

## 5. Analysis of proposed changes to plan

Section 32 (1) and (2) of the RMA require Council to carry out an evaluation before notifying a proposed plan change, or when making a decision under clause 10 or clause 29(4) of the Schedule 1. Each evaluation must examine whether, having regard to efficiency and effectiveness, the policies, rules, or other methods are the most appropriate for achieving the following objectives in the plan.

The evaluation must also take into account:

- the benefits and costs of policies, rules, or other methods, and
- the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules or other methods.

### Selection of alternatives

Section 32 requires the examination of alternatives. In terms of methods the main alternatives are:

- rules in this or other regional or district plans;
- education methods;
- services;
- research and monitoring;
- reliance on voluntary measures;
- advocating for national regulations or equivalent.

Many of these can be complementary. For example regulation and education are complementary. In practice the plan applies a combination of these methods to resolve particular issues.

### 5.1 Structure of the Analysis

**Section 5.2.1** – Description of the Issue.

**Section 5.2.2** – Analysis of Objectives: An evaluation of the appropriateness of the objectives in the chapter to address the issue, and to achieve the purpose of the RMA.

**Section 5.2.3** – Analysis of Policies: An evaluation of the efficiency and effectiveness of policies necessary to achieve the objectives. This includes a summary of the benefits, costs, and risk of taking or not taking action if there is uncertain or insufficient information about the issue.

**Section 5.2.4** – Analysis of Methods: An evaluation of the efficiency and effectiveness of the methods necessary to achieve the policies. This includes a summary of the benefits, costs, and risk of taking or not taking action if there is uncertain or insufficient information about this issue.

**Section 5.2.5** – Analysis of Rules: An evaluation of the efficiency and effectiveness of each of the regional rules as it relates to specific objectives and policies. This includes a summary of the benefits, costs, and risk of taking or not taking action if there is uncertain or insufficient information about the issue.

**Section 5.2.6** – Analysis of Schedules: An evaluation of the efficiency and effectiveness of each of the schedules as it relates to specific objectives, policies, methods and rules.

**Section 5.2.7** - Anticipated Environmental Results: A list of the Anticipated Environment Results and the Environmental Performance Indicators, Form of Monitoring and Information source for these results.

This includes a summary of the benefits, costs, effectiveness and efficiency of the options and risk of taking or not taking action if there is uncertain or insufficient information about the issue.

## **5.2 Existing and Proposed Regional Plan Provisions**

### **5.2.1 Issues**

#### **Analysis**

Although not required by the Act, the identification of resource management issues is generally provided for in most Regional Plans. It is helpful to discuss these issues in terms of setting a context for the assessment of options and alternatives. Through research, key stakeholder discussions and the pre-consultation process, a number of key issues were identified for the review.

#### **Current issues**

A large portion of the region does not have a reticulated sewage system. Individuals disposing of their own domestic wastes can cause adverse effects. These effects can be both localised and cumulative

In all locations except Gisborne City, Te Karaka and part of Te Puia, properties dispose of sewage on site. The most common systems in use are septic tanks of various designs, with effluent disposed of to soakage fields. Other systems are also available. These can all be effective methods of treating sewage and rendering it harmless if correctly designed, installed and operated.

Soakage fields can cause adverse effects where soakage is inadequate or the systems block. Sewage can then break out to the surface of land or enters waterways. If effluent ponds, this can transmit disease, cause odours and attract insects.

Where soakage is adequate, these systems can still contaminate shallow aquifers, or watercourses with nutrients, bacteria and viruses. This can affect the ecology of the waterway. It can also impact on human health where the water is used for domestic supply or where people come in contact with it. These systems produce septage. This is semi-solid waste that accumulates in septic tanks. It is generally collected by commercial operators and disposed of into a piped system or onto land. Land disposal of septage can cause problems of land and water contamination, odour, breeding of rodents and insects, and the transmission of faecal bacteria and viruses.

These systems must be correctly designed for the site, because soakage conditions vary widely throughout the region. Maintenance is also essential or systems break down.

#### **Discussion**

The information above is still largely accurate. Effects are localised and cumulative. Identifying locations where cumulative effects are likely to occur, such as unreticulated townships or the coastal environment may assist with developing the policy framework to manage such effects. The geographic spread of systems does include Te Puia; Te Puia is not reticulated.

The requirements for good design and maintenance are still fundamental issues. These should be afforded more weight in the discussion of issues because these are avenues through which environmental contamination can be avoided or minimised.

It is incorrect to say that the wastewater is rendered harmless. In reality, discharges do not have a nil effect on the environment. However, minimal effects can be expected when systems are well designed and regularly maintained. This could be worded better. Section 70 of the Act

specifies the types of effects arising from discharges to water via land, or discharges to water that are not acceptable. The policy framework should reflect this.

### **Recommendations on existing provisions**

It is recommended that the Issues section of the Plan is retained and re-written according to individual themes and new information, providing a clear basis for the policy framework. The issues should be more specific and detailed to inform policy.

## **Proposed Issues**

### **Issue 1**

#### **Inadequate treatment and inappropriate disposal of discharges from on-site wastewater treatment systems can adversely affect water quality in lakes, rivers, streams, harbours, coastal margins and groundwater in the Gisborne District.**

Approximately 30% of houses in the Gisborne District are not reticulated for wastewater. These unreticulated townships are predominately located on or near the coastal fringe. Problems arise if pathogens and nutrients are not successfully treated within individual sites and migrate to water bodies. The coastal environment is an area of significant value to the community and receives a high level of use in some parts of the District.

Degraded water quality can adversely affect:

- a. The quality of drinking water for humans and stock.
- b. Aquatic ecosystems.
- c. Natural character, landscape, cultural, and recreational values.
- d. The mauri of the water body.
- e. Water quality in estuaries, coastal margins and the open coast.
- f. Human health (e.g. toxic algal blooms and bacterial diseases).

It is difficult to prove contamination due to the nature of diffuse discharges. Nevertheless monitoring of groundwater continues in the townships of Makaraka, Tolaga Bay, Wainui and Makorori for assessment of cumulative effect from septic discharges on groundwater quality in these residential communities. Contaminants continue to be measurable in the groundwater. The source of contaminants has not been scientifically confirmed, however in bores between the housing and the sea at Wainui Beach, the levels and frequency of contaminants measured indicate that septic tank discharges are reaching the groundwater. Preliminary results of faecal source discrimination testing at the Hamanatua Stream detected the presence of human faecal contaminants. Sample bores along State Highway 35 show contamination could be from farm animals or septic systems reaching groundwater.

Where there are bacteria and nutrients present, it indicates that the groundwater is unsuitable for consumption or human contact. Monitoring will continue over time to build a better picture of contamination levels.

There are two general situations in the Gisborne District where degraded water quality is of particular concern and a precautionary approach will be taken to protect these areas:

### 1. Townships that are not reticulated for wastewater

Some of the population in unreticulated townships draw their drinking water from groundwater bores. There is greater potential for contamination of groundwater. The townships listed below have been identified as high risk due to their existing housing densities and District Plan zoning (Residential, Rural Lifestyle/Residential and Commercial). District Plan zoning is an indicator of risk because it includes both existing and potential housing density.

Hicks Bay	Onepoto Bay	Te Araroa	Tikitiki	Matawai
Motu	Whatatutu	Te Puia	Manutuke	Ormond
Hexton	Makauri	Makaraka	Muriwai	Patutahi
Waipiro Bay	Waihirere	Whangara	Waituhi	Tolaga Bay
Tokomaru Bay	Ruatoria	Wainui/Okitu	Makorori	Gisborne City periphery

### 2. Coastal townships and surrounds

Many of the unreticulated townships listed above are also located in the coastal environs of the East Coast. Poor water quality can adversely affect recreational use, lower aesthetic values and compromise the quality of kai moana/shellfish.

#### Issue 2

**The selection, design and installation of on-site wastewater treatment and disposal systems that are inappropriate to the specific characteristics of the site may result in adverse effects on the environment.**

There is growing awareness nationwide about best practice for design and maintenance of on-site wastewater treatment and disposal systems. There is now a better understanding of environmental constraints for effective on-site wastewater treatment systems. These constraints include:

- high-density of on-site wastewater systems and limited land area on sections for on-site systems
- shallow groundwater or elevated seasonal ground water
- surface flooding
- unsuitable soil types (e.g. high/low permeability) and steep unstable slopes
- poor drainage.

Discharge points from systems should be set back from water bodies or other sensitive environments such as systems in difficult terrain.

There are different brands of advanced on-site wastewater treatment systems and not all are suitable to be installed in the District due to specific environmental constraints and system performance.

#### Issue 3

**The environmental constraints of some sites (e.g. limited land area, shallow groundwater, clay soils, and proximity to waterways) require a higher quality of wastewater treatment and disposal than conventional on-site wastewater treatment systems can provide, which may not adequately treat the wastewater on these sites.**

The most common systems in use in the Gisborne District are the conventional on-site wastewater treatment (septic tank) and disposal systems. Although these systems are the most popular in the District, the performance of these systems can be compromised because of the physical limitations of the sites where they are being installed. Many sites in the unreticulated townships in the Gisborne District are around 1000m<sup>2</sup>, and some are smaller. Other sites are subject to stability issues or high groundwater levels.

With a number of advanced on-site wastewater treatment systems now available, people have a range of options for installing an on-site wastewater treatment system that can be better designed to site conditions. Specially designed advanced on-site wastewater treatment systems are also able to produce a better quality of treated wastewater.

#### **Issue 4**

**The discharge of wastewater into land from systems other than conventional on-site wastewater systems or advanced on-site wastewater systems has the potential to cause adverse effects on the environment, especially where the treatment and disposal systems have been in use for a long period of time.**

Since the Plan was first written in 1997, there have been significant advancements in technology and valid options available for treating effluent on-site which are not provided for in the current Plan without automatically triggering resource consent.

These options include, but are not limited to the following:

- Greywater systems;
- Pit latrines (long drops);
- Plant/peat filter systems for wastewater treatment; and
- Composting human waste.

Greywater is often perceived as being more innocuous than blackwater; however the application of greywater directly onto land also has increased potential for adverse effects on public health. Such effects can be avoided through the use of subsurface disposal to keep it from interacting with stormwater.

Human waste into land from pit latrines (commonly known as long drops) is suitable only for low level use in remote situations or where other on-site disposal systems are not feasible and there is no access to a sewer network. They are also suitable as a temporary or emergency option. To avoid adverse environmental effects they should be sufficiently separated from surface and groundwater tables, especially where groundwater is drawn for drinking water. They should not be located in free draining soils as the effluent receives no treatment before discharge.

Plant/peat filter systems for wastewater treatment require careful consideration of design and placement and require ongoing maintenance.

Composting toilets require a regular level of care and attention from the household they serve and will not be suitable for all situations. They only treat blackwater and will need to be used in conjunction with a system to treat greywater.

## Issue 5

**Adverse environmental effects may be caused by on-site wastewater treatment systems not being appropriately upgraded at the time of dwelling expansion/alteration or not being replaced when they fail to operate effectively.**

The Ministry for the Environment estimates of failure rates of on-site systems range from 15% to 50% of systems nationally. The large amount of variability in these estimates is due to the variation in local factors, including, geology, climate, design and installation, lot size, and the age of the community. Anywhere between 760 and 2,533 systems could be failing to operate correctly in the Gisborne District.

It is expected that older conventional systems are more likely to be subject to failure because of their design, lower capacity in relation to modern water usage habits and level of care over time. Ageing conventional systems represent the majority of on-site systems currently in use in the District. Approximately 78% of conventional sewage treatment systems in and around unreticulated townships were installed prior to 2002. Some systems installed prior to April 2002 may not provide as effective treatment of contaminants as systems installed after April 2002 which are subject to stricter design requirements. Pre 2002 systems are often not equipped with devices such as effluent outlet filters and extensions. These devices prevent solids from entering the disposal field and make maintenance easier. These systems are therefore more likely to not have optimal function and to be affecting groundwater and surface water quality.

A number of the earlier models of advanced on-site wastewater systems are demonstrating inadequate performance. Poor treatment, tank failures, pump failures and damaged or faulty irrigation systems are documented problems within the Gisborne District. Changes in household occupation over time as well as modern water usage habits also influence the ability of the system to cope with wastewater flows.

It is currently unclear at what point systems should be upgraded. In their Technical Publication 58<sup>1</sup> Auckland Council states that subsurface systems have a lifetime of 10-25 years. Other information from MfE suggests that well designed, located and maintained on-site effluent treatment systems should be capable of operating indefinitely with minimal off-site effects. Extensions and outlet solids filters could contribute to the longevity of existing systems.

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<sup>1</sup> TP58 is considered to be a robust guideline for the design of on-site wastewater systems and is referenced by many local authorities in New Zealand.

## Issue 6

**Adverse environmental effects may occur as a result of on-site wastewater treatment and disposal systems not being adequately operated, maintained and serviced and subsequently not being able to operate effectively.**

It is important to maintain on-site wastewater systems, particularly in areas where there are environment constraints present. People do not always have the knowledge or find it difficult to find the means to maintain their wastewater treatment and disposal systems. It is particularly essential for Advanced Treatment Systems to be regularly serviced to continue operating effectively.

There is currently no mechanism at the local, regional or national level for mandatory management of systems for ensuring adequate performance of systems other than under specific discharge consents. There are also no servicing requirements in the Plan for advanced treatment plants.

Council staff are aware that some people do not maintain their systems as often or as well as they should and that, for some, knowledge of systems is lacking. Poor management and maintenance of systems is an issue causing non-compliance with some discharge to land resource consents. Complaints and issues relating to sewage system failures or system management are regularly received and investigated by Council. There are large gaps in service record database held by Council for advanced treatment plants.

### **5.2.3 Evaluation of regional plan objectives**

The RPDW provisions subject to Plan Change 1 are contained within Chapter 1, Chapter 7 and Appendix 5. Chapter 1 is an introductory chapter for all discharges and hazardous substances. Chapter 7 provides the broad objective and policy framework for the management of unreticulated sewage within the Gisborne District. Appendix 5 outlines specific design requirements for On-site Sewage Treatment and Disposal.

The explanatory text and objectives and policies of Chapter 7 establish a policy context which seeks to avoid, remedy and mitigate the adverse environmental effects of unreticulated wastewater treatment, storage and disposal.

Council is required to examine each objective within the RPDW and to consider whether it is the most appropriate way to achieve the purpose of the Act.

#### **Analysis of Current Objective**

At present there is one overarching objective for the management of unreticulated sewage within the Gisborne District:

1. The adverse environmental effects from discharges from non-reticulated domestic waste disposal systems shall be avoided, remedied or mitigated.

#### Principal Reason

Disposal of liquid effluent and periodic disposal of cleanings from septic tanks and other treatment systems has the potential to contaminate land and waterways. This can create risks to health, ecosystems and to amenity values.

A large proportion of the Region relies on septic tanks. Such risk is contrary to the purposes and principles set out in Part II of the Resource Management Act.

The current objective is generally sound in its content and reasoning. However it specifies that the adverse environmental effects of domestic wastewater should be managed and does not give recognition to wastewater systems on sites that have non-domestic uses, for example, commercial, recreational, educational, community and other uses as these are consented to under Chapter 7. It is also not always appropriate to remedy or mitigate in every situation and some effects are best avoided.

