brayd consulting
Paul Williams & Associates
Van de Graaff & Associates

BENALLA RURAL CITY COUNCIL

DOMESTIC WASTEWATER MANAGEMENT PLAN

JANUARY 2016

Document Information

Prepared by: Dawn Bray, BA Applied Science (Planning), MPIA, brayd consulting
ABN 829 8571 0259
With input from Dr Robert van de Graaff from Van de Graaff & Associates and Paul Williams from Paul Williams & Associates

Prepared for: Nilesh Singh, Manager Development, Benalla Rural City Council

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1.0	18/09/2015	Dawn Bray Robert van de Graaff Paul Williams	Nilesh Singh	20/10/2015
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Glossary

Beneficial Use	Defined by SEPP Waters of Victoria as the different uses and values of water (eg potable water, irrigation water, water for plants and animals)
Black water	Wastewater from toilets
BRCC	Benalla Rural City Council
Code of Practice	Environment Protection Authority *Code of Practice – Onsite Wastewater Management* (February 2013)
DELWP	Department of Environment Land Water and Planning
EPA	Environment Protection Authority
GBCMA	Goulburn Broken Catchment Management Authority
GMW	Goulburn Murray Water
Grey water	Water sourced from a shower, bath, hand basins, washing machine, laundry troughs or kitchen sink
LPPF	Local Planning Policy Framework, Benalla Planning Scheme
NE Water	North East Water
Overland Flow	Path of surface runoff that is not a defined channel or waterway
Potable Water	Treated water that is suitable for human consumption
Benalla RCC	Benalla Rural City Council
SEPP (WoV)	State Environmental Protection Policy (Waters of Victoria), Environment Protection Authority 1988
Sewage	Combined black water and grey water
Whole of Water Cycle	Multi agency/stakeholder management of rainwater, stormwater, recycled water, potable water, wastewater, groundwater and water in waterways/lakes

Table of Contents

List of Tables, Figures, Maps and Attachments

1. Executive Summary

A domestic wastewater management plan (DWMP) is the key tool through which councils meet their obligations under the *Environment Protection Act 1970* and the *State Environmental Protection Policy (Waters of Victoria)*. It is a medium term document with a five-year lifespan that outlines strategies to manage the potential adverse cumulative impacts of unmanaged domestic wastewater on public health, water quality and the environment.

The assessment of potable water infrastructure location, soil type, slope, unsewered dwelling density and bore density has enabled the Steering Committee to identify a range of initiatives to focus scarce resources into areas where the greatest public health, amenity and environmental health benefits will be gained.

According to the risk analysis the two localities of highest risk are Minor Catchment No 2 Broken Creek (containing Goorambat township) and Minor Catchment 9 Lima East Creek (containing Swanpool and Lima East). It is noted that the risk rating for the Broken Creek catchment will be reduced from high to medium once the potable bore in Goorambat is decommissioned within the next 18 months. Townships in Medium Risk areas such as Devenish, Baddaginnie and Benalla will be the second priority for resource allocation and investment.

In response to the findings of the risk analysis the initiatives to support an improvement in domestic wastewater management across the municipality include:

- Clarification of parameters for new 'greenfield' development, infill development and the redevelopment of existing dwellings, with the objectives being to maximise connections to reticulated services in the Benalla township and incremental upgrades of ageing onsite systems in unsewered areas when redevelopment is proposed;
- A review of the declared sewerage district for Benalla township to assist with the development of a strategic plan to extend the existing reticulated sewerage network to adequately serve all land zoned General Residential and Low Density Residential;
- Circulation of community education material to ensure people are better informed about how to maintain their onsite system;
- Distribution of triennial reminders to landowners to desludge their septic tanks;
- Pilot programs to test the efficacy of various low cost measures in improving the performance of older onsite systems and to scientifically investigate the potential impacts of onsite systems on bore/ground water;
- The implementation of a proactive, risk based inspection program for existing systems, focusing initially on pre 2005 systems (due to their higher propensity to failure);
- Annual training workshop for local experts on assessing wastewater treatment options and system design;
- Development of stormwater collection and treatment plans for Devenish, Goorambat and Baddagginnie to identify options to ensure greywater discharged into the stormwater system is efficiently collected and treated.

An annual update and review of the DWMP's implementation will be undertaken with Project Partners as a means of informing future budget allocations by all stakeholders. The process of developing a new DWMP will commence in 2020.

2. Introduction

2.1 Purpose and Objectives

This Domestic Wastewater Management Plan (DWMP) is a medium term strategic document aimed at providing a comprehensive decision making framework enabling Benalla Rural City Council (BRCC), water corporations and other stakeholders to effectively manage and mitigate adverse cumulative impacts from wastewater on public health, the environment, catchment health and water quality.

The Plan aims to:

- ***ensure BRCC meets its legislative obligations*** under the *Environment Protection Act 1970* and *State Environment Protection Policy Waters of Victoria* (SEPP WoV) for the management of domestic wastewater in an effective and affordable way;
- ***respond to the Key Issues*** identified in Section 14 of the DWMP Issues Paper (refer to Attachment 1);
- ***provide certainty*** to the community and investors about future development parameters in sewered and unsewered areas;
- ***ensure Council works collaboratively*** with water corporations and government agencies to establish a long term, multi agency approach to domestic wastewater management and infrastructure investment across the Rural City;
- ***ensure existing reticulated sewerage infrastructure in the Benalla township expands in response to residential growth*** to help address existing water quality and potential public health issues;
- ***explore innovative, cost effective*** solutions to reduce the potential for adverse cumulative impacts from domestic wastewater on public health and beneficial uses, as defined by SEPP (WoV), in unsewered townships;
- ***specify clear standards and requirements*** for land capability assessments;
- ***develop an appropriate monitoring program*** for the maintenance of existing onsite wastewater management systems within townships to help address the issue of failing systems; and
- ***introduce the concept of 'whole of water cycle management'*** and how it can assist in wastewater management and the attainment of environmental and public health benefits, particularly in and around Lake Benalla and townships where the lack of slope makes onsite treatment and drainage a real challenge.

2.2 Project Partners

Responsibilities for the management of domestic wastewater are shared by a number of stakeholders. This Domestic Wastewater Management Plan (DWMP) has been developed with the support and input of a Steering Committee comprised of the following representatives:

- Cr Margaret Richards, Benalla Rural City Council (Chair)
- Veronica Schilling, General Manager Development & Environment, BRCC

- Nilesh Singh, Manager Development, BRCC
- Callum Morrison, Environmental Health Coordinator, BRCC
- Peter Slocomb, North East Water
- Neil Repacholi, Goulburn Murray Water
- Tom O'Dwyer, Goulburn Broken Catchment Management Authority
- Wendy Sherlock, Department of Environment Water Land and Planning.

The Environment Protection Authority was invited to participate in the Steering Committee but declined due to resource constraints. All Minutes, Agendas and draft documents have been forwarded to the EPA's North East Region Office keep them informed of the project's progress.

2.3 Scope

This DWMP applies to all land within the Rural City. There will, however, be a particular focus on areas identified as being high and medium risk, as defined by the outcomes of the risk analysis.

3. Methodology

The Plan has been informed by the work undertaken by other municipalities in recent times, particularly the Mansfield Shire Domestic Wastewater Management Pilot Project, and through guidance provided by the Steering Committee and input from the local community and local wastewater experts.

3.1 Risk Analysis Mapping

This DWMP generally adopts the Stage 2 risk analysis methodology for sub catchments outlined in the Council adopted Mansfield Shire Domestic Wastewater Management Plan 2014[1], following acceptance of this scientific work by VicWater, the EPA and local water corporations.

There have, however, been some modifications to the mapping methodology to suit local conditions, as agreed by the Steering Committee.

Data from the GBCMA was used to divide the municipality into sixteen (16) minor catchments based on watersheds and catchment boundaries to create a series of meaningful land units that reflected differences in geography, geology and settlement/land use. A series of information layers were then added to Council's Geographical Information System (GIS) to collate data related to each risk factor.

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1 *Approaches for Risk Analysis of Development with Onsite Wastewater Disposal in Open Potable Catchments*, prepared for Mansfield Shire Council by Dr Robert Edis, April 2014, *A Discussion Paper for the Initial Work Associated with the Preparation of a Shire Domestic Wastewater Management Plan* by Larry White April 2014, *A Review for Risk Analysis of Development with Onsite Wastewater Disposal in Open Potable Water Catchments* by Dr Robert van de Graaff, Van de Graaff and Associates Pty Ltd March 2014

Risk has been categorised into three levels; **high** (coloured red), **medium** (coloured orange) and **low** (coloured green). The citywide risk analysis results for each risk factor are discussed in detail in Section 13 of the DWMP Issues Paper.

The results from the five risk factors have been combined to derive an overall risk rating for each minor catchment. This final rating has been used to develop initiatives to manage future development, infrastructure investment and to improve the efficacy of existing onsite systems.

3.2 Consultation

The DWMP Issues Paper outlines the broad range of stakeholders that play a part in the management of domestic wastewater. In preparing this DWMP input and information has been sought from:

- The Steering Committee
- Benalla Rural City Council's Geographical Information Systems Officer
- Land capability assessment consultants
- Local plumbers and onsite system technicians
- Local residents and landowners.

4. Risk Analysis Outcomes

As outlined in Section 12 of the Issues Paper the overall minor catchment risk rating combines the risk ratings of the five risk factors of:

- Unsewered dwelling density per square kilometre
- Proximity to potable water reservoir/offtake point
- Bore density per square kilometre
- Slope
- Soil type.

The risk rating for each individual factor was given the following value **Low Risk** = 1 point, **Medium Risk** = 2 points and **High Risk** = 3 points. The overall risk rating was calculated by adding the individual risk values for each of the five risk factors, as outlined in Table 1.

The overall risk rating parametres are:

