

5 Discharges to Land, Water and Land Management

5.1 Introduction and Principal Reasons

5.1.1 Statutory Framework

This chapter contains provisions relating to land management and water quality. In this context, Section 30(1)(c) of the RMA empowers the ARC to control the use of land for *soil conservation*; the *maintenance* and enhancement of the quality of water in water bodies and coastal water; and the prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of *hazardous substances*. Section 30(1)(f) provides for the control of discharges of contaminants into or onto land or water and discharges of water into water.

This part of the plan uses Section 9 of the RMA to control management practices in respect of *Industrial or Trade Activities* in order to avoid discharges of *environmentally hazardous substances*. This section is permissive in that the use of land is allowed except any use that is prohibited or regulated in the Plan. The Plan also uses section 15 of the RMA to remedy or mitigate the effects of discharges arising from the *Activity Areas of Industrial or Trade Activities* where those discharges cannot be avoided.

Section 15 of the RMA provides the legal sanctions for controlling discharges of contaminants into water, or onto or into land. The presumption in Section 15(1) is that a discharge is prohibited unless it is expressly allowed by a resource consent, a rule in the plan, or regulations.

5.1.2 Scope of Chapter

This chapter deals with the discharge of contaminants into water, or onto or into land. The primary topics addressed in this chapter are:

- *Stormwater and wastewater networks*;
- *Sewage treatment* and disposal;
- *Sewage sludge (including biosolids)*;
- Land management;
- Discharges from production land activities;
- *Fertiliser* use;
- *Contaminated Land*;
- *Landfills*;
- Other discharges of contaminants to land or water; and
- Stock Access.

5.1.3 Management Approach

5.1.3.1 Stormwater and Wastewater Networks

Stormwater and *wastewater* infrastructure is constructed, owned and operated by a range of parties in the Auckland region, including:

- Territorial local authorities (or network operators on their behalf);
- Crown agencies and providers of *regionally significant infrastructure* (such as New Zealand Transport Agency, Watercare Services Ltd and Ports of Auckland Ltd);
- Private entities (including individual industrial and trade activities, property developers and residents).

The objectives, policies and rules of this chapter recognise two different types of *stormwater* and/or *wastewater* diversions and discharges. The first are individual discharges which are covered by the provisions relating to non-network discharges. The second type are discharges associated with the operation of a *stormwater or wastewater network*. A *stormwater or wastewater network* is generally defined as infrastructure that conveys *stormwater* or *wastewater* from more than one property.

The *stormwater and wastewater network* provisions further distinguish between *stormwater* or *wastewater* discharges that are managed on a catchment or sub-catchment basis by *stormwater and wastewater network utility operators* (being territorial authorities, network operators and Watercare Services Ltd) and those discharges that are derived from the State highway network. The majority of *stormwater* or *wastewater* infrastructure constructed by property developers is handed over to a Territorial Local Authority upon completion of a development and thereafter becomes part of a catchment based network.

Some *stormwater* infrastructure forms part of the State highway network, rather than being associated with individual properties. Due to the form and scale of *stormwater* infrastructure associated with the State highway network, this Plan also recognises *New Zealand Transport Agency* as a *Highway network operator*.

Stormwater discharges may also arise from significant areas of impervious surface such as at the Ports of Auckland or Auckland International Airport. This Plan recognises these facilities as *regionally significant infrastructure* (see Chapter 12). They may also qualify as network utility operators under section 166 of the RMA. Although having large impervious surface areas, they are not recognised as network operators in this chapter as their *stormwater* diversions and discharges are more *site* specific, rather than forming a network. Stormwater discharges arising from these types of *regionally significant infrastructure* may connect to a catchment wide *stormwater network* or may discharge directly to the environment via several discrete discharge points.

Stormwater and *wastewater networks* operated by *stormwater and wastewater network utility operators* are key components of the infrastructure necessary for any large city or intensively urbanised area. They have been constructed to provide for the health and safety of the community and are designed to reduce the risk of flooding and risks to public health by transporting *stormwater* and *wastewater* away from *Urban Areas*. There is also a range of *regionally significant infrastructure*, such as the State highway network, the commercial seaport and airport facilities, that has *stormwater* infrastructure to service its activities. However, the discharges from these *networks* and other discharge points can cause adverse effects. This plan promotes an integrated approach to the management of *stormwater* discharges and *wastewater overflows*. An integrated approach involves consideration, where possible, of environmental performance at the catchment level having regard to the interconnections between the *stormwater* and *wastewater networks*, recognising that discharges from different *networks* impact the same *receiving environment*.

Whilst this Plan considers the effects of discharges onto land and into freshwater, the interlinked nature of this system with the coastal marine area must be acknowledged.

In the natural situation, rainfall soaks into the ground or runs off the land into streams. The water that soaks into the ground, recharges *aquifers* and provides *base flow* and springflow for streams. Impervious (hard) surfaces intercept water, divert it away from its natural flow path, and this may result in higher and more frequent flood flows and lower *base flows* in water bodies. Increased flood flows may increase the extent of flooding and the erosion of rivers and streams. Erosion and lower stream *base flows* may affect the quality of freshwater aquatic habitat.

Within most parts of the *urban area*, engineered *drainage* systems collect *stormwater* for discharge, and while ground soakage occurs in some places, most ends up, via streams, in the sea. *Stormwater* collects a wide variety of contaminants as it passes over surfaces. The contaminants of most concern are suspended solids, heavy metals, oil and other petrochemicals, polynuclear aromatic *hydrocarbons* and pathogens.

There are numerous sources of non-point urban *stormwater* contamination as a result of normal urban activities, including land development, buildings and the use of motor vehicles. Negligent or inappropriate industrial product or *waste* management practices can also cause high contaminant loads and contribute to *stormwater* degradation. These contaminants accumulate in depositional areas such as estuaries and harbours and may affect aquatic fauna.

Wastewater networks contain *sewage* and in some cases the liquid wastes generated by industry. The contaminants that derive from *wastewater* typically cause shorter term effects of most concern to public health. The contaminants that derive from *stormwater* typically cause longer term adverse effects of most concern to the health of aquatic *ecosystems* and public health.

In most areas of the region the *stormwater* disposal *network* is designed to operate independently of the *wastewater* (sewerage) *network*. However, in practice this is often not the case. In certain circumstances, *stormwater* finds its way into *wastewater networks*, and *wastewater* finds its way into *stormwater networks* (or directly to the environment), for the following reasons:

- (a) *Wastewater networks* discharge to *groundwater* and *surface waters* through joints and cracks brought about by deterioration or breakage (*exfiltration*) no matter how well they are designed or constructed, and through cross connections, both authorised and illegal, from *wastewater* systems into *stormwater* systems; and
- (b) *Stormwater* and *groundwater* also enters *wastewater networks* through joints and pipe failures (*infiltration*) and through cross connections from *stormwater* systems (inflow), sometimes causing them to *overflow* in wet weather.

In addition, in the older parts of Auckland City, the *drainage* network was designed as a combined sewer system where *stormwater* and *wastewater* share a common pipe, with purpose built *overflow* structures that are designed to discharge when the network's hydraulic capacity is exceeded. This results in larger, more frequent *overflows* than typically occur in a separate system due to the higher proportion of *stormwater* in the *overflows*. The different design of the combined system necessitates a different management approach to that of a separate *wastewater network*. It is also recognised that there is a strong inter-linkage between the Auckland City combined system and the Watercare Services' trunk system and integrated solutions across these two systems may be required to achieve the best outcomes for the region.

While *wastewater networks* are designed to accommodate some extra flow in wet weather they also have relief points, of necessity, discharging to *stormwater networks* or waterbodies. Landuse intensification and redevelopment which has occurred in the absence of *wastewater* system upgrades has compounded the pollution problems from *wastewater* and *stormwater*.

Wastewater overflows typically contain elevated levels of bacterial and other pathogenic organisms, and organic material that uses oxygen as it breaks down. Such discharges have the potential to affect public health, cultural and *amenity* values, and aquatic life. For example, *overflows* may lead to public health advisory

notices being issued at water recreational areas due to increased microbiological risks. This consequence is experienced and disapproved of by many Aucklanders.

The benefits of *stormwater* management are extremely difficult to define in financial terms. However, one study (Ward and Scrimgeour) which has attempted to quantify the benefits of maintaining the water quality of the Waitemata and Manukau Harbours, and the Tamaki Estuary, concluded that the annual benefits from these resources are in excess of \$400 million. It also concluded that a positive cost: benefit ratio would be achieved if mitigation costs of \$118 - \$150 million (in 1991 dollars) annually were spent to maintain these regional assets. This study did not consider the values associated with the freshwater *receiving environment* or the costs of flooding.

There are no simple solutions to reducing the quantity of discharges, or improving the quality of discharges on a regional basis. The continued growth of Auckland will place added pressure on the Region's existing *wastewater networks* and *stormwater* networks and these will require additional capacity. In Growth Areas located within already developed *Urban Areas* these problems are exacerbated by the additional pressures of further increases in *impervious area* and greater contaminant loads. Moreover, the management of *stormwater* and *wastewater* needs to meet public expectations for achieving positive environmental outcomes.

These public expectations emphasise the need to improve water quality and reduce the quantity of contaminants discharged into the waterways of the Region and ultimately the coastal marine area. They are both key drivers to improving the current situation in the Auckland Region.

The costs of addressing all these issues will be substantial and doing so will take time. In addition it is recognised that the costs of upgrading infrastructure are largely borne by the public purse. *Stormwater and Wastewater Network Utility Operators* are also faced with a public expectation that cost increases for *wastewater* and *stormwater* services will be minimised.

Accordingly, a balance needs to be achieved between the infrastructure needs of the community and the management of discharges into the Region's waterways. Central to this is the progressive upgrading of ageing infrastructure and continuing advances in *stormwater* and *wastewater* disposal technology and methodology.

Due to the scale of improvement required and the considerable cost involved, it is recognised that a progressive management approach may be implemented over a period of time to enhance the performance of existing networks, while providing for growth, to achieve improved environmental outcomes. This will result in both medium and long term reductions in the volume and concentration of contaminants discharged into waterbodies including the coastal marine area. A realistic and practical approach therefore needs to be adopted in considering applications for discharge consents relating to *stormwater* and *wastewater* infrastructure.

The provision and management of *stormwater* infrastructure in *Urban Areas* is largely undertaken by local authorities. Over time the management of *stormwater* has progressed from a focus solely on mitigating flood risk to an emphasis including flooding, stream erosion, *stormwater* quality and the effects of the contaminants.

A range of methods are available to manage the different effects on *receiving environments* in accordance with a number of separate legislative provisions. Both the ARC and *territorial authorities* have statutory responsibilities that need to be coordinated.

Minimising the contaminant build-up on impervious surfaces cannot be purely based on the regulation of discharges by the ARC. Landuse controls at a district level,

education and advocacy are essential components of an integrated management approach. Given the connection between *stormwater* contamination and vehicle use, national management initiatives will be an important contributor to a reduction in levels of vehicle generated contaminants.

This Plan recognises that there are practical difficulties for *territorial authorities* in requiring management of *stormwater* quality and quantity, especially where land is developed in compliance with the district plan provisions.

It is also recognised that there may be issues of practicality (such as space limitations) and timing which limit the upgrading of existing infrastructure on individual sites or necessitate a staged upgrading programme. In the case of *regionally significant infrastructure* a prioritised programme of upgrading across multiple sites may be appropriate given the need to maintain operations while improvements are undertaken.