Although new issues have come about since the original objective was written, it is considered that the current objective reflects the requirements of the Plan. It is recommended to keep a single (revised) objective that provides strategic direction for the Chapter. It is the role of the policies to provide more detailed direction about how to achieve the objective.

### Proposed New Objective

Objective 1 – Environmental contamination arising from effluent associated with human activities being discharged from on-site wastewater treatment systems into land within the margins of ground and surface water bodies in the region, is avoided where possible, or otherwise remedied or mitigated.

#### *Explanation and Principal Reasons*

- (1) *Disposal of liquid effluent and septage from on-site wastewater systems has the potential to contaminate soil and water. Environmental contamination should be avoided in the first instance, but where it has occurred it should be remedied and/or mitigated. Environmental contamination diminishes soil and water quality, and subsequently poses risk to eco-systems, amenity values and human health and safety and is contrary to the purposes of the RMA 1991.*

### 5.2.4 Policies, Rules and Methods

In reviewing any provisions in a Regional Plan, Council must consider whether the policies, rules or other methods are the most appropriate way of achieving the objectives.

The following discussion analyses changes to Chapter 7 of the RPDWL including amendments to the policies, methods, rules, and schedules and explanatory text.

#### Analysis of Existing Policies

The policies of the RPDWL guide how the objectives will be achieved including the rule mechanisms which may form part of the Regional Plan provisions.

Associated with the objective and policy framework are explanatory statements and discussion on the resource management issues relevant to the local District. It is appropriate to discuss the explanatory statements and discussion in association with the policies of the Regional Plan.

#### **Policies:**

1. Systems used for disposal of effluent in non-reticulated areas shall be suitably designed for the local conditions. They shall be maintained often enough to operate without causing adverse environmental effects.

#### Principal Reason

Systems must be carefully designed to be suitable for local conditions such as soil types, slope, aspect and drainage patterns, and for the intensity of use proposed.

There are no systems suitable for all sites. Even correctly designed systems will break down if not regularly maintained. A very important requirement is for periodic emptying of septage from septic tanks.

2. Where a reticulated sewerage system is available sanitary fixtures should generally be connected to it.

### Principal Reason

Piped sewerage systems exist only in closely settled areas. Section sizes are usually small and population densities are high. The effects of private systems breaking down in such areas are likely to be high. Such systems are expensive to install and maintain.

**Note:** This policy does not prevent the use of alternative sanitary systems in reticulated areas.

3. The design and operation of non-reticulated disposal systems shall ensure the following adverse effects are avoided:
  - ▶ Transmission of disease.
  - ▶ Contamination of surface, coastal and groundwater with nutrients or disease causing organisms.
  - ▶ Odours.
  - ▶ Saturation of ground or ponding.
  - ▶ Adverse effects on habitats, feeding grounds or ecosystems.

### Principal Reason

These are the adverse effects that are likely when private systems break down, or are wrongly designed.

They are all effects that should be avoided as a matter of priority. Remedying of any effects caused by breakdowns is necessary but the emphasis must be on avoiding the effects in the first place. This is not an appropriate area for mitigation, as none of these effects are acceptable in any degree.

The reasoning behind the policy framework is generally sound. The actual policies can be improved. The policies are simplistic given that amount of knowledge Council now has about wastewater treatment, storage and disposal in 2011. The existing policy provisions and explanatory text do not give recognition to new practices and technologies. They do promote suitable design and maintenance of systems. There is a preference for people to connect to a sanitary sewer if available.

The policies seek to avoid particular adverse effects on the environment. The policy framework also requires no adverse effects on the environment which is not practical in reality. It is more appropriate to minimise effects and require them to be minor or less.

There should be more clarity around when it is appropriate not to connect to sanitary sewer and what 'alternative systems' are in this context.

The reference to nutrients should be removed as Council measures these but staff do not wish to base the Plan on nutrient reduction due to the large number of existing sites sized around 1000m<sup>2</sup> in the District. Different systems are appropriate in different situations and this should be reflected in the policies. Similarly, system design, installation, operation and maintenance are all important and should be recognised in their own right.

Amending these provisions will provide a more effective Discharges Plan as the policy framework will address specific issues, e.g. design elements (system type, size, location); maintenance, upgrade/retrofit/replacement; management of septage; education; and ongoing monitoring/investigation.

If Council is to uphold the proposed Plan objective, it is considered that the existing policy context needs to be reviewed. An assessment of amending the policies and text in Chapter 7 to achieve this is provided in Assessment Matrix below:

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**Table 2 – Assessment Matrix for Policies**

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**Delete and Replace Policies and Explanatory Text in Chapter 7**

This option would provide amendments to the policies and explanatory text to reflect current best practice for unreticulated wastewater treatment, storage and disposal.

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- Summary of Benefits**
- Landowners will have greater confidence in the Planning framework and know the kinds of systems contemplated in the Plan.
  - Improved awareness of different system requirements for Plan Users.
  - A focus on innovation.
  - Maintain or improve water quality.
- 

- Summary of Costs**
- Cost of Plan development.
  - Legal cost of challenges to any changes to the Plan.
  - Any additional costs associated with complying with the policies (these are described more fully in the Analysis of Proposed Rules); note – overall there are expected to be more activities that are Permitted (with conditions).
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- Effectiveness**
- The existing policy provisions and explanatory text do not give recognition to new knowledge, practices and technologies. New provisions will do so.
  - Amending these provisions will provide a more effective Discharges Plan as the policy framework will address specific issues, e.g. design elements (system type, size, location); maintenance, upgrade/retrofit/replacement; management of septage; education and ongoing monitoring/investigation; and what systems are acceptable in reticulated areas.
  - The subsequent methods will have a clearer framework above them.
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- Efficiency**
- There are more policies to read through which may be perceived as cumbersome for some.
  - It is more efficient to implement policies that are specific and have the right level of detail to be easily understood.
- 

- Appropriateness**
- Most appropriate option to support the proposed new Objective of the Discharges Plan and protecting natural and physical resources.
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**Status Quo: Keep existing Policies and Explanatory Text in Chapter 7**

This option would make no change to the existing policies and explanatory text.

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- Summary of Benefits**
- No Plan development required.
  - Plan is simpler to read.
- 

- Summary of Costs**
- Missed opportunity to improve water and environment quality.
- 

- Effectiveness**
- The existing policy provisions and explanatory text do not give recognition to new practices and technologies.
  - While not incorrect they are not detailed or specific enough to have the best effect.
- 

- Efficiency**
- The current policy provisions are not efficient as the costs will outweigh the benefits. This option does not attempt to achieve the stated objective.
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- Appropriateness**
- Least appropriate option to achieve the proposed new Objectives of the Discharges Plan and protecting natural and physical resources.
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**Recommendation: Alternative 1 Delete current policies and replace with new set of policies.**

### **Risk**

There is some risk that water quality will deteriorate, or continue to deteriorate if action is not taken to maintain or improve water quality to address the adverse effects of discharges from on-site wastewater treatment systems.

### **Proposed New Policies**

- |             |   |
|-------------|---|
| Policy 1 -  | To ensure that selection and design of on-site wastewater treatment and/or land application systems are appropriate to system location, the environmental characteristics and limitations of the site and the activities occurring on the site.   |
| Policy 2 -  | To ensure that materials and workmanship are of an acceptable standard when systems are installed.  |
| Policy 3 -  | To ensure that wastewater receives the best practicable treatment to minimise adverse effects on the receiving environment, including cumulative effects.   |
| Policy 4 -  | To ensure that there is adequate treatment of wastewater on sites where environmental constraints mean soils cannot adequately assimilate primary treated effluent within the site.   |
| Policy 5 -  | To encourage innovation solutions from landowners for wastewater treatment and disposal.  |
| Policy 6 -  | To ensure that Council staff have the opportunity to adequately assess non-conventional wastewater treatment and land disposal systems.   |
| Policy 7 -  | To ensure that wastewater systems are inspected, cleaned and maintained at appropriate intervals, particularly in Residential, Commercial, Industrial, Rural Lifestyle and Reserve zones, in order to minimise the likelihood of system failure and minimise adverse environmental effects. |
| Policy 8 -  | To encourage the use of effluent outlet filters and extensions on conventional wastewater systems in the region, particularly in Residential, Commercial, Industrial, Rural Lifestyle and Reserve zones, in order to minimise adverse environmental effects.                                |
| Policy 9 -  | To ensure that wastewater systems are repaired and/or upgraded at the appropriate time to minimise adverse environmental effects.   |
| Policy 10 - | To ensure that there are adequate facilities for the management, treatment and disposal of septage from on-site wastewater treatment systems throughout the Gisborne District, in order to minimise adverse environmental effects.  |
| Policy 11 - | To ensure that owners and users of wastewater systems know how to locate, use and care for wastewater systems in a way that minimises adverse environmental effects.  |
| Policy 12 - | To discourage the use of on-site wastewater systems where a sewer network is available.   |

#### *Explanation and Principal Reasons*

- (1) *The Gisborne District is characterised by environmental constraints such as, small section sizes, shallow groundwater or elevated seasonal ground water, surface flooding, unsuitable soil types and steep unstable slopes and poor drainage. System design should be informed by these factors.*

*If new buildings are constructed or if existing buildings are altered/extended or the use of building changes, it is important that the wastewater treatment system has the correct capacity and level of treatment for the wastewater. If systems are under capacity, it is possible that inadequately treated effluent will be discharged into the environment, causing environmental contamination.*

*Disposal fields can stop functioning adequately over time if they are not correctly designed, become oversaturated, solids make their way into the disposal field, or for other unanticipated reasons. Some disposal methods such as pit latrines, or deep bore disposal*

*are only suitable for limited use in remote locations away from waterways and where there are few people.*

*Environmental contamination can pose risks to soil and water quality, and subsequently eco-systems, amenity values and human health and safety and is contrary to the purposes of the RMA 1991.*

- (2) To operate in an optimum manner and give effect to the intended function, system materials and installation must be of an acceptable standard.*
- (3) Council has a responsibility under the RMA 1991 to ensure that discharges do not cause more than minor effects on the environment. Environmental contamination can pose risks to soil and water quality, and subsequently eco-systems, amenity values and human health and safety and is contrary to the purposes of the RMA 1991. Cumulative effects arise where multiple discharges are in proximity to one another as nutrients or disease causing organisms may be present in the environment in greater concentrations. Extra care is needed where discharges from on-site wastewater systems are close together, such as in unreticulated townships.*
- (4) Environmental contamination will occur where soils cannot adequately assimilate discharges within a site, contributing to cumulative effects. A higher level of treatment, such as advanced primary, secondary or tertiary treatment, is required before the effluent is discharged into land.*
- (5) A range of options are available and continue to be developed for treating and disposing of wastewater. The options will increase over the life of the Plan. Those options not specifically provided for in the Plan can be assessed on their merits through the resource consent process.*
- (6) New alternative treatment and disposal systems are being researched and developed over time. There is often less knowledge about the actual and potential effects of such systems than for more conventional systems. Council has a responsibility under the RMA 1991 to ensure that discharges do not cause more than minor effects on the environment and can assess actual and potential effects of less common systems through the resource consent process. This also enables Council to provide for innovative solutions for dealing with domestic wastewater.*
- (7) Even well designed systems are more likely to fail if not regularly maintained. A very important requirement is for periodic emptying of septage from septic tanks at a frequency that is suitable for optimal system function of individual systems. Regular inspection, cleaning and maintenance can help to minimise adverse environmental effects. Inspection, cleaning and maintenance has an economic cost and should only be mandatory where the benefits are greatest such as unreticulated townships where cumulative effects are more likely to occur due to close proximity of systems. It is essential to maintain all advanced treatment systems due to their mechanical nature. Owners of systems (excluding advanced treatment systems) in more remote areas will be informed of the benefits of regular inspection, cleaning and maintenance and can choose how they care for their systems.*

- (8) *The installation of effluent outlet filters improve the quality of wastewater discharged into the environment as solids do not make their way into the disposal field, decreasing soil contamination and improving the life of the disposal field. Extensions and lids enable easier access to the tanks for cleaning and maintenance. For this reason they should be a standard installation on all new conventional systems. Their use is encouraged for existing systems. Retrofitting is an economic cost and system owners will be informed of the benefits of retrofitting and can choose whether to retrofit their systems.*
- (9) *When wastewater systems are no longer functional, they need to be repaired, retrofitted or replaced to avoid environmental contamination.*
- (10) *Settlements in the Gisborne District are geographically dispersed and there are many isolated rural properties. Septage disposal facilities need to be provided at convenient locations so that individuals and operators dispose of septage in an appropriate manner to avoid environmental contamination through illegal disposal. Due to large geographical distances between septage disposal facilities in the Gisborne District, sometimes it is appropriate for septage to be handled on or near the site where it is generated, especially where sites are isolated. It is important that septage is treated appropriately to minimise environmental contamination.*
- (11) *An awareness of the environmental issues associated with inadequate wastewater system management, such as lack of maintenance or unsuitable system inputs can help to change management practices over time and subsequently reduce adverse environmental effects that arise from the use of on-site wastewater systems.*
- (12) *Sewer networks are typically only found in closely settled areas where section sizes are often not large enough to adequately contain an on-site wastewater system. The potential adverse effects, in particular health, amenity and cumulative effects on water quality, of on-site wastewater systems in these locations are greater than in less densely settled areas. It should be noted that diversion greywater-only systems may still be suitable for garden irrigation purposes where sewer networks are present.*

## **5.2.5 Methods of Implementation**

### **Analysis**

Methods most often comprise service provision, education and advocacy, monitoring and/or regulation. The current mix of methods utilised by Council to manage discharges encompasses all of these methods. There are Rules in the Discharges Plan regulating the installation and operation of wastewater systems. Council carries out regular monitoring of water quality at specific locations. Council staff educate designers, cleaners and landowners in their every day activities. The Council provides septage pits at Te Araroa, Tikitiki, Ruatoria and Te Puia and the City Wastewater Treatment Plant, all of which accept septage from wastewater systems.

Recommendations for the current methods:

1. The Council will develop a programme aimed at educating homeowners about how to manage their non-reticulated domestic waste disposal systems and options for new installations.

#### **Principal Reason**

Experience has shown that people are often unaware of maintenance requirements or forget to manage their systems until breakdowns occur. This can be expensive for them and causes adverse effects until the problems are repaired. Council often receives requests for advice on appropriate systems, and is in a good position to keep up with new technology and pass it on.

### **Amend Method**

Explanation: This method is not as effective as it could be. This Plan change will partially give effect to the method. A Rule will require systems to be emptied at certain frequencies in unreticulated townships. System owners outside of unreticulated townships will still benefit from education about the benefits of maintaining their systems. The Plan Rules will also better reflect the range of technologies and options available but staff will still pass on information as they become aware of it because technology and information changes more frequently than the Plan rules. The terminology needs to be amended to be consistent with the rest of the Plan.

2. The Council will investigate and where appropriate implement options for ensuring that septic tanks are emptied regularly and the contents are handled and disposed of in the most satisfactory manner.

