This information would be useful when dealing with enquiries from current owners or prospective purchasers about the suitability of properties for development or redevelopment. It may also help to speed up the planning referral process. The following undeveloped and developed blocks should be mapped in each township:

- Blocks that are smaller than 1000m2 or ¼ of acre.
- Blocks that have a slope greater than 20%.

- Blocks that are within the prescribed setback distances from watercourses.
- Blocks that are subject to planning overlays that have implications for domestic wastewater treatment eg land subject to inundation.

Other information such as soil types, vegetation and important environmental features should also be included in the maps.

Council may wish to go further with the mapping process and identify those properties that **cannot** be developed for wastewater reasons (if any). It may then wish to propose solutions (if feasible) to allow development such as consolidating blocks or encouraging the installation of common treatment plants.

Potential rezonings and subdivisions

Property owners of residential land can in certain circumstances seek to further subdivide their land. Owners of low density residential land could apply to rezone their land to township and then subdivide. They could also apply to subdivide without seeking rezoning. From a wastewater disposal perspective, Council would have to be satisfied that the blocks created by the subdivisions have the capacity to treat their wastewater on-site. For land zoned and remaining low density, a minimum lot size of 0.4ha is stipulated. No minimum size is stipulated for township blocks.

6.3 Implications for wastewater management

The implications of the analysis of development activity for wastewater management are as follows;

- Little development activity is occurring in the unsewered townships. There is potential for development – vacant blocks, opportunities for subdivision etc – but currently there is little interest.
- This situation may change over next decade as the high prices of houses in Hamilton and Dunkeld cause people to seek housing in nearby townships. Although Council will only allow development where it is confident wastewater can be treated on-site, the addition of new houses in these townships intensifies overall development and adds to the hydraulic load on the soil and the potential for contamination of nearby water bodies. Council should

monitor development levels and if feasible and needed, give consideration to other forms of treatment other than individual septic tank systems.

- There are blocks in the unsewered townships that could be unsuitable for development. Consideration needs to be given to identifying and mapping these blocks and proposing innovative solutions which may allow development to occur.

Section Seven – Consultation Outcomes

7.1 Introduction

This section provides the outcomes of the consultation with the local key stakeholders directly involved or having an interest in domestic wastewater management. These stakeholders include Council staff, the agencies listed in Section Three of this Part and local contractors such as private building surveyors and town planners, plumbers, treatment plant maintenance contractors and septic tank waste removal contractors.

7.2 Outcomes

7.2.1 Council

Council staff were asked to indicate what special issues the plan should address. Their comments were as follows:

- Making recommendations about effectively educating householders on the management of their systems.
- Investigating the feasibility of Wannon Water's proposal to establish a regional wastewater management program.
- Investigating the feasibility of requiring householders to more frequently desludge their septic tank systems.
- Examining the legality and feasibility of Council introducing a special charge to fund a comprehensive wastewater management program.
- Identifying what activities should be included the wastewater management plan.
- Identifying what monitoring activities Council should undertake with respect to treatment plans.
- Reviewing the land capability assessment process and making recommendations on how it could be improved.
- Investigating the best method of informing prospective purchasers of unsewered properties of the ramifications of the block being unsewered.
- Investigating the need for and practicality of introducing consistent wastewater management processes across South West Victorian municipalities.

- Ensuring that occupancy certificates are not issued prior to septic tank permits to use being issued.
- Investigating the feasibility of introducing a comprehensive mapping system for septic tank systems using GPS.

7.2.2 Key agencies

The key agencies were asked to identify what special issues the plan should address. Their comments were as follows:

Wannon Water

- Introducing effective mechanisms for controlling the unauthorised and illegal dumping of septic tank waste and predicting the amount of waste that will be disposed of at the Authority's receival facilities.
- Improving the performance of wastewater systems, particularly in water catchment areas.
- Investigating the feasibility of introducing a regional wastewater management program.
- Ensuring that the resources allocated to wastewater management across the region are used effectively and efficiently.
- Improving relationships between the organizations that are directly involved in or have an interest in wastewater management.
- Ensuring that Council consults with Wannon Water prior to rezoning land to ensure its suitability for the provision of sewerage services.

Glenelg Hopkins Catchment Management Authority

- Increasing the levels of wastewater re-use across the region.
- Ensuring that all new developments contain their wastewater on-site.
- Encouraging, where feasible, owners of houses that currently discharge off-site to contain wastewater on their properties.
- Placing special emphasis on ensuring that septic tanks systems close to waterways are well maintained.

EPA

- Ensuring that all wastewater is kept within the title boundaries and does not pollute the environment.
- Enforcing EPA guidelines.

DSE

- Enforcing EPA guidelines.
- Ensuring septic systems do not pollute rivers and ground water supplies.

7.2.3 Local contractors involved in wastewater industry

Local contractors involved in wastewater activities were asked to comment on the wastewater management practices of Council and to make suggestions about how these practices could be improved. They were also asked to generally comment on any matters of concern they had about wastewater management. The contractors included private town planners, companies undertaking land capability assessments, building surveyors, treatment plant manufacturers, plumbers, maintenance contractors and septic tank waste removal contractors. Their comments were as follows:

Private Town Planner, Building Surveyors and Plumbers

- All were reasonably satisfied with the level of service and quality of advice they get from Council. They described the Council's EHO as competent, cooperative and enthusiastic and certainly growing in knowledge of septic tank systems.
- The private town planner expressed some misgivings about the competency of some companies/individuals undertaking LCAs. He indicated his support for an accreditation process for assessors. He added that assessors should be required to have an extensive knowledge of treatment systems not just soil science.

Land capability assessor

- The assessor was highly satisfied with the assistance, advice and cooperation he gets from Council.
- He expressed the following concerns about wastewater management guidelines and processes:
  - The literal and inflexible application of the Code of Practice could prevent the development of a significant number of properties along the Coast which in his opinion were highly developable. The setback distances table in the Code should be able to be flexibly applied and take into consideration soil profile and type of treatment system. As examples, if a treatment plant can guarantee a better water quality than 20/30, say 10/10, then setback distances should be able to be reduced. If a block has sandy soils to a considerable depth, the setback distances should also be able to be reduced as there would be little horizontal drainage.
  - The note in the Code relating to setback distances which enables distances to be reduced if Council has a septic tank compliance program which enforces 20/30 quality. His concern is that this provision could prohibit development because Council does not have a compliance program.
  - Development applications for properties near surface or ground waters being refused because of concerns about nutrient loads. He argued that the nutrient loads of treatment plant and sandfilter effluent were in many cases lower that than those found in stormwater runoff.
  - The absence of a mechanism of appeal, other than VCAT, for homeowners/developers who are not permitted to develop their properties because of wastewater concerns. He recommended that some form of local appeals process should be introduced.
  - Property owners being requested to provide LCAs where it is obvious the sites have the capacity to treat wastewater on-site. He indicated that LCAs were expensive and should not be requested it not necessary.
  - The wide variation in the quality of LCAs provided. Some assessors provide detailed reports covering all the areas listed in the guidelines. Some provide limited information. Councils seem to be prepared to accept both.
  - The wide variation in the qualifications, knowledge and experience of assessors. Assessors should be required to have prescribed capacities. An accreditation process should be considered.

Treatment Plant Installer and Maintenance Contractor

- The contractors were satisfied with the level of cooperation they get from Council. One installer was concerned that owners were being discouraged from installing treatment plants in situations where their use would be suitable. He argued that as the systems are approved and Council should not discourage their use.
- The contractors admitted concerns about the long term performance of the treatment plant systems – not because they do not work but that owners will not maintain them properly. A maintenance contractor advised that he rarely gets called back to maintain systems after the first year of operation. He said that he randomly checks systems and often finds that they are malfunctioning and that the effluent is not being chlorinated etc. He recommended that the permit requirements that systems are regularly checked be strictly enforced.

Septic tank waste removal contractors

- The waste removal contractors confirmed that very few people have their tanks routinely emptied. Nearly every time they are called to a house the septic tank is malfunctioning. They said that property owners should be required to more regularly empty their tanks. The frequency would depend on the type of system, the number of tanks, and the size of the household. 5 years was suggested as the average time.
- The plumbers also stressed the importance of desludging. They indicated that more than 95% of the repair jobs they have done on septic tanks could have been avoided if the tanks were more regularly desludged.

7.3 Implications

A summary of the key outcomes of the consultation with stakeholders and the implications of these outcomes for wastewater management in Southern Grampians Shire are as follows:

- The issues raised by the key stakeholders should be considered and, where feasible, addressed by this study.
- South West Water's (now Wannon Water) proposal of introducing a regional wastewater monitoring program should be critically discussed.

- Contractors involved in the approval of building permits and the installation and maintenance of septic tank systems are highly satisfied with the service they get from Council. It is important that this level of service continues.
- The views expressed by the land capability assessor should be considered and where appropriate referred to the MAV and EPA.
- The concerns about the quality and scope of information provided in land capability assessments and the qualifications (or lack of) of assessors should also be referred to the EPA.
- It is apparent that some treatment plants are not maintained properly and are probably discharging poor quality effluent. Council needs to determine whether it wants to introduce a more rigorous monitoring regime for these systems.
- It is also apparent that very few people routinely have their septic tank desludged and normally wait until a problem occurs. Local plumbers confirm that most of the problems they encounter with blocked effluent drains can be attributed to tanks not being desludged. Consideration needs to be given to introducing a compulsory desludging program.
- There is a concern that septic tank waste is being dumped illegally. This heightens the need for a centrally controlled desludging program.
- The agencies responsible for environment protection, potable water supply and river health want the incidence of off-site discharge to be reduced. Council needs to give consideration to introducing a strategy to achieve this objective.

PART B – ASSESSMENT OF TOWNSHIPS

Section Eight – Detailed Township Assessments

8.1 Introduction

This section contains a detailed assessment of the unsewered townships in the Shire from a wastewater management perspective. The assessment provides the following information for each township:

- Township characteristics:
  - Location.
  - Soil types.
  - Surface and groundwater.
  - Built environment.
- Wastewater disposal:
  - Methods of treatment and disposal.
  - Defective systems.
  - Age of systems.
- Development activity:
  - Recent activity and potential activity.
  - Restrictions on development.

The assessment concludes with a summary of findings and recommended actions for each township. The information provided in the assessments has been derived from the Country Towns Water Supply and Sewerage Program Report, information provided by Council staff and the audit/investigations conducted for this Study.

It should be noted that townships with more than 40 developed lots and/or obvious wastewater problems have been assessed in some detail. Those with less than 40 lots and/or no significant wastewater problems have only been briefly assessed.

Map 1 – Unsewered townships investigated in the Study

8.2 Balmoral

1. Township characteristics

- Balmoral is about 60kms north-west Hamilton at the junction of four significant roads originating from Coleraine, Hamilton, Natimuk and Harrow. The township has an estimated population of 210.
- The terrain is relatively flat with a gentle slope from the ridgeline along Stirling St in generally an easterly direction to the Glenelg River and a westerly direction to Mathers Creek.
- The predominant soil type is porous sandy loam which is weakly structured - a category 2 soil which is free draining.

2. Properties and Built Environment

- There are 136 properties in Balmoral. 70 have been developed.
- Most of the roads in the core township area are sealed and some have kerb and channel. Underground drains are provided in the central area of the town with outfalls in Bell St and Glendenning St.
- The town has a reticulated water system.

3. Development Activity

- The main township has predominantly 2000sqms to 4000sqms blocks. 18 blocks in the township zone are considerably larger than 4000sqms and could be further subdivided (note some are near Mathers Creek which may impact on the number of blocks that can be created in the subdivision). North of the core township area is a large low density residential area. There is scope to further subdivide this area.
- There has been little development interest in the town over the past 10 years. However, the construction of the nearby mine may generate interest in future years.

4. Outcomes of Audit

Properties

- There are 66 vacant properties in the residential zoned areas of the town. 3 of these blocks are around 1000sqms and may be problematic for development.
- Density rates do not exceed 10 dwellings per ha in any part of the township.
- 20 properties zoned residential are within 60 metres of the river and creek.
- No properties have more than a 20% slope.