With greater understanding of contaminant transport by *stormwater* has come the need for a more holistic and integrated approach to catchment management. There are a range of practical and statutory options, such as regulatory, advocacy, education and service delivery mechanisms for the effective management of *stormwater* to avoid, remedy or mitigate adverse environmental effects. *Structure plans* may play an important role in integrating development with methods to manage discharges at source in developing areas.

The most effective options for improving the performance of *stormwater* and *wastewater* networks should be identified on a “whole of catchment” basis or on a “whole of network basis”. Therefore, before investing in expensive upgrades of *wastewater* or *stormwater* infrastructure, it is essential to consider the relative contribution of each to environmental degradation, how to avoid, remedy or mitigate the effects, and the values of the *receiving environment* itself. The implementation of performance improvements will be prioritised within catchments and across the network based on public health, environmental and property risk and *receiving environment* effects, and acknowledging the costs involved in improving existing networks.

In areas of new urban development, *wastewater networks* should be designed, constructed, operated and maintained so that *wastewater overflows* only occur in extreme circumstances. In existing *Urban Areas*, *wastewater overflows* may be occurring more frequently. An appropriate frequency of discharge or other appropriate performance measures will need to be defined through the consent processes for *wastewater networks*, noting that the Regional Plan: Coastal requires a BPO analysis to justify having more than two wet weather *wastewater overflows* per annum leading to public health advisory notices being issued for a water recreation area.

The key management tools proposed in this Plan to integrate *receiving environment* values and the risks of discharges, are the preparation of an *Integrated Catchment Management Plan* (ICMP) by the *territorial authority*, and resource consents for:

- Discharges and diversions from *stormwater* and *wastewater networks*;
- Some discharges and diversions from non-networks;
- Discharges of *environmentally hazardous substances* from Industrial or Trade Activities.

Other tools could include land-use planning controls and education.

It is noted that *ICMPs* are non-statutory documents prepared to assist the *TA* in managing catchments to achieve specified outcomes. These outcomes will in many cases, be determined through statutory *processes* in accordance with the RMA and/ or the Local Government Act. The *ICMPs* may also define statutory and non-statutory methods that will be used to contribute to the achievement of the outcomes sought. To the above extent *ICMPs* will provide useful guidance to all parties on statutory

requirements to be met and additional guidance on other methods the *TA* will use in seeking to achieve the stated outcomes.

The tools will consider the many management aspects including; environmental sensitivity, catchment values, quality and quantity of discharges, affordability and management methods. Overall, they will determine the Best Practicable Option.

5.1.3.1A Industrial or Trade Activities

The use of land for *Industrial or Trade Activities* is authorised subject to compliance with conditions including the completion of an Emergency Spill Response Plan in all cases and an Environmental Management Plan for Moderate and High Risk activities. All discharges of contaminants (including *environmentally hazardous substances* and other contaminants associated with the activity including those in *stormwater*) arising from the *Activity Area* are authorised by way of permitted activity rules or resource consents. Separate authorisation may be required for the discharge of *stormwater* (covering quality and quantity effects) under Rules 5.5.1 to 5.5.13 of this Regional Plan; or under the Auckland Regional Plan: Sediment Control for some *earthworks*, tracking, roading or vegetation removal activities. Such authorisations are likely where the balance of the *site* falls outside the *Activity Area* for High Risk sites, and from the land on which the *Industrial or Trade Activity* is undertaken for Unscheduled, Low or Moderate Risk sites which do not discharge *environmentally hazardous substances*. Additionally, *stormwater* quantity effects (such as flooding or erosion) arising from the *Activity Area* may also need to be provided for in the separate *stormwater* authorisation. It is envisaged that any necessary *stormwater* and *Industrial or Trade Activity* consent applications would be made concurrently and *processed* together.

5.1.3.2 Sewage Treatment and Disposal

Wastes are conveyed from the *sewage* collection *networks* that operate through the urbanised parts of the region to *municipal sewage* treatment plants. While the treatment plants at Mangere and Rosedale treat the majority of the region's *sewage*, satellite townships outside of the *Metropolitan Urban Limits* have their own treatment and disposal systems. Most of these systems rely upon the assimilation of treated *wastewater* by waterbodies for final disposal, although some incorporate a land disposal component for at least part of the year.

Areas of the Auckland Region without sewerage reticulation rely on land application for *sewage* treatment and disposal. There are estimated to be approximately 42,000 households and businesses relying on on-site *sewage* treatment and disposal systems. In many areas, this is complicated by the soil types, such as clay soils or free draining sands. Areas with clay soils experience significant problems with conventional septic tank and soakage trench systems, especially where high *wastewater* volumes are generated. For on-site disposal, problems can be exacerbated by inappropriate design, use or *maintenance* of systems, increased occupancy rates and changing lifestyle expectations.

Ineffective land disposal can lead to adverse impacts on the water quality and *amenity* values of the region's waterbodies, such as eutrophication of waterbodies, public health threats and odour. Often, the greatest potential for adverse effects is where on-site disposal systems are clustered around areas of high *amenity*, for example beach communities.

Recognition of recent industry advances in the design of treatment and land application systems, the introduction of *wastewater* treatment and disposal system *maintenance* programmes and ongoing up-skilling of practitioners is critical if on-site disposal is to be considered a sustainable use of resources or best practicable option as required by the RMA.

5.1.3.3 Sewage sludge (including biosolids)

The treatment of *sewage* generally involves the separation of the liquid and solid fractions of the wastes entering the treatment plant. *Sewage sludges* that are of a suitable quality for reuse are referred to as *biosolids*. Untreated raw sludges or untreated sludges from sewage treatment and industrial processes are not *biosolids*.

The region's main *sewage* treatment plants collectively produce about 400-500 tons of *solid wastes* per day as part of the *sewage* treatment *process*. The solids from *sewage* treatment plants are generally disposed of to *landfills* at significant cost to the region. This uses up valuable space in *landfills*. Solids collected in individual household septic tank systems in areas such as the Islands of the Hauraki Gulf, are applied to land under discharge permits issued by the ARC.

Sewage sludge contains nutrients, organic matter and other useful trace elements and therefore has potential for application to land as a *fertiliser* or soil conditioner when transformed into *biosolids*.

Biosolids are *sewage sludges* or *sewage sludges* mixed with other materials that have been treated and stabilised to the extent that they are able to be safely and beneficially applied to land. *Biosolids* have significant fertilising and soil conditioning properties as a result of the nutrients and organic materials they contain. In addition to natural nutrients, *biosolids* may also contain pathogens, heavy metals and synthetic organic compounds. They therefore require appropriate management to minimise the risk to public health and the contamination of both land, surface and *groundwater* and the coastal marine area.

More sophisticated *wastewater* treatment plants and improved management of trade wastes have enabled the production of more highly treated *biosolids* and more flexibility in their disposal to land. National guidelines provide direction on the grading of *biosolids*, according to their levels of contamination and stability. This grading system forms the technical basis for how the application of *biosolids* are managed by this plan.

The application of biosolids to land can result in a number of beneficial outcomes, including economic benefits, waste minimisation and land rehabilitation.

Sewage sludges that are not *biosolids* can be applied to land and stored on land where application is appropriately managed.

5.1.3.4 Land Management

Without appropriate erosion and *sediment control* land disturbing activities, including vegetation removal, can increase the potential for the generation and discharge of elevated levels of sediment. The volume and frequency of sediment generation and discharge depends on the nature, scale, duration and frequency of activities and on environmental factors such as rainfall intensity and duration, soil type, *slope* and soil moisture content. Erosion and sedimentation are natural *processes*. However these *processes* can be accelerated by anthropogenic activities such as soil *cultivation* or pastoral farming. This Plan promotes the use of appropriate *cultivation* and sustainable land management practices to avoid or minimise accelerated erosion.

The small size of the clay particles typical of the region's geology heightens the need to implement erosion and *sediment control* measures. In particular the fine clay soils, once mobilised, take a much longer time to settle than the coarser sand and silt material, and are thus more difficult to remove by typical *sediment control* measures. Once sediment enters water bodies, recovery times from their impacts are more likely to be measured in years than months.

The adverse effects of sediment discharge include increased flooding, reduced viability of aquatic life, recreational use, *potable water* supply, stock water and horticultural use and greatly increased sedimentation of water bodies, wetlands, estuaries and harbours.

Discharges of sediment from *earthworks*, vegetation removal and other land disturbing activities are addressed in the Regional Plan: Sediment Control (2001).

Soil health is also an important factor as it can be affected by land management practices. Loss of soil by erosion depletes the land's productive capacity. Repeated *cultivation* and disturbance affect the soil's ability to function properly by disrupting natural biological and chemical interactions. Of particular concern in certain parts of the region is the increased potential for nitrate leaching from the soil and consequent effects on *groundwater* quality. A further serious consequence is reduced soil organic matter content. This increases reliance on artificial *fertiliser* inputs and decreases the soil's structural resilience, resulting in compaction and poorer natural *drainage*. Further soil compaction can result when machinery or stock moves over land with a high soil moisture status or where the soil has been disturbed. In severe cases compacted soil may never recover to its full productive capacity. The productive capacity of soil can be enhanced by some agricultural practices including appropriate *fertiliser* use, mechanical aeration and incorporation of organic matter.

The Plan proposes to make land *cultivation* a Permitted Activity, subject to rules limiting *slope* and compliance with good practice.

5.1.3.5 Wastes From Production Land Activities

Many common rural land use practices produce *waste*. The disposal of these products (e.g. *effluent*, compost) can have beneficial effects on the rural environment if handled correctly. For example compost can increase the organic content of soils, improving the soils structure and fertility. However if poorly managed the adverse effects on the environment and public health can be significant.

In the absence of a community system to collect and treat wastes, farmers must rely upon land application to minimise the potential for contamination of water bodies. Many agricultural *waste* materials contain nutrients that have a *fertiliser* value. Therefore reusing these wastes is a common and beneficial practice in rural areas. As these practices are seen as sustainable management of natural resources they are promoted by a lower level of regulation. Controls on wastes from production land activities are based on the underlying soils, minimisation of nutrient leaching and adequate contingency plans. Low volumes are provided for as a Permitted Activity, while higher volumes require Resource Consent.

Discharges from farm dairies are addressed in the Operative Regional Plan: Farm Dairy Discharges (1998).

5.1.3.6 Fertiliser Use

Fertilisers are used to replace or supplement essential nutrients and trace elements in order to maintain soil fertility, sustain plant health and increase rural primary production. While *fertiliser* has many positive effects, when poorly managed it also has the potential for significant adverse effects on *groundwater* and *surface waters* when nutrients from *fertilisers* get into water bodies and affect their natural nutrient balance.

Nitrogen is the nutrient of greatest concern in terms of adverse effect which include proliferation of weeds and algae in waterbodies and potential public health problems associated with drinking nitrate-contaminated water. This risk is greatest in the Franklin volcanic *aquifer* due to the combination of land use for intensive horticulture and the nature of the *groundwater* resource.

There is also potential for phosphate from *fertiliser* to adversely affect water quality particularly on free-draining soils such as sands.

In order to avoid, minimise, mitigate or remedy these effects, users must adopt good management practices. The industry developed Code of Practice is the basis for compliance with the Permitted Activity rule.