### **Principal Reason**

This aspect is so frequently ignored by property owners that there is a need for a more rigorous system to ensure this essential work takes place.

### **Amend Method**

Explanation: This method is currently ineffective. Council staff are aware that some systems are not emptied regularly. There is no formal requirement for people to maintain their systems. Council Staff currently educate people about caring for their systems but there are still systems that are not adequately cared for.

This Plan change will give effect to the method. A rule will require systems to be emptied and inspected at certain frequencies in unreticulated townships. An education programme will be used to encourage maintenance in locations where inspection and cleaning is not mandatory. The requirement for septage to be handled and disposed of in the most satisfactory manner is better incorporated in Method 4. The terminology needs to be amended to be consistent with the rest of the Plan.

3. Where necessary the Council will require that alternative specialised systems be installed.

### **Principal Reason**

Where systems are causing adverse effects through defects or unsuitable design Council will require upgrading to avoid these effects.

### **Amend Method**

Explanation: The reason for the method is not robust, as it does not correctly reflect the circumstances when a specialised system, such as an advanced on-site wastewater-treatment unit would be required. The method should be reworded. Advanced treatment of effluent may be required for both new dwellings and existing systems in some situations and are not required in every circumstance when an existing system is failing. The terms 'alternative' and 'specialised' systems should be clarified as there are a number of 'alternative' systems available which might be favoured by landowners but not required by Council, for example, greywater systems or composting toilets. In addition, there will be new rules to support alternative systems.

4. The Council will:
  - ▶ Establish or facilitate as necessary disposal facilities for camper van and septic tank wastes.
  - ▶ Facilitate in the dissemination of information on the disposal of camper van waste, and the maintenance and disposal of waste from septic tanks.

### Principal Reason

Unless sites are available for emptying these tanks then some people and some contractors will empty them in unsuitable locations including road verges, side roads, beach fronts, river banks, reserves and rest areas. Provision of information on where and how to dispose of such wastes will serve to reduce the amount of inappropriate discharges in the region.

### **Amend Method**

Explanation: These services are still required. New regulations will mean that an increased number of people are emptying their tanks and service provision will remain important. During the review process, it was raised that cleaners should be accredited in order to provide a consistent level of service. The terminology needs to be amended to be consistent with the rest of the Plan.

5. The Council will monitor the effects of non-reticulated domestic liquid waste disposal on ground and surface water.

### Principal Reason

This will enable the Council to make informed decisions where remedial or preventative actions are required.

### **Amend Method**

Explanation: Monitoring the effects of discharges on ground and surface water is important and will assist in monitoring the efficiency and effectiveness of the Plan over time and for future Plan reviews. The terminology needs to be amended to be consistent with the rest of the Plan.

6. The Council will develop appropriate guidelines for the control of non-reticulated domestic waste in new subdivisions and developments.

### Principal Reason

Adverse effects are best avoided by imposing standards at the development stage.

### **Amend Method.**

Explanation: A recent change to the Combined Regional Land and District Plan has strengthened rules and assessment criteria for landowners at the development stage. This method is important because once land is subdivided for residential use in un-reticulated areas, there is usually an expectation that wastewater discharges associated with domestic activities will be allowed. The terminology also needs to be amended to be consistent with the rest of the Plan.

**Table 3: Types of Methods**

Alternative methods	Effectiveness	Efficiency	Benefits	Costs	Uncertainty
Advocacy	<p>As a stand alone method, advocacy has limited effectiveness as there is no guarantee of outcomes. However when combined with regulation the effectiveness is greatly improved.</p> <p>Effectiveness dependent on willingness of parties to change behaviour, which is not guaranteed.</p> <p>Effectiveness can also depend on the resources the Council is willing to invest in advocacy as an ongoing tool.</p>	<p>Cleaners already act as advocates and will continue to do so.</p> <p>Could be quite efficient as it is clear who to and who not to advocate to. There will be little advocacy directed at Central Government as they have recently concluded a study on this topic.</p>	<p>Central Government has recently looked at the issue and decided that it is best dealt with at the regional level so it is not expected to need to advocate to Central Government in the foreseeable future.</p> <p>Generally low cost to Council.</p> <p>Encourages behaviour change.</p>	<p>Advocacy is generally low cost to Council.</p> <p>There is no guarantee that advocacy will be acted on.</p>	<p>Low uncertainty.</p> <p>As there is no guarantee of outcomes, there is a risk that there may not be any environmental change/improvement.</p> <p>However a reasonable possibility remains that there might be environmental gain and so there is also risk associated with not including advocacy as a method.</p> <p>When combined with other methods advocacy is a valuable method of policy implementation.</p>

Alternative methods	Effectiveness	Efficiency	Benefits	Costs	Uncertainty
Education/Information	<p>As a stand alone method, education has limited effectiveness as there is no guarantee of outcomes and is best combined with other methods e.g. Regional Rules, Resource Consents.</p> <p>Effective in raising awareness and understanding of the issue.</p> <p>However when combined with regulation the effectiveness is greatly improved e.g. education as a supporting method, may increase people's willingness and ability (including financial ability) to comply with regulation, as they are able to better understand the reasons for the regulation and consent conditions. These include information booklets, Guidelines for the industry.</p> <p>At the moment it has moderate effectiveness at achieving care and maintenance of tanks.</p>	<p>Efficiency is moderate to high when considering effectiveness with cost.</p> <p>Designers/site assessors/cleaners already act as educators and will continue to do so at low/no cost. It is in their interests to do so.</p> <p>Information and promotion can target a specific issue, e.g. inputs into systems, and provide valuable information to a community at a relatively low cost.</p>	<p>Community pre-consultation has shown that the community favour this method.</p> <p>Potential to increase awareness of issues and change behaviour.</p> <p>Could increase compliance with Regional Rules.</p> <p>Benefits to the environment will depend on people's willingness and financial ability to change behaviour.</p> <p>Community members may find ways of saving money in the long term.</p>	<p>Cost to Council of delivering an education programme is generally low cost when compared with other methods.</p> <p>Cost to Council to research and produce and update information, e.g. information booklet, etc.</p> <p>Provides no guarantee of change in behaviour.</p> <p>Community members may spend money putting what they have learnt into action e.g. preventative maintenance (refer costs of clean/retrofit in Rule Analysis)</p>	<p>Low uncertainty/risk.</p> <p>As there is no guarantee of outcomes, there is a risk that there may not be any environmental change/improvement.</p> <p>However a reasonable possibility remains that there might be environmental gain and so there is also risk associated with not including education as a method.</p> <p>When combined with other methods education is a valuable method of policy implementation.</p>

Alternative methods	Effectiveness	Efficiency	Benefits	Costs	Uncertainty
Regional Rules	<p>Rules provide certainty and clarity for Plan users about the issues and what is required to manage effects on the environment.</p> <p>Rules can be highly effective if written well. The current rules are only moderately effective for reasons described above. A higher level of effectiveness can be achieved. Design and care of systems can be improved.</p> <p>Central government has indicated that they believe on-site wastewater systems are best dealt with at the Regional level so no legislation changes are expected in the near future relation to discharges that would require medication of Regional Rules after this Plan Change.</p>	<p>The efficiency of this method is considered to be high.</p> <p>Permitted activities state what discharge activities can be undertaken without consent.</p> <p>They provide certainty for Plan users and the Council.</p>	<p>Regional Rules provide certainty.</p> <p>Regulation can actually put more activities into the permitted activity realm (although subject to conditions) which can reduce compliance costs (but not system costs).</p> <p>Permitted activities rules allow equity of opportunity for all land holders to undertake activities that have minor effects on the environment.</p> <p>Removes the blanket requirement afforded by section 15 of the Act which would otherwise incur consent costs for every discharge in the District.</p>	<p>Cost of Plan development and review.</p> <p>Cost to Council and community to monitor Permitted activity Rules (through General Rate).</p>	<p>The risk of not acting to provide a range of Regional Rules (especially Permitted activities) is that people may not be enabled to provide for their social, economic or cultural wellbeing, due the restrictions set under the RMA.</p> <p>The risk of acting is that a level of effect will become permitted.</p> <p>However, the information surrounding the effects of discharge activities is considered to be high enough to allow reasonable thresholds to be set for Permitted activities that will ensure that any effect is no more than minor.</p>

Alternative methods	Effectiveness	Efficiency	Benefits	Costs	Uncertainty
Resource Consents	Highly effective as this method provides an avenue to address site specific environmental effects.	Resource consents will be required where activities cannot comply with the conditions for Permitted activity Rules. Consent conditions are tailored to deal with any adverse effects of a specific activity.	Each activity can be assessed for its environmental impact. Costs are recoverable as consents are user pays.	Cost of consents staff. User pays – applicant covers cost of resource consent.	There is very little to no risk to the environment from using this method.
Services (including reticulation, septage pits and Wastewater Treatment Plant, administration of mandatory inspection/ cleaning and/or voluntary retrofit)	If the status quo is maintained in respect of reticulation i.e. reticulation not introduced, this triggers the need for other methods (Regional Rules/consents and/or education) to address potential environmental contamination. Reticulation is a very effective means of avoiding adverse effects on the environment from wastewater. By not reticulating there is an opportunity for people to learn sustainability and water conservation principles through having septic tanks.	It is not efficient for Council to administer a targeted rate for inspection/clean and/or voluntary retrofitting of tanks. The LGA Sanitary Surveys show that it is not efficient to reticulate most of the unreticulated townships for wastewater.	Service provision, such as septage pits or the administration of inspection/cleaning supports and enables regulation to take effect.	Regulating for mandatory maintenance likely to require increased service provision to cope with increased septage (estimated approximately 10% increase, if 5 yearly inspection). Administration costs of a targeted rate for mandatory inspection/clean and/or voluntary retrofitting. It was estimated to cost \$25,000 to \$30,000 reticulate Wainui/Okitu/Sponge Bay as at 2009. Conclusion that economic effects of decision to continue with the reticulation proposal would be severe for many households.	The affordability* may be a challenge to the community that requires a septage pit upgrade. Bad debt risk* associated with administering a targeted rate.  *These issues are further analysed in the covering report to Council.

Alternative Methods	Effectiveness	Efficiency	Benefits	Costs	Uncertainty
Investigations/ Monitoring	<p>Monitoring provides a better understanding of what is happening in the environment, but monitoring is not fully effective in proving environmental contamination.</p> <p>Monitoring is not effective in changing levels of contamination but over time assists with refining regulations or other methods and correctly targeting them to areas of risk.</p> <p>Monitoring is a method of seeing whether Permitted activity conditions are met.</p>	<p>Efficiency is considered to be moderate.</p> <p>Can target a specific issue or geographic location to provide information that can be used to benefit design of policies and methods.</p>	<p>Monitoring is a method of seeing whether Permitted activity conditions are met.</p>	<p>Some types of monitoring e.g. faecal source tracking are expensive. Initial money to trial this type of monitoring has been obtained through Envirolink grants; cannot sustain this long term unless it becomes cheaper. Can be expensive to roll out over District.</p> <p>Cannot extrapolate monitoring over district and need monitoring over time to build a picture.</p> <p>Cost of monitoring Permitted activities (through a General Rate).</p>	<p>The risk of using this method is that there is a long lag period to see environmental change so it is risky to 'wait and see' before acting when there is knowledge about what are likely to be high risk areas.</p> <p>Therefore it is best used in conjunction with other methods such as regulation and education.</p>

### Advocacy and Education

Central Government has recently looked at the issue and decided that it is best dealt with at the regional level so it is not expected to need to advocate to Central Government in the foreseeable future.

Education alone is expected to have a lower rate of tank care and resultant effects on the environment and the current situation is that this is not working as well as other methods. Two educational documents that instead support regulation have recently been prepared for publishing.

An information booklet titled “Your Septic System – What You Need to Know - A User’s Guide to Home Wastewater Systems” is currently being published and will be distributed to owners of on-site wastewater systems in the District. It will system owners with information about local conditions, system types, and tips for living with an on-site wastewater system, including maintenance.

Guidelines are intended to support regulation by providing performance parameters for on-site wastewater to achieve the objectives and policies of the Plan, and also requirements of the Building Act. The intention is for these Guidelines to be applied in the Gisborne District by Council staff, designers, land development practitioners, installers, service and maintenance persons, equipment suppliers, component manufacturers, and system owners. Best practice has evolved over time in response to new technology and better understanding of the factors that influence on-site management of wastewater. The Guidelines will ensure that users have a current and up-to-date understanding of best practice management of wastewater.

During pre-consultation for this Review communities and the industry indicated that they want good education. The following are ideas suggested by these groups:

Table 4: Industry and Community comments about advocacy and education	
Industry	Community
<ul style="list-style-type: none"> <li>- Guidelines/Accreditation for Designers/Site Assessors (COMPLETE)</li> <li>- Guidelines/training for cleaners</li> </ul>	<ul style="list-style-type: none"> <li>- Information booklet for owners about system types, design, operation, maintenance including management of inputs into system (water, chemicals, medication) (COMPLETE)</li> <li>- Council to educate via print, website and face-to-face delivery, property managers, marae, school curriculum, people moving from town to country and new ratepayers</li> <li>- Physical demonstration of tank function to public</li> <li>- Promote use of septic friendly products</li> <li>- Provide information about greywater and alternatives (ONGOING)</li> <li>- Promote awareness of related issues e.g. location of drinking water bores</li> <li>- Cleaners to educate and provide support (ONGOING)</li> </ul>

It is considered effective and efficient to educate the on-site wastewater system owners and industry professionals about on-site wastewater systems, because it complements and supports regulation. Staff will engage in a process of continual improvement of resource and educational material.

### **Service Provision**

Although very effective in dealing with untreated wastewater, reticulation has been discounted as an option for dealing with wastewater in currently unreticulated communities due to low efficiency. The Local Government Act Sanitary Surveys carried out in 2005 show that it is not efficient to reticulate most of the unreticulated townships for wastewater. It was concluded in 2009 that the economic effects of a decision to continue with the reticulation proposal for Wainui/Okitu/Sponge Bay would be severe for many households. There is a current proposal to insert a reticulation proposal into the Ten Year Plan for Makaraka. With the exception of the Makaraka proposal, reticulation is not an appropriate option and on-site wastewater management is the preferred option.

Service provision as method can support regulation. It is likely that Council will need to upgrade septage pits as a 10% increase in volume is expected to be generated by the requirement for mandatory cleaning every five years. Septage pits are located at Te Araroa, Tikitiki, Ruatoria and Te Puia. Any requirement for septage pit upgrades as a result of increased pressure on septage pits will need to be assessed by the Utilities section and the cost of any necessary upgrades are yet to be calculated by the Utilities section. The affordability of upgrades may be a challenge to the community that requires a septage pit upgrade. The Utilities section has asked that consideration be given to the requirement for mandatory servicing to be phased in at a rate that allows for upgrade of the septage pits. The Utilities section has asked Opus Consultants to investigate septage sites up the coast for modification and/or relocation and review District wide septage disposal.

An alternative service is to subsidise extra haulage trips to Gisborne's municipal wastewater treatment plant. It is expected that Gisborne's municipal wastewater treatment plant can accommodate septage generated from the inland townships, townships south of Gisborne and Tolaga Bay and this septage is already carted to Gisborne.