Low Risk = 0 – 7 points

Medium Risk = 8 – 10 points

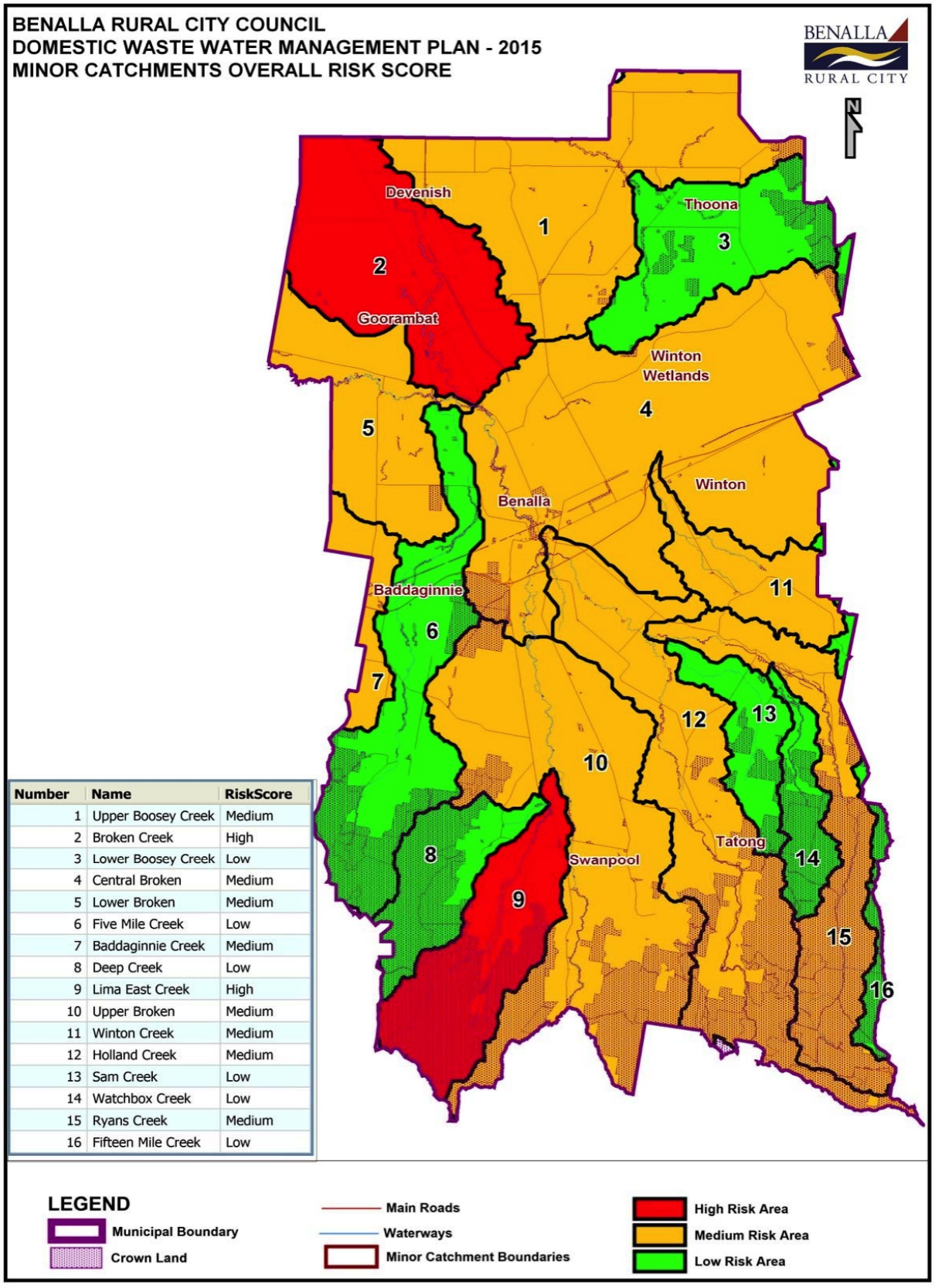
High Risk = > 11 points.

Table 1 Overall Minor Catchment Risk Ratings

Minor Catchment	Unsewered Dwelling Density Per Km²	Proximity to Potable Water Infrastructure Risk	Bore Density per Km²	Soil Risk	Slope Risk	Overall Risk Rating
1. Upper Boosey Creek (Contains Devenish)	3	2	1	3	1	**Medium**
2. Broken Creek (Contains Goorambat)	3	3	1	3	1	**High**
3. Lower Boosey Creek (Contains Thoona)	1	1	1	3	1	**Low**
4. Central Broken (Contains Benalla & Winton)	1	2	2	3	1	**Medium**
5. Lower Broken	1	2	1	3	1	**Medium**
6. Five Mile Creek	1	1	1	3	1	**Low**
7. Baddaginnie Creek (Contains Baddaginnie)	2	1	1	3	1	**Medium**
8. Deep Creek	1	1	1	2	2	**Low**
9. Lima East Creek (Contains Swanpool & Lima East)	2	1	3	3	2	**High**
10.Upper Broken	1	2	1	3	1	**Medium**
11.Winton Creek	1	2	1	3	1	**Medium**
12. Holland Creek (Contains Tatong)	2	2	2	3	1	**Medium**
13. Sam Creek	1	2	1	2	1	**Low**
14. Watchbox Creek	1	2	1	2	1	**Low**
15. Ryans Creek	1	2	1	2	2	**Medium**
16. Fifteen Mile Creek	1	2	1	1	1	**Low**

Source: Benalla Rural City Council Geographical Information System (GIS), August 2015

Map 1 Overall Minor Catchment Risk Ratings



Number	Name	RiskScore
1	Upper Boosey Creek	Medium
2	Broken Creek	High
3	Lower Boosey Creek	Low
4	Central Broken	Medium
5	Lower Broken	Medium
6	Five Mile Creek	Low
7	Baddaginnie Creek	Medium
8	Deep Creek	Low
9	Lima East Creek	High
10	Upper Broken	Medium
11	Winton Creek	Medium
12	Holland Creek	Medium
13	Sam Creek	Low
14	Watchbox Creek	Low
15	Ryans Creek	Medium
16	Fifteen Mile Creek	Low

Source: Benalla RCC Geographical Information System

4.1 High Risk Minor Catchments

There are two High Risk Minor Catchments; No. 2 Broken Creek and No. 9 Lima East Creek. The former has three high risk ratings; unsewered dwelling density, proximity to potable water infrastructure (the bore supplying potable water to Goorambat) and soil type. Slope and bore density are both rated low for this catchment.

Lima East Creek is rated as being high risk in terms of bore density and soil type. This catchment contains the townships of Swanpool and Lima East. The high risk level is due to unsewered dwelling density and bore density, mainly due to the concentration of development and bores in Lima East. The undulating slopes in the locality also result in a medium risk rating for this factor. The only low risk rating awarded to this catchment was for proximity to potable water infrastructure.

Please note that the overall risk rating for the Broken Creek catchment will be reduced from high to medium when NE Water have completed the potable water pipeline extension from Devenish, allowing them to decommission the existing potable water bore that serves the township.

4.2 Medium Risk Minor Catchments

There are eight (8) medium risk minor catchments scattered across the Rural City. The townships of Benalla, Winton, Devenish, Baddaginnie and Tatong are located in these medium risk areas. It is considered appropriate to focus initiatives on these townships, rather than the entire catchment, given the concentration of unsewered dwellings and the heightened potential of cumulative risks from unmanaged domestic wastewater.

4.3 Low Risk Minor Catchments

There are six (6) minor catchments identified as being low risk due to low unsewered dwelling densities, low bore densities and relatively flat land. Thoona is the only township located in a low risk area.

5. Strategies for the Management of Domestic Wastewater

This section outlines management strategies for sewered and unsewered areas, redevelopment of existing dwellings, infill development and greenfield development.

5.1 High Risk Minor Catchments

No. 2 Broken Creek (containing Goorambat)
No. 9 Lima East Creek (containing Lima East and Swanpool).

STRATEGIES:

5.1.1 All proposed developments within the township boundaries require a LCA developed in accordance with the best practice process in the EPA's *Code of Practice – Onsite Wastewater Management 2013*.

5.1.4 Highest priority for proactive inspections of all systems within townships by the end of Year 3, with the initial focus on inspecting pre 2005 systems.

5.1.5 Scientific investigation of the potential for onsite systems to contaminate groundwater via a coordinated program of bore auditing within high risk townships to identify operational bores, water table levels and water quality in partnership with GMW and the GBCMA.

5.1.6 Amendments to the Benalla Planning Scheme to include the adopted Domestic Wastewater Management Plan as a reference document in the Municipal Strategic Statement, relevant local planning policies (ie Clause 22.02 and 22.06) and the Schedule to Environmental Significance Overlay 3 – Lake Nillahcootie Catchment.

5.1.7 Roll out of an onsite wastewater system education campaign for residents and landowners to improve system maintenance standards and permit compliance.

5.1.8 Delivery of an annual training session for local LCA consultants and plumbers in partnership with GMW to improve assessment standards and permit compliance.

5.1.9 An inspection of the onsite system by a suitably qualified person when a property is placed on sale so that the future land owner is aware of the location, type and efficacy of the existing system (see Attachment 3 for an example of the type of information Council could distribute).

5.1.10 Development of stormwater collection and treatment plans in townships with minimal slope (ie Goorambat) to mitigate any potential adverse impacts from grey water discharges.

5.1.11 Triennial distribution of reminders to landowners/residents to desludge their septic tanks to improve system performance and minimise public health risks.

5.2 Medium Risk Minor Catchments

No. 1 Upper Boosey Creek
No. 4 Central Broken
No. 5 Lower Broken
No. 7 Baddaginnie Creek
No. 10 Upper Broken
No. 11 Winton Creek
No. 12 Holland Creek
No. 15 Ryans Creek

STRATEGIES:

5.2.1 All proposed developments generating wastewater must have a LCA developed in accordance with the best practice 12-step process in the EPA's *Code of Practice – Onsite Wastewater Management 2013.*

5.2.2 Second priority for proactive inspections, focusing initially on sites with pre 2005 systems.

5.2.3 Roll out of an onsite wastewater system education campaign for residents and landowners.

5.2.4 Delivery of an annual information/training session for local Environmental Health Officers, LCA consultants and plumbers in partnership with GVW.

5.2.5 An inspection of the onsite system by a suitably qualified person when a property is placed on sale so that the future land owner is aware of the location, type and efficacy of the existing system.

5.2.6 Development of stormwater collection and treatment management plans in townships with minimal slope (ie Devenish and Baddaginnie) to mitigate any potential adverse impacts from grey water discharges.

5.2.7 Triennial distribution of reminders to landowners/residents to desludge their septic tanks to improve system performance and minimise public health risks.

5.2.8 Amend the Benalla Planning Scheme to include the adopted Domestic Wastewater Management Plan as a reference document in the Municipal Strategic Statement, relevant local planning policies (ie Clause 22.02 and 22.06) and the Schedule to Environmental Significance Overlay 3 – Lake Nillahcootie Catchment.

5.3 Low Risk Minor Catchments

No. 3 Lower Boosey Creek
No. 6 Five Mile Creek
No. 8 Deep Creek
No. 13 Sam Creek
No. 14 Watchbox Creek
No. 16 Fifteen Mile Creek

STRATEGIES:

5.3.1 Amendments to the Benalla Planning Scheme to include the adopted Domestic Wastewater Management Plan as a reference document in the Municipal Strategic

Statement, relevant local planning policies (ie Clause 22.02 and 22.06) and the Schedule to Environmental Significance Overlay 2 – Lake Nillahcootie Catchment.

5.3.2 Roll out of an onsite wastewater system education campaign for residents and landowners.

5.3.3 Delivery of an annual information/training session for local Environmental Health Officers, LCA consultants and plumbers in partnership with GVW.

5.3.4 An inspection of the onsite system by a suitably qualified person when a property is placed on sale so that the future land owner is aware of the location, type and efficacy of the existing system.

5.3.5 Triennial distribution of reminders to landowners/residents to desludge their septic tanks to improve system performance and minimise public health risks.

5.3.6 Last priority for the proactive inspection/onsite landowner education program, initially focusing on properties with pre 2005 systems.

5.4 Greenfield Development and Rezoning Proposals in All Areas

Greenfield development means land that is either subject to a request to amend the Benalla Planning Scheme to rezone land for residential purposes, or land that is subject to a large-scale subdivision proposal or other form of large-scale residential development.

STRATEGIES:

5.4.1 Requirement that all new greenfield development in unsewered areas meets all aspects of the *EPA's Code of Practice – Onsite Wastewater Management 2013*. This includes meeting all guidelines for setback distances between primary/secondary systems and land application areas from waterways and drainage lines.

5.4.2 Amendments to the Benalla Declared Sewerage District to include future growth areas as defined by Clause 21.06 of the Benalla Planning Scheme and land within a General Residential or Low Density Residential zone to ensure that the maximum number of properties in areas zoned for future residential development are connected to reticulated services.

5.4.3 Amendment to the Benalla Planning Scheme to give effect to this DWMP and its recommendations, including policy statements around requiring all greenfield subdivisions within the Benalla township to be connected to reticulated sewer and working with NE Water to increase the number of existing dwellings connected to reticulated wastewater services.