Septic tank systems

- The majority (estimated 90%) of systems are split systems with WC waste treated on-site in septic tanks/absorption drains and grey water effluent contained on-site or discharged off-site into neighbouring properties, kerb and channel and table drains.
- The majority of systems (estimated 90%) are aged more than 25 years.
- At least 23 properties are discharging grey water off-site into street drains. Most of these properties are in Glendenning, Fairburn, Bell and Simpson Streets.
- No houses had failing WC systems at the time of audit. Some owners indicated that they had experienced problems in the past and had replaced or extended their drains.
- Very few septic tanks had been desludged over the past 7 years.
- The septic system at the public hall and public toilets was failing.
- Hotel system was failing but is about to be upgraded.
- Properties which slope to the rear appear to be able to contain wastewater on-site.
- Some houses are reusing grey water to irrigate, gardens lawns etc Causing odour at one property.

Environmental/Public Health concerns

- Wastewater lying in table drain in Bell St
- Potential contamination of river and creek.
- Visible weed growth caused by excessive nutrient loadings in table drains.

5. Summary of Findings

- Township is not currently experiencing growth. However, it has development potential due to the construction of nearby mine.
- Township has over 50 vacant blocks in the core township that are readily developable. 18 blocks in the township zone have the potential to be further subdivided. 6 of these could be difficult to develop on wastewater grounds because of their size and proximity to the creek and river.
- The topography and soil types are suitable for septic systems.
- The majority of septic tank systems are old. The predominant method of disposal is split systems. Some WC effluent lines had failed in the past. Properties with fall to the rear appear to be able to contain grey water on-site.
- Properties which fall to the front are mainly discharging off-site. In most cases, houses are set to front and grey water could only be contained on-site if pumped to rear.
- Systems on larger blocks appear to be working well.
- Potential contamination of the river and creek by wastewater.

6. Conclusion and Recommendations

- Sewering of township cannot be justified on the basis of population, current or potential development activity or the extent of problems associated with wastewater disposal.
- Some problems with wastewater disposal do exist and will increase in the future as the septic tank systems continue to age. These problems should be addressed. Suggested actions are:
  - Education kit to all householders on proper maintenance of systems.
  - Advice to owners on what action to take when systems fail.
  - Investigation of grey water discharges and advice to owners on appropriate action – reuse, improved treatment, absorption on-site.
  - Consideration of some form of treatment on the drainage outfalls in Glendenning and Bells Sts.
  - Regular desludging of tanks and monitoring of systems in core township area.
  - Regular clearing of culverts and table drains.
- Conduct regular water sampling at the following locations:
  - Mathers Creek upstream and downstream of township.
  - Wannon River Upstream and downstream of township.

8.3 Cavendish

1. Township characteristics

- Cavendish is located on the Henty Highway, 25kms to the north Hamilton. It has a population of 120.
- The town is dissected by the Wannon River. Its terrain is undulating with generally a gentle slope in a northerly and southerly direction to the river.
- The predominant soil type is moderate to heavy stony clay – a category 5 soil which poorly drains.

2. Properties and Built Environment

- There are 190 properties in Cavendish. Approximately 50 properties have been developed. It is estimated that 90% of these properties were developed prior to 1980.
- The main road and most of the local roads are sealed. The roads have mainly table drains with culverts under the roads. There are some small lengths of underground drains
- The town has a reticulated water system.

3. Development Activity

- The core township area has predominantly 1500-2000sqm blocks. 16 blocks are larger than 8000sqms and could, in theory, be further subdivided.
- There has been little development activity in Cavendish over the past 10 years. It has development potential - there are a number of vacant blocks and potential for further subdivision. Interest may grow as house prices in Hamilton become less affordable.

4. Outcomes of Audit

Properties

- There are over 70 vacant blocks in the township zoned areas of the town. 4 of these blocks are around 1000sqms and may be problematic for development.
- Density rates do not exceed 10 dwellings per ha in any part of the township.

- 10 properties zoned residential are within 60 metres of the river.
- No properties have more than a 20% slope.

Septic tank systems

- The majority (estimated 90%) of systems are split systems with WC waste treated on-site in septic tanks/absorption drains and grey water effluent contained on-site or discharged off-site into neighbouring properties, kerb and channel and table drains.
- The majority of systems estimated (90%) are aged more than 25 years.
- 14 properties are discharging grey water off-site into street drains.
- 4 houses had evidence of failing systems (only minor). Advice was given on how to rectify
- Very few septic tanks had been desludged over the past 7 years.
- General store is discharging to kerb and channel. It combined with discharge from houses on main road is piped to river bank.
- Some houses are reusing grey water.
- Some properties are piping grey water off their blocks to neighbouring vacant land. All have sufficient land to contain on-site.

Environmental/Public Health concerns

- Grey water discharge to kerb and channel and table drains.
- Drain carrying grey water is outfalling to Wannon River
- Grey water discharge to neighbouring properties.

5. Summary of findings

- Township is not currently experiencing growth. However, it has development potential due to its proximity to Hamilton.
- There are a number of vacant blocks in the core township. 4 of these could be difficult to develop on wastewater grounds because of their size and 2 because of their proximity to the river. 16 blocks in the township zone have the potential to be further subdivided. .
- The topography is suitable for septic systems. Soil types are not ideal.
- The majority of septic tank systems are old. The predominant method of disposal is split systems. Some WC effluent lines are failing.

- Properties with fall to the rear appear to be able to contain grey water on-site. A few properties which have ample land are piping grey water onto neighbouring properties.
- Some properties which fall to the front are mainly discharging off-site. In most cases, houses are set to the front and grey water could only be contained on-site if pumped to rear.
- Systems on larger blocks appear to be working well.
- Potential contamination of the river by wastewater.

6. Recommendations

- Sewering of township cannot be justified on the basis of population, current or potential development activity or interest or the extent of problems associated with wastewater disposal.
- Some problems with wastewater disposal do exist and should be addressed. Actions should focus on the proper maintenance and operation of existing systems, reducing the number of properties that discharge off-site of it not feasible improving the quality of the water discharged off-site. Suggested actions are:
  - Education kit to all householders on proper maintenance of systems.
  - Advice to owners with failing systems about what action to take.
  - Consideration of treating drainage outfall from pipe which collects wastewater from general store and neighbouring properties.
  - Investigation of other grey water discharges and advice to owners on appropriate action – reuse, improved treatment, absorption on-site.
  - Requiring owners who discharge onto neighbouring properties to contain on-site
  - Regular desludging of tanks and grease traps.
- Conduct regular water sampling at the following locations:
  - Drainage outfall near Wannon River.
  - Wannon River upstream and downstream of township.

8.4 Glenthompson

1. Township characteristics

- Glenthompson is located on the Glenelg Highway, 50kms west of Hamilton. The township has an estimated population of 150.
- Glenthompson's terrain is sightly undulating. The section north of the highway drains in a south westerly direction to the highway. The southern section drains to a gully which then flows to a waterhole near the highway.
- The predominant soil type is shallow topsoil over a medium to heavy clay – a category 6 soil which poorly drains**.**

2. Properties and Built Environment

- There are 160 properties in the core township area. 65 houses and commercial premises have been developed.
- The main road and most of the local roads in the township area are sealed. A significant portion of the roads have kerb and channel, particularly in the southern section of the town.
- The town has a reticulated water system.

3. Development Activity

- The core township area has a mix of 1000sqm, 2000sqm and larger blocks. 3 blocks on the south east edge of the township could be further subdivided.
- There has been little development activity in the town over the past 10 years. The town has little development potential.

4. Outcomes of Audit

Properties

- There are at around 90 vacant properties in the town. Most of the blocks are larger than 1000 sqms and are suitable for development from a wastewater perspective.
- Density rates do not exceed 10 dwellings per ha in any parts of the township.
- No properties have more than a 20% slope.

Septic tank systems

- The majority of systems are split systems aged more than 25 years (estimated 90%).
- At least 15 properties are discharging grey water off-site. These properties are located on the Main Highway, Bell St, Henry St, Scott St, McLennan St, Walter St and Park St.
- There was no evidence of failing WC systems
- Some houses are re-using grey water.

Environmental/Public Health concerns

- Grey water discharge to kerb and channel and table drains.
- Odour from kerb and channel on Main Hwy.

5. Summary of findings

- The township is not experiencing growth and there is little development interest in the town.
- There are at least 90 vacant blocks in the township. These blocks are developable from a wastewater perspective.
- Topography is suitable for septic systems. Soil types are not ideal.
- The majority of septic tank systems are old and some are failing. 25**%** of properties discharge wastewater off-site.
- Systems on blocks which drain to the rear appear to be working well.
- Properties which fall to the front are mainly discharging off-site. In most cases, houses are set to front and grey water could only be contained on-site if pumped to rear.
- Discharge of grey water by properties on Glenelg Hwy is causing an offensive odour.

6. Recommendations

- Sewering of township cannot be justified on the basis of population, current or potential development activity or interest or the extent of problems associated with wastewater disposal.
- Problems with wastewater disposal do exist and should be addressed. Actions should focus on the proper maintenance and operation of existing systems, reducing the number of

properties that discharge off-site or, if not, feasible improving the quality of the water discharged off-site. Suggested actions are:

- Education kit to all householders on proper maintenance of systems.
- Advice to owners with failing systems about what action to take.
- Investigation of grey water discharges and advice to owners on appropriate action – reuse, improved treatment, absorption on-site.
- Regular desludging of tanks and grease traps
- Regular clearing of kerb and channels
- Regular clearing of table drains.

- Regular water sampling of the waterhole to monitor pollution levels.

8.5 Tarrington

1. Township characteristics

- Tarrington is located on the Hamilton Hwy, 7 kms west of Hamilton. The township has an estimated population of 60.
- The terrain is relatively flat with a gentle slope in all directions from the highest point in the centre of the town (the location of the restaurant).
- The predominant soil type is a moderate loamy clay - a category 4 soil which has moderate drainage.
- There are no surface waters other than some shallow gullies on the edge of the township which could carry water in wet weather.

2. Properties and Built Environment

- There are 80 properties in Tarrington. 7 properties are 2000sqms or less. The remainder are larger that 2000sqms. 28 properties have been developed.
- The highway through the town is sealed. The local roads are largely unsealed. Underground drains are provided on the highway. The local roads have table drains.
- The town has a reticulated water system.

3. Development Activity

- The main township experiences slow but constant development activity because of its proximity to Hamilton and availability of vacant land. It is anticipated that this rate of development will continue in the future.

4. Outcomes of Audit

Properties

- There are 23 vacant properties in the township zoned areas of the town. These blocks are larger than 1500sqms and are suitable for development. There are 7 properties that can be further subdivided.
- Density rates do not exceed 10 dwellings per ha in any part of the township.

- No properties have more than a 20% slope.
- No properties are located near watercourses.

Septic tank systems

- Tarrington has a mix of septic systems. The majority (estimated 55%) of systems are split systems with WC waste treated on-site in septic tanks/absorption drains and grey water effluent contained on-site or discharged off-site into neighbouring properties, kerb and channel and table drains. The remainder are mostly all waste on-site absorption systems.
- 12 properties are discharging grey water off-site into table and barrel drains. Most of these properties are on the highway east of the restaurant
- No houses had failing WC systems at the time of audit. Some owners indicated that they had experienced problems in the past and had replaced and extended their drains. Some had attempted to rectify the problem in an inappropriate manner.
- Properties which slope to the rear appear to be able to contain wastewater on-site.
- Some houses on large blocks were piping their grey water onto neighbouring properties
- Some houses are re-using grey water in a controlled manner. Others are letting water flow indiscriminately over grassed areas.

Environmental/Public Health concerns

- Grey water discharge to barrel drain on south side of Highway causing offensive odours.
- Barrel drains discharging into table drains. Water ponding in drains
- Visible weed growth caused by excessive nutrient loadings in table drains.

