Regional Plan for Discharges to Land for the Wellington Region

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Wellington Regional Council

Wakefield Street, Wellington
PO Box 11-646, Wellington
Telephone 0-4-384 5708

Chapel Street, Masterton
PO Box 41, Masterton
Telephone 0-6-378 2484

www.wrc.govt.nz

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Photography by Robin Blake

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Resource Management Act 1991

Approval of the Regional Plan for Discharges to Land

The Wellington Regional Council hereby certifies that it has approved the Regional Plan for Discharges to Land for the Wellington Region by resolution on 4 November 1999.

The Regional Plan for Discharges to Land will become operative on the

17 th day of December 1999.

The common seal of the)
Wellington Regional Council)
was affixed in the presence of)
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Stuart Macaskill)
Chairperson)
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Howard Stone)
General Manager)

Chairperson's Foreword

I am very pleased to present the Regional Plan for Discharges to Land.

This is one of a series of regional plans for the Wellington Region prepared by our Council under the Resource Management Act 1991.

This Plan has been prepared to help promote the sustainable management of the natural and physical resources of the Wellington Region. It contributes to achieving the objectives of the Regional Policy Statement for waste management and hazardous substances.

Many of our everyday activities result in materials being discharged to land. For example, most of our solid wastes are disposed of in landfills. Sewage is discharged to land from septic tanks. And there is a growing trend, which we encourage, for agricultural effluent to be discharged to land.

Discharging to land instead of water allows valuable nutrients to be made use of and helps safeguard the life-supporting capacity of our water bodies. Tangata whenua in particular value the ability of the earth to cleanse and purify our wastes.

It is our intention that the Plan provides the best possible framework to manage discharges to land in the Wellington Region. We also strive to have documents that are easily understood by everyone who needs to use them.

I would like to thank all those individuals and groups who contributed to the preparation of this Plan. We value your input. The public process used for developing regional plans has helped shape this document so that it reflects community expectations to use natural resources while avoiding or mitigating any adverse effects on the environment.

STUART MACASKILL
Chairperson

Table of Contents

1. Introduction

1.1 Title

This Plan shall be known as the Regional Plan for Discharges to Land for the Wellington Region (the Plan).

1.2 Area Covered

This Plan applies to the Wellington Region on the landward side of the boundary of the coastal marine area.[1] It does not apply in the coastal marine area.

1.3 Scope of the Plan

The Plan addresses discharges to land in terms of Sections 15(1)(b) and (d) and 15(2) of the Resource Management Act, and the Council's functions under Section 30 (1)(f) of the Act. Unless specifically stated otherwise, the rules in the Plan apply to discharges to land irrespective of the source of the discharge. For example, discharges of sewage on-site may be from an industrial or trade premise, or a domestic premise, and discharges of agricultural effluent may be from a travelling irrigator or a stationary source.

1.4 Plan Structure

The Plan is divided into ten sections. Section 1 contains the Introduction. Section 2 contains a description of the resource management issues related to the discharge of contaminants to land in the Wellington Region. Section 3 contains the Interpretation. This gives the Plan's interpretation of technical words, Maori words, and words specifically defined for the purpose of applying rules in the Plan.

Section 4 contains the objectives and policies for the discharge contaminants to land in the Wellington Region. These are grouped broadly as "solid contaminants", "liquid contaminants", "agricultural contaminants", "hazardous substances", and "site contamination". In this Plan, solid contaminant objectives and policies relate primarily to landfills, rubbish dumps and tips; liquid contaminant objectives and policies relate primarily to sewage and stormwater; agricultural objectives and policies relate primarily to agricultural effluent and rural runoff; and hazardous substances objectives and policies relate primarily to the storage, use, transportation and disposal of hazardous substances, including pesticides. Only pesticides discharged as solids or pastes are controlled by provisions in this Plan. Pesticides discharged as liquids or powders are controlled by provisions in the Proposed Regional Air Quality Management Plan.

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[1] The boundaries of the coastal marine area are defined in the Resource Management Act 1991.

Section 4 also contains objectives and policies for identifying and managing site contamination, and for controlling discharges from contaminated sites. The term "contaminated site" is defined in section 3 of this Plan.

Section 5, which is printed on coloured paper for easy reference, contains a User Guide to the rules in the Plan, and the regional rules for the discharge of contaminants to land. The rules apply throughout the Region. With the exception of Rules 1 and 2, which are the default rules in the Plan, all rules are specific in their application.

The non-regulatory methods of policy implement are in section 6, the principal reasons for adopting the policies are in section 7, and the principal reasons for adopting the rules are in section 8. Section 9 contains the environmental results anticipated by implementing the Plan, and the processes for implementing and reviewing the Plan are given in section 10.

1.5 Supporting Documents

Two supporting documents were released with the Proposed Plan in February, 1995. These were the **User Guide** and the **Background Report**. The User Guide provided information on the statutory basis for the Plan and the effect the Plan would have once it was notified. The **Background Report** set out the reasons why the Council adopted the approaches in the Proposed Plan in preference to alternative approaches, and the costs and benefits of the adopted and alternative approaches.

The Council publicly notified a **Variation** to the Plan, and a **Background Report** to the Variation on 26 September, 1998.

The Council made its decisions on submissions to the Proposed Plan and the Variation to the Plan in April 1997, and June 1999.

Copies of all documents are available at the Wellington Regional Council.

An **Integrated User Guide to the Regional Plans** will be available once all regional plans are operative.

Map 1

Vulnerability of the Groundwater Resource in the Wellington Region

Note: This map was prepared using the DRASTIC method of analysis.[2] The DRASTIC analysis combines information on the following factors, which affect and control groundwater movement:

Depth to water table
Net recharge
Aquifer media
Soil media
Topography
Impact of the vadose zone
Hydraulic conductivity.

These factors are each rated on a range of 1-10 throughout the Region, and are weighted on a scale of 1-5 depending on the importance of each factor with respect to the others. The sum of the weighted factors gives the DRASTIC Index for a particular area. The higher the DRASTIC Index, the greater the groundwater pollution potential. Red and orange areas on the map are the most vulnerable to the effects of discharges of contaminants to land.

[2] Map prepared for the Wellington Regional Council by the Institute of Geological and Nuclear Sciences (Brown et al, 1994). Not to be reproduced without the prior permission of the Institute of Geological and Nuclear Sciences and the Wellington Regional Council.

2. Issues

2.1 Issues of concern to tangata whenua

The tangata whenua of the Region have, over many years, expressed concerns about the discharge of contaminants into the environment. Although many of these concerns have focused on discharges to water (e.g., of human wastes), there is also strong interest in the discharge of contaminants to land. While some of these concerns are similar to those expressed by other groups and individuals in the Region, the concerns of the tangata whenua are derived from a particular cultural context and set of values. This cultural context (based on the system of kaitiakitanga) is set out in some detail below.

Kaitiakitanga

Iwi in the Wellington Region are currently seeking to reconstruct their role as kaitiaki. While kaitiakitanga is thriving at some levels (e.g., the kaitiakitanga maintained by individuals over an urupa), at other levels and in other places it may be non-existent. The issues addressed in this Plan are therefore of concern to iwi because of their potential effects on the ability of iwi to reconstruct and exercise kaitiakitanga.

Kaitiakitanga has as its broad objective **the preservation of mauri and the conservation of resources**.

Kaitiakitanga is based on a series of spiritual-philosophical notions that form the foundations of Maori culture. Maori explanations for the origins of the world begin with spirit. Out of this spirit were created Ranginui, the sky father, and Papatuanuku, the earth mother. These two primeval parents had some seventy children. When Ranginui and Papatuanuku were separated, Te Ao Marama - the world we live in today - was created. Their seventy children began to create various domains for themselves in Te Ao Marama. Tangaroa created the sea, Tane Mahuta the forests, Tawhirimatea the winds and so on. Progeny of these *atua* also became the progenitors of other domains.

These atua are the first kaitiaki and it is they who created the foundations of kaitiakitanga. An important component of their work was the ability to use and manipulate *mauri*. Mauri, imperfectly translated as the life force, is a primeval element used by atua to breathe life into their various domains - waterways, plants, animals, mountains, the moon, stars, human beings, everything in the natural world. Without mauri their domains could not have lived. The primary objective of kaitiakitanga is therefore **the maintenance of mauri**.

Kaitiakitanga includes and gives the mandate for the use of resources. It is the contention of kaitiakitanga that **through the use and knowledge of resources can they best be conserved**. The original kaitiaki recognised the notion of the

death of certain beings so that others may survive. Their response was to allow the death of individual beings without jeopardising the mauri of the species as a whole. Kaitiakitanga therefore admits the notion of use and development, but under certain conditions. This was recognised by Maori in the processes they employed when using materials from the natural world, such as boat building or house building. The processes of resource exploitation focused on the atua who was the kaitiaki of the domain, and the impact of using the resource on the mauri of that species and the domain as a whole.

Kaitiakitanga and Waste

When Ranginui and Papatuanuku were clasped together prior to the creation of Te Ao Marama, they were essentially spiritual bodies. With the advent of the physical came notions of decay and waste.

The original kaitiaki and their system of kaitiakitanga coped with waste and decay. As long as the waste and decay arose out of the process of kaitiakitanga and out of the process of mauri, the system could cope and the mauri of the species was never at risk. So, for example, the mauri of a single bird may depart, but the mauri of its species would remain intact.

The mauri of waterways is different in that ultimately all waterways are connected. Kaitiaki understood that water rose from certain water bodies to become rain that would fall on other water bodies, and that water was connected through a system of waterways. Kaitiaki also revered water in its abilities to transfer mauri - hence its use for cleaning, sustaining, healing, gardening, purifying and so on.

Kaitiakitanga and Waste Today

The two major problems facing kaitiakitanga in relation to the discharge of waste and other contaminants today are:

- Maori culture, and hence kaitiakitanga, has suffered greatly through colonisation. These negative effects on kaitiakitanga have been brought about by the direct subjugation of the knowledge bases maintained within iwi, hapu and whanau that pertain to kaitiakitanga, and by the widespread modification of the natural world in which the foundations of kaitiakitanga were created and practised; and
- most, if not all, waste and other contaminants that appear in our communities today do not arise out of the processes of kaitiakitanga.

Note: The issues discussed in this part of the Plan **are indicative only**. Only tangata whenua themselves can identify the issues of concern to them. It should not be assumed that if an issue is not identified as being of concern to tangata whenua in this Plan, then tangata whenua have no interest in the issue. Tangata whenua issues are included in this Plan as a preliminary indication to decision

makers and people wishing to discharge a contaminant to land, of the types of situations in which tangata whenua are likely to have an interest, as a basis for further consultation on a case-by-case basis. This section of the Plan in no way limits or restricts the ability of tangata whenua to define issues of concern to them in relation to the discharge of contaminants to land.

2.1.1 Discharges of contaminants to land may have effects on the uses and values which tangata whenua place on land.

As a general guide, tangata whenua may have concerns about discharges to the following types of land:

- waahi tapu and urupa;
- areas which are close to streams, rivers, lakes or the sea;
- areas above groundwater resources which are used for water supply;
- areas close to marae, taiapure, sports grounds, and other areas where people meet to carry out every-day activities which are part of their cultural identity;
- areas which are access ways to resources or areas of importance; and
- other areas where tangata whenua have a particular interest because of their role as kaitiaki.

2.1.2 Water is a resource of particular significance to Maori, and the presence of contaminants in water is an affront to the values of water.

Discharges of contaminants to land sooner or later enter water, and can have adverse effects on the uses and values of water. To the tangata whenua, water has special spiritual and life-sustaining properties.

Different types of water have different uses and values, and may therefore be affected in particular ways by the discharge of contaminants to land. For example, groundwater has special qualities because it is in direct contact with Papatuanuku. Springs are also important for this reason and may therefore be used for special purposes, such as healing, baptism and anointing. Discharges which may affect groundwater are therefore of particular concern. Other waters are used for more every-day purposes, but still fulfil valuable functions for the iwi, including as a source of food, weaving materials, and mana. Discharges to land which affect any of these qualities of water may therefore be of particular concern.

2.1.3 The disposal of human wastes is an issue of particular concern to the tangata whenua of the Region.

In traditional Maori society, all wastes were returned to Papatuanuku (the earth), who was the agent of purification. Today also, many consider that the disposal of human effluent into water, whether the effluent is treated or untreated, is culturally and spiritually offensive. While sewage treatment may treat the effluent in a physical sense, it does not take the spiritual effects into account. However, there is also concern at the ability of Papatuanuku to adequately treat increasing quantities of waste, and the effects of land-based disposal of human effluent on resources and values of significance to iwi and hapu.

Human effluent disposed of on land may enter waterways or coastal areas and have effects on the spiritual and physical values of those resources. For instance, human effluent can affect the mauri of the water, reducing its spiritual values (e.g., for healing or cleansing) and making it inappropriate for certain cultural uses (e.g., food gathering). The disposal of wastes in or near areas of special significance (including waahi tapu and mahinga kai) is also of concern.

2.1.4 All contaminants have the potential to affect the mauri of land and water, and the volume of the discharge is also important in terms of the ability of the land to assimilate the contaminants.

Contaminants which may be of particular concern include:

- human wastes;
- animal wastes;
- hazardous substances;
- contaminants that do not break down into harmless products;
- contaminants with cumulative effects in the environment; and
- other contaminants which affect resources or values of significance.

2.1.5 Many concerns of tangata whenua about discharges of contaminants to land relate to the processes by which decisions are made.

In particular, tangata whenua are concerned that processes should recognise their role as kaitiaki, and that decisions should not constrain the ability of iwi or hapu to exercise kaitiakitanga. Concerns have also been expressed about the need for decision makers to:

- consult all the relevant tangata whenua groups that may have interests in the area in question (whether or not those interests derive from landownership);

- allow sufficient time for consultation, and ensure that consultation occurs early in the process;
- ensure that adequate information on the effects of an activity on resources and values of significance to tangata whenua is included in resource consent applications;
- ensure that tangata whenua are appropriately resourced to respond to requests for input; and
- recognise that kaitiakitanga is in various stages of reconstruction throughout the Region, and recognise that many of the issues facing iwi today are new to kaitiakitanga. Both of these factors can affect the ability of iwi to respond to particular issues.

These issues are addressed in an integrated manner throughout the provisions of this Plan, and particularly in Policies 4.2.1, 4.2.6, 4.2.9, 4.2.12, 4.2.13, 4.2.20, 4.2.21, and 4.2.41.

2.2 Issues arising from solid contaminant discharges

2.2.1 Large quantities of solid waste are generated and disposed of in the Wellington Region.

High rates of waste generation are of concern because:

- the disposal of waste has adverse effects on the Region's environment (e.g., landfills discharge gas, leachate and other contaminants);
- the disposal of large quantities of waste uses up the limited existing and potential landfill sites in the Region;
- large quantities of waste imply unsustainable rates of resource use;
- large quantities of waste are economic costs in terms of both resources being lost from the production process, and the costs of safe disposal; and
- large quantities of waste affect social and cultural values (e.g., issues related to culturally appropriate means of waste disposal).

This issue is not unique to the Wellington Region. New Zealand generates waste at a rate that is about 40% higher than most other OECD countries. Exact figures for the Wellington Region are not available, but data from Hutt City Council indicate waste generation rates of 940 kg per person per year. Data from other parts of the country, where accurate data have been collected, show similarly high rates of waste generation. These data also indicate that the rate of waste generation is increasing. For example, in Christchurch, the average rate of increase was 1.3% per year between 1986 and 1992.

This issue is addressed in Objective 4.1.1 and Policies 4.2.1 and 4.2.2.

2.2.2 In spite of the potential of, and support for, initiatives such as kerbside recycling, performance in real terms falls way short of expectations.

As a result, too much waste is ending up in landfills, rather than being diverted from the waste stream. Some of the reasons why the potential for materials to be diverted from landfills in the Wellington Region is not being realised are discussed in Issues 2.2.3 – 2.2.6. Other aspects to this issue are:

- a perception that waste is a problem to be disposed of rather than a potentially useful resource;
- a tendency to focus on one aspect of waste management (recycling in particular) rather than to adopt integrated means of managing each of the different components of the waste stream in the most appropriate way;
- a lack of knowledge by waste producers of the alternative means of waste management available in the Region;
- a lack of knowledge and understanding by consumers, particularly in relation to purchasing recycled goods. Recycling occurs when recycled goods are purchased - not when recyclable materials are put out for collection; and
- the costs of alternative waste management regimes such as kerbside recycling or re-use. It is not always economically feasible to recycle or reuse all resources at all times, and the costs and benefits of each case (and each locality in the Region) need to be carefully considered.

This issue is addressed in Objective 4.1.1 and Policies 4.2.1 – 4.2.4.

2.2.3 The potential for composting to divert resources from the waste stream is not being realised in the Wellington Region.

Composting creates a useful product from organic wastes which would otherwise be taking up valuable landfill space and creating significant amounts of leachate and landfill gas. Christchurch data show that 21% of the waste stream is easily separable material that is able to be composted.[3] Surveys undertaken by Wellington City Council indicate that similar proportions of organic waste can be expected in urban parts of the Region. In rural areas, the proportions are likely to be even higher.

However, composting brings its own set of concerns. In particular:

- a percentage of green waste (which varies according to the size of the fill, rainfall and amount of industrial waste) is desirable to promote the degradation of wastes within a landfill; and

[3] Binnie, M. 1994

- composting operations discharge odour and leachate which, if not adequately managed, can have adverse effects on water quality and amenity values.

This issue is addressed in Policy 4.2.4.

2.2.4 Landfill gas is a safety problem at and around larger landfills and it contributes an estimated 3% of New Zealand's greenhouse gas emissions.

Landfill gas is mainly methane and carbon dioxide, but it may also contain other gases including volatile organic compounds. The benefits of collecting and burning landfill gases include improved safety at and near landfills and reduced greenhouse gas emissions. In addition, at least two of the Region's landfills (Silverstream and the Southern Landfill) have the potential to generate energy from landfill gas.

This issue is addressed in Policy 4.2.9. Rules controlling the discharge and burning of landfill gas are in the Regional Air Quality Management Plan.

2.2.5 There is a lack of reliable, comprehensive information on the quantities and components of the waste stream in the Region.

Lack of information makes it difficult to direct initiatives towards problem waste sources, to determine the most efficient and effective means of reducing the waste stream, and to justify requirements or incentives for waste reduction.

This issue is addressed in Policies 4.2.1 to 4.2.4

2.2.6 Incentives for waste reduction in the Region are generally not strong, and the ethic of "generator responsibility" for waste is not widely held.

These factors both contribute to the large amounts of waste generated in the Region. While some steps are being taken to improve this situation - bag charges for waste collection, landfill charges, and requiring hazardous wastes to be pre-treated prior to acceptance in landfills are examples - there is still a way to go. For example, current metropolitan landfill charges in urban parts of the Wellington Region (up to $25 per tonne) are considerably less than the charges of $40 per tonne typical of other metropolitan areas such as Auckland and Christchurch. Lack of incentives for waste reduction is a problem throughout the country.[4]

These issues are of regional concern because those territorial authorities setting charges or other incentives that do not reflect the true costs of waste disposal are likely to attract waste from other parts of the Region, particularly if neighbouring authorities are setting more realistic charges. There is some evidence that this is

[4] Parliamentary Commissioner for the Environment, 1993

occurring in the Region. However, actual costs of operation would be expected to vary between authorities on the basis of local economics.

To be effective, waste reduction incentives need to address:

(1) the trend towards increasing private sector involvement in waste collection and disposal, and the incentives that this may create to maximise returns on investment by maximising the quantities of waste being disposed of;

(2) the potential indirect effects of waste charges (e.g., increased illegal dumping of wastes); and

(3) the true costs of discharging residual solid wastes to land, including the environmental, social and health costs of waste generation and the costs of developing new landfill sites.

This issue is addressed in Policy 4.2.3.

2.2.7 The discharge of residual solid wastes in landfills is significant in terms of both the volumes of contaminants involved, and the potential for adverse effects.

Even if all possible steps are taken to reduce the amount of solid waste generated in the Region, there will remain some solid wastes requiring disposal.

Landfills in the Wellington Region range from large landfills capable of accepting hazardous wastes to very small landfills serving rural communities. Each has its own set of problems. Common adverse effects at landfills in the Wellington Region are:

- the contamination of groundwater, rivers and the sea from landfill leachate, particularly on the Kapiti Coast and in the Wairarapa, but also in other parts of the Region;
- the contamination of water from inadequate management of stormwater on landfill faces;
- the creation of contaminated sites (see Issue 2.2.12);
- the emission of odour, dust, landfill gas and occasionally smoke from the open burning of wastes. These have nuisance effects as well as health effects; and
- the growth of pest populations, particularly rats and gulls. Gulls pose a hazard to aircraft if landfills are near airports. Both rats and gulls are a problem when landfills are near conservation areas, farms or residences.

The main operative landfills in the Wellington Region are:

- Northern and Southern Landfills (Wellington City)
- Silverstream and Wainuiomata (The Hutt City)
- Spicers Gully (Porirua City)

- Otaki, Waikanae and Paraparaumu (Kapiti Coast District)
- Masterton (Masterton District)
- Carterton (Carterton District)
- Greytown, Featherston and Martinborough (South Wairarapa District)
- Small landfills at settlements throughout the Wairarapa.

This issue is addressed in Objective 4.1.3 and Policies 4.2.9 and 4.2.10.

2.2.8 Some landfills in the Region are not well sited.

Poorly sited landfills can create adverse effects. While the larger landfills are generally appropriately sited,[5] the Silverstream landfill is upstream of a groundwater recharge zone for the Hutt aquifer. Some of the smaller landfills are also not well sited. For example, the old dump site in Eastbourne was in contact with a stream and swamp, allowing leachate to enter the stream. The Ngawi landfill is at the top of a beach (just out of the coastal marine area) and the Masterton and Pirinoa landfills are on riverbanks and are subject to flooding. The Riversdale and closed Wilton sites are contaminating streams.

This issue is addressed in Objective 4.1.2 and Policy 4.2.6.

2.2.9 There is a relative lack of new landfill sites in the Wellington Region, and the Wairarapa lacks a landfill that is capable of accepting hazardous wastes.

The presence of unconfined aquifers and the generally steep topography of the Region mean that there are relatively few new landfill sites that are able to be engineered in a cost effective manner to meet environmental standards. On the Kapiti Coast, many of the landfills are nearing the end of their useful lives, and will be replaced with transfer stations with centralised disposal occurring at a single site. In the Wairarapa there is a trade off to be made between upgrading the numerous existing landfills to meet the requirements of the Act, or developing a new landfill.

Although landfill siting is generally a territorial authority responsibility, it is also an issue of regional concern because landfill siting decisions can have effects that cross district boundaries (e.g., effects on traffic flow, or movement of wastes across boundaries).

This issue is addressed in Objective 4.1.2 and Policies 4.2.5 and 4.2.7.

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[5] WRC 1989

2.2.10 The disposal of cleanfill causes problems when it is not properly managed.

Cleanfill consists of biologically and chemically inert materials such as clay, soil, rock, concrete, brick and other demolition materials that are free of combustible or organic materials. It is an issue because:

- it takes up valuable space in landfills;
- some cleanfill sites are accepting wastes that are not inert. These wastes can degrade and cause adverse environmental effects;
- the Wellington Region generates relatively high levels of cleanfill because of the age of the urban area, the amount of demolition taking place, and the hilly topography. Although cleanfill quantities have decreased somewhat since the 1980s, it is anticipated that the general improvement in the economy could reverse this trend.

This issue is addressed in Policy 4.2.8.

2.2.11 Illegal dumps, often on private land, are a particular problem in rural parts of the Region.

Because of the uncontrolled nature of illegal private dumps in the Region, the potential for adverse effects is high. This Plan is particularly concerned with the disposal of hazardous wastes in illegal dumps (because of the potential for contamination of land), and the siting of illegal dumps in areas where they could affect water quality.

Surveys in the Region identify two aspects to this issue:

(1) landowners with illegal tips on their property are usually ignorant of the law, and see themselves as simply helping others with a problem and making a quick dollar at the same time;

(2) those using the sites do so because there is easy access at all hours, tip fees are low, and no-one enquires about what is being discharged.

This issue is addressed in Policy 4.2.8.

2.2.12 The Region has a large number of old waste disposal sites which are now contaminated sites, and which continue to cause adverse effects.

One of the worst of these is Cottles tip, an illegal dump at Horokiwi. This site was used for the illegal disposal of hazardous wastes for many years. No efforts were made to control stormwater or leachate at the site, which continues to discharge leachate years after its closure. Subsidence is another common problem on old landfill sites.

This issue is addressed in Objectives 4.1.9 – 4.1.11 and Policies 4.2.43 – 4.2.50.

2.3 Issues arising from liquid contaminant discharges

2.3.1 There is increasing pressure to treat and dispose of sewage on land, but discharges of human effluent to land can have adverse environmental effects.

In particular, human effluent can affect soil quality, groundwater quality, surface water quality, coastal water quality, and the health of plants, animals and ecosystems, and the health of humans and their communities. These adverse effects arise from:

- poorly designed, installed or maintained on-site domestic effluent treatment systems (see Issue 2.3.2);
- overloaded sewage treatment systems; and
- the presence of industrial wastes in sewer systems. These can contaminate the receiving environment, and may also damage biological treatment systems.

At present, a relatively small proportion of the Region's sewage is discharged to land. Land disposal is limited to the Kapiti Coast (where most sewage treatment is by way of oxidation ponds which discharge to land), and Paekakariki, parts of the Wairarapa and other rural parts of the Region where on-site systems (e.g., septic tanks) discharge effluent into land.

However, there is increasing pressure for sewage to be treated and disposed of on land rather than in water, and this could exacerbate any adverse effects of land-based disposal. The iwi of the Region have consistently stated their strong concerns about the disposal of human wastes into water (see Issue 2.1.3). Wellington Regional Council surveys show that "sewage-free coastal waters and rivers are valued by a high proportion of the population, regardless of ethnic background".[6] Another factor which may increase the adverse effects of land-based disposal, is that the areas of the Region with land-based effluent disposal have the most rapid growth in population.[7]

Balanced against the adverse effects of land-based sewage treatment and disposal are the following positive effects:

- it removes sewage discharges from rivers and the sea;
- it is sensitive to current and likely future public opinion;
- it can help meet Maori concerns;
- it reuses valuable resources;
- it keeps sewage treatment and disposal visible and in the public domain.

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6 WRC, March 1993

7 WRC, September 1993

While land disposal of sewage effluent is the preferred option, in some parts of the region there is no suitable land available. For example, much of the region is intensively inhabited, or there are constraints to disposal such as saturated low-lying peat soils.

This issue is addressed in Objective 4.1.4 and Policies 4.2.12-4.2.18.

2.3.2 Septic tanks and other on-site effluent treatment and disposal systems are causing a variety of adverse effects in several parts of the Region.

In particular, contamination of groundwater from septic tanks has been reported at a number of coastal settlements in the Wellington Region, such as Riversdale, Castlepoint, Whatarangi and Ngawi.[8] It is also a problem on parts of the Kapiti Coast (e.g., near Otaki). This is a particular problem because of the presence of relatively shallow aquifers in parts of the Region, and the recent rapid increase in subdivision applications for rural land on the Wairarapa plains and on the Kapiti Coast. At the time of preparing this Plan, implementation of a reticulated sewerage scheme at Castlepoint was underway, with plans for further up-grading the discharge from that scheme.

Studies in other parts of the country show a strong link between septic tank discharges and pathogen levels, both in groundwater and at the land/water margins of the sea, estuaries and lakes.[9] This is of concern because many of the households in the Region that rely on septic tank disposal systems, also rely on groundwater for their drinking water.

Slope instability and effluent resurfacing down-slope are also relatively common effects in coastal settlements in the Wairarapa. These effects are caused by site related factors, such as poor drainage (e.g., on alluvial fans or in low-lying areas), or excessive drainage (e.g., coastal sands on mudstones), or steep sites.

In particular, on-site effluent treatment systems in the Region have adverse effects when they:

- are not appropriate for the particular constraints of the site;
- are poorly installed. Although a New Zealand Standard for Household Septic Tank Systems exists (NZS 4610:1982), there is evidence that it has been misinterpreted, allowing systems to be installed which do not hold the effluent in the disposal field for sufficient time for on-site treatment to occur;[10]
- are poorly maintained. The main problems include cleaning septic tanks infrequently, putting too many solids into the system, allowing high

8 WRC, December 1991

9 See for example, Environment BOP, 1994; and references in WRC, December 1991.

10 See WRC, December 1991 and Environment BOP 1994.

volumes to enter the system through wasteful use of water, using powerful bleaches, detergents and other chemicals, and not maintaining the disposal field (e.g., allowing stormwater to enter the disposal field, or deep-rooting trees to disturb pipes);

- are in rural subdivisions with relatively small section sizes. Cumulative effects are the main concern here.

Although septic tank/effluent disposal fields are by far the most common on-site effluent systems in the Region, similar problems occur with other on-site effluent treatment and disposal systems. Other systems include community effluent disposal systems that serve a number of households, soak holes ("long drops"), composting toilets, multi-chambered septic tanks which separate different types of liquid effluent or treat effluent to a higher standard, activated sludge systems, and evapo-transpiration.

Under the transitional provisions of the RMA, discharges from septic tanks for individual households are permitted under General Authorisations. Some territorial authorities also control septic tanks through bylaws made under the Health Act 1956 and the Local Government Act 1974, through the nuisance controls in the Health Act, and through Building Act 1991 requirements.

This issue is addressed in Objective 4.1.4 and Policies 4.2.15-4.2.18.

2.3.3 Sewage sludge is a human and environmental health hazard.

If not properly treated and disposed of, sewage sludge can cause adverse effects as it contains high proportions of pathogens. The sludge comes from the periodic cleaning of reticulated and on-site sewerage systems. Septic tank sludge (septage) is normally collected and disposed of into reticulated sewerage systems. Sludges from sewage treatment plants are normally discharged to land, for example, in a landfill, by composting, or by applying to other land (e.g., forests). Septic tank sludges are potentially more hazardous than sludges which have undergone some treatment. They are therefore not generally spread on land, although in some parts of the Wairarapa this practice does occur.

This issue is addressed in Objective 4.1.4 and Policy 4.2.13.

2.3.4 Discharges of liquid wastes from other sources which do not enter the reticulated sewer system or landfills, can have adverse effects on the receiving environment if they contain potentially harmful contaminants.

This issue applies to the relatively small proportion of the Region's industries which are not connected to municipal sewer systems, and do not discharge their liquid wastes into landfills. It also applies to some discharges of contaminated stormwater. Most industries in the Region discharge their liquid wastes directly

into reticulated sewer systems, which are controlled by the relevant territorial authority through Trade Waste Bylaws. Forty-five percent of liquid wastes from industries were estimated to be disposed of in the Region's landfills in 1988.[11] The trend is now towards less liquid waste disposal in landfills.

Industries in the rural parts of the Region (e.g., dairy factories and meat processing plants) normally have their own effluent treatment and disposal systems. These vary from septic tank/effluent field systems to more sophisticated mechanical land-based systems. Treated effluents from these wastes may contain hazardous substances (e.g., waste oil, materials from grease traps, sludges from water treatment, chemicals) or pathogens, and therefore require adequate treatment prior to disposal. A particular concern is the discharge of elements and compounds that are environmentally persistent and can accumulate in the soil and sediments and bioaccumulate in plants and animals (including humans). Examples of environmentally persistent substances include: heavy metals such as lead, cadmium, mercury; and chlorinated compounds such as PCBs, pentachlorophenol, and organochlorine pesticides.