Another possible service that could be provided is the administration of a voluntary/non-voluntary targeted rate for inspection/clean-outs, or bulk contracts for (voluntary) retrofitting of existing systems. The costs associated with this are discussed in more detail in the Cover Report to the Environment and Policy Committee. This option is not recommended and it is considered more effective and efficient to leave financing to the private sector.

### **Regulation – Resource consents and Regional Rules**

Rules are an effective tool in relation to managing discharges. Creating Regional Rules removes the blanket requirement afforded by section 15 of the Act which would otherwise require resource consent for every discharge in the District and this is efficient. Resource consents are an effective method of addressing site specific environmental effects where activities fall outside of Permitted activity conditions and there is the possibility of adverse environmental effects.

## **Monitoring/Investigation**

Monitoring provides a better understanding of what is happening in the environment, but monitoring is not fully effective in proving environmental contamination. Monitoring is not effective in changing levels of contamination but over time assists with refining regulations or other methods and correctly targeting them to areas of risk. Monitoring is a way of checking whether permitted activity conditions are met. It is important to continue monitoring because there are more permitted activities proposed in the Plan Change. Monitoring is expensive and cannot be extrapolated across the District. It can be made more efficient by targeting it to a specific issue or location. It is best used in conjunction with other methods as there is a long lag period to see results.

**Recommendation:** An enhanced combination of methods.

Two options have been considered for the use of methods to achieve the Plan Objectives. The first is to retain the status quo which is a combination of the above method types. There is some level of service provision, education, advocacy, Regional Rules, resource consents and monitoring at present in the Plan. The current mix of methods is suitable and the methods are partially effective but all need amending.

The second option is to retain a combination of method types but enhance the recommended methods, as the methods support and reinforce each other. As demonstrated above, these methods are often complementary and will be more effective when implemented together rather than as stand alone actions.

The methods listed in the Plan should be updated to reflect current knowledge and practice and clarified so that it is clearer how they can be given effect to. There is also an absence of methods relating to record keeping, upgrading of systems when they have failed or assisting with funding cleaning, maintenance and (voluntary) retrofitting of wastewater systems. There is no stated method that requires regulation even though regulation is currently in place.

In summary all of these methods are considered to be appropriate inclusions in the Plan. As many of these methods are already included in the existing Chapter 7, an enhanced combination of methods is recommended.

## **5.2.6 Proposed Methods of Implementation**

### **Regulation**

1. Gisborne District Council will apply Rules to give effect to the Policies of the Plan and will require resource consent where activities do not meet Permitted activity conditions.
2. The Council will require that secondary and/or tertiary treatment systems be installed on individual properties where necessary.
3. Council will require that in all locations, advanced treatment plants are cleaned and serviced at a frequency recommended by the manufacturer and that in Residential, Reserve, Rural Lifestyle, Commercial and Industrial zones in the Gisborne District, conventional wastewater systems are cleaned and maintained at a specified frequency.

4. The Council will require that existing wastewater systems be upgraded or replaced when wastewater systems fail.
5. The Council will develop appropriate regulations for the control of non-reticulated domestic wastewater in new subdivisions and developments.

*Explanation and Principal Reasons*

- (1) *Rules are necessary under section 15 of the RMA 1991 to make any discharges permissible (unless discharges are expressly provided for by other standards/regulations or a resource consent). Some discharges arising from domestic wastewater are considered appropriate in the Gisborne District without needing to be assessed through the resource consent process and will be provided for by Rules. Rules can also provide certainty in administration of the Plan.*
- (2) *Environmental constraints present on sites may require that wastewater be treated to a certain quality prior to discharge to minimise adverse effects on water bodies and beyond the site boundaries.*
- (3) *Council staff know that some people are unaware of maintenance requirements or forget to maintain their systems until failures occur. This can be expensive for them and can cause unnecessary/additional adverse health and environmental effects. Environmental effects may be ongoing even after the system is repaired. This is especially important where large groups of people congregate or tanks and disposal fields are in close proximity to each other (such as in Residential, Reserve, Rural Lifestyle, Commercial and Industrial zones), or to surface and ground water bodies. There is a need for a more rigorous system to ensure this essential work takes place to minimise adverse effects on the environment.*
- (4) *Failure of the treatment or disposal system to the extent that more than routine maintenance is required to reinstate the system, is highly likely to result in adverse environmental effects.*
- (5) *Adverse environmental effects are best avoided by ensuring that there is sufficient ability to collect, treat and dispose of expected wastewater flows arising from developments before the development is carried out.*

**Works and Services**

6. The Council will establish or facilitate the establishment of disposal facilities for camper van and wastewater system wastes (septage) as required and upgrade these facilities as required.
7. The Council will investigate and if appropriate, implement options for reducing the cost to landowners for cleaning, maintenance and retrofitting of wastewater systems.

*Explanation and Principal Reasons*

- (6) *Unless sites are available to receive wastewater system wastes then some people and contractors will empty them in unsuitable locations in public places. Provision of septage pits and wastewater treatment facilities will avoid unnecessary contamination of soil in the region.*
- (7) *Many of the properties relying on on-site wastewater systems are located outside of Gisborne City and additional transport costs are incurred when engaging system cleaners.*

*Septage can only be disposed of in restricted locations only. Retrofitting may not have been budgeted for, as many systems in the District are ageing, but can extend the life of a system, and reduce adverse environmental and public health effects.*

### **Information/Education/Advocacy**

8. The Council will develop, implement and maintain a programme aimed at educating landowners, schools, marae, business owners and property managers about design and installation options for new wastewater systems and best practice for the operation, maintenance and retrofitting of wastewater systems.
9. The Council will advocate for existing conventional wastewater systems in Residential, Reserve, Rural Lifestyle, Commercial and Industrial zones in the Gisborne District to be provided with effluent outlet filters and suitable access for cleaning and maintenance of the tank and effluent outlet filter.
10. The Council will develop and implement a programme aimed at educating people about the disposal of waste from temporary and/or portable wastewater holding tanks (such as camper van and portable toilet wastes).
11. The Council will develop a programme of training for wastewater system cleaners to ensure tanks are cleaned properly and the contents are handled and disposed of in the most satisfactory manner.
12. The Council will develop a programme for accreditation for wastewater system designers and site assessors to ensure wastewater treatment, storage and disposal systems are appropriately designed for their location and function.
13. The Council will provide all known information about individual on-site wastewater systems when a Land Information Memorandum is requested for a property.

#### *Explanation and Principal Reasons*

- (8) *Council staff often receive requests for advice on appropriate system options, and is in a good position to keep up with new technology and best practice and pass this information to landowners, schools, marae, business owners and property managers.*
- (9) *The installation of effluent outlets filters improve the quality of wastewater discharged into the environment as solids do not make their way into the disposal field, decreasing contamination and improving the life of the disposal field. Extensions and lids enable easier access to the tanks for cleaning and maintenance. Retrofitting is an economic cost and landowners will be given the choice whether to retrofit or not. Council will educate landowners about the environmental benefits of retrofitting.*
- (10) *Unless sites are available to receive portable wastewater system wastes then some people and contractors will empty them in unsuitable locations in public places, in particular reserves and the coastal environment. Provision of septage and wastewater collection facilities at strategic locations, particular where people camp, will avoid unnecessary contamination of soil in the region.*

- (11) *It is important that systems are cleaned properly so that they function in an optimal manner, and thereby minimise adverse effects on the environment. Incorrect cleaning methods may break system parts and affect functioning of systems. It is important that people receive a satisfactory and consistent service from wastewater system cleaners and that waste is disposed of in approved locations to minimise adverse effects on the environment.*
- (12) *It is important that site assessment and system design is carried out carefully by competent personnel and are appropriate for their situation so that adverse effects on the environment are minimised.*
- (13) *A Land Information Memorandum is often requested when a property is bought/sold. It is a useful legal mechanism for passing property information to interested parties. Parties will have more certainty about the history of a system i.e. whether it has been cleaned and inspected as required by the Rules.*

### **Monitoring/Investigations**

- 14. The Council will develop, implement and maintain a programme to monitor the effects of discharges from wastewater systems on ground and surface water quality.
- 15. The Council will collect and maintain records of wastewater systems in the District.

#### *Explanation and Principal Reasons*

- (14) *Monitoring can show changes in soil, ground and surface water quality over time. Monitoring will enable the Council to make informed decisions where remedial or preventative actions are required. Monitoring is also a requirement under section 35 of the RMA 1991.*
- (15) *Knowledge of system types and function can assist with identifying adverse effects on individual sites and in settlements. It can also assist with planning the provision of services, such as the provision of adequate septage facilities.*

### **5.2.7 Existing Rules and Schedules:**

#### **Rule 7.5.1 Permitted Activity Discharges Arising from Non-Reticulated Waste Disposal Systems in unreticulated areas**

##### **A. New Systems**

The discharge of up to 2 cubic metres of sewage effluent per day into the ground from a waste water treatment plant with a maximum septic tank capacity of 5,000 litres shall be a **permitted activity** provided that:

- a) No reticulated sewerage system is available.
- b) The requirements of Appendix 5 are met.

Provided that systems in existence at the date of notification of this plan need not comply with the maximum discharge unless they are completely or partially replaced.

**NOTE:** Such systems also require consent under the Building Act 1991.

## **B. Existing systems**

Subject to C. below, the discharge of sewage effluent into the ground from an on site waste water treatment plant existing at the date of notification of this Plan shall be a permitted activity provided that the following conditions are met.

- a) There must be no direct discharge of effluent into water.
- b) A building consent or drainage permit must have been issued and complied with for the system.

**Note:** If any such existing system creates any adverse effect on human health or the environment the Council may require the system to be upgraded pursuant to section 322 of the Resource Management Act 1991. The circumstances in which the Council shall require an upgrade are specified in Rule 7.5.1(c) of this plan.

## **C. Upgraded systems**

Where:

- a) The use of existing buildings serviced by a system increases the quantity or characteristics of waste beyond that for which the system was designed or is capable of adequately treating.
- b) Building alterations, additions or new buildings are proposed which are likely to increase the quantity of waste.
- c) Part of the existing system fails and requires replacement.

The system shall be upgraded so that the resultant discharge of sewage effluent into ground complies with the requirements of Clause A of this rule.

### Principal Reason

This rule avoids the need for resource consents for every new domestic treatment system, while providing for a satisfactory standard of treatment.

<sup>1</sup> Registered operator meaning an operator registered as 'Offensive Trade' pursuant to the Health Act 1957.

**Delete Rule 7.5.1 and Replace with a range of rules for a range of different treatment and disposal systems and insert a separate rule relating to system upgrade.**

Explanation: This rule does not account for the different types of on-site wastewater treatment plants that are available and the different levels of care they need. More conditions are required to manage the adverse effects of systems, including existing systems. More clarity is required around when a system requires upgrading. In relation to condition A, just because a system is larger does not mean that it cannot be assessed as a permitted activity, provided that it meets certain conditions intended to protect the environment.

### **Rule 7.5.2 The discharge of septage to land**

The disposal of septage by discharge to land shall be a **permitted activity** subject to the following conditions:

1. Disposal must be carried out by a registered<sup>2</sup> operator.

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<sup>2</sup> Registered operator meaning an operator registered as 'Offensive Trade' pursuant to the Health Act 1957.

2. Septage must originate from the same land as it is disposed on.
3. Disposal must occur within a maximum 14 day period.
4. The site shall not be used more than once for the disposal of septage.
5. The disposal site must meet the following requirements:
  - (a) It shall be located at least 150 metres from the property boundary, and 150 metres from any dwelling, and 100 metres from any water course, 150 metres from any bore used for domestic or stock water supply, or 10 metres from any other bore or well, and not within an area sensitive to coastal hazard<sup>3</sup>.
  - (b) The base of the septage shall be at least two metres from the highest water table and any impermeable layer or any layer with a percolation rate less than 12mm/hour.
  - (c) The site shall consist of well drained soil but not sand or gravel.
  - (d) Slope must not exceed 20°.
  - (e) The site shall be protected from any surface water run off.
  - (f) The volume of the disposal site shall be at least 1.5 times the volume of effluent to be disposed of. (*Note that shallow and wide is better than deep and narrow.*)
  - (g) Immediately following disposal, the septage shall be covered sufficiently to prevent access by vermin.
  - (h) The site shall be adequately fenced prior to disposal occurring, to prevent access by animals or children, and shall remain fenced until filled, left to dry and covered upon completion.
6. Any spillage must be immediately cleaned up and placed in the pit.
7. When the material has solidified it must be covered with a minimum final cover of at least 600mm which must be domed to accommodate any future settling.
8. Registered operator meaning an operator registered as 'Offensive Trade' pursuant to the Health Act 1957.
9. These areas are described in Appendix 5 of the Proposed Regional Coastal Environment Plan for the Gisborne Region.
10. The disposal site must be marked on a site plan and submitted to the Council within fourteen days of disposal taking place together with details of the approximate volume of septage disposed, its source, disposal date, site legal description and location, operators name, owners name and address.
11. The Gisborne District Council, servants or agents be permitted access to the relevant parts of the property at all reasonable time for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.
12. Any costs incurred by the Council in undertaking these activities are to be met by the landowner.

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<sup>3</sup> These areas are described in appendix 5 of the Proposed Regional Coastal Environment Plan for the Gisborne Region.

**Amend Rule 7.5.2 (and replace with Rule 7.6.5.1)**

Explanation: Items 8 and 9 of this rule should be footnotes. Items 11 and 12 repeat information that is contained in the RMA about cost and access for monitoring purposes which are superfluous. Item 3 is unclear.

**Rule 7.5.3 Discharges arising from non-reticulated liquid waste disposal systems**

Shall be a **restricted discretionary** activity where a sewerage system is available. The Council's discretion shall be limited to the matters set out in Policy 7.3.3.

Principal Reason

Where a system is available, then connecting sanitary fixtures to it will generally provide the best means of avoiding adverse environmental effects. The limits to availability are selected to be consistent with section 459 of the Local Government Act 1974. This rule provides an exception under which alternative proposals may be assessed on their merits by resource consent.

**Amend Rule 7.5.3 and replace with a General Rule that where systems are established there shall be no sewer network available. Insert Rule 7.6.7.5 to deal with proposals for systems on land where there is a sewer network available.**

Explanation: During the review process, it was raised that discharges to land in reticulated areas should only be allowed in extenuating circumstances. The activity status of the Rule will be updated to reflect this.

**Rule 7.5.4 Discharges arising from non-reticulated waste disposal systems in unreticulated areas**

Except as provided in Rule 7.4.1, non-reticulated liquid waste disposal systems shall be a **restricted discretionary activity**. The Council's discretion shall be limited to the matters set out in Policy 7.2.3, and such applications may be made without obtaining the consent of affected persons.

Principal Reason

This rule ensures that larger or unusual systems are able to be considered on their merits, so that adverse effects from such systems are avoided.

**Amend Rule 7.5.3 and replace with various Rules related to system type, where the systems do not meet permitted activity standards.**

Explanation: The activity status of the rule will be updated to reflect this. The reference to Policy 7.2.3 should be 7.3.3. Policy 7.3.3 contains criteria for discretion. It is considered that the criteria for discretion should not be limited because the potential for adverse effects relates to the site and specific development proposal and not all adverse effects can be foreseen, including cultural effects.