5. Summary of Findings

- Township is experiencing modest growth due to its proximity to Hamilton.
- Township has 23 vacant blocks that are readily developable. 7 blocks in the township zone have the potential to be further subdivided.
- The topography is suitable for septic systems. Soil type is moderately suitable.
- There is a mix of septic tank systems. Some WC effluent lines had failed in the past and owners have tried to fix. Some of these repairs have been inappropriate e.g. absorption drains running down the hill, drains overflowing into garden area.

- Properties with fall to the rear appear to be able to contain grey water on-site.
- Properties which fall to the front are mainly discharging off-site. In most cases, houses are set to front and grey water could only be contained on-site if pumped to rear.
- Systems on larger blocks appear to be working well.
- Odour is emanating from barrel drain.
- Wastewater is ponding at the outfall of the barrel drain.

6. Conclusion and Recommendations

- Sewering of township cannot be justified on the basis of population, current or potential development activity or the extent of problems associated with wastewater disposal.
- Problems with wastewater disposal do exist and will increase in the future as the systems continue to age. These problems should be addressed. Suggested actions are:
  - Education kit to all householders on proper maintenance of systems.
  - Advice to owners on what action to take when systems fail. .
  - Investigation of grey water discharges and advice to owners on appropriate action – reuse, improved treatment, absorption on-site, particularly houses discharging onto barrel drains.
  - Regular desludging of tanks.
  - Regular clearing of barrel drains.
  - Regular clearing of table drains.

8.6 Branxholme

1. Township characteristics

- Branxholme is located on the Henty Hwy, 30 kms south west of Hamilton. The township has an estimated population of 110.
- The core township area is built on side of small hill. The township drains in an easterly direction to the Arrandoovong Creek.
- The predominant soil type is black expansive clays with stony outcrops – a category 6 soil which drains poorly.

2. Properties and Built Environment

- There are 132 properties in Branxholme. 2 blocks are smaller than 1000sqm. The remainder are 1500sqms and larger. 45 have been developed.
- The highway and most of the local roads are sealed. Most have kerb and channel. Some have barrel drains.
- The town does not have a reticulated water system and relies on bore and tank water.

3. Development Activity

- The township has experienced little development activity over the past 10 years but it is anticipated that interest will grow moderately in future years as housing becomes less affordable in Hamilton.

4. Outcomes of Audit

Properties

- There are over 80 vacant properties in the township. Most are developable from a wastewater perspective. Some because of the size of the block, slope and soil type may be problematic for development.
- There are 2 larger parcels on the south west corner of the town that could be further subdivided.
- Density rates do not exceed 10 dwellings per ha in any part of the township.

- Most properties have a reasonable fall. However, no properties have more than a 20% slope.
- No properties are located within 60m of the creek.

Septic tank systems

- The significant majority (estimated 90%) of systems are split systems with WC waste treated on-site in septic tanks/absorption drains and grey water effluent contained on-site or discharged off-site into neighbouring properties, kerb and channel and table drains.
- 16 properties are discharging grey water off-site into table and barrel drains.
- 3 houses had failing WC systems at the time of audit. Some other owners indicated that they had experienced problems in the past and had replaced and extended their drains.
- Properties which slope to the rear appeared to be able to contain wastewater on-site.
- Some houses are reusing grey water in a controlled manner.

Environmental/Public Health concerns

- Failing WC effluent drains
- Grey water discharged to kerb and channel and barrel drains.
- Barrel drain discharges to culvert which discharges to creek. Water samples confirm significant contamination of water in culvert.
- Visible weed growth in table drains caused by excessive nutrient loadings. Some odour from table drains.

5. Summary of Findings

- Township has potential for growth because of cheap land and proximity to Hamilton.
- The topography is suitable for septic systems. Soil type is not ideal.
- Most septic tank systems are old. Some are failing.
- Properties with fall to the rear appear to be able to contain grey water on-site.
- Properties which fall to the front are mainly discharging off-site. In most cases, houses are set to front and grey water could only be contained on-site if pumped to rear.
- Systems on larger blocks appear to be working well.
- Grey water discharge is causing offensive conditions and possible contamination of creek.

6. Conclusion and Recommendations

- Sewering of township cannot be justified on the basis of population or current or potential development activity. Problems with wastewater disposal do exist and will increase in the future as the systems continue to age. These problems should be addressed. Suggested actions are:
  - Education kit to all householders on proper maintenance of systems.
  - Advice to owners on what action to take when systems fail.
  - Investigation of grey water discharges and advice to owners on appropriate action – reuse, improved treatment, absorption on-site, particularly houses discharging onto barrel drains.
  - Consideration of treating effluent at the culvert.
  - Regular desludging of tanks.
  - Regular clearing of barrel drains.
  - Regular clearing of table drains.

8.7 Penshurst

1. Township characteristics

- Penshurst is located at the junction of the Hamilton Highway and the Penshurst-Warrnambool Rd., 30 kms south west of Hamilton. The township has an estimated population of 490.
- Penshurst's terrain is relatively flat. It has no significant watercourses. There are a number of shallow drainage depressions.
- The township has two types of soils. The predominant soil type is a volcanic sandy loam which is free draining – a category 1 or 2 soil. The lower sections of the town have heavy clay – category 5 or 6 soil which drains poorly.

2. Properties and Built Environment

- There are 467 properties in the core township area. 160 houses and commercial premises have been developed.
- The main road and most of the local roads in the core township area are sealed. Some have kerb and channel. Most of the local roads have table drains.
- The town has a reticulated water supply.

3. Development Activity

- There has been modest development activity in the town over the past 10 years. This may increase in the future as housing prices rise in Hamilton.

4. Outcomes of Audit

Properties

- There are more than 300 vacant blocks in the township. All blocks are larger than 1000 sqms and are suitable for development from a wastewater perspective.
- Density rates are close to 10 dwellings per ha in central part on the township.
- No properties have more than a 20% slope or located near a watercourse.

Septic tank systems

- The majority of systems are split systems aged more than 25 years (estimated 90%).
- Only 2 properties were identified as discharging grey water off-site. The remainder appear to successfully contain their wastewater on-site.
- There was no evidence of failing WC systems
- Some houses are re-using grey water.

Environmental/Public Health concerns

- Possible contamination of ground water and local bores (note: the town bore had to be relocated due to contamination of the ground water with septic effluent. Wannon Water predicts that there would be some private groundwater bores (including shire bores) that are being used for watering processes which could be contaminated.

5. Summary of findings

- The township is not experiencing growth and there is little development interest in the town.
- There are around 300 vacant blocks in the core township area. These blocks are developable from a wastewater perspective.
- Topography is suitable for septic systems. Predominant soil type drains well but there is concern about contamination of the ground water.
- The majority of septic tank systems are old but appear to be working well.
- It is likely that the groundwater and local bores are being contaminated by septic tank effluent.

6. Recommendations

- Sewering of township cannot be justified on the basis of population, current or potential development activity or interest or the extent of problems associated with wastewater disposal.
- Although few problems exist now, the systems are ageing and problems could occur in the future. Actions should focus on the proper maintenance and operation of existing systems and what steps to take if systems fail. Suggested actions are:

  - Education kit to all householders on proper maintenance of systems.
  - Advice to owners with failing systems about what action to take.
  - Regular desludging of tanks and grease traps.
- Regular water sampling of the waterhole to monitor pollution levels
- Developing a register of the location of ground water bores and what they are used for. Advising the users of the bores that the water may be contaminated and recommending that they take care. Sampling the water to confirm contamination

PART C – KEY FINDINGS / MAJOR ISSUES

Section Nine - Key Findings/Major Issues

9.1 Introduction

This section summarises the key research findings of the study and outlines and discusses the major issues that emerge form these findings.

9.2 Key Findings

A summary of the key findings is as follows:

9.2.1 Review of legislation, codes of practice and policy

- There is some uncertainty about Council's legal power to require owners of septic tank systems to modify their septic tank systems. Council has the power to order property owners to repair failing systems e.g. water surfacing from effluent lines. It also has the power to order property owners to repair or even modify their systems if the systems are causing a nuisance e.g. an effluent discharge which is causing an offensive odour. However, it appears that Council does not have the power to require a person to modify a system which is not causing a nuisance and is performing as per the conditions of its original permit e.g. an approved split system with grey water discharging off-site but not in a manner which causes offence. If this is an accurate interpretation of Council's powers, it may diminish Council's ability in some circumstances to deal with off-site discharges of grey water.
- Council may be able to strengthen its power to deal with 'approved' off-site discharges of grey water. The Local Government Act gives Council the power to enact local laws to regulate wastewater management issues as long as these laws are consistent with state policy and legislation. State policy currently recommends that all wastewater be contained on-site. Therefore, Council may be able enact local laws which it can apply to properties with split systems.
- The Local Government Act gives Council the power to introduce a special charge on homeowners to fund any 'genuine function if the function benefits the persons being charged'. Therefore, Council may be able to raise a charge to fund a domestic wastewater management program if it can demonstrate the 'genuineness' and benefits of the program.

- Council is required to remedy nuisance conditions 'as far as reasonable' which exist in its municipality. Therefore, Council must act if it is aware of a nuisance condition being caused by a septic tank system. However, the qualification 'as far as reasonable' provides Council with some leeway in determining what to do. In some situations, the solution may be difficult and costly or there may be no practical solution. Council may be able to say that it cannot resolve the problem.
- Within its sewer district, Wannon Water has the power to inspect septic tank systems and order owners to repair and/or properly maintain their systems. They also have the power to carry out works on septic systems and impose charges for these works (if a by-law is created). These provisions appear to give Wannon Water more effective powers than Council to facilitate the repair of septic systems in its sewer district.
- Building Surveyors cannot legally issue a certificate of occupancy until a permit to use has been issued. It is apparent that people are occupying houses without a permit to use. They may be doing this with or without a certificate of occupancy. This need to be addressed.
- Council's planning schemes promotes good wastewater management practices. It requires all properties to be able to contain their wastewater on-site, it specifies minimum lot sizes which are based on allowing sufficient land for wastewater disposal, it provides for rigorous scrutiny of proposals in environmentally sensitive areas (near watercourses, in water catchment zones, it requires land capability assessments in some circumstances and it provides for referrals to key agencies for their input.

9.2.2 Review of Roles and Responsibilities

- The review of the roles of Council and other agencies indicates that other local and regional agencies have an important role to play in the wastewater management. Council needs to work closely with these bodies and keep them fully informed of any actions it is taking with respect to wastewater management which may have relevance to their operations.

9.2.3 Review of Planning, Permit and Approval Processes

- The processing of planning applications from a wastewater management perspective is handled effectively. All relevant applications are referred to the EHO and the appropriate Authorities. The capacity of the proposed sites to treat and dispose of wastewater in a manner which is safe to public health and the environment is given paramount importance.

Permits are refused, modified or approved with conditions if there are problems with wastewater disposal. The process, though, has not been documented. This should occur as a matter of priority

- There is a concern that house extension projects could occur without consideration of wastewater implications. Planning permits are not required for some home extensions and Council relies on Building Surveyors and homeowners to consider the impact the extension may have on the septic tanks systems. They may not do this and the septic system could be compromised.
- The septic tank approval and inspections processes at Council work effectively and efficiently and to the satisfaction of installers and owners.

9.2.4 Review of records systems, monitoring activities and education programs

- Council is operating an electronic database of septic tank permits together with hard files. The database is linked to Council's main property database which allows for the effective integration and recovery of information. The database appears to be working well.
- The database has the facility to store inspection notes and scanned maps of septic tank plans. This information is currently not being kept in the databases but Council intends to do this in the near future.
- Some old septic tank files cannot be easily accessed. Some files are missing and those that are available are archived at file storage facilities in Coleraine.
- Council does not undertake regular and routine monitoring of septic tanks. It inspects systems as a result of complaints, if asked by the homeowner or as part of special investigations. Council is not following up on owners of treatment plants who fail to submit maintenance reports or conduct effluent tests.
- Council does not conduct education activities other than attempting to meet with owners on-site during or post the installation of their septic tank systems to explain how the systems work and should be maintained.
- The EHO assesses 5 planning referrals each year and approves 50 septic tank systems. The majority of systems are all waste on-site absorption systems.