Most stormwater in the Region is discharged to water, and very little is discharged to land. Stormwater can become contaminated, for example, by heavy metals from roads or industrial sites. The diffuse discharge of stormwater (i.e., stormwater which is not collected) is **not** addressed in this Plan.

This issue is addressed in Objective 4.1.5 and Policies 4.2.19 and 4.2.39.

2.4 Issues arising from agricultural contaminant discharges

2.4.1 Agricultural effluent is a potentially useful, but under utilised, resource in many parts of the Region.

In the Wairarapa, over 30% of dairy shed effluent is still discharged to waterways. Apart from the environmental effects on the receiving waters, treated effluent could be a valuable resource if discharged to land. It can be of some value in drought-prone areas, and in areas where nitrogen fertilisers are used for intensive production (treated effluent can contain up to 40% of the nitrogen content of untreated effluent). The phosphorus content of effluent is particularly beneficial, as New Zealand soils are often low in this element.

This issue is addressed in Policy 4.2.20.

[11] WRC, 1988

2.4.2 Agricultural effluent can have adverse effects on water quality, amenity values, soil properties, and pasture and stock health.

Most agricultural effluent in the Wellington Region is disposed of (at least initially) to land by way of soak holes, ditches, spray irrigation, oxidation ponds, activated sludge plants or a combination of these. Agricultural effluent usually contains a mixture of contaminants, including animal faeces and urine, silt, soil, gravel, spilt milk and feed, detergent, drench, straw and other contaminants. These contaminants can have adverse effects on:

- surface water and groundwater. It is these effects that are of the most concern to the Regional Council. Agricultural contaminants can have adverse effects on water quality because of their relatively high levels of BOD_5, suspended solids, nutrients and pathogens (see the end of this issue for further discussion on these matters). Effects on water quality arise from run-off or leaching during or following irrigation of effluent, application of effluent to rapidly draining soils, failure to spread effluent sufficiently, seepage from ponds, and accidental discharges of effluent directly to water (e.g., as a result of equipment failure);
- amenity values. Odour is one of the most frequent causes of complaint from agricultural effluent disposal, and is often an issue in places where residential development has encroached on rural land. Irrigation systems can also cause spray drift;
- soil drainage characteristics (through soil pugging);
- pasture. Surface ponding can cause pasture burn and unpalatable pasture; and
- stock health (through the presence of disease organisms).

Agricultural effluent problems (discharges to land and water) make up an estimated 50% of the time that Council officers spend on investigating and addressing pollution complaints. The agricultural effluents of particular concern in the Region are dairy shed effluent and piggery effluent.

Because it is washed down with water, dairy shed effluent is a relatively low-strength waste. Nevertheless, New Zealand's cow population produces dairy shed effluent with a polluting potential equivalent to a human population of 3.2 million people.[12]

1991 figures[13] indicate that the 220 dairy farms in the Wairarapa part of the Region discharge their effluent as follows:

- 51% - spray irrigation onto land;
- 24% - ponds for treatment and then into a waterway;

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12 Centre for Advanced Engineering, 1992 (This comparison is in terms of BOD_5)

13 Centre for Advanced Engineering, 1992

- 11% - long ditches;
- 10% - ponds to soakage; and
- 4% - ponds to spray irrigation.

Equivalent figures are not available for the Western part of the Region, because such discharges are allowed under a General Authorisation. This has allowed the discharge of up to 5000 litres of effluent a day without consent (this amount of effluent would be produced by a herd of 70-120 cows).

Piggery effluent can be discharged to a sewer (if the sewage treatment process is adequate), or to land by way of ponds or spray irrigation. The main issues of concern are odour, and effects on groundwater and surface water. Mangaroa, Makara, South Karori, Moores Valley, Te Horo and parts of the Wairarapa are areas in the Region which have been particularly affected by odour and water quality problems caused by piggery wastes.

Other types of agricultural effluent in the Region with the potential to create adverse effects include wastes from feedlots, poultry sheds and fitch farms.

The adverse effects of agricultural effluent are caused by:

- **Biological Oxygen Demand (BOD_5):** Agricultural effluent has a high organic content which reduces the dissolved oxygen levels in the receiving water as it decays. The organic content can cause excessive growths of bacteria and fungi (commonly referred to as sewage fungus). These growths, and their associated effects, can change the structure of aquatic ecosystems, raise the pH of the water, and contribute to the loss of pollution sensitive species;
- **Nutrients:** High nutrient concentrations, particularly of nitrogen compounds (including nitrates) and phosphorous compounds, can contribute to excessive algal and plant growths in waterways, and may have toxic effects on organisms. Nuisance growths can affect aquatic ecosystems and the aesthetic values of water;
- **Suspended solids**: Inorganic and organic materials suspended in the water can affect the clarity and turbidity of water. This affects aquatic ecosystems and the aesthetic appeal of water. Suspended solids reduce light infiltration (affecting photosynthesis) and can smother organisms and habitats; and
- **Pathogens**: Animals excrete high levels of bacteria, viruses, and eggs of internal parasites. While only a portion of these are pathogenic, it is possible that animals and humans may contract disease from agricultural effluent in water which is used for recreation or human consumption. Faecal contaminants are also a potential health risk to livestock.

This issue is addressed in Objective 4.1.6 and Policies 4.2.20-4.2.22

2.4.3 On-farm waste disposal can contaminate waterways, cause odour and have adverse effects on human health.

Farm wastes (domestic and agricultural) are often disposed of on-site in offal pits and dump sites. If not appropriately located and managed these sites can cause adverse effects. The potential for water and soil contamination increases when farm tips are used to dispose of wastes from outside the farm (i.e., non-farm wastes) or unwanted agrichemicals or chemical containers.

This issue is addressed in Policy 4.2.22.

2.4.4 Silage stacks produce very strong leachate.

Leachate from silage stacks is reported to be 200 times stronger than raw domestic sewage and 40 times stronger than dairy shed effluent.[14] Leachates of this strength can have serious adverse effects on surface water, including effects on fish, plants and other stream organisms from severe deoxygenation and high ammonia levels, and algal proliferation from high nutrient levels. Silage stacks have been the source of odour complaints to the Council, but little is known of their effects on water quality in the Region. Therefore, the preferred option for disposal of silage leachate is as a discharge to land. Direct discharges of leachate to water are addressed in the Regional Fresh Water Plan.

This issue is addressed in Policy 4.2.22.

2.4.5 Poor storage, transportation and use of agrichemicals can result in contamination of soil and water, and risks to human health.

Agrichemicals (e.g., pesticides, herbicides) are relatively common type of contaminant discharged to land in the course of controlling weeds and other pests in the Region. It is widely recognised that, in many cases, the most cost-effective method currently available for control is the use of agrichemicals. Because of their hazardous characteristics, agrichemicals need to be carefully stored, transported and used.[15] The disposal of agrichemical containers is also a potential issue in the Region, particularly when these containers are burnt, or disposed of in farm tips where leachate could enter waterways.

While there is some demand for the organised collection and disposal of chemicals (as has been carried out in other parts of the country), collection, transportation and disposal of unwanted agrichemicals has its own set of

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14 Centre for Advanced Engineering, 1992.

15 Only some aspects of agrichemical use are addressed in this Plan. Chemicals for the control of plant pests are normally applied by spraying, and are therefore addressed in the Regional Air Quality Management Plan. Chemicals for the control of vertebrate pests are discussed in Issue 2.5.7 of this Plan.

problems. In particular, it must be carried out by trained operators, all opportunities must be taken for recycling and reusing chemicals, an appropriate bulk storage area must be available, and the operation must be capable of being maintained over time. The liability for collected chemicals that cannot adequately be disposed of in New Zealand is a problem which still requires resolution at central government level.

This issue is addressed in Policies 4.2.38 and 4.2.40

2.4.6 Agricultural activities are making a significant contribution to non-point source pollution of groundwater and surface water in the Wellington Region.

All of the agricultural contaminants discussed in this section have the potential to contribute to non-point source pollution of waterways.[16]

Contaminants can enter water through runoff, seepage, leaching or spray drift. Agricultural contaminants, such as dung, urine and vegetable matter, can create a disease risk in water and can increase nutrient levels. Other chemicals used in farm management (agrichemicals, petroleum products, solvents, cleansers, timber treatment products, and fertilisers) can leave residues in water, and in the case of fertilisers, can raise nutrient levels.

While difficult to control, non-point sources of agricultural contaminants have the potential to cause adverse environmental effects on water quality. For example, Environment Waikato estimated that the volume of effluent collected in dairy sheds is only 10-20% of the effluent deposited outside dairy sheds.

Water quality of catchments in the Wellington Region has been compared where the predominant land use is agricultural, with catchments in native bush.[17] Results showed that rivers and streams draining agricultural catchments are four times more turbid than those draining native bush catchments. Turbidity may be influenced by the erodible nature of the underlying rock in some of these catchments, in conjunction with the conversion of land to pastoral farming. Nitrate concentrations are also four times higher in agricultural catchments. And faecal coliform counts are 20 times higher. These effects can alter the ecology of the waterways and render them unsuitable for other uses (recreation, domestic water supply etc.). Effects on surface water quality detected through monitoring programmes in the Region include:

- excessive nutrient levels in the lower Waiohine River; and

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16 Other activities which contribute to non-point source pollution of water include non-agricultural discharges (e.g., urban runoff, septic tanks), and agricultural activities not involving discharges (e.g., clearing riparian vegetation, draining swamps, draining soils, clearing watercourses, channelling rivers, overgrazing pasture, and grazing or cultivating too close to waterways).

17 MAF, 1993.

- excessive turbidity and nutrient levels in the middle and lower Ruamahanga River, reflecting drainage from agricultural land and the discharge of community wastewater to the river.

Good data are not available on the state of lakes in agricultural areas of the Region. However, water quality problems similar to those experienced in the lower reaches of rivers in agricultural catchments could be expected. Lake Wairarapa is highly turbid and has elevated levels of nitrogen and phosphate. The sources of these problems are varied and include point source discharges from pump drains, as well as non-point source inputs from waterfowl and surrounding land, 71% of which is agricultural.[18]

Non-point source pollution of groundwater is a particular problem where:

- agricultural activities take place above groundwater recharge zones (e.g., near Otaki); and
- soil conditions and shallow aquifers enable contaminants to enter groundwater (e.g., at Whitemans Valley, Mangaroa, parts of the Wairarapa, and the Kapiti Coast, especially around Otaki and Te Horo).

The vulnerability of the Region's groundwater to the effects of discharges of contaminants to land is shown in Map 1. Comprehensive information on groundwater quality in the Region is not available. Monitoring that has been undertaken shows that high nitrate levels and bacterial contamination of groundwater are likely to be caused by septic tanks and agricultural sources at Te Horo. In other parts of the country, high nitrate levels have been found in shallow groundwater in areas where stock densities are high and the upper soil is permeable.[19] Similar results could be expected in similar areas of this Region.

Although there has been no study of the effects of agrichemical use on water quality in the Region, studies elsewhere in the country show that some widely used herbicides generate measurable stream concentrations as a result of run-off (particularly following storms). Studies of groundwater in areas with high agrichemical use and permeable soil have found residues of common agrichemicals at levels that are below drinking water criteria, but which are still sufficiently high to be of some concern.[20]

This issue is addressed in Policy 4.2.24.

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18 WRC 1995
19 MAF, 1993
20 MAF, 1993

2.5 Issues arising from hazardous substance discharges

2.5.1 Potential adverse effects on the environment is natural hazards damage existing or future major hazardous substance storage facilities.

Much of the Wellington Region is vulnerable to natural hazard events. For example, a major fault line runs through Wellington City, and parts of the Seaview industrial area may be subject to liquefaction. There are few suitable alternative locations for major hazardous substances storage facilities currently located in potentially high risk areas. Owners of some existing major hazardous substance storage facilities in such areas may wish to develop their sites. Provisions for the maintenance and development of sites used for storing hazardous substances need to be adopted in this plan and in district plans for the Wellington Region.

The Regional Policy Statement for the Wellington Region allocates the Regional Council primary responsibility for developing objectives and policies for the control of the use of land for the prevention or mitigation of adverse effects arising from the storage, use, disposal, or transportation of hazardous substances. Territorial authorities have been allocated primary responsibility for developing associated rules in their district plans. Policies adopted in this plan will address the issue of potential adverse effects on the environment if natural hazards damage on major hazardous substances storage facilities, while recognising the benefits associated with the existing location of the facility.

This issue is addressed in Objective 4.1.7 and Policies 4.2.25 – 4.2.27.

2.5.2 There is evidence of inappropriate storage practices at some facilities using or storing hazardous substances, resulting in accidental discharges of hazardous substances.

Accidental discharges of hazardous substances are of concern because they can create contaminated sites and can also have adverse effects on freshwater quality, air quality, human health, ecosystems and the coastal environment. Spills of hazardous substances are a relatively common cause of complaint to the Council, particularly in cases where the substance enters water. Contributing factors include:

- inadequate provision for managing site emergencies and spills at facilities using or storing hazardous substances, for example, inadequate contingency planning or containment of liquid hazardous substances on the site, and inadequate containment of water used for fire fighting; and
- poor maintenance and monitoring practices by operators and owners of facilities using or storing hazardous substances (e.g., leaking underground storage tanks, storing incompatible substances).

Although there is some evidence that the amount of hazardous substances stored and used in the Region is decreasing,[21] the Region is likely to remain a significant storage area for hazardous substances because of its port facilities.

The day-to-day operations of facilities using or storing hazardous substances is not generally an issue of regional concern, and is adequately covered under other legislation (in particular, the Dangerous Goods Act 1974 and the Building Act 1991). The storage or use of hazardous substances becomes an issue of concern to be addressed in this Plan only when inappropriate storage practices or use may result in the accidental discharge of a hazardous substance to land.

This issue is addressed in Objective 4.1.7 and Policies 4.2.25, and 4.2.28-4.2.30.

2.5.3 The inappropriate disposal of hazardous wastes has significant potential for adverse effects.

Inappropriate disposal includes disposal in landfills that are not designed or managed to receive hazardous wastes, or other forms of illegal disposal. Recent examples of inappropriate disposal of hazardous waste in the Region causing adverse effects, are the disposal of asbestos in "cleanfills", and the disposal in unconfined landfills of contaminated soil from around underground storage tanks. The following wastes have been identified as causing particular problems for disposal in the Region:

- contaminated soil;
- sludges (leaded petrol, tar, phenolic sludges from gasworks, sewage and agricultural effluent sludges, and zinc oxide sludges from galvanizing plants);
- strong acid and alkali liquid wastes;
- waste oils;
- inks;
- alum sludges from bulk water treatment facilities; and
- solvents.

The main sources of hazardous wastes in the Region are:

- manufacturing industries and associated commercial services;
- the agricultural, horticultural and forestry sectors; and
- households.

This issue is addressed in Objective 4.1.8 and Policies 4.2.31-4.2.34.

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[21] WRC, 1988.

2.5.4 The Wellington Region lacks a dedicated hazardous waste treatment facility.

The most common means of hazardous waste disposal in the Region is co-disposal. Co-disposal is the carefully managed placement of hazardous waste in a landfill together with ordinary municipal waste. The ordinary waste helps degradation of the hazardous waste through natural biological and chemical processes.

There is currently only one landfill in the Region (Silverstream landfill) that is potentially suitable for co-disposal of hazardous wastes. However, the extent to which it is able to continue to accept hazardous wastes depends on whether the landfill is able to comply with its resource consent conditions. It is likely that higher levels of treatment will be required for any hazardous wastes accepted at the landfill. There is one facility now operating in Seaview which recycles the metals from galvanising plant waste.

This issue is addressed in Policies 4.2.32 and 4.2.34.

2.5.5 There will always be some hazardous wastes which cannot be safely or economically disposed of within the Region.

At present these wastes are stored by the industries generating the wastes or transported out of the Region to suitable disposal facilities. Wastes that cannot currently be disposed of satisfactorily in the Region include radioactive wastes, PCBs, organochlorines, and some toxic sludges, galvanising, and timber treatment wastes.

However, the majority of hazardous wastes which are generated in the Region, provided they are appropriately treated and managed, can be adequately disposed of in the Region.

This issue is addressed in Policy 4.2.35.

2.5.6 There is a lack of comprehensive and reliable information on quantities and movements of hazardous wastes generated and disposed of in the Region, and on the transportation of hazardous wastes to and from the Region.

Lack of information on wastes generated in the Region makes it difficult to identify "problem" industries and wastes, and to target management and reduction measures.

Hazardous wastes from other parts of the country may be transported through the Region, or disposed of in the Region. In the absence of reliable information on

these wastes, it is difficult to determine whether they have been adequately disposed of. Similarly, wastes which cannot be adequately treated in the Region may need to be transported out of the Region, with the agreement of other local authorities.

Although there are other transport issues related to hazardous substances (e.g., the location of transport routes), these are not addressed in this Plan. Transportation of hazardous substances is dealt with primarily under the Transport Amendment Act 1989 and the Code of Practice for the Transport of Hazardous Substances on Land (NZS 5433:1988). Provided that the legal requirements are met, the environmental effects of transporting hazardous substances within the Region are unlikely to be significant at a regional level.

This issue is addressed in Policies 4.2.36 and 4.2.37.

2.5.7 There is public concern about the use of pest control chemicals in the Region, and in particular, the use of 1080 to control possums.

1080 (sodium monofluoroacetate) is a widely used poison for possum control in New Zealand. It can be applied aerially or through self-feeding bait stations or other ground-based methods of application.

The use of poisons such as 1080, cyanide and phosphorus is controlled under legislation such as the Pesticides Act 1979, the Toxic Substances Act 1979 and the Civil Aviation Act 1990, and their associated regulations. The Pesticides Act lists these poisons as "controlled pesticides", restricted to use by approved and licensed operators. The Pesticides (Vertebrate Pest Control) Regulations 1983 set out requirements for public notice of aerial application, and approval from the Medical Officer of Health and the relevant territorial authority. In spite of these controls, some sectors of the regional community remain concerned about the potential adverse effects of these poisons (1080 in particular) on water quality and non-target species.

1080 is highly soluble and rapidly diluted in water, and is degraded in soil by micro-organisms.[22] It does not persist or accumulate in the environment. A monitoring programme carried out after a 1080 drop in the Wairarapa in 1993 detected no 1080 present in groundwater or surface water.[23] There have been documented cases of individuals of non-target species being killed by 1080 baits (particularly dogs, sheep and native birds). However, a recent study concluded that "clear long-term impacts on ecosystems or populations have not been demonstrated from studies to date".[24]

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22 Parliamentary Commissioner for the Environment, May 1994.

23 WRC, 1994. Monitoring consisted of 66 test samples of surface water and groundwater, taken over a four month period starting on the same day as the 1080 drop. The limit of detection of the sample programme was 0.0003 mg/l (ppm).

24 Parliamentary Commissioner for the Environment, May 1994. The studies referred to relate to

Other agrichemicals discharged directly to land of concern in the Region include persistent chemicals applied to areas where they may be washed into waterways.

This issue is addressed in Policies 4.2.39 and 4.2.41.

2.5.8 All activities which discharge hazardous substances to land can cause adverse effects if not properly managed.

Activities that typically involve planned discharges of hazardous substances to land are roading activities and some industrial processes. These activities are of concern where they could contaminate soil or water.

Roading activities include applying waste oil to roads as a dust suppressant, and applying bitumen to land in the construction of roads. Waste oil contains environmentally persistent contaminants such as lead and other metals, as well as other harmful substances such as polyaromatic hydrocarbons. Repeated application to the same section of road can lead to an accumulation of these substances at the site of application. These contaminants can be distributed more widely by passing vehicles. Horticultural properties are particularly vulnerable to the redistribution of oil-bearing dust, as contamination may render produce unsuitable for export.

While general road maintenance and construction activities are acceptable and necessary for the operation of the Region's infrastructure, the application of waste oil to roads and other surfaces can contaminate soil and water, and is a wasteful use of a potentially useful resource.

This issue is addressed in Policy 4.2.41.

2.6 Site contamination issues

2.6.1 We do not have good information on the location and risks of site contamination in the Region.

Without good information, the risks associated with site contamination cannot be controlled.

A 1992 desk-top study indicated that there could be 642 contaminated sites (excluding timber treatment sites) in the Region, of which as many as 141 could be high risk sites.[25] This assessment was made on the basis of historical land uses that may result in contamination of the environment. This estimate cannot be validated until assessments have been undertaken to ascertain the degree of contamination, if any, these sites actually have.

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aerial 1080 operations on Conservation land.

25 Ministry for the Environment, November 1992(a).

Types of sites of particular concern in the Region include:

- landfill sites, such as the old Wilton dump and Cottles tip site at Horokiwi;
- old gas works in Miramar, Masterton, Petone and Carterton;
- underground storage tanks throughout the Region (including tanks that are no longer used and sites where tanks have been removed); and
- timber treatment plants and storage sites, particularly in Upper Hutt and the Wairarapa.

Other major groups of sites with a land use history identified in the study referred to above include chemical manufacturers, drycleaners, electroplaters, engine works, oil production and storage areas, paint manufacturers, pharmaceutical manufacturers, service stations and smelting or refining works. Site contamination may have occurred or could develop at places where agrichemicals have been used in the past (e.g., sheep dips), or are currently discharged.

This issue is addressed in Objective 4.1.9 and Policies 4.2.43-4.2.45.

2.6.2 Contaminated sites may continue to discharge contaminants into the environment and, if not properly controlled, contamination can spread from a site to other parts of the environment.

Contaminated sites may continue to discharge contaminants into land, water and air in the Region. They can:

- contaminate soils;
- pollute surface water and groundwater;
- allow the uptake of contaminants by plants and animals, where they may bioaccumulate; and
- have negative impacts on public health.

Contamination can spread through:

- leaching into groundwater in cases where a contaminated site is above an unconfined aquifer;
- surface run-off into streams or coastal water;
- wind-blown dust; and
- growing crops in contaminated soil.

This issue is addressed in Objective 4.1.10 and Policies 4.2.46 – 4.2.50.

2.6.3 The clean-up of contaminated sites may simply shift the problem of site contamination elsewhere.

A site contamination problem is not solved by transferring the contaminated material to a landfill that is not designed to receive hazardous wastes. This has been an issue in the Region, and indicates a need for better assessment of clean-up options, including means of addressing the problem on-site.

This issue is addressed in Objectives 4.1.10 and 4.1.11 and Policies 4.2.47 and 4.2.48.

2.6.4 There is a problem with liability for "orphan sites".

Orphan sites are sites for which those responsible for contamination cannot be located or are no longer around, or sites for which it is not fair or reasonable to expect the current owners to accept liability. It is likely that a relatively small number of sites of this nature exist in the Region. There are also a number of sites where the scale of contamination is such that it is beyond the capacity of the owner to deal with it.

This issue is addressed in Policy 4.2.49.

2.6.5 Existing activities in the Region have the potential to contaminate sites.

Activities in the Region which, if not appropriately managed, may contaminate sites in the future include:

- waste disposal;
- accidental spills of hazardous substances;
- inappropriate storage or transportation of hazardous raw materials, finished products or wastes;
- spreading of sewage sludge;
- migration of contaminants to a site from a neighbouring industrial site or contaminated land, either as vapour, leachate, or other movement of liquids through the soil; and
- use of agrichemicals.

This issue is addressed in Objectives 4.1.7 and 4.1.11, and Policies 4.2.25 – 4.2.30.

3. Interpretation

In this Plan, unless the context requires otherwise:

The Act means the Resource Management Act 1991, including any amendments, Orders in Council or regulations that may be currently in force.

Agrichemical means any substance, registered under the Pesticides Act 1979 or Hazardous Substances and New Organisms Act 1996 as a pesticide. (This includes any herbicide, fungicide, insecticide, vertebrate pest control chemical, or other biocide. For the avoidance of doubt, it does not include fertilisers or lime and other soil conditioners, or agricultural effluent.).

Agricultural effluent means treated and untreated effluent collected during the management of livestock.

Aquifer means a geologic formation or layer of rock or soil that is able to hold or transmit water.

Atua means deity, god, child of Ranginui and Papatuanuku.

Background level means levels of substances or chemicals that are commonly found in the local environment (ANZECC, 1992).

BOD_5 (biological oxygen demand) means the amount of oxygen required by bacteria to degrade organic material to a stable form, using a standard 5 day test at 20^o Celsius.

Cleaner production means the provision of food, goods and services so as to minimise environmental damage and waste generation throughout the entire production system.

Cleanfill means materials such as clay, soil, rock, concrete, or brick, that are free of combustible or putrescible components or hazardous substances or materials likely to create a hazardous leachate by means of biological or chemical breakdown.

Closed landfill means any landfill that no longer accepts waste for disposal.

Coagulant waste means the waste material produced during the treatment of raw water for potable supply to remove colour and turbidity, using, for example, iron- or aluminium-based coagulants.

Co-disposal means the disposal of certain hazardous and/or special wastes in combination with non-hazardous wastes for the purposes of

	using the interactive processes between different types of waste to minimise the hazard.
Compost	means the stabilised product of composting which is potentially beneficial to plant growth.
Composting	means the biological reduction of organic matter to a relatively stable product, compost.
Contaminated site	means a site at which hazardous substances occur at concentrations above background levels and where assessment indicates it poses or is likely to pose an immediate or long term hazard to human health or the environment.
Corrosiveness	means the ability of a substance to cause severe damage by chemical action when in contact with living tissue (or to corrode metals).
Dairy shed	includes all hard surfaces (e.g., holding yards) from which effluent is collected.
Ecosystem	means a dynamic complex of plant, animal and micro-organism communities and their non-living environment, interacting as a functional unit.
Ecotoxicity	means adverse toxic effects on ecosystems or ecological communities.
Effluent	means liquid waste.
Factory farm	means any premises used for the production of primary produce where the predominant processes are carried out within buildings, including but not limited to poultry farms, piggeries and mushroom production, but not including glasshouse horticulture.
Faecal coliform	means a group of rod shaped bacteria associated with the faecal wastes of warm blooded animals.
Farm composting	means composting carried out on a rural property (including production land or a factory farm), but does not include any composting associated with a commercial activity such as mushroom farming, receipt of green wastes as a commercial transaction, or sale of composted products.
Farm landfill	means a landfill located on a rural property (including production land or a factory farm) used to dispose of household and farm wastes generated on that property.

Farm wastes means solid wastes generated on a rural property, but excluding any hazardous substances or human excreta or agricultural effluent or offal.

Fertiliser means any substance that is suitable for sustaining or increasing the growth, productivity or quality of plants by the provision of essential nutrients, provided the substance is free from human faecal matter and any pathogens.

Flammability means the ability of a substance to be ignited and to support combustion.

General Authorisation means a regulatory instrument issued under s.22 of the Water and Soil Conservation Act 1967, and deemed to be a regional rule in the Transitional Regional Plan.

Green waste means organic material including:

- vegetative material, but not tree trunks or limbs larger than 100mm diameter;
- vegetable peelings or trimmings, but no other kitchen wastes;
- soil attached to plant roots;

that may be physically modified, but is otherwise in its natural state; but not including animal products (e.g., manure, feathers, carcasses) other than as an occasional or incidental input.

Greenhouse gas means a gas in the earth's lower atmosphere that contributes to the global "greenhouse" effect. This is a natural effect that traps heat in the atmosphere near the earth's surface.

Greywater means the wastewater from sinks, basins, baths, showers and similar appliances, but not including any toilet waste. Also known as sullage.

Hapu means sub-tribe.

Hazard means an inherent property of a substance which makes it capable of causing adverse effects on people or the environment.

Hazardous substance means any substance:

(1) with one or more of the following intrinsic properties:
  (a) explosiveness;
  (b) flammability;
  (c) a capacity to oxidise;
  (d) corrosiveness
  (e) toxicity (both acute and chronic);

(f) ecotoxicity, with or without bioaccumulation;
(g) radioactivity; or

(2) which on contact with air or water (other than air or water where the temperature or pressure has been artificially increased or decreased) generates a substance with any one or more of the properties specified in paragraph (1) of this definition:

(See Appendix 1 for more details of hazardous characteristics)

Hazardous waste means any waste (as defined in this Plan) which has any of the properties of a hazardous substance (as defined in this Plan).

Health means, in relation to human health, a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity.

Hydraulic conductivity means the rate at which a fluid can move through a permeable medium. It is the quantity of fluid that will flow through a unit cross sectional area of porous material per unit time under a gradient of 1 (measured at right angles to the direction of flow).

Infectious substance means any substance or waste containing viable micro-organisms or their toxins which are known or suspected to cause disease in animals or humans.

Iwi means tribe, people.

Kaitiaki means a person or agent who cares for taonga; may be spiritual or physical. Guardian, steward, but the meaning of kaitiaki in practical application may vary between different hapu and iwi.

Landfill gas means gas generated as a result of the decomposition processes in decaying wastes deposited at a landfill. It comprises mainly methane and carbon dioxide, but includes a range of other components.

LC_{50} (lethal concentration) means the concentration of a substance at which 50% of the test animals die in a given test period. It is a measure of acute toxicity of a substance. For example, 96^{h} LC_{50}fish = 1 mg/l means that in a 96 hour test period, 50% of the tested fish died when the substance was diluted to 1 mg/l (ppm) in water.

Leachate means effluent from landfills, composting operations, storage facilities and other similar areas.

Liquefaction	means the process by which water saturated sediment temporarily loses strength, usually because of strong shaking.
Mahinga kai	means places and practices involved in the gathering of food.
Mana	means prestige, power, authority.
Mana whenua	Iwi, hapu or whanau authority or rangatiratanga over a particular geographic area.
Mauri	means the life principle present in all things.
Non-point discharge	means a diffuse discharge of contamination to air, water or land which may not be attributable to an individual site or activity.
Offal	means waste comprised of dead animal or plant matter only.
Offal pit	means a hole excavated in the ground for the purposes of disposing of offal.
On-site sewage treatment and disposal	means a system which is designed to treat and dispose of human effluent and domestic wastewater on the same legal property as the premises from which the discharge originates
Open surface water body	means a surface water body with an average bed width of 3 metres or more, which is not covered by a canopy of vegetation.
Organic Waste	means putrescible material of plant, animal or microbiological origin.
Oxidise	means, in relation to a capacity to oxidise, the ability of a substance to cause or contribute to the combustion of other material by yielding oxygen.
Pesticide	means any substance, registered under the Pesticides Act 1979 or Hazardous Substances and New Organisms Act 1996 as a pesticide. (This includes any herbicide, fungicide, insecticide, vertebrate pest control chemical, or other biocide.)
Pollution	means any direct or indirect alteration of the physical, thermal, biological, or radioactive properties of any part of the environment by discharging, emitting, or depositing wastes or substances so as to affect any beneficial use adversely, to cause a condition which is hazardous or potentially hazardous to public health, safety or welfare, or to animals, birds, wildlife, fish or aquatic life, or to plants.
Property	means one or more allotments as contained on a single certificate of title, and also includes all adjacent land that is in the same

ownership.

Recycling means the return of discarded waste materials to the production system for utilisation in the manufacture of goods, with a view to the conservation as far as practicable of non-renewable and scarce resources.