In light of the changes to Rule 7.5.1, larger systems can be provided for subject to permitted activity conditions.

Although infrequent, Council are aware of proposals that have the potential for adverse effects outside site boundaries due to site constraints and historical activity on sites. The non-notification clause should therefore be removed.

### **Rule 7.5.5 The discharge of septage to land**

The disposal of septage by discharge to land shall be a **discretionary activity** where:

- a) The proposed disposal site is on land from which the septage did not originate or
- b) The site is used more than once for the disposal of septage or;
- c) The disposal does not comply with any requirement of Rule 7.5.4.

Where septage disposal sites are used more than once, the Council will as a condition of consent, require consent holders to:

- (a) Prepare and update annually a management plan to the satisfaction of the Council. This shall specify the key aspects of operation of the facility including any relevant matters listed in Appendix 3: Schedule B to the Plan;
- (b) Collect from all persons placing septage in the facility information including:
  - Person's name.
  - Quantities and numbers of loads placed.
  - The nature of the material placed.
  - Dates when septage was placed.
- (c) Carry out at least one random check of the facility each year to ensure those using the facility are complying with the management plan and the terms of the consent;
- (d) Furnish to the Council an annual report covering:
  - The matters listed in Appendix 3: Schedule C to the Plan.
  - Results from (b) and (c) above.
  - Any departure from the facility management plan and the reasons for the departure.
  - Any environmental problems or complaints received about operation of the facility.

#### Principal reason for rules 7.5.2 and 7.5.5

Land disposal of septage can cause problems of land and water contamination, odour, breeding of rodents and insects, and the transmission of faecal bacteria and viruses if the septage is concentrated and the disposal sites are used repeatedly. Good operating standards and regular monitoring are essential to avoid adverse environmental problems building up.

#### **Amend Rule 7.5.5 and replace with Rule 7.6.5.2**

Explanation: The recommended conditions of consent do not need to be included in the rule. Officers are able to prescribe site specific conditions during the consenting process. Septage pits are not a commonly occurring activity and conditions should be tailored to the specific proposal.

The focus of the rule should be narrowed to apply only to disposal sites on land from which the septage did not originate. Sites used more than once for the disposal of septage, where septage originates on the same land will should be covered by a separate Rule.

An entire new set of Regional Rules has been written for Chapter 7 of the RPDLW. None of the old Rules have been retained. For brevity the full set of Rules is not included in the body of this report. A copy of the Chapter, including Rules is included in **Appendix 2**.

## Format

The overall formatting and user-friendliness of the plan needed to be improved. The Rules are now grouped into seven categories:

- **Section 7.6.1 General Rules**

There is a set of General Rules applying to all systems. Included within the General Rules is a clause that Wastewater system selection, design, construction and installation shall follow best practice and be informed by standard(s) recognised by Council. One such standard is the Gisborne District Council *Guidelines for On-site Wastewater Management 2011* as such, is incorporated into the Plan. However, the Rule also allows for alternative solutions to be assessed on their merits and upholds the effects based approach that the Act takes.

- **Section 7.6.2 Rules for conventional on-site wastewater systems**

This section contains all the Rules for conventional on-site wastewater systems. The most significant change is the requirement for mandatory inspection and maintenance of systems in unreticulated townships. Unreticulated townships are defined by zoning contained in the Combined Regional Land and District Plan.

- **Section 7.6.3 Rule for advanced on-site wastewater systems**

This section contains all the Rules for advanced on-site wastewater systems. Performance and servicing criteria have been introduced where there previously were none. The most significant change is the requirement for mandatory inspection and maintenance of all advanced treatment systems regardless of location.

- **Section 7.6.4 Rules for non-conventional wastewater systems**

This section contains all the Rules for wetland plant filter systems, greywater systems, pit latrines (long drops), composting toilets and holding tanks. These Rules did not previously exist in the Plan.

- **Section 7.6.5 Rules for the management of septage**

This section contains all the Rules relating to the management of septage, and includes Rules relating to on-site site septage disposal, off-site septage disposal and the establishment of large scale septage facilities.

- **Section 7.6.6 Rules for non-conventional land application methods and discharges to water**

This section contains all Rules relating to non-conventional land application methods and discharges to water including Irrigation (drip or spray), point source discharges, deep bore disposal and disposal by way of explosives.

- **Section 7.6.7 Other Rules**

This section contains other Rules applicable to all systems (but not necessarily every system) including changes in origin, quality or volume (a trigger for system upgrade or replacement), a Rule that covers any discharges not provided for by any other rule, management of discharges where a sewer network is available and the decommissioning of systems.

The activities are grouped by activity type rather than by activity status. The Rules now specifically provide for a wider range of commonplace activities without requiring a necessarily resource consent if certain Permitted activity conditions are met. All the Rules relating to one activity are grouped together.

### **Philosophy**

The philosophy behind the Rules is a performance based approach. Compliance with the current Permitted activity conditions in the operative RPDLW do not necessarily protect the environment. For this reason, the Permitted activity conditions are stronger in the Proposed Rules so that attention is focussed on systems with the greatest potential for harm to public health and the environment. The Permitted activity conditions draw from a modern understanding of how environmental constraints affect the performance of systems. The setback and clearance distances contained in Appendix 5 are also intended to reference environmental constraints and ensure good performance of systems by avoiding or minimising off-site effects. The conditions also resolve existing omissions in the Plan, for example, a condition that Permitted activities can only have a single building using a single system.

The changes relating to inspection and cleaning take a precautionary approach to managing actual and potential environmental effects. It is difficult to prove contamination due to the nature of diffuse discharges and the source of contaminants has not been scientifically confirmed throughout the Gisborne District. In some locations contaminants are measureable in groundwater however the source could be farm animals or human faecal contaminants from septic tanks. Preliminary results of faecal source discrimination testing at one location (Hamanatua Stream) detected the presence of human faecal contaminants. This type of testing is expensive to roll out over the District and cannot be extrapolated between locations.

Moreover, the Ministry for the Environment's estimates a failure rate of between 15% and 50% of systems nationally. The variability in this estimate is due to the variation in local factors, including, geology, climate, design and installation, lot size, and the age of the community and shows the difficulty in proving contamination. The Gisborne District has environmental constraints that affect the performance of on-site wastewater systems.

It is therefore considered prudent to adopt a precautionary approach to managing on-site wastewater systems. The precautionary approach for the management of on-site wastewater systems is applied to locations that are considered "high-risk". These locations and the reasons they are considered high risk are listed in Issue 1 and discussed in further detail below.

### **Minor Changes**

Through re-writing the Rules, the minor errors will be addressed. Terms needed to be defined and used consistently for effective implementation of the plan. The glossary has been extended as shown in Appendix 2.

The new Rules specifically reference the domestic type wastes of non-domestic land uses in unreticulated areas such as reserve, commercial, and community land uses. This includes a Schedule in Appendix 5 that sets Wastewater Flow Design Allowances.

There is potential for conflict between Council and landowners when there is a disagreement over repair or system replacement. This potential for conflict has been reduced from the status quo through the introduction of description of what failure means and the introduction of a Rule triggering an upgrade of an existing on-site wastewater system if there are actual or potential changes in the origin, quality or volume of the discharge (Rule 7.6.7.3)

Rules have been introduced for decommissioning of systems and management of holding tanks for the protection and wellbeing of people and the environment. Providing for holding tanks is a useful solution to temporary/intermittent activities. There is a risk that holding tanks may become permanent or high use fixtures if not properly regulated. The risk of not regulating abandoned systems is that where they have not been decommissioned correctly they can pose serious safety and environmental risks. This group of Rules does not regulate the discharge itself, but regulates an activity that could result in an unlawful discharge.

Changes to the provisions are proposed to improve the management of septage.

### Assessment of Notable Changes

The following is an assessment of the notable differences. The **most appropriate option** is highlighted in **grey**.

Table 5 – Assessment of Notable Changes to Discharges Plan Rules					
Change	Benefits	Costs	Effectiveness	Efficiency	Risk
<b>More Permitted activities</b>  <b>OR</b> <b>Keep status quo</b>	Staff do not have to process as many consents. Staff can spend more time looking at the risky systems. Less cost to community for consent applications.	Costs associated with in finding out where the activities are still occurring so that Permitted activities can be monitored (i.e. checking the building consents database). May still be costs associated with complying with Permitted activity conditions.	It is fair to not require consenting process unless necessary i.e. non-standard activity.	The onus is on landowner to ensure compliance with the permitted activity conditions of the Plan. Staff do not have to process as many consents.	Less focus may be spent on monitoring permitted activities compared with activities requiring resource consent. There is a risk that environmental effects may go unnoticed. Ensure monitoring is a Method included in the Plan.
	Plan users are familiar with current Plan	Non-standard systems on large sites in remote rural locations with no environmental constraints would still require consents	Council is aware of all systems of a certain size. Does not equate to environmental effects.	Low efficiency as more consents processed than necessary.	Little risk of not acting



Table 5 – Assessment of Notable Changes to Discharges Plan Rules					
Change	Benefits	Costs	Effectiveness	Efficiency	Risk
<b>Retain non-notification clause</b>	Applicants for resource consent have certainty that their application cannot be notified.	Adversely affected parties where adverse effects go beyond the boundaries (more likely in higher density/coastal situations).	Not effective in avoiding/minimising adverse effects on the environment.	Could be time-consuming to resolve under the RMA if a dispute arises.	That there may be (limited) situations where affected parties do not have a say about a proposal – adverse effects may fall on people and the environment.  There is always the Special Circumstances provisions in the RMA for notification but these are relatively untested by the Courts and may not be able to be used.

Table 5 – Assessment of Notable Changes to Discharges Plan Rules					
Change	Benefits	Costs	Effectiveness	Efficiency	Risk
OR Remove non-notification clause	The premise of the RMA for involvement of affected persons is upheld.	Cost of notification/hearing for a small number of applicants (typically less than 5% consents are notified)	Although infrequent, Council is aware of proposals that have the potential for adverse effects outside site boundaries due to site constraints and historical activity on sites. The non-notification clause should therefore be removed.	There is very small impact on efficiency by removing the non-notification clause. Very few applications are notified in general and the consents workload will be business as usual.	There is little risk if the non-notification clause is removed.

Table 5 – Assessment of Notable Changes to Discharges Plan Rules					
Change	Benefits	Costs	Effectiveness	Efficiency	Risk
<p><b>Have provisions that distinguish between particular types of collection, treatment and land application systems</b></p>	<p>Increased certainty for applicants about types of discharge methods that are appropriate in different places in the region.</p> <p>People don't waste time applying for systems that are not appropriate.</p> <p>Staff can spend more time looking at the systems that are more likely to have adverse environmental effects.</p>	<p>Costs of Plan development for additional Rules.</p>	<p>Different land application systems have different levels of effect on the environment and different performance requirements and different activity statuses (from Permitted to Prohibited) are required to reflect this.</p> <p>Better environmental outcomes.</p>	<p>It is more efficient to spend time processing consents for systems that have the greatest environmental risk.</p>	

Table 5 – Assessment of Notable Changes to Discharges Plan Rules					
Change	Benefits	Costs	Effectiveness	Efficiency	Risk
<b>OR status quo - all discharges arising from wastewater disposal systems in unreticulated fall are considered under the same Permitted or Discretionary rule</b>	No Plan development costs.	Adverse environmental outcomes.	Very simple to read.  Not effective as it does not attempt to look at the performance characteristics of different types of systems.	Not efficient at achieving the proposed Plan objectives.	Risk that performance requirements specific to systems would not be met.
<b>Require all advanced treatment units to require resource consent</b>	Council would have good information about all advanced treatment units, however information is held by Council about every system regardless as each system requires a building consent.	Cost of consent application for applicant.	Effective in managing effects on the environment, but for simple systems, no more effective than simply complying with Permitted activity conditions.	This option has low efficiency compared to the alternative. If systems can meet Permitted activity conditions for performance, including a requirement for ongoing servicing then there is no need for resource consent. Staff time better spent on systems more likely to have adverse environmental effects.	No anticipated risk

Table 5 – Assessment of Notable Changes to Discharges Plan Rules					
Change	Benefits	Costs	Effectiveness	Efficiency	Risk
<p>OR</p> <p>Do not require all advanced treatment units to require resource consent</p>				<p>Some of the Permitted activity conditions would be replicated as resource consent conditions.</p> <p>Inefficiencies in doubling up building and resource consents data.</p>	
	<p>Saves staff time.</p> <p>Saves applicants money.</p>	<p>No costs are anticipated, including environmental costs.</p>	<p>Permitted activity conditions should ensure environmental effects are within an acceptable range.</p>	<p>Most efficient option as staff can focus on systems that are more likely to have adverse environmental effects.</p>	<p>No anticipated risk.</p>

Table 5 – Assessment of Notable Changes to Discharges Plan Rules					
Change	Benefits	Costs	Effectiveness	Efficiency	Risk
<p><b>Apply maintenance clause to new systems only</b></p>	<p>Less administration for Council staff.</p> <p>People have time to get used to the idea of budgeting for regular maintenance.</p>	<p>Less overall cost to society.</p> <p>Cost of maintenance to people with existing tanks – however this should be an existing cost to landowners.</p> <p>Some landowners will relate this fee as an additional tax for a service that they have been financially responsible for on their own.</p> <p>Not maintaining systems could cost more in the long run as a system may need to be replaced quicker as system life shortened through lack of maintenance.</p>	<p>Low effectiveness due to the comparatively low numbers of new systems every year:</p> <p>This means that a failing system may continue to fail until such time as there is new construction.</p> <p>Expect that water quality could actually decline as the numbers of ageing systems may grow before declining.</p>	<p>Progress on maintaining or improving water quality would be very gradual and a long term, not a medium term goal.</p>	<p>Some risk exists that people cannot afford maintenance costs and they will not carry out maintenance.</p>

Table 5 – Assessment of Notable Changes to Discharges Plan Rules					
Change	Benefits	Costs	Effectiveness	Efficiency	Risk
<p><b>OR</b></p> <p><b>Apply maintenance clause to both existing and new systems</b></p>	<p>Most of the systems in unreticulated townships are accounted for and this information can be used to assess the state of the environment.</p> <p>Maintain/improve water quality.</p> <p>Maintaining systems may increase the life of the system</p>	<p>More administration for Council Staff</p> <p>Staff time spent on compliance/enforcement if some people don't adhere to Rule.</p>	<p>Faster environmental gains because the rate of replacement is quite low so it is important to include the majority of systems.</p>	<p>Progress on maintaining/improving water quality may be seen in the medium term rather than the long term.</p>	<p>Water quality may remain the same or decline</p> <p>Public health risks higher</p>
<p><b>Include a minimum site size for Permitted activities</b></p>	<p>Plans in other Districts successfully use this mechanism to reduce nutrient loading to soil</p>	<p>Low cost tool that does not require too much research to develop</p> <p>Likely to result in many unreticulated township properties requiring resource</p>	<p>Could be seen to be a blunt tool as it does not take into account soil types or other environmental constraints.</p>	<p>Not very efficient as Council's consent workload would be increased</p>	<p>There is a possibility of contributing to cumulative effects.</p> <p>(Strengthen rules around design and maintenance to counteract this).</p>

Table 5 – Assessment of Notable Changes to Discharges Plan Rules					
Change	Benefits	Costs	Effectiveness	Efficiency	Risk
<b>OR</b>  <b>Do not include a minimum site size for Permitted activities</b>		consents due to large number of existing small sites (~1000m <sup>2</sup> )			
	Promotes an effects based approach  Opportunity to promote benefits of good design and maintenance	There is a possibility of contributing to cumulative environmental effects.	Land Capability Assessments carried out in the District show that minimum recommended site sizes for wastewater disposal are site specific and should take account of environmental characteristics.	Most efficient option considering the number of existing small sites (~1000m <sup>2</sup> )	

### System Management of individual conventional on-site wastewater systems

Concerns about the level of maintenance and servicing of tanks have been outlined throughout this report. The following are proposed options for ensuring on-site wastewater treatment systems are in good working order and are maintained on a regular basis.