9.2.5 Key stakeholders' views on issues the plan should address

- The issues raised by the key stakeholders should be considered and, where feasible, addressed by this Plan.
- South West Water's (now Wannon Water) proposal of introducing a regional wastewater monitoring program should be critically discussed.
- Contractors involved in the approval of building permits and the installation and maintenance of septic tank systems are highly satisfied with the service they get from Council. It is important that this level of service continues.
- The concerns expressed by the land capability assessor about the Code of Practice should be considered and where appropriate referred to the MAV and EPA.
- The concerns about the quality and scope of information provided in land capability assessments and the qualifications (or lack of) of assessors should also be referred to the EPA.
- It is apparent that some treatment plants are not maintained properly and could be discharging poor quality effluent. Council should introduce a more rigorous monitoring regime for these systems.
- It is also apparent that very few people routinely have their septic tanks desludged and normally wait until a problem occurs. Local plumbers confirm that most of the problems they encounter with blocked effluent drains can be attributed to tanks not being desludged. Consideration needs to be given to introducing a compulsory desludging program.
- There is a concern that septic tank waste is being dumped illegally. This heightens the need for a centrally controlled desludging program.
- The agencies responsible for environment protection, potable water supply and river health want the incidence of off-site discharge to be reduced. Council needs to give consideration to introducing a strategy to achieve this objective.

9.2.6 Audit Findings

General

- All the towns have suitable topographies for septic tanks systems. All are reasonably flat with the exception of Branxholme which has a reasonable slope, but well below 20%.

- The soils type in Branxholme, Cavendish and Glenthompson do not drain well. Balmoral and Tarrington have moderate draining soils and Penshurst has free draining soil.
- The most common form of treatment is split systems (at least 85%) with WC waste and grey water being treated separately and then contained on the property or, sometimes in the case of grey water, being piped off-site.
- About 15 % of all the properties in the unsewered townships are discharging wastewater off-site. Balmoral and Glenthompson have the highest proportion of properties.
- Some of the properties inspected had defective systems. The most common defect was inaccessible systems followed by damaged tanks/pits/pipes/effluent drains.
- About 88% of systems in the townships are more than 24 years old – a very high proportion. 25 years is considered to be the typical lifespan of septic systems. Therefore many systems have reached or will soon reach the end of their serviceability.
- Some properties located near watercourses are discharging wastewater off-site. This discharge may be contaminating the watercourses.
- A surprisingly high proportion of owners knew the location of their septic tank systems but very few indicated that they had desludged their tanks in the past five years.
- A significant proportion of owners were aware of the importance of desludging their tanks, not building over the septic system, not disturbing the effluent drains and not planting inappropriate vegetation.
- A number of properties were successfully re-using their grey water through controlled irrigation systems.
- Some septic tanks system with broken lids, vents, distribution pits etc (including some Council properties) and/or that are being constantly driven over or parked on by vehicles.
- Some septic tank systems have been modified without reference to Council. Some extensions to houses have been constructed over septic tanks systems without reference to Council.
- Grey water ponding in table and Council barrel drains and causing offensive odours. Table and Council barrel drains discharging grey water to rivers and streams.
- Many treatment plants are not being checked on a quarterly basis. Almost all are not having their effluent sampled on an annual basis

Townships

- Balmoral
  - Predominant method of disposal is split systems.
  - Ageing systems with evidence of failing WC effluent lines.
  - Many houses which fall to street discharging grey water into table and barrel drains.
  - Most houses with fall to rear seem to be able to contain wastewater on-site.
  - Outfall from barrel drain flowing into creek.
  - Inadequate system at hotel. Failing system at public hall and toilet block.
  - Systems on larger blocks working satisfactorily.
- Cavendish
  - Predominant method of disposal is split systems.
  - Ageing systems with evidence of failing WC effluent lines.
  - Many houses which fall to street discharging grey water into table and barrel drains.
  - Some houses which fall to rear and with spare land are discharging grey water into neighbouring properties.
  - Evidence of some properties piping their grey water across roads and discharging on neighbouring properties by agreement with other property owner.
  - Properties in Main St discharging to street drain which outfalls to Glenelg River.
  - Systems on larger blocks working satisfactorily.
- Penshurst
  - Predominant method of disposal is split systems. No evidence of failing systems.
  - Some grey water discharge off-site. Only minor and quickly drains.
  - At most houses all water – WC, stormwater and grey water - is contained on-site.
  - Possible contamination of groundwater and ground water bores.
- Glenthompson
  - Predominant method of disposal is split systems.
  - Ageing systems with evidence of failing WC effluent lines.
  - Many houses which fall to street discharging grey water into kerb and channel and table and barrel drains. Offensive odours from grey water discharge on the main highway.
- Tarrington
  - Predominant method of disposal is split systems.
  - Properties on high south side of main road near shops discharging grey water to barrel drain. Offensive odour emanating from drain.

  - Properties of north side of main road east of the football ground discharging grey water into barrel drain. Drain outfalls into a table drain which connects to creek. Grey water currently dissipates in drain.
  - Evidence of failing WC effluent lines.
  - Some people on large blocks which slope to rear discharging wastewater onto neighbouring properties or piping to spots on their own properties and allowing to discharge above ground.
- Branxholme
  - Predominant method of disposal is split systems.
  - Ageing systems with evidence of failing WC effluent lines.
  - Many houses which fall to street discharging grey water into table and barrel drain which outfalls to Creek.
  - Systems on larger blocks working satisfactorily.

9.2.7 Development Activity

- There is little development activity occurring in any of the townships. It is anticipated the development interest may increase in future years but the increase is only expected to be modest.
- Each town has a handful of vacant blocks and developed blocks which could be unsuitable for building or further development. Consideration needs to be given to identifying and mapping these blocks and proposing innovative solutions which may allow development to occur.

9.2.8 Good Practice Assessment

Table 2 on the following pages contains an assessment of wastewater processes in the Shire against what could be considered to be good practice in local wastewater management. The analysis draws on the findings in this section and identifies where improvement is required. Items which score less than 4 should be addressed in the domestic wastewater management plan.

The assessment indicates that the Southern Grampians performs very well, with the exception of the following areas:

- Building Surveyors submitting ‘report and consent forms’ for all relevant building projects in unsewered areas.

- The planning, approval to install, inspection and approval to use processes are not formally documented
- Developers having a good understanding of wastewater management and submitting realistic development proposals (only a few incidences).
- Plumbers/owners fully completing septic tank application forms.
- Plumbers giving reasonable notice for inspections (only a few incidences).
- Plumbers/owners calling for final inspections (only a few incidences).
- Inspections notes, plans etc being scanned on to hard files.
- Owners of treatment plants submitting quarterly reports.
- Routine monitoring of septic systems.
- Septic tanks being regularly desludged.
- Owners being aware of the location of their septic tanks.
- Identification and special monitoring of septic tanks systems that discharge off-site or are located near watercourses.
- Identification of blocks which could be problematic for development from a wastewater perspective.
- Monitoring of stream pollution by wastewater.
- Submission of annual report to EPA.

Table 2 – Good practice benchmarking

Item	Importance (out of 5, 5 being very important	Score 1 – poor , 5 very good					Comments
		1	2	3	4	5	
Building permit 'Report and Consent' process							
The process is simple and clearly understood by local building surveyors	5					5	
A reasonable fee is charged by Council	3					5	No fee is charged
Building surveyors submit forms for all relevant applications	4			3			Form are not being submitted for all extensions
All relevant information is examined by EHO about each site	5					5	
EHO has knowledge of or inspects all sites	5					5	
EHO responds in a reasonable timeframe	5					5	
EHO provide a clear and meaningful response	5					5	
Copy of form is kept on appropriate file and referred to when septic tank application is submitted	3					5	
Buildings Surveyor informs owner of the outcomes of the 'report and consent' process	3					5	
Town planning process							
Developers, buildings etc have sufficient knowledge and information about planning rules and wastewater management to submit appropriate reasonable applications	5			3			
EHO is available to provide information to planning applicants prior to submitting application	3					5	
All relevant planning applications are referred to EHO	5				4		There may be a case for the EHO. This happens in may other Councils and ensures that no mistakes are made
EHO is provided with sufficient information to make informed decision	5					5	
EHO inspects or has sufficient knowledge of the referred site	5					5	
Referrals are processed by EHO in a reasonable time frame	5					5	
EHO gives clear and concise information to planners	5					5	
Planners act on advice	5					5	

Item	Importance (out of 5, 5 being very important	Score 1 – poor , 5 very good					Comments
		1	2	3	4	5	
Information and application forms							
Council has a short, specific code of practice and clear guidelines	4					4	
Council application form requests the appropriate information and is easy to complete	4					4	
Council charges a reasonable fee	4				4		
Approval and application process							
Plumbers/owners understand the process	5					5	
EHO is available to provide information to/meet with plumbers/owners prior to submitting application	5					5	
Applications are properly filled in by applicant	4			3			Often the EHO will have to chase up information
Applications are checked thoroughly to ensure they are filled in properly	4					5	
Sites are inspected (if needed)	5					5	
Application is processed is a reasonable timeframe	5				4		
Permit outlining all conditions is forwarded to applicant and owner if not applicant	5					5	
Inspection process							
Plumbers/owners understand the process	5					5	
Plumbers give reasonable notice for inspections	5			3			Sometimes, notice is short and unrealistic
EHO inspects all installations prior to backfill	5					5	
Any problems with installation are clearly communicated to installers and applicants	5					5	
Approval to use process							
Plumbers/owners understand the process	5					5	
All final inspections are called for	5			3			Some inspections are not called for by plumbers/owners
Systems are being properly backfilled	5			3			Some may not be because final inspections are not called
Amended plans are supplied where necessary	5			3			
Copy of plumbers certificate is provided	5			3			
Approval to use is forwarded with appropriate information	5					5	
No certificates of occupancy are issued with approval to use being issued	5			3			Houses are being occupied without permit to use being issued.

Item	Importance (out of 5, 5 being very important	Score 1 – poor , 5 very good					Comments
		1	2	3	4	5	
Systems are not being used without certificates of occupancy	5			3			
All the above processes have been formally documented	5		2				Only the approval process has been documented
Files and records							
All applications are registered	5					5	
Hard copy and electronic files are produced	5					5	
Inspection notes are recorded on hard files	5					5	
Inspection notes are recorded on electronic files	5	1					Time does not allow this to be done
Permits, plans and letters are kept on hard files	5					5	Time does not allow this to be done
Permits, plans and letters are scanned on to electronic files	4	1					Time does not allow this to be done
Old files are reasonably accessible	3		2				Some files are been lost and others are difficult to retrieve
Education program							
Owners of new systems are met on site post installation to explain how systems work and how they should be maintained	5		2				This occasionally occurs
Education kit provided to all owners on how systems work and should be maintained. Kit should be specific to type of system	5	1					Not undertaken
Regular forums/information nights are held with local contractors	4	1					Not undertaken
Monitoring and maintenance							
Treatment plants							
Council has a register of all plants – location, type when installed	5					5	
Quarterly maintenance reports are being carried out and reports are provided to Council	5		2				Not all systems are being inspected
Water sampling is being carried out and reports are being provided to Council	5	1					No samples have been submitted
Council is recording inspections and sample results	5	1					Not being undertaken
Council is identifying systems where inspections and sampling are not being performed and following up with letter to owners/installers	5	1					Not being undertaken
Council is reading reports and sample results and taking	5	1					Not being undertaken because of lack of confidence with

Item	Importance (out of 5, 5 being very important	Score 1 – poor , 5 very good					Comments
		1	2	3	4	5	
action where necessary							reports
Other systems							
Council has a routine monitoring system in place	5	1					Not being undertaken
Sludge levels are being measured	3	1					Not being undertaken
Tanks are being regularly desludged							A small percentage of residents are regularly desludging
Owners are aware of the location of their tanks etc	5			3			A reasonable proportion of residents know where there systems are located
Septic tanks are accessible	5						A reasonable proportion of systems are readily accessible
Defective/problem systems							
Council encourages defects to be addressed when identified	5					5	
Systems discharging off site have been identified. Any problems are being dealt with	5	1					Not undertaken
Systems near sensitive water courses have been identified and upgraded where necessary	5	1					Not undertaken
Contamination of watercourses by wastewater is being monitored through water sampling program	5			3			Some monitoring has taken place
Mapping							
Problematic blocks from a wastewater perspective are mapped	4	1					Not undertaken
Database and reports							
Database able to produce the following information: - Owners and addresses of systems - Types of systems - When installed - Number of systems by type - Number of systems by type and by townships	5			3			
Annual report submitted to EPA	3	1					Not undertaken
Relationships							
Strong relationships have been developed with other organizations involved in wastewater management	5					5	
Good relationships with local contractors	5				4		

9.3 Major Issues

The major issues that emerge from the key findings are as follows:

- Does the legislation relating to wastewater need to be changed?
- Do the codes of practice, standards and EPA guidelines need revision?
- Does the land capability assessment process need a stricter regime?
- What is the best process for advising prospective purchasers of unsewered blocks about the status of the properties they are interested in buying?
- How should the negative findings of the audit be addressed?
- How can the problems identified in each township be addressed?
- How can the concerns about treatment plants be addressed?
- What education programs should be introduced?
- What are the merits of the Wannon Water's proposal for a regional waste water management program? Is there a better approach?