5.1.3.7 Contaminated Land

Some land within the Auckland Region is affected by contaminated water or soil, mainly from historical industrial and rural land use activities that were generally recognised practice at the time. Some land has contaminants present that have originated from neighbouring land uses and that are unrelated to current land uses. Where contaminant levels are elevated above that which occurs within the soil, *remediation* or management may be appropriate depending upon a range of matters, including the proposed use of the land. In some instances, contaminants can occur at levels where they are causing or are likely to cause significant adverse effects on human health or the environment. In this case, the land is termed *contaminated land* and *remediation* or management is required to avoid, remedy or mitigate these adverse effects.

This necessitates a need to identify *land containing elevated levels of contaminants* including *contaminated land* and to assess the degree of its contamination through *site* investigations.

This plan provides a regulatory framework for management or *remediation* to a standard appropriate for the *protection* of human health and the environment.

This plan also recognises that contamination may not always necessitate *remediation* where contaminant concentrations may be present at low levels or where contamination arises from other authorised discharges (e.g. within *stormwater* treatment devices).

The cost of remediating *land containing elevated levels of contaminants* including *contaminated land* can be significant. *Remediation* techniques range from non-interventionist "natural" *remediation processes* to the removal of contaminated material to an appropriate disposal facility. In some circumstances, land management techniques, such as *site* capping, with an *impervious layer*, can achieve *protection* of human health and the environment without contaminant removal.

It is also important to note that *contaminated land* management is an inter-media issue with possible implications for air quality in terms of *amenity* (odour) and human health (inhalation) risks to site workers and neighbours. Other agencies with a public health *protection* mandate, for example agencies with responsibilities under public health legislation including the Health Act including *territorial authorities*, are also involved in *site* and risk management and *remediation*. Coordination between these agencies should continue and be enhanced where necessary.

5.1.3.8 Landfills

The Auckland Region is currently serviced by three major municipal *solid waste landfills* at Greenmount, Redvale and Whitford. All operative landfills are consented with stringent conditions specifying design, construction, operation and monitoring. The ARC encourages *waste* minimisation to avoid or mitigate the potential adverse effects of *waste* disposal, in terms of both the quantity and toxicity of *waste* to preserve the availability of scarce *landfill* space in the region. At the same time, it is recognised that modern, engineered, carefully designed and properly managed *landfills* are an essential component of Auckland's regional infrastructure, and contribute to the social, economic and environmental well-being of people and communities in the Auckland Region.

Around 370 old closed *landfills* of varying sizes and ages have been identified in the Auckland Region. Historically, these *sites* were poorly constructed and managed, they therefore have the potential to contaminate ground and *surface water* resources.

Leachate from *landfills* is best described as a chemical cocktail that varies in composition depending on the type of *refuse* and the age of the *site*. It usually comprises heavy metals, synthetic organic contaminants and oxygen-demanding substances. Studies in New Zealand and overseas show that *solid waste landfills* require a minimum of 30 years of post-closure care. Therefore all closed *sites* still require a thorough evaluation to ensure that they are not causing adverse environmental or public health effects.

However very old Auckland *sites* examined to date have *leachate* of a quality well below international guidelines for the *protection* of aquatic life. As such these can be managed by a lower level of regulation.

There are a large number of varying sized *cleanfills* operating across the region at any one time. *Cleanfill* is primarily made up of inert materials like uncontaminated dirt, sand, concrete, and bricks. As these materials do not create *leachate* that can then discharge into the environment and cause adverse effects, the level of environmental *protection* required is low.

5.1.3.9 Other Discharges of Contaminants to Land or Water

Many routine and widespread activities result in *wastewater* discharges, for example concrete or asphalt cutting, swimming pool operation, and the washing of vehicles, plant and machinery. Flow volumes and contaminants from each activity are often minor, but cumulatively they can cause significant adverse effects. In many circumstances there are practicable disposal alternatives, such as the sanitary sewer or land application to avoid adverse effects on waterbodies.

Discharges sometimes arise as a consequence of emergency service response activities protecting the safety and well-being of people and communities. When practical, environmental *protection* measures should be employed as a part of emergency service response activities that result in discharges to the environment.

Discharges from some activities involve contaminants of such minor effect that they can be safely carried out using simple management techniques. Low levels of regulation are appropriate for such discharges.

Geothermal water occurs in several locations in the Auckland Region, although at present there are only two places where it is used in large quantities; Waiwera and Parakai. The main geothermal water uses are for therapeutic and recreational purposes, heating hot pools in large public pool complexes or motels and apartments, and in small quantities to heat private spa pools. Once used the water is mostly discharged directly or indirectly into the sea.

The discharge of geothermal water results in changes to water temperature, volume, rate and chemical composition due to the presence of pool water treatment chemicals. Poor management of geothermal discharges can result in significant adverse effects to aquatic life, suitability for use, aesthetic values, erosion and scouring.

5.1.3.10 Stock Access

The ARC intends to notify a Plan Variation / Change to the stock access part of Chapter 5 within two years of the notification of the ARC Hearings Committee decisions on submissions to the Plan. This Plan Change / Variation is considered necessary to take advantage of evolving strategies/initiatives for the *protection* of beds of *lakes*, rivers and streams. Recent initiatives by rural sector groups (Fonterra, Federated Farmers), central government (MfE) and local government (Regional Councils and *Territorial Authorities*) are progressing toward an efficient and effective combination of education, advocacy and regulation. It is anticipated that an appropriate combination of advocacy (including financial assistance for voluntary initiatives), education (including demonstration facilities) and regulation (including rules) will be better defined within this two-year timeframe.

5.2 Issues

Stormwater Discharges and Wastewater Overflows (Networks and non-Networks)

- 5.2.1** Rainfall runoff can become contaminated as it transports sediment and other contaminants. These contaminants can then accumulate within urban waterbodies, and particularly estuaries and harbours, leading to adverse environmental effects.
- 5.2.2** The diversion of runoff by impervious surfaces reduces the amount of rainfall that soaks into the ground, affecting *groundwater* recharge and altering flow regimes in rivers and streams, with consequent adverse effects on *water availability* and aquatic life.
- 5.2.3** If managed inappropriately, *stormwater* conveyed by rivers and streams can increase the risk of flooding, bank instability and erosion, thereby posing a potential threat to buildings, property, and infrastructure.
- 5.2.4** *Overflows* and leaks from *wastewater networks* may cause a variety of adverse environmental effects, but in particular risks to the health of people undertaking water based recreational activities.
- 5.2.5** The Auckland Regional Growth Strategy and associated Sector Agreements have identified where *land use intensification* and development within the Auckland *Urban Area* should occur. This growth has potential to generate adverse effects at a *site* and catchment scale and will place pressure on existing *stormwater* and *wastewater networks*. These *networks* will require greater capacity where *land use intensification* occurs and *extensions* where new development occurs.
- 5.2.6** Parts of the Auckland Region's existing catchment wide *stormwater* and *wastewater networks* are old and need refurbishment, or have exceeded their design capacity. Improving these *networks* and their performance is essential to ensure the sustainable management of the Auckland region's *drainage* infrastructure and land and water resources and to meet public expectations for positive environmental outcomes.
- 5.2.7** In terms of the Resource Management Act definition of sustainable management, *stormwater* and *wastewater networks* are essential physical resources serving the important functions of flood *protection*, safeguarding public health and safety, and promoting community wellbeing. If the regulatory *process* does not recognise these positive effects, some of the basic benefits of *stormwater* and *wastewater networks* may be reduced or compromised.
- 5.2.8** The ownership of, and interaction between networks can be complex. If the management of *stormwater* and *wastewater networks* is not integrated, *networks* may be upgraded on a piecemeal basis in response to highly localised needs. It is possible that wider adverse effects on the environment will be overlooked or the *networks* as a whole will not operate efficiently and effectively in terms of providing basic public health *protection* and public health and safety. Non-integration is likely to lead to duplication of effort, resources and projects resulting in greater total costs and unclear overall environmental results. This will lead to increased compliance costs through the need for multiple smaller consents with the potential for a wide variation of consent conditions and operational practices to develop over time.
- 5.2.9** There may be considerable costs involved in achieving significant environmental improvements from the operation of *stormwater* and *wastewater* infrastructure and the financial implications of improvement works needs to be assessed. Piecemeal solutions developed on less than a catchment or network scale may lead to limited opportunities for community involvement or may pose a risk that the chosen solutions will not represent the best overall value for money or the best practicable option.

5.2.9A The combined *stormwater* and *wastewater network* that services part of Auckland City is designed to operate differently to the separated *stormwater* and *wastewater networks* that are more common in the Auckland Region. In particular, the system is designed to *overflow* during some rainfall events (resulting in larger and more frequent overflows than a separated *wastewater network*). The costs of reducing *overflow* volumes and frequencies is considerable. There are significant linkages between the local and trunk networks providing opportunities to consider integrated solutions across both networks.

5.2.9B The state highway network crosses multiple catchments and local authority boundaries and discharges *stormwater* to many different *receiving environments*. This has significant implications for the management of *stormwater* quality in particular, as there are no regional or national mechanisms currently in place to control the generation of contaminants from motor vehicles. Whilst regard should be had to the sensitivity and pressures on the *receiving environment* and the outcomes sought by local authorities, it is recognised that any solutions need to reflect the nature and extent of the state highway network and its operational constraints.

Sewage Treatment and Disposal

5.2.10 Inappropriate *wastewater* treatment and disposal system design, installation or *maintenance* can lead to poor system performance resulting in adverse effects on public health and the environment.

5.2.11 Poor management of solids and liquids from *wastewater* treatment plants can have adverse public health or environmental effects due to high levels of pathogenic organisms, heavy metals, synthetic organic contaminants and nutrients.

5.2.12 The assimilation capacity of the *receiving environment* is a critical factor in determining the sustainability of any *wastewater* treatment system discharge.

5.2.13 Land application of *wastewater* is potentially sustainable outside of reticulated areas, however some of Auckland's soil types and the cumulative effect of many land applications systems in an area make system design together with regular monitoring and *maintenance* inspections, and the *remediation* of failing systems, critical to avoid adverse effects on *groundwater*, *surface waters* or public health.

Industrial or Trade Activities

5.2.14 Inappropriate *site* management practices from an *Industrial or Trade Activity* can result in discharges of *environmentally hazardous substances* accumulating within urban waterbodies, and particularly estuaries and harbours, leading to adverse environmental effects.

Sewage Sludge (including Biosolids)

5.2.15 Appropriately treated and stabilised *sewage sludges* have the potential for beneficial reuse. These are referred to as *biosolids*. *Biosolids* have significant fertilising and soil conditioning properties as a result of the nutrients, organic matter and useful trace elements they contain. However, *biosolids* require appropriate management to minimise risks to public health and the environment. *Sewage sludges* that do not meet the product specifications to become *biosolids* may also have potential for beneficial reuse, however careful consideration is required to ensure the appropriate management of adverse effects.

Land Management

5.2.16 Agricultural and horticultural *cultivation* activities can create bare surfaces that are subject to erosion and have the potential to discharge sediment if not managed carefully. Sediment is a significant water pollutant as it can result in adverse environmental effects.

5.2.17 Soil loss and degradation from inappropriate land management practices result in a reduction in soil quality and consequently the productive potential of the land for future generations.

5.2.18 Repeated *cultivation* without careful land management can lead to depletion of soil carbon levels, resulting in nitrate leaching through the mineralisation of organic matter.

Wastes from Production Land Activities

5.2.19 Unless managed carefully, wastes from production land activities have the potential to cause significant adverse public health and/or environmental effects.