#### What sort of maintenance and servicing should be carried out?

Staff investigated whether to have:

- Mandatory Cleaning Only;
- a Simple Inspection AND Maintenance; or
- a full 'Warrant of Fitness'.

Four checklists showing simple and complex inspections were put forward to community members and cleaning agents during pre-consultation meetings. The preferred option by the community and cleaners was a simple inspection coupled with maintenance. A copy of the preferred checklist is included in **Appendix 5**.

<b>Option</b>	<b>Benefits</b>	<b>Costs</b>	<b>Effectiveness</b>	<b>Efficiency</b>
<b>1. Mandatory Cleaning Only</b>	Many people are already doing this and are familiar with it. Low-moderate protection of environment.	Cost of clean \$150 - \$234 excl GST (in theory already a cost to landowner).	Cleaning will help to reduce solids going into land/overflows, but does not necessarily identify system failures.	Moderately efficient.
<b>2. Simple Inspection AND Clean</b>	Moderate-High Environmental protection.	Cost of clean (as above). Estimate \$30-\$50 excl GST for check & admin (landowner). Cost of up-skilling cleaners.	Highlights obvious/fundamental failures.	Highly efficient. Utilises existing skill set and with limited need for up-skilling and identifies gross failures.  No need for Council inspection in the first instance as cleaner can provide inspection paperwork to Council.  Check can be done at time of clean
<b>3. Mandatory Clean and a full 'Warrant of Fitness'</b>	Moderate-High Environmental protection.	Cost of clean (as above). Cost of inspection by drainlayer unless cleaners up-skilled which also incurs the highest cost.	Very effective at highlighting all problems with the tank.	Moderately efficient. Higher costs to achieve a similar outcome to Option 2.  Check can be done at time of clean

**Recommended option: Option 2 Simple Inspection and Maintenance**

This is an appropriate option as it has the best effectiveness and efficiency.

The option involves the standard cleaning of septage and liquid effluent out of conventional on-site wastewater systems every five years. Once the tank is empty, a simple 'inspection' will be carried out by the tank cleaner or other suitably qualified person. Items that will be checked and recorded are listed an Inspection and Maintenance Checklist (**Appendix 5**) include: whether essential parts of the tank are present and in working order; and a visual check of the condition of the disposal field. The inspector will give an overall system rating and state any required actions. The Rule requires that a copy of the checklist be provided to Council within 60 days of the inspection. Either the owner or the cleaner can provide this to Council, but staff expect that cleaners will send them to Council in batches for data entry.

**Recommended Option**

**Option 2** – Simple inspection and maintenance is considered to be the most appropriate option.

**In which locations should the mandatory inspection and clean should be carried out?**

**Table 7: Assessment Matrix for Options for System Management of individual conventional on-site wastewater system**

	<p><b>Alternative 1:</b> Mandatory inspection and clean for all District</p>	<p><b>Alternative 2:</b> Mandatory inspection and clean for all sites under 2000m<sup>2</sup> – in all zones</p>	<p><b>Alternative 3:</b> Mandatory inspection and clean for all unreticulated townships zoned</p> <ul style="list-style-type: none"> <li>• Residential</li> <li>• Commercial/Industrial,</li> <li>• Reserve</li> <li>• Rural Lifestyle</li> </ul> <p><b><u>PREFERRED OPTION</u></b></p>
<p><b>Summary of Benefits</b></p>	<ul style="list-style-type: none"> <li>• Can extend the working life of system.</li> <li>• Prevents solids from entering disposal field, which can lead to an improvement in water quality.</li> <li>• If information is recorded in Council about system health, this can benefit future landowners, help Council to identify major problems and refine knowledge about adverse effects of discharges to write future policies and methods.</li> </ul>	<ul style="list-style-type: none"> <li>• Can extend the working life of the system.</li> <li>• Prevents solids from entering disposal field, which can lead to an improvement in water quality.</li> <li>• If information is recorded in Council about system health, this can benefit future landowners, help Council to identify major problems and refine knowledge about adverse effects of discharges to write future policies and methods.</li> </ul>	<ul style="list-style-type: none"> <li>• Can extend the working life of system.</li> <li>• Prevents solids from entering disposal field, which can lead to an improvement in water quality.</li> <li>• If information is recorded in Council about system health, this can benefit future landowners, help Council to identify major problems and refine knowledge about adverse effects of discharges to write future policies and methods.</li> </ul>

**Table 7: Assessment Matrix for Options for System Management of individual conventional on-site wastewater system**

	<b>Alternative 1:</b> <b>Mandatory inspection and clean for all District –</b> <b>~ 5065 properties</b>	<b>Alternative 2:</b> <b>Mandatory inspection and clean for all sites under 2000m2 – in all zones</b>	<b>Alternative 3:</b> <b>Mandatory inspection and clean for all unreticulated townships zoned</b> <ul style="list-style-type: none"> <li>• Residential</li> <li>• Commercial/Industrial,</li> <li>• Reserve</li> <li>• Rural Lifestyle</li> <li>• ~ 2230 properties</li> </ul> <b>PREFERRED OPTION</b>
<b>Summary of Costs</b>	<ul style="list-style-type: none"> <li>• Cost to administer records (Council - refer cost assessment below).</li> <li>• Staff cost for following up on problem sites or sites not maintaining systems (Council) – Council will be aware of some but not all of these under status quo.</li> <li>• \$150 -\$234 excl GST (in theory already a cost to landowner).</li> <li>• Estimate \$30-\$50 excl GST for check &amp; admin (landowner).</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Low cost resource consent for exemption as a Discretionary activity (landowner).</li> <li>• There are unlikely to be environmental costs of requiring inspection and cleaning of systems with a view to maintaining or improve water quality.</li> </ul>	<ul style="list-style-type: none"> <li>• Cost to administer records (Council - refer cost assessment).</li> <li>• Staff cost for following up on problem sites or sites not maintaining systems (Council).</li> <li>• Staff cost for following up on problem sites or sites not maintaining systems (Council) – Council will be aware of some but not all of these under status quo.</li> <li>• \$150 -\$234 excl GST (in theory already a cost to landowner).</li> <li>• Estimate \$30-\$50 excl GST for check &amp; admin (landowner).</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Low cost resource consent for exemption as a Discretionary activity (landowner).</li> <li>• There are unlikely to be environmental costs of requiring inspection and cleaning of systems with a view to maintaining or improve water quality.</li> </ul>	<ul style="list-style-type: none"> <li>• There are unlikely to be environmental costs of requiring inspection and cleaning of systems with a view to maintaining or improve water quality.</li> <li>• Cost to administer records (Council - refer cost assessment).</li> <li>• Staff cost for following up on problem sites or sites not maintaining systems (Council) – Council will be aware of some but not all of these under status quo.</li> <li>• \$150 -\$234 excl GST (in theory already a cost to landowner).</li> <li>• Estimate \$30-\$50 excl GST for check &amp; admin (landowner).</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Low cost resource consent for exemption as a Discretionary activity (landowner).</li> </ul>

Table 7: Assessment Matrix for Options for System Management of individual conventional on-site wastewater system

	<b>Alternative 1:</b> <b>Mandatory inspection and clean for all District</b> ~ 5065 properties	<b>Alternative 2:</b> <b>Mandatory inspection and clean for all sites under 2000m<sup>2</sup> – in all zones</b>	<b>Alternative 3:</b> <b>Mandatory inspection and clean for all unreticulated townships zoned</b> <ul style="list-style-type: none"> <li>• Residential</li> <li>• Commercial/Industrial,</li> <li>• Reserve</li> <li>• Rural Lifestyle</li> <li>• ~ 2230 properties</li> </ul> <b>PREFERRED OPTION</b>
<b>Effectiveness</b>	<ul style="list-style-type: none"> <li>• Will help to maintain or improve water quality.</li> </ul>	<ul style="list-style-type: none"> <li>• Will help to maintain or improve water quality, especially cumulative effects on water quality that can arise in situations where dwelling density is greater than 2000m<sup>2</sup>.</li> <li>• Could be perceived to be a blunt rather than effects based approach to have one site size that includes varying soil types and other environmental characteristics.</li> <li>• Questions remain about at what lot size do environmental risks increase and this does not take account of development that is commensurate to the size of a site. This raises equity issues.</li> </ul>	<ul style="list-style-type: none"> <li>• Will help to maintain or improve water quality, especially cumulative effects on water quality that can arise in unreticulated townships.</li> </ul>
<b>Efficiency</b>	<ul style="list-style-type: none"> <li>• Not as efficient as Alternative 2. Incurs costs to remote rural landowners where fewer environmental benefits will be realised and a large administration burden to Council.</li> </ul>	<ul style="list-style-type: none"> <li>• Somewhat efficient when comparing cost against effectiveness, however it does not account for cumulative effects in townships. Money is better spent where cumulative effects are addressed more effectively.</li> </ul>	<ul style="list-style-type: none"> <li>• Most efficient – this option should achieve water quality maintenance or improvements in the areas that are most at risk for a reasonable cost.</li> <li>• This option has the most optimal balance of systems that should be included without carrying out a site by site assessment and/or collecting expensive data considering that it is best practice to clean tanks.</li> </ul>

Table 7: Assessment Matrix for Options for System Management of individual conventional on-site wastewater system

	Alternative 1: Mandatory inspection and clean for all District ~ 5065 properties	Alternative 2: Mandatory inspection and clean for all sites under 2000m <sup>2</sup> – in all zones	Alternative 3: Mandatory inspection and clean for all unreticulated townships zoned <ul style="list-style-type: none"> <li>• Residential</li> <li>• Commercial/Industrial, <ul style="list-style-type: none"> <li>• Reserve</li> </ul> </li> <li>• Rural Lifestyle</li> <li>• ~ 2230 properties</li> </ul> <b>PREFERRED OPTION</b>
<b>Appropriateness</b>	<ul style="list-style-type: none"> <li>• Not appropriate because it is inefficient for Council to administer to require inspection and maintenance where the environmental benefits are not significant.</li> </ul> <p>(NB it is still best practice to regularly maintain tanks and Council can still educate landowners outside of unreticulated townships about the benefits of regular maintenance)</p>	<ul style="list-style-type: none"> <li>• It is appropriate as it is best practice to clean tanks.</li> <li>• It is not as appropriate as focusing solely on unreticulated townships where there is the greatest potential for adverse effects on water quality as not all 2000m<sup>2</sup> sites are within unreticulated townships and soil type and environmental characteristics are not taken into consideration.</li> </ul>	<ul style="list-style-type: none"> <li>• It is appropriate as it is best practice to clean tanks.</li> <li>• It is most appropriate because it addresses cumulative effects of discharges in unreticulated townships.</li> <li>• All soil types and other environmental constraints are accounted for in the option.</li> <li>• It is appropriate as it is the most efficient and effective option to administer.</li> </ul>

Table 7: Assessment Matrix for Options for System Management of individual conventional on-site wastewater system

Options for System Management of individual conventional on-site wastewater system (continued)

	<p><b>Alternative 4:</b></p> <p>Mandatory inspection and clean in all unreticulated townships zoned Residential, Commercial/Industrial, Reserve, Rural Lifestyle with certain soil conditions (free draining/poorly draining)</p> <p>&lt; 2230 properties</p>	<p><b>Alternative 5:</b></p> <p>Mandatory inspection and clean for all unreticulated townships zoned Residential, Commercial/Industrial, Reserve, Rural Lifestyle</p> <p>with multiple risk factors present:</p> <p>soil; proximity to surface and groundwater bodies and drinking water, stability issues, high groundwater</p> <p>&lt; 2230 properties</p>	<p><b>Alternative 6:</b></p> <p>Voluntary management</p> <p>(i.e. status quo)</p>
<p><b>Summary of Benefits</b></p>	<ul style="list-style-type: none"> <li>• Can help to extend the working life of the system</li> <li>• Prevents solids from entering disposal field, which can lead to an improvement in water quality</li> <li>• If information is recorded in Council about system health, this can benefit future landowners, help Council to identify major problems and refine knowledge about adverse effects of discharges to write policies and methods.</li> </ul>	<ul style="list-style-type: none"> <li>• Can extend the working life of the system</li> <li>• Prevents solids from entering disposal field, which can lead to an improvement in water quality</li> <li>• If information is recorded in Council about system health, this can benefit future landowners, help Council to identify major problems and refine knowledge about adverse effects of discharges to write policies and methods.</li> </ul>	<ul style="list-style-type: none"> <li>• People can manage their systems if and when they want to. This may suit changes in occupancy and financial situations over time.</li> </ul>

**Table 7: Assessment Matrix for Options for System Management of individual conventional on-site wastewater system**

	<b>Alternative 4:</b> <b>Mandatory inspection and clean in all unreticulated townships zoned Residential, Commercial/Industrial, Reserve, Rural Lifestyle</b> <b>with certain soil conditions (free draining/poorly draining)</b> <b>&lt; 2230 properties</b>	<b>Alternative 5:</b> <b>Mandatory inspection and clean for all unreticulated township zoned Residential, Commercial/Industrial, Reserve, Rural Lifestyle</b> <b>with multiple risk factors present:</b> <b>soil; proximity to surface and groundwater bodies and drinking water, stability issues, high groundwater</b> <b>&lt; 2230 properties</b>	<b>Alternative 6:</b> <b>Voluntary management</b> <b>(i.e. status quo)</b>
<b>Summary of Costs</b>	<ul style="list-style-type: none"> <li>• Cost to administer records (Council - refer cost assessment below)</li> <li>• Staff cost for following up on problem sites or sites not maintaining systems (Council) – Council will be aware of some but not all of these under status quo</li> <li>• \$150 - \$234 excl GST (in theory already a cost to landowner)</li> <li>• Estimate \$30-\$50 excl GST for check &amp; admin (landowner)</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Low cost resource consent for exemption as a Discretionary activity (landowner)</li> <li>• There are unlikely to be environmental costs of requiring inspection and cleaning of systems with a view to maintaining or improve water quality.</li> </ul>	<ul style="list-style-type: none"> <li>• Cost to administer records (Council - refer cost assessment)</li> <li>• Staff cost for following up on problem sites or sites not maintaining systems (Council) – Council will be aware of some but not all of these under status quo</li> <li>• \$150 - \$234 excl GST (in theory already a cost to landowner)</li> <li>• Estimate \$30-\$50 excl GST for check &amp; admin (landowner)</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Low cost resource consent for exemption as a Discretionary activity (landowner)</li> <li>• There are unlikely to be environmental costs of requiring inspection and cleaning of systems with a view to maintaining or improve water quality.</li> <li>• Council will need to collect data at a suitable scale to determine environmental constraints at the site level. This has a significant cost.</li> </ul>	<ul style="list-style-type: none"> <li>• Cost of repairs/replacement if working life of system is compromised by lack of maintenance</li> <li>• Repair costs are variable. Replacement costs – range for new treatment system (\$9,000-30,000)</li> <li>• These costs are generally larger if they arise and it is harder to predict when and if they will occur.</li> <li>• It is expected that some tanks will contribute to degradation of water quality over time, especially older tanks, which are less likely to be designed with environmental constraints in mind and have a greater potential to produce adverse environmental effects.</li> </ul>