The issues are discussed below:

Does the legislation relating to wastewater need to be changed?

It is critical that the actions contained in the strategy plan can be legally enforced. The township audit conducted for this study identified that there are a number of properties that treat their WC effluent on-site but discharge their grey water off-site. This method of treatment and disposal is, in most cases, consistent with their original permit. The review of legislation conducted for this study indicates that Council does not have the legal power to require modifications to these systems unless the systems are causing a nuisance. Council can require faulty systems to be repaired or better maintained and can require systems that have been modified without permit to be upgraded. However, it cannot require systems which are operating in accordance with their original permit to be upgraded.

This situation is not unusual. For example, an owner of an old house that does not comply with building codes cannot be forced to upgrade the house unless it is being substantially renovated. The same applies to old plumbing and electrical work.

So, should Council be given special power or should they have to rely on the nuisance provisions. Are the nuisance provisions too cumbersome and confrontational? Would the nuisance provisions allow Councils to address environmental concerns? Would it be more effective if there were specific provision in the Environment Protection Act (EPAct) relating to septic tanks systems rather than having to rely on the broad nuisance provisions in the Health Act? From an owners' perception is a notice under the EPAct more acceptable than a notice under the Health Act? Is there a need for any change in the legislation? Spilt systems which discharge off-site do not comply with current standards but are they always a problem from a health or environment perspective. The discharge may not look aesthetic but it may not be dangerous. If Council thinks that the discharge is dangerous, it can fall back on the nuisance provisions but only for systems causing health problems.

Introducing retrospective legislation may not be palatable. May be the best solution is to ensure this problem does not arise in the future. It might be feasible to include a clause in the 'permit to use' that states that the permit is only valid for a fixed period, say 15 years, and after that Council can ask for a new system to be installed if required.

Another shortcoming in the current legislation is that Water Authorities in their sewer districts have more power that Council to remedy failing systems. Authorities can order owners of properties located in the authorities' sewer district to repair their septic tank systems. If they fail to do so, the Authorities can do the work and charge the owner. Council's can also order repairs but can only do the works and recover the cost through a successful nuisance action. Councils should have the same powers as Water Authorities to act on failing systems.

Do the codes of practice, standards and EPA guidelines need revision?

The land capability assessor raised a number of interesting points about providing flexibility in the code with respect to setback distances for properties where the soils drain vertically or where systems which produce effluent better than 20/30 are being installed. He also a expressed a concern about the restrictions in the code which only allow setback distances to be halved if Council has a program in place to monitor the quality of the effluent. His contention was - why should a property owner be penalised for Council not having a system is place? These matters are valid and should be referred to the EPA for discussion.

Does the land capability assessment process need a stricter regime?

The following concerns were expressed during the study about land capability assessments:

- The level and scope of information provided in assessments varies.
- Some assessors do not have a sound practical understanding of wastewater treatment systems.
- Some assessors do not communicate effectively with EHOs.
- Assessors may not be providing independent and impartial advice. They are paid by the developer or homeowner and may feel pressure to provide favourable outcomes.
- Assessors are not aware of the developers' and homeowners' development plans when they conduct their assessments. As a consequence, sometimes their sample points and recommended effluent fields are poorly located.
- Assessors may recommend what type of system should be installed. Homeowners may get fixed on this system rather than considering other options.
- Assessments can be costly and sometimes give a result which is contrary to the view of the EHO. This places the Council and EHO is a difficult position. In some cases, the assessment may be positive but the EHO knows the site is not suitable. Refusing or modifying a planning permit or permit to install a septic tank system may be difficult and cause conflict. In other cases, the assessment may be negative but the EHO believes the site is suitable. It may be risky from an indemnity perspective for the EHO to issue the permit, even though he or she is satisfied the system will work.
- LCAs are sometimes undertaken when it is not considered necessary – e.g. in situations where the EHO, through knowledge and experience, is certain the system will not or will work.

These concerns could be addressed through the following actions:

- Introducing an accreditation system for assessors based on qualifications, knowledge and experience.
- Requiring assessors to become familiar with the wastewater management practices of the Councils in the areas where they work. This could be part of the accreditation processes – e.g. mandating that they spend a specified number of hours with the EHOs inspecting systems etc.

- Ensuring that the extent and scope of information provided in the assessment is consistent.
- Introducing a review system where the assessor's work is randomly scrutinized by their peers.
- Requiring assessors to be fully aware of the types of wastewater disposal systems that are available and their applications.
- Developing a protocol which specifies when assessments will be required and what contact the assessor should have with Council.

These are all reasonable actions which were supported by the private town planner consulted for this study. A consideration, however, is that they may make the LCA process expensive. Owners/builders/developers already pay considerable permit fees and increasing the cost of the LCA may not be well regarded.

How can prospective purchasers be alerted to any septic tank issues relating to the lot/house they are interested in – e.g. development may be difficult on the lot, septic tank may need significant upgrade. Is it feasible to provide this advice, and what would be the mechanisms?

Prospective purchasers need to know that the properties they are looking at are unsewered. Not knowing could be potentially costly and/or could impact on their plans for the property. The important reasons for knowing are as follows:

- In the case of vacant properties, some blocks may be difficult to develop (or even unable to be developed) because of wastewater disposal considerations. If able to be developed, the cost of the treatment system may be expensive and much higher than anticipated by the purchaser.
- The need to set aside land on the block for the septic tank systems may upset the purchaser's development vision for the block. They may have to rethink the location of the house, driveways, outdoor social areas, decks, swimming pool etc. They may even have to forgo some of these elements to accommodate the septic system. This same issue could apply to a purchaser of a developed block. They may wish to install a pool or a deck only to find out later that this is not possible or could be more costly to do because it will impact on the septic tank system.

- In the case of existing houses, the septic tank system may be failing and need upgrade. This could be costly. The septic tank systems may also be undersized for the new household and need substantial redesign.
- In the case of houses with treatment plants, there are conditions imposed on the use of the systems which could be costly and onerous (quarterly maintenance checks, annual effluent sampling etc).

The questions are what is the best way of informing purchasers and what should they be told? Obviously, the purchasers should be informed prior to signing the contract of sale so that they can defer the signing or sign subject to obtaining satisfactory wastewater advice.

What information does Council want to provide? Does it, like the water/sewerage certificate, want to supply a detailed plan of the system and/or an assessment of the condition of the system?

Council could not provide detailed plans without great expense. Council does not have plans of all systems and, where it has plans, some are not accurate. Council would have to inspect all properties and map the location of the septic systems – a costly exercise. Council does not know the condition of the septic tank systems. It could make a visual assessment but it would not be able to fully check without uncovering the system, taking effluent samples, measuring sludge levels etc. Also the check would indicate the condition and performance of the systems on the day of the inspection. Its condition a week later or 3 months later when the new owners move in may be different. This uncertainty makes it very risky for Council to provide information on the condition of the system. Therefore, it is recommended that Council take a more pragmatic approach and simply alert prospective purchasers prior to sale that the property is unsewered and recommend that they find out what the implications of this are. This places the responsibility on the purchaser.

What is the best way of informing prospective purchasers – in the information provided to purchasers or through an education program? The Sale of Land Act requires vendors to provide a range of information to prospective purchasers. This includes:

- Land information – zoning, restrictions on development etc.
- A building certificate.
- Information on the rates and charges affecting the property.

- A list of the services connected to the land. This will indicate whether the block is connected to the sewer.
- A warning to the effect that prospective purchasers should check with the appropriate authorities as to the availability of and the cost of providing and essential services not connected to the property.

A local conveyancing firm was asked for its views on the best mechanism for advising prospective purchases. It suggested in the land information material provided by Council. The building certificate was suggested but was discounted because it is not provided for vacant blocks. A statement with the rates information may also be a good method as most purchasers will carefully read this area.

A more effective way of informing purchasers might be educate people involved in the sale process of the importance of providing or requesting information about the status of properties with respect wastewater disposal. A letter or information session with local solicitors, conveyancers and real estate agents could be beneficial.

It needs to be recognized that there will be workload implications for Council if purchasers become better informed and want to seek information about wastewater disposal implications. Vendors and purchasers will make enquiries to Council and may ask Council to locate and check the system. The EHO may then have to check their records for a plan of the systems and/or visit the properties. This will take time and could not be done within existing resources.

How should the negative findings of the audit be addressed?

The negative findings of the audit and strategies for addressing these findings are outlined in Table 3 on pages 84-86. The recommended strategies can be grouped into the following categories:

- Education of owners about their responsibilities with respect to the operation and maintenance of their septic tanks systems.
- Education of owners about the proper management of their septic tanks systems.
- Actions relating to ensuring that systems are legally used.
- Actions relating to failing systems and the off-site discharge of grey water.
- Actions relating to treatment plants.

Table 3 – Audit findings and recommended actions

Finding	Comments/Recommended actions
Systems with broken lids, vents, distribution pits etc (including some Council properties)	Instruction in education kit to all owners of septic tanks systems advising them that their systems must be kept in a proper state of repair.
Systems that are being constantly driven over or parked on by vehicles	Instruction in education kit that this practice will damage septic tank system.
Systems that are virtually inaccessible and as a result have not been desludged for many years	Instruction in education kit requiring property owners to attempt identify the location of their septic tank systems including tank inspection openings, distribution pits, chlorination pit lids etc.
Systems which are have not been desludged for many years	Instruction in education kit to property owners recommending that they desludge their tanks at least every five years; or Establish a centrally controlled program where properties are routinely desludged. The frequency would be determined by the design of the system and the size of the household.
A few recently installed systems which have not been properly backfilled	Send letter to applicants 60 days after the backfill inspection requesting that they advise of the status of their septic tank system and informing them that using the system without permit is illegal; or Routinely undertaking final inspections of all installations within 3 months of the backfill inspection Reinforce to Building Surveyors that certificates of occupancy are not to be issued without permit to use being issued.
Septic tank systems being modified without reference to Council. In some cases, the modifications have been successful; in others they have compounded the problems. In some cases, the modifications breach the code of practice with respect to setback distances from boundaries etc	Advise home owners and plumbers that septic tank systems are not to be altered without reference to Council. Enforcing this requirement if plumbers disregard instruction.
Houses, outbuildings, access roads etc being constructed without reference to Council and in a manner which has compromised the septic tank systems on the block	Advise homeowners, plumbers, builders, pool contractors etc of the need to consider the septic tank system when contemplating any building works on the property. Requiring building surveyors to submit a 'report and consent' request for any relevant building project (a project which might compromise the septic tank system) on an unsewered property.
WC effluent drains being tapped into grey water/stormwater drains	Advise home owners that it is illegal to discharge WC effluent off-site and request those that have done so to contact the health office for instructions. Provide advice on options to rectify the situation.