5.5 Infill Development in All Areas

Infill development is defined as being proposals to construct a dwelling on existing, subdivided vacant lots in established townships and settlements.

STRATEGIES:

5.5.1 In principle, all infill development must be designed to meet all *EPA Code of Practice – Onsite Wastewater Management 2013* standards.

5.5.2 Any variance to *EPA Code of Practice* standards will only be considered where:

- The land capability assessment has been undertaken in accordance with the requirements of this DWMP (ie in accordance with the risk rating of the minor catchment within which the site is located); and

- The LCA has been reviewed and approved by Council's Environmental Health Officer and, where appropriate, GMW and NE Water; and
- The LCA contains mitigation measures to ensure that the reduction of the Code of Practice standard does not pose an unacceptable cumulative risk.

5.6 Redevelopment/Extensions of Existing Unsewered Dwellings

Existing onsite systems will be managed through the proactive inspections and a landowner education program to improve community awareness about the importance of maintaining their onsite system.

Such measures are to be supported by seeking improvements to individual onsite systems when redevelopment is proposed, which will gradually result in cumulative public health and environmental benefits as redevelopment of existing housing stock occurs.

Council's Environmental Health Officer will make an assessment as to whether or not the environmental and public health impacts are such that a complete system upgrade is required or whether alterations to the existing system will be sufficient to meet current day standards.

It must be acknowledged, however, that a number of redevelopment sites within townships will not be able to meet all EPA *Code of Practice* standards given many lots are too small to meet the land application area and setback requirements of the Code.

STRATEGIES:

Following discussions with the Steering Committee the following approach is to be applied to the redevelopment of existing, unsewered dwellings:

5.6.1 If the redevelopment site is located in an unsewered area within Benalla Township discussions must be held with NE Water about connection to reticulated sewer prior to the submission of any application to Council for either a planning permit or a Permit to Install/Alter an onsite domestic wastewater system. The objective is to maximise connections to reticulated sewer.

5.6.2 Should Council and NE Water agree that connection to reticulated sewer is not feasible in the short term (ie up to 2 years), a land capability assessment must be submitted to Council for review that meets the requirements of this DWMP.

5.6.3 An inspection of the onsite system by a suitably qualified person when a property is placed on sale so that the future land owner is aware of the location, type and efficacy of the existing system.

5.6.4 Redevelopment sites within unsewered townships must meet the following requirements to ensure a public health and environmental cumulative benefit is gained through the proposed redevelopment:

- Requests to varying one or more standards in the EPA *Code of Practice* will only be considered where:
  - ✓ the LCA identifies maintenance, land management requirements and/or system upgrades to ensure as many EPA standards are met as possible; and
  - ✓ the LCA concludes that if this work is undertaken there will be no cumulative risk posed by the proposed redevelopment; and

- ✓ measures are included in the LCA, permit to install and certify the use of an onsite system to improve the quality of any grey water being discharged from the site (if the existing system treats black water only).

5.7 Management of Existing Onsite Systems

One of the most challenging issues faced by Council is the management of existing onsite systems, particularly those installed prior to 2005, when the standards for onsite wastewater treatment systems were raised significantly by the EPA (including prohibition of some forms of land application systems that were hitherto legal, such as sprinkler systems).

Many of these older systems are legal in that a permit has been granted by Council for their installation, however it is fair to say in many instances the standard of treatment of household wastes would not meet current day standards. Where permits can be complied with (such as direct old untreated greywater is discharged to a stormwater drain) or the system predates the modern permit process, there is really no course of action open to Council to require a system to be upgraded.

This is primarily due to the fact that current legislation and EPA guidelines do not adequately deal with the management of older systems. Council is left in some doubt, therefore, as to what standards to apply when inspecting an older system; do current day standards need to be met or merely the requirements of the original permit? A sound legal mechanism for Council to use to require action by landowners is also not readily available, aside from the Nuisance clauses of the *Public Health and Wellbeing Act 2008*.

After much discussion and thought, the Steering Committee believe that harm minimisation is the goal when it comes to ageing, legal systems. While the requirement to upgrade to new, compliant systems should be the default position if a system is failing, Council must be mindful that the configuration of many sites will mean that the achievement of all current day standards is impossible. Flexible solutions to the particular wastewater challenges and financial circumstances faced by each site and household must, therefore, be applied.

Adopting this approach means that over time, cumulative benefits relating to amenity, public health and environmental health will be achieved in a way that is mindful of the fact that many households will be unable to afford to install new sophisticated treatment systems in order to meet all current day standards.

This is consistent with the philosophies and parameters set by the Essential Services Commission, which caps the levels of contributions made by landowners when connecting to newly constructed reticulated infrastructure as it is acknowledged that landowners cannot pay the full cost of reticulated service provision, which is tens of thousands of dollars per lot.

It is recommended that Council and partnering agencies develop a program to explore possible new approaches to improving the efficacy of older systems by engaging with local plumbers, land capability assessors and environmental health officers. Such a program would have to be scientifically conducted to assess the level of improvement in performance and compliance with regulatory standards.

STRATEGIES:

5.7.1 Development of a pilot program to scientifically test the efficacy of affordable measures to improve the performance of ageing onsite systems (eg the application of gypsum to soils and the septic tank) in an effort to ensure greater compliance with current day wastewater treatment standards.

6. Additional Management Strategies for Townships

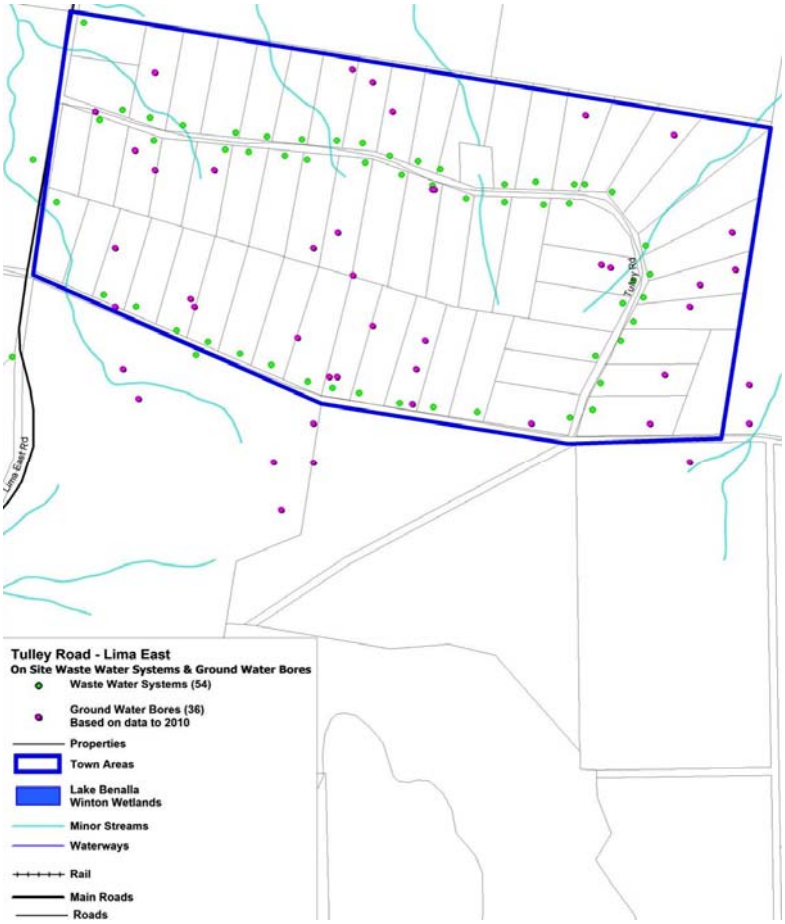
This section outlines key data, environmental constraints and actions designed to mitigate the domestic wastewater management challenges faced in each township.

6.1 Lima East / Swanpool – High Risk

Summary:

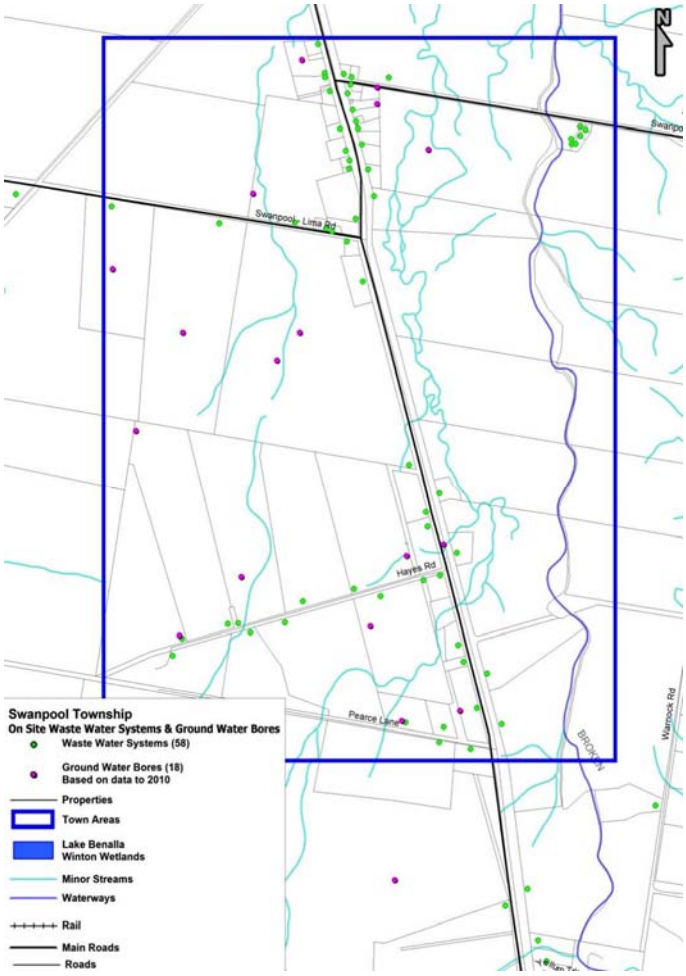
- Unsewered townships.
- 58 known onsite wastewater management systems in Swanpool and 54 onsite systems within Lima East.
- 18 bores within Swanpool township, 36 in Lima East.
- Bore data shows there are high water table levels in some parts of Swanpool.
- Lima East Creek runs through the area and into the Broken River.
- High rainfall area with a median rainfall of 994 mm per annum and 90th percentile rainfall of 1382 mm per annum at Lima East (between 1994 - 2015).
- Medium to high rainfall area with a median rainfall of 884 mm per annum and 90th percentile rainfall of 1184 mm per annum at Swanpool (between 1949 – 2015).
- Poor soils for onsite treatment.

Map 2 Lima East – Location of Onsite Systems and Bores



Source: Benalla Rural City Council Geographical Information System

Map 3 Swanpool – Location of Onsite Systems and Bores



Source: Benalla Rural City Council Geographical Information System

ACTIONS:

SHORT TERM (1 – 2 YEARS):

1. First priority within the municipality for the proactive inspection program, focusing initially on pre 2005 systems.

MEDIUM TERM (3 – 5 YEARS):

2. Scientific investigation into the potential adverse impacts from a concentration of onsite systems within proximity of bores, including water quality testing and the mapping of the water table gradient through an audit of onsite bores.
3. Completion of proactive inspection program for existing onsite systems.