**Table 7: Assessment Matrix for Options for System Management of individual conventional on-site wastewater system**

	<p><b>Alternative 4:</b></p> <p>Mandatory inspection and clean in all unreticulated townships zoned Residential, Commercial/Industrial, Reserve, Rural Lifestyle</p> <p>with certain soil conditions (free draining/poorly draining)</p> <p>&lt; 2230 properties</p>	<p><b>Alternative 5:</b></p> <p>Mandatory inspection and clean for all unreticulated townships zoned Residential, Commercial/Industrial, Reserve, Rural Lifestyle</p> <p>with multiple risk factors present:</p> <p>soil; proximity to surface and groundwater bodies and drinking water, stability issues, high groundwater</p> <p>&lt; 2230 properties</p>	<p><b>Alternative 6:</b></p> <p>Voluntary management</p> <p>(i.e. status quo)</p>
<b>Effectiveness</b>	<ul style="list-style-type: none"> <li>Will help to maintain or improve water quality, especially cumulative effects occurring particularly sensitive receiving environments.</li> <li>Would not necessarily capture cumulative effects associated with density if only the most sensitive receiving environments are a trigger for inspection and clean.</li> <li>Soil factors are not mutually exclusive from other environmental factors - looking at soil alone without looking at the interrelationship between soil and other environmental constraints (excluding density) and this raises equity issues.</li> <li>Design of new tanks can still incorporate assessment of environmental constraints (risk)</li> </ul>	<ul style="list-style-type: none"> <li>Will help to maintain or improve water quality, especially cumulative effects occurring, in particular, sensitive receiving environments</li> <li>Would not necessarily capture cumulative effects associated with density if only the most sensitive receiving environments are a trigger for inspection and clean</li> <li>Design of new tanks can still incorporate assessment of environmental constraints (risk)</li> </ul>	<ul style="list-style-type: none"> <li>People forget, are unaware or cannot afford to maintain tanks so it is not expected that this option will help maintain or improve water quality particularly in unreticulated townships.</li> <li>Could be an effective option if an education programme encouraging regular maintenance is delivered instead</li> <li>Design of new tanks can still incorporate assessment of environmental constraints (risk)</li> </ul>

Table 7: Assessment Matrix for Options for System Management of individual conventional on-site wastewater system

	<b>Alternative 4:</b> <b>Mandatory inspection and clean in all unreticulated townships zoned Residential, Commercial/Industrial, Reserve, Rural Lifestyle with certain soil conditions (free draining/poorly draining)</b> <ul style="list-style-type: none"> <li>• &lt; 2230 properties</li> </ul>	<b>Alternative 5:</b> <b>Mandatory inspection and clean for all unreticulated townships zoned Residential, Commercial/Industrial, Reserve, Rural Lifestyle with multiple risk factors present: soil; proximity to surface and groundwater bodies and drinking water, stability issues, high groundwater</b> <ul style="list-style-type: none"> <li>• &lt; 2230 properties</li> </ul>	<b>Alternative 6:</b> <b>Voluntary management (i.e. status quo)</b>
<b>Efficiency</b>	<ul style="list-style-type: none"> <li>• Somewhat efficient when comparing cost against effectiveness, however it does not account for cumulative effects in unreticulated townships. Money is better spent where cumulative effects are addressed more effectively.</li> </ul>	<ul style="list-style-type: none"> <li>• Not very efficient as there is a significant cost associated with deciding which properties are subject to mandatory inspection and clean.</li> <li>• It does not account for cumulative effects in unreticulated townships. Money is better spent where cumulative effects are addressed more effectively.</li> </ul>	<ul style="list-style-type: none"> <li>• Not efficient as water quality may stay the same or degrade.</li> </ul>
<b>Appropriateness</b>	<ul style="list-style-type: none"> <li>• Not appropriate due to the separation of soil factors from other environmental constraints and determining which properties should be subject to mandatory inspection and clean and it does not address cumulative effects.</li> <li>• Not the most efficient option.</li> </ul>	<ul style="list-style-type: none"> <li>• Not appropriate due to the significant cost and complexity of determining which properties should be subject to mandatory inspection and clean and it does not address cumulative effects.</li> <li>• Not the most efficient option.</li> </ul>	<ul style="list-style-type: none"> <li>• Not appropriate because there is little attempt to achieve the objectives and policies of the plan. This option relies on system design and education alone to reduce environmental impact.</li> </ul>

## Recommended Option

Option 3: Mandatory inspection and clean for all unreticulated townships zoned:

- Residential
- Commercial/Industrial,
- Reserve
- Rural Lifestyle

Staff had the choice of using Zones or an Overlay to show where mandatory inspection and cleaning are required. The Rules apply to the above zones, where a sewer network is not available. The use of zones from the Combined Regional Land and District Plan is efficient they already exist. Zoning is an indicator of the current and future potential use of land.

Staff discussed whether or not to include Rural Residential in the mandatory inspection and maintenance Rule. The minimum site size in the Rural Residential zone as a Permitted activity is 1 hectare. There will be some that have been subdivided smaller by way of resource consent. There are very few sites less than 5000m<sup>2</sup>. Even on sites with environmental constraints a site size of 2500m<sup>2</sup> is considered large enough to assimilate treated wastewater. In other regions, a site size of 4000m<sup>2</sup> is required to accommodate nutrients. 1 hectare (10,000m<sup>2</sup>) is therefore considered enough land area to assimilate discharges from on-site wastewater disposal.

However the proximity of the Rural residential zones to other higher density zones means that there is still a small potential for discharges to contribute to cumulative effects. This potential is not considered enough to warrant mandatory inspection and maintenance. If they are not included in the Rule there are fewer properties for Council to administer inspection and maintenance records for. Maintenance will still be encouraged by the Plan outside of unreticulated townships.

The Rural Lifestyle zone is included because more than two houses are permitted on a site within this zone and the potential to contribute to cumulative effects is greater than for Rural Lifestyle zones. Rural Lifestyle zones are also in close proximity to unreticulated townships.

It is recommended to include the Rural Lifestyle zone but not include Rural Residential in the mandatory inspection and maintenance requirements.

## How often should inspection and cleaning be carried out?

The following are three options for time frames for inspection and cleaning of on-site wastewater systems, excluding systems with commercial flows (Rule 7.6.1.1 Conditions 7(b) and (c)):

### Option 1 – Rule 7.6.1.1 Conditions 7(b) and (c) to read:

- b. be pumped out and desludged:*
- (i) when the accumulated sludge and scum combined occupy two thirds or more of the volume of any tank or chamber in the system; or*
  - (ii) at least once every year for systems with commercial flows and at least once every five years for all other systems.*
- whichever occurs first; and*
- c. be inspected at the time of pump out and/or desludging.*

### Benefits/Costs

- Less frequent administration\* for Council staff than a three year scheme.
- Cost of cleaning.
- Owners have the most flexibility with this option about when they clean their tank and is a performance based approach and allows for the following scenarios:
  - Older tanks that require frequent cleaning
  - Older tanks that require infrequent cleaning
  - Newer tanks that require frequent cleaning
  - Newer tanks that require infrequent cleaning.

### Effectiveness/Efficiency

- Cleaning every three years is considered industry best practice.
- Every five years may not be often enough for some tanks and the alternative in (i) allows for tanks that should be cleaned more often.
- Council may not know when they should follow up on particular systems and follow up would default to every five years even though systems may be overdue for a clean.
- Far North District Council has recently moved from a three yearly inspection to a five yearly inspection period in response to concerns about the costs associated with maintenance. Far North District has some affordability issues that are similar to Gisborne District.

### Option 2 – Rule 7.6.1.1 Conditions 7(b) and (c) to read:

*b. be pumped out and desludged:*

- (i) the accumulated sludge and scum combined occupy two thirds or more of the volume of any tank or chamber in the system; or*
- (ii) At least once every year for systems with commercial flows and at least once every three years for all other systems.*

*whichever occurs first; and*

*c. be inspected at the time of pump out and/or desludging.*

### Benefits/Costs

- Cost of cleaning.
- Cleaning every three years is considered industry best practice.
- Every three years may be too often for some tanks, especially new tanks, and may bring an unnecessary economic cost to people. For the majority of systems, the alternative in (i) may be redundant.

### Effectiveness/Efficiency

- It is a good average frequency to cover a variety of household situations.
- More frequent administration\* for Council staff than a five year scheme.
- Far North District Council has recently moved from a 3 year inspection to a 5 year inspection period in response to concerns about the costs associated with maintenance. Far North District has some affordability issues that are similar to Gisborne District.

**Option 3 – Rule 7.6.1.1 Conditions 7(b) and (c) to read:**

*b. be pumped out and desludged:*

- (i) when the accumulated sludge and scum combined occupy two thirds or more of the volume of any tank or chamber in the system; or*
- (ii) at least once every year for systems with commercial flows; at least once every three years for all systems installed before 30 April 2002; and at least once every five years for all systems installed after 30 April 2002 .*

*whichever occurs first; and*

*c. be inspected at the time of pump out and/or desludging.*

**Benefits/Costs**

- Is a more accurate reflection of the likely average frequency of cleaning, based on the age of the tank.
- Costs of cleaning.

**Effectiveness/Efficiency**

- Some landowners with post 2002 tanks will still need to clean tanks more often than five years and landowners with pre 2002 tanks that don't have to clean as often as three years. This raises equity issues. It is too simplistic to split by date of installation.
- Far North District Council has recently moved from a three year inspection to a five year inspection period in response to concerns about the costs associated with maintenance. Far North District has some affordability issues that are similar to Gisborne District.

**\*Cost of Administration**

- Based upon the processing of existing administration records for advanced treatment systems, staff predict that 10-15 records can be processed per hour.
- Staff anticipate that there are up to 2350 records to process, over a 3 year time period OR a 5 year time period.
- This equates to 783 records per annum/63 staff hours if over a 3 year time period (~ about 1 and a half weeks)
- This equates to 470 records per annum/37.6 staff hours if over a 5 year time period (about 1 week)
- 300 of these records are already being processed by staff for advanced treatment plants subject to 6 monthly/annual inspections.

**Recommended Option**

It is recommended that **Option 1** is followed i.e. tanks are pumped out and desludged when the accumulated sludge and scum combined occupy two thirds or more of the volume of any tank or chamber in the system or at least once every five years for all other systems (whichever occurs first). Systems should be inspected at the time of pump out and/or desludging. This option has the lowest administration burden on Council while still requiring regular servicing of systems.

Cleaning every five years may not be often enough for some tanks and the alternative in (i) allows for tanks that should be cleaned more often. Landowners have the most flexibility with this option about when they clean their tank.

This option also gives people time to budget for the first round of inspection and cleaning. Far North District Council recently changed the requirement for inspection and cleaning from 3 yearly to 5 yearly in response to concerns about the costs associated with maintenance. This District has some affordability issues that are similar to Gisborne District.

### **How should mandatory inspection and cleaning be phased in?**

The following are options for the phasing in of mandatory inspection and cleaning.

#### **Option 1 - continue to let landowners decide when to inspect and pump out their tanks, but within the prescribed time period.**

The service agents will not be able to provide the service to all requiring households within a short period of time, i.e. at the end of 'Year 3' or 'Year 5'. Even if they could, septage pits could not contain the resulting septage. Similarly, Council would find it difficult to administer the associated records within a short time frame. Cleaners have told Council staff that there are already a number of people already on a regular service/maintenance cycle. This is corroborated by an investigation of septage pit volumes, which shows that a significant proportion of people appear to be cleaning their tanks on a regular cycle (74% assuming each pump out generates 4m<sup>3</sup> of septage, and 5% of those pump out yearly and the rest pump out three yearly). It is expected that many of these landowners will continue on their current cycle regardless of the new Regional Rules. It is not known what proportion of these is within unreticulated townships and which are rural hinterland. One option is to continue to let landowners decide when to inspect and pump out their tanks, but within the prescribed time period. This would work best with a five year time period because it allows time for those that are not currently cleaning to budget for cleaning.

#### **Option 2 - phase inspection and maintenance township by township**

Another option is to phase inspection and maintenance township by township. Given the selected rationale for having an inspection and maintenance regime, it is hard to differentiate between townships. The overall environmental effect would not be too different to the status quo if some communities cleaned before others; however there are issues of equity and fairness that arise. It will not be mandatory for households in the rural hinterland to inspect and maintain their tanks although it is still necessary and encouraged. Cleaners will still need to provide service to those rural households who require it alongside those who must have their tanks cleaned and inspected.

#### **Recommended option:**

The recommended option is Option 1: continue to let landowners decide when to inspect and pump out their tanks, but within the prescribed period, i.e. five years.

**Should conventional on-site wastewater systems be retrofitted with extensions (i.e. riser, lid) and effluent outlet filters and if so, which systems?**

Staff considered whether conventional on-site wastewater systems to be retrofitted with extensions (i.e. riser, lid) and effluent outlet filters. The following is an analysis of alternatives to this option.