Region means the Wellington Region, and Regional Council means the Wellington Regional Council.

Residual solid waste means solid material for which there is no further use, i.e., that which is not to be recycled or recovered.

Resource recovery means the utilisation of waste as a resource through the transformation of the waste into a usable product, or the recovery of energy.

Risk means the probability of occurrence of an adverse effect combined with the magnitude of the consequence of that adverse effect.

Septage means the solids from septic tank systems which are periodically collected by septic tank cleaning operators.

Septic tank means a watertight sedimentation tank for organic wastes in which the sludge settling on the bottom is allowed to digest and liquefy by anaerobic bacterial action.

Sewage means the contents of sewers carrying the waterborne wastes of a community. This is sometimes called "waste water" or "foul sewage" to distinguish if from stormwater.

Sewage sludge means solid wastes from sewage treatment plants.

Sewerage means the pipes and infrastructure through which sewage flows.

Solid waste means the combination of domestic, industrial and commercial waste also known as community waste.

Support does not necessarily mean financial support, may include encouragement or the sharing of expertise.

Taiapure means a local fishery area declared under the Fisheries Act to make better provision for the recognition of rangatiratanga and of the right secured in relation to fisheries by Article II of the Treaty of Waitangi in relation to areas of estuarine or littoral coastal waters that have customarily been of special significance to any iwi or hapu either as a source of food or for spiritual or

	cultural reasons.
Taonga	means treasure, property. Taonga are prized and protected as sacred possessions of the tribe. The term carries a deep spiritual meaning and taonga may be things that cannot be seen or touched.
Tino rangatiratanga	means chieftainship, chiefly authority, full authority.
Toxicity	means the adverse effects caused by a toxin (poison) that, when introduced into or absorbed by a living organism, destroys life or injures health. Acute toxicity means the effects which occur a short time following exposure to the toxin, and chronic toxicity means the effects which occur either after prolonged exposure or an extended period after initial exposure.
Treatment	means, in relation to wastes or effluent, any physical, chemical or biological change applied to a waste material prior to ultimate disposal, in order to reduce potential harmful impact on the environment.
Urupa	means burial ground.
Vadose zone	means the area between the ground surface and the watertable (i.e., the unsaturated zone).
Waahi tapu	means sacred site. These are defined locally by the hapu and iwi, which are kaitiaki for the waahi tapu.
Wairua	means spirit.
Waste	means any material which is unwanted, (whether liquid, solid, or gaseous, hazardous or not) and/or economically unusable by-products which may be discharged, accidentally or otherwise, to the environment.
Waste oil	means a petroleum or synthetically derived oil which has become contaminated during storage, handling or use.
Waste management	means the transportation, resource recovery, recycling, storage, treatment and/or disposal of wastes including management systems to ensure that environmental effects are minimised. Waste management also encompasses measures to avoid waste generation.
Waste minimisation	means the modification of existing processes or behaviours to reduce waste production to a minimum.

Water

(a) Means water in all its physical forms whether flowing or not and whether over or under the ground:

(b) Includes fresh water, coastal water, and geothermal water

(c) Does not include water in any form while in any pipe, tank, or cistern

Water body means fresh water or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, that is not located within the coastal marine area.

Whanau means an extended family including the nuclear family, and aunties, uncles and cousins.

4. Objectives and Policies

4.1 Objectives

Solid contaminants

4.1.1 The quantity of wastes discharged to land in the Region is significantly reduced by:

(1) minimising the amount of waste generated at its source;

(2) re-using, recycling and recovering materials from the waste stream to the greatest extent practicable; and

(3) ensuring that waste generators meet the true costs of managing the wastes they produce.

Policies 4.2.1-4.2.4 provide guidance to achieve this Objective.

4.1.2 The Region's landfills are sited rationally, with respect to community benefit and environmental considerations.

Policies 4.2.5-4.2.7 provide guidance to achieve this Objective.

4.1.3 Any adverse effects from discharging solid contaminants to land are avoided, remedied or mitigated.

Policies 4.2.8-4.2.11 provide guidance to achieve this Objective.

Liquid contaminants

4.1.4 There is a significant reduction in contamination of surface water, groundwater and coastal water from discharges of human effluent to land.

Policies 4.2.12-4.2.18 provide guidance to achieve this Objective.

4.1.5 The adverse environmental effects of discharges of liquid contaminants from point sources into or onto land are avoided, remedied or mitigated.

Policies 4.2.12-4.2.22 and 4.2.41 provide guidance to achieve this Objective.

Agricultural contaminants

4.1.6 The adverse environmental effects of discharges of contaminants to land from agricultural activities are avoided, remedied or mitigated, and in particular, there is a significant reduction in non-point source pollution of surface water and groundwater from agricultural activities.

Policies 4.2.20-4.2.24 provide guidance to achieve this Objective.

Hazardous substances

4.1.7 The potential for unplanned discharges of hazardous substances in the Region is minimised, and appropriate action is taken to avoid, remedy or mitigate the adverse effects of any unplanned discharge that does occur.

Policies 4.2.25-4.2.30 provide guidance to achieve this Objective.

4.1.8 Any adverse effects from the planned discharge of a hazardous substance to land, in the course of

(1) the use of a hazardous substance; or

(2) the disposal of a hazardous waste

are avoided, remedied or mitigated.

Policies 4.2.31-4.2.41 provide guidance to achieve this Objective.

Site contamination management

4.1.9 Site contamination in the Wellington Region is identified and characterised, where possible, within three years of the adoption of this Plan.

Policies 4.2.43 – 4.2.45 provide guidance to achieve this Objective.

4.1.10 Any risk to human and environmental health presented by contaminated sites is lowered to an acceptable level or the site is otherwise managed in an appropriate and timely manner.

Policies 4.2.46-4.2.50 provide guidance to achieve this Objective.

4.1.11 The risk of any further sites within the Wellington Region becoming contaminated is minimised.

Policies 4.2.25-4.2.42 provide guidance to achieve this Objective.

4.2 Policies

Reducing the amount of residual solid waste discharged to land

4.2.1 To encourage all organisations and individuals who generate or manage waste to implement the waste management hierarchy, to the greatest extent practicable, in relation to their own operations, by:

(1) reducing the amount and/or toxicity of material entering the waste stream;

(2) re-using materials;

(3) recycling the material that cannot be reused;

(4) recovering resources from materials in the waste stream;

(5) taking responsibility for the safe and effective management of the residual wastes that remain after the waste stream has been reduced through the application of each of the previous steps; and

(6) rehabilitating the environment after the disposal of residual wastes.

Explanation*: The waste management hierarchy is an internationally recognised and accepted framework for the integrated management of waste. Applying the hierarchy can help reduce both the quantity of residual wastes discharged to land, and the effects of any unavoidable discharges.*

The first priority in the hierarchy is to reduce the amount and/or toxicity of material that enters the waste stream at its source. The second priority is to re-use and recycle as much as possible. The third priority is to recover as much material from the waste stream as possible (e.g., recovery of compost from organic waste, or recovery of energy from landfill gas). The final priority in the international hierarchy is to manage any residual wastes effectively. However, a sixth step, environmental rehabilitation, has been added to this policy to reflect circumstances specific to New Zealand. This step is recognised by tangata whenua, and takes account of the need to restore mauri and the environment to an acceptable state.

There are costs and benefits associated with the rigorous application of the hierarchy. Analysis is therefore required to identify the most appropriate level of the hierarchy at each opportunity for waste reduction. The lower steps of the hierarchy should only be favoured where these can be shown to be the best practicable option.

4.2.2 To actively promote cleaner production practices throughout the Region, particularly with respect to activities which have significant discharges into land, water or air.

***Explanation**: Cleaner production is a means of reducing both the quantities and effects of residual wastes discharged to land. However, it is also more than that, as it adopts an integrated approach to considering all discharges from, and inputs to, production processes. "Cleaner production" means the provision of food, goods and services so as to minimise environmental damage and waste generation throughout the entire production system. It involves the complete analysis of a production system from the point of product conceptualisation, design, and raw materials selection, right through to product use and disposal. It includes reducing the effects of discharges by changing inputs to the production process, using raw materials more efficiently, reusing or recycling raw materials, utilising or recovering resources from the waste stream, and pretreating any hazardous wastes.*

The policy specifically targets activities with significant discharges. These are discharges which could have significant adverse effects because of their composition or volume.

4.2.3 To promote waste management strategies which take into account the true costs of managing residual solid wastes, particularly those strategies which achieve the following:

(1) valuing landfill assets and the costs of the disposal of waste in landfills;

(2) implementing "generator pays" waste management charges, which take account of the true costs of waste disposal; and

(3) preparing contracts for waste management services which do not contain incentives to maintain or increase the amount of waste discharged.

***Explanation**: The way in which the costs of landfills are assessed has regional implications. Territorial authorities which fail to take account of the true costs of landfill disposal, are likely to attract wastes from other parts of the Region. This can affect the life of the landfill, particularly if adjacent authorities have set realistic landfill charges.*

Landfill disposal space is a valuable regional and local community asset. A 1993 study for the Parliamentary Commissioner for the Environment found that calculation of landfill assets by local authorities is inadequate, making landfill disposal look artificially cheap. This contributes to poor decision making about the need for new landfills and the true benefits of waste reduction programmes. The following matters influence landfill valuation:

- *land values;*
- *the value of landfill space;*
- *the cost of managing environmental effects;*
- *aftercare for closed landfills;*
- *future costs for replacement landfills.*

Accurate valuation of the costs of landfill disposal helps set landfill charges which reflect the true costs of waste disposal. Landfill charges need to be introduced in consultation with the local community, if they are to have the desired effect of enabling people to make rational decisions about how to manage their generation of waste.

The matters discussed above also need to be taken into account in waste management service contracts, so as to ensure that contracts actively support waste reduction and don't contain financial incentives to increase the amount of waste discharged to land in the Region.

4.2.4 (1) To promote the composting of waste plant material, and other organic wastes, where appropriate; and

(2) To give particular consideration to the following matters when assessing applications for permits to discharge contaminants to land from composting operations:

(a) the nature of the materials to be composted;

(b) the potential for any contaminants from the composting operation (including leachate and stormwater) to enter groundwater, surface water or coastal water, and any adverse effects on the receiving waters;

(c) any odour, particulate matter or other contaminant discharged to air as a result of the composting operation; and

(d) any actual or potential effects of any discharges on human health and amenity, and on the health and functioning of plants, animals or ecosystems.

***Explanation**: Composting, on both a domestic scale and a commercial scale, has the potential to significantly reduce the solid waste stream.[26] It is therefore promoted in this Policy. However, composting can also have adverse effects on water quality and amenity values. Composting may not always be a culturally appropriate response to the management of certain wastes (e.g., compost which includes human wastes may not be acceptable for the production of food).*

This policy indicates the matters which the Council will consider when assessing applications for discharge permits for composting operations. Discharge permit requirements for composting are set out in Rule 4 for discharges to land. Rules controlling direct discharges to air or water are included in the Regional Air Quality Management Plan and the Regional Fresh Water Plan respectively.

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26 Parliamentary Commissioner for the Environment, 1993.

In Clause (2)(a), the nature of the materials to be composted includes the types of materials and their characteristics. Clause (2)(b) of the Policy is particularly concerned with any effects on receiving waters listed in s.107 of the Act.

The policy does not limit any other matters that may be considered by the Council.

Landfill siting

4.2.5 To promote a regional approach to the siting of new landfills by requiring consideration of the following matters in relation to decisions on siting of new landfills in the Region (particularly considering that land use aspects of landfill siting are addressed by territorial authorities through district plan provisions):

(1) the existing and future waste disposal needs of adjacent territorial authorities; and

(2) the costs and benefits of various landfill site options to the regional community as a whole, including:

(a) energy efficiency;

(b) economies of scale in relation to landfill design and costs;

(c) making the best use of the limited number of cost-effective potential landfill sites in the Region; and

(d) the ability of districts to pay for waste disposal options which benefit the Region as a whole.

***Explanation**: Rational landfill siting occurs when Region-wide community benefit considerations are reflected in decisions on landfill siting and when siting takes full account of constraints imposed by the environment. Environmental constraints are identified in Policy 4.2.6 below, whereas this Policy deals with regional considerations, such as the waste disposal needs of the whole community of interest (which may extend across jurisdictional boundaries).*

Note that Policies 4.2.5 – 4.2.7 relate to the effects of discharges, rather than general land use matters, on siting considerations.

4.2.6 (1) To discourage the siting of new landfills in areas which:

(a) are vulnerable to natural hazards, including:

(i) flood plains,

(ii) the margins of lakes and rivers,

(iii) areas with active geological faulting,

(iv) unstable or erosion-prone land;

(b) support ecosystems which are particularly vulnerable to the effects of landfills, including:

(i) wetlands,

(ii) intertidal areas and coastal dunes,

(iii) native bush,

(iv) recognised wildlife habitats;

(2) To ensure that the effects of any existing landfills sited in areas identified in this policy are avoided, remedied or mitigated.

***Explanation**: These criteria identify sites where the costs of managing adverse environmental effects of landfills are likely to be high. Sites **near** the areas identified in clause (1)(b) may also be unsuitable if the landfill could have adverse effects on the values of the identified areas. However, engineering solutions may increase the acceptability of a particular site, or community considerations may decrease its acceptability. Potential sites must therefore be assessed on a case-by-case basis.*

The siting criteria in this policy may also be applied to existing landfills, so that appropriate responses (including engineering and management responses) can be developed to address any adverse effects of poorly sited landfills.

4.2.7 To support and encourage the investigation and development of an environmentally secure sub-regional landfill in the Wairarapa.

***Explanation**: This Policy has been promoted by the Council for some time. An environmentally secure landfill is one which is engineered to a standard suitable for the co-disposal of hazardous wastes. A sub-regional landfill is a landfill jointly owned or operated by more than one territorial authority. The policy does not imply that there should be only one landfill in the Wairarapa. However, it does reflect a demonstrated need for a new landfill in this part of the Region that is capable of meeting the requirements of the Act and this Plan.*

Managing adverse effects of solid contaminant discharges

4.2.8 To ensure that discharges of residual solid wastes to land in the Region occur only by way of:

(1) disposal in municipal or private landfills which have the appropriate discharge consents required by the Act and this Plan; or

(2) disposal in cleanfills, provided that the discharge is not subject to biological or chemical breakdown; or

(3) disposal in any other situation where the discharge consists only of household or farm wastes generated on the property, or inert solids, provided that any adverse effects are avoided, remedied or mitigated.

***Explanation**: This policy applies only to **residual solid wastes** - it does not apply to "wastes" which are being (or are to be) re-used, recycled, recovered (e.g., by composting), or transferred to an eventual disposal site. The Policy sets out the acceptable ways in which residual solid wastes may be discharged to land in the Region.*

The consent requirements referred to in clause (1) of the Policy are set out in section 5.3.1 of this Plan. In addition to any requirements for discharge consents set out in this Plan, landfills and cleanfills may also require land use permits from territorial authorities.

Clause (3) indicates two situations in which solid wastes may be discharged on private land. The first is where the discharge consists only of wastes generated on the property. This means that waste disposal sites on private land which accept wastes from other sources, and which do not have the required resource consents, are illegal. The second situation applies to inert solids such as quarry wastes (rock, etc.). The effects of particular concern in this clause are effects on water quality, health and amenity values.

4.2.9 To give particular consideration to the following matters when assessing applications for permits to discharge contaminants to land, in relation to the operation of a landfill:

(1) the nature of the residual wastes to be discharged;

(2) the location of the landfill and the hydrogeological conditions at and around the site, and any actions which may be required in order to address any risks posed by the site;

(3) any steps taken or planned to reduce the quantity of residual wastes disposed of at the landfill;

(4) the potential for any long term contamination or other long term effects arising from the landfill operation, and any actions planned or required in order to avoid, remedy or mitigate any adverse effects of the landfill when it is no longer used for the disposal of residual wastes;

(5) any effects of landfill leachate and stormwater on groundwater, surface water and coastal water;

(6) the effects of any discharge of landfill gas, odour or other contaminant to air, and the desirability of recovering landfill gas where practicable;

(7) any actual or potential effects of any discharges on human health or amenity, and on the health and functioning of plants, animals or ecosystems;

(8) whether the discharge will attract pest populations, and the potential effects of the pests on sensitive land uses;

(9) any other uses or values of the site and surrounding area, including any values placed on the site by tangata whenua; and

(10) the need for, and adequacy of, discharge monitoring systems at the landfill, including:

  (a) the Waste Analysis Protocol;

  (b) landfill leachate monitoring; and

  (c) landfill gas monitoring.

***Explanation**: This Policy sets out the matters which the Council will consider when assessing applications for discharge permits for landfills. The Policy applies to any discharges to land, including any discharges which occur when the landfill is no longer used for waste disposal. Rules controlling discharges of contaminants to air and water in relation to the operation of landfills are be addressed in the Regional Air Quality Management Plan and Regional Fresh Water Plan. The Policy does not in any way limit other matters that may be considered by the Council.*

Clause (1) of the Policy is concerned with the types and characteristics of the wastes entering the landfill and the influence that these have on the processes occurring in the landfill, and the effects of contaminants (e.g., leachate) discharged from the landfill. Some aspects of landfill siting (clause (2)) are set out in Policy 4.2.6. Other landfill siting criteria of interest to the Council include topography, climatic conditions, and the likely end use of the site.

Matters such as the provision of composting and recycling facilities are relevant to Clause (3). The effects of concern in clause (4) include the on-going production of leachate and landfill gas, and surface subsidence.

The effects listed in s.107 of the Act and the provisions of the Regional Coastal Plan and Regional Freshwater Plan will guide the Council in applying clause (5). Landfill gas recovery (clause (6)) will be strongly encouraged in all new landfills, but it may not be practical at older landfills. In these cases management practices can help reduce the effects of landfill gas, (e.g., compaction of waste as it is deposited helps to create anaerobic conditions which reduce the likelihood of the spontaneous combustion of methane; provision of low permeability barriers within the perimeter of the landfill will help to prevent lateral migration of gases off-site).

Clause (8) targets landfill management practices which may provide a food source for gulls or rats. Gulls can be a particular problem at airports, and both gulls and rats can endanger nearby conservation areas. Effects on tangata whenua values (clause (9)) may include effects on waahi tapu or other taonga, and effects on values of water (e.g., for mahinga kai or spiritual purposes). The

scale of monitoring (clause (10)) should be consistent with the scale of potential effects.

Many of the matters addressed in this Policy can be managed in an integrated manner through the preparation of a landfill management plan, as required in Policy 4.2.10 below.

4.2.10 To require the effects of discharges to and from landfills to be managed in accordance with site-specific landfill management plans.

***Explanation**: This Policy sets out the main mechanisms through which the adverse environmental effects of landfills are to be managed.*

Landfill management plans are a means of systematically managing the adverse effects of discharges to and from landfills. The contents of a typical landfill management plan are outlined in Appendix 2.

4.2.11 To allow the temporary discharge of solid contaminants onto land, provided that any adverse effects on water quality, soils and amenity values can be avoided, remedied or mitigated.

***Explanation**: The adverse effects referred to in the Policy include any adverse effects on water quality that may arise from leachates produced by the stored materials, effects on soil quality and soil structure (e.g., some discharges can reduce oxygen availability in soils, affecting plant life), and effects on amenity values (e.g., odour, dust).*

The Policy has been included to clarify the broad interpretation of "contaminant" and "discharge" in the Act, and indicates that the Council does not intend to regulate activities which involve temporary discharges with no adverse effects.

Discharges of human effluent

4.2.12 To give particular consideration to any relevant iwi management plans or statements of tangata whenua views when considering applications for the discharge of human effluent (treated or untreated) to land.

***Explanation**: An iwi management plan is a plan prepared by or on behalf of an iwi authority which has mana whenua in the area. Iwi management plans are recognised in the Act, and may set out iwi views on matters of resource management significance to the iwi. This Policy recognises that iwi have a particular concern about the appropriate disposal of human effluent. The concern is not limited to the discharge of effluent into water. The disposal of human*

effluent on land can affect the cultural values of the land, and can also enter water - a situation which is deeply offensive to many iwi.

4.2.13 To give particular regard to the following matters when assessing applications for permits to discharge contaminants to land from reticulated sewerage systems:

(1) the nature of the contaminants entering the sewerage system and being discharged from the system;

(2) whether trade wastes are present in the system, and any actions required to:

(a) monitor the trade wastes entering the system; and

(b) minimise the adverse effects of trade wastes on the treatment of the effluent;

(3) the extent to which stormwater is able to enter the system, and any actions required to avoid, remedy or mitigate the effects of system overload by stormwater;

(4) the management of the system, and any actions required to avoid, remedy or mitigate the effects of any accidental discharges from the system;

(5) the location of the discharge site and the hydrogeological conditions at and around the site;

(6) the extent to which the effluent is treated prior to the discharge entering any water, and any actual or potential effects of the discharge on surface water, coastal water, and groundwater (particularly in the vulnerable areas identified in Map 1);

(7) the effects of any odour or contaminant discharged into air;

(8) any actual or potential effect of the discharge on human health or amenity, and on the health and functioning of plants, animals or ecosystems;

(9) any other uses or values of the discharge site and surrounding area, including any values placed on the site by tangata whenua; and

(10) the Public Health Guidelines for the Safe Use of Sewage Effluent and Sewage Sludge on Land,[27] or alternative researched and documented benchmarks for assessment.

Explanation*: This Policy sets out the matters which the Council will consider when assessing applications for permits to discharge contaminants into or onto land from reticulated sewerage systems. It includes discharges from oxidation ponds, treatment plants, and other land-based systems that treat and dispose of effluent from reticulated sewers. It also applies to discharges of sewage sludge and septage. The Policy does not limit any other matters which may be considered by the Council.*

[27] Department of Health, 1992.

Clauses (1)-(3) are concerned with the types and characteristics of wastes entering the sewerage system. This can affect the ability of the treatment system to operate effectively (e.g., hazardous substances in the system can hinder biological treatment of effluent). Clause (2) examines the potential for any adverse effects of the discharge to be reduced by encouraging cleaner production practices in industries using the system. Trade wastes are normally controlled by territorial authorities through trade waste bylaws. Stormwater in the sewerage system can prevent the system from operating properly, causing overloading and accidental discharges.

Accidental discharges (to land or water) are also addressed in clause (4) of the policy. Relevant matters here include maintenance of the collection, treatment and disposal system.

Clause (6) provides for the potential for any adverse effects of the discharge to be reduced by improved treatment processes prior to the discharge to land, or prior to the discharge entering any water. The Council is particularly concerned about the effects of the discharge of effluent on water. The effects listed in s.107 of the Act will guide the Council in applying clause (6). Effects on tangata whenua values (clause (9)) may include effects on waahi tapu or other taonga, effects on the values of water, and any matters relevant to Policy 4.2.12.

4.2.14 To require discharges to land from reticulated sewerage systems to be managed in accordance with a site-specific discharge management plan.

***Explanation**: Discharge management plans are a means of systematically managing the adverse effects of discharges from sewage treatment and disposal systems. An example of the matters to be addressed in a discharge management plan is given in Appendix 4. The Response Manual for Sewage Discharges[28] may also be incorporated in discharge management plans.*

4.2.15 (1) To encourage, in the first instance, the management of adverse effects of on-site sewage treatment and disposal systems by territorial authorities through the Health Act 1956, the Building Act 1991, local authority bylaws made under the Local Government Act 1974, and district planning provisions; and

(2) To require discharge permits for on-site sewage treatment and disposal systems only where there are likely to be significant adverse effects as a result of the size of the system, or particular constraints imposed by the site.

***Explanation**: On-site sewage disposal systems include septic tank/effluent disposal fields, community systems (serving a cluster of dwellings), pit toilets, and*

28 Hutt Valley Health, 1993.

composting toilets. This policy sets out the responsibilities for on-site sewage treatment and disposal systems. The Regional Council will only require discharge permits to be obtained when a significant adverse effect may arise from on-site effluent disposal (i.e., when the conditions on Rules 5, 6 or 7 are unable to be complied with). Otherwise, territorial authorities will be encouraged to manage any adverse effects.

Territorial authorities have many alternative means available to manage these effects. For new on-site effluent systems, the Building Act allows territorial authorities to require buildings (which includes septic tanks) to comply with the performance criteria specified in the Building Code. Clauses G13 and G14 of this Code are particularly relevant to on-site effluent disposal systems. Clause G14 Industrial Liquid Waste has performance criteria to establish an on-site effluent disposal system which is healthy, safe, and will not have adverse environmental effects, but there is presently no associated standard that complies with G14. New developments such as subdivisions are also subject to district plan provisions, which can include requirements for minimum section sizes and the provision of reticulated sewage systems. Policy 4.2.17 provides further guidance on appropriate provisions for district plans. Some territorial authorities also operate bylaws for septic tanks. An example is the Porirua City Council bylaw[29] *which introduces a permit system for private effluent disposal systems.*

For existing systems, the Health Act provisions for controlling nuisance may be used. In addition, the Building Act has provisions for rectifying buildings deemed dangerous or insanitary, along with fines of up to $200 000 for offences under this Act. As indicated in Policy 4.2.18, promotion of good practice (by the Council and territorial authorities) is also effective.

4.2.16 To ensure that on-site sewage treatment and disposal systems are sited, designed and maintained in such a way as to avoid, remedy or mitigate any adverse effects on groundwater, surface water or human health, the Council will have particular regard to:

(1) the groundwater characteristics of the site, including depth, velocity, and existing uses;

(2) the soil characteristics of the site and surrounding area, including depth to gravels, texture, drainage, and soil variability;

(3) site constraints including topography, slope, lot size, location of any bores and existing structures; and

(4) the anticipated flow rate to the system.

Explanation*: On-site effluent disposal can be an acceptable means of sewage treatment and disposal, provided that the system is sited, designed and*

[29] The Porirua City Council General Bylaw 1991 Part 8: Management and operation of effluent disposal systems.

maintained in a manner which ensures that there are no adverse effects on human health, groundwater or surface water. This Policy sets out the matters which the Council will consider if a consent is required. The Policy does not limit any other matters that may be considered.

4.2.17 To promote the following provisions for sewage treatment and disposal in relation to new developments:

(1) reticulated sewerage systems should be used, where available and practicable;

(2) on-site sewage treatment and disposal systems should be designed and located in a manner which reflects the characteristics of the site (including lot size), in order to avoid, remedy or mitigate adverse effects on water quality and human health.

***Explanation**: This policy provides guidance for territorial authorities on the general requirements that the Council considers should be addressed through provisions in district plans (or alternative means, as appropriate). The policy applies to new developments (including subdivisions, single dwellings, institutions, and clusters of dwellings).*

Clause (1) indicates that in areas which are vulnerable to groundwater contamination (see Map 1), connection to a reticulated sewerage system should generally be required, if such a system is available.

Clause (2) links the design of the system to the characteristics of the site. In order to fulfil this requirement, a site investigation is required (see Appendix 5).

4.2.18 To improve the performance of on-site sewage treatment and disposal systems by:

(1) promoting good practice in using and maintaining the systems, including:

- maintaining the system regularly;
- keeping solids out of the system as much as possible;
- conserving water;
- avoiding the use of strong detergents; and
- protecting the disposal field; and

(2) encouraging, and eventually requiring, the replacement of sub-standard existing systems with systems more suited to the characteristics of the site (including connection to reticulated sewerage, where appropriate).

***Explanation**: The performance of many existing on-site systems in the Region could be improved through better management. In other cases, poor installation may be a problem, in which case improvements could be made to the system.*

However, sometimes the system may be inappropriate to the site. In these cases, the installation of new systems which meet the standards in this Plan will be encouraged, starting in those areas where there is evidence that inappropriately designed or located systems are contaminating groundwater or surface water.

Other discharges of liquid contaminants

4.2.19 To allow discharges of liquid contaminants to land which are not likely to have adverse effects on soil, water quality and amenity values, particularly where the effects of the contaminants would be greater if they were discharged directly into water.

***Explanation**: This Policy indicates the Council's intent to provide for discharges of liquid contaminants to land which are not likely to have adverse environmental effects. Some discharges of this type (e.g., stormwater) can have quite significant effects if they are discharged directly into water, but may be acceptable if they are discharged to land.*

Agricultural effluent and wastes

4.2.20 To promote:

(1) the discharge of agricultural effluent and other liquid agricultural wastes to land, provided any adverse effects can be avoided, remedied or mitigated; and

(2) the minimisation of agricultural effluent and the re-use and recovery of resources from agricultural effluent.

***Explanation**: Agricultural effluent includes dairy shed effluent, piggery effluent, and other effluent arising from the concentration of animals in feedlots, sheds or other areas. Other liquid agricultural wastes include surplus milk. These discharges can have adverse effects on water quality, particularly as a result of their high levels of BOD_5, nutrients, suspended solids and pathogens. The Council is therefore encouraging the discharge of agricultural effluent to land. One of the main benefits of applying agricultural effluent to land is that it makes use of the nutrients contained in the effluent as a natural fertiliser. This provision complements those in the Regional Freshwater Plan.*

The discharge of agricultural effluent to land can have adverse effects if not properly managed. These effects are addressed in Policies 4.2.21 and 4.2.22 below.

4.2.21 To give particular consideration to the following matters in relation to the effects of discharges of agricultural effluent and other wastes to land:

(1) the source, volume and characteristics of the effluent to be discharged;

(2) the potential for any contaminants to enter groundwater, surface water, or coastal water, including the risks of any accidental discharges, and any effects on water quality and aquatic ecosystems;

(3) any actual or potential effects on human, plant, animal or ecosystem health;

(4) any odour or other contaminant, including spray drift, discharged into air;

(5) any effects on resources or values of significance to tangata whenua;

and, for discharges from effluent ponds:

(6) the location of the ponds with respect to soil types, water bodies, and adjoining land uses;

(7) the size of the ponds required to treat the anticipated volume of effluent;

(8) any need for mechanical aeration or filtration systems;

(9) provisions for pond maintenance and regular removal and disposal of sludge;

and, for applying effluent to land, including by irrigation:

(10) the area of land over which the effluent is to be spread and the drainage characteristics of the soil; and

(11) any potential cumulative effects of the discharge, including any effects on soil characteristics.

***Explanation**: This Policy sets out the matters which the Council will consider when assessing applications to discharge agricultural wastes (including effluent) to land. (See rules for when a consent is required.) The Policy does not limit any other matters that may be considered.*

Clauses (1)-(5) are relevant to all discharges of agricultural wastes to land, including discharges of effluent from ponds, trenches, pits, and spray irrigation, discharges from desludging ponds, and discharges of offal or silage. The source and characteristics of the waste (e.g., concentration, nutrient loadings, BOD_5, pathogens etc.), all influence the potential effects of the discharge. The volume of the discharge is also important in assessing the need for any holding facilities if for some reason (e.g., bad weather) land disposal of effluent cannot be undertaken for a period of time.

Clause (2) examines the potential for any contaminants to enter water, whether as a result of seepage, leaching, ponding, flooding or accidental discharge. The effects listed in s.107 of the Act will guide the Council in applying this clause, and particular attention will be given to the effects on groundwater of any discharge occurring in vulnerable areas shown in Map 1. Clause (5) examines effects on

tangata whenua values, including effects on waahi tapu or other taonga, and effects on the values of water (e.g., for mahinga kai or spiritual purposes).

Clauses (6)-(9) apply to discharges of agricultural effluent to land from oxidation ponds or other pretreatment or storage facilities.