Fertiliser Use

5.2.20 Without careful management, the rate and timing of *fertiliser* application can result in application rates exceeding plant requirements. Excess soil nitrogen and phosphorus can then enter water bodies via leaching and/or runoff leading to adverse effects on *groundwater* and *surface waters* (such as eutrophication). The Franklin volcanic *aquifer* is vulnerable due to its unconfined nature and the intensive *cultivation* of the overlying land.

Contaminated Land

5.2.21 Regional growth means that land is developed or redeveloped which potentially exposes people to unacceptably high levels of contaminants due to historical land use activities or through the migration of mobile contaminants onto other *sites* including dust and vapours.

5.2.21A The ARC has a statutory duty to investigate land for the purposes of identifying and monitoring *contaminated land*. While local authorities must disclose information they hold on land contamination in accordance with section 44A of the Local Government Official Information and Meetings Act 1987, there is currently no requirement for the public to forward information that they are aware of, leading to risks to human health or the environment. Therefore, a mechanism is required to gather that information from the public.

5.2.22 The *remediation* or management of *land containing elevated levels of contaminants* including *contaminated land* is complicated by changes of land ownership and land use activities or movement of mobile contaminants. This often means that current *site* owners may have no relationship to the activity that caused contamination of their land and therefore they have a reluctance to take responsibility for undertaking *remediation*.

5.2.23 *Remediation* and or management of *land containing elevated levels of contaminants* including *contaminated land* must take into account potential adverse effects on human health, *groundwater*, *surface waters* and natural local *background levels* of contaminants together with the physical constraints of the *site*, operational practicalities, and the financial implications of the investigation, *remediation*, management and monitoring options.

5.2.23A Not all *land containing elevated levels of contaminants* requires *remediation*, and some contaminated materials may be suitable for reuse in certain circumstances, especially where contaminant concentrations are present at low levels and/or are unlikely to be readily mobilised. This needs to be carefully managed to protect human health and the environment.

5.2.23B Both the ARC and the region's territorial authorities have functions under the RMA relating to the management of *contaminated land*. In terms of effective and integrated management it is important that respective agency *processes* are integrated with land owner efforts, that duplication of effort is avoided, and there is a full and open sharing of information on land uses and land use changes.

Landfills

5.2.24 *Landfills* pose a potential risk to public health and the environment because they may contain harmful *waste* and produce *leachate* which may contaminate *groundwater* or *surface water* unless managed appropriately.

5.2.25 The inappropriate disposal of contaminants at *cleanfill* sites can lead to adverse effects on public health and/or the environment.

Other Discharges of Contaminants to Land or Water

5.2.26 The discharge of *wastewater* from some small scale activities such as washing vehicles, and the cleaning, *maintenance* and preparation of building surfaces may have only minor impacts individually, but are having significant cumulative environmental effects.

5.2.27 Without appropriate management, activities that result in large quantities of water with negligible amounts of contaminants can cause adverse effects to ground or *surface water*. Such activities include pipeline testing, reticulated water supply and water containing dye for investigating pipeline integrity.

5.2.28 Discharges of geothermal water to water bodies can have adverse effects on the physical, chemical and biological composition of the *receiving water* arising from the amount of geothermal water discharged at any one time, its temperature and chemical composition.

5.2.29 Discharges associated with the activities of emergency service providers are necessary to provide for the safety and wellbeing of people and communities.

Stock Access

5.2.30 It is well recognised nationally and internationally that the access of stock to the beds of *lakes*, rivers and streams in rural areas can cause a range of significant adverse effects on water quality and instream and riparian habitat values. While all types of stock can potentially impact on values the issue is particularly relevant to larger animals such as dairy and beef cattle, deer and pigs. The main mechanisms for causing damage relate to trampling, pugging or erosion of the bed, bank and riparian margins from stock movement. Foraging can also adversely affect *lake*, river and stream morphology and flow; increase sedimentation and damage instream and riparian habitats. Stock defecation reduces habitat quality by adding organic sediment, nutrients and pathogens, which affect both human and stock health. Increased sedimentation from faecal contamination affects the habitat quality of fish and other aquatic biota.

5.2.31 The predominance of small soft-bottom streams makes this issue particularly important in the Auckland Region. However a number of the Region's *lakes* and wetlands are also very vulnerable to the activity of stock around their margins and in any feeder streams. These effects can contribute to adverse impacts on other sensitive water resources such as estuaries and sheltered harbour waters common along the east coast and as components of the Region's several harbours.

5.3 Objectives

General Objectives

- 5.3.1** To protect, maintain or enhance the quality of land and water in the Auckland Region by:
- Maintaining areas of high environmental quality;
 - Minimising adverse effects on degraded natural and physical resources where these cannot be avoided; and
 - Enhancing degraded areas where practicable.

This shall be achieved by avoiding or minimising the adverse effects arising from:

- the discharge of sediment;
- overflows* and *exfiltration* from *wastewater networks*;
- contaminant levels in *stormwater* runoff, including *stormwater* generated from the *Activity Area* of an *Industrial or Trade Activity*;
- contaminant levels in *sewage* treatment plant discharges;
- the application of wastes in vulnerable *groundwater protection* areas;
- discharge of wastes from production land activities to water;
- the excessive application of *fertilisers* to land;
- discharges from *contaminated land*;
- discharges from *landfills*;
- contaminant levels in geothermal discharges;
- contaminant levels in *washwater* and *wastewater* from *Industrial or Trade Activities*; and
- discharges from emergency fire service training exercises; and
- discharges from other activities including reticulated water systems which are of such minor nature that management techniques can ensure that any adverse effects generated are no more than minor.

(This Objective relates to Issues 5.2.1, 5.2.5, 5.2.10 – 5.2.29)

- 5.3.2** To allow the treatment and reuse of *sewage*, *sewage sludge*, *washwater*, and wastes from production land activities in a sustainable manner, while avoiding, remedying or mitigating adverse effects on the environment and public health.

(This Objective relates to Issues 5.2.10 – 5.4.13, 5.2.15 and 5.2.19)

- 5.3.2A** To provide for the beneficial use of *biosolids* onto or into land without having significant adverse effects on water quality, public health, amenity values or the environment.

(This Objective relates to Issues 5.2.10 – 5.2.13 and 5.2.15)

- 5.3.3** To minimise, where appropriate and practicable, changes to natural *infiltration* rates and *stormwater* runoff volumes, thereby preventing river erosion and protecting *aquifer outflows* including river and stream *base flows*.

(This Objective relates to Issue 5.2.2, 5.2.3 and 5.2.7)

- 5.3.4** To ensure that land-use intensification activities:
- Avoid adverse effects on natural and physical resources outside *Urban Areas*;
 - Remedy or mitigate adverse effects on natural and physical resources within *Urban Areas*.

(This Objective relates to Issues 5.2.5, 5.2.6 and 5.2.7)

Stormwater Discharges and Wastewater Overflows

(Networks and non-Networks)

- 5.3.5** To prevent or minimise the adverse effects of *stormwater* and *wastewater* discharges.
(This Objective relates to Issues 5.2.1- 5.2.4)
- 5.3.6** To achieve the integrated management of *stormwater* diversions and discharges, *wastewater* discharges and associated river and lakebed activities at a catchment or network wide level through *Integrated Catchment Management Plans* and/or *stormwater* and *wastewater network* resource consents.
(This Objective relates to Issues 5.2.5 - 5.2.9B)
- 5.3.7** To recognise and have regard to the significant contribution that *stormwater* and *wastewater networks* and other *regionally significant infrastructure* make to the sustainability of the Region's environment, including the health, safety, and economic, social and cultural wellbeing of the community.
(This Objective relates to Issues 5.2.7 - 5.2.9B)
- 5.3.8** To provide for and enable diversions and discharges associated with *stormwater* and *wastewater* within *Urban Areas* consistent with the Auckland Regional Growth Strategy and Sector Agreements while adopting the Best Practicable Option (BPO) to manage adverse effects on the environment.
(This Objective relates to Issues 5.2.1 – 5.2.5)

Industrial or Trade Activities

- 5.3.9** To promote sustainable management practices that where practicable avoid discharges of *environmentally hazardous substances* from an *Industrial or Trade Activity*, and remedy or mitigate the effects of discharges where they cannot be avoided.
(This Objective relates to Issue 5.2.14)

Sewage Treatment and Disposal

- 5.3.10** To ensure the treatment and discharge from *sewage treatment* plants are undertaken in a manner which does not lead to significant adverse effects on the environment and public health.
(This Objective relates to Issues 5.2.10 – 5.2.13)
- 5.3.11** To avoid significant adverse cumulative effects on water quality and public health arising from single lots or multiple on-site systems.
(This Objective relates to Issues 5.2.10, 5.2.11 and 5.2.13)

Land Management

- 5.3.12** To maintain the long-term health and productive potential of soils in the region while those soils are being used for production land purposes.
(This Objective relates to Issues 5.2.16 to 5.2.18)
- 5.3.13** To encourage integrated land management practices that minimise the discharge of sediment, maintain and enhance the productive potential of soil and minimise soil loss and degradation.
(This Objective relates to Issues 5.2.16 to 5.2.18)

Contaminated Land and Landfills

- 5.3.14** To promote and facilitate the identification and management of *land containing elevated levels of contaminants* including *contaminated land*.
(This Objective relates to Issue 5.2.21A)
- 5.3.15** Where necessary, to ensure that the *remediation* and/or management of *land containing elevated levels of contaminants* including *contaminated land*, closed and operative *solid waste landfills* and *cleanfills* is undertaken to protect the environment and human health.
(This Objective relates to Issues 5.2.21- 5.2.23A, 5.2.24 and 5.2.25)
- 5.3.16** To recognise and support the sustainable use of *land containing elevated levels of contaminants* including *contaminated land* in a manner which provides for the community's social and economic well being, consistent with the provisions of District Plans.
(This Objective relates to Issues 5.2.22, 5.2.23, 5.5.23A and 5.5.23B)

Stock Access

- 5.3.17** To maintain the instream and riparian habitat values and water quality of *lakes*, and *Permanent rivers and streams* by:
- protecting existing areas of high value; and
 - enhancing degraded areas.
- (This Objective relates to Issues 5.2.30 and 5.2.31)
- 5.3.18** To avoid, remedy or mitigate the adverse effects of stock access to stream beds and margins including, movement, foraging and defecation, while enabling environmentally sustainable farming practices.
(This Objective relates to Issues 5.2.30 and 5.2.31)

5.4 Policies

General Policies

- 5.4.1** The adverse effects of the discharge of contaminants on the values of the Wetland, Natural Stream and Type 2 Urban Stream, High Use Stream, High Use *Aquifer*, Quality Sensitive *Aquifer*, and Natural and Urban Lake Management Area shall be avoided where practicable, or remedied or mitigated.
(This Policy relates to Objectives 5.3.1, 5.3.3, 5.3.9, 5.3.10, 5.3.11, 5.3.13, 5.3.14, 5.3.17 and 5.3.18)
- 5.4.2** To have regard to the objectives and policies of Chapters 2.1, 2.2 and 2.3 in assessing any resource consent to discharge contaminants, into water or onto or into land.
(This Policy relates to Objectives 5.3.1, 5.3.3, 5.3.4, 5.3.9, 5.3.10, 5.3.11, 5.3.13, 5.3.14, 5.3.17 and 5.3.18)
- 5.4.3** To have particular regard to the Urban Stream Management Framework (Figure 3.1) of this Plan when assessing any proposal to discharge contaminants within an *Urban Area*.
(This Policy relates to Objectives 5.3.3, 5.3.4, 5.3.6, and 5.3.8)