6.2 Goorambat – High Risk (please note that this Minor Catchment will reduce to medium risk once the potable water bore supplying the township is replaced by reticulated water piped from Devenish)

Summary:

- Unsewered township.
- 63 known onsite wastewater management systems within township boundaries.
- Evidence of grey water stagnating in open stormwater drains.
- Potable water bore located within the township boundaries supplying reticulated water to residential areas.
- Land with less than 1% slope, which poses challenges for stormwater collection/distribution and may require pressurised land application systems.
- Medium annual rainfall area with a median rainfall of 545 mm per annum and 90th percentile rainfall of 734 mm (between 1889 - 2015).
- Poor soils for onsite treatment.

Map 4 Goorambat Township – Location of Onsite Systems (there are no bores within the township)

Source: Benalla Rural City Council Geographical Information System

ACTIONS:

SHORT TERM (1 – 2 YEARS):

1. Second priority within the municipality for the proactive inspection, focusing initially on pre 2005 systems.

MEDIUM TERM (3 – 5 YEARS):

2. Development of a stormwater management plan, in consultation with the GBCMA, for the township to minimise the pooling of discharged greywater within the open drain along Hall Road, including the allocation of funds to undertake capital works to implement the plan.
3. Completion of proactive inspection program for existing onsite systems.

LONG TERM (> 5 YEARS):

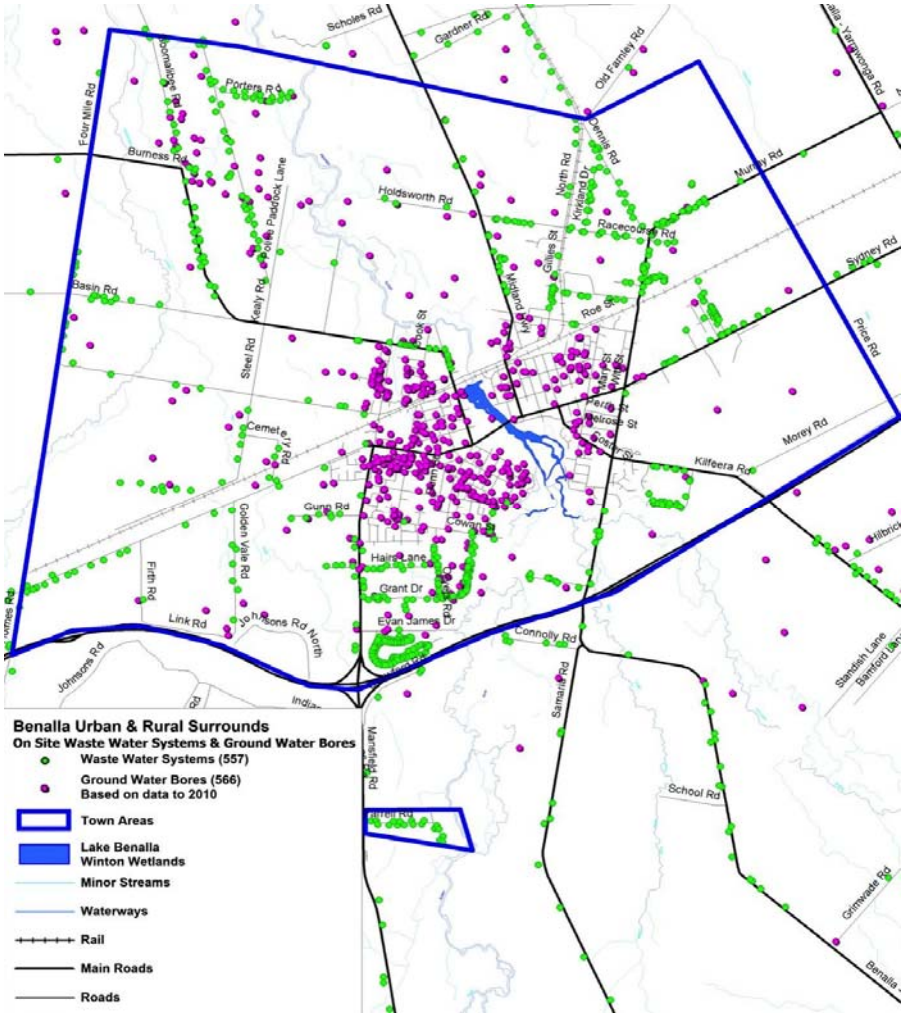
4. Implementation of stormwater management and treatment works as per the Stormwater Management Strategy.

6.3 Benalla – Medium Risk

Summary:

- Partially unsewered township.
- Sewer extensions have not kept pace with new development.
- 557 known onsite wastewater management systems within township boundaries.
- 556 bores within township boundaries.
- Reticulated sewerage infrastructure currently runs past unsewered dwellings.
- Relatively high densities of unsewered properties close to the Broken River.
- Land around Lake Benalla and to the south and west is subject to inundation.
- Lake Benalla experiences very poor water quality during Summer, with potential for adverse public health impacts.
- Medium annual rainfall area with a median rainfall of 611 mm per annum and 90th percentile rainfall of 847mm (between 2006 - 2015).
- Relatively high water tables in some areas of the township.
- Areas of land with less than 1% slope, which poses challenges for stormwater collection/distribution and may require pressurised land application systems.
- Poor soils for onsite treatment.

Map 5 Benalla Township – Location of Onsite Systems and Bores



Source: Benalla Rural City Council Geographical Information System

ACTIONS:

SHORT TERM (1 – 3 YEARS):

1. Work in partnership with NE Water to ensure that the declared sewerage district for Benalla township includes all land within a General Residential or Low Density Residential Zone (see Attachment 2 for the existing declared sewer district boundaries).
2. Assist NE Water in the development and implementation of a Strategic Investment Plan for backlog sewer extensions for General Residential and Low Density Residential land, assisted by an ongoing community consultation/education campaign.
3. Council and North East Water develop an action plan to maximise connections to the reticulated sewerage system in Benalla township.
4. Development and implementation of a coordinated, scientific approach to water quality testing for Lake Benalla in partnership with other relevant authorities.

MEDIUM TERM (3 – 5 YEARS):

5. Pending the outcome of the water testing program, development of a project brief and rationale for the preparation of a whole of water cycle management plan for Benalla Township to address water quality issues in Lake Benalla, potential impacts of unsewered development on the Broken River and the combination of poor soils and high water tables limiting the efficacy of onsite wastewater treatment. This project should be a partnership between Council, NE Water, GMW, EPA and the GBCMA.
6. Identification of potential funding sources to prepare the whole of water cycle management plan and development of submissions for suitable grants.
7. Third priority within the municipality for the proactive inspection program, focusing initially on pre 2005 systems close to Lake Benalla and the Broken River.
8. Implementation of the NE Water Strategic Investment Plan.

LONG TERM (> 5 YEARS):

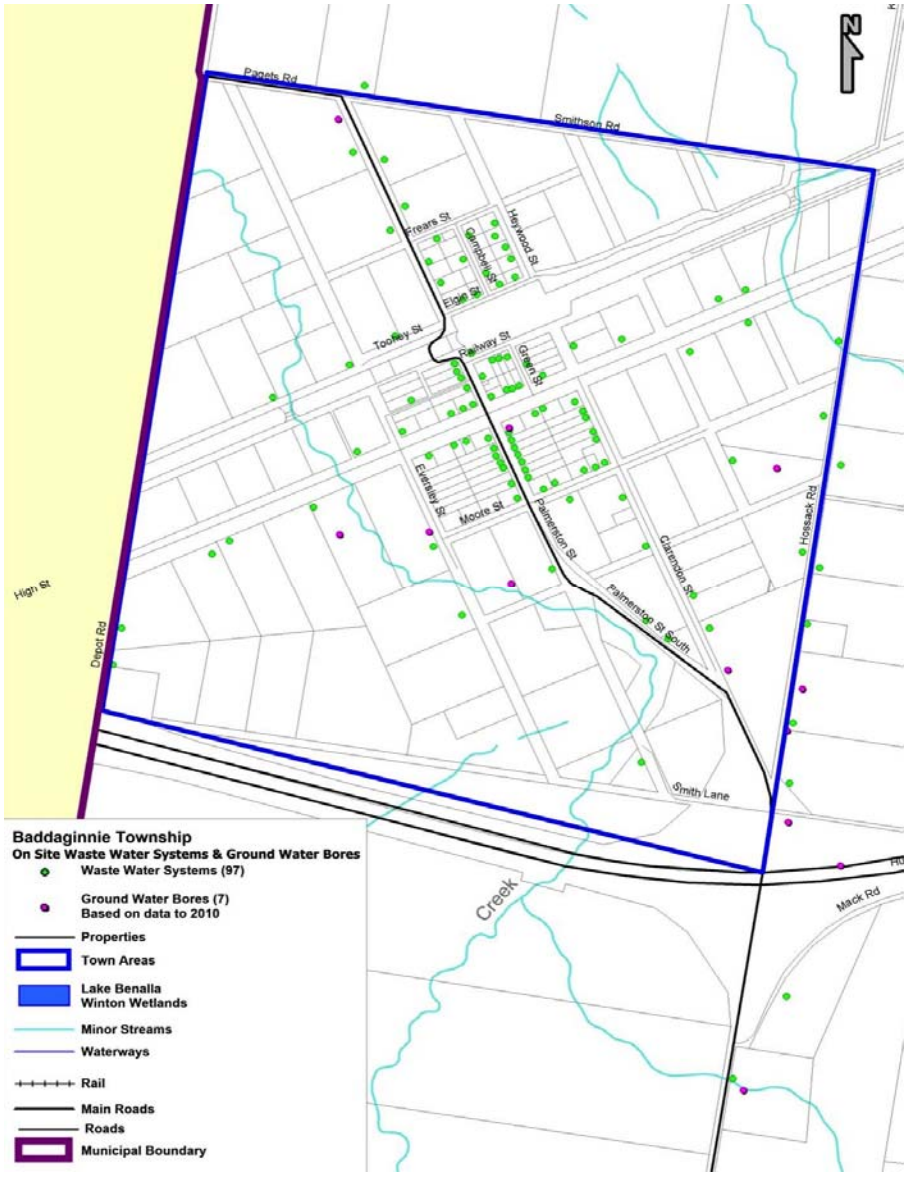
9. Preparation of the whole of water cycle management plan for Lake Benalla (pending successful funding applications).
10. Implementation of the whole of water cycle management plan in partnership with other authorities, including allocation of funds for any required capital works.
11. Implementation of the NE Water Strategic Investment Plan.
12. Completion of proactive inspection program of existing onsite systems.

6.4 Baddaginnie – Medium Risk

Summary:

- Unsewered township.
- 97 known onsite wastewater management systems within township boundaries.
- 7 bores within the township area.
- Occasional occurrence of relatively high water tables to the south of the township.
- Medium annual rainfall area with a median rainfall of 611 mm per annum and high 90th percentile rainfall of 847 mm (between 2006 - 2015).
- Land with less than 1% slope, which poses challenges for stormwater collection/distribution and may require pressurised land application systems.
- Poor soils for onsite treatment.

Map 6 Baddaginnie – Location of Onsite Systems and Bores



Source: Benalla Rural City Council Geographical Information System

ACTIONS:

SHORT TERM (1 – 2 YEARS):

1. Development of a scientifically based pilot program to test the efficacy of affordable modifications of existing, ageing systems to improve treatment performance.

MEDIUM TERM (3 – 5 YEARS):

2. Fourth priority within the municipality for the proactive inspection program, focusing initially on pre 2005 systems.
3. Development of a stormwater management plan, in consultation with the GBCMA, for the township to address drainage issues within the township, including the allocation of funds to undertake capital works to implement the plan.