Clauses (10) and (11) apply to the application of agricultural effluent to land, including by way of spray irrigation, slurry cart or vacuum tanker. The rate of application of effluent should not exceed the capacity of the land to assimilate the nutrients and other contaminants contained in the discharge.

4.2.22 To promote good practice in the on-site treatment and disposal of agricultural wastes, including adherence to any relevant Guidelines and Codes of Practice, so that:

(1) any adverse effects on soil, groundwater or surface water are avoided, remedied or mitigated;

(2) accidental or unauthorised discharges of agricultural effluent, particularly into waterways, are minimised; and

(3) the disposal of agricultural wastes does not create a hazard to human, animal, plant or ecosystem health.

***Explanation**: This Policy applies to all activities which involve treating or disposing of wastes on production land and factory farms, including:*

- *offal pits;*
- *silage stacks;*
- *farm tips;*
- *effluent disposal; and*
- *disposal of waste milk.*

All these activities can have adverse effects if not properly managed. Good practice can help reduce or avoid these effects. The Codes of Practice and Guidelines referred to in this Policy, to which the Council will promote adherence, include:

- *Wellington Regional Council Guidelines on agricultural effluent treatment and disposal (see 6.3.1);*
- *Wellington Regional Council guidelines on the disposal of waste milk;*[30] *and*
- *NZ Pork Industry Board Code of Practice on Pig Farming*[31] *(particularly the guidelines on offal pits).*

30 Wairarapa Catchment Board, October 1988.
31 NZ Pork Industry Board, 1993.

Promotion of good practice is backed up by the requirements of the rules in this Plan.

4.2.23 To recognise the importance of adherence to national standards by organic producers, and the consequences of effects from adjacent land use practices on this group of producers.

Explanation: *There are currently two organisations in New Zealand which certify organic produce, the NZ Biological Producers and Consumers Council (BioGro) and Bio-Dynamic Farming and Gardening Association (Demeter). Certification gives a measure of quality assurance to the consumer and produce so certified can command a premium on the market. Organic properties are vulnerable to the effects of activities which occur on adjacent land, or even upstream, because they must remain free of chemicals. For example, accidental deposition of agrichemicals on these properties can result in the property losing its organic accreditation. In combination with other policies in this plan (and Policy 4.2.39 in particular), this policy will ensure that, where appropriate, due recognition is given to the effects of discharges on organic properties when assessing applications for resource consents.*

Non-point source pollution

4.2.24 To promote land management practices which minimise the effects on surface water and groundwater of run-off and leachate from non-point sources of agricultural contaminants, including:

(1) setting aside and planting riparian strips along river banks to reduce surface water pollution from animal residues and fertilisers;

(2) stabilising erosion-prone soils; and

(3) applying fertilisers and agrichemicals at rates which are appropriate to site and weather conditions.

Explanation*: Agricultural activities can contribute to non-point source pollution of water through:*

- *the over-use, spillage, poor handling, and poor storage of agrichemicals and fertilisers; and*
- *stock and land management techniques which result in contaminants from animal dung and urine, and vegetable matter entering waterways.*

Because these sources of contamination cannot be controlled by treatment processes at their source, their effects must be managed through a combination of:

- *careful evaluation of the contributing sources;*

- *education about the nature of the problem and potential solutions (and in particular, education about the cumulative effects of individual actions); and*
- *modified agricultural management practices.*

Unplanned discharges

4.2.25 To clarify responsibilities for controlling the use of land for the purpose of preventing or mitigating any adverse effects of the storage, use, disposal or transportation of hazardous substances as follows:

(1) territorial authorities have the primary responsibility for developing rules for controlling the use of land for the above purpose on dry land in the Region;

(2) the Regional Council has primary responsibility for developing rules for controlling the use of land for the above purpose in the coastal marine area and in the beds of lakes and rivers;

(3) matters of regional concern are identified in this Plan as policy guidance for the development of appropriate provisions (including rules) in district plans.

***Explanation**: While regional councils are clearly responsible for controlling planned discharges of hazardous substances under s.30(1)(f), the Act gives territorial authorities and regional councils overlapping responsibilities for controlling: "the use of land for the purpose of the prevention or mitigation of any adverse effects of the storage, use, disposal or transportation of hazardous substances."*[32]

The Act requires responsibilities to be clarified through regional policy statements, and this policy reflects the responsibilities set out in the Regional Policy Statement for the Wellington Region. Because many of the potential environmental effects of hazardous substances arise from unplanned accidents or spills (e.g., during use, transportation or storage) these effects are not able to be controlled through the discharge consent process (because there is no planned discharge). They can be most effectively and efficiently controlled through land use provisions in district plans designed to reduce the risk of unplanned discharges occurring in the first instance (e.g., bunding requirements). In clause (1), the reference to territorial authority responsibilities on "dry land" refers to all land in the Region apart from the coastal marine area and the beds of lakes and rivers.

[32] Resource Management Act, s.30, functions of regional councils. Similar responsibilities are given to territorial authorities in s.31.

The Council retains the ability to develop rules for controlling the use of land for the above purpose (by changing this Plan) if regional objectives are not able to be achieved through rules in district plans.

Policies 4.2.27 and 4.2.28 set out the matters of regional concern referred to in Clause (3) of the Policy.

4.2.26 To work towards the adoption, by the Region's local authorities, of a common hazard assessment system, the Hazardous Facilities Screening Procedure[33] for facilities using or storing hazardous substances.

***Explanation**: In order to control effectively the adverse effects of the storage, use, disposal and transportation of hazardous substances, a hazard assessment system is necessary. Hazard assessment systems typically consider matters such as the hazardous properties of the substances involved (explosive, flammable, poisonous, corrosive, toxic etc.) and the quantities of substances involved. The Hazardous Facilities Screening Procedure (HFSP) is an effects-based approach which also takes other matters into account such as management considerations, and sensitivity of the surrounding environment. Hazard assessment systems classify facilities according to their level of hazard, and this can then be used as a basis for setting land use controls. In this way controls can be targeted according to the level of risk, and facilities using small quantities of low-hazard substances need not be controlled to the same extent (if at all) as high-risk situations.*

There is currently a range of hazard assessment systems in place throughout the Region, some of which are compatible with the effects-based approach of the Act, and others which are more suited to territorial authority Dangerous Goods Act responsibilities. There is currently no national system of hazard assessment. However, the HFSP has been developed through national consultation with regional councils, territorial authorities, and industry groups. The Ministry for the Environment was also consulted to ensure, as far as possible, that the final procedure is consistent with the Hazardous Substances and New Organisms legislation which was enacted in June 1996.

There are many advantages in having a co-ordinated approach to hazard assessment across the Region, but given the current uncertain state of national and some territorial systems, the Policy expresses this as a goal to work towards rather than an immediate requirement.

4.2.27 To take the following matters in to account when assessing proposed facilities or other places where hazardous substances are stored or used:

(1) the susceptibility of the site to hazard events, and in particular, earthquakes and flooding;

(2) the availability and potential risks of transport routes to and from the site;

(3) the potential for adverse effects on the environment in the event of a natural hazard affecting the facility;

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33 Hazardous Facility Screening Procedure Review Group, June 1995.

(4) the importance and value of existing facilities; and

(5) the need to locate, or the desirability of locating, in certain geographical areas, including proximity to major transportation routes.

***Explanation**: This Policy sets out some matters of regional concern for siting facilities using or storing hazardous substances, as guidance for district plans. The Policy also applies to other developments (e.g., truck weigh stations, roading developments) which could affect the potential for an unplanned discharge of hazardous substances to occur. The degree to which these matters are relevant depends on the potential hazard of the facility. This is determined by applying a hazard assessment system. Many siting considerations will not be relevant for a small business using a small amount of hazardous substances (e.g., jewellers, farms), but will be very relevant for major facilities (e.g., fuel storage tanks) with potential effects which cannot be adequately addressed under other legislation, and in particular, where major facilities are located in close proximity to each other, or to more sensitive sectors of the community such as schools or emergency services.*

These siting considerations can be applied to new facilities, and they may also be used for developing appropriate contingency plans or modifications to mitigate any adverse effects of inappropriately sited existing facilities.

The Policy covers unplanned discharges to air (e.g., by way of explosion or fire), land, and water (e.g., by way of a spill). This Policy does not in any way limit the ability of territorial authorities to consider the potential effects of facilities using or storing substances additional to those included in the definition of hazardous substances in this Plan.

The matters which could be addressed under clause (1) include:

- *the probability of a hazard event occurring at the site;*
- *the potential consequences of a hazard event both at the site and in the surrounding area, and the potential contribution of the existence of the facility to adverse effects in the surrounding area, including loss of life, effects on neighbouring communities, and other environmental effects;*
- *the need to modify the design or operation of the facility, and the need for adequate contingency planning, in order to mitigate the effects of a hazard event; and*
- *the availability and desirability of alternative sites which are less vulnerable to hazard events.*

The matters which could be addressed under clause (2) include:

- *the vulnerability of transport means or routes to hazard events or other disruptions; and*

- *the presence of densely populated areas or particularly sensitive ecosystems on or beside major hazardous substances transport routes.*

The matters which could be addressed under clause (3) include the potential effects of damage to the facility on:

- *access to and from surrounding areas;*
- *the health and safety of surrounding communities;*
- *water quality and aquatic ecosystems in the surrounding area; and*
- *any other sensitive ecosystems in the surrounding area.*

Areas in the Region for which potential effects on groundwater should be given particular consideration are identified in Map 1.

4.2.28 To ensure that facilities where hazardous substances are used or stored have appropriate structures, procedures and contingency plans in place in order to:

(1) reduce the potential for an unplanned discharge to occur; and

(2) in the event of an unplanned discharge, prevent or minimise:

(a) any adverse effects beyond the boundary of the site; and

(b) any discharge of a hazardous substance into water, whether directly, through land, or through a drainage system.

Explanation*: This Policy sets out some matters of regional concern for reducing the occurrence and potential effects of hazardous substances spills, as guidance for district plans. The Policy encourages appropriate planning and management of facilities using or storing hazardous substances. It can also be applied to facilities where the transportation of hazardous substances to or through the facility may increase the risk of spills. The Council is particularly concerned with preventing any unplanned discharges from reaching surface water, groundwater, or coastal water, including through stormwater drains.*

The type of containment structures and plans appropriate for a particular facility will depend on the degree of hazard posed by the facility and the sensitivity of the receiving environment. There are a number of ways in which this policy could be implemented through district plans. One approach is for rules in the plan to specify containment standards for facilities using or storing hazardous substances. Another approach is to require facilities using or storing specified amounts or types of hazardous substances to prepare and regularly update a site management plan. Site management plans may cover matters such as:

- *site responsibilities;*
- *site maintenance and monitoring;*

- *transportation, use and storage procedures for all hazardous substances on the site (including compliance with any relevant Codes of Practice or requirements under other legislation);*
- *steps taken or planned to reduce the hazard posed by the facility (e.g., by adopting cleaner production practices);*
- *means of avoiding, remedying or mitigating any adverse environmental effects of the use, storage, disposal or transportation of hazardous substances on and off-site;*
- *contingency plans which set out clearly the responsibilities and actions in the event of an accidental discharge or other emergency at the site, in order to remedy or mitigate any adverse effects of the spill.*[34]

4.2.29 To recognise the range of complementary legislation, regulations and bylaws available to territorial authorities to avoid, remedy or mitigate any adverse effects from the storage or use of hazardous substances, and to promote a co-ordinated approach to the use of alternative means of control.

Explanation*: There are many means other than the Resource Management Act through which territorial authorities can exercise responsibilities for managing hazardous substances. The Dangerous Goods Regulations (which will be superseded by regulations under the Hazardous Substances and New Organisms Act 1996), the Building Act, and Bylaws made under other Acts are examples.*

This Policy recognises that a district plan may not always be the most appropriate means of addressing an issue at a local level. The Council's interest is that identified matters of regional concern are adequately addressed by whatever means is most appropriate.

4.2.30 To reduce the environmental effects of unplanned discharges of hazardous substances by:

(1) promoting the use of cleaner production practices to reduce the quantity and degree of hazard of hazardous substances used in the Region;

(2) reducing, through a combination of good practice and regulation, the risk of unplanned discharges occurring;

(3) improving co-ordination of the different agencies involved in the management, clean-up, and enforcement of unplanned discharges.

[34] Other matters relevant to the storage of hazardous substances are in Appendix 6 which provides guidance on storing hazardous wastes.

***Explanation**: This Policy draws together concepts which have been developed elsewhere in this Plan and applies them to reducing the effects of hazardous spills.*

The cleaner production practices referred to in Clause (1) are explained in Policy 4.2.2. The regulation and good practice referred to in Clause (2) are discussed in Policies 4.2.27 and 4.2.28. In general, local authority responsibilities for spills (Clause (3)) are as follows:

- *the Regional Council is concerned with spills where they may enter water or contaminate land;*
- *the territorial authority is concerned with all other aspects of spills, including effects on land uses, amenity values and health and safety.*

The Fire Service and the Hazardous Substances Technical Liaison Committee are also involved in responding to spills.

Avoiding, remedying or mitigating the adverse effects of hazardous wastes

4.2.31 To reduce the amount of hazardous wastes requiring treatment and disposal in the Region by promoting:

(1) the minimisation of hazardous wastes at the point of generation;

(2) the development of industry-led schemes for reusing, recycling and recovering hazardous substances; and

(3) the concept of generator responsibility, as far as practicable, for the appropriate treatment and disposal of hazardous wastes.

***Explanation**: Hazardous wastes are those wastes which exhibit any of the properties of hazardous substances as defined in section 3 of this Plan.*

Hazardous waste management has in the past been largely concerned with "end-of-pipe" solutions, resulting in relatively large quantities of waste being disposed of in landfills, often with considerable adverse environmental effects. A "waste minimisation" philosophy is promoted in this policy as an alternative approach. It requires a complete life-cycle approach to production processes, as described in the explanation of Policies 4.2.1 and 4.2.2. Hazardous wastes can be minimised at their point of generation (i.e., in production processes) by:

- *improving maintenance and good housekeeping;*
- *separating toxic and non-toxic wastes;*
- *modernising equipment;*
- *recycling and re-using materials in the process;*
- *substituting inputs;*
- *re-designing the product; and*
- *re-designing the process.*

Clause (2) promotes the development of schemes for reusing, recovering and recycling hazardous wastes, including the development of take-back schemes. Hazardous wastes in the Region that are particularly suitable for schemes of this type include:

- *lubricating oils;*
- *timber treatment chemicals;*
- *agrichemicals;*
- *dry cell batteries and some electrical components;*
- *animal remedies; and*
- *chlorinated solvents.*

The concept of generator responsibility requires generators to bear the costs of treating and disposing of their hazardous wastes, thereby acting as an incentive to reduce hazardous wastes. The words "as far as practicable" in clause (3) indicate that generators cannot always be expected to bear the full costs of their waste treatment and disposal. This is particularly so where their waste treatment and disposal problems are created as a result of retrospective regulatory decisions (e.g., the banning of the agrichemicals dieldrin and DDT).

4.2.32 To promote the provision of adequate treatment and disposal facilities for hazardous wastes generated in the Wellington Region, and in particular to:

(1) promote reductions in the quantities of liquid hazardous wastes entering landfills in the Region; and

(2) investigate the need for, and feasibility of, a dedicated hazardous waste treatment facility for the Region.

***Explanation**: Hazardous waste should be dealt with, as far as practicable, in the area in which it was generated. This is consistent with the concept of generator responsibility and also reduces the opportunity for adverse environmental effects during transportation of hazardous wastes. The long-term needs for hazardous waste treatment and disposal in the Region must be addressed in an integrated manner. Although co-disposal in landfills has been the favoured method of disposal in the Region, landfills capable of treating hazardous waste by this method are likely to accept less and less hazardous liquid wastes (if any), and to require greater levels of pre-treatment. Alternative means of treatment and disposal which could be investigated include treatment of hazardous wastes in a dedicated facility, incineration, and purpose-built co-disposal landfills.*

Policy 4.2.35 covers hazardous wastes which cannot be safely or economically treated and disposed of in the Region.

4.2.33 To promote adherence to guidelines recommended by central government for the treatment and disposal of hazardous wastes.

***Explanation**: Treating hazardous wastes prior to disposal can reduce the adverse effects of the discharge of hazardous wastes to land.*

This Policy promotes the national guidelines for the treatment and disposal of the following hazardous wastes produced in the Region:

- *asbestos (Asbestos Regulations 1983 and amendments 1986);*
- *PCBs (Code of Practice 1988);*
- *CCA sludges (Waste Management Guide 1986);*
- *leaded petrol sludges (Waste Management Guide 1988);*
- *electroplating wastes (Waste Management Guide 1989);*
- *agrichemicals (Waste Management Guide 1991);*
- *acids and alkalis (Waste Management Guide 1991);*
- *tannery wastes (National Radiation Laboratory Report 1988);*
- *PCP wastes (NECAL Service Reports 1991);*
- *resin and solvent wastes (NECAL Report 1991);*
- *radioactives (Radiation Protection Act 1965, Radiation Protection*
- *Regulations 1982, NRL C1 Code of Safe Practice for the Use of Unsealed Radioactive Materials, NRL C2 Code of Safe Practice for the Use of Sealed Radioactive Materials in Industry); and*
- *clinical wastes (NZS 4304:1990).*[35]

4.2.34 To ensure that any discharges of hazardous wastes to land in the Region occur only by way of controlled co-disposal in landfills or at other sites which have the appropriate resource consents and management plans which enable hazardous wastes to be accepted.

***Explanation**: This Policy indicates that the only currently acceptable means for discharging hazardous wastes to land is by way of carefully managed co-disposal in an appropriate landfill. Co-disposal is the process of disposing of hazardous wastes in combination with non-hazardous wastes for the purposes of using the interactive processes between the different types of waste to minimise the hazard.*

Hazardous wastes can be disposed of in landfills if this is consistent with the landfill management plan or any other requirements (including levels of

[35] List modified from Centre for Advanced Engineering, 1992. Treatment and disposal methods for other types of hazardous wastes are also described in this reference (pages 175-188), although not all of these methods are available in the Region or in New Zealand.

treatment) set out by the landfill operator in order to meet conditions on the landfill discharge permits.

Some hazardous wastes, if pretreated appropriately, may be able to be discharged at other sites, provided a resource consent is obtained, as set out in the rules of this Plan.

4.2.35 To ensure that wastes which cannot be adequately treated and disposed of in the Wellington Region are either:

(1) stored in facilities which are appropriately sited and managed; or

(2) transported out of the Region to approved treatment or disposal facilities, in accordance with any agreements for the transportation of hazardous wastes between relevant local authorities.

***Explanation**: There will always be some hazardous wastes for which treatment and disposal cannot safely or economically be achieved in the Region. Wastes of this type currently include radioactive wastes, PCBs, organochlorines, and some toxic sludges, galvanising and timber treatment wastes. The siting of storage facilities is covered in Policy 4.2.27. Guidelines for managing storage facilities are given in Appendix 6. Transporting hazardous wastes to and from the Region is addressed in Policy 4.2.37.*

4.2.36 To adopt the Hutt City Council's HAZWASTE MANIFEST SYSTEM[36] as a regional system for tracking the movement and disposal of hazardous wastes in the Wellington Region.

***Explanation**: This Policy addresses the need for good information on the movement of hazardous wastes in the Region. A tracking system for hazardous wastes is known as a "hazardous waste manifest system". These systems require waste generators to fill out standard forms, which are passed, with the waste, to the transporter, and to the eventual disposer or storer of the waste. Copies go to the territorial authority, which checks that all of the waste has reached its intended destination. Because hazardous wastes may be transported across territorial authority boundaries in the Region, it is important that a common manifest system is adopted across the Region.*

4.2.37 To develop agreements with other regional councils throughout the country on the inter-regional transportation of hazardous wastes, including the development of compatible inter-regional hazardous waste manifest systems.

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[36] Available from the Hutt City Council.

***Explanation**: Hazardous wastes are currently transported to, from and through the Region. Good information is required on these wastes, their source and destination, in order to ensure that:*

- *any potential adverse effects arising from the transportation of waste through the Region can be controlled; and*
- *wastes are not disposed of illegally or without the knowledge of the relevant local authorities.*

Policies 4.2.36 and 4.2.37 apply until a national manifest system is developed. They complement other requirements for the transportation of hazardous substances, including the Transport Amendment Act 1989 and the Code of Practice for the Transport of Hazardous Substances on Land, NZS 5433:1988.

4.2.38 To promote good practice for storing, transporting and using agrichemicals, including adherence to the following sections of the Agrichemical Users' Code of Practice (NZS 8409:1995):

- Part 3 which contains guidance on the rural transportation of agrichemicals by road; and
- Part 4 and its associated appendices, which contain guidance on on-farm storage of agrichemicals.

***Explanation**: Good practice is a major way of preventing adverse effects on groundwater, surface water, and human and ecosystem health, which may arise from the use, storage and transportation of agrichemicals. The Agrichemical User's Code of Practice has been reviewed and released as New Zealand Standard 8409:1995.*

See also Policy 4.2.39, which applies to the use (discharge) of agrichemicals.

4.2.39 To ensure that all people discharging agrichemicals to land in the form of a solid or a paste adopt good practices to avoid, remedy or mitigate any adverse effects of the activity, and in particular to ensure that all practicable steps are taken so that:

(1) agrichemicals intended for use on land are not applied directly to surface water; and

(2) members of the public are given sufficient information about the discharge to enable them to take any steps necessary to reduce the risks of exposure to the agrichemical to a level which is acceptable to them.

***Explanation**: This Policy applies to agrichemicals discharged directly to land (including by aerial application) in the form of pastes, baits, pellets, or prills. It does not apply to the spray or powder application of agrichemicals (this is addressed in the Regional Air Quality Management Plan). The policy encourages*

good practice. This includes adherence to the manufacturer's instructions and to any relevant codes of practice including the NZ Standard 8409:1995 Agrichemical Users' Code of Practice. Clause (2) ensures that members of the public are not unknowingly or unwillingly exposed to any risks (perceived or actual) arising from agrichemical use. Discharges of agrichemicals on adjacent properties may adversely affect the viability of properties used for organic farming. Application of agrichemicals to such properties can result in the loss of registration and subsequently affect the ability of the producer to market their produce as "organic".

4.2.40 To ensure that the following disposal options for unwanted agrichemicals and agrichemical containers are adhered to (in order of preference):

(1) use of the agrichemical for an alternative approved use;

(2) return to the manufacturer or retailer;

(3) disposal in an approved landfill or hazardous waste treatment facility; or

(4) storage in an approved facility until acceptable disposal means are available;

and to ensure that none of the following practices occur:

(5) disposal of unwanted agrichemicals or agrichemical containers in farm tips.

***Explanation**: If inappropriately disposed of, agrichemicals and their containers can contaminate soil, groundwater, surface water and air (if containers are burnt), and can give rise to human health risks. This Policy sets out the preferred disposal options, and is consistent with the waste management hierarchy. In clauses (3) and (4), "approved" means at a facility with the appropriate resource consents, as required by this Plan and any relevant district plan.*

Avoiding, remedying or mitigating the adverse effects of hazardous discharges

4.2.41 To give particular consideration to the following matters when assessing applications for permits to discharge hazardous substances to land:

(1) the purpose of the discharge, including any associated benefits;

(2) the characteristics, concentration and quantity of the hazardous substances to be discharged;

(3) the potential for the hazardous substances (or related contaminants) to enter groundwater, surface water, or coastal water, and any effects of that contamination;

(4) the potential for the hazardous substance to contaminate soil, and any effects of that contamination;

(5) any odour, particulate matter or other contaminant discharged into air;

(6) any actual or potential effects of the discharge on human health and on the health and functioning of plants, animals or ecosystems;

(7) any potential cumulative effects of the discharge;

(8) any other uses or values of the site, including any values placed on the site by tangata whenua;

(9) any steps which have been taken or could be taken to modify the activity or the substance used in order to reduce the quantity or toxicity of the discharge;

(10) the extent to which the hazardous substance will break down to safe by-products and/or be immobilised or otherwise contained indefinitely; and

(11) any other legislation or regulations relevant to the discharge.

***Explanation**: This Policy sets out the matters the Council will consider when assessing applications to discharge a hazardous substance to land (see the rules for when a consent is required). The Policy does not limit any other matters which may be considered.*

Clauses (3)-(5) provide for ways that the contaminants may enter other environments (water, soil, air). The Council is particularly concerned with the potential for any hazardous substance to enter groundwater. To this end it will give particular consideration to discharges in any of the areas identified as vulnerable on Map 1. Clause (6) is particularly concerned with any effects of any hazardous pest control chemicals on non-target species and ecosystems.

Clause (9) applies the principles of cleaner production to the use of hazardous substances. The extent to which modifications or alternatives should be considered depends on the nature of the potential adverse effects of the discharge. Clause (11) looks at the ability of any adverse effects to be controlled through provisions in other legislation or regulations.

4.2.42 Notwithstanding Policy 4.2.34, to grant consents for discharges of waste oil to land, other than at a landfill, only where the Council is satisfied that:

(1) contaminants from the discharge will not enter any water body, water supply race, or the coastal marine area;

(2) the discharge will not result in contaminant levels in soils, excluding carriageways, being raised above levels in the ANZECC Guidelines (1992); and

(3) mitigation measures are in place to minimise contaminated dust from the application area adversely affecting any neighbouring receiving environment;

and, in any case, that it is consistent with the purpose of the Act to do so.

Explanation. *Rule 20 classifies the discharge of waste oil to land as a Discretionary Activity. This policy guides decision making for assessing applications for activities governed by Rule 20.*

"Water body" is defined in the Act as "fresh water or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, that is not located within the coastal marine area." "Soil" is defined in the Regional Soil Plan as "a layer of organic and inorganic materials that overlies inorganic materials (either consolidated or unconsolidated)".

Identifying contaminated sites

4.2.43 Seek to identify and evaluate sites with a history of using, storing or manufacturing hazardous substances in the Wellington Region, and set priorities for further investigation to confirm the presence or absence of contamination using the ANZECC Guidelines for the Assessment and Management of Contaminated Sites (1992).[37]

Explanation*: This Policy addresses the current lack of good information on the location and risks of sites where the historical record of land use indicates that further investigation is desirable to determine the presence or absence of hazardous substances. Such a site potentially represents a risk to human and/or environmental health.*

The ANZECC Guidelines for the Assessment and Management of Contaminated Sites will be used to identify types of sites likely to be contaminated and types of activities likely to cause contamination.

Landowners will be advised when the Council is involved in the research or evaluation of their property. Any information the Council holds will be provided directly to the landowner who will have the right to make any corrections to that information. The release of information on sites to other people will be subject to the provisions of the Privacy Act 1993 and Local Government Official Information and Meetings Act 1987.

The information will also be passed on to the territorial local authorities to enable them to carry out their functions in relation to controlling land use, and for inclusion on Land and Project Information Memoranda.

4.2.44 To give priority to identifying and assessing the following types of sites:

(1) current and closed landfills;

(2) old gas works;

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[37] ANZECC, 1992.

(3) underground storage tanks;

(4) timber treatment plants and storage sites; and

(5) munitions and military equipment dumps.

***Explanation**: This Policy directs the Council's priorities for identifying and assessing sites with a history of using, storing or manufacturing hazardous substances. All the identified activities are known to have the potential to create contaminated sites. Although these are the priority sites, the Council will seek to identify and assess other types of sites in accordance with Policy 4.2.43.*

Clause (3) includes tanks which are currently in use, tanks which are no longer used, and sites from which tanks have been removed.

4.2.45 To retain adequately referenced information on a regional database according to the following categories—

(1) site with a history of storing, using or manufacturing hazardous substances;

(2) site where a major spill or other incident involving hazardous substances has occurred;

(3) site where analysis of soil or water samples has confirmed that it is a contaminated site;

(4) site where some contaminant management or remediation has occurred; and

(5) site that was identified in error, that is, was never contaminated.

***Explanation**: The Council will exercise due diligence before entering any information on the database, and will ensure that all information retained is adequately referenced. Referenced data may need to be separately verified by any recipient of the information. Where some site management or remediation has occurred, the remaining level of contamination can be compared with relevant guidelines that state maximum levels for particular land uses.*

As more information is obtained on site contamination in the Region, the regional database will be updated. This information will assist the Council in monitoring and controlling any adverse effects of discharges from those sites, and will assist territorial authorities in controlling land uses on sites that may present a hazard to the environment, including people.

Managing contaminated sites

4.2.46 To develop, in consultation with site owners, occupiers and territorial authorities, strategies for further action for contaminated sites.

***Explanation**: Policy 4.2.46 provides direction for the Council to consult with affected parties when developing strategies for dealing with contaminated sites. There is a variety of options for further action once a site has been confirmed as contaminated, including:*

- *removal of contaminated material;*
- *chemical treatment;*
- *bio-remediation; and*
- *in-situ treatment.*

The Council prepared a Contaminated Site Management Strategy in 1996,[38] based on a report prepared by Tonkin and Taylor.[39] In accordance with this Policy, any new strategies will be developed in consultation with site owners or occupiers, and territorial authorities.

The ANZECC Guidelines for the Assessment and Management of Contaminated Sites provide useful information on appropriate remedial action and clean-up standards. The Regional Council's approach is to address clean-up requirements on a case-by-case basis within the general framework provided by the Guidelines.

4.2.47 (1) To encourage owners of contaminated sites causing adverse effects on the environment to:

(a) take primary responsibility for characterising the degree of contamination of the site;

(b) inform the Regional Council so that the site can be registered on the Regional database;

(c) take responsibility for appropriate remedial action (if necessary) or management of the site; and

(d) apply for resource consents for any discharges arising from the site that may have adverse effects, including any discharges resulting from remedial action.

(2) To encourage owners of sites with a history of using, storing or manufacturing hazardous substances to inform the Regional Council so that the site can be investigated and assessed for the presence or absence of contaminants on the site.

***Explanation**: This Policy should be read in conjunction with Policy 4.2.49, which sets out the Council's policy on sites for which liability is in question.*

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38 Wellington Regional Council, 1996. WRC/RINV-T-96/30.

39 Tonkin & Taylor, 1994.

Policy 4.2.47 encourages owners of sites to inform the Council if their site has a history of land use that could have caused site contamination. However, this is not the only means by which information may be included on the Regional database. The Council will be carrying out its own investigations as set out in Policy 4.2.43.

Policy 4.2.47 also encourages site owners to take responsibility for characterising the nature of any contamination on their site. The Council may share this responsibility, particularly in situations where liability is in question. The owner is responsible for avoiding, remedying or mitigating the adverse effects of discharges of contaminants from the site. In accordance with section 15 of the Act, the Council will require the owner to apply for resource consents for any site discharges (e.g., discharge of contaminated stormwater, disposal of contaminated soil), except discharges allowed by a rule in the Plan. This Policy applies to sites which remain contaminated and to sites for which remedial action is proposed.

The Council will transfer sufficient information to the relevant territorial authority to enable them to carry out their functions for controlling the use of land. Method 6.5.5 provides for the development of the necessary procedures.