Stormwater Diversions and Discharges

- 5.4.4** When processing consent applications for non network *stormwater* diversions and discharges under Rules 5.5.2 to 5.5.5 the ARC shall require the applicant to adopt the Best Practicable Option (BPO) for the diversion and discharge, which shall have regard to:
- (a) The BPO statutory criteria in the RMA;
 - (b) That, outside *Urban Areas*, the scale and intensity of the development shall be consistent with the Regional Growth Strategy and Sector agreements or is part of the state highway network;
 - (c) The level of adverse effects on the environment, including in particular adverse effects on:
 - (i) the *receiving environment* due to the quality of the discharge;
 - (ii) the health and safety of people and communities from flooding;
 - (iii) aquatic habitat from erosion and sedimentation, particularly for *Natural Stream Management Areas* and Type 2 Urban Streams; and
 - (d) The level of adverse effects arising from the cumulative effects of *stormwater* discharges and diversions at the discharge point(s) for existing and proposed land uses within the *site* or in the case of a State highway, that part of the highway within the same *stormwater catchment*. In particular, this includes any existing or redeveloped *impervious areas*, draining to the same discharge point as new *impervious areas*.
- (This Policy relates to Objective 5.3.1 and 5.3.8)*

- 5.4.4A** When processing consent applications for *stormwater* diversions and discharges under Rules 5.5.2 to 5.5.5 the ARC shall recognise the strategic importance of *stormwater* systems owned or operated as part of *regionally significant infrastructure* in achieving sustainable management and enabling people and communities to meet their needs for economic, social and cultural well-being.
- Explanation:**
The costs associated with regionally significant infrastructure installation, maintenance and refurbishment are high. Due regard needs to be given to the ability to fund such works.

- 5.4.4B** In addition to the matters listed in Policy 5.4.4, consent applications for non network *stormwater* diversions and discharges under Rules 5.5.2 to 5.5.5 will also be assessed against the following matters:
- (a) The extent to which:
 - (i) the scale and intensity of the land use activity is consistent with that provided for in the District Plan; or
 - (ii) the application adopts the outcomes of any *Structure Plan* (that has been incorporated into a District Plan); or
 - (iii) the application adopts the outcomes of any *Integrated Catchment Management Plan* (for the area within which the discharge occurs or will occur) to ensure an integrated approach; or
 - (b) Outside *Urban Areas*, whether the development is located in a growth area and is in accordance with the Regional Growth Strategy, and Sector agreements, or is part of the State highway network, including the timing of such development, so as to avoid cumulative adverse effects of *stormwater* discharges outside *Urban Areas*;

- (c) The outcomes of any consultation undertaken with any potentially adversely affected parties;
- (d) The extent to which a wide range of management options have been considered to prevent or minimise the adverse effects of any existing and maximum potential landuse and any consequential diversions and discharges, and associated river and *lake* bed activities to ensure the most appropriate option is selected;
- (e) The level of *stormwater* quality management identified by the relevant *Integrated Catchment Management Plan* to prevent or minimise the adverse effects of *stormwater* contaminants;
- (f) If an *ICMP* has not been prepared, the assessment criteria will include the extent to which *stormwater* quality management:
 - (i) adopts the Best Practicable Option;
 - (ii) adopts methods (*source control*, traditional or *innovative*) to prevent or minimise the adverse effects of contaminants on the *receiving environment*, including *total suspended solids (TSS)* loads anticipated to arise on a long term basis from the proposed *impervious area*;
- (g) Whether the proposal:
 - (i) avoids exacerbating or causing flooding of the floor level (authorised by a local authority) of a *habitable building(s)*, or a State highway;
 - (ii) avoids the use of flood storage volume below the 100 year *ARI* flood level;
- (h) The extent to which there is the potential for local scour and downstream channel erosion, particularly for *Natural Stream Management Areas* and Type 2 Urban Streams and that this is managed to prevent or minimise adverse effects;
- (i) The extent to which the activity incorporates *low impact design* and *non-structural methods* to prevent or minimise adverse effects (including minimising the extent of *impervious area* and *stormwater* runoff volumes);
- (j) The extent to which operation and *maintenance* programmes are provided to ensure the effective ongoing functioning of the discharge;
- (k) The extent to which *stormwater* quality treatment and quantity control are, or will be, provided for existing and proposed land uses within the same *stormwater* catchment or *site* to reduce existing and potential adverse effects. In particular, this includes any existing or redeveloped *impervious areas*, draining to the same discharge point as new *impervious areas*;
- (l) Where assets are to be vested to another organisation, whether a financial bond is required (from the applicant to that other organisation) for the purposes of ensuring effective ongoing operation and *maintenance* of the *stormwater* management methods proposed;
- (m) With respect to existing discharges and diversions, the extent to which any prioritised programme for implementing upgrades and improvements to infrastructure considers and balances environmental effects, operational needs, physical constraints, practicality, timing issues, and financial considerations; and
- (n) Having regard to Policy 5.4.4C, the extent to which monitoring and reporting may be required.

(This policy relates to Objectives 5.3.1, 5.3.4, 5.3.5, 5.3.6 and 5.3.8)

Explanation:

One means of complying with Assessment Criteria (e), (f), (g) and (h) is to adopt the practices outlined in the ARC guideline document "Stormwater Management Devices: Design Guidelines Manual", second edition, May 2003, Technical Publication 10.

5.4.4C Where the *stormwater* management methods proposed by an applicant are in accordance with the design methods in ARC Technical Publication 10: Stormwater Management Devices: Design Guidelines Manual second edition (May 2003) and address the matters listed in Policy 5.4.4, a detailed Assessment of Effects on the Environment (AEE) is not required to support a resource consent application under Rules 5.5.2 to 5.5.4 (but note excluding Rule 5.5.5). Alternatively, an applicant may prepare a detailed AEE, in accordance with the Fourth Schedule of the RMA, to address the adverse effects (including cumulative effects) arising from their activity and propose alternative management methods to avoid, remedy or mitigate those effects.

5.4.4D Where authorisation for the diversion and discharge of *stormwater* from within the *Activity Area* of an *Industrial or Trade Activity* is obtained under Rules 5.5.14 to 5.5.19 then Policies 5.4.4 and 5.4.4A shall only apply to the diversion and discharge of *stormwater* from the balance of the *site* located outside the *Activity Area*.

(This policy relates to Objectives 5.3.5, 5.3.6 and 5.3.8)

Wastewater Overflow Discharges

5.4.5 When processing consent applications for *wastewater* discharges from pump stations under Rule 5.5.7 the ARC shall require the applicant to adopt the Best Practicable Option for the discharge, which shall have regard to:

- (a) The BPO statutory criteria in the RMA;
- (b) The provision made for *wastewater* discharges deriving from potential urban growth, urban redevelopment, and *land use intensification* within the catchment, taking into account the growth projections developed under the Regional Growth Strategy and related Sector Agreements produced by the Auckland Regional Growth Forum, and District Plans; and
- (c) That any aspects of performance which have significant environmental risks are managed to prevent or minimise adverse effects.

(This Policy relates to Objectives 5.3.5, 5.3.6 and 5.3.8)

5.4.5A Consent applications for *wastewater* discharges from pump stations under Rule 5.5.7 will also be assessed against the following matters:

- (a) The extent to which the growth projections developed under the Regional Growth Strategy and related Sector Agreements produced by the Auckland Regional Growth Forum, and District Plans have been considered and the means by which *wastewater* discharges deriving from those areas will be provided for;
- (b) The extent to which the overall management approach for discharges and diversions is consistent with the objectives and methods of implementation contained in any *Integrated Catchment Management Plan* that exists for the catchment to ensure an integrated approach;
- (c) The extent to which any aspects of performance have significant environmental risks and the methods proposed manage those risks and reduce high risks;
- (d) The extent to which the management approach proposed may be reviewed based on an increased understanding of environmental responses, community needs and network priorities to improve performance over time;
- (e) With respect to existing discharges and diversions, (and particularly those associated with *regionally significant infrastructure*) the extent to which any prioritised programme for implementing upgrades and improvements to infrastructure considers and balances environmental effects, operational needs, physical constraints, practicality, timing issues, and financial considerations;

- (f) Where assets are to be vested to another organisation, whether a financial bond is required (from the applicant to that other organisation) for the purposes of ensuring effective ongoing operation and *maintenance* of the *wastewater* management methods proposed;
- (g) The extent to which operation and *maintenance* programmes are provided to ensure the ongoing effective functioning of the pump station and in particular the minimisation of unforeseen dry weather *wastewater overflows* to the environment;
- (h) The extent to which monitoring and reporting may be required where there is uncertainty about the effects on the environment or the management methods proposed including:
 - (i) monitoring the *receiving environments* relative to the effects of discharges having regard to Policy 20.4.12 of the Auckland Regional Plan: Coastal;
 - (ii) conducting regular reviews of monitoring results and identifying those situations and circumstances where overall management responses and physical works programmes can be adapted to in response to feedback provided by monitoring and review processes;
 - (iii) monitoring and reporting on the effectiveness of any prioritised works programme set out in the application.

(This policy relates to Objectives 5.3.5, 5.3.6, 5.3.7 and 5.3.8)

Explanation:

Policies 5.4.4 to 5.4.5A apply to consents processed under Rules 5.5.2 to 5.5.5 and 5.5.7 but do not apply to network consents processed under Rules 5.5.10 to 5.5.13.

Stormwater and Wastewater Network Discharges

- 5.4.6** To be consistent with the intent of Methods 8.4.5(1), 8.4.5(2), 8.4.7(2), 11.4.2(4) and 11.4.2(7) of the Operative Auckland Regional Policy Statement, *Territorial Authorities* should prepare, and update as is necessary, *Integrated Catchment Management Plans* for the catchments within their districts in order to promote the integrated and sustainable management of diversions, discharges and associated river and *lake* bed activities. In association with this management approach, consents under Rules 5.5.10 to 5.5.13 may be prepared on a scale larger than a single catchment (for example a district or sub-regional scale) to allow the integrated management of multiple catchments, networks and *receiving environments*.

(This Policy relates to Objective 5.3.6)

- 5.4.7** Implementation of *Integrated Catchment Management Plans* may be through:
- (a) Resource consents granted to *stormwater and wastewater network utility operators* for *stormwater* and *wastewater network* activities, including for discharges from the new impervious surfaces;
 - (b) Management of land-use activities and their effects through regional and district plans and by-laws;
 - (c) Resource consents through regional plans granted to *highway network operators* and for non-network *stormwater* and/or *wastewater* discharges, diversions, *damming* and river and *lake* bed activities, and the ARC having regard to *ICMPs* when processing those consents, where appropriate, for those activities;
 - (d) Transfers of powers for the regulation of *stormwater* and *wastewater* diversions and discharges within a catchment to Territorial Authorities;
 - (e) Non-regulatory methods by Territorial Authorities and ARC; and/or
 - (f) Other regulatory methods by central government.

Explanation:

Activities covered under (b) include: management of contaminants by **source control**, erosion and **sediment control** and management of riparian vegetation outside the bed of a lake or river.

Activities covered under (c) include: non-network **stormwater** discharges, contaminants from **Industrial or Trade Activities**, dams and other structures on, over or under the bed of a lake or river.

Activities under (e) could include controls on contaminants through National Environmental Standards and regulations set by Order in Council.