LONG TERM (> 5 YEARS):

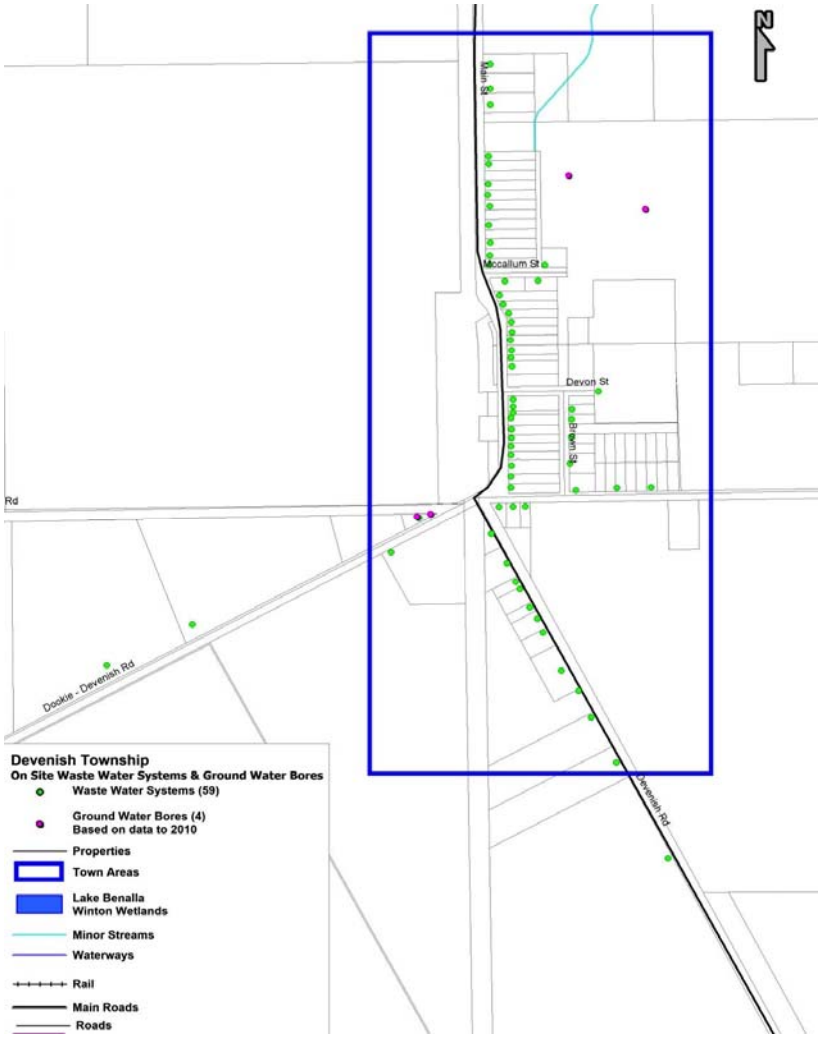
4. Completion of proactive inspection program for all existing systems within the township.
5. Implementation of the stormwater management and treatment works in consultation with the GBCMA.

6.5 Devenish – Medium Risk

Summary:

- Unsewered township.
- 59 known onsite wastewater management systems within township boundaries.
- 4 bores within the township area.
- Evidence of greywater stagnating in open stormwater drains.
- Land to the east of the township is subject to inundation.
- Relatively high water tables in the eastern side of the township.
- Medium annual rainfall area with a median rainfall of 545 mm per annum and 90th percentile rainfall of 734 mm (between 1889 - 2015).
- Land with less than 1% slope, which poses challenges for stormwater collection/distribution and may require pressurised land application systems.
- Poor soils for onsite treatment.

Map 7 Devenish – Location of Onsite Systems and Bores



Source: Benalla Rural City Council Geographical Information System

ACTIONS:

SHORT TERM (1 – 2 YEARS):

1. Provision of information by Council to local residents outlining the scope and purpose of the stormwater infrastructure works to be undertaken during 2015/6.
2. Completion of stormwater infrastructure works scheduled in Council's 2015/16 Capital Works Program to address issues of stagnant greywater in open drains.

MEDIUM TERM (3 – 5 YEARS):

3. Development of a stormwater management plan, in consultation with the GBCMA, to augment the works undertaken by Council in Years 1 - 2, including the allocation of funds to undertake capital works to implement the plan.
4. Commencement of proactive inspection program, focusing initially on pre 2005 systems.

LONG TERM (> 5 YEARS):

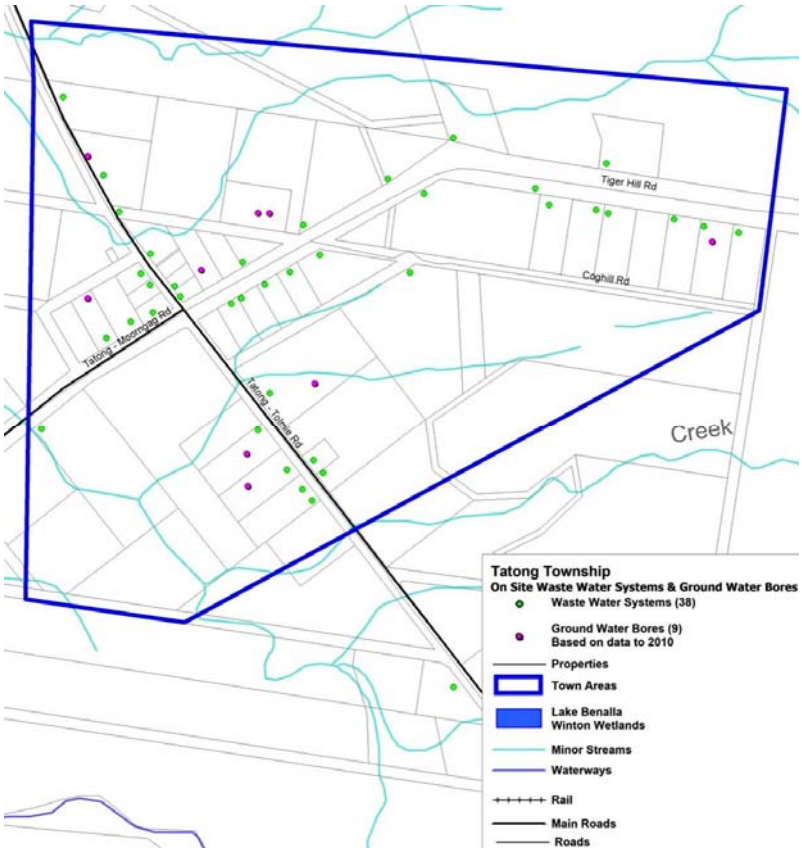
5. Implementation of the stormwater management and treatment works in consultation with the GBCMA.
6. Completion of proactive inspection program of existing onsite systems.

6.6 Tatong – Medium Risk

Summary:

- Unsewered township.
- 38 known onsite wastewater management systems within township boundaries.
- 9 bores within the township area.
- Several waterways running through the township.
- High water tables.
- Medium annual rainfall area with a median rainfall of 545 mm per annum and 90th percentile rainfall of 734 mm (between 1889 - 2015).
- Poor soils for onsite treatment.

Map 8 Tatong – Location of Onsite Systems and Bores



Source: Benalla Rural City Council Geographical Information System

ACTIONS:

MEDIUM TO LONG TERM (3 + YEARS):

1. Commencement of proactive inspection program of all existing systems within the township.

6.7 Winton – Medium Risk

Summary:

- Unsewered township.
- 28 known onsite wastewater management systems within township boundaries.
- 20 bores within the township area.
- Waterway running through township into the Winton Wetlands, which in turn drains into the Broken River.
- Medium annual rainfall area with a median rainfall of 611 mm per annum and high 90th percentile rainfall of 847mm (between 2006 - 2015).
- Areas of land with less than 1% slope, which poses challenges for stormwater collection/distribution and may require pressurised land application systems.
- Poor soils for onsite treatment.

Map 9 Winton – Location of Onsite Systems and Bores

Source: Benalla Rural City Council Geographical Information System

ACTIONS:

MEDIUM TO LONG TERM (3 + YEARS):

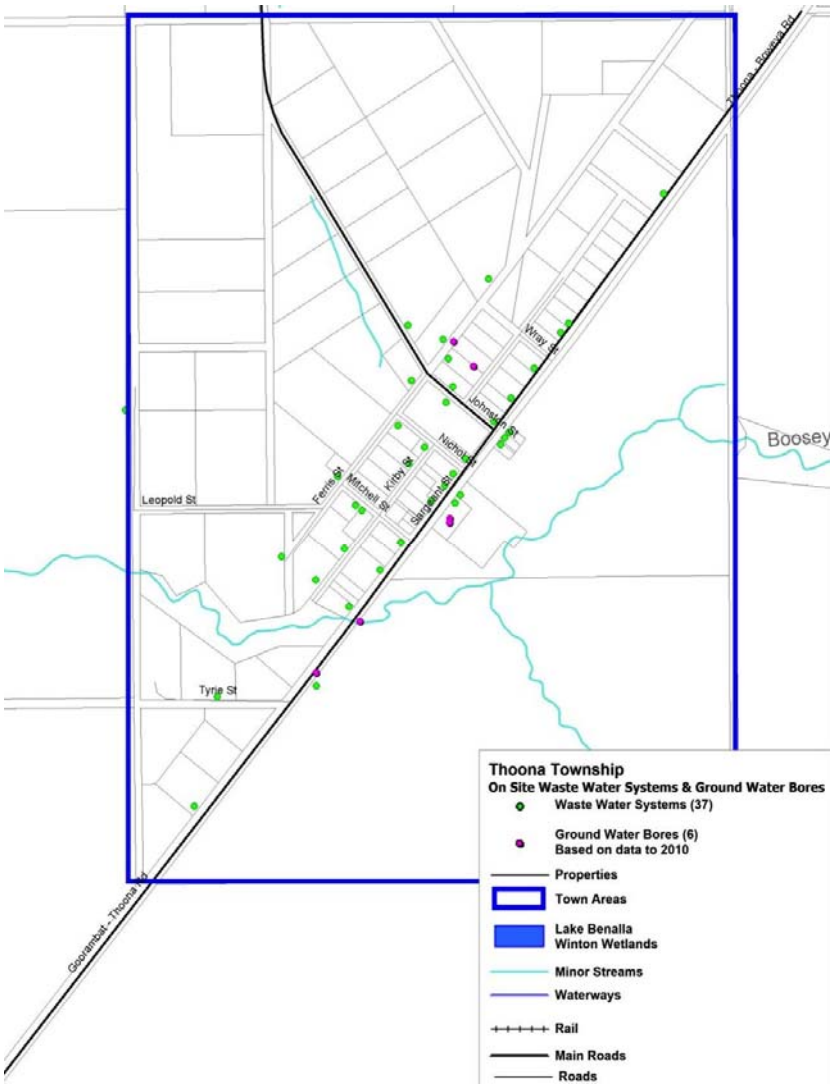
2. Commencement of proactive inspection program of all existing systems within the township.

6.8 Thoona – Low Risk

Summary:

- Unsewered township.
- 37 known onsite wastewater management systems within township boundaries.
- 6 bores within the township area.
- Low annual rainfall area with a median rainfall of 463 mm per annum and medium 90th percentile rainfall of 695mm (between 2002 - 2015).
- Areas of poor soils for onsite treatment.

Map 10 Thoona – Location of Onsite Systems and Bores



Source: Benalla Rural City Council Geographical Information System

ACTIONS:

MEDIUM TO LONG TERM (3 + YEARS):

3. Commencement of proactive inspection program of all existing systems within the township.

7. Land Capability Assessments

The Benalla Planning Scheme requires a LCA to be submitted with any planning permit application for a building in an unsewered area that generates wastewater.