4.2.48 To give particular consideration to the following matters when assessing applications for permits for discharges associated with contaminated sites:

(1) the nature, concentration and quantity of contaminants at the site;

(2) the potential for contaminants from the site to contaminate surrounding:

- groundwater;
- surface water;
- soil; or
- air;

and any effects of that contamination;

(3) the potential for direct or indirect contact of humans or animals with contaminants on the site;

(4) any actual or potential adverse effects on:

- human health;
- the health and functioning of plants, animals or ecosystems; or
- existing or future uses of water or land on the site and in the surrounding area;

(5) any potential long-term or cumulative effects of discharges from the site;

(6) any remedial action planned or required in relation to the site, and the potential adverse effects of any remedial action on the matters listed in (1)-(5) above, whether at the site or at another location; and

(7) The ANZECC Guidelines for the Assessment and Management of Contaminated Sites and the Draft Health and Environmental Guidelines for Selected Timber Treatment Chemicals,[40] and any other relevant national or international guidelines of standards.

***Explanation**: This Policy sets out the matters which the Council will consider when assessing discharge permits for contaminated sites. The Policy covers all discharges from contaminated sites (to land, water and air), and discharges which are part of the remediation of contaminated sites. The Policy does not limit other matters which may be considered by the Council.*

Clauses (2) and (3) examine potential exposure pathways for contaminants leaving the site. These include run-off or leaching into water, wind blown dust, migration of hazardous gas through soil, and exposure of humans or animals (both directly - e.g., ingestion of soil -and indirectly - e.g., ingestion of plants which have become contaminated).

Clause (6) addresses any remedial action which may be required (as a condition on a resource consent) and any effects which may arise from remedial action. Remedial action covered by this Policy includes discharges from any in situ treatment or any collection and subsequent disposal of contaminated material. In the latter case, the Council wishes to ensure that disposal of contaminated material does not simply shift the contamination to a new site. The Council is also concerned that the level of remediation is appropriate for the level of risk and the costs of management.

Clause (7) provides for the use of the most relevant clean-up standards or guidelines available. This recognises that these documents are constantly being updated as new technologies are developed.

4.2.49 To adopt a case-by-case approach to the management of every contaminated site for which ownership or responsibility for contamination and remedial action cannot be clearly identified.

***Explanation**: Responsibility for managing contaminated sites (including any remedial action) is unclear in situations where:*

- *site owners or occupants are not able to be identified;*
- *the occupier, rather than the owner, may be responsible for the contamination;*

[40] Ministry for the Environment, Ministry of Health, 1993.

- *the current owner, acting responsibly but in ignorance, acquired a contaminated site that needs remedial action; or*
- *the scale of contamination is such that it is beyond the resources of the owner or polluter to deal with it.*

This Policy directs the Council to adopt a flexible approach with respect to liability and the development of appropriate responses in cases where liability is complex. It is anticipated that this Policy will apply to only a small number of sites in the Region.

4.2.50 To encourage territorial authorities to use the following means for managing activities on sites identified on the Regional database, where appropriate:

(1) district plan provisions, including non-regulatory methods; and

(2) Land Information Memoranda; and

(3) Project Information Memoranda.

***Explanation**: Territorial authorities are responsible under s.31 of the Act for controlling any actual or potential effects of the use, development or protection of land. Land use controls in district plans may therefore be an appropriate means of avoiding, remedying or mitigating any adverse effects of contaminated sites on activities which may occur on those sites.*

*The Council will encourage territorial authorities to adopt an approach which recognises that land uses should be appropriate to the level of contamination and the potential hazards of a site. For the avoidance of doubt, the Council is **not** encouraging the listing of potentially contaminated sites, i.e. those with a history of using, storing or manufacturing hazardous substances, in district plans.*

Information on Land Information Memoranda and Project Information Memoranda, may, on the basis of information contained on the regional database, include statements of the following kind together with references indicating where more detailed information may be obtained:

- *Site with a history of storing, using or manufacturing hazardous substances.*
- *Site where a major spill or other incident involving hazardous substances has occurred.*
- *Site where analysis of soil or water samples has confirmed that it is a contaminated site.*
- *Site where some contaminant management or remediation has occurred. (The remaining level of contamination can be compared with relevant guidelines that state maximum levels for particular land uses.)*

- *Site that was identified in error, that is, was never contaminated.*

5. Regional Rules

5.1 User Guide to the Rules in the Plan

The activities covered by regional rules in this Plan, in terms of the types of contaminants discharged, are as follows:

Activities not covered by other rules

Rule 1	Permitted Activity	Discharges not entering water in a river, lake, wetland, farm drain, water supply race or aquifer
Rule 2	Discretionary Activity	Discharges into or onto land not otherwise provided for by a rule in the Plan

Greywater and stormwater

Rule 3	Permitted Activity	Stormwater and reticulation systems
Rule 4	Permitted Activity	Greywater

Sewage

Rule 5	Permitted Activity	Pit latrines
Rule 6	Permitted Activity	Aerobically treated sewage
Rule 7	Permitted Activity	On-site sewage onto or into land
Rule 8	Discretionary Activity	All other discharges of human effluent

Landfills, rubbish dumps and tips

Rule 9	Permitted Activity	Domestic and farm waste disposal and composting
Rule 10	Discretionary Activity	All other refuse disposal including at landfills, rubbish dumps and tips

Agricultural Contaminants

Rule 11	Permitted Activity	Offal pits and silage
Rule 12	Permitted Activity	Fertiliser
Rule 13	Controlled Activity	Effluent from dairysheds, piggeries, poultry farms, etc.
Rule 14	Permitted Activity	Stock dip effluent

Hazardous Substances

Rule 15	Non-complying Activity	Specified hazardous substances
Rule 16	Permitted Activity	Land-based applications of pesticides as solids or pastes
Rule 17	Controlled Activity	Aerial applications of pesticides as solids or pastes
Rule 18	Permitted Activity	Discharges associated with roading and other sealed areas
Rule 19	Controlled Activity	Water treatment plant waste
Rule 20	Discretionary Activity	Waste oil
Rule 21	Permitted Activity	On-site discharges from contaminated sites
Rule 22	Controlled Activity	Removal of material from contaminated sites

5.2 Regional rules for the discharge of contaminants to land

Rule 1 Discharges of contaminants not entering water

The discharge of any contaminant onto or into land is a **Permitted Activity** provided

(a) the contaminants are stormwater discharged into a pipe which then discharges to surface water; or

(b) with the exception of Rule 2, the discharge is not regulated by any rule in this Plan; and

(c) the discharge **will not**

(i) result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water in any water body, water supply race, farm drain, or the coastal marine area; or

(ii) create a contaminated site.

Explanation. *This rule applies to all discharges to land, whether the discharge is from an industrial or trade premise or any other source, whether moving or not. Discharges of contaminants to land are restricted by sections 15(1)(b) and 15(1)(d), and 15(2) of the Act. This rule allows all discharges where there will be no contamination of water in a water body (including aquifers) or other specified surface water, unless there is a specific rule in the Plan regulating the discharge. Discharges to land where contaminants will enter water in a water body are governed by Rule 2. Both "water" and "water body" are defined in the Act and reproduced in the Interpretation in Section 3 of the Plan.*

Rule 1 (a) does not exempt owners of stormwater systems from compliance with Rule 3 (stormwater discharges into or onto land) or with the Regional Freshwater Plan. Nor does it obviate any person from any liabilities under section 17 of the RMA for discharges of contaminants to stormwater systems that may result in an adverse effect to the receiving water body. The owner of the stormwater system is responsible for any controls regulating stormwater discharges into the system. Rule 1 (a) does not allow discharges of contaminants other than stormwater into stormwater systems.

This rule applies to discharges such as cleanfill, but does not exempt cleanfill operations from compliance with provisions in a district plan. All district plans for the Region have rules to control the use of land for cleanfill operations. Effects such as dust and odour are addressed in the Regional Air Quality Management Plan.

Contaminants will enter water when there is overland runoff to a watercourse, or direct percolation to groundwater. Direct percolation to groundwater will happen when there is a high hydraulic loading of contaminants discharged to soils that are moderately to very rapid draining. Examples of applications of high hydraulic loading are when contaminants are discharged to a soakhole, or when a large quantity of wastewater is discharged over a small land area.

*Rule 1 (c)(ii) restricts the **creation** of contaminated sites from discharges of contaminants to land. A contaminated site could be created, for example, by moving contaminated soil from a contaminated site to an uncontaminated site. Note that Rule 21 permits discharges **at** contaminated sites where the discharge is associated with site remediation, and where no contaminants leave the site. Rule 22 controls discharges of contaminants **from** a contaminated site where the discharge is associated with site remediation.*

Rule 2 Discharges of contaminants not otherwise provided for

The discharge of any contaminant onto or into land that is

(a) not allowed as a Permitted Activity by Rule 1; or

(b) provided for as a Permitted Activity by Rule 3, 4, 9(2), 11, 12, 14, 16 or 18 but does not meet any condition of the rule; or

(c) provided for as a Controlled Activity in Rule 13, 17, 19 or 22 but does not meet any standard of the rule

and that is

(d) not described as a Discretionary Activity in Rule 8, 10, or 20; or

(e) not described as a Non-Complying Activity in Rule 15.

is a **Discretionary Activity.**

Applying for a resource consent

An application for a resource consent for an activity described in Rule 2 shall include:

(1) information about the matters specified in section 5.3 of the Plan; and

(2) for discharges provided for in Rule 3 that do not meet the standards of the rule:
   (a) a description of the collection, treatment and disposal system; and
   (b) a contingency plan for addressing equipment failure or other emergencies such as spills; or

(3) for discharges provided for in Rule 13 that do not meet the standards of the rule:

(a) the number of animals served by the system (including any planned growth in herd size), and the volume and quality of the effluent discharged; and

(b) a description of the effluent collection system, storage treatment and disposal system, including the rate and depth of effluent application; and

(c) an explanation of how the system will be managed, including a contingency plan for equipment failure or other emergencies.

***Explanation**. This rule applies to discharges onto or into land of —*

- *discharges of contaminants, other than stormwater, discharged into a pipe which then discharges to surface water*
- *wastewater, such as from abattoirs and breweries (except where the discharge will not enter a water body, farm drain, water supply race or the coastal marine area, in which case it is allowed by Rule 1)*
- *hazardous substances (except where the substance is specifically restricted by Rule 15; or will not enter a water body, farm drain, water supply race or the coastal marine area and will not create a contaminated site in which case it is allowed by Rule 1)*
- *stormwater (except as allowed by Rule 3)*
- *greywater (except as allowed by Rule 4)*
- *leachate from composting organic materials (except as allowed by Rule 9(2))*
- *silage leachate (except as allowed by Rule 11)*
- *fertiliser (except as allowed by Rule 12)*
- *agricultural effluent (except as allowed by Rule 13)*
- *stock dip effluent (except as allowed by Rule 14)*
- *pesticides (except as allowed by Rules 16 or 17)*
- *any other contaminant that will enter a water body (that is rivers, lakes, wetlands, or aquifers, including unconfined aquifers), farm drain, water supply race, or the coastal marine area, except discharges containing human sewage (see Rule 8), and discharges at landfills (see Rule 10).*
- *Discharges from contaminated sites (except as allowed by Rules 21 or 22)*

This rule is the general default rule for discharges of contaminants to land where the discharge will contaminate water in a water body, farm drain, water supply race, or the coastal marine area, except discharges containing human sewage (see Rule 8), and discharges at landfills (see Rule 10). This rule also applies to discharges that are specifically provided for in a regional rule but do not meet the conditions or standards in the rule. Discharges to land that will not enter water in a water body are allowed by Rule 1, unless specifically restricted by a rule in the

Plan. Applications for resource consents for activities covered by this rule will be assessed with regard to Policies 4.2.4, 4.2.21, 4.2.22, 4.2.24, 4.2.41 and 4.2.48. Matters that will be considered for all applications are included in section 5.3 of the Plan.

Rule 3 Stormwater

The discharge of contaminants into or onto land:

(1) as stormwater collected from any motorway, road, street, roof, yard, paved surface, grassed surface or other structure(but not including stormwater discharged into a pipe which discharges into surface water); or

(2) from the maintenance, repair and inspection of pipes, drains and pumps of the following network utility services:

(a) water supply systems;

(b) irrigation schemes; and

(c) stormwater systems; and

(d) sewerage systems; or

(3) the emptying of water storage reservoirs;

is a **Permitted Activity**, provided

(a) the discharge shall not have a free or combined chlorine content of greater than 50 g/m^3;

(b) the discharge shall not cause water to enter any property beyond the boundary of the property or area in which the discharge occurs, unless the written approval(s) of the owners and occupiers of affected properties has been obtained;

(c) all pipelines, drains, pumps and reservoirs shall be constructed and maintained in an efficient operating condition.

[(ca) The discharge does not originate from industrial or trade premises where hazardous substances are stored or used unless:

(i) hazardous substances cannot enter the stormwater system; or

(ii) there is an interceptor system in place to collect hazardous contaminants or divert contaminated stormwater to a trade waste system.**]**

And for discharges from the maintenance, repair or inspection of sewerage systems the following additional conditions apply:

(d) the Wellington Regional Council and the Medical Officer of Health shall be notified of the discharge at least 24 hours before the discharge takes place for planned maintenance, repair or inspection, and as soon as is practical, but no more than 24 hours after the discharge if it is due to a response to a break or other failure, in accordance with the provisions of the Response Manual for Sewage Discharges (Edition 1, August 1993, Public Health Service);

(e) signs indicating any public health risks arising from the discharge shall be displayed at the discharge site, for as long as the health risk exists.

Condition (ca) of Rule 3 was inserted by Plan Change 1 to the Regional Plan for Discharges to Land 2003

Explanation. *Rule 3 applies to discharges of stormwater, and to the operation of specified network utilities if there are associated discharges to land. This rule does not apply to contaminants discharged into a pipe which discharges to water. These discharges are controlled by Rule 2 (because they breach Rule 1(a)) unless the contaminants are "stormwater", in which case they are controlled in Rules 2 and 3 of the Regional Freshwater Plan.*

The Council is informed of overflows from sewers, through breakage or during repair, about every two weeks. To date, the Council has not required any consents under Section 330A of the Act because the remediation is undertaken swiftly in accordance with requirements from the Medical Officer of Health.

Rule 4 Discharges of greywater

The discharge of greywater onto or into land is a **Permitted Activity** provided the discharge

(a) does not exceed a maximum daily volume of 2000 litres;

(b) is more than 20 metres from any surface water body, farm drain, water supply race, or the coastal marine area; and

(c) does not cause ponding on, or runoff from the disposal area.

Explanation. *This rule applies to greywater only, and does not apply to any discharge that contains human sewage. Greywater (see Section 3 of the Plan) is "the wastewater from sinks, basins, baths, showers and similar appliances, but not including any toilet wastes. Also known as sullage."*

Rule 5 Pit latrines

The discharge into land of effluent from a pit latrine is a **Permitted Activity** provided

(a) the latrine is located more than 20 metres from any surface water body, farm drain, water supply race, the coastal marine area, or bore, more than ten metres from the property boundary, and more than five metres from any dwelling on the same site;

(b) surface water cannot drain into the latrine;

(c) the water table is at least 1,000 mm below the bottom of the latrine;

(d) the soil type does not comprise gravels, coarse/medium sands, scoria, fissured rock, or other such materials likely to permit free travel of excreta residues away from the vault chamber; and

(e) waste in the latrine does not accumulate to closer than 300 mm of the ground surface.

Explanation. *This rule applies to discharges from pit latrines (also known as long-drops or privies). These toilet systems are commonly used in remote locations, or as temporary facilities where connection to a sewer is not possible. The design of any on-site sewage system is controlled by district councils under the Building Code ("G13.3.4 Where no sewer is available, an adequate on-site disposal system shall be provided for foul water ..."). Also, where a sewer connection is available, the drainage connection shall be made to the sewer (see G13.3.3 of the Building Code).*

Permission may be required from the relevant district council in respect of the Building Regulations, 1992 or other legislation or bylaws administered by them. See, for example, the Porirua City Council General Bylaw 1991 Part 8: Management and operation of effluent disposal systems. "Water body" is defined in the Act, and reproduced in the Interpretation in section 3.

Rule 6 Aerobically treated sewage discharged on-site

The discharge of aerobically composted sewage, or aerobically treated sewage effluent, onto or into land is a **Permitted Activity** provided

(a) the discharge is more than 20 metres from any surface water body, farm drain, water supply race, or the coastal marine area;

(b) the discharge is more than 5 metres from any neighbouring property boundary; and

(c) for aerobically composted sewage
  (i) the sewage originates from a composting toilet system;
  (ii) the material has been subject to aerobic composting decomposition for at least 12 months from the last addition of raw sewage;
  (iii) for at least 12 months after application, only people operating or maintaining the system have access to the disposal area; and
  (iv) compost is not applied to any food crop for animal or human consumption; and
  (v) the composted sewage is ploughed into the soil, or buried to a depth of up to 200 mm.

(d) for aerobically treated sewage effluent onto land
  (i) the application rate throughout the disposal area is not greater than 5 mm/day;
  (ii) the maximum discharge does not exceed 2000 litres per day;
  (iii) the carbonaceous five day Biochemical Oxygen Demand concentration in the effluent discharged from the system is not greater than 20 mg/litre;
  (iv) the discharge does not cause ponding on or runoff from the disposal area;

(v) the discharge is not by way of spray irrigation or other method that produces any aerosol discharge to air;
(vi) people (except persons involved with maintaining/managing the system) are prevented from entering the disposal area for a period of at least 48 hours following the last application of effluent; and
(vii) stock are prevented from entering the disposal area for a period of at least six months following the last application of effluent; and
(viii) there is no discharge of any effluent to a water body.

(e) for aerobically treated sewage effluent into land
(i) the application rate throughout the disposal area is not greater than 15 mm/day;
(ii) the maximum discharge does not exceed 2000 litres per day;
(iii) the discharge does not cause ponding on or runoff from the disposal area; and
(iv) there is no discharge of any effluent to a water body.

Explanation. *This rule allows discharges of well-treated sewage effluent and sewage compost* ***above or below*** *the soil surface. Note that Rule 7 of the Plan allows discharges of all sewage effluent (but not sewage sludge) subject to conditions, but does not allow discharges* ***above*** *the soil surface.*

Aerobically composted sewage may be applied onto land in accordance with this rule, but the sewage must not originate from any sewage treatment system other than a composting toilet system. That is, composted sewage from composting toilets, such as those in the Conservation Estate and Regional Parks, may be discharged to land in accordance with this rule, but composted sewage from community systems may not. The reasons for this distinction are given in section 8 of the Plan.

This Rule does not exempt sewage disposal systems from compliance with provisions in a district plan, or requirements imposed under the Building Act, 1991, or the Building Regulations, 1992, or the Health Act, 1956. Compliance with the conditions in this rule means that the discharge from the system can proceed without the need for a resource consent from the Regional Council. The onus will be on the owner of the system to demonstrate that the conditions in this rule will be met. Where the conditions cannot be met, a resource consent will be required in accordance with Rule 8.

The conditions for compliance with Rule 6 (d) are more restrictive than for Rule 6 (e) because sewage discharges onto land can allow transmission routes for disease to become established. The allowable application rate for discharges into land is higher than for discharges onto land. This is to recognise that there would be fewer adverse effects if effluent accumulates in the disposal field of subsurface systems.

Rule 7 On-site sewage treatment and disposal

The discharge into or onto land of any water or contaminants other than septage, from on-site sewage treatment and disposal systems is a **Permitted Activity** if:

EITHER

(1) the system is already in use at the time this Rule comes into force; and

(2) the discharge does not exceed 1300 litres per day (calculated as a weekly average);

provided

(a) the discharge shall consist only of contaminants normally associated with domestic sewage;

(b) no stormwater shall be allowed to enter the system;

(c) there shall be no direct discharge from the system to groundwater, surface water, or above the soil surface; and

(d) the system shall be maintained on a regular basis.

(e) the discharge is more than 50 metres from any surface water body, farm drain, or water supply race in any catchment being managed for water supply in the Regional Freshwater Plan (see Appendix 6 of the Regional Freshwater Plan); and

(f) the discharge is more than 20 metres from any surface water body, farm drain, water supply race, or the coastal marine area in all other areas.

OR

(3) the system is a new or upgraded system; and

(4) the discharge does not exceed 1300 litres per day (calculated as a weekly average); and

(5) the system shall be installed on the same property as the premises to which the system is connected; and

(6) there shall be no direct discharge above the soil surface;

provided that conditions (a)-(f) above and the following conditions are complied with:

(g) a site investigation shall be carried out. The matters to be addressed in a site investigation are set out in Appendix 5 of this Plan;

(h) the system shall be designed, constructed and operated to meet the following performance criteria:

  (i) the system shall be designed with sufficient effluent retention time to enable adequate treatment in relation to any constraints identified in the site investigation;

(ii) the effluent shall be evenly distributed to the entire filtration surface of the disposal field;

(iii) the bottom of the effluent disposal system shall be sufficiently above the groundwater at its highest level, in relation to any constraints identified in the site investigation, to prevent any contamination of groundwater;

(iv) the area available for treatment shall be appropriate for the volume of the discharge and any constraints identified in the site investigation.

The Council will accept as compliance with criteria (h)(i)-(iv) an effluent treatment and disposal system designed, constructed, and operated in accordance with the principles and procedures outlined in **[**Guidelines for on-site sewage in the Region WRC/RP-G-00/47**]**.

In Rule 7, the wording in square brackets were substituted for the original wording.

Explanation. *Rule 7 applies to discharges from on-site sewage treatment and disposal systems. These include septic tank/effluent disposal field systems, evapotranspiration systems, and community systems serving a number of houses. The on-site systems may be new (i.e., constructed after this Plan becomes operative) or existing systems, and may serve dwellings, institutions, workplaces, or clusters of dwellings, so long as the daily discharge volume is less than 1300 litres. This is equivalent to the amount of effluent produced by a large household.*

This rule does not apply to septage (solid materials collected from septic tanks), or the compost from a composting toilet when discharged to land, or to systems designed to discharge above the soil surface (e.g., where effluent is used for irrigation) or to systems which are located on a separate legal property to that on which the premises creating the discharge. These activities are addressed by Rules 6, and 8.

The conditions relate to "good practice". The specific maintenance requirements which comprise "good practice" will vary depending on the type of system used and the volume and quality of effluent produced. All such requirements should be made available by the manufacturer or designer of the system at the time of installation. For example, regular desludging will be necessary to ensure that the system does not overflow.

New and upgraded systems (new systems are those installed after the date on which this plan became operative, and upgraded systems are those which were installed and in use before the Plan became operative, and subsequently require improvement to avoid, remedy or mitigate any adverse environmental effects being caused by the system) must also comply with the specified design criteria and be designed to reflect any constraints identified in the site investigation. Systems designed and installed in accordance with the principles and procedures

outlined in the specified guidelines, are deemed to comply with these design criteria.

Rule 8 Discharges containing human sewage not otherwise provided for

Any discharge containing human sewage onto or into land is a **Discretionary Activity** unless the discharge is allowed by Rule 3, 5, 6, or 7.

Applying for a resource consent

An application for a resource consent for an activity described in Rule 8 shall be made on the prescribed form and shall include

(1) information about the matters specified in section 5.3 of the Plan;

(2) for on-site sewage systems, a site investigation covering the matters set out in Appendix 5; and

(3) for all other discharges, information about the types of contaminants in the discharge, including typical concentrations of heavy metals and other contaminants that are persistent in the environment.

Explanation. *This rule applies to any discharge that contains human sewage, whether as sewage effluent, sewage sludge, or sewage compost, except discharges specifically allowed by Rule 5 (pit latrines), Rule 6 (aerobically treated sewage), or Rule 7 (on-site sewage treatment and disposal). Applications for resource consents for activities covered by this rule will be assessed with regard to Policies 4.2.12-4.2.14 and 4.2.16. Matters that will be considered for all applications are included in section 5.3.4 of the Plan.*

Existing landfills in the Region have been granted resource consents, as required under sections 418(1A) and (1B) of the Resource Management Act 1991. Some consents allow the co-disposal of sewage sludge subject to conditions. No additional consents are required to discharge sewage sludge at these landfills during the term of their existing consents.

Rule 9 Refuse disposal and composting

The discharge of any contaminants into or onto land in connection with:

(1) refuse disposal at farm (including factory farms) landfills or domestic (residential) waste disposal sites; and

(2) farm composting operations (including factory farms) and domestic composting operations;

is a **Permitted Activity** provided

(a) for composting, the discharge shall consist only of green wastes, and shall contain no hazardous substances;

(b) for refuse disposal, the discharge shall consist only of household or farm wastes generated on that property and shall contain no hazardous substances;

(c) the discharge shall occur no less than 20 m from any surface water body, from any bore used for drinking water supply, or from the coastal marine area;

(d) the base of the disposal area shall be no less than 1 m above the highest level of the water table;

(e) there shall be no windblown litter from the site; and

(f) no more than six months after the closure of the discharge site, the site shall be rehabilitated to a condition which is compatible with surrounding land uses, and does not constitute a greater hazard than the surrounding land with respect to landslip and subsidence.

Explanation *Rule 9 applies to composting operations and the on-site disposal of household and farm wastes. The terms "farm wastes", "farm landfills", "composting", "farm composting" and "green wastes" are defined in Section 3 of this Plan. Provided that the conditions in the Rule can be met, the following activities are permitted:*

- *disposal of household and farm refuse (other than hazardous wastes) on the property at which the wastes were generated. This includes on residential properties, production land and factory farms; and*
- *backyard composting and farm composting. This includes composting on production land and factory farms, and may include the composting of green wastes generated off the property (e.g., excess green wastes from neighbouring farms). It does not include the operation of commercial composting activities (i.e., composting commercial activity such as mushroom farming which use materials other than green waste).*

For the avoidance of doubt, condition (a) precludes the composting of plant material that has been grown on a contaminated site. Rule 22 addresses the removal of material from a contaminated site.

The conditions relate to effects on water, nuisance effects and site rehabilitation.

Rule 10 Landfills, rubbish dumps and tips

Except as allowed by Rule 9(1), the discharge of contaminants onto or into land used for the disposal of waste materials, with the exception of land used exclusively for cleanfill disposal, but including disposal at a landfill, rubbish dump or tip, is a **Discretionary Activity**.

Applying for a resource consent

An application for a resource consent for an activity described in Rule 10 shall include information about the matters specified in section 5.3.1 of the Plan.

Explanation. *This rule applies to landfills that are not farm or domestic dumps (these are allowed by Rule 9(1)). As required by Section 418 of the Act, all landfills in the Region have permits to discharge waste to land. This rule applies to any new landfill established in the Region, and to existing landfills where their permit expires. Applications for resource consents for activities covered by this rule will be assessed with regard to Policies 4.2.8-4.2.10, 4.2.32-4.2.34. Matters to be considered for all applications are in section 5.3 of the Plan. Discharges of contaminants from closed landfills are addressed in Rules 21 and 22.*

Rule 11 Offal pits and silage

The discharge of contaminants into or onto land in connection with:

(1) the disposal of offal on production land or at a factory farm;

(2) the storage of silage;

is a **Permitted Activity** provided

(a) the discharge shall occur no less than 20 m from any surface water body, from any bore used for drinking water supply or from the coastal marine area;

(b) the base of the disposal area shall be no less than 1 m above the highest level of the water table;

(c) there shall be no discharge into surface water other than by way of imperceptible seepage;

(d) the discharge shall contain no hazardous substances;

and the following additional conditions for offal pits:

(e) the pit shall be securely covered and shall contain only plant and animal wastes generated on that property, and excluding plant and animal wastes from industrial or trade premises involved in processing animals and animal products; and

(f) no more than 6 months after the closure of the offal pit, the site shall be rehabilitated to a condition that is compatible with surrounding land uses.

Explanation. *Rule 11 applies to discharges from the on-farm disposal of offal and the storage of silage. If an offal pit or silage storage does not comply with any of conditions (a) to (f), the discharge is a discretionary activity in accordance with Rule 2.*

Rule 12 Application of fertiliser

The discharge of fertiliser onto or into land is a **Permitted Activity** provided

(a) the discharge shall not cause noxious or objectionable effects on water.

Explanation. *Fertiliser is defined in section 3 of the Plan as "any substance that is suitable for sustaining or increasing the growth, productivity or quality of plants by the provision of essential nutrients, provided the substance is free from human faecal matter and any pathogens." This means that this rule does not apply to discharges of human sewage in any form, or to animal effluent unless that effluent is completely free of pathogens. Discharges of human sewage are provided for in Rules 3, 5, 6, 7 and 8. Discharges of agricultural effluent are provided for in Rule 13.*

In the context of the condition on Rule 12, "noxious or objectionable effects" includes adverse effects on water which are noxious or objectionable because of increased nitrate concentrations in groundwater or undesirable biological growths in surface water. Following the best practice guidelines identified in the Code of Practice for Fertiliser Use (1998) prepared by the New Zealand Fertiliser Manufacturers' Research Association would ensure that the condition is met.

In areas where fertiliser application could cause adverse effects the Council will provide people with information about more efficient and effective means of using fertiliser (see method 6.3.10). In accordance with Policy 4.2.22, the Council will be encouraging adherence to relevant codes of practice, in particular, the Code of Practice for Fertiliser Use (1998) prepared by the New Zealand Fertiliser Manufacturers' Research Association.

Groundwater monitoring shows that there are some areas of the Region where nitrate contamination of groundwater is increasing, and where levels are already significant.[41] *The Council is carrying out further investigations and monitoring to determine the contributing sources of nitrate contamination of groundwater in the Kapiti Coast and the Wairarapa. Information gained from these investigations will be used when the Plan is reviewed in 10 years, or earlier, if necessary. If the provision of information about fertiliser use is not sufficient to avoid or mitigate the effects of the activity, a more regulatory approach as taken with other discharges may be needed.*

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41 Wellington Regional Council (1998). Nitrate Management on the Hautere Plain, report WRC/RINV-T-98/19, prepared by Brydon Hughes.

Rule 13 Agricultural effluent

The discharge of collected agricultural effluent, except composted agricultural effluent, into or onto land from:

(1) dairy sheds;

(2) piggeries;

(3) poultry farms; or

(4) other premises, involving the concentration of livestock in a confined area, from which effluent is collected and discharged;

is a **Controlled Activity** and shall comply with the standards and terms below.

Standards and terms

(a) no contaminants shall be able to enter water which is not part of the treatment system, except by way of imperceptible seepage, as a result of:
  (i) inadequate storage facilities;
  (ii) seepage or leakage from any part of the system, including treatment and storage facilities;
  (iii) runoff into any surface water body;
  (iv) spray drift;
  (v) insufficient spreading of effluent;
  (vi) application of effluent to water-logged or flooded land; or
  (vii) equipment failure;

(b) the discharge shall occur no less than 20 metres from the neighbouring property boundary, any surface water body, farm drain, water supply race, any bore, or the coastal marine area;

(c) the system shall be maintained in an efficient operating condition at all times; and

(d) no stormwater collected from roofs or surrounding land shall be allowed to enter the system.

Control

The Wellington Regional Council shall exercise control over:

(1) the method and rate of effluent application;

(2) provisions for desludging the system and applying sludge to land;

(3) monitoring requirements;

(4) the duration of the consent;

(5) administrative charges.

Applying for a Resource Consent

An application for a resource consent under Rule 13 shall be made on the prescribed form, and shall include:

(1) the matters set out in (1)-(8) of Section 5.3.1 of this Plan;

(2) the number of animals using the shed or effluent collection area (including any planned growth in herd size or production units), and the volume and quality of the effluent produced by the system;

(3) a description of the effluent collection, storage, treatment and disposal system, including the rate and depth of effluent application;

(4) an explanation of how the system will be managed so that it complies with the standards and terms, including a contingency plan for equipment failure or other emergencies.