Finding	Comments / Recommended actions
WC effluent drains failing and water surfacing.	Advise homeowners how to identify failing systems. Recommend that they seek advice from Council about repairing system.
Reasonably large blocks (1 to 2 acres) directly piping their grey water onto neighbouring properties without attempting to treat or contain on-site.	Advise homeowners that it may be illegal to discharge their grey water off-site and ask them to contact Council to seek advice as to what they can do. Preferred option would be to contain on-site. The following actions should be considered – water conservation processes, kitchen wastes connected to septic tanks, grey water re-use, absorption trenches.
Reasonably large blocks piping their grey water to an indiscriminate spots on their properties and allowing the water to drain in an uncontrolled manner.	Advise homeowners that it would be preferable that a better method of disposal be employed. Recommend they contact Council for advice.
Houses which are set to the front of large blocks and where fall is attainable to the rear of the property discharging their grey water virtually untreated to open street drains (it should be noted however that the original permits approved this type of disposal).	The recommended action for the properties will depend on Council's attitude to off-site discharge and whether it wants to deal with all the properties or just those that are causing a health or environmental concern. Just dealing with those that are causing a concern may be difficult to manage from a public relations perspective. Council would also want to be confident that containing the water on-site would work and not just shift the problem. Council could encourage homeowners to contain on-site and advise of the best method of doing so Another approach would be to investigate the merits of common collection and treatment systems. This may be a feasible where there are multiple discharges in a neighbourhood area.
Small blocks discharging grey water off-site with little or no capacity to contain on-site.	No action may be needed if the discharge does not cause a health or environmental concerns. If it does, the following actions could be considered: • Directing the kitchen water to the septic tank and attempting to reuse the grey water on-site • More effectively treating the grey water prior to discharge. • In the case of multiple houses in a concentrated area, collecting the discharge from the houses and treating at one location.
Blocks piping their grey water into gullies and other depressions which drain to creeks.	• Directing the kitchen water to the septic tank and attempting to reuse the grey water on-site • More effectively treating the grey water prior to discharge. • In the case of multiple houses in a concentrated area, collecting the discharge from the houses and treating at one location.

<table>
<tr><th>Finding</th><th>Comments / Recommended actions</th></tr>
<tr><td>Grey water ponding in open street and Council barrel drains and causing offensive odours.</td><td>• Directing the kitchen water to the septic tank and attempting to reuse the grey water on-site.
• More effectively treating the grey water prior to discharge.
• In the case of multiple houses in a concentrated area, collecting the discharge from the houses and treating at one location.
• In the case of open street drains, regrading the drains so that the water will flow.
• In the case of barrel drains, clearing the drains so the water will flow.</td></tr>
<tr><td>Grey water being discharged to open street and Council barrel drains which directly outfall to rivers and streams. It should be noted that due to the dry conditions, the water in many open drains is dissipating before reaching the rivers and streams. In winter, the discharge may reach the streams but would be diluted.</td><td>• Directing the kitchen water to the septic tank and attempting to reuse the grey water on-site.
• More effectively treating the grey water prior to discharge.
• Attempting to treat the discharge at the outfall drain.
• Introducing a sampling program to assess the extent of contamination caused by wastewater discharge. Sample quarterly over 12 months. Terminate location if no discharge is noted. Proposed sampling points are:
<table>
<tr><th>Township</th><th>Location</th></tr>
<tr><td>Balmoral</td><td>Drainage outfall in Bell St
Mathers Creek upstream and downstream of township
Glenelg River upstream and downstream of township</td></tr>
<tr><td>Cavendish</td><td>Drainage outfall near Glenelg River
Wannon River upstream and downstream of township</td></tr>
<tr><td>Glenthompson</td><td>Waterhole near Hwy</td></tr>
<tr><td>Branxholme</td><td>Arranvoodong Creek upstream and downstream of township
Culvert on west side of Hwy</td></tr>
<tr><td>Penshurst</td><td>Spring in central township.</td></tr>
</table>
</td></tr>
</table>

How can the concerns about treatment plants be addressed?

It is clear that there are concerns about the operation of treatment plants. These concerns relate to the systems not being properly maintained and the quality of the effluent being discharged, particularly from systems that use surface irrigation.

The consultation with plant installers and maintenance contractors indicated that these concerns were justified. One local contractor recently conducted random check of the systems he has installed over the past five years. He found that a significant number were malfunctioning due to inadequate care by the owners – he described some of the systems as being 'big septic tanks', meaning that no aeration was occurring.

The condition of use for treatment plants require that they be checked on a quarterly basis by maintenance contractors and that their effluent be sampled on an annual basis. This does not appear to be happening after the first year of operation of most systems. If these conditions were enforced, the incidence of malfunctioning would greatly reduce.

It has been suggested that the requirement to check on a quarterly basis and sample on an annual basis is too onerous and too costly, particularly for subsurface irrigation systems. It was contended that owners may be more inclined to have their systems checked on a 6 monthly or annual basis.

The feasibility of introducing a Council controlled program should be investigated. This would ensure that systems are inspected, maintained and sampled. Also economies of scale may reduce the cost.

How can the problems identified in each township be addressed?

The analysis of the audit indicated that the provision of sewering of any of the townships could not be justified at this stage. The population sizes of most of the townships are comparatively small, there is little development interest in the townships and although there are problems with septic tanks, they are not extensive enough in any town to warrant sewer.

However, the problems still need to be dealt with. Table 4 on pages 88-91 outlines the actions that Council should take to deal with issues identified in the audit of each township. The actions focus on the maintenance and proper repair of systems and reducing the rate and/or improving the quality of off-site discharge. The actions should be supplemented by a regional sludge removal program, education program and treatment plant monitoring program (if feasible).

Table 4 - Unsewered Townships– Suggested Actions

LOCATION	ACTION	Priority*
Balmoral	Education kit to all householders. Advice to owners with failing systems about what action to take. Consideration of some form of treatment on the drainage outfalls in Glendenning and Bell Sts. Special investigation of properties in close proximity to creek or discharge to barrel drains. Investigation of other grey water discharges and advice to owners on appropriate action. Regular desludging of tanks. Regular clearing of culverts and table drains. Regular sampling of Mathers Creek and Glenelg River – upstream and downstream of town.	2 2 1 1 2 3 2 2
Cavendish	Education kit to all householders. Advice to owners with failing systems about what action to take. Special investigation of properties that in close proximity to rivers or discharge to barrel drains that empty into river. Consideration of a treating discharge from barrel drain at outfall. Regular desludging of tanks. Regular sampling of Wannon River – upstream and downstream of town. Regular sampling of drainage outfall near Wannon River.	2 2 1 1 3 2 1
Penshurst	Education kit to all householders. Advice to owners with failing systems about what action to take. Investigation of groundwater contamination. Regular desludging of tanks. Regular sampling of waterhole. Developing a register on the location and use of bores. Advises users of potential contamination by wastewater.	2 2 1 3 1 1
Glenthompson	Education kit to all householders. Advice to owners with failing systems about what action to take. Investigation of grey water discharges and advice to owners on appropriate action. Regular desludging of tanks. Regular clearing of kerb and channel and table drains. Regular sampling of waterhole.	2 2 2 3 1 1

LOCATION	ACTION	Priority*
Tarrington	Education kit to all householders. Advice to owners with failing systems about what action to take Consideration of common effluent drainage systems for properties in. Special investigation of properties that discharge to barrel drains and advice to owners on appropriate action. Regular clearing of barrel and table drains. Regular desludging of tanks.	2 2 1 2 1 3
Branxholme	Education kit to all householders. Advice to owners with failing systems about what action to take. Consideration of common effluent drainage systems for properties in. Investigation of other grey water discharges and advice to owners on appropriate action. Regular clearing of barrel and table drains. Regular desludging of tanks. Regular sampling of Arrandoovong Creek – upstream and downstream of town.	2 2 1 2 1 3 1

Note: Priorities* - 1, 2, 3 with 1 being the most important. The rationale for the priorities is as follows:

1. Actions which directly identify, address or prevent environmental damage and public health risks
2. Actions which increase awareness of good practice in septic tank management and identify the extent of and possible solutions to off site discharge of grey water
3. Action which are important but require further assessment before implementation

What education programs should be introduced?

Consideration should be given to introducing a comprehensive education campaign. The suggested elements of the campaign are as follows:

Homeowners

- An education kit on the proper use and maintenance of septic tank systems. This should include statements/information on:
  - The importance of knowing the location of the septic system and making sure it is accessible and what type of septic tank system has been installed and how if functions.
  - The importance of not driving over the septic tanks system and of considering the septic tank when planning any extension to the house or other project which might impact on the septic tank system.
  - The vegetation that is suitable to plant around the systems.
  - The importance of water conservation practices.
  - The importance of regularly desludging septic tanks and emptying grease traps.
  - The things that could go wrong with the system and how the homeowner should respond. The things that do go wrong when owners attempt to repair or upgrade systems without reference to experienced drainers/ plumbers and Council.
  - A notice indicating that systems cannot be altered without Council's consent and advice that they always contact Council before undertaking any major works on their systems.
  - A suggestion that homeowners self regulate or take positive action. For example, advising owners that it is not acceptable to discharge wastewater onto neighbouring properties (unless there is agreement) and asking them to seek Council advice as to what to do to rectify the problem. Another example, would be ask homeowners that discharge grey water off-site to consult with Council about possible methods of disposal etc.

Plumbers/Drainers, Waste Removal Contractors, Land Capability Assessors, Building Surveyors

The EHO should conduct annual forums with these contractors to share information and get feedback on concerns etc. In between the forums, any matters of concern or interest should be communicated.

Suggestion by Southwest Water (now Wannon Water) that it take post installation responsibility for the monitoring of septic tank systems. Is a program needed? Is Wannon Water the appropriate authority? Is it feasible? Is there another option? Would the money allocated to the program be better spent on other activities?

1n 2005, South West Water prepared an internal discussion paper outlining a regional management program for septic tanks. The paper was developed by the Authority because of its concerns about current wastewater management practices in the region. Its concerns were:

- Many septic tanks in the region are not being desludged when needed. This is contributing to effluent drains failing and tanks overflowing or backing up. These failures and overflows can cause health and environmental damage.
- The variations in monitoring activities undertaken by Councils in the region. There should be a consistent approach.
- Septic tank management resources are duplicated.
- Wannon Water is not involved in the management of septic systems and therefore is unable to plan for sludge receiving facilities.
- Wannon Water is concerned about the unlawful disposal of sludge.

The main elements of South West Water's proposed management programs were as follows:

- A regional program which is by a Committee comprising representatives from South West Water and the Councils in the South West Water region. The committee would be known as the South West Domestic Wastewater Association.
- Professional staff would be engaged to operate the program. Initially, there would be up to 10 full time staff involved in the program. This would decrease to 6 after the data gathering process concluded.
- The following activities would be performed by the Association and its staff:
  - Creation of a central electronic data base of septic tank systems which contains specific information on each relevant property – property plan, property owner details, location of septic tanks in GIS system and details of the system.
  - Inspection of each relevant property to collect the information for the database and additional information about important site conditions, check the performance of the system and assess compliance with the permit to use.

  - Development of a wastewater management plan for each property – vacant or developed. These plans would specify permit conditions for new systems and the maintenance practices for existing systems. The plans would be binding and enforceable.
  - A desludging schedule would be introduced where tanks were routinely desludged every 3 years. The removal contractors would be engaged and managed by the Association.
  - Random inspections covering 20% of systems would be carried out every year to check the condition of systems and ensure compliance with individual wastewater management plans.
- The cost of the program – staff, removal contractors and other operational costs - would be levied on the property owners. The levy would include a 'once only' fee and an annual fee.