A land capability assessment (LCA) is the key risk analysis tool used to identify whether a site is capable of meeting the requirements of SEPP WoV and the EPA's *Code of Practice* in terms of containing all wastewater within site boundaries. It is also the primary means through which the assessor outlines management programs to maximise system efficiency.

Section 3.6.1 of the EPA's *Code of Practice – Onsite Wastewater Management 2013* outlines best practice standards for the preparation of a LCA. The EPA *Information Bulletin on Land Capability Assessment for Onsite Domestic Wastewater Management (Publication 746.1, 2003)* also identifies various site factors that could be assessed when preparing a LCA.

The Information Bulletin also stresses the need for Councils to be clear about the level of detail required for a LCA. Local LCA consultants and Plumbers did comment that there was a need for clarity and consistency in assessments through the online surveys conducted to inform this Plan. The purpose of this section is, therefore, to clearly state the level of assessment required for the development or subdivision of land, where there is to be retrofitting of an existing system or where the installation of a new onsite system is proposed.

7.1 Land Capability Assessment Requirements for High Risk Areas

All sites located in **high risk** catchments of Broken Creek Minor Catchment No. 2 (until NE Water completes the extension of reticulated water supply from Devenish to Goorambat) and Lima East Minor Catchment No. 9 must have a land capability assessment that meets the best practice standards outlined in Section 3.6.1 of the *EPA's Code of Practice – Onsite Wastewater Management, February 2013*.

1. The LCA must also include:
    - a water/nutrient balance
    - a full feature survey of the site (surface flows and soil horizons should be identified)
    - GPS coordinates for the system's location.

7.2 Land Capability Assessment Requirements for Medium Risk Areas

Due to the potential for cumulative impacts from domestic wastewater on public health and water quality, all sites located in a **medium risk** minor catchment must have a LCA prepared in accordance with the best practice standards outlined in Section 3.6.1 of the *EPA's Code of Practice – Onsite Wastewater Management, 2013*. GPS coordinates for the system's location must also be provided.

7.3 Assessment Guidelines for Low Risk Areas

Council's Environmental Health Officer will provide direction as to what type of analysis is required to be submitted with applications for any subdivision, development or Permit to Install an onsite system application for sites within a **low risk** minor catchment. This will be based on their local knowledge and on local geological and environmental constraints. GPS coordinates for the system's location must also be provided.

8. Monitoring Existing Onsite Systems

It is acknowledged that Council's proactive program can be widened and Council is mindful that compliance with permit conditions is an area where increased vigilance is required.

There is some support from land capability experts and the local plumbers who participated in the DWMP online survey for increased inspection and compliance activities by Council to ensure landowners and residents comply with permit conditions around system maintenance.

Accordingly, the following priorities will be adopted around the inspection of installed systems and monitoring of permit condition compliance:

1. The majority of resources will be focused on high risk minor catchments and medium risk minor catchments containing townships;
2. The first priority for the inspection and compliance program will be within the high risk minor catchments, with pre 2005 systems being inspected first, due to their propensity to failure;
3. The second priority (ie when Phase 1 is complete) will be on systems within townships in medium risk minor catchments, again with the initial emphasis on older systems; and
4. Lastly, where time and resources allow, inspections in low risk minor catchments will be undertaken.

It is considered that all of the high risk township inspections, and those in Benalla township can be completed within the five-year life of this DWMP.

Importantly, should Council receive a complaint from a land owner regarding a system which they believe poses a public health risk or is adversely impacting on local amenity, regardless of the risk rating of the minor catchment within which the site lies, this complaint will be considered by Council as a high priority in terms of an inspection and compliance action.

Inspection and Compliance Program Philosophy

Key components of Benalla RCC's inspection program should be:

1. Notifying communities that inspections will be undertaken prior to commencement.
2. Supplying a device that allows the inspector to record the exact GPS location of the onsite system so that a map can be provided to the resident/landowner for future reference and the coordinates of the system entered into Council's GIS system.
3. Sending a follow up letter to the resident/landowner either congratulating them on their efforts to maintain an effective system or to identify the maintenance issues that require attention.
4. Providing a three-month timeframe for the resident/landowner to attend to maintenance requirements before a follow up inspection is undertaken.

5. Discussing further compliance action options with the Manager, Development should the resident/landowner not have undertaken the required maintenance.

As an aside, we know that Moorabool Shire Council has had considerable success with its proactive inspection program in recent years. Their inspection program was based on the premise that small, inexpensive maintenance tasks were the best way to achieve cumulative benefits, rather than requiring all land owners to upgrade an entire system to comply with current standards, which often requires an investment of several thousand dollars. These learnings are relevant to the issues and challenges in managing existing wastewater systems faced in our Rural City, including financial hardship.

It is a program based on the philosophy of educating the community and landowners about their system and how to maintain it in the future. This 'education first' approach is in keeping with the handful of online survey responses from local experts and local land owners in that:

- Some land owners don't know what type of onsite system they have;
- Some don't know where their system is located;
- Many do not know what their obligations are in terms of de-sledging septic tanks and maintaining their onsite system; and
- There is an overall low level of knowledge about onsite systems and what day-to-day practices should be adopted to ensure systems work effectively.

9. Whole of Water Cycle Initiatives

'Whole of Water Cycle' can be defined as the integrated management of, and investment in, rainwater harvesting, stormwater management, recycled water, potable water, wastewater and groundwater.

Section 9.2 of the DWMP Issues Paper outlines whole of water cycle initiatives implemented by Benalla Rural City Council in recent years. It notes that the Benalla Planning Scheme provides a sound basis for whole of water cycle initiatives to be supported by Council through planning permit decisions, as well as when making decisions on amendments to the planning scheme.

Existing Council policies and initiatives should be strengthened by the following:

1. Discussion with the EPA, GBCMA, NE Water and GMW about the merits of preparing a whole of water cycle plan for Lake Benalla to identify the likely contributing factors to water quality issues, particularly during Summer;
2. Improved domestic wastewater outcomes such as the installation of water saving devices, connection to reticulated sewerage in the Benalla township, upgrades of onsite systems or other actions that would improve the quality of grey water discharged from the property (eg the application of gypsum to soils) when redevelopment of existing housing stock or new development is proposed;
3. Implementation of Council's Stormwater Management Plan, with high risk townships being priority areas for investment in the short term. Improved coordination of decisions around stormwater, floodplain and wastewater infrastructure investment to support the achievement of whole of water cycle objectives;
4. Integrating stormwater and wastewater strategies to provide a broader decision making context for Council, GMW, NE Water and the GBCMA particularly in the Benalla township

and where the slope of land is around 1% such as Baddaginnie, Devenish and Goorambat; and

5. Highlighting the importance of whole of water cycle management measures in the forthcoming Council Plan review for 2016/17 and future Council Plans.

10. DWMP Action and Resource Plan

We must be mindful that all stakeholders have limited resources to manage domestic wastewater. It is essential that the actions outlined in this document are implemented in a sensible manner and with appropriate resources.

There are opportunities for Council, water corporations and the GBCMA to collaborate and contribute resources to derive mutual benefit in achieving their respective corporate aims and legal responsibilities. Wherever possible learnings and resources from other councils will also be used so that efforts are not diverted into 'reinventing the wheel'.

Table 3 DWMP Resource Plan

Actions Based on Level of Priority & Policy Drivers		Primary Funding Source	Estimated level resources and effort	Nature of Funding	Potential Partnerships & External Funding Opportunities / Comments
Year 1					
1.1	Identify and implement amendments to the Benalla Declared Sewer District to ensure all future growth areas, General Residential and Low Density Residential land is included.	To be met from within existing budgets and resources	BRCC officer time required	One off	This process must be led by NE Water as per their Statement of Obligations (a new Statement of Obligations was released by the Minister dated 20/12/2015). NE Water officer time required
1.2	Development of a strategic plan by Council, NE Water, EPA and the Department of Health to clarify the possibilities for reticulated sewer extensions in Benalla pending the findings of Action 1.1, based on evidence that public health and environmental issues are best mitigated by maximising connections to reticulated sewerage.	To be met from within existing budgets and resources	Officer time required	One off expenditure	NE Water officer time required

Year 1 (cont'd)					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
1.3	Identify possible State and Federal funding options to assist with the sewer extensions identified by Action 1.2.	To be met from within existing budgets and resources	Officer time required		This action may need to be repeated annually pending the outcome of funding applications
1.4	Develop, implement and communicate a policy to maximise connection to reticulated sewerage where infrastructure is readily accessible to properties with onsite systems in partnership with NE Water.	Additional resource allocation required	BRCC officer time required Resources required to print and circulate information to landowners with onsite systems in the declared sewerage district. Approximate cost <$1000.	One off	This action has potentially significant financial impacts for NE Water due to limits set by the Essential Services Commission in relation to costs borne by landowners to connect to reticulated systems. NE Water officer time required
1.5	Review options for the integration of lodging, managing and tracking applications for onsite systems through the use of existing Council property databases to allow for ease of mapping, recording of GPS coordinates for system location and the ability to set reminders for when inspection reports are due.	To be met from within existing budgets and resources	BRCC officer time required	One off	
1.6	Development and circulation of community education material to improve maintenance standards and permit compliance.	To be met from within existing budgets and resources	< $1,000	Recurrent	Potential for GMW and NE Water to make a small contribution and to cobrand material

Year 1 (cont'd)					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
1.7	Delivery of an annual workshop for local Environmental Health Officers, LCA experts and Plumbers to improve the quality of assessments, maintenance standards and compliance with permit requirements.		Officer time required	Recurrent	GMW has offered to cover the cost of these workshops
1.8	Commencement of proactive inspections of all onsite systems in Goorambat, Swanpool and Lima East.	Budget and resource allocation required	Approximately 0.2 EFT additional resource, including administration at a cost of around $12,000	Recurrent	
1.9	Development and implementation of a coordinated, scientific approach to water quality testing of Lake Benalla in partnership with the GBCMA, EPA, NE Water and GMW.	To be met from within existing budgets and resources	BRCC officer time required	Recurrent	Potential for funding contributions or in kind support from GMW, NE Water and the GBCMA. State and Federal Government grants are also a potential source of funding.
1.10	Develop and implement a process for requiring a suitably qualified person to inspect the onsite system when a property is put up for sale (and inclusion in the Section 32 document) to improve community awareness around system type, location and maintenance requirements.	To be met from within existing budgets and resources	BRCC officer time required	Recurrent	

Year 1 (cont'd)					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
1.11	Annual meeting with Steering Committee members to track the progress of the DWMP's implementation and to discuss funding allocations to inform budget preparation.	To be met from within existing budgets and resources	BRCC officer time required	Recurrent	Stakeholder officers' time required
1.12	Provision of an annual report to Council, GMW, NE Water and the GBCMA to track the implementation of the DWMP Action Plan.	To be met from within existing budgets and resources	BRCC officer time required	Recurrent	
Year 2					
2.1	Annual meeting with Steering Committee members to track the progress of the DWMP's implementation and to discuss funding allocations to inform budget preparation.	To be met from within existing budgets and resources	BRCC officer time required	Recurrent	Water authority officer time required
2.2	Commence integration of onsite system approvals with the Council property database identified in Action 1.5.	Additional budget allocation required	Funding is likely to be required for software/module purchase. Resource/funding allocation required for data entry of historic approvals.	One off expenditure	