Consents held by a **highway network operator** or for non-network **stormwater** and/or **wastewater** discharges and associated activities will be implemented independently from an ICMP or network resource consent.

(This policy gives effect to Objective 5.3.6)

5.4.7A In considering the appropriate weight to be given to any **ICMP** referenced in Policies 5.4.5A to 5.4.13, the ARC will have regard to the extent to which it has been subject to a consultative process involving affected parties including operators of **regionally significant infrastructure** and the extent to which there is agreement on the contents of the **ICMP**.

5.4.8 **Stormwater and wastewater network utility operators and highway network operators** shall adopt the Best Practicable Option (BPO) at a catchment or network level to prevent or minimise the actual or potential adverse effects on the environment from diversions and discharges from **stormwater** and **wastewater networks** (controlled by **stormwater and wastewater network utility operators or highway network operators**). The network operator shall specify the performance standards, works and other methods that make up the BPO. In determining the BPO for a network of a **stormwater or wastewater network utility operator, or a highway network operator** regard shall be had, but not limited to the following:

- (a) The nature of the discharges and the sensitivity of the **receiving environment** to adverse effects;
- (b) The management options available to prevent or minimise adverse effects on the environment, including methods to mitigate any significant unavoidable adverse effects; the effects of the selected option on the environment compared to other options; and the financial implications of the selected option;
- (c) The current state of technical and scientific knowledge and the likelihood that the selected option can be successfully implemented;
- (d) The timeframe within which adverse effects identified in (b) can be addressed, taking into account:
 - (i) the scale and significance of environmental effects.;
 - (ii) the consequences of delay, compared to the consequences of delaying other works to the **stormwater or wastewater network**; and
 - (iii) community priorities set following consultation on (a) and (b) where this is relevant to the responsibilities of the **stormwater or wastewater network utility operator**;
 - (iv) funding available set following consultation on (a) and (b) where this is relevant to the responsibilities of the **stormwater or wastewater network utility operator**;
 - (v) funding available to and priorities of the **highway network operator**; and
 - (vi) opportunities to achieve better overall outcomes by taking an holistic approach and developing integrated local solutions;

- (e) The extent to which the *stormwater or wastewater network utility operator* or the *highway network operator* is responsible for or has the ability to manage the effects of diversions or discharges and the extent to which other parties may be responsible for or have the ability to manage such effects;
- (f) The benefits of maintaining and optimising existing infrastructure;
- (g) In the case of *stormwater or wastewater network utility operator* the specific management requirements of the combined sewer system and the benefits of developing integrated solutions with the *wastewater* trunk system.

(This Policy relates to Objectives 5.3.5, 5.3.6, 5.3.7 and 5.3.8)

5.4.8A The achievement of Objective 5.3.8 and the Best Practicable Option under Policy 5.4.8 may be developed on a district wide or network wide scale, based on *receiving environment* effects and environmental risk, where the *stormwater or wastewater network utility operator or the highway network operator* is applying for network consents at that scale at the same time.

5.4.9 When processing consent applications for *stormwater* and *wastewater* diversions and discharges under Rules 5.5.10 to 5.5.13 the ARC shall recognise the strategic importance of *stormwater* and *wastewater networks* owned or operated by a *stormwater or wastewater network utility operator or a highway network operator* in achieving sustainable management and enabling people and communities to meet their needs for economic, social and cultural well-being and have regard to the outcomes specified in any *Integrated Catchment Management Plan* developed under Policies 5.4.6, 5.4.10 or 5.4.11.

Explanation:

The costs associated with infrastructure installation, maintenance and refurbishment are high. Due regard needs to be given to community expectations and the ability to fund such works where such networks are managed by territorial authorities or associated network operators. Some infrastructure is funded by central government and subject to different funding processes.

(This Policy relates to Objective 5.3.7)

5.4.9A The extent of the network discharges and diversions authorised by a network consent may include those from proposed networks and networks the *stormwater or wastewater network utility operator* will assume control of (e.g. under the Local Government Act), provided the consent application has assessed the effects of those discharges and diversions.

(This Policy relates to Objectives 5.3.6 and 5.3.8)

5.4.10 *Integrated Catchment Management Plans* should identify for the *stormwater* and *wastewater* discharges, diversions and associated activities within the catchment or district:

- (a) the *stormwater* or *wastewater* issues facing the catchment and the range of effects from those discharges, diversions and associated activities;
- (b) strategic objectives for the management of *stormwater* and *wastewater* discharges, diversions and associated activities within the catchment or district;
- (c) a range of management options and the preferred management approach for avoiding, remedying or mitigating environmental effects and risks;
- (d) roles and responsibilities for implementation of the preferred management approach;
- (e) tools to support implementation of the preferred management approach; and
- (f) a process for review.

(This policy relates to Objectives 5.3.6 and 5.3.7)

5.4.11 *Integrated Catchment Management Plans* and applications for consent under Rules 5.5.10 to 5.5.13 may be prepared as combined documents or separate documents as appropriate to the organisational structures of *Territorial Authorities* and *stormwater or wastewater network utility operators*. *ICMPs* and applications for consent under Rules 5.5.10 to 5.5.13 (in combination) shall meet the minimum information requirements set out in Schedule 9.

The minimum information requirements for a consent under Rules 5.5.10 to 5.5.13 without an accompanying *ICMP* are listed as a standard and term to those rules.

(This Policy relates to Objective 5.3.6)

5.4.12 In circumstances where a consent under Rules 5.5.10 to 5.5.13 has not yet been granted, discharges or diversions resulting from changes to the existing *network* of a *stormwater or wastewater network utility operator*, within that catchment that result in a new resource consent being required, will generally be considered appropriate where:

- (a) the discharge or diversion is generally consistent with the *stormwater* and *wastewater* objectives of this Plan;
- (b) any changes to existing discharges result in benefits to public safety, health or the natural environment, with no more than minor adverse effects occurring as a consequence of the change;
- (c) any works required to implement changes to an existing discharge are not likely to limit the future application of the Best Practicable Option within the catchment or *network*;
- (d) the consent duration is commensurate with the timeframe within which the *ICMP* or network resource consent will be completed and the date for which the catchment based consent application associated with those documents is likely to commence.

(This Policy relates to Objective 5.3.8)

Stormwater Discharges (Network and non-Network)

5.4.13 When preparing *stormwater* or *wastewater* discharge applications or *ICMPs* under the provisions of Policies 5.4.6, 5.4.10 or 5.4.11 *stormwater and wastewater network utility operators* and *highway network operators* shall have regard to any monitoring results for the contaminants listed in Table 20.1 of the operative or proposed Auckland Regional Plan: Coastal for the settling zone where the discharges enter the coastal marine area.

(This Policy relates to Objective 5.3.8)

Wastewater Overflow Discharges (Network and non-Network)

5.4.14 When preparing an Assessment of Effects on the Environment in accordance with the Fourth Schedule of the RMA for consent applications under Rules 5.5.7 and 5.5.10 to 5.5.13 applicants shall identify the location of individual *wastewater* discharges and quantify the effects of those discharges on the environment if:

- (a) the discharge location is known to the applicant and the discharge exceeds 1000 m³ per annum; or
- (b) modelling or monitoring shows the discharge occurs more frequently than once per six months; or
- (c) modelling or monitoring shows the discharge exceeds 1000 m³ per annum.

In all other cases a generic description of the location and effects of the discharges shall be undertaken.

(This Policy relates to Objective 5.3.8)

Stormwater or Wastewater Overflow Discharges (Network and non-Network)

- 5.4.15** When undertaking reviews of *stormwater* or *wastewater* discharge consents under section 128 of the RMA or when considering applications to change consent conditions under section 127 of the RMA, the ARC will generally not publicly notify those reviews unless works or activities are proposed by the consent holder that would result in an increase in the scale or intensity of the actual or potential adverse effects associated with the activity authorised by the consent.

(This Policy relates to Objectives 5.3.7 and 5.3.8)

Industrial or Trade Activities

- 5.4.16** To manage the environmental risk of *discharges* of *environmentally hazardous substances* onto or into land or water occurring as a result of an *Industrial or Trade Activity* by:
- (a) setting Permitted Activity land use conditions and standards for all existing and new *Industrial or Trade Activities*;
 - (b) requiring land use consents for *Industrial or Trade Activities* which do not meet the Permitted Activity conditions and standards;
 - (c) setting Permitted Activity conditions for the discharge of contaminants onto or into land or water from the *Activity Area* of an *Industrial or Trade Activity*;
 - (d) requiring discharge consents for the discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the *Activity Area* of an *Industrial or Trade Activity* which does not meet the Permitted Activity conditions;
 - (e) exempting existing High Risk *Industrial or Trade Activities* from the need for further discharge consents under this part of the Plan if:
 - (i) those activities have appropriate *stormwater* discharge consents or *Industrial or Trade Activity* consents; or
 - (ii) the owner or operator lodged applications in accordance with section 124 of the Act for *stormwater* discharge consents to replace previous authorisations that expired pursuant to Section 386(3) of the RMA in October 2001; and

those consents or authorisations included management practices and/or devices to treat *environmentally hazardous substances* associated with discharges from the land on which the *Industrial or Trade Activity* is undertaken;
 - (f) making:
 - (i) the discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the *Activity Area* of High Risk *Industrial or Trade Activities* that were existing at 23 October 2001, and
 - (ii) the discharge of *environmentally hazardous substances* onto or into land or water from the *Activity Area* of an *Unscheduled, Low or Moderate Risk Industrial or Trade Activity*;

Permitted Activities with the permitted activity status progressively expiring on a industry sector basis as specified in Schedule 3 (providing that any industry sector expiry date specified in Schedule 3 may be extended by the ARC by no more than 24 months, provided notice of such an *extension* is made more than 6 months before the expiry date is reached);
 - (g) requiring a Controlled Activity resource consent for the discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the *Activity Area* of *Industrial or Trade Activities* where they do not meet the Permitted Activity conditions or standards;

- (h) requiring a Restricted Discretionary Activity consent for the discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the *Activity Area* of new High Risk *Industrial or Trade Activities* that commenced after 23 October 2001;
- (i) requiring a Discretionary Activity consent for the discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the *Activity Area* of *Industrial or Trade Activities* that do not meet the standards and terms of the Controlled Activity or Restricted Discretionary Activity rules;
- (j) requiring operators of Moderate and High Risk *Industrial or Trade Activities* to prepare and implement Environmental Management Plans that identify the *environmentally hazardous substances* associated with the *Industrial or Trade Activity* and set out the methods to be used to avoid discharges of those substances onto or into land or water where practicable, and to remedy or mitigate the adverse effects of discharges where they cannot be avoided.

Explanation:

Schedule 3 is used to initially determine the risk of an Industrial or Trade Activity and whether it is Low, Moderate or High Risk. Thereafter compliance or otherwise with the provisions of the Industrial or Trade Activity rules, and the size of the Activity Area, dictate the activity status of the Industrial or Trade Activities.

As the activities undertaken by an Industrial or Trade Activity may vary over time, ARC compliance staff may require access to the area of land occupied by the Industrial or Trade Activity in order to assess the current nature and scale of the Activity Area.

Unscheduled, Low and Moderate Risk Industrial or Trade Activities which have an Activity Area, but do not have a discharge of environmentally hazardous substances, may still require a discharge consent under the stormwater Rules 5.5.1 to 5.5.13.