With respect to the status of the Association, the report does not indicate whether it would be an independent organisation or be part of South West Water. It is assumed that it would be part of South West Water.

Feasibility and merits of proposal

Prior to examining the feasibility and merits of the proposal, it needs to be noted that the discussion paper was not meant to be an exhaustive analysis of the merits of the program or contain a complete list of all the activities that would be undertaken by the Association. Instead it was putting forward some principles for consideration – a regional management model, a comprehensive database of systems, a centrally controlled desludging program, the program totally funded by property owners and the program managed by a representative committee but essentially run on day to day basis by the Water Authority. The questions that require discussion are as follows:

- What does the Authority want to achieve and is the proposed model the most appropriate way of achieving this aim?
- If yes, are there other activities that should be considered for inclusion in the program. If no, is there an alternative program?
- Is Wannon Water the most appropriate body to run the program?
- What resources are needed to properly operate the wastewater management program? How can the program be equitably funded?
- What other issues relating to training, knowledge base, staffing etc need to be addressed?

The notion of Water Authorities being responsible for post installation monitoring of septic tanks has merit. The core business of Authorities is water supply and wastewater management. The program will require significant resources and Water Authorities may have a better ability to raise funds than Councils. A critical issue though is whether it would be practical to have one body supervise installation and another supervise maintenance.

Wannon Water, the Water Authority that has been recently created out of an amalgamation South West Water, Portland Coast Water and South West Water, advises that it is not in an operational position at this time to take on the management of a regional program. However, the notion of a regional program overseen by a regional body should be explored. It is recommended that the proposal be discussed at the State level by the MAV, DSE, the peak body for Water Authorities and the Australian Institute of Environment Health (AIEH).

PART D – STRATEGY PLAN

Section Ten - Domestic Wastewater Management Plan

10.1 Introduction

This section outlines the goals and objectives of the wastewater management plan, describes Council role in wastewater management and outlines the actions that Council should undertake to achieve sustainable wastewater management in the Shire.

10.2 Goals

Council's goals with respect to domestic wastewater management are as follows:

- The minimisation of damage to the environment resulting from the treatment and disposal of domestic wastewater.
- The minimisation of public health risks associated with the treatment and disposal of domestic wastewater.
- The promotion of environmentally responsible development.
- The encouragement of the conservation and reuse of water.

10.3 Objectives

Council's specific objectives in relation to domestic wastewater management are to

- Ensure that all septic tank systems approved for installation in the municipality meet the relevant legislative requirements, standards and codes of practice.
- Ensure that all systems are installed in accordance with the approved plans, legislation and codes of practice.
- Ensure that all new and existing systems operate effectively and in a manner that does not cause nuisance conditions or environmental damage.
- Take appropriate action to rectify any problems which arise from defective systems.
- Seek community involvement and support in achieving these objectives.

10.4 Functions of Council

The specific functions of Council with respect to wastewater management are to:

- Enforce legislation, standards, plans and codes of practice.
- Coordinate the approval and inspection process for septic tank systems.
- Educate property owners in the proper operation and care of septic tank systems.
- Monitor the performance of septic tank systems and take action to rectify any problems.
- Coordinate regular forums for exchanging information amongst all persons involved in on-site wastewater management and servicing.

10.5 Cooperation with Other Agencies

Council recognises that other local and regional agencies have an important role to play in the protection and conservation of the environment (Wannon Water, Corangamite Catchment Authority, Western Coastal Board etc). Council will work closely with these bodies and keep them fully informed of any actions it is taking which may have relevance to their operations.

10.6 Action Plan

A detailed action plan is provided in Table 5. It lists the actions that Council should undertake in response to the findings of this study and gives priority to these actions. The priorities are described as short, medium and long. Short is defined as within the next 2 years; medium is 3-5 and long is 6+ years.

The actions are aimed at addressing the following key objectives:

- Ensuring there is an appropriate legislative/standards/codes of practice regime in place to effectively manage domestic wastewater treatment systems
- Improving planning and approval processes and records systems
- Ensuring that septic tank systems operate effectively in the short, medium and long term
- Ensuring that any immediate problems with septic tank systems are effectively addressed

- Ensuring that all parties involved in domestic wastewater management are aware of their responsibilities
- Ensuring that the implementation of the plan is adequately resourced

Council's Health Unit will have primary responsibility for the coordination and implementation of the recommendations. Council's planning, engineering infrastructure, building and GIS staff will assist them. Other external agencies such as Wannon Water, MAV and the EPA will be involved in the implementation of the recommendations.

Many of the actions are currently not performed by Council and will require additional resources. These include the monitoring activities and education program. Indicatives costs are provided in the table and include staff time, production of materials, hire of contractors, distribution, water sampling etc. They include both recurrent and 'once only' costs. It is estimated that the implementation of the recommendations will cost $31500 'once only' and $225200 per annum recurrent (or $45 per septic tank system). Council should give consideration to introducing a special charge to fund these activities.

The plan contains actions that should be undertaken at the Shire level and others that may be best undertaken at a regional level (with Moyne Shire and Warrnambool City). The actions are split into these categories in tables 6 and 7.

10.7 Evaluation and Review Process

It is strongly recommended that the action plans be regularly reviewed and evaluated. This process should involve the following:

- 6 monthly report to Council on the progress of implementation.
- Annual report to Council on the status of each recommendation
- 3 yearly review of the implementation of the major longer term, recommendations

Table 5 – Recommended Actions

ACTION	PRIORITY	COUNCIL DEPT	SUPPORT AGENCIES	EST. COST $
Legislation/Codes of Practice				
Objective 1 – To ensure that there are suitable standards, codes of practice and legislation in place to allow Council to effectively manage domestic wastewater management systems				
Discuss with the EPA the merits of giving Council the power to remedy septic tank systems that are operating in accord with their permits but do not satisfy current standards	Short	Health	EPA MAV	2000*
Discuss with the EPA the feasibility of introducing a legislative provision to allow Council to stipulate a minimum life span for septic tank systems in the permit to use	Short	Health	EPA MAV	
Discuss with the EPA the merits of giving Councils the same power as Water Authorities to repair septic tank systems and retrieve the costs from homeowners	Short	Health	EPA MAV	
Discuss with the EPA the concerns expressed in this study about the inflexibility of the code with respect to setback distances for properties with good vertical drainage and/or that are installing treatment systems which can achieve better than 20/30 effluent	Short	Health	EPA MAV Land assessors	
Recommend to the EPA that land capability assessors be accredited.	Medium	Health	EPA MAV Land assessors	
Stipulate the information that should be included in assessments	Short	Health	EPA MAV Land assessors	
Planning and Approval Process				
Objective 2 – To ensure that Council's planning and approval process are clearly understood by and complied with by all parties				
Formally document the processes and decision making steps involved the planning and approval of septic tank systems	Medium	Health Planning		-

ACTION	PRIORITY	COUNCIL DEPT	SUPPORT AGENCIES	EST. COST $
Reaffirm to Building Surveyors that a certificate of occupancy cannot be issued until a permit to use the septic tank is issued. Request Building Surveyors to advise their clients that their house should not occupied or the septic tank system used until a permit to use is issued	Short	Health Building		200
Records system				
Objective 3 – To effectively manage all plans and other information associated with individual septic tank systems				
Store plans and inspection notes on the electronic register of septic tank systems	Medium	Health IT		5000*
Education Program				
Objective 4 – To ensure that all parties involved in domestic wastewater management are appropriately informed about their responsibilities, how the systems works and any risks associated with the systems				
Introduce a wastewater management community education program. The components of the program should be as follows:	Short	Health Public Relations		7000* 1000
– An education kit for homeowners on the proper use and maintenance of septic tank systems. This should include statements/information on: ♣ The importance of knowing the location of the septic system and making sure it is accessible and what type of septic tank system has been installed and how if functions ♣ The importance of not driving over the septic tanks system and of considering the septic tank when planning any extension to the house or other project which might impact on the septic tank system ♣ The vegetation that is suitable to plant around septic tank systems ♣ The importance of and advice on water conservation practices ♣ The importance of regularly desludging septic tanks and emptying grease traps ♣ The things that could typically go wrong with the system and how the homeowner should respond. ♣ The things that do go wrong when owners attempt to repair or upgrade systems without reference to experienced drainers/ plumbers and Council				

ACTION	PRIORITY	COUNCIL DEPT	SUPPORT AGENCIES	EST. COST $
♣ A notice indicating that systems cannot be altered without Council's consent and a suggestion that they always contact Council before undertaking any works other than basics repairs on their systems ♣ A suggestion that homeowners self regulate or take positive action. For example, advising owners that it is not acceptable to discharge wastewater onto neighbouring properties and asking them to seek Council advice as to what to do to rectify the problem. Another example, would be ask homeowners that discharge grey water off-site to consult with Council about possible methods of disposal etc ♣ Advice to owners of treatment plants that they must comply with the conditions of the permit to use withe respect to quarterly maintenance tests and annual effluent tests				
– Meeting owners on-site to explain the operation of and how to best maintain their systems	Short	Health		5000
– Developing an education kit for new homeowners which provides the same information as above. Give consideration to meeting each new owner to explain kit	Short	Health Public relations		In above
– Conducting annual forums with plumbers, treatment plant installers, maintenance contractors, liquid waste removal contractors etc to discuss relevant waste management issues	Medium	Health	Plumbers Maintenance contractors Liquid waste removal contractors	1000
– Investigating the best mechanism of advising prospective purchasers of unsewered properties of the implications of the property not being sewered – eg maintenance of septic tank system, potential restriction on development etc. Introduce the process	Short	Health Rates	Wannon Water Local solicitors Real estate agencies Conveyancing firms	2000

ACTION	PRIORITY	COUNCIL DEPT	SUPPORT AGENCIES	EST. COST $
Monitoring and maintenance				
Objective 5 – To address immediate concerns about problematic systems and ensure that systems generally operate effectively				
Adopt the recommendations as listed in table 4 of this report to address the specific problems relating to wastewater management identified by this study.	Short/ medium/ long	Health	Wannon Water	2000
Introduce a monitoring program of septic tanks systems. This monitoring program should involve the following: • Regular and random measurement of septic tank sludge levels • Inspection of a sample of systems to ensure that tanks, pits, pumps etc are in good working order • Inspection of a sample of newer systems each year to ensure that they are operating properly and in accordance with their permits to use. Mapping of systems using GPS • Ensuring owners of treatment plants submit their quarterly maintenance reports and undertake annual tests of effluent quality. Carefully reviewing these reports and taking action where appropriate • Random testing of the sandfilter effluent. Carefully reviewing the test results and taking appropriate action • A water sampling program as per table 3	Short	Health		 1000 6000 6000 1000 2000 5000
Give consideration to introducing a centrally run, compulsory desludging program.	Short	Health Finance	Wannon Water	180000
Explore the feasibility of introducing centrally run, compulsory maintenance program for treatment plants		Health IT	Maintenance contractors	10000
Townships				
Objective 6 – To address specific wastewater problems in each township				
Adopt the recommendations listed in table 5 of this report relating to each township.	Short/ medium/ long	Health		2000

ACTION	PRIORITY	COUNCIL DEPT	SUPPORT AGENCIES	EST. COST $
Objective 7 – To fully understand the important characteristics of each town which have relevance for domestic wastewater management				
Identify and map the vacant blocks in each township which could be unsuitable for development. Give consideration as to what action should be taken with respect to these blocks – advising the owners, requiring consolidation with adjacent vacant blocks prior to development, changing the zoning of the blocks.	Short	Health Planning GIS		8000* 1000
Produce a map for each township which shows the following information – geology, topography, soil type, watercourses, other important topographical and environmental features.	Short	Health Planning GIS	Local soil consultant	
Attempt to capture the EHO's knowledge of each township re wastewater in map form **Note: These mapping exercises should be undertaken concurrently and involve health planning, engineering and GIS staff. A local consultant involved in performing soil tests should also be involved.**	Short	Health Planning GIS		
Investigate the merits of advising owners of developed properties blocks that would be difficult to further develop from a wastewater perspective of the limitations of their properties	Medium	Health Planning GIS		500*
Investigate the feasibility of treating the effluent at the drainage outfalls in Branxholme, Cavendish, Balmoral and Tarrington.	Long	Health Engineering	Wannon Water	5000*
Integrated Planning				
Objective 8 – To ensure that Council's significant land use plans take into consideration the findings and directions of the domestic waste water management plan				
Ensure that Councils' planning processes – MSS, planning scheme, local structure plans, neighbourhood character studies – take into consideration the relevant findings of this plan.	Short	Health Planning		-