Year 2 (cont'd)					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
2.3	Develop and implement a scientifically based pilot program to test the efficacy of the application of simple, affordable initiatives to improve the efficacy of failing onsite systems (eg the application of gypsum to soil and the septic tank chamber or retro fitting of elements of a system) in Baddaginnie.	Additional budget allocation required	BRCC officer time required Expert advice should be sought to assist in the design and assessment of the pilot program. Approximate cost <$6000.		Potential for contributions from other authorities and Governments
2.4	Commence the distribution of reminders to landowners to pump out their system every three years and to provide condition reports to Council once Action 2.2 is completed.	An additional budget allocation may be required	BRCC officer time required		
2.5	Preparation and exhibition of an amendment to the Benalla Planning Scheme to insert the adopted DWMP as a reference document in the Municipal Strategic Statement, relevant local policies and the Schedule to ESO 3.	Budget allocation may be required to fund the exhibition process and Panel hearing	BRCC officer time required Exhibition costs estimated at <$1000. If required, a Panel hearing may cost several thousand dollars.	One off expenditure	It may be appropriate to seek contributions from GMW and NE Water given their interest in the DWMP being integrated into planning decisions
2.6	Work in partnership with NE Water, EPA and Department of Health to identify the need to introduce a Developer Contributions Overlay in the area affected by reticulated sewer extensions identified in	To be met from within existing budget allocations	BRCC officer time required	One off	NE Water officer time required

	Action 1.2.				
Year 2 (cont'd)					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
2.7	Commence the review of stormwater management and treatment plans for Devenish, Goorambat and Baddaginnie to address issues of pooling greywater in open drains in partnership with the GBCMA.	To be met from within existing budget allocations	BRCC officer time required		NE Water officer time required
2.8	Provision of an annual report to Council, GMW, NE Water and the GBCMA to track the implementation of the DWMP Action Plan.	To be met from within existing budget allocations	BRCC officer time required	Recurrent	
2.9	Lobby the Local Government and Water Ministers to lobby for a change to Section 162 of the Local Government Act 1989 to allow a municipal charge to be raised for the management of onsite systems.	To be met from within existing budgets and resources	BRCC officer time required	One off	
2.10	Delivery of an annual workshop for local Environmental Health Officers, LCA experts and Plumbers to improve the quality of assessments, maintenance standards and compliance with permit requirements.		BRCC Officer time required	Recurrent	GMW has offered to cover the cost of these workshops
2.11	Annual circulation of community education material to improve maintenance standards and	To be met from within existing budget	< $1,000	Recurrent	Potential for GMW and NE Water to make a small contribution and to cobrand material

	permit compliance.	allocations			
Year 2 (cont'd)					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
2.12	Continue proactive inspections of existing onsite systems in Lima East, Swanpool and Goorambat.	Budget and resource allocation required	Approximately 0.1 EFT additional resource, including administration	Recurrent	
Year 3					
3.1	Annual meeting with Steering Committee members to track the progress of the DWMP's implementation and to discuss funding allocations to inform budget preparation.	To be met from within existing budgets and resources	BRCC officer time required	Recurrent	Water authority officer time required
3.2	Develop a pilot study to scientifically investigate the potential impacts of onsite systems on bore water within a high risk township.	Budget and resource allocation required	BRCC Officer time required	One off expenditure	Potential for input from GMW and the GBCMA.
3.3	Pending Action 2.4, exhibit an amendment to introduce a Developer Contributions Overlay for sewer extensions within Benalla township.	Budget and resource allocation required	Exhibition costs of around $2000 Potential for an Independent Panel, which may cost several thousand dollars.	One off expenditure	Potential for sharing costs of any Planning Panel with NE Water.
3.4	Pending the outcome Lake Benalla water testing results (Action 1.9), development of a project brief to support funding applications for a 'whole of water cycle' management plan for Lake Benalla in partnership with other relevant authorities.	Budget and resource allocation required	BRCC Officer time required	One off expenditure	Officer time from other authorities will be required

Year 3 (cont'd)					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
3.5	Identify (and apply for) potential funding sources for the preparation of the whole of water cycle management plan for Lake Benalla.	To be met from within existing budget allocations	BRCC officer time required	One off expenditure	
3.6	Provision of an annual report to Council, GMW, NE Water and the GBCMA to track the implementation of the DWMP Action Plan.	To be met from within existing budget allocations	BRCC officer time required	Recurrent	
3.7	Delivery of an annual workshop for local Environmental Health Officers, LCA experts and Plumbers to improve the quality of assessments, maintenance standards and compliance with permit requirements.		BRCC officer time required	Recurrent	GMW will cover the cost of these workshops
3.8	Annual circulation of community education material to improve maintenance standards and permit compliance.	To be met from within existing budget allocations	BRCC officer time required < $1,000	Recurrent	Potential for GMW and NE Water to make a small contribution and to cobrand material
3.9	Commence proactive inspections of existing onsite systems in Benalla township.	Budget and resource allocation required	Approximately 0.1 EFT additional resource, including administration	Recurrent	

Year 4					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
4.1	Annual meeting with Steering Committee members to track the progress of the DWMP's implementation and to discuss funding allocations to inform budget preparation.	To be met from within existing budgets and resources	BRCC officer time required	Recurrent	Stakeholder officers' time required
4.2	Delivery of an annual workshop for local Environmental Health Officers, LCA experts and Plumbers to improve the quality of assessments, maintenance standards and compliance with permit requirements.		BRCC officer time required	Recurrent	GMW has offered to cover the cost of these workshops
4.3	Annual circulation of community education material to improve maintenance standards and permit compliance.	To be met from within existing budget allocations	BRCC officer time required < $1,000	Recurrent	Potential for GMW and NE Water to make a small contribution and to cobrand material
4.4	Continue proactive inspections of all systems in Benalla Township.	Resources to be allocated in future budgets	0.1 EFT additional resource, including administration	Recurrent	
4.5	Progression of reticulated sewer extension planning and work in priority areas.		BRCC officer time required		NE Water resource allocation required
4.6	Progression of stormwater management improvement works in priority townships.	Resources to be allocated in future budgets	To be identified	Mixture of one off and recurrent expenditure	

Year 4 (cont'd)					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
4.7	Provision of an annual report to Council, GMW, NE Water and the GBCMA to track the implementation of the DWMP Action Plan.	To be met from within existing budget allocations	BRCC officer time required	Recurrent	
Year 5					
5.1	Annual meeting with Steering Committee members to track the progress of the DWMP's implementation and to discuss funding allocations to inform budget preparation.	To be met from within existing budgets and resources	BRCC officer time required	Recurrent	Stakeholder officers' time required
5.2	Triennial distribution of reminders to landowners to pump out their system provide condition reports to Council (using the integrated database mentioned in Action 2.3).	An additional budget allocation may be required	BRCC officer time required	Budget allocation required on a triennial basis	
5.3	Commence proactive inspections in Baddaginnie and Devenish.	Resources to be allocated in future budgets	0.1 EFT additional resource, including administration	Recurrent	
5.4	Delivery of an annual workshop for local Environmental Health Officers, LCA experts and Plumbers to improve the quality of assessments, maintenance standards and compliance with permit requirements.		BRCC officer time required	Recurrent	GMW has offered to cover the cost of these workshops

Year 5 (cont'd)					
Actions Based on Level of Priority & Policy Drivers		**Primary Funding Source**	**Estimated level resources and effort**	**Nature of Funding**	**Potential Partnerships & External Funding Opportunities / Comments**
5.5	Circulation of community education material to improve maintenance standards and permit compliance.	To be met from within existing budget allocations	< $1,000	Recurrent	Potential for GMW and NE Water to make a small contribution and to cobrand material
5.6	Progression of reticulated sewer extension planning and work in priority areas.		BRCC officer time required		NE Water resource allocation required
5.7	Progression of stormwater management improvement works in priority townships.	Resources to be allocated in future budgets	To be identified	Mixture of one off and recurrent expenditure	
5.8	Final review of the progress of the DWMP Action and Resource Plan and commencement of a review of the DWMP in partnership with NE Water, the GBCMA and GMW.	To be met from within existing budget allocations	BRCC officer time required	One off expenditure	NE Water, GMW and GBCMA officer time required

11. Auditing and Reviewing Our DWMP

Mechanisms will be put into place to track the progress of the implementation of this DWMP, allow for annual budget allocations for its implementation to be coordinated between Project Partners to ensure joint initiatives are implemented.

11.1 Monitoring the Progress of the DWMP's Implementation

It is proposed that an annual report and review process to be undertaken by Council, in partnership with NE Water and GMW to determine the status of actions, whether or not actions need to be carried over into the year ahead and whether amended/new actions are required to deliver an initiative included in this DMWP.

11.2 Reviewing and Updating this DWMP

In addition to annual reviews, a more comprehensive review of this DWMP, informed by a public consultation phase, should be undertaken in time for a new DWMP to be adopted prior to the fifth anniversary of this DWMP's adoption by Council.

This review should be undertaken in partnership with GMW, NE Water, the GBCMA and the EPA.

12. Attachments

ATTACHMENT 1

EXTRACT FROM THE DWMP ISSUES PAPER AUGUST 2015, SECTION 14 KEY ISSUES

Following discussion with Council Officers and the Project Steering Committee it is considered that key issues that must be addressed by the DWMP are:

- Council needs to improve its information management around onsite systems approvals, with consideration given to utilising corporate systems to log permit application information and approvals (ie using the Septics module of Council's Synergy property database). This will ensure that tracking approvals, mapping new systems on Council's GIS system and sending maintenance reminders to landowners can be undertaken effectively and efficiently;
- The need for a multi agency approach to the active management of domestic wastewater, with Council forging stronger partnerships with local water corporations;
- Management solutions need to be cost efficient and reflect the limited resources of Council, its Project Partners and residents, particularly those in areas of significant social and economic disadvantage. Council should, wherever possible, draw upon the resources and experiences of other councils to minimise resource demands (eg replicating community information leaflets, approvals processes);
- Incremental improvements to ageing onsite systems, such as improved maintenance/deslugding regimes, can result in a significant cumulative benefit. Setting goals for incremental change is seen to be appropriate given the resource challenges mentioned above;
- Council must work closely with NE Water to discuss how to increase the number of connections to existing reticulated sewerage networks, particularly in future growth areas such as the north west and southern parts of Benalla township. Currently there are numerous properties with onsite systems despite the fact that reticulated sewerage infrastructure has been installed;
- Given that there is sufficient capacity in the existing sewerage network and treatment plant to cater for future growth in the Benalla township, discussions with NE Water should also focus on potential extensions to the existing reticulated network particularly in the southern part of Benalla township given the proximity of the Broken Creek, poor soils, high water tables, high densities of unsewered dwellings and growth pressures;
- A joint investigation of the potential causes of high bacteria and nutrient levels in Lake Benalla should be undertaken as a priority given that there is potential for adverse impacts on human heath and environmental impacts during Summer months;
- Adopting a 'whole of water cycle' management approach which includes wastewater management, stormwater management and the use of recycled water is a potential solution for the Lake Benalla water quality issues. This type of approach would place Benalla RCC in a strong position to effectively manage future development around the Lake to avoid any exacerbation of water quality issues;
- Unsewered townships face the most significant challenges when it comes to managing potential adverse impacts from domestic wastewater. Given it is unrealistic to expect that townships will be connected to reticulated services, innovative solutions such as desludging programs for townships (particularly the high to medium risk township) should be considered by Council;