(This Policy relates to Objectives 5.3.1 and 5.3.9)

- 5.4.17** The implementation of Environmental Management Plans for Moderate Risk *Industrial or Trade Activities* shall be assessed on a regular basis (either by way of self assessment or independent assessment). The implementation of Environmental Management Plans for High Risk *Industrial or Trade Activities* may be assessed by way of self assessment or independent assessment with the agreement of the ARC on a case by case basis.

(This Policy relates to Objectives 5.3.1 and 5.3.9)

- 5.4.18** When processing land use or discharge consent applications for *Industrial or Trade Activities*, the ARC shall have regard to the operational and financial viability of the activity and/or the *site* on which it is located when considering the necessity for, and the setting of timeframes for, any upgrading of existing *site* infrastructure, while ensuring that significant adverse effects are appropriately avoided, remedied or mitigated.

(This Policy relates to Objective 5.3.9)

- 5.4.18A** Suitably qualified, experienced and/or trained *Industrial and Trade Activity* assessors may be registered in accordance with Other Methods 5.6.8 and 5.6.8A.

(This Policy relates to Objective 5.3.9)

Explanation:

Prior to the establishment of the training programme referred to in Other Methods 5.6.8 and 5.6.8A, the registration of assessors will be based on the review of applicants by a Panel appointed by the ARC. Thereafter, registration may be obtained either by passing the ARC training programme or by way of review by the Panel

Sewage Treatment And Disposal – Community

- 5.4.19** The discharge of treated *sewage* to land shall be at a rate that does not exceed the ability of the land to assimilate the *effluent* or does not result in significant adverse soil or water contamination and does not pose a threat to public health.

(This Policy relates to Objectives 5.3.1, 5.3.10 to 5.3.11)

- 5.4.20** The discharge of treated *sewage* to water shall be considered inappropriate unless it can be demonstrated that the treatment system is:
- Designed to cope with the expected *influent* volume; and
 - The discharge does not result in significant adverse environmental or public health effects, including cumulative effects.

(This Policy relates to Objectives 5.3.1 and 5.3.10)

- 5.4.21** In assessing the effects of treated *sewage* discharges to water, regard shall be had to:
- The extent of degradation of the existing water quality of the *receiving water* body;
 - Whether the discharge to land would have more significant adverse environmental effect; and
 - The current state of technical knowledge regarding the proposed system and the likelihood that the proposed method of discharge can be successfully applied.

(This Policy relates to Objectives 5.3.1 and 5.3.10)

Explanation:

Policies 5.4.19 - 5.4.21 do not apply to "overflow" events, but only to discharges of treated sewage from community sewage treatment plants. Overflows are addressed in other policies and rules including: Policies 5.4.5, 5.4.5A, 5.4.14, 5.4.15 and Rules 5.5.6, 5.5.7, 5.5.8, 5.5.10, 5.5.11, 5.5.12 and 5.5.13.

Sewage Treatment And Disposal – On-site

- 5.4.23** When considering the use of on-site *sewage treatment* and disposal systems for new subdivision and/or *land use intensification*, regard shall be had to the potential for cumulative adverse effects.

(This Policy relates to Objectives 5.3.1 and 5.3.11)

- 5.4.24** When considering on-site *sewage treatment* and disposal, regard shall be had to:
- Adverse public health and environmental impacts on water quality and *amenity* values;
 - The location and proximity of the discharge to other discharges, and cumulative effects on the *receiving environment*;
 - The feasibility of connecting the discharge to a sanitary sewer or de-centralised system and whether that connection is the 'best practicable option';
 - The system design and whether the volume of the discharge, level of contaminants and rate of discharge has been minimised to the greatest extent practicable;
 - Whether the type of *wastewater* treatment system is suitable for the *site* and conditions;
 - Whether the method of land application is appropriate for the *site* and conditions; and
 - The issues and concerns of tangata whenua.

(This Policy relates to Objectives 5.3.1, 5.3.10 to 5.3.11)

Sewage Sludge (including Biosolids)

- 5.4.25** To promote the application of *biosolids* onto and into land where it can be demonstrated that:
- it will not result in significant adverse effects on surface and groundwater quality;
 - it does not pose a threat to public health in terms of concentrations of nutrients, heavy metals, pathogens and synthetic organic chemicals;
 - it does not adversely affect any identified *wāhi tapu* site;
 - it does not result in more than minor adverse effects to a water supply management area;
 - there is no offensive or objectionable odour or dust beyond the boundary of the property on which the biosolids are applied;
 - the application of biosolids to land used for food production or residential activities will be avoided.

(This Policy relates to Objectives 5.3.1, 5.3.2 and 5.3.2A)

- 5.4.26** To allow the application of *sewage sludge* that does not meet the product specifications to become *biosolids* onto and into land and the storage of *sewage sludge* on land where it can be demonstrated that:

- it will not result in significant adverse effects on surface and groundwater quality;
- it does not pose a threat to public health in terms of concentrations of nutrients, heavy metals, pathogens and synthetic organic chemicals;
- it does not adversely affect any identified *wāhi tapu* site;
- it does not result in more than minor adverse effects to a water supply management area;
- there is no offensive or objectionable odour or dust beyond the boundary of the property on which the sludge is applied;
- the application of *sewage sludge* to land used for food production or residential activities will be avoided.

Where the above matters cannot be appropriately addressed the *sewage sludge* should be disposed of by landfilling or similar means.

(This Policy relates to Objectives 5.3.1, 5.3.2 and 5.3.2A)

Land Management

- 5.4.27** The discharge of sediment shall not result in more than minor adverse effects on the values of any Natural *Lake*, Natural Stream and Wetland Management Areas where the discharge occurs within the Management areas as defined in Map Series 1 for Natural *Lake*, Natural Stream and Wetland Management Areas.

(This Policy relates to Objective 5.3.13)

- 5.4.28** *Cultivation* activities shall avoid, mitigate or minimise adverse effects from the generation and discharge of sediment. In assessing the effects on the environment, regard shall be had to appropriate *sediment control* measures specified in the Franklin Sustainability Project Guidelines, 'Doing it Right' (2000).

(This Policy relates to Objectives 5.3.12 and 5.3.13)

Discharges from Production Land Activities

5.4.29 Discharges from production land activities are carried out so as to avoid or minimise contamination of *groundwater* and *surface waters*, and to avoid any risk to human health.
(This Policy relates to Objectives 5.3.1 and 5.3.2)

5.4.30 The re-use of discharges from production land activities is promoted where they are:

- Low *maintenance* and low risk;
- Land based, where soil types and disposal areas are adequate; and
- Operated in accordance with a *maintenance*, monitoring and contingency plan.

(This Policy relates to Objectives 5.3.1 and 5.3.2)

Fertiliser Use

5.4.32 To ensure that *fertilisers* are used in accordance with good management practices so as to minimise the entry of nutrient into waterbodies.
(This Policy relates to Objective 5.3.1)

Contaminated Land

5.4.34A To facilitate the identification and appropriate management of *land containing elevated levels of contaminants* including *contaminated land*.
(This Policy relates to Objectives 5.3.1, 5.3.14, 5.3.15 and 5.3.16)

5.4.34B To work with *site* owners or responsible parties to determine what if any management is required for *land containing elevated levels of contaminants*.
(This Policy relates to Objectives 5.3.1, 5.3.14, 5.3.15 and 5.3.16)

5.4.34 To encourage the owners or occupiers of land, where activities listed as high risk in the 'Contaminated Land Management Guidelines No. 3 Risk Screening System' (MfE February 2004) have been undertaken, to complete a contaminated *site* assessment when appropriate throughout the cycle of use, redevelopment or sale of the land.
(This Policy relates to Objectives 5.3.1, 5.3.14, 5.3.15 and 5.3.16)

5.4.35 To encourage *TA's* to seek contaminated *site* assessments prior to allowing a change in land use, subdivision or redevelopment where the land has been used for any activity listed in the 'Contaminated Land Management Guideline No. 3 Risk Screening System' (MfE February 2004).
(This Policy relates to Objectives 5.3.1, 5.3.14, 5.3.15 and 5.3.16)

5.4.36 To facilitate the *remediation* or management of *contaminated land* in cooperation with territorial authorities, where *site* investigations show a significant risk to human health.
(This Policy relates to Objectives 5.3.1, 5.3.14, 5.3.15 and 5.3.16)

5.4.37 The management of *land containing elevated levels of contaminants* may allow contaminants to remain in the ground on the site where it can be demonstrated that the level of contamination will not pose potentially significant adverse effects on the environment or to human health.
(This Policy relates to Objectives 5.3.1, 5.3.14, 5.3.15 and 5.3.16)

5.4.37A When processing discharge consent applications for *land containing elevated levels of contaminants* including *contaminated land* the ARC shall have regard to the actual and potential adverse effects of the activity, physical constraints of the *site*, operational practicalities, and the financial implications of the investigation, *remediation*, management and monitoring options imposed compared with other options.
(This Policy relates to Objectives 5.3.1, 5.3.14, 5.3.15 and 5.3.16)

5.4.37B The contaminant levels specified in Rules 5.5.41, 5.5.42 and 5.5.42A do not establish *remediation* criteria for land which must be met in all cases, although land owners may choose to remediate *contaminated land* to those levels should they wish to comply with those Rules.

(This Policy relates to Objectives 5.3.1, 5.3.14, 5.3.15 and 5.3.16)

Landfills

5.4.39 In assessing the effects of closed *landfills* on the environment and public health regard shall be had to 'A Guide to the Management of Closing and Closed Landfills in New Zealand', MfE 2001 and other appropriate documents and principles.

(This Policy relates to Objectives 5.3.1 and 5.3.15)

5.4.40 The discharge of *leachate* from closed *landfills* shall be considered to be appropriate where it will not have a significant adverse effect on *groundwater* quality, *surface water* quality, aquatic life or public health.

(This Policy relates to Objectives 5.3.1 and 5.3.15)

5.4.41 All closed *landfills* shall have an appropriate level of monitoring to ensure the effectiveness of post-closure care relative to the risks of adverse effects from discharges to *groundwater*, *surface waters* or public health, in accordance with 'A Guide to the Management of Closing and Closed Landfills in New Zealand', Ministry for the Environment 2001 and other appropriate documents and principles.

(This Policy relates to Objectives 5.3.1 and 5.3.15)

5.4.42 *Landfill* post-closure management shall ensure that the integrity of the *site* is maintained so that:

- (a) Any discharge will not pose a threat to the environment or to public health;
- (b) The current and proposed future use of the land will not be adversely affected; and
- (c) Ongoing monitoring appropriate to the extent and type of contamination of the *site* is undertaken to ensure that (a) and (b) above are achieved.

(This Policy relates to Objectives 5.3.1 and 5.3.15)

5.4.43 Proposals to discharge *refuse* to land shall demonstrate that:

- (a) Any discharge to the environment will not pose a threat to the environment or to public health; and
- (b) Ground and *surface water* resources are not at risk from the discharge of contaminants onto or into land.

(This Policy relates to Objectives 5.3.1 and 5.3.15)

Other Discharges of Contaminants to Land or Water

5.4.44 Reuse of *washwater* will be encouraged. *Washwater* disposal to land will be acceptable where it will not result in contaminant runoff or the accumulation of contaminants, such as *hydrocarbons* and heavy metals, above acceptable levels in the *receiving environment*. *Washwater* should only be discharged to water where other options including disposal to the sanitary sewer are impractical, and a thorough evaluation of the assimilative capacity of the *receiving environment* has been carried out proving the discharge will not give rise to any significant adverse effects.