Notification

An application for a resource consent made under Rule 13:

- shall not be publicly notified; and
- shall be considered without the written approval of affected persons;

except where the consent authority considers that there are exceptional circumstances which justify notification or the obtaining of written approval from affected persons.

Explanation. *Rule 13 applies to agricultural effluent which is collected and discharged into or onto land. The rule does not apply to the discharge of effluent in an unmanaged or unconfined situation where the volume and effects of the effluent are such that it does not require collection and disposal (e.g., discharges from individual animals, such as house cows). The rules cover discharges from oxidation ponds or other storage facilities, and discharges from the irrigation of effluent (treated or untreated) onto land. Composted agricultural effluent is widely used as a fertiliser and soil conditioner with no adverse effects. Effluent in this form is not regulated by this rule.*

Rule 14 Discharges of stock dip

The discharge of stock dip effluent onto or into land is a **Permitted Activity** provided

(a) the discharge is more than 20 metres from any surface water body, farm drain, water supply race, or the coastal marine area; and

(b) the application rate throughout the disposal area does not exceed 0.5 mm per day.

Explanation. *The Agrichemical Users' Code of Practice (NZS 8409:1995) recommends that spent (stripped) dip wash can be spread onto suitable land at low application rates (Appendix GG3 of Part 6). The rate suggested in the Code is less than 5,000 litres per hectare. On a daily basis, this equates to 0.5 mm/day, or two square metres of land for every litre of dip. This application rate is low enough to avoid percolation to groundwater in porous soils and runoff to surface water in non-porous soils.*

Rule 15 Specified hazardous substances

The discharge onto or into land of

(a) wastewater sludge originating from timber treatment processes using copper-chromium-arsenic wood preservatives;

(b) perchlorethylene contaminated waste from dry cleaning operations; or

(c) organochlorine substances

is a **Non-Complying Activity**.

Applying for a resource consent

An application for a resource consent for an activity described in Rule 15 shall include information about the matters specified in section 15 of the Plan.

Explanation. *This rule applies to the discharge of these contaminants to any place, including at a landfill. Substances specified in (a) to (c) of this rule have created contaminated sites in this Region and elsewhere in New Zealand. These substances can be disposed into specifically designed facilities.*

Organochlorine substances (for example, chlorinated dioxins, pentachlorophenol (PCP), chlordane, the chlorinated agricultural insecticides such as DDT and dieldrin, and PCBs) requiring treatment or destruction may arise from a variety of sources, including contaminated soils, sediments, building materials, chemical stockpiles and materials from treatment ponds and waste dumps. The chemical stability of the organochlorine substances of concern, a feature contributing to their persistence in the environment, makes them difficult to destroy.

Applications for activities described in this rule will be assessed with regard to Policy 4.2.34 of the Plan. Matters that will be considered for all applications are included in section 5.3 of the Plan.

Rule 16 Application of pesticides as solids or pastes, land-based application methods

The discharge of any pesticide into or onto land as a solid or paste, if the discharge consists of:

(1) any pesticide applied to land by a ground-based application method in prill, pellet, granule, paste, or prepared bait form;

is a **Permitted Activity** provided

(a) no pesticide shall enter water in any water body, either directly or indirectly;

(b) the pesticide shall be applied in accordance with the manufacturer's instructions;

(c) signs shall be placed at all normal lines of approach to the discharge site,
(i) when the pesticide has been applied to public land; and
(ii) on all other land where pesticides of Schedules 1 or 2 (Deadly Poison, Dangerous Poison) have been applied;
identifying the pesticide(s) that has been applied, the date of application and the precautions, if any, that people using the site should take.
For pesticides for vertebrate pest control, such signs shall be in place for the duration of any residual effects of the pesticide; for all other pesticides, such signs shall be in place until the pesticide has been fully incorporated into the soil;

(d) the Wellington Regional Council shall be notified as soon as possible in the case of any accidental discharge into a surface water body;

(e) there shall be no discharge of any pesticide:
(i) within 10m of any surface water body or the coastal marine area; or
(ii) in any dry drain, dry ditch, dry irrigation channel or similar area
if the pesticide is identified (on the label or on the materials safety data sheet) as being “toxic to fish” or having aquatic acute toxicity (96hr LC_{50}fish) at concentrations of 10.0 mg/l or less.

Explanation. *Rule 16 permits most applications of pesticides directly to land as solids or pastes, subject to good practice (including providing warning signs). The term “pesticide” is defined in Section 3 of the Plan. The types of activities permitted by this Rule include using baits for vertebrate pest control, and prills for weed control. The rule specifies that a "ground-based application method" be used. This excludes application by aircraft.*

Condition (c) addresses the use of signage to inform people of where pesticides have been used. "Public land" includes all areas in public ownership, e.g., parks, playing fields, and places such as schools and also those places used for public

assembly. "Normal lines of approach" means the usual access points at the legal boundary of the property.

“Residual effects” with respect to pesticides for vertebrate pest control includes secondary poisoning which may occur through the ingestion of poisoned carcasses by other animals, e.g., dogs eating possum carcasses.

"Fully incorporated into the soil" means that the granules, prills, or pellets have disintegrated, dissolved or been buried (as recommended in Appendix F3.2, NZ Agrichemical Users' Code of Practice NZS 8409:1995) and therefore, the risk to non-target organisms through accidental ingestion of the pesticide has been minimised.

Rule 17 Application of solid pesticides, aerial application methods

The discharge of any solid pesticide onto land in connection with:

(1) the aerial application of any vertebrate pest control chemical listed as a "controlled pesticide" in the First Schedule of the Pesticides Act 1979;

is a **Controlled Activity**, and shall comply with the standards and terms below.

Standards and terms

(a) there shall be no application of pesticides into open surface water bodies or onto any roof or other structures used as a catchment for water supply;

(b) a navigational guidance system shall be used to ensure application is within the defined areas, and records of flight paths shall be made available for public viewing;

(c) the authority responsible for the operation shall maintain a register of landowners/occupiers who object to the flight paths of aircraft involved in pest control operations passing over their properties. All practicable steps shall be taken to avoid the use of flight paths over such properties during an operation;

(d) approval of all landowners where the activity is to take place shall be obtained, and alternative means of achieving an equivalent degree of control of the targeted pest shall be offered to landowners who do not wish the pesticide to be applied on their land;

(e) all practicable steps shall be taken to ensure that there is no dust drift, as a result of the discharge, beyond the boundary of the target properties;

(f) the Wellington Regional Council shall be notified as soon as possible in the case of any accidental discharge into a surface water body;

(g) the operator shall ensure that the bucket distributing the bait is covered when flying to the extent necessary to minimise the risk of bait spilling from the top due to air currents.

(h) there shall be no discharge of any pesticide:
  (i) within 10m of any surface water body or the coastal marine area; or
  (ii) in any dry drain, dry ditch, dry irrigation channel or similar area
  if the pesticide is identified (on the label or on the materials safety data sheet) as being "toxic to fish" or having aquatic acute toxicity (96hr LC_{50}fish) at concentrations of 10.0 mg/l or less.

Control

The Wellington Regional Council will exercise control over:

(1) the rate of pesticide application;

(2) monitoring requirements;

(3) the duration of the consent;

(4) administrative charges.

Applying for a Resource Consent

An application for a resource consent under Rule 17 shall be made on the prescribed form, and shall include:

(1) the matters set out in (1)-(8) of Section 5.3.1 of this Plan;

(2) a topographic map with the following marked:
  (a) the boundaries of the target properties;
  (b) any water supply catchments and/or structures;
  (c) the location of any buildings and public walking tracks

(3) a description of the natural values of the target area;

(4) an explanation of how the operation will be managed so that it complies with the standards and terms, including a contingency plan for equipment failure or other emergencies.

Notification
An application for a resource consent made under Rule 17 shall not be publicly notified except where the consent authority considers that there are exceptional circumstances which justify notification.

Explanation. *The term "pesticide" is defined in Section 3 of the Plan. Rule 17 allows the aerial application of vertebrate pest control chemicals. This means any application involving the use of an aircraft (as defined in the Act). Sodium monofluoroacetate (1080) is currently the only vertebrate pest control chemical*

applied by aerial means. The conditions include a requirement to obtain the permission of affected landowners. If landowners do not wish the pesticide to be applied aerially to their land, the person carrying out the activity must offer the landowner alternative means of pest control. The degree of control achieved by the alternative means must be equivalent to that which would have been achieved by the aerial application of the pesticide. Where alternative means of control are used, either by the landowner/occupier or the authority responsible for pest control, this condition does not require any additional costs of control (i.e., costs in addition to those budgeted for aerial application) to be borne by the responsible authority.

"All practicable steps" in condition (e), includes: use of high quality baits (or other solid pesticides) with a very low percentage of fine material and which are resistant to breaking on impact.

In addition to complying with these rules, users of 1080 and other "controlled pesticides" are also subject to the relevant approvals obtained under the Pesticides Act and the Vertebrate Pest Control Regulations made under that Act, and for aerial application, the Civil Aviation Act and its associated regulations. Among other things, these Acts require:

- *the use of the controlled pesticide to be carried out by (or under the supervision of) an operator approved and licensed under the Pesticides Act;*
- *the approval of the Medical Officer of Health, who may place conditions on the approval; and*
- *in specified "restricted areas", the approval of the relevant territorial authority, which may also place conditions on the approval.*

Clause (e) of Rule 16, and (h) of Rule 17 apply to any pesticide applied as a solid or paste (including herbicides and insecticides) which has ecotoxic effects on fish. Information on the ecotoxicity of pesticides is found on the label, or on the materials safety data sheet (MSDS) available from the manufacturer. The LC_{50} level for pesticides covered by this clause (i.e., the level at which 50% of test populations of fish die) occurs when the substance is diluted in water at a concentration of 10 mg/l or less. This threshold level is consistent with recent OECD classification criteria for the aquatic environment which have been proposed for use in the reform of legislation for Hazardous Substances and New Organisms.[42] *Pesticides that are toxic to fish should not be used near water.*

***Important Note:** Rules 16, and 17 apply to the direct application of pesticides to land (including application of baits by aerial means). They do not apply to the spray application of pesticides. The spray application (including aerial spraying) of pesticides is addressed in the Regional Air Quality Management Plan.*

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42 Ministry for the Environment, 1994.

Rule 18 Roading, sealed areas and related activities

The discharge of any contaminants into or onto land in association with the construction, maintenance and repair of roads, pathways, yards and other sealed areas or accessways, is a **Permitted Activity** (other than the disposal of waste materials addressed by another Rule in this Plan), provided

(a) the discharge shall consist only of materials normally associated with the construction and maintenance of roads and sealed areas, but not including any agrichemical or waste oil; and

(b) no contaminant shall be able to enter surface or ground water, other than by way of imperceptible seepage, for the duration of the activity.

Explanation. *Rule 18 applies to the discharge of contaminants to land in the course of the construction, maintenance and repair of roads and sealed areas. Condition (a) relates to the nature of the materials discharged. These include solid fill, concrete, bitumen, lime and dust suppressants other than waste oil. Alternatives to the use of waste oil as a dust suppressant include the use of lime/cement or bitumen stabilisation (spraying of a cold liquid bitumen emulsion). The disposal of waste materials is not covered by this Rule and therefore requires that disposal either occur at a landfill, or other facility able to accept such material, or the material be recycled, as appropriate. Pesticides used to control weeds on roads or other sealed areas are not permitted by this Rule, but are addressed by Rule 16 when solid pesticides are applied (e.g., granules, pellets or prills). The spray application of agrichemicals is addressed in the Regional Air Quality Management Plan. The conditions relate to adverse effects on water quality and amenity values. These conditions require good practice (e.g., not laying bitumen during or prior to rain).*

Rule 19 Water treatment plant wastes

The discharge from water treatment plants into or onto land of:

(1) supernatant and other waste water;

(2) coagulant wastes and admixtures containing coagulant wastes mixed with soil, aggregates, or other naturally occurring materials;

is a **Controlled Activity**, and shall comply with the standards and terms below.

Standards and terms

(a) the discharge shall occur no less than 20 metres from any surface water body, from any bore used for drinking water supply, irrigation or stock water or from the coastal marine area;

(b) the base of the disposal area shall be no less than 1.5 metres above the highest level of the water table; and

For a discharge to a dedicated disposal site (i.e., a site which only receives coagulant wastes), the following standard shall apply:

(c) coagulant waste shall be physically stable to the extent necessary to ensure that the discharge site does not constitute a greater hazard with respect to landslip or subsidence than existed at the site prior to waste disposal.

Control

The Wellington Regional Council will exercise control over:

(1) the water content of the coagulant waste;

(2) the manner in which the discharge occurs, including requirements to engineer the site to standard which ensures (c) above is met;

(3) rehabilitation of the discharge site;

(4) monitoring requirements;

(5) the duration of the consent;

(6) administrative charges;

and where coagulant waste is to be applied as a soil amendment or landscaping material, or where supernatant is to be applied to land;

(7) the rate of application.

Applying for a Resource Consent

An application for a resource consent under Rule 19 shall be made on the prescribed form, and shall include:

(1) the matters set out in (1)-(8) of Section 5.3.1 of this Plan;

(2) evidence showing that the discharge complies with conditions (a), and (b), and where applicable (c), of the Rule.

Notification

An application for a resource consent made under Rule 19:

- shall not be publicly notified; and
- shall be considered without the written approval of affected persons;

except where the consent authority considers that there are exceptional circumstances which justify notification or the obtaining of written approval from affected persons.

Explanation. *Rule 19 applies to waste generated during water treatment and includes both liquid waste (e.g., from backwashing of filters) and coagulant wastes. The standards and terms address soil and water quality concerns.*

For the avoidance of doubt, a consent is not required to dispose of coagulant waste to a landfill which already holds the appropriate consents.

Rule 20 Waste oil

The discharge of waste oil onto or into land is a **Discretionary Activity**.

Applying for a resource consent

An application for a resource consent for an activity described in Rule 20 shall include:

(1) a description of the activity for which a resource consent is sought, including the methods and processes to be used, and location map;

(2) information on the likely contaminants based on the source of the waste oil;

(3) where waste oil is applied to any road, the distance to any water supply race, lake, river, wetland, or part of the coastal marine area, and a description of measures to be taken to avoid any effects on them by road run-off in such detail as corresponds with the scale and significance of the actual or potential effects of the activity; and

(4) information on those matters specified in (1)-(8) of section 5.3.1 of this Plan, as deemed relevant, and in such detail as corresponds with the scale and significance of the actual or potential effects of the activity.

Explanation. *Rule 20 applies to the discharge of waste oil to any land, whether to a landfill for disposal, or onto a road for suppressing dust. Policy 4.2.42 contains specific guidance for the assessment of applications for activities governed by this rule. The general guidance contained in Policy 4.2.41 is also applicable.*

Rule 21 Contaminated sites (on-site discharges)

The discharge of any contaminants:

(1) into or onto land from a contaminated site, (and not from any activity located on the site) other than as provided in clause (1) of Rule 22; or

(2) into or onto land which is, or is part of, a contaminated site, in association with the on-site remediation of the contaminated site;

is a **Permitted Activity** provided

(a) there shall be no noxious, dangerous, offensive or objectionable levels of contaminants in the air at or beyond the site boundary as a result of the discharge;

(b) there shall be no contaminants from the contaminated site or from any discharge associated with site remediation (or any other contaminants emanating as a result of natural processes from those contaminants) beyond the boundary of the contaminated site at concentrations above the background levels for that location;

(c) the site owner shall undertake such monitoring as is necessary to ensure that the site complies with conditions (a) and (b) above, and shall make the monitoring results available to the Wellington Regional Council, on request.

Rule 22 Contaminated sites (off-site discharges)

The discharge of any contaminants:

(1) into or onto land from a contaminated site (and not from any activity located on the site); or

(2) into or onto land which is, or is part of, a contaminated site, in association with the on-site remediation of the contaminated site;

if:

(3) the activity involves the removal of material from the contaminated site and the discharge of contaminated material at some other location (unless the material is discharged at a landfill which holds resource consents which enable it to accept the discharge); or

(4) the discharge does not comply with any of the conditions in Rule 21;

is a **Controlled Activity** and shall comply with the standards and terms below.

Standards and terms

(a) the consent holder shall undertake such monitoring as is necessary to ensure that the site complies with conditions or standards set by the Wellington Regional Council under provisions (i) and (ii) of this Rule, and shall make the monitoring results available to the Wellington Regional Council, on request.

Control

The Wellington Regional Council shall exercise control over:

(1) any on-site actions that may be required in order to manage the actual or potential effects of discharges of contaminants from the originating site or the disposal site;

(2) standards for site remediation, if necessary;

(3) the means of removal, and the location of the disposal, of any contaminated material from the site;

(4) the duration of the consent; and

(5) administrative charges.

Applying for a Resource Consent

An application for a resource consent under Rule 22 shall be made on the prescribed form, and shall include:

(1) the matters set out in (1)-(8) of Section 5.3.1 of this Plan;

(2) a summary of any site investigations that have been undertaken to determine the degree and extent of the contamination, including an identification of the boundaries of the contaminated site;

(3) any remedial action planned for the site, and the actual and potential effects of the remedial action.

Notification

An application for a resource consent:

- shall not be publicly notified; and
- shall be considered without the written approval of affected persons;

except where the consent authority considers that there are exceptional circumstances which justify notification of the obtaining of written approval from affected persons.

Explanation. *These rules apply to both:*

- *discharges from contaminated sites (as a result of site contaminants leaving the site, e.g., leaching into groundwater, dispersing into air, or migrating through soil); and*
- *discharges which result from site remediation activities, whether at the site (e.g., in-situ bioremediation) or at some other location (e.g., removal and disposal of contaminated material).*

The rules do not apply to other activities (e.g., factory discharges) which may occur at a contaminated site.

Contaminated sites are defined in Section 3 of this Plan. The rules focus on whether or not the site is having an adverse effect beyond the site boundary. For the purposes of these rules, the "boundary" of a contaminated site means the complete extent of the contaminated land, as assessed at the time that the site was investigated, and confirmed as being contaminated.

If the existence of the contaminated site, or the remediation of the site doesn't have an effect beyond the boundary of the site, then Rule 21 provides that no resource consent is required. This permits, for example, discharges of uncontaminated stormwater from the site, or the on-site containment of contaminated material.

If the site or the remedial action is having or will have an adverse effect beyond the site boundaries then the discharges are controlled activities. The only exception to this is where material from a contaminated site is discharged at a landfill which holds resource consents which enable it to accept the discharge. In this case, no additional resource consent is required.

In enforcing this rule, the Regional Council will ensure that owners of contaminated sites are given sufficient time to respond to the requirement to obtain a resource consent before enforcement action is taken. This may include issuing an abatement notice which requires a discharge consent to be obtained within a specified time.

Policy 4.2.48 is particularly relevant to applications made under Rule 22.

Contaminated sites may also be subject to provisions in district plans and other legislation.

5.3 Other matters related to resource consents

This Section of the Plan sets out the information to be submitted with a resource consent application, the circumstances in which further information may be required.

5.3.1 Information to be submitted with a resource consent application

All applicants for a resource consent to carry out an activity under the provisions of this Plan shall submit the following information, on the prescribed form, with the resource consent application:

(1) a description of the activity for which consent is sought, including the methods and processes to be used. The description should identify the location(s) of the discharge(s) by way of a map, the correct NZMS reference, and the valuation roll number;

(2) the site characteristics of the discharge location, including hydrogeological information;

(3) the nature of the discharge (contaminants, quantity, frequency, duration, hazardous properties etc.);

(4) a description of the consultation undertaken in relation to the application, and the outcomes of that consultation;

(5) an assessment of any actual or potential effects which the activity may have on the environment, and the ways in which any adverse effects may be avoided, remedied or mitigated. This assessment shall be in such detail as corresponds with the scale and significance of the actual or potential effects that the activity may have on the environment, and shall be prepared in accordance with the Fourth Schedule of the Act. In particular, the assessment of environment effects shall focus on:

(a) any adverse effects on:

- human health;
- amenity values;
- resources or values of significance to the tangata whenua;
- soil, plants, animals, and ecosystems;
- surface water and groundwater (particularly in areas indicated on Map 1 which are vulnerable to the effects of discharges);

(b) any cumulative effects which may arise over time or in combination with other effects; and

(c) any effects of low probability or high potential impact.

Note 1: If the application is for a resource consent for a controlled activity, then the assessment of environmental effects need only address those matters over which the Regional Council has retained control (specified in the relevant rule).

Note 2: In relation to effects on resources or values of significance to tangata whenua, Section 2.1 of this Plan provides some indication on likely issues of concern. However, consultation with relevant tangata whenua groups should occur on a case-by-case basis, in such detail as corresponds with the scale and significance of the actual and potential effects of the activity on tangata whenua.

(6) the proposed monitoring provisions;

(7) a statement of all other resource consents or approvals which the applicant may require from a consent or approval authority in respect of the activity to which the application relates, and whether or not the application has applied for such consents; and

(8) any additional information which may be required in relation to applications for specific types of discharges. Some additional information requirements are set out in the Rules. Regional Council staff should be contacted to discuss the scope and contents of any other additional information that may be required.

5.3.2 Circumstances in which the powers in s.92 may be used

The powers under s.92 of the Act may be used if insufficient information is provided on any matter set out in Section 5.3.1 above.

5.3.3 Conditions on resource consents

Circumstances in which conditions on resource consents may be required

(1) Conditions may be placed on resource consents for the purpose of avoiding, remedying or mitigating any adverse effects which are associated with, or are a consequence of, an activity, particularly where the following are affected:

  (a) the life-supporting capacity of soil or ecosystems;

  (b) areas of significant indigenous vegetation or significant habitats of indigenous fauna;

  (c) water quality;

  (d) the natural character of the coastal environment, wetlands, or lakes and rivers or their margins;

(e) amenity values;

(f) resources or values of significance to tangata whenua.

(2) Conditions will not be used to

(a) remedy, mitigate, or offset effects which are of such significance that they must be avoided, and in such circumstances a consent application will be declined; or

(b) remedy, mitigate, or offset effects which it is not within the Regional Council's jurisdiction to control.

5.3.4 Considerations for conditions on resource consents

To have regard to the following matters when determining the nature and extent of any conditions to be placed on resource consents:

(a) the significance of the adverse effects arising as a consequence of, or in association with, the proposed activity;

(b) the extent to which the proposed activity contributes to the adverse effects;

(c) the extent to which the adverse effects of the proposed activity can be, and have been, dealt with by other means;

(d) any proposals by the applicant to avoid, remedy or mitigate adverse effects and any agreement reached at pre-hearing meetings;

(e) the extent to which the community as a whole benefits from the proposed activity and from any proposed conditions on a resource consent;

(f) the financial cost of complying with any conditions on a consent; and

(g) the extent to which a condition placed on a resource consent will avoid, remedy or mitigate any adverse effects.

(h) the effects of the discharge on:
  (i) groundwater quality and groundwater uses nearby, in particular any use for water supply;
  (ii) river water quality;
  (iii) lake water quality, in particular the contribution of the discharge to nutrient and sediment levels in the lake by overland runoff or by groundwater flows to the lake;
  (iv) soil structure;
  (v) air quality, in particular adverse effects from the intrusion of odour; and
  (vi) human health and public amenity.

(i) the location of the proposed discharge in relation to any sensitive receiving environment, in particular any neighbouring houses, schools,

churches, marae, organic farms, public areas, wetlands, lakes, springs, streams or known areas of recharge to groundwater aquifers.

(j) the nature of the discharge with regard to tangata whenua concerns, and the effect of the discharge on mahinga kai, waahi tapu, marae and other resources or places of significance to tangata whenua.

(k) the proposed hydraulic loading, nutrient loading and biochemical oxygen demand loading, and the cumulative effect of these application rates with other discharges.

(l) the persistence of the contaminants in the discharge.

(m) soil types between the ground surface and groundwater.

(n) contingency measures available, such as storage ponds, to avoid the need to discharge during wet or windy periods.

(o) the proposed times and seasons of application.

(p) any relevant code of practice and any management and maintenance systems.

5.3.5 Purposes of conditions on resource consents

(1) To avoid, remedy or mitigate adverse effects of discharges, conditions on resource consents may be used for any of the following purposes:

(a) Habitat restoration, rehabilitation, creation and improvement;

(b) Restocking and replanting of flora and fauna (with respect to replanting, preference will be given to the use of indigenous species, with a further preference for local genetic stock);

(c) works and services relating to the improvement, provision, reinstatement, protection, restoration or enhancement of the matters listed in 5.3.3 (1).

5.3.6 Considerations for consent applicants

Applicants for resource consents will be encouraged to:

(a) identify in their application how adverse effects may be avoided, remedied or mitigated;

(b) consult and discuss with parties who may be affected by the proposal prior to applying for a consent.

6. Non-regulatory Methods

6.1 Solid Contaminants

The Wellington Regional Council will:

6.1.1 Undertake energy and waste management audits of its total operations with a view to applying the principles of waste minimisation and cleaner production throughout the organisation.

6.1.2 Advocate waste minimisation and cleaner production policies at all appropriate opportunities, and particularly to the industrial, commercial, production and local authority sectors of the Region.

6.1.3 Liaise with the Cleaner Production Association and other groups engaged in cleaner production activities.

6.1.4 Support cleaner production demonstration projects in the Region, as appropriate.

6.1.5 Liaise with central government on the development of waste management policies and strategies which are more effectively co-ordinated at a national level.

6.1.6 Undertake research, where appropriate and in conjunction with other interested organisations, on:

(a) the economics, markets and alternative technologies for re-using and recycling materials and recovering resources, in particular used tyres, and energy, from waste; and

(b) the use of economic incentives for waste reduction, and means of valuing the true cost of waste disposal.

6.1.7 Develop guidelines for composting operations, in consultation with appropriate organisations.

6.1.8 Support investigations of options for regional and sub-regional waste treatment and disposal facilities, where appropriate.

6.1.9 Co-ordinate the application process for the various resource consents required for landfills and facilitate the use of joint hearings where appropriate.

6.1.10 Investigate illegal landfills in the Region, inform landowners and landfill operators of their obligations with respect to this Plan and the Act, and invoke the enforcement procedures of the Act where necessary.

6.1.11 Review, improve and extend landfill leachate monitoring in the Region.

6.1.12 To co-ordinate the Region-wide implementation of the Waste Analysis Protocol.[43]

6.2 Liquid Contaminants

The Wellington Regional Council will:

6.2.1 Develop a programme, in conjunction with territorial authorities, for educating home owners about the management of on-site sewage treatment and disposal systems.

6.2.2 Where there are still significant adverse effects on the quality of groundwater and surface water after education programmes have been undertaken, use the abatement and enforcement procedures of the Act to ensure that on-site sewage treatment and disposal systems are adequately cleaned and maintained, or to require that improved systems be installed.

6.2.3 Work with territorial authorities to include appropriate provisions in district plans for the control of sewage disposal for new developments, and encourage territorial authorities to use Building Act 1991 provisions and bylaws, where necessary, to complement district plan provisions.

6.2.4 Transfer powers to territorial authorities under s.33 of the Act, to complement territorial authority responsibilities for on-site sewage treatment and disposal under other legislation. Although transferring powers is the Regional Council's preferred option, implementation of this method will be negotiated on a case-by-case basis with territorial authorities concerned.

6.2.5 Continue to monitor the quality of surface water, groundwater and coastal water throughout the Region, and particularly in areas where discharges of effluent to land may be affecting water quality.

6.2.6 Monitor the soils in the region in areas where discharges to land may be affecting soil fertility and/or soil structure.

6.2.7 Promote compliance with the Response Manual for Sewage Discharges.[44]

6.2.8 To promote adherence to:

- the guidelines for "On-Site Wastewater Disposal from Households and Institutions";[45] and
- the Wellington Regional Council Guidelines for Domestic Waste Water Disposal for the Wairarapa Plains and Coast.[46]

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43 Ministry for the Environment 1992(b).
44 Hutt Valley Health, 1993.
45 Auckland Regional Council, 1994.

6.3 Agricultural Contaminants

The Wellington Regional Council will:

6.3.1 Together with representatives of the farming community, territorial authorities, and other relevant organisations and community groups, develop guidelines for:

- the environmentally sound disposal of agricultural wastes (effluent and solid wastes); and
- appropriate land management practices (including good riparian management and fertiliser application) to manage the adverse effects of non-point source pollution of surface water.

6.3.2 Facilitate and support means by which groups of landowners can act together to develop and implement ways of reducing the effects of their activities on water quality.

6.3.3 Promote, where appropriate, the use by territorial authorities of the esplanade reserve and esplanade strip provisions of the Act in order to reduce the effects of diffuse sources of pollution.

6.3.4 Carry out investigations and monitoring to clarify the contributing sources and effects of point and non-point source agricultural pollution of groundwater and surface water.

6.3.5 Include provisions in other regional plans, such as the Regional Freshwater Plan, which will promote land management practices to help implement Policy 4.2.24.

6.3.6 Investigate the development and implementation of a regional programme for the collection and disposal of unwanted agricultural chemicals.

6.3.7 Review, in three years from the adoption of this Plan, the need for a more regulatory approach for controlling the effects of non-point source pollution of waterways.

6.3.8 Advocate the policies and guidelines in this Section of the Plan to the farming community at all appropriate opportunities.

6.3.9 Provide information about appropriate methods to avoid or mitigate the adverse effects of fertiliser use, beginning with parts of the Region where groundwater is degraded with nitrates.

6.3.10 Investigate all areas in the Region where groundwater is vulnerable to contamination from fertiliser use, assess the potential contribution of fertiliser use to elevated nitrate levels in groundwater compared to other sources, and

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[46] WRC, December 1991.

assess the effectiveness of the provision of information in reducing these effects in those areas.

6.4 Hazardous Substances

The Wellington Regional Council will:

6.4.1 Work with territorial authorities to develop appropriate provisions in district plans for controlling the use of land to prevent or mitigate any adverse effects from hazardous substances.

6.4.2 Establish a working group of local authorities in the Region to:

(1) provide a forum for swapping information and identifying regional issues in hazardous substance and hazardous waste management, and develop regional solutions to those issues where appropriate; and

(2) co-ordinate the development of a regional approach to the assessment of facilities using or storing hazardous substances.

6.4.3 Advocate and provide information on the policies and guidelines adopted in this section of the Plan to industry at all appropriate opportunities.

6.4.4 Encourage the formation of industry groups to share information (particularly on matters such as cleaner production), develop industry guidelines on the safe use, storage and disposal of hazardous substances, and develop and operate voluntary take-back schemes for hazardous wastes.

6.4.5 In conjunction with the Hazardous Substances Technical Liaison Committee:

(1) develop appropriate contingency plans for dealing with hazardous substances spills; and

(2) provide technical assistance to emergency services dealing with unplanned discharges of hazardous substances.

6.4.6 Invoke, where necessary and appropriate, the enforcement and emergency works procedures of the Act, to require the clean up and restoration of the environment following an unplanned discharge, and for any associated costs to be met by the person or agency responsible for the discharge.

6.4.7 Support investigations of the feasibility of:

(1) a regional hazardous waste treatment facility;

(2) a secure, designated regional landfill(s) for the co-disposal of hazardous wastes.