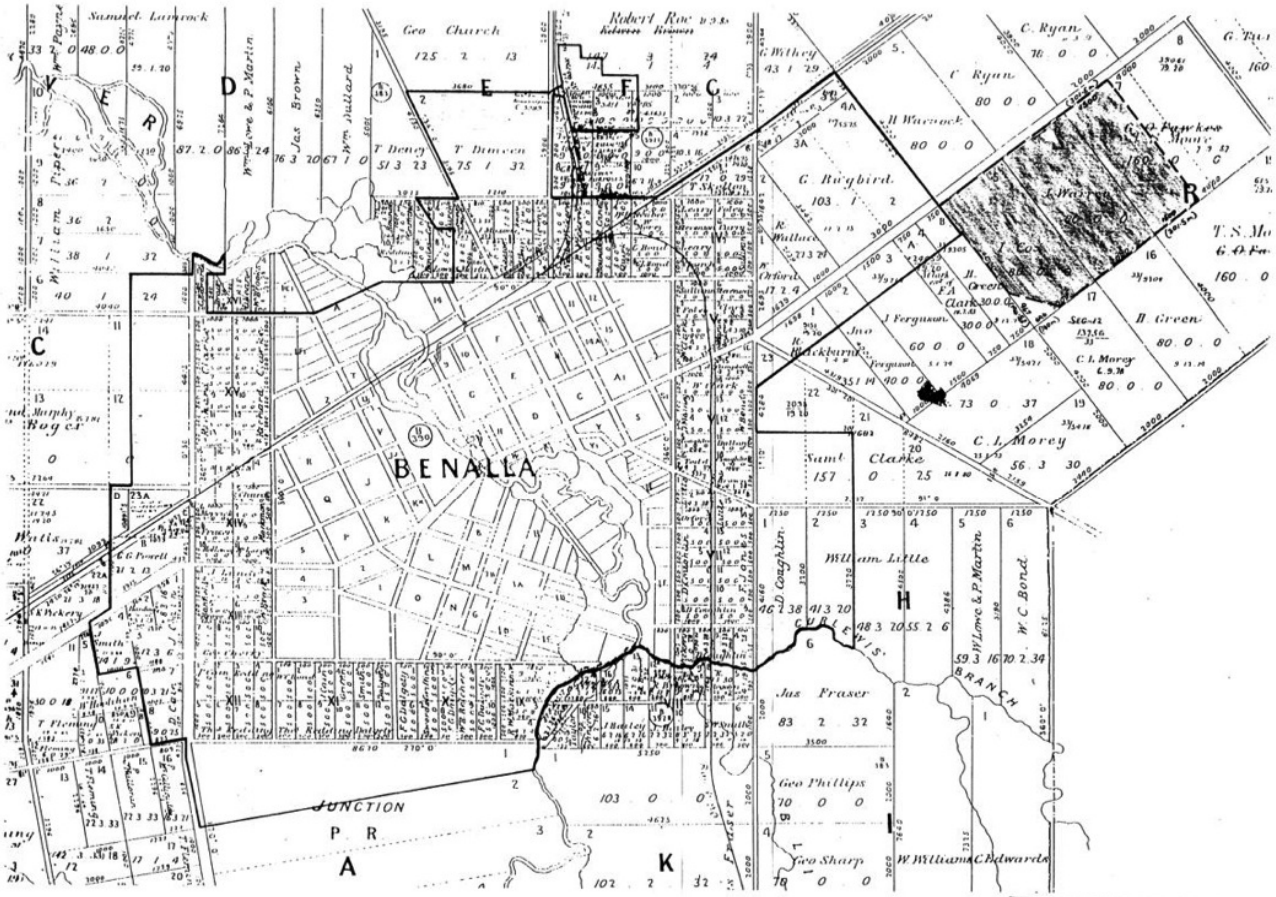
- Stormwater infrastructure upgrades in Devenish and Goorambat is seen by local residents as being key to addressing issues of pooling stagnant water in existing open drains along roadsides, primarily caused by greywater discharged from dwellings. Such works would result in amenity and public health benefits.
- Further investigation is required into the potential for adverse impacts on domestic bores, and hence groundwater, from poorly maintained and ageing onsite wastewater systems. This work could include identifying how many bores are operational within townships, the proximity of onsite systems to each bore, water sampling and investigations into local water table levels;
- There is a need to improve the land capability assessment process and to specify minimum standards required by Council to improve the quality and consistency of LCAs, particularly in light of the challenging environmental and geological conditions within the Rural City's townships. Other initiatives such as improving online information and annual training sessions should also be explored;
- Council needs to be mindful of its responsibilities and liabilities around the approvals of systems, particularly current practices of redesigning proposed systems for applicants rather than rejecting LCAs and/or permit to install applications where it is considered the proposed design solution is deficient;
- Improved coordination between Environmental Health, Engineering and Planning functions is required to ensure that Council has a cohesive approach to planning permit and onsite system approvals, implementing planning policy and delivering the initiatives outlined in various key Council documents (including environmental strategies);
- The standard of onsite system applications and approved plans should be an area for review in response to comments from local plumbers/installers via the online survey; and
- Educating landowners and residents about onsite system maintenance should be a key focus for Council as this plays a critical role in managing potentially adverse impacts from domestic wastewater. Simple initiatives such as providing copies of permits at the time a property is sold, developing information for new residents kits and trialing annual information sessions could be cost effective options.

ATTACHMENT 2

[redacted]

OVENS REGION WATER AUTHORITY

PLAN TO ACCOMPANY EXTENSION OF THE BENALLA SEWERAGE DISTRICT ORDER 1996



LEGEND

EXISTING BOUNDARY OF SEWERAGE DISTRICT SHOWN THUS

EXTENSION OF SEWERAGE DISTRICT SHOWN THUS

THE COMMON SEAL OF THE OVENS REGION WATER AUTHORITY WAS HEREUNTO AFFIXED THIS 21st DAY OF November 1995

CHAIRMAN

MEMBER

SECRETARY

[redacted]

Attachment 3

DRAFT ADVICE FOR PROSPECTIVE PURCHASERS OF LAND IN UNSEWERED AREAS
(advice to be included on Land Information Certificates, Rates Information Requests and Council's website)

The Benalla township is the only area within the municipality that benefits from reticulated sewerage but it is important to note that not all houses are connected to sewer.

There are some important things to consider when looking at purchasing a house or land in an unsewered area:

- Council requires a condition report on the onsite wastewater system to be prepared by a licensed plumber prior to the sale of the property.

  means prospective purchasers know what type of system has been installed and whether or not maintenance is required to ensure the system is operating properly.

- Landowners are legally responsible for ensuring wastewater is contained with the property's boundaries, unless otherwise approved by Council. This means that land must be set aside, and kept available, for onsite wastewater treatment.

  The *State Environment Protection Policy (Waters of Victoria)* and *Environment Protection Authority's Code of Practice – Onsite Wastewater Management 2013* govern landowner's responsibilities (see the following page for an extract from the *Code of Practice* outlining landowner'.

- Most systems installed since the 1980's will have been approved by Council, so it's important that you contact Council to see if there are permit requirements you need to comply with should you purchase the property.

  Obtaining a copy of the permit will also help you understand where the system is located and what type of onsite system has been installed.

- Council can give you advice on how to maintain and manage the onsite system, including what works may need to be undertaken to ensure you meet your legal responsibilities.

  We can also provide you with an aerial photograph of the property to help you understand where components of the system are located (if the system was installed before a Council permit was required).

- If you want to extend an existing house or redevelop an unsewered property you should get some independent expert advice on whether or not the existing onsite system will meet your needs and enable you to meet the legal requirements outlined above.

  You should also talk to Council's Environmental Health Officer about your plans so that you understand Council requirements, permit approval processes and application costs.

EXTRACT FROM THE ENVRIONMENT PROTECTION AUTHORITY'S CODE OF PRACTICE – ONSITE WASTEWATER MANAGEMENT 2013

1.8.7 Property owners and occupiers

Before installing an onsite wastewater management system (treatment unit and land application and/or recycling), a property owner must obtain the relevant application forms from their Council, arrange for a site assessment to be completed by a suitably qualified consultant (see Section 1.8.3) and apply to Council for a Planning Permit (where required) and Permit to Install the treatment and disposal/recycling system. Applications for Council Permits must contain sufficient information to enable Council to properly assess the application. The application must prove to the satisfaction of Council that the proposed system will meet design, installation, performance and maintenance requirements for the proposed wastewater flow, site and soil characteristics and the land available for wastewater disposal/irrigation.

Before making any alterations to a wastewater system, the property owner must apply for a Permit to Alter their existing system. The property owner must also contact Council before undertaking any house alterations, as a new Permit may be required for an extension to a house. Property owners should satisfy themselves that contractors and consultants are qualified to undertake works on their property.

Council has up to 42 days to assess an application and issue a Permit. However, if the application is considered deficient, Council may suspend the time period ('stop the clock') and require the property owner to provide further information. The Permit to Install/Alter will include conditions to ensure the system is installed, managed and operated in accordance with this Code, the LCA, the relevant CA(s) and Australia Standards. If Council refuses to issue a permit, the system must not be installed. Under Clause 53L and Schedule A of the Act Council may issue a Penalty Infringement Notice if the system is installed without a Permit.

After inspecting the installation, Council will issue a Certificate to Use if the installation is in accordance with the conditions in the Permit to Install/Alter, the manufacturer's installation instructions and this Code. It is an offence under the Act to commission and use a treatment system before a Certificate to Use is issued. This may result in Council issuing a Penalty Infringement Notice (PIN) to the landowner or occupier under section 53MB and Schedule A of the Act. Council may require the occupancy of a property to cease until the Certificate to Use is issued.

Property owners or occupiers must ensure the onsite wastewater management system is operated, maintained and monitored in accordance with the Council Permit and CA requirements. A CA may require a property owner to pay for regular sampling of treated wastewater to demonstrate system compliance, unless a remote monitoring system transmits relevant data to the service technician and regulatory authority (i.e. Council and/or Water Corporation). If a person other than the property owner will be using the system, the property owner must ensure the person is aware of any responsibilities they have in relation to the system, especially the mandatory requirement for ongoing regular servicing of secondary treatment systems. A person who fails to comply with permit conditions could be subject to Council enforcement action and penalties under sections 53MA and/or 53N of the Act.

Property owners may need to review their household public liability insurance policy to ensure the onsite wastewater management system is included. Anyone who becomes responsible for the operation and maintenance of an onsite system (such as new property owners) must make themselves aware of the responsibilities they are acquiring. Therefore, they must familiarise themselves with the type of system in place, the system's location, its performance, the potential relevance of existing garden plants (in regard to evapo-transpiration) and the ongoing management program required by the Council Permit and the CA. Specific conditions regarding each system can be obtained from Council.

Householders should check the stated service life of their prospective onsite wastewater treatment system and anticipate replacing it with a new system at that time. Onsite systems must have a manufacturer's statement of service life of at least 15 years, though individual parts will generally have a warranty of 1 to 5 years. It is recommended that householders research and compare the likely cost of spare parts throughout the expected life of the onsite wastewater treatment systems they are interested in purchasing (see Appendix C).

Where the system is not working satisfactorily in accordance with its CA conditions at the end of its service life, the treatment plant should be repaired. Where the treatment system is not able to achieve secondary standard effluent after servicing, desludging and the replacement of parts, it may need to be decommissioned and replaced with a new EPA approved treatment system.

Note: Under Schedule A of the Environment Protection Act the penalties for infringement of sections 53L, 53MA, 53MB and 53N are 10 penalty units for body corporates and 5 penalty units for all other premises.