(This Policy relates to Objective 5.3.1)

- 5.4.45** Discharges from activities that result in large quantities of water with negligible amounts of contaminants, such as swimming pools and water reticulation systems, to land or waterbodies shall be considered appropriate where simple management techniques are adopted which ensure that there are no more than minor adverse effects.
- (This Policy relates to Objective 5.3.1)*
- 5.4.46** Any proposal to discharge geothermal water into any water body shall demonstrate that adverse effects on the environment are avoided as far as practicable, remedied or mitigated by ensuring that:
- The volume of the discharge has been minimised to the greatest extent practicable;
 - The adverse effects of added chemicals and filter backwash or other contaminants have been minimised to the greatest extent practicable; and
 - The *receiving environment* is able to assimilate the discharge without significant adverse effects.

(This Policy relates to Objective 5.3.1)

- 5.4.47** New discharges of geothermal water outside of Parakai and Waiwera, or any redevelopment of existing *sites* which results in a change in the volume or location of a geothermal discharge, shall be encouraged to discharge to *territorial authority stormwater network*, rather than discharging at a separate individual discharge point. Any discharge of geothermal water to a reticulated system shall require the approval of the system owner.

(This Policy relates to Objective 5.3.1)

- 5.4.48** Discharges of geothermal water to land shall be undertaken in a way that does not give rise to land instability, erosion or flooding either on the *site* of the discharge or in neighbouring properties.

(This Policy relates to Objective 5.3.1)

- 5.4.48A** When processing consent applications for discharges associated with the construction, use, operation and maintenance of the reticulated water networks under rules 5.5.54 to 5.5.68 the Council shall recognise the strategic importance of reticulated water networks in achieving sustainable management and enabling people and communities to meet their needs for economic, social and cultural well-being.

(This Policy relates to Objective 5.3.1)

Stock Access

- 5.4.49** Unrestricted stock access to the beds of *lakes*, rivers and streams shall be discouraged. (To give effect to this policy a range of tools including; advocacy, partnerships and regulation will be considered).

Explanation

The ARC intends to notify a Plan Variation/Change to the stock access part of Chapter 5 within two years of the notification of the ARC Hearings Committee decisions on submissions to the Plan. This Plan Variation/Change is considered necessary to take advantage of evolving strategies/initiatives for the protection of beds and banks of lakes, rivers and streams. Recent initiatives by rural sector groups (Fonterra, Federated Farmers), central government (MfE) and local government (Regional Councils and Territorial Authorities) are progressing toward an efficient and effective combination of education, advocacy and regulation. It is anticipated that an appropriate combination of advocacy (including financial assistance for voluntary initiatives), education (including demonstration facilities) and regulation (including rules) will be better defined within this two-year timeframe.

The work programme to provide the information necessary to develop the Plan Variation / Change will include the following:

- A Section 32 evaluation;
- Consultation with interested parties;
- Investigation of funding options for implementation of voluntary initiatives;
- Collection of baseline data on the extent of the problem (benchmarking);
- Setting of targets for areas fenced and timeframes for completion and priorities (e.g. high ecological values versus highly compromised situations) following benchmarking;
- Liaison with **Territorial Authorities** regarding the role of District Plans;
- Integration of other initiatives such as the Clean Streams Accord and other Regional Council education, advocacy and regulatory approaches; and
- ARC to provide best practice examples via demonstration facilities through projects such as the Riparian Implementation Project and the Mahurangi Project.

The ultimate target will be the **protection** of all **Permanent rivers and streams** from unrestricted stock access using a staged approach based on appropriate criteria used to establish priorities for management. The degree to which **Intermittent streams** and wetland resources require **protection** from stock access are the subject of ongoing investigations. Management issues and options will be dealt with based on the outcome of this research and included as relevant in the Variation.

(This Policy relates to Objectives 5.3.17 and 5.3.18)

5.4.50 Stock access to the bed or bank of any **lake, Permanent River or Stream** shall be considered appropriate in the following circumstances:

- (a) At stock crossing points where it can be demonstrated that:
 - (i) No reasonable or practicable alternative method or location exists; or
 - (ii) The use of an alternative method or location would have more significant adverse environmental effect; and
 - (iii) The area necessary for access is minimised to the greatest extent practicable.
- (b) For grazing adjacent to any **lake or Permanent river or stream**:
 - (i) significant cumulative adverse effects will be avoided;
 - (ii) where it will not result in significant adverse changes to bed morphology and flow hydraulics;
 - (iii) where it will not cause or exacerbate significant adverse effects on aquatic flora and fauna, habitat values and riparian vegetation;
 - (iv) where it will not give rise to more than temporary minimised turbidity or disturbance or permanent long-term adverse effects; and
 - (v) where it will not give rise to significant adverse effects on existing lawful users or recreational and **amenity** values downstream.

(This Policy relates to Objectives 5.3.17 and 5.3.18)

5.5 Rules

Rules for Stormwater Diversions and Discharges and Wastewater Overflow Discharges

Explanation:

These rules relate to the discharge of stormwater after developments have been completed. Sediment discharges from land disturbing (being earthworks, quarrying, roading, trenching, tracking and vegetation removal) activities are regulated by the Regional Plan: Sediment Control.

The discharge of contaminants that originates from an **industrial or trade activity** is not permitted by Rule 5.5.1 and is regulated by Rules 5.5.14 to 5.5.19.

Table 5.1: Rules for Stormwater Discharges and Diversions Outside the Urban Areas

The following tables are for explanation purposes only and to assist the reader to determine the relevant rule applying to their activity. Refer to each Rule for the required conditions.

Discharges and Diversions of Stormwater from:	Existing ¹ impervious areas	New impervious areas < 1,000m ²	New impervious areas between 1000m ² and 5,000m ²	New impervious areas between 5,000m ² and 10,000m ²	New impervious area > 10,000m ²
Local roads	Rule 5.5.1(1A)	Rule 5.5.1 (1)	Rule 5.5.1 (3)	Rule 5.5.3	Rule 5.5.4
Other roads	Rule 5.5.1(1A)	Rule 5.5.1 (1)	Rule 5.5.2	Rule 5.5.3	Rule 5.5.4
Farming, horticultural, rural community facility	Rule 5.5.1(1A)	Rule 5.5.1 (1)	Rule 5.5.1 (2)	Rule 5.5.3	Rule 5.5.4
<i>Countryside living</i>	Rule 5.5.1(1A)	Rule 5.5.1 (1)	Rule 5.5.1 (3)	Rule 5.5.3	Rule 5.5.4
Zoned future urban and meets <i>ICMP</i>	Rule 5.5.1(1A)	Rule 5.5.1 (1)	Rule 5.5.2	Rule 5.5.3	Rule 5.5.4
Other activities	Rule 5.5.1(1A)	Rule 5.5.1 (1)	Rule 5.5.2 or 5.5.5	Rule 5.5.3	Rule 5.5.4 or 5.5.5

¹ Existing means as at the date of Notification of this Plan (23 October 2001)

Table 5.2: Rules for Stormwater Discharges and Diversions Inside the Urban Areas
The following tables are for explanation purposes only and to assist the reader to determine the relevant rule applying to their activity. Refer to each Rule for the required conditions.

Discharges and Diversions of Stormwater from:	Development within a comprehensive catchment consent ¹ area or connected to a network with a consent ²	Development connected to a public stormwater network which does not have a specific consent		Development not connected to a public stormwater network		Impervious area thresholds		
		Existing impervious areas	New impervious areas	Existing impervious areas	New impervious areas	Impervious areas < 1000m ²	Impervious areas between 1000 and 5000m ²	Impervious areas > 5000m ²
Residential subdivision	Authorised by permitted activities (Transitional Regional Plan and Rule 5.5.9) or consent	Authorised by existing – use authorisations ³	Refer to the impervious area thresholds. Compare only the new impervious area against the thresholds.	Refer to the impervious area thresholds. Compare only the new impervious areas against the thresholds.	Rule 5.5.1 (1)	Rule 5.5.1 (4)	Rule 5.5.3	
All other activities	Authorised by permitted activities (Transitional Regional Plan and Rule 5.5.9) or consent	Authorised by existing – use authorisations	Refer to the impervious area thresholds. Compare only the new impervious area against the thresholds.	Refer to the impervious area thresholds. Compare only the new impervious areas against the thresholds.	Rule 5.5.1 (1)	Rule 5.5.2	Rule 5.5.3	

¹ Comprehensive catchment consents have been issued for some catchments in the Urban Areas. These consents authorise stormwater network discharges within a

whole catchment and other discharges as per the Transitional Regional Plan and Rule 5.5.10 of this plan. As at 23 October 2001, the following catchments were covered:

- Auckland CC: Vale Rd (St Heliers), Alfred St (Onehunga), Oakley Creek, Motions Creek, Anns Creek, Ellerslie Waiatarua, part of Kohimarama,
- Manukau CC: Portage Rd (Pukaki and Waiokauri Creek), South Stream (Eastern Beach), Howick South, Flat Bush (Otara Stream), Upper Puhinui, Puhinui Stream, Otara Creek, North Redoubt Rd (Otara Stream), Gibbons Rd (Weymouth), Nield Rd, Waimahia Creek, Oruarangi Creek, East Tamaki Point View, Wakaoranga/Bucklands
- North Shore CC: Taiotea (Brown's Bay), Rothesay Bay
- Papakura DC: Croskery Rd (part of Slippery Creek)
- Rodney DC: Hatfields Beach, selected sub-catchments in Orewa, Duck Creek, Red Beach, Stanmore Bay, Tindalls Beach, Swan Beach, Big Manly, Little Manly, Army Bay, Wellsford, Helensville, Kaukapakapa, Coatesville, Riverhead
- Waitakere CC: Wisely Rd (Hobsonville), Rewarewa, Green Bay, Kashmir Rd, Wairau Creek, Metcalfe Rd catchment, Waimoko, Paremuka, Upper Manetewhau, Parrs Stream

² *Stormwater discharges from subdivisions are often authorised by a consent granted to a developer which is subsequently transferred to the Territorial Authority. These consents may authorise discharges from increases in impervious area.*

³ *Existing use authorisations are those authorisations issued under the Water and Soil Act to all Territorial Authorities for the discharge of stormwater as at 9 September 1966. Increases to these were allowed under the Transitional Regional Plan, but were not included in the ALW Plan. Territorial Authorities have applied for stormwater discharge consents for their networks in the Urban Areas.*

Permitted Activity

5.5.1

The diversion and discharge of *stormwater* either inside or outside *Urban Areas* is a Permitted Activity if it arises from:

- (1A) *impervious* areas existing at the date of notification of this plan (23 October 2001) and it complies with all of conditions (a), (aa), (b), (c), (d) and (e); or
- (1) less than 1,000m² of combined *impervious area*(s) constructed after the date of notification of this plan (23 October 2001) from a subdivision or development and it complies with all of conditions (a), (b), (c), (d), (e),(g) and (h).

The diversion and discharge of *stormwater* outside *Urban Areas* is a Permitted Activity if it arises from:

- (2) between 1,000 and 5,000m² of *impervious area* constructed after the date of notification of this plan (23 October 2001) and it originates from a farming, horticultural, rural community facility or local roading activity and it complies with all of conditions (d), (e), (f) and (g);or
- (3) between 1,000 and 5,000m² of *impervious area* from a *countryside living* subdivision or development and it complies with all of conditions (d), (e), (f) and (g).

The diversion and discharge of *stormwater* inside *Urban Areas* is a