6.4.8 Promote adherence to the Centre for Advanced Engineering Guidelines for Co-disposal in New Zealand.[47]

6.4.9 Liaise with other regional councils over the transportation of hazardous wastes between regions.

6.4.10 Prepare, in conjunction with territorial authorities, the Public Health Service and the New Zealand Fire Service, a register of industries using and storing significant quantities of hazardous substances.

6.4.11 In co-operation with organic farmers in the Wellington Region:

(1) establish a register of organic farms in the Region;

(2) involve those farmers in solutions to managing animal pests on their properties having regard to their needs as organic farmers; and

(3) promote the use of the register by the Department of Conservation and other users of animal pesticides in the Region.

6.5 Site Contamination

The Wellington Regional Council will:

6.5.1 Conduct a preliminary (primarily desktop) investigation to identify sites with a history of using, storing, or manufacturing hazardous substances in the Region.

6.5.2 Work with territorial authorities and industries to develop, implement and maintain a regional database of sites with a history of using, storing or manufacturing hazardous substances, including those where an assessment has been made and contamination confirmed. Sites where spills or other incidents involving hazardous substances have occurred will also be included in the database.

6.5.3 Work with industry groups national agencies and other regional councils to develop appropriate testing techniques to determine contamination levels and risk assessment methods.

6.5.4 Assess the degree of contamination of sites with a history of using, storing or manufacturing hazardous substances, where it is not possible or practicable for site owners to do this, commencing with sites of highest priority.

6.5.5 Develop procedures for transferring the information contained in the regional database to territorial authorities for incorporation onto Project Information Memoranda and Land Information Memoranda, where appropriate.

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[47] Centre for Advanced Engineering, 1992, pp 206-212.

6.5.6 Work with territorial authorities to develop appropriate provisions in district plans which provide for site specific controls where planning controls are an appropriate response to the effects of contaminated sites.

7. Principal Reasons for Policies

7.1 Solid Contaminants

Objectives, policies and methods for the discharge of solid contaminants to land have been adopted in order to address the Issues identified in Section 2.2 of this Plan. These issues are of two types - issues about the quantity of wastes discharged to land in the Region, and issues about the adverse effects of discharging solid contaminants to land.

Quantity of wastes

Provisions on waste minimisation and cleaner production have been adopted because the current high levels of waste generation in the Region are unsustainable and, therefore, contrary to the purpose of the Act. Objective 4.1.1 and Policies 4.2.1 to 4.2.4 reflect the priority placed on waste minimisation and cleaner production in both central government's waste management policy and the Regional Policy Statement. They also reflect the Council's responsibility for preparing objectives, policies and methods for the integrated management of the Region's natural and physical resources (s.30(1)(a)).

Reducing waste at source and diverting resources from the waste stream has many benefits - it reduces the consumption of raw materials and natural resources, it creates opportunities for productive activities based on recycled and re-used resources, and it reduces the environmental impacts of waste disposal. This latter benefit is directly related to the Council's responsibility for controlling discharges to land.

Specific targets for waste minimisation in the Region have not been adopted at this stage, because to be effective, targets need to be based on good information. The Plan therefore promotes gathering good information on the waste stream by adopting the Waste Analysis Protocol.

A promotional and educational approach has been adopted in preference to a regulatory approach to waste minimisation because this is consistent with the Council's functions under s.30 of the Act, and because effective waste reduction requires a co-operative approach between local authorities, industry and the community.

Controlling adverse effects

Objectives 4.1.2 and 4.1.3 and Policies 4.2.5 to 4.2.11 reflect the Council's responsibilities for managing regionally significant land use effects (s.30(1)(b)), and controlling discharges of contaminants (s.30(1)(f)).

Landfill siting is of regional significance as the effects of a landfill can be felt across territorial boundaries. Potential landfill sites in the Region are a limited resource, and in order to make efficient use of this resource, a rational approach to landfill siting is required (s.7(b)). Methods for implementing this set of policies are limited to advocacy, support and the provision of information, as rules cannot be written in relation to the Council's functions under s.30(1)(b) of the Act.

A primarily regulatory approach has been adopted to control adverse effects of discharges, as required under s.15 of the Act.

7.2 Liquid Contaminants

Objectives, policies and methods for discharges of liquid contaminants to land have been adopted in order to address the Issues identified in Section 2.3 of the Plan.

Objectives 4.1.4 and 4.1.5 and Policies 4.2.12 to 4.2.22 reflect the Council's responsibility for controlling the discharge of contaminants to land, particularly where discharges have effects on water quality. Monitoring has shown that septic tanks and discharges from reticulated sewerage systems are having adverse effects on groundwater and surface water in several parts of the Region.

The adopted approach acknowledges territorial authority responsibilities for controlling the use of land under the Act, and for administering the Building Act 1991 and Health Act 1956. These responsibilities can complement Regional Council responsibilities for controlling discharges. The cumulative effects of on-site effluent disposal can be managed most effectively through land use controls such as minimum section sizes or requirements for reticulated sewers in new subdivisions. A combination of education and regulation has been adopted as many of the adverse effects of septic tanks can be improved through better management of on-site systems by the users of the system. A permissive approach has been adopted to alternative on-site effluent treatment and disposal systems, so that people and communities are not constrained in providing for their well-being, so long as any adverse effects can be adequately avoided, remedied or mitigated.

7.3 Agricultural Contaminants

Objectives, policies and methods for agricultural contaminants have been adopted to address the Issues identified in Section 2.4 of this Plan.

Objective 4.1.6 and Policies 4.2.20 to 4.2.24 reflect the Council’s responsibility under the Act for controlling discharges of contaminants to land. These provisions have been adopted mainly to protect surface water and groundwater from the effects of point and non-point sources of agricultural contaminants. Also

of concern are the effects of inappropriate disposal of agricultural effluent and wastes on soil quality, amenity values (e.g., odour), and the health of humans, plants, animals and ecosystems.

The Rules focus on agricultural effluent, silage stacks and offal pits because these activities contribute to the adverse effects on water quality identified in the Regional Council's monitoring programme. A relatively permissive approach has been adopted in the Rules because education and the promotion of good practice can make a major impact on the effects of agricultural contaminants. The regulatory approach backs up the promotion of good practice. A co-operative approach between local authorities and farmers is promoted because the effects of agricultural contaminants are cumulative upon the actions of individuals, and therefore require a collective response.

7.4 Hazardous Substances

Objectives, policies and methods for hazardous substances have been adopted to address the Issues identified in Section 2.5 of the Plan.

Objectives 4.1.7 and 4.1.8, and Policies 4.2.25 to 4.2.42 reflect the Council's responsibility under the Act for controlling discharges of contaminants, and the Council's joint responsibility with territorial authorities for controlling the use of land in relation to the adverse effects of hazardous substances. The division of responsibilities set out in Policy 4.2.25 is consistent with the Regional Policy Statement and complements territorial authorities' existing responsibilities under the Dangerous Goods Act 1974.

Policies 4.2.25 to 4.2.42 reflect the fact that there are many different legislative tools available for managing various aspects of hazardous substances. The Plan focuses on areas where other legislation is not able to be effective, and areas in which Resource Management Act mechanisms are particularly effective. For this reason, these policies concentrate on (1) reducing the occurrence and effects of unplanned discharges of hazardous substances, and (2) managing the effects of planned discharges of hazardous substances.

Policies 4.2.27 and 4.2.28 have been adopted to guide territorial authorities in preparing district plans. Cleaner production is promoted as it reduces the potential for adverse effects to arise from both the use and disposal of hazardous substances. Generator responsibility is also promoted, to reflect central government policy, and to place the costs of addressing any adverse effects of hazardous wastes on those responsible for its generation. The policies and methods combine promotion of good practice with regulation. This approach has been adopted to allow for control where necessary (particularly in relation to planned discharges), and for a guideline-oriented approach in relation to storage and other practices which, if not properly carried out, may result in unplanned discharges of hazardous substances.

Policy 4.2.42 has been adopted to achieve objective 4.1.8, and address issue 2.5.8. The Policy is also necessary to direct decision-making on applications made in accordance with Rule 20. Road oiling has been carried out in some rural parts of the eastern Region where alternatives have been found to be too expensive. There has been no monitoring in this Region of the effects of this activity. Studies undertaken overseas indicate that, where there are a lack of controls, the use of used oil for dust suppression has a history of environmental problems.[48] Transit New Zealand[49] concluded that notwithstanding the potential short-comings of using the material, in that the origin of the oil will determine to what degree it is contaminated, nevertheless, waste oil provided the best overall control of dust at the least cost.

This Council, and most territorial authorities, are investing considerable resources in addressing the issue of "contaminated sites" in the Region. This is so that:

- contaminants from contaminated land are not discharged to water or air without resource consents;
- proper investigation, followed by any necessary remediation of the contamination, is undertaken before there is any change in land use, for example from a gas works site to a school, or a landfill to a playing field; and
- liable parties pay for any necessary remediation.

Policy 4.2.42, together with the Rule 20 classification of discharging waste oil as a discretionary activity, is necessary to ensure that the natural and physical resources are sustained to meet the reasonably foreseeable needs of future generations, and that the effects of activities that can permanently affect the environment are reasonably avoided. Together with Policy 4.2.31, this policy has particular regard to the efficient use of natural resources, as required by section 7 of the Act. That is, by restricting the situations when waste oil can be discharged to land, the Council is encouraging its reuse by appropriate mechanisms.

7.5 Site Contamination

Objectives, policies and methods for contaminated sites have been adopted to address the Issues identified in Section 2.6 of the Plan.

The successful identification and clean-up of contaminated sites relies on the co-operation of territorial authorities and site owners. For this reason a combination of regulatory and non-regulatory approaches has been adopted.

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48 Ministry for the Environment (1997). Environmental Effects of Used Oil Application to Roads for the Suppression of Dust.

49 Transit New Zealand (1995). Effect of Dust Palliatives on Unsealed Roads in New Zealand.

A non-regulatory approach has been adopted to the preliminary assessment and registration phases in order to foster co-operation and ensure that only contaminated sites, as defined in the Plan, are subject to consent requirements.

Responsibility for contaminated sites is primarily with the site owners, as this is consistent with the liability provisions for contaminated sites in the Health Act 1956 (s.33), the Toxic Substances Act 1979 (s.48) and the assumptions of liability for discharge of contaminants under the Resource Management Act. A more flexible approach is adopted for sites where liability is more complex, so as to reflect "natural justice" requirements, and to prevent unjust or inequitable liability provisions acting as a barrier to the effective clean-up of contaminated sites.

On the regulatory side, the policies reflect the Council's regulatory role for controlling discharges of contaminants.

8. Principal Reasons for Regional Rules

8.1 Rule 1 (discharges of contaminants not entering water)

Rule 1 has been adopted to implement Policy 4.2.19. The Act does not restrict discharges of contaminants to land except if the discharge is from an industrial or trade premise, or the contaminant **may** reach water. This restriction leaves some discretion to the consent authority in deciding whether or not the contaminant might or might not enter water. The Council is satisfied that regional rules should not retain that degree of discretion and that discharges of contaminants to land should be classed as Permitted Activities if their actual and potential effects —

- are no more than minor; or
- can be managed by conditions that do not need to be site-specific.

The Act's definition of water is very wide. Restricting every discharge that might contaminate any water is not necessary to achieve the purpose of the Act. For this reason, Rule 1 only restricts discharges that will contaminate water in a water body (i.e. river, lake, stream, pond, wetland, or aquifer), or water in a water supply race, farm drain or the coastal marine area. Section 70 of the Act prescribes that a regional council cannot make a rule in a plan that allows as a Permitted Activity any discharge that would (either by itself or in combination with the same, similar, or other contaminants), produce any of the following effects:

(c) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials:
(d) Any conspicuous change in the colour or visual clarity:
(e) Any emission of objectionable odour:
(f) The rendering of fresh water unsuitable for consumption by farm animals:
(g) Any significant adverse effects on aquatic life.

Contaminated water in farm drains can contaminate a water body downstream. Contamination of water bodies and the coastal marine area could compromise their life-supporting capacity. Allowing contamination of water in water bodies and water supply races could make the water unsuitable for consumption by farm animals. Discharges to land that contaminate these water bodies need either activity specific conditions in a Permitted Activity rule, or site specific conditions in a resource consent.

The Act's restrictions on discharges from industrial or trade premises, even if the discharge might not enter water, apply in the absence of a regional plan. When preparing this Plan, the Council identified the types of discharges that would require site-specific assessment, even if contaminants from the discharge would not enter water. These are discharges containing human

sewage (Rule 8), discharges at landfills (Rule 10), and discharges of specified hazardous substances (Rule 15). Unless an activity is specifically restricted, Rule 1 de-regulates

- stormwater discharged into a pipe which then discharges into surface water, and
- all discharges to land where water in water bodies, farm drains, water supply races, and the coastal marine area will not be contaminated, unless the discharge would create a contaminated site.

Rule 1 applies regardless of the source of the contaminant because the Council is satisfied that activities that could cause adverse effects on the environment are adequately provided for in the other rules.

Rule 2 of the Regional Freshwater Plan allows discharges of stormwater to water subject to conditions. Clause (a) of Rule 1 of this Plan is necessary because it is not appropriate to regulate stormwater discharges both into and out of pipes. Discharges to a pipe, for example into a stormwater reticulation system, are not discharges to water, because water in a pipe is not "water" (see section 2 of the Act). Discharges into pipes are interpreted in the Resource Management Act as being discharges to land that may enter water (section 15 (1)(b)), rather than discharges to water (section 15 (1)(a)), or discharges to land (section 15 (1)(d) or 15 (2)). Clause (a) removes unnecessary overlap between the Regional Freshwater Plan and the Regional Plan for Discharges to Land.

Clause (c)(ii) has been adopted because the creation of contaminated sites is clearly inconsistent with the sustainable management of the Region's natural resources. Policies 4.2.43 – 4.2.50 and methods 6.5.1 – 6.5.6 relate mostly to identifying and managing existing contaminated sites, not to preventing the establishment of more contaminated sites. The establishment of contaminated sites can only be prevented by controlling discharges of contaminants to land through regional rules.

The Council considered three alternative means of achieving the function of controlling discharges of contaminants to land so that contaminated sites would not be created. These were to add to the list of persistent contaminants in Rule 15, to adopt a clause that states "unless the discharge would create a new contaminated site", and to rely on section 17 of the Act. The first option was not adopted because the risk of permanently contaminating a site can depend on the quantities and location of the discharge, as much as the actual contaminant. The second option was not adopted because the word "new" is redundant when used with "create". The third option was not adopted because enforcement action cannot be used to address adverse effects of someone acting in accordance with a rule if those effects were expressly recognised during the preparation of the Plan (see section 319 (2)(c) of the Act).

8.2 Rule 2 (discharges of contaminants not otherwise provided for)

Rule 2 has been adopted to safeguard the life-supporting capacity of water, soil, and ecosystems, and so that adverse effects of activities on the environment can be avoided, remedied or mitigated. Consistent with Section 15 of the Act, Rule 2 restricts activities that do not comply with the conditions in the relevant rules, as well as other discharges that will enter water in water bodies, farm drains, water supply races, and the coastal marine area, unless they are expressly provided for by a rule in the Plan.

8.3 Rule 3 (stormwater etc.)

The discharges from network utility services and reservoirs specified in Rule 3 are permitted because they relate to everyday maintenance procedures which are necessary for the effective operation of the network utility. They involve small volumes of contaminants, the discharges are mainly water, and the effects of any contaminants which are included with the water can be managed through standard means such as dechlorination.

Also in Rule 3, discharges of stormwater and other specified non-hazardous liquid contaminants to land are permitted because they do not generally have adverse effects (particularly compared with their effects when discharged directly to water). The conditions in Rule 3 have been adopted in order to protect land from erosion and flooding, to protect water quality and the habitat of trout, and to protect amenity values.

8.4 Rule 4 (greywater)

Rule 4 has been adopted to implement Policy 4.2.15(2). Greywater generally has very low levels of contaminants but can contain soap, grease, and food matter. Ponding of greywater on the ground surface may then cause objectionable odour and may create a nuisance. Any runoff to surface water could cause the formation of grease films or scums in receiving water. These conditions are necessary to ensure that this plan is not inconsistent with the Proposed Regional Air Quality Management Plan or the Proposed Regional Freshwater Plan.

8.5 Rule 5 (pit latrines), Rule 6 (discharges of sewage into and onto land), and Rule 8 (discharges containing human sewage not otherwise provided for)

Rules 5, 6, 8 have been adopted to implement Policy 4.2.15(2). The conditions are necessary to address issues 2.3.1-2.3.4, and 2.1.3 and avoid, as far as practicable, the release of harmful substances into the environment, particularly where those substances may enter water, affect public health, or affect the mauri of land or water.

Leachate from pit latrines may enter water and so it is appropriate for this type of system to be provided for in the Plan. Pit latrines that comply with the conditions in Rule 5 would not cause adverse effects on water quality. The provisions in the conditions are consistent with established practices.

Rule 6 has been adopted because discharges from purpose designed aerobic wastewater treatment systems have little or no effect on the environment or public health provided the conditions in the rule are not breached. Many aerobic systems include irrigation of the treated effluent **onto** land where there is increased potential for adverse effects on public health. Such effects can be avoided if the effluent is applied at very low rates through systems, such as pressurised emitters, that do not produce any aerosol discharges to air, and where no effluent is allowed to collect on the ground surface.

Rule 6 also allows the discharge of composted sewage onto land, but only if the sewage originates from a composting toilet. This is principally because sewage from collective systems can contain trade waste contaminants such as heavy metals, which are persistent in the environment and can cause long term contamination of soils. Trade waste contaminants should not be applied to land without site specific conditions.

The conditions in this rule have been developed with regard to the outcomes of consultation undertaken for the discharge permit application for composted sewage sludge from the Wellington Sewage Treatment Plant. Conditions on the discharge permit granted on 31 July 1997 for this activity include monitoring the compost for persistent contaminants and human pathogens, and product labelling requirements. A significant concern expressed by tangata whenua during consultation for this permit was that faecal matter or human tissue present in composted sewage may be applied to food crops which could then be sold commercially. These concerns were addressed by conditions attached to the permit. Those conditions are too extensive to be included in a Permitted Activity rule. A discharge permit will still be required for the application of large amounts of human sewage so that specific conditions, in particular relating to monitoring requirements, can be included on the consent.

Note: these rules were proposed in a Variation notified on 26 September 1998. They are in addition to Rule 7, which was notified with the Proposed Plan in February 1995. Rule 7 does not allow sewage discharges above the soil surface.

8.6 Rule 7 (on-site sewage)

A predominantly permissive approach has been taken to on-site sewage treatment and disposal. Existing systems are permitted because it is impracticable to require resource consents for all existing on-site systems in the Region. This is particularly so given the availability of other equally (or more) effective means of control such as education, the Health Act nuisance provisions and the initiatives

adopted by territorial authorities in the Region (e.g., Bylaws). Most new systems can also be designed to satisfactory standards, and are therefore also permitted by Rule 7. A design guidelines approach has been adopted in preference to numerical or environmental standards in order to encourage innovation in the development of systems appropriate to the particular soil, topography and groundwater conditions in different parts of the Region. The conditions on Rule 7 relate to good practice, because this can significantly reduce any adverse effects of on-site sewage systems.

Buffer distances from rivers and watercourses have been included so that this Plan is not inconsistent with the Regional Freshwater Plan. The Regional Freshwater Plan directs that catchments identified in Appendix 6 of that Plan are managed for the purpose of water supply. Other rivers are managed for contact recreation. In addition, section 70 of the Act prevents the Council from adopting a rule in a regional plan that would allow a discharge to land where contaminants in the discharge would, among other things, render fresh water unsuitable for drinking by farm animals. Many rivers throughout the Region are used for stock water. Microbiological contaminants in sewage may make the water unsuitable for stock drinking.

8.7 Rule 9 (refuse disposal and composting)

Rule 9 has been adopted to control discharges resulting from refuse disposal and composting operations.

These discharges are generally permitted in farming and domestic situations because they are common activities with relatively well-known effects. In particular, these activities are usually relatively small scale, and the discharges are of a known composition (i.e., household and green wastes, but no hazardous wastes). Any adverse effects can therefore be managed through standard conditions. Composting and waste disposal on factory farms are included in Rule 9 because they would otherwise be restricted by the inclusion of factory farms in the definition of industrial or trade premises in s.2 of the Act, yet their effects are no different from other farming activities. The disposal of solid wastes permitted under Rule 9 is restricted to wastes generated on the property. This is in order to discourage the use of farm waste disposal sites as semi-commercial (or commercial) landfills. The conditions on Rule 9 have been adopted to protect water quality and amenity values.

Other discharges associated with landfills and composting operations require a resource consent under Rule 10. This is because these activities are generally large scale, have variable inputs (including sometimes hazardous substances) and may have complex and significant adverse effects, particularly on water quality. Case-by-case control is necessary to avoid, remedy or mitigate those effects.

8.8 Rule 10 (landfills, rubbish dumps and tips)

Rule 10 has been adopted to implement Policy 4.2.8 and address Issue 2.2.7. The management of waste materials has historically been singled out as requiring regulatory controls. Waste management is specifically provided for in sections 15(1)(d) and 418 of the Resource Management Act, sections 540, 540A and 541 the Local Government Act, and section 25 the Health Act.

A rule specifically regulating waste materials has been adopted in this Plan instead of leaving this activity to be covered by the default provisions of Rule 2 so that the Plan contains clear and specific guidance about the kinds of controls necessary to manage these activities. This rule makes it clear that premises used for the disposal of waste materials require a discharge permit, regardless of whether any contaminant enters water. This is necessary to ensure that any landfill, rubbish dump or tip is operated so that any effects on the environment are managed to avoid, remedy or mitigate the affects of the activity on the environment, including people.

8.9 Rule 11 (offal pits and silage)

Discharges from common agricultural activities (apart from the discharge of agricultural effluent) are permitted because they are generally accepted rural activities and any adverse effects can largely be addressed by good practice. The rules are necessary in order to permit activities which may otherwise require a resource consent under s.15(1)(b) of the Act. The conditions on Rule 11 (offal pits and silage) have been adopted to protect water quality, animal health, and human health and amenity.

8.10 Rule 12 (fertiliser)

Contamination of surface water and groundwater by agricultural activities has been identified as an issue in the Region. While fertiliser application can contribute to this contamination, the Council is not satisfied that any greater level of regulation would be more effective in avoiding or mitigating the potential adverse effects of the activity. The issue of over-application of fertiliser to any land, including pastoral and horticultural land, is more likely to be better addressed by providing information. Some improvement in groundwater quality should be achievable through controls imposed on other sources of nitrate, such as sewage and agricultural effluent, which are already regulated to control effects from organic and microbial contaminants.

Providing information and education alone relies on individuals recognising they can increase their net benefit by using the information. Avoiding or decreasing nitrate losses to groundwater by more effective fertiliser application allows a net benefit to accrue to the farmer. This is because the application of fertiliser in amounts not necessary for plant growth, or at times when plant uptake is low, is a financial cost to the farmer. The provision of information

should therefore modify that person's behaviour more effectively than regulation.

The Council recognises that the permissive approach taken in this rule needs to be accompanied by effective non-regulatory methods if the issue of nitrate contamination of groundwater is to be addressed. Methods 6.3.4, 6.3.9 and 6.3.10 direct the Council to investigate where groundwater contamination is caused by fertiliser application, and where it is caused by the discharge of effluent or land uses such as intensive farming. In areas where fertiliser application is the activity causing effects, the Council will actively promote adherence to the Code of Practice for Fertiliser Use.

This rule can be reviewed by the Council at any time to assess the effectiveness of the level of regulation taken for activities potentially contributing to elevated nitrate concentrations in some groundwater in the Region. If existing controls on regulated activities, and the provision of information about non-regulated activities, are not sufficient to reverse the trend of degraded groundwater, a higher level of regulation may be necessary.

There are some farming activities, such as intensive market gardening of "out of season" crops, where fertiliser use represents a small relative cost to the farmer. The provision of information alone to those farmers may not be sufficient to modify their behaviour because the costs of high, even wasteful, fertiliser application rates can be easily offset by high financial returns for the crop. The Council will investigate trends in groundwater quality under land uses such as this before this rule is reviewed (see Method 6.3.10).

8.11 Rule 13 (agricultural effluent)

Agricultural effluent requires a resource consent because these discharges have caused adverse effects on water quality throughout the Region, but particularly in areas with shallow aquifers. Agricultural effluent is also the subject of many odour complaints to the Regional Council, and takes up a significant proportion of the time that Council officers spend on investigating pollution complaints. Council monitoring indicates that the effects of these discharges are not necessarily related to the scale of the activity. Small farms can cause significant adverse effects. A case-by-case approach is therefore required.

The effects of these discharges are relatively well-known and, where necessary, the rate of effluent application can be managed to avoid, remedy or mitigate any adverse effects on soil or water quality. This is particularly applicable for piggery and poultry farms which produce a higher strength effluent in comparison to dairy sheds. Dairying is also a relatively common activity in the Region, and by making these discharges controlled, rather than discretionary, the Regional Council is creating an incentive to dispose of diary shed effluent on land, rather than in water. The standards, terms, and matters for Regional Council control in Rule 13 have been adopted to protect water quality and local amenity values.

8.12 Rule 14 (stock dip)

Rule 14 has been adopted to implement Policy 4.2.22 and address Issue 2.4.5. Spent stock dip is collected after pesticide control of stock pests has been undertaken, for example by running sheep through a spraying area with trays to collect the runoff. Stock dip pesticides will cause adverse effects on aquatic life in surface water, and could make groundwater unsuitable for drinking by stock or people. Notwithstanding Policy 4.2.40 of the Plan, discharge to land is the best practicable option for disposing of spent stock dip because of the small volumes and lack of appropriate alternatives. The conditions in this rule are necessary to ensure that this plan is not inconsistent with the Regional Freshwater Plan.

8.13 Rule 15 (specified hazardous substances)

Rule 15 has been adopted to implement Policies 4.2.34 and 4.2.35 and address Issues 2.5.3-2.5.5. Substances specified in (a) to (c) of this rule have created contaminated sites in this Region and elsewhere in New Zealand. These substances can be disposed into specifically designed facilities. Internationally the most widely employed means to destroy organochlorine chemicals and contaminated materials is high temperature incineration (HTI). After vigorous opposition to the proposed use of a cement kiln to destroy stocks of PCBs, New Zealand has exported its major holdings of PCBs for destruction in a dedicated hazardous waste HTI facility overseas, principally in France.

8.14 Rules 16 and 17 (pesticide application)

The rules for pesticides permit the majority of applications of pesticides directly to land. The permissive approach reflects the fact that these chemicals are normally applied by trained operators (or in the case of controlled pesticides, registered operators), there is generally no danger of spray drift, and any adverse effects can be controlled through standard good practice. Rule 14 also complements the permissive approach to spray application of agrichemicals set out in the Regional Air Quality Management Plan. The conditions on Rules 16 and 17 have been adopted to protect water quality, promote good practice and ensure that members of the public and landowners have the necessary information to take any actions that they consider necessary in response to the presence of the pesticide.

The use of pesticides that are toxic to fish within 10m of water are not allowed under these rules. This is to discourage the use of such chemicals in situations where they may enter water, either accidentally (e.g., through pellets falling into water) or by leaching. Pesticide use in dry drains, ditches or channels is of concern because the use of environmentally persistent chemicals in these areas can lead to the chemical being washed off-site, with consequent adverse effects on non-target species and ecosystems.

8.15 Rule 18 (roading etc.)

Rule 18 has been adopted in order to permit a range of activities which are necessary and accepted for the maintenance of an important physical resource (roading) in the Region, and other associated activities which have similar effects. These activities are normally only intermittent, and their adverse effects can be controlled through the adoption of good practice. Other effects of roads are adequately controlled through other means such as district planning. The conditions have been adopted to protect water quality and amenity values.

8.16 Rule 19 (water treatment plant waste)

Rule 19 has been adopted to encourage pretreatment and alternative uses of water treatment plant wastes, rather than their disposal in landfills. The conditions and matters over which the Council will exercise control reflect concerns about water quality.

8.17 Rule 20 (waste oil)

Rule 20 has been adopted to implement Policy 4.2.34 and Policy 4.2.42. Policy 4.2.34 recognises that the hazards of waste oil discharged to land are sufficient to ensure that, as a preference, it should be disposed of at properly designed facilities. Notwithstanding this preference, discharge permits for activities such as road oiling can be granted provided criteria specified in Policy 4.2.42 are met.

The chemical and physical composition of used oil will vary due to a number of contributing factors. The nature and degree of the potential environmental effects associated with the use of waste oil on roads will, therefore, depend on these factors. For example, waste oil from vehicle engines contains heavy metals and PAHs (polycyclic aromatic hydrocarbons).[50] Heavy metals can be toxic to humans, flora and fauna, and PAHs are carcinogenic. Both types of contaminants are persistent in the environment and are the principal sources of contamination in existing "contaminated sites" in the Region. Waste oil from transformers may contain PCBs. The Ministry of Health requires that PCBs are collected and destroyed. This rule is necessary to ensure that discharges of waste oil will only be allowed in limited circumstances where the applicant can demonstrate that the criteria identified in Policy 4.2.42 are satisfied.

Waste oil has been used in this and other regions in the country to suppress dust on unsealed roads. The alternatives to road oiling are to use chlorides, microbiological binders, surfactants, organic non-bitumous binders, electro-chemical stabilisers, polymeric stabilisers, variable aggregate road blends, or

[50] Ministry for the Environment (1997). Environmental Effects of Used Oil Application to Roads for the Suppression of Dust.

sealing or paving the road. Excluding any assessment of environmental costs, these options are more expensive than waste oil.

The alternatives to disposing of waste oil to landfills or onto roads is to have it recycled and re-used. The Minister for Environment launched the Waste Oil Recovery Group in March 1996. On the recommendation of this group, a nationwide collection programme was established to collect waste oil and ensure that its subsequent use and disposal is in accordance with appropriate environmental standards. The collection programme is funded by major oil companies in the country so there is no cost to the person disposing of the oil.

8.18 Rules 21 and 22 (contaminated sites)

Rules for discharges from contaminated sites have been adopted because the Act's interpretation of "discharge" includes "allow to escape". If a site is contaminated, liable parties could be held responsible if they allow a contaminant to escape from the site. If contaminants escape beyond the boundary of the site, then a resource consent is required. This is because of the potential adverse effects of contaminants from the site on the environment and human health. The discharge is a controlled activity in recognition of the fact that the discharges are occurring in any case, and in order to not create a disincentive for obtaining consents for the site.

Discharges of contaminants to land in association with site remediation require a consent if the discharge could have an adverse effect beyond the boundary of the contaminated site. This is because the Council is concerned that the clean up of a contaminated site should not create a contamination problem at another site. Again, discharges of this type are controlled activities so as not to create a disincentive for site remediation.

9. Environmental Results Anticipated

This section sets out the environmental results that are anticipated in ten years time from the implementation of this Plan.

Although there is not always good baseline information against which to measure progress towards the anticipated results, one of the consequences of implementing this Plan is that we will obtain better information on discharges to land. This will contribute to the Council's ability, in ten years time, to determine whether the anticipated results have been achieved.