**Table 8 – Assessment Matrix for Retrofitting of systems with extension (i.e. riser, lid) and effluent outlet filter**

	Alternative 1:  Require retrofitting of all individual conventional on-site systems installed District Wide prior to 2002	Alternative 2:  Require retrofitting of all individual conventional on-site systems installed in unreticulated townships (Residential, Commercial/Industrial, Reserve, Rural Lifestyle zones) prior to 2002	Alternative 3:  Status quo - Do not require retrofitting but advocate for it/require as a consent condition  <b><u>PREFERRED OPTION</u></b>
<b>Summary of Benefits</b>	<ul style="list-style-type: none"> <li>• Can extend the working life of the system.</li> <li>• Makes access to cleaning easier (do not have to dig up the garden) so there is less site disruption.</li> <li>• Prevents solids from entering disposal field, which improves the quality of wastewater discharged to ground and surface water.</li> <li>• Cost effective way of improving the quality of wastewater discharged to the environment.</li> </ul>	<ul style="list-style-type: none"> <li>• Can extend the working life of the system</li> <li>• Makes access to cleaning easier (do not have to dig up the garden) so there is less site disruption</li> <li>• Prevents solids from entering disposal field, which improves the quality of wastewater discharged to ground and surface water.</li> <li>• Cost effective way of improving the quality of wastewater discharged to the environment.</li> </ul>	<ul style="list-style-type: none"> <li>• No mandatory cost for retrofitting to individual property owner.</li> <li>• If carried out has the benefits outlined in Alternatives 1 and 2</li> </ul>

**Table 8 – Assessment Matrix for Retrofitting of systems with extension (i.e. riser, lid) and effluent outlet filter**

	Alternative 1: Require retrofitting of all individual conventional on-site systems installed District Wide prior to 2002	Alternative 2: Require retrofitting of all individual conventional on-site systems installed in unreticulated townships (Residential, Commercial/Industrial, Reserve, Rural Lifestyle zones) prior to 2002	Alternative 3: Status quo -Do not require retrofitting but advocate for it/require as a consent condition  <b><u>PREFERRED OPTION</u></b>
<b>Summary of Costs</b>	<ul style="list-style-type: none"> <li>\$600 excl GST to property owner per tank x <b>4052 properties</b> and some people will have more than one tank.</li> <li>Cost to Council to administer records</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>Low cost resource consent for exemption on appropriate grounds as a Discretionary activity (&lt;\$200).</li> <li>It is an additional cost to the status quo.</li> </ul>	<ul style="list-style-type: none"> <li>\$600 excl GST to property owner per tank x <b>1784 properties</b> and some people will have more than one tank.</li> <li>Cost to Council to administer records</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>Low cost resource consent for exemption on appropriate grounds as a Discretionary activity (&lt;\$200).</li> <li>It is an additional cost to the status quo.</li> </ul>	<ul style="list-style-type: none"> <li>Cost of advocacy efforts.</li> <li>Cost of approximately \$300 or more to property owners who elect to install an outlet filter and/or extension(s)</li> </ul>
<b>Effectiveness</b>	<ul style="list-style-type: none"> <li>Effective in helping to maintain or improve water quality in all locations.</li> <li>Occasionally a tank may not be able to be retrofitted due for design reasons.</li> <li>It could result in systems operating longer than they should and act in lieu of an upgrade</li> </ul>	<ul style="list-style-type: none"> <li>Effective in helping to maintain or improve water quality, especially cumulative effects on water quality that can arise in unreticulated townships.</li> <li>Occasionally a tank may not be able to be retrofitted due for design reasons.</li> <li>It could result in systems operating longer than they should and act in lieu of an upgrade</li> </ul>	<ul style="list-style-type: none"> <li>Likely to be effective in maintaining or improving water quality.</li> <li>Any retrofitting carried out will be tailored to individual systems as they come to the attention of Council</li> <li>Council and system cleaners are and can continue to advocate for outlet filters/extensions (some people are retrofitting voluntarily or when required by a condition of resource consent)</li> </ul>

**Table 8 – Assessment Matrix for Retrofitting of systems with extension (i.e. riser, lid) and effluent outlet filter**

<p><b>Efficiency</b></p>	<ul style="list-style-type: none"> <li>Least efficient. Incurs costs to remote rural landowners and administration costs to Council where fewer environmental benefits will be realised.</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat efficient – this option will achieve improvements in the areas that are most at risk of environmental effects in a cost effective manner.</li> </ul>	<ul style="list-style-type: none"> <li>Most efficient. The money is spent where it is needed most on a site specific solution</li> </ul>
<p><b>Appropriateness</b></p>	<ul style="list-style-type: none"> <li>Not as appropriate because it would not be as reasonable to require retrofit where the environmental benefits are not significant. (NB it is still best practice and Council can still educate landowners outside of the unreticulated townships as it can extend the working life of the system.)</li> </ul>	<ul style="list-style-type: none"> <li>It is appropriate that systems installed post 2002 have this relatively low cost feature that can extend the working life of a system and maintain or improve water quality.</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate because there is no attempt it is the most efficient way to achieve the proposed objectives and policies of the Plan.</li> </ul>

**Recommended option:**

The preferred option is the status quo - do not require retrofitting but advocate for it or require as a consent condition in appropriate situations. This is considered to be the most efficient way to achieve the objectives and policies of the Plan.

**Should External Design Guidance Documents be Incorporated into the Plan (Rule 7.6.1.10)?**

Council have the option of incorporating or not incorporating external documents into RMA Plans. Not formally incorporating Council's *Guidelines for On-Site Wastewater Management 2011* or relevant Australian/New Zealand Standards into Chapter 7 does not preclude the use of these documents. There are several recognised Australian/New Zealand Standards available for unreticulated wastewater treatment, storage and disposal and these are listed within the Council Guidelines. The following is a discussion of the two options:

**Table 9 – Assessment Matrix for Options for Incorporation of External Documents into RMA Plans**

	<b>Option 1:</b> <b>Incorporate Guidance Material in Chapter 7 (e.g. Gisborne District Council On-Site Wastewater Guidelines or relevant Australian/New Zealand Standards</b> <b>PREFERRED OPTION</b>	<b>Option 2:</b> <b>Do not Incorporate Guidance Material in Chapter 7</b>
<b>Summary of Benefits</b>	<ul style="list-style-type: none"> <li>Provides clear guidance and certainty to property owners and the wider community on what standard of design is required for development, in particular for Permitted activities.</li> </ul>	<ul style="list-style-type: none"> <li>Allows systems that have not been contemplated to be assessed on their merits which supports an 'effects based approach' and could encourage innovative and responsive design (this may not be fully effective without complementary education)</li> <li>No Regional Plan Changes required as the Guidelines/ANZS are updated or amended and therefore less cost to the community.</li> <li>Ensures that the environmental effects of system designs are fully considered prior to consent approval.</li> <li>Provides more flexibility for the consideration of alternatives to the Guidelines for on-site wastewater systems as there are many standards and guidelines that may achieve suitable outcomes.</li> </ul>
<b>Summary of Costs</b>	<ul style="list-style-type: none"> <li>Limited ability to look at alternative design not provided for in these documents. It is difficult to prescribe every potential development scenario in a single standard so the potential for innovative and responsive design is reduced.</li> <li>Schedule 1 of the RMA requires that when incorporated documents are replaced or amended, a plan change is required too. This presents a cost to the community in terms of actual staff time and priority of this project over other policy work.</li> </ul>	<ul style="list-style-type: none"> <li>May slow down the consent processing, particularly for complex developments, which may cost applicant.</li> <li>There may need to be more financial investment by applicants and developers prior to consent lodgement</li> <li>There may be costs associated with research, advocacy and education of applicants and developers.</li> </ul>

<p><b>Effectiveness</b></p>	<ul style="list-style-type: none"> <li>• Not considered totally effective in ensuring the environmental effects of infrastructure provision are taken into account as part of consent assessment. There is a tendency to assume the Guidelines and/or ANZS is sufficient in this regard, however, these documents are not written purely to assist in assessing compliance with RMA as they also assist with assessing whether systems comply with the Building Code.</li> <li>• The Guidelines cannot be consulted on under the RMA if they are not incorporated in an RMA Plan and feedback from Guideline users is desired by Council.</li> <li>• There is more certainty about how the Guidelines relate to the Plan if they are incorporated within the Plan</li> </ul>	<ul style="list-style-type: none"> <li>• An effective approach to eliciting the best practicable solution for the site.</li> </ul>
<p><b>Efficiency</b></p>	<ul style="list-style-type: none"> <li>• Potentially inefficient if plan changes are required to reflect changes to the Guidelines/ANZS which are generally happen more frequently than plan changes.</li> </ul>	<ul style="list-style-type: none"> <li>• May not be as efficient at the consent processing stage. This is dependent on the complexity of the proposal.</li> </ul>
<p><b>Appropriateness</b></p>	<ul style="list-style-type: none"> <li>• Most appropriate to achieve the proposed objectives and policies of the Plan and Part II of the Act.</li> </ul>	<ul style="list-style-type: none"> <li>• Least appropriate to achieve the proposed objectives and policies of the Plan and Part II of the Act.</li> </ul>

**Recommended option:**

The preferred is Option 2, Incorporate Guidance Material in Chapter 7. Only Gisborne District Council's *Guidelines for On-site Wastewater Management 2011* will be incorporated.

General Rule 10 has been written in a way that allows for system section, design, construction and installation that does not follow the *Guidelines for On-site Wastewater Management 2011*, to be assessed on its merits.

### 5.2.8 Proposed Changes to Chapter 1

Chapter 1 is an introductory Chapter to the RPDW. It outlines the legislation that relates to the management of discharges to land and water, waste management and hazardous substances. There are general amendments required to Chapter 1 of the RPDW due to a number of legislation changes since the RPDW was first written. The changes are minor and are fact based.

The proposed changes are included in **Appendix 2**.

### 5.3 Mitigation Measures

A number of environmental mitigation measures are proposed in this Review. They take the form of Rules and Permitted activity conditions. As discussed throughout the report, the current policy framework also requires no adverse effects on the environment which is not practical in reality. On-site wastewater treatment and disposal systems are a necessity in many communities in the Gisborne District. It is more appropriate to minimise effects and require them to be minor or less. Mitigation measures are an appropriate tool for minimising adverse effects.

It is expected that applications for resource consent describe proposed mitigation measures to help prevent or reduce the actual or potential effects of the discharge.

Many of these measures are inherently linked with system design and include the following:

#### 1. General system design

The general system design can help to avoid or minimise adverse effects on the environment e.g. building adequate capacity into systems and land disposal areas for expected wastewater flows. Wastewater Flow Design Allowances are provided in Appendix 5 Schedule 2 of the Plan.

#### 2. Setback distances

A number of setback distances are contained within Appendix 5 of the Proposed Plan. The purpose of setbacks is to ensure that discharges do not affect sensitive environments, for example, contributing to land instability. They also ensure that discharges are not concentrated as a result of drainage inhibited by obstructions. Setbacks are also intended to help discharges within the subject property, thereby helping to avoid cumulative contamination of soil and water.

#### 3. Levels of effluent treatment

Secondary or Tertiary treatment will be required on site where environmental constraints mean that soils cannot adequately assimilate primary treated effluent within the site.

#### 4. Advocacy for Retrofitting of On-site wastewater systems

Retrofitting wastewater treatment systems with an effluent outlet filter prevents solids from entering disposal field, which improves the quality of wastewater discharged to ground and surface water. It also stops stormwater infiltration into tanks. Council will advocate for retrofitting or require it as a condition of consent where appropriate.

A final mitigation measure relates to tank operation and care:

#### 5. Mandatory inspection and cleaning

Mandatory inspection and cleaning will be required in unreticulated townships where the risk of cumulative contamination is greatest. Inspection and cleaning will help to identify problems before they occur and are intended to avoid or minimise environmental contamination. Maintenance and cleaning will also be promoted outside of unreticulated townships. Mandatory maintenance is also required for all advanced treatment systems irrespective of location.

## 5.4 Anticipated Environmental Outcomes

**Table 10: Water Quality - Anticipated Environmental Outcomes**

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	Reduced incidences where monitored recreational bathing sites do not meet the Microbiological Water Quality Guidelines For Marine And Freshwater Recreational Areas 2003.	Bacterial levels	State of the environment monitoring	Gisborne District Recreational Water Quality monitoring programme.
2.	Reduced incidences where monitored shellfish gathering sites do not meet the national guidelines	Bacterial levels	State of the environment monitoring	Gisborne District Council Water Quality Programme for Recreational Shellfish Gathering Areas
3	All rivers, streams and lakes are improved where necessary or otherwise maintained or improved against background levels.	Water quality in rivers, streams and lakes, in particular: <ul style="list-style-type: none"> <li>• Human derived bacterial levels</li> <li>• Nitrates</li> </ul>	State of the environment monitoring; and Compliance monitoring	Water quality monitoring, recreational bathing and shellfish gathering sites monitoring programme, consents and compliance reports
4	Harbours, estuaries and open coastal waters are improved where necessary or otherwise maintained or improved against background levels.	Water quality in estuaries, harbours, open coast, in particular: <ul style="list-style-type: none"> <li>• Human derived bacterial levels</li> <li>• Nitrates</li> </ul>	State of the environment.	Water quality monitoring, recreational bathing and shellfish gathering sites monitoring programmes, consents and compliance reports.
5	Groundwater quality is improved where necessary and otherwise maintained or improved against background levels.	Groundwater quality, in particular: <ul style="list-style-type: none"> <li>• Human derived bacterial levels</li> <li>• Nitrates</li> </ul>	State of the environment impact monitoring in relation to discharges of contaminants to land	Water quality monitoring consents and compliance reports.
6	Water quality is maintained or improved in the unreticulated townships as a result of the maintenance requirements in the Plan.	Water quality, in particular: <ul style="list-style-type: none"> <li>• Human derived bacterial levels</li> <li>• Nitrates</li> </ul>	State of the environment impact monitoring in relation to discharges of contaminants to land	Water quality monitoring.

**Table 11: Environmental Quality (excluding Water Quality) - Anticipated Environmental Outcomes**

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	Air quality is maintained or improved in terms of objectionable odour or unauthorised discharges to air. Whether maintenance or enhancement of natural character and amenity values of the Coastal Environment has been achieved in respect of the RCEP.	Numbers of complaints received about odour arising from the operation of on-site wastewater systems. Numbers of complaints received about adverse environmental effects in the coastal environment arising from discharges from on-site wastewater systems.	Compliance monitoring Plan performance monitoring Compliance monitoring Plan performance monitoring	Requests for service relating to odour or unauthorised discharges to air. Scheduled consents monitoring. Requests for service relating to adverse effects in the coastal environment arising from discharges from on-site wastewater systems. Community perceptions about the effects of operation of on-site wastewater systems in respect of achieving relevant community outcomes e.g. Environmentally Sustainable Tairāwhiti (the outcomes are currently being revised as a result of changes to the LGA2002 AA2010).

**Table 12: Performance of On-Site Wastewater Systems - Anticipated Environmental Outcomes**

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	Improved performance of on-site wastewater treatment systems in zones identified in the Rules as requiring compulsory clean out and inspection.	Percentage of on-site wastewater system owners that complete clean outs and inspection. Numbers of complaints received about poorly managed on-site wastewater systems. Percentage of on-site wastewater system owners retrofitting their systems.	Compliance monitoring	Inspection checklists received from septic tank cleaners and service agents. Gisborne District Council's record/database of on-site wastewater systems. Requests for service and informal discussions with the community that relate to the performance of on-site wastewater systems.

**Table 13: Community Awareness of Environmental Issues - Anticipated Environmental Outcomes**

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	Increased community awareness of environmental issues associated with poor management of on-site wastewater systems.	<p>Percentage of people who undertake voluntary retrofitting /required upgrades of their systems.</p> <p>Percentage of people aware of specific issues.</p> <p>Percentage of on-site wastewater system owners that complete clean-out and inspections.</p> <p>Percentage of on-site wastewater system owners voluntarily retrofitting their systems.</p>	Plan performance monitoring	<p>Clean out, assessment and/or servicing forms from septic tank cleaners and service agents.</p> <p>Gisborne District Council's record/database of on-site wastewater systems.</p> <p>Attitudes of community expressed in Water and Sanitary Services for Gisborne District (Three Waters Survey).</p> <p>Attitudes of community in respect of achieving relevant community outcomes e.g. Environmentally Sustainable Tairāwhiti (the outcomes are currently being revised as a result of changes to the LGA2002 AA2010).</p>