ACTION	PRIORITY	COUNCIL DEPT	SUPPORT AGENCIES	EST. COST $
Responsibility / Funding				
Objective 9 – To ensure that the resources implication of implementing the plan are understood and addressed				
Identify and fully appreciate the workload implications to Council staff of implementing the DWMP	Short	Health Planning		
Investigate the feasibility of introducing a special charge to fund the activities recommended in this plan	Short	Health Rates Finance		2000*
Objective 10 – To investigate the feasibility of introducing other regimes for domestic wastewater management				
Request the MAV, DSE and AIEH to investigate the merits of Water Authorities taking on the responsibility of post installation monitoring of septic tank systems.	Short	Health Rates Finance	MAV DSE Peak Body Water Authorities AIEH	2000*

Table 6 – Recommended Actions: Regional Action Plan

ACTION
Discuss with the EPA the merits of giving Council the power to remedy septic tank systems that are operating in accord with their permits but do not satisfy current standards
Discuss with the EPA the feasibility of introducing a legislative provision to allow Council to stipulate a minimum life span for septic tank systems in the permit to use
Discuss with the EPA the merits of giving Councils the same power as Water Authorities to repair septic tank systems and retrieve the costs from homeowners
Discuss with the EPA the concerns expressed in this study about the inflexibility of the code with respect to setback distances for properties with good vertical drainage and/or that are installing treatment systems which can achieve better than 20/30 effluent
Recommend to the EPA that land capability assessors be accredited. Encourage the EPA to stipulate the information that should be included in assessments
Investigate the best mechanism of advising prospective purchasers of unsewered properties of the implications of the property not being sewered – eg maintenance of septic tank system, potential restriction on development etc. Introduce the process
Request the MAV, DSE and AIEH to investigate the merits of Water Authorities taking on the responsibility of post installation monitoring of septic tank systems.
Explore the feasibility of introducing a centrally run compulsory desludging program.
Explore the feasibility of introducing centrally run maintenance program for treatment plants
Introduce a regional wastewater management community education program. The components of the program should be as follows: – An education kit for homeowners on the proper use and maintenance of septic tank systems. This should include statements/information on: ♣ The importance of knowing the location of the septic system and making sure it is accessible and what type of septic tank system has been installed and how if functions ♣ The importance of not driving over the septic tanks system and of considering the septic tank when planning any extension to the house or other project which might impact on the septic tank system ♣ The vegetation that is suitable to plant around septic tank systems ♣ The importance of and advice on water conservation practices ♣ The importance of regularly desludging septic tanks and emptying grease traps ♣ The things that could typically go wrong with the system and how the homeowner should respond.
♣ The things that do go wrong when owners attempt to repair or upgrade systems without reference to experienced drainers/ plumbers and Council ♣ A notice indicating that systems cannot be altered without Council's consent and a suggestion that they always contact Council before undertaking any works other than basics repairs on their systems

ACTION
♣ A suggestion that homeowners self regulate or take positive action. For example, advising owners that it is not acceptable to discharge wastewater onto neighbouring properties and asking them to seek Council advice as to what to do to rectify the problem. Another example, would be ask homeowners that discharge grey water off-site to consult with Council about possible methods of disposal etc ♣ Advice to owners of treatment plants that they must comply with the conditions of the permit to use withe respect to quarterly maintenance tests and annual effluent tests
Develop an education kit for new homeowners which provides the same information as above. Give consideration to meeting each new owner to explain kit

Table 7 – Southern Grampians Shire Action Plan

ACTION
Reaffirm to Building Surveyors that a certificate of occupancy cannot be issued until a permit to use the septic tank is issued. Request Building Surveyors to advise their clients that their house should not occupied or the septic tank system used until a permit to use is issued
Store plans and inspection notes on the electronic register of septic tank systems
Meeting owners on-site to explain the operation of and how to best maintain their systems
Conducting annual forums with plumbers, treatment plant installers, maintenance contractors, liquid waste removal contractors etc to discuss relevant waste management issues
Investigate the merits of advising owners of developed properties blocks that would be difficult to further develop from a wastewater perspective of the limitations of their properties
Ensure that Councils' planning processes – MSS, planning scheme, local structure plans, neighbourhood character studies – take into consideration the relevant findings of this plan.
Investigate the feasibility of introducing a special charge to fund the activities recommended in this plan (the cost of regional activities should also be included in this charge)
Introduce a monitoring program of septic tanks systems. This monitoring program should involve the following: • Regular and random measurement of septic tank sludge levels • Inspection of a sample of systems to ensure that tanks, pits, pumps etc are in good working order • Inspection of a sample of systems to ensure to identify that they are operating properly and in accordance with their permits to use. Mapping of systems using GPS • Ensuring owners of treatment plants submit their quarterly maintenance reports and undertake annual tests of effluent quality. Carefully reviewing these reports and taking action where appropriate • Random testing of the sand filter effluent. Carefully reviewing the test results and taking appropriate action • A water sampling program as per table 3
Adopt the recommendations as listed in table 3 of this report to address the specific problems relating to wastewater management identified by this study
Adopt the recommendations listed in table 4 of this report relating to each township

ACTION
Identify and map the vacant blocks in each township which could be unsuitable for development. Give consideration as to what action should be taken with respect to these blocks – advising the owners, requiring consolidation with adjacent vacant blocks prior to development, changing the zoning of the blocks.
Produce a map for each township which shows the following information – geology, topography, soil type, watercourses, other important topographical and environmental features.
Attempt to capture the EHO's knowledge of each township re wastewater in map form
Investigate specific measures for improving the quality of the discharge from the barrel drains in Tarrington, Branxholme, Balmoral and Cavendish

APPENDICES

Appendix A - Study Methodology

STEPS	PROCESS
Task 1 – Document Current Waste Water Management Issues / Arrangements / Practices / Problems / Potential New Systems	
Step 1 – Review of existing research / plans / roles	— Review of all previous research, plans, files, investigations etc that have been undertaken by Council relating to wastewater management — Discussion with Council / water authorities / catchment authorities on what they consider to be the key issues / problems that should be addressed by the wastewater management strategy — Discussion with Council and authorities about their roles in wastewater management and the implementation of the wastewater management strategy
Step 2 – Map existing systems	— Review of existing septic tank permits and property records, files and plans — Review of information already collected by Council which may not yet have been included in the records — Discussion with Council officers about the accuracy of these records — Identification of properties for which records do not exist or accuracy of records are questionable — Discussion with Environmental Health Staff about the extent of the mapping process – does Council want all systems mapped or just those in priority townships and other nominated risk areas — Inspection of these properties to map wastewater systems (the condition of the system will also be noted at this time - See step 3) — Transfer of above information to appropriate property records system (e.g. GIS)
Step 3 - Audit the condition of existing systems	— Discussion with Environmental Health Staff to settle on the scope of and process for the proposed inspection program for wastewater systems e.g. how many and what mix of properties should be inspected in the townships listed in the brief; how should the process be introduced to householders; and what information should be collected and how — Send letter to properties advising of proposed inspection regime and asking them to locate septic tank systems if they can. — Inspect the properties. Note the type of system, check consistency with plan, note any problems – odour, effluent surfacing, damaged pipes, system being built over, disturbance to effluent field, illegal discharge off-site, problem with discharge etc
Step 4 – Analyse records / inspections	— Analysis of audit to provide breakdown of systems by age, location, type of building, type of system, property size, condition, type of problems, monitoring and maintenance undertaken. This analysis will be both written and illustrative (on maps of townships)

STEPS	PROCESS
Step 5 - Review Council's planning processes for unsewered areas	— Discussions with Council' planning and environmental health staff about the processes used to consider wastewater management issues when approving development plans such as local structure plans, outline development plans, rezoning, new subdivisions, permits for construction of buildings, permits for renovation/extension of buildings etc — Review of the information/material provided to developers/owners relating to wastewater management in unsewered areas — Discussion with Council staff, developers/property owners, key Government and Statutory Authorities to review the above processes and information and identify any concerns/problems from their perspectives
Step 6 - Review of Council's application, permit and inspection processes for wastewater systems	— Discussion with Council's Environmental Health Staff to map the approval process from the initial contact through to final approval — Discussion with Council Environmental Health Staff, property owners, plumbers/drainers and key Government and Statutory Authorities to review the process and identify any concerns/problems from their perspectives
Step 7 - Review monitoring/maintenance processes	— Discussion with Council's Environmental Health staff about the instructions (verbal or written) given to owners/tenants at completion of installation re how to monitor and maintain their systems — Review of any monitoring processes undertaken by Council — Review of monitoring and maintenance activities undertaken by householders (this will undertaken through a survey of sample of householders and though discussions during inspection of systems)
Step 8 – Identify potential new systems	— Listing of the properties which are yet undeveloped but where applications for development have been approved and the type of wastewater management system has been identified — Listing of the properties where development has been refused or deferred due to wastewater management considerations — Listing of other vacant properties in approved subdivisions. Review their planning/ development status with respect to wastewater disposal (e.g. can they be developed, what system would be required) — Review of other potential development areas where approval for development has not yet occurred. Identify Council's position on the future development of these areas from a wastewater disposal perspective

STEPS	PROCESS
Task 2 - Conduct a detailed assessment of risk/problem areas and identify potential solutions	
Step 1 - Identify minor/isolated problems with systems	— Using the information obtained from Task 1, list the areas and properties where minor problems are occurring (minor is defined as defects/problems with the wastewater management systems that are not creating an environmental or health risk but pose a risk to the proper functioning of the system and should be rectified) — Discussion with Council staff about how these problems should be addressed
Step 2 – Identify/investigate significant problem areas	— Review of the information collected in Step 1and the preliminary risk assessment already undertaken by Council — Discussion with Council staff and authorities about the information and assessments and determination of the townships/areas which are to be the subject of more detailed investigation — Discussion with Council and authorities about the current status of these investigation areas with respect to sewer (i.e. have any investigations been undertaken before, have any schemes been considered etc) — Conduct of the following actions with respect to the investigation areas: ➢ Collate information about condition of systems (from task 1) ➢ Identify health/environment risks in problem areas – failing systems, water ponding in street drains and on roads, water discharging into waterway or neighbouring properties, odour problems etc ➢ Collect other relevant information about areas – land capability, geology, climate, groundwater etc
Step 3 – Identify potential solutions for investigation areas	— Discussion of findings of Step 2 with Council and authorities — Identification of potential solutions including costs and agreement on a preferred course of action — Development of detailed reports for the priority townships which draw together all the information collected during this task

STEPS	PROCESS
Task 3 – Development of Wastewater Management Strategy for each Municipality	
Step 1 – Development of Draft Strategy Plan	— Compilation of a summary of the findings/outcomes of the previous steps — Developments of a wastewater management strategy plan. Plan to include: ➢ Goals and objectives of Council ➢ Role of Council ➢ Roles of other key authorities ➢ Action plans (could cover the following area – will include timelines and costs) ♦ Database and mapping of systems ♦ Planning and approval processes ♦ Monitoring processes ♦ Education of owners/tenants ♦ Recommended actions for isolated problems ♦ Detailed strategies for investigation (inc funding sources, responsible authorities etc) ➢ Resources required to implement strategy ➢ Recommended funding approach ➢ Implementation schedule ➢ Monitoring and evaluation
Step 2 – Review of Draft Plan and production of final strategy	— Review of strategy by Councils and authorities. More detailed discussion on action plans, funding sources, implementation and monitoring and evaluation. Completion of plan