The use of comparative words, such as "improved", "fewer", and "less" refers to the comparison between the situation at the time that this Plan becomes operative, and the situation ten years from that time. In some cases the anticipated results depend on other factors (e.g., district plans, other regional plans, other legislation) in addition to the provisions in this Plan.

9.1 Changes in the Natural Environment

ER 1 Groundwater quality is improved in those areas where it is currently being adversely affected by discharges of contaminants to land (see Map 1 for potentially vulnerable areas).

ER 2 Surface water quality is improved where it is currently being adversely affected by discharges of contaminants to land.

ER 3 Odours, landfill gas, and other emissions to air as a result of the discharge of contaminants to land, do not adversely affect local or ambient air quality.

ER 4 There is less long-term contamination of soil or other resources from the discharge of contaminants to land.

9.2 Changes in the Built and Manufactured Environment

ER 5 Less residual solid waste is discharged to land in the Region (exact quantities are difficult to predict, but a 20% reduction by weight would not be unreasonable).

ER 6 There are fewer landfills, and those landfills that there are, have less adverse environmental effects.

ER 7 The volume and toxicity of hazardous substances used in production processes in the Region are reduced.

ER 8 A greater proportion of organic wastes is composted.

ER 9 Less untreated or partially treated human or agricultural effluent enters waterways (deliberately and accidentally).

ER 10 The impacts of agricultural activities on the quality of surface water and groundwater are reduced by improved land management practices, such as greater use of riparian planting.

ER 11 There are fewer accidental discharges of contaminants to land or water, and in particular, fewer accidental discharges during the use, storage or transportation of hazardous substances.

ER 12 Appropriate facilities are available for the treatment and disposal of hazardous wastes.

ER 13 The risks associated with confirmed contaminated sites are reduced to an acceptable level.

9.3 Changes in the Management Environment

ER 14 The ability of tangata whenua to exercise kaitiakitanga is not restricted, and where possible is enhanced.

ER 15 Good information is available on the solid waste stream, resulting in better planning for waste reduction.

ER 16 Waste generators bear a greater proportion of the full costs of managing the waste they produce.

ER 17 All contaminated sites in the Region are identified and their risks characterised.

ER 18 All decisions relating to discharges of contaminants to land take full account of the interests and values of affected parties, including future generations.

10. Implementing and Reviewing the Plan

This Section of the Plan sets out:

- the processes used to deal with issues which cross local authority boundaries, and issues between territorial authorities and between regions;
- the procedures used to monitor the effectiveness of the Plan as a means of achieving its objectives and policies;
- the procedures used to review the provisions of the Plan;

as required by s.67(1)(h) and (i) of the Act.

10.1 Processes for Addressing Cross Boundary Issues

10.1.1 Issues which cross regional boundaries

The Wellington Region shares a land boundary with the Manawatu-Wanganui Region to the north, and is bordered by Cook Strait to the south. The main issues relating to discharges to land that could have effects that cross regional boundaries are:

- the transportation of hazardous wastes and hazardous substances across regional boundaries;
- the trans-boundary movement of other wastes (e.g., in response to higher landfill charges or the presence of a recycling operation or waste treatment facility in one region); and
- the location of major facilities which involve the discharge of contaminants to land (e.g., sewage treatment, landfills) near regional boundaries.

In addition, the following issues identified in this Plan are best co-ordinated at an inter-regional or national level (although they may be implemented at a local level):

- the development of large-scale schemes for re-using, recycling or recovering materials from the waste stream;
- the collection of information on the waste stream;
- the development of a manifest system for hazardous wastes and hazardous substances; and
- the resolution of liability issues for problem wastes and contaminated sites.

There is therefore a need for a consistent and cooperative approach between regions and between central and local government. To this end, the Wellington Regional Council will:

(1) liaise with the Ministry for the Environment over issues which are best dealt with or coordinated at a national level;

(2) continue to participate in the Regional Waste Officers' Forum - a group of staff from regional councils throughout the country which provides an opportunity to exchange information, develop a co-ordinated approach, and use the councils' combined resources most effectively;

(3) promote a cooperative approach to managing discharge permit applications where the discharge site or the potential effects cross regional boundaries or have implications for adjoining authorities;

(4) ensure that any regional initiatives with potential national implications (e.g., development of a hazardous waste manifest system) are co-ordinated with and consistent with any relevant national initiatives or proposals and, to the greatest extent possible, are consistent with initiatives of neighbouring authorities;

(5) liaise with other local authorities and promote a co-operative approach in relation to any need for major facilities to avoid, remedy or mitigate the adverse effects of discharges of contaminants to land (e.g., major hazardous substances storage or treatment facilities); and

(6) develop procedures for reaching agreement with other local authorities about the transportation of hazardous wastes to, from and through the Wellington Region.

10.1.2 Issues which cross territorial authority boundaries

Nine territorial authorities fall partly or wholly within the boundaries of the Wellington Region. These are Kapiti Coast District Council, Porirua City Council, Wellington City Council, The Hutt City Council, Upper Hutt City Council, South Wairarapa District Council, Carterton District Council, Masterton District Council, and a small part of Tararua District Council. The main issues which could have effects that cross territorial authority boundaries are:

- the location of landfills and other major waste management facilities;
- waste disposal charges;
- the transportation of wastes and hazardous substances across territorial authority boundaries; and
- the location and control of facilities using or storing large quantities of hazardous substances near territorial authority boundaries.

The Wellington Regional Council will promote, through the policies in this Plan, a regionally consistent approach to issues which could have effects that cross territorial authority boundaries.

10.1.3 Integration of regional and territorial authority functions

There is a need for integration between regional and territorial authority functions in relation to:

- the joint responsibilities of the Regional Council and territorial authorities for controlling the use of land in relation to hazardous substances;
- the Regional Council's responsibility for controlling discharges to land, and the closely related territorial authority responsibility for controlling the use of land; and
- the Regional Council's responsibility for controlling discharges to land, and the responsibilities of territorial authorities under other relevant legislation such as the Building Act 1991, the Dangerous Goods Act 1974 and the Health Act 1956.

To promote the integration of functions, the Wellington Regional Council will:

(1) clarify responsibilities for controlling the use of land (with respect to hazardous substances) through the provisions in Section 6 of this Plan;

(2) work with territorial authorities to develop appropriate provisions for controlling the use of land (with respect to hazardous substances) in district plans;

(3) work with territorial authorities to develop other provisions in district plans to improve integration between regional and territorial responsibilities under the Act, including where appropriate:

(a) provisions which encourage separation of land uses which may be incompatible as a result of their discharges to land. District plans could:
- include incentives or rules encouraging or requiring the segregation of incompatible land uses;
- encourage or require buffer zones or separation distances around activities discharging potentially odorous contaminants to land;
- contain general provisions obliging people undertaking land use activities to avoid nuisance effects on adjoining land uses;

(b) provisions relating to the control of the use of land on confirmed contaminated sites;

(c) provisions addressing land use issues associated with waste disposal sites (e.g., landfills, cleanfills) or waste disposal activities (e.g., spreading of septage on land or farm waste disposal);

(d) work with territorial authorities to develop provisions in district plans relating to riparian area management, including esplanade

area provisions, in order to avoid, remedy or mitigate the adverse effects of non-point source discharges to land on waterways, and in order to safeguard the life supporting capacity of waterways.

(4) promote a cooperative approach to dealing with resource consent applications which involve permits for both land use and discharges to land; and

(5) consider, on a case-by-case basis in consultation with the relevant authority, using the transfer of powers provisions in s.33 of the Act, particularly in situations where a transfer of powers would help to clarify responsibilities under the Act, or complement territorial authority responsibilities under other legislation.

(6) establish a forum for waste management officers from local authorities in the Region to exchange information and views with the Wellington Regional Council and with each other.

10.1.4 Cross boundary issues in the coastal marine area

Contaminants discharged on land can have adverse effects in the coastal marine area. This can occur either directly, through contaminants leaching or flowing into the coastal marine area, or indirectly, through contaminants leaching or flowing into freshwater bodies which subsequently enter the coastal marine area.

The provisions in this Plan take account of the "flow-on" effects in the coastal marine area of discharges of contaminants to land.

10.2 Procedures for Monitoring the Effectiveness of the Plan

Monitoring the effectiveness of the Plan depends on having good information on:

- the discharges to land in the Region, particularly in relation to the types and volume of contaminants discharged (both solid and liquid);
- the effects of discharges on the environment; and
- the extent to which provisions in the Plan are effective in managing the identified effects.

This information will be gathered through:

- the region-wide adoption of the Waste Analysis Protocol;
- the regional landfill leachate monitoring programme;
- monitoring the quality of groundwater, surface water, and coastal water in the Region;
- ambient air quality monitoring;
- analysis of complaint statistics;

- the resource consent assessment process and compliance monitoring (including self-monitoring requirements in resource consent conditions);
- on-going surveys of attitudes to the environment held by various sectors of the regional community;
- liaison with and feedback from interested groups in the Region; and
- monitoring the inclusion of supporting provisions in district plans.

Once information has been collected, an assessment will be made regarding the contribution of this Plan to achieving the observed outcomes, in relation to contributions made by other initiatives such as district plans, changing economic conditions, other legislation, or industry, farmer or community initiatives.

Information collected in the course of monitoring the effectiveness of the Plan will be integrated with other Regional Council environmental monitoring responsibilities in the **Regional Monitoring Strategy**. This consists of a number of initiatives designed to help the Council fulfil its responsibilities under s.35 of the Act and to keep the regional community informed about the state of the environment in the Region.

10.3 Procedures for Reviewing the Plan

The Regional Council must commence a full review of each of its regional plans no later than 10 years after each plan became operative. Any person may also request the Regional Council to change a regional plan in accordance with the procedures set out in the First Schedule of the Act. In addition to this, review of certain provisions may take place in response to:

- new information from monitoring which indicates either that activities which are currently regulated should be permitted, or that activities which are currently subject to non-regulatory means of control, should be regulated. These activities are identified in the body of the Plan;
- the identification of any significant new issues related to the discharge of contaminants to land in the Region;
- any relevant national initiatives such as a national policy statement, national standards, or a hazardous waste manifest system;
- any new legislation dealing with matters addressed in this Plan; or
- the outcomes of the five yearly review of the Regional Policy Statement.

The information gained from monitoring the effectiveness of the Plan (as set out in Section 10.2) will assist the Council in any review of the Plan.

10.4 The Regional Plan and the Council's Annual Plan

Under the Local Government Act 1974 all local authorities must prepare an annual plan. This plan must outline the nature and scope of the activities to be undertaken by the organisation over the financial year, along with the funds required to undertake these activities. Many of the policies and methods in the Discharges to Land Plan require the Regional Council to do something - whether this is monitoring the quality of groundwater, co-ordinating the implementation of the Waste Analysis Protocol, investigating the use of economic incentives, or other initiatives. The provisions in this Plan will therefore influence the contents of the Regional Council's Annual Plan and Budget.

Conversely, the outcomes of the Council's annual planning and budgetary process will also influence the implementation of the Discharges to Land Plan. All the activities proposed for the Council in this Plan will be subject to scrutiny through the Council's Annual Plan and budgetary process. It is this process which will determine the priorities and timeframes, as well as the affordability, of the methods. This will ensure that all decisions are made within a framework of economic reality.

References

ANZECC. *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites.* Australian and New Zealand Environment and Conservation Council, National Health and Medical Council, January 1992.

Auckland Regional Council. Technical Publication No. 58. *On-site Wastewater Disposal from Households and Institutions* (Second Edition). Auckland Regional Council, November 1994.

Binnie, M. *Evolution of a Municipal Composting Facility. Christchurch City Council*. Solid Waste in the Pacific - Common Issues, Common Solutions. Proceedings of the 6th Annual Conference. Waste Management Institute of New Zealand. Christchurch. November 1994.

Brown, L J, Kroopnick, P M, Lillico, S B, Wood P R. *Compilation of a Groundwater Contamination Vulnerability Map of the Wellington Region*. Institute of Geological and Nuclear Sciences Client Report 1994/733407.12. October 1994.

Centre for Advanced Engineering. *Our Waste: Our Responsibility. Towards Sustainable Waste Management in New Zealand*. University of Canterbury, Christchurch. 1992.

Department of Health. *Public Health Guidelines for the Safe Use of Sewage Effluent and Sewage Sludge on Land*. Department of Health, Wellington. 1992.

Department of Statistics. *Measuring Up. New Zealanders and the Environment*. 1993.

Dolan, L., Christchurch City Council. Comment made at Workshop on Waste Management. Wanganui. 1993.

Environment Bay of Plenty. *Proposed On-site Effluent Treatment Regional Plan*. Bay of Plenty Regional Council. January 1994.

Environment Waikato. *Proposed Changes to Environment Waikato's Transitional Regional Plan. 1. Dairy Shed Effluent*. Waikato Regional Council. 1993.

Hazardous Facility Screening Procedure Review Group. *Land Use Planning for Hazardous Facilities*, a report prepared in conjunction with the Ministry for the Environment, June 1995.

Hutt Valley Health. *Response Manual for Sewage Discharges*. August 1993.

Ministry for the Environment. *Potentially Contaminated Sites in New Zealand. A Broad Scale Assessment*. Prepared by Worley Consultants for the Ministry for the Environment. November 1992(a).

Ministry for the Environment. *Waste Analysis Protocol*. Wellington. November 1992(b).

Ministry for the Environment. *Landfill Guidelines.* Wellington, November 1992(c).

Ministry for the Environment. *Proposals for the Regulations under the Hazardous Substances and New Organisms Bill*. Discussion Document. Wellington, November 1994.

Ministry for the Environment, Ministry of Health. *Draft Health and Environmental Guidelines for Selected Timber Treatment Chemicals.* Wellington 1993.

Ministry of Agriculture and Fisheries. *Herbicides for Aquatic Weed Control*. Guidelines 1 & 2. FFP 607 and FFP 608. 1981.

Ministry of Agriculture and Fisheries. *Towards Sustainable Agriculture: Freshwater Quality in New Zealand and the Influence of Agriculture.* Ministry of Agriculture and Fisheries Technical Policy Paper 93/10. 1993.

NZ Pork Industry Board. *Code of Practice - Pig Farming*. August 1993.

NZ Standard 4610:1982. Household Septic Tank Systems.

NZ Standard 5433:1988. The Transport of Hazardous Substances on Land.

NZ Standard 8409:1995. Agrichemical Users' Code of Practice.

Parliamentary Commissioner for the Environment. *Local Authority Solid Waste Reduction Initiatives.* Report to the House of Representatives, Wellington. August 1993.

Parliamentary Commissioner for the Environment. *Possum Management in New Zealand*. Report to the House of Representatives, Wellington. May 1994.

Porirua City Council. *Management and Operation of Effluent Disposal Systems*. General Bylaw 1991, Amendment No 1, Part 8. 1993.

Selvarajah - *Nitrogen Loading Rate for Dairy Pasture Systems in the Waikato Region*. Technical Report 1994/2, Environment Waikato, Hamilton, New Zealand 1994.

Wairarapa Catchment Board and Regional Water Board. *Methods of Milk Disposal Available to the Farmers in Emergencies.* October 1988.

Wellington Regional Council. *Waste Survey for the Wellington Region*. Wellington Regional Council. 1988.

Wellington Regional Council. *Landfills in the Wellington Region*. A report prepared on behalf of the Wellington Regional Council. 1989.

Wellington Regional Council. *Transitional Regional Plan*. Wellington Regional Council, Wellington. October 1991.

Wellington Regional Council. *Guidelines for Domestic Waste Water Disposal. Wairarapa Plains and Coast*. December 1991.

Wellington Regional Council. *Environmental Issues, Values and Behaviour*. Stage I of the Environmental Attitudes Project. Wellington Regional Council. March 1993.

Wellington Regional Council. *Proposed Regional Policy Statement for the Wellington Region*. Wellington. September 1993

Wellington Regional Council. *Potentially Contaminated Sites. Hazard Assessment System*. March 1994.

Wellington Regional Council. *Effects on water quality of aerial 1080 poisoning operation. Wairarapa June 1993*. WRC Wairarapa Report No 94/1. 1994.

Wellington Regional Council. **Lake Wairarapa Monitoring Programme Annual Report June 1994 - February 1995.** Technical Report No. 95/8. 1995.

Appendix 1: List of Hazardous Characteristics

UN Class[51]	Code	Characteristics (See Note 1)
1	H1	**Explosives** An explosive substance or waste is a solid or liquid substance or waste (or mixture of substances or wastes) that is, in itself, capable by chemical reaction of producing gas at such a temperature and pressure, and at such a speed, as to cause damage to the surroundings.
3	H3	**Flammable Liquids** The word "flammable" has the same meaning as "inflammable". Flammable liquids are liquids, or mixtures of liquids, or liquids containing solids in solution or suspension (for example, paints, varnishes, lacquers, etc., but not including substances or wastes otherwise classified on account of their dangerous characteristics) which give off a flammable vapour at temperatures of not more than 61 degrees Celsius.
4.1	H4.1	**Flammable Solids** Solids, or waste solids, other than those classed as explosives, which under conditions encountered in transport (see Note 2) are readily combustible, or may cause or contribute to fire through friction.
4.2	H4.2	**Substances or Wastes Liable to Spontaneous Combustion** Substances or wastes that are liable to spontaneous heating under normal conditions encountered in transport, or to heating up on contact with air, and then being liable to catch fire.
4.3	H4.3	**Substances or Wastes which, in Contact with Water, Emit Flammable Gases** Substances or wastes which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities.
5.1	H5.1	**Oxidising Substances** Substances or wastes which, in themselves are not necessarily combustible, but may, generally by yielding oxygen, cause or contribute to the combustion of other materials.
5.2	H5.2	**Organic Peroxides** Organic substances or wastes which contain the bivalent 0=0 structure are thermally unstable substances which may undergo exothermic self-accelerating decomposition.
6.1	H6.1	**Poisonous Substances** Substances or wastes liable either to cause death or serious injury or to harm human health if swallowed or inhaled or by skin contact.

[51] Corresponds to the hazard classification system used in the United Nations Recommendations on the Transport of Dangerous Goods (ST/SG/AC. 10/1/Rev.6, United Nations, New York, 1989).

UN Class	Code	Characteristics
6.2	H6.2	**Infectious Substances** Substances or wastes containing viable micro-organisms or their toxins which are known or suspected to cause disease in animals or humans.
7	H7	**Radioactive Material** Spontaneously emits radiation greater than background level. Includes alpha, beta, gamma, x-rays, neurons, high energy electrons, protons, other atomic particles.
8	H8	**Corrosives** Substances or wastes which, by chemical action, will cause severe damage when in contact with living tissue, or, in the case of leakage, will materially damage, or even destroy, other goods or the means of transport; they may also cause other hazards.
9	H10	**Liberation of Toxic Gases in Contact with Air or Water** Substances or wastes, which, by interaction with air or water, are liable to give off toxic gases in dangerous quantities.
9	H11	**Toxic (Delayed or Chronic)** Substances or wastes, which if they are inhaled or ingested or if they penetrate the skin, may involve delayed or chronic effects, including carcinogenicity (see Note 3).
9	H12	**Ecotoxic** Substances or wastes, which if released, present or may present immediate or delayed adverse impacts on the environment by means of bioaccumulation and/or toxic effects upon biotic systems (see Note 3).
9	H13	**Capable of Yielding Another Material** Capable, by any means, after disposal, of yielding another material, e.g., leachate, which possesses any of the characteristics listed above.

Note: (1) These categories do not correspond precisely with the definition of hazardous substances adopted in this Plan. In this list, Code H1 is equivalent to the property of "explosiveness" in the definition of hazardous substances adopted in this plan; Codes H3, H4.1, and H4.2 are equivalent to the property of "flammability"; Code H5.1 is equivalent to "a capacity to oxidise"; Code H8 is equivalent to "corrosiveness"; Codes H6.1 and H11 are equivalent to "toxicity; Code H12 is equivalent to ecotoxicity; Code H7 is equivalent to "radioactivity"; and Codes H4.3, H10 and H13 are equivalent to Clause 2 of the definition of hazardous substances adopted in this Plan.

(2) In the above descriptions, where specific reference is made to conditions of transport, this should include all conditions of storage, transport and disposal.

(3) These categories, in the absence of specific tests are considered to contain, but are not limited to, all wastes having as constituents any substances listed in the four schedules of the New Zealand Toxic Substances Regulations at or above the concentrations listed in the schedule to these Regulations.

Source: Centre for Advanced Engineering, 1992.

Appendix 2: Matters to be Included in Landfill Management Plans

SECTION 1 - INTRODUCTION

1.1 General description of the landfill site, including ownership and management responsibilities.
1.2 Approvals and Consents Obtained
1.3 Staging
1.4 Projected Life
1.5 End Use
1.6 Initial Upgrading
1.7 Geotechnical Investigation
1.8 Environmental Impact Assessment
1.9 Any implications of site management and operation of landfill for Iwi (This will require consultation)

SECTION 2 - MANAGEMENT

2.1 Right of Access
2.2 Landfill Hours
2.3 Kiosk Operation and Charging
2.4 Landfill Operation Contract
2.5 Management Structure
2.6 Staff Requirements
2.7 Training
2.8 Operator's Guide
2.9 Annual Review and Report

SECTION 3 - LANDFILL OPERATION

3.1 Site Preparation
- Tip Head
- Signs
- Screens
- Perimeter Fencing
- Landscaping

3.2 Water Control
- Stormwater
- Leachate

3.3 Landfilling
- Method of Landfilling
- Size of Face
- Height of Lifts
- Access Roads

3.4 Compaction
- Method of Compaction
- Degree of Compaction
- Method of Compaction Testing
- Frequency of Compaction Testing

3.5 Hazardous Waste
- Documentation
- Acceptable/Unacceptable Wastes
- Waste Compatibilities
- Methods of Disposal
- Monitoring and Recording
- Reporting Results to Regional Council
- Waste in Drums

3.6 Liquid Waste
- Acceptable/Unacceptable Wastes
- Methods of Disposal
- Areas for Disposal
- Maximum loadings
- Monitoring

3.7 Cover Material
- Type of Cover Material to be Used
- Depth of Cover
- Amount of Cover Material to be Used
- Final Cover
- Importing of Cover Material
- Stockpiling of Cover Material
- Surface Water Runoff

3.8 Inert Fill
- Method of Disposal

3.9 Control of Nuisances and Adverse Effects
- Spillages
- Litter
- Dust
- Vermin
- Birds
- Scavengers
- Odours
- Landfill Gas

3.10 Monitoring and Records
- Groundwater
- Surface Water
- Landfill Gas
- Refuse Quantities
- Hazardous Wastes

3.11 Emergency Procedures
- Fire
- Landfill Gas
- First-Aid
- Emergency Contacts

SECTION 4 - REINSTATEMENT
4.1 Final Landform
4.2 Closure and After-care

APPENDICES: Approval Documentation, Drawings, Aerial Photograph, Staged Management Plans, Final Landform Plan *Source: Adapted from Centre for Advanced Engineering, 1992.*

Appendix 3: Matters to be Included in Annual Landfill Reports

1. Annual Mass balance of each hazardous substance entering, and leaving the facility as notified through the "Hazwaste Manifest System" (as specified in Policy 8.6 Section 6 - Hazardous Substances) including identification of quantities consumed, spilled, lost or unaccounted for.

2. Total mass of contaminants discharged to land since the last audit report including masses of individual contaminants identified in resource consent.

3. Results since the last audit report of any environmental monitoring specified in the resource consent including commentary on any contravention of the resource consent requirements, the accuracy of the monitoring, and any long term trends.

4. The state of preparedness of equipment, measures, and procedures or other safeguards, including training put in place to prevent or reduce any adverse environmental effect (including potential effects of low probability but high potential impact).

5. The name of the most senior management person in the company with responsibility for ensuring compliance with the resource consents and the mechanisms by which that person has up-to-date knowledge of:

   - the legal and practical requirements of meeting the resource consents;
   - the degree to which the operations comply with these requirements.

6. Commentary on the adequacy of the management plan including identification of any deficiencies.

Appendix 4: Matters to be Included in Discharge Management Plans

1. Description of the waste collection, treatment and disposal system.

2. Identification of discharges and environmental effects and the safeguards in place to avoid or reduce the environmental effects.

3. Identification of wastes which are prohibited.

4. Identification of wastes which can only be accepted under special (specified) conditions.

5. Identification of accepted cleaner production technologies for classes of activity (identified by New Zealand Standard Industrial Classification) which together contribute at least 80% of the waste stream contaminants (measured by mass) and commentary on:

   - the extent to which the cleaner technologies are in place in each activity, including commentary on the source and accuracy of that information,

   - the measures that the consent holder is putting in place to achieve greater conformance with accepted cleaner production technologies,

   - the timetable prepared by the consent holder for each industrial activity for achieving at least 95% compliance with accepted cleaner production technology.

6. Monitoring requirements and procedures including random checking of incoming wastes.

7. Emergency response procedures and contingency plans including:

   - detection of leakage of contaminants,
   - discharge of contaminants in contravention of resource consent conditions,
   - power failure,
   - fire,
   - earthquake.

8. Identification of management responsibilities for compliance with resource consents and environmental regulatory requirements.

9. Maintenance requirements.

10. Identification of corporate environmental performance standards, national or industry group codes of practice, or other recognised environmental, safety, or health standards to which the operation of the facility will comply, and a description of the means for auditing compliance.

Appendix 5: Site Investigations for On-site Sewage Treatment and Disposal

Site investigations must:

(a) be undertaken by suitably qualified and experienced people;
(b) be fully documented (an example of appropriate documentation is provided in Appendix E of "On-Site Wastewater Disposal from Households and Institutions" (Auckland Regional Council, 1994));
(c) include the following matters:

(1) Groundwater Information

Map 1 of this Plan shows general information on the vulnerability of groundwater in the Wellington Region. The Regional Council should be contacted for more detailed information on groundwater. If information is lacking and a large development is proposed, additional investigations may be required.

The following factors are relevant:

(a) depth to groundwater, and seasonal variation of the water table;
(b) direction and rate of flow of saturated groundwater.

(2) Soil Information

The following factors are relevant:

(a) depth to gravels;
(b) texture - amount of sand, silt and clay;
(c) infiltration and drainage characteristics - a percolation test may be used;
(d) soil variability within the site.

(3) Other Site Information

The following factors are relevant:

(a) topography, slope, and slope stability;
(b) rainfall and susceptibility of site to temporary flooding and ground saturation during rain;
(c) evapotranspiration potential (exposure to sun and wind);
(d) proximity to water bodies and drainage flow paths for surface runoff;
(e) site vegetation;
(f) location of bores, structures, paved areas and site boundaries;
(g) section size and shape, and the availability and location of potential disposal areas;
(h) water supply source;
(i) surrounding land uses;
(j) other local experience with on-site sewage treatment and disposal.

More information about site investigations is in "On-site Wastewater Disposal from Households and Institutions" (Auckland Regional Council, 1994).

Appendix 6: Guidelines for the Storage of Hazardous Wastes

These Guidelines are modified from the Centre for Advanced Engineering publication, Our Waste: Our Responsibility.[52]

Storage, in these guidelines, covers both bulk and packaged hazardous waste, and the handling, repacking, care, custody and pipeline transfer of hazardous waste.

The Guidelines are designed to eliminate incidents that could result in injury to people or damage to the environment, and minimise the impact of any incidents that do occur.

1. Principles of Storage

The following matters should be complied with:

1.1 Any relevant regulations or codes of practice;

1.2 Inspection of incoming waste to ensure that packaging is of the required standard, is not damaged and is properly labelled;

1.3 Reactive materials are separated by approved segregation devices or approved separation distances;

1.4 Effective documented control procedures are followed, together with proof of their being followed, for the inspection, receipt, shipping, handling, storage, and security during storage of waste;

1.5 People involved in the handling and storage of hazardous waste are trained and certificated. Training records are kept and refresher courses given;

1.6 The range and suitability of fire-fighting equipment and materials required to contain or neutralise spills is adequate. Employees are trained in procedures to be followed in the event of a fire and in emergency procedures such as spill containment and neutralisation;

1.7 Information about the waste, particularly on containment, neutralisation and its behaviour under fire conditions is provided. Employees are trained in the interpretation of this information;

1.8 An up-to-date Emergency Plan for the site, covering all potential incidents and addressing the extent to which community services will be involved, is developed and maintained;

1.9 Any necessary special equipment is provided, for example explosion proof forklift trucks;

1.10 Any ancillary operations of other operations on the site which may have an impact on the storage of waste are effectively controlled;

1.11 Hazardous waste should not be held in long-term storage where there is an established treatment process and facility.

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[52] Centre for Advanced Engineering, 1992. pp 219-221. This reference also contains a checklist for hazardous waste storage facilities.

2. Management Practices

The organisation should:

2.1 Have written policies, procedures and improvement plans for storage of hazardous substances. Responsibilities for approving, communicating, implementing, reviewing and updating these documents should be clearly defined;

2.2 Maintain policies and procedures that meet or exceed all applicable laws, regulations and relevant New Zealand standards in letter and in spirit;

2.3 Maintain records and quantitative measures of storage incidents and reviews;

2.4 Set specific targets for reduction of these incidents and for improvement in reviews;

2.5 Maintain a system that identifies ownership, responsibility and status of stored hazardous wastes.

3. Risk Management

The organisation should carry out risk assessment of its storage operations on a regular basis, in particular:

3.1 Maintain a system of review that considers the hazards of each material, the methods of containment (including pipelines) and the procedures involving handling and storage;

3.2 Maintain a system that considers the likelihood of accidents or spillage and the resultant impact on human health and the environment;

3.3 Maintain a system that will only allow new hazardous waste into storage after a risk assessment has been completed.

The organisation should actively practice risk reduction, and in particular should:

3.4 Ensure the appropriate and approved siting of all facilities;

3.5 Ensure security is provided at all facilities to prevent unauthorised access;

3.6 Maintain a system that reviews the integrity of all containment facilities, including storage tanks, pipelines, drums and other packaging, at least in accordance with regulatory requirements;

3.7 Ensure materials are appropriately segregated during storage;

3.8 Ensure all operations are covered by written, regularly updated procedures;

3.9 Ensure, as a minimum, that all labelling is in accordance with regulatory requirements;

3.10 Maintain a system that provides guidance and information in advance to any group that may be affected by the warehousing and storage of hazardous waste. The system must include provisions to keep such information current;

3.11 Maintain a system that regularly reviews the suitability of all facilities;

3.12 Maintain a system that reviews generator and contractor ability to meet these guidelines;

3.13 Maintain a system that ensures prompt and effective response to any incident during storage;

3.14 Ensure that all personnel are adequately trained in all operational matters (including safety, health and environmental matters) and that this training is formally reviewed.

4. Community Awareness

The views and needs of the surrounding community should be taken into account in the design and operation of a storage facility and the formulation of emergency plans. The organisation should:

4.1 Ensure that the local community is informed of any new hazardous waste facility or any major change at an existing hazardous waste facility;

4.2 Maintain a system that responds to any reasonable community request as to the type and quantity of hazardous waste in a storage facility;

4.3 Encourage the local community to have an understanding of the organisation's practices, especially those involving security and accident response;

4.4 Encourage the formation of neighbourhood consultative committees where deemed appropriate;

4.5 Maintain a system that, as a minimum, makes information on all reportable releases or loss of containment available to the public;

4.6 Keep relevant agencies (e.g., fire service, civil defence) up to date on types of hazardous waste on site and established emergency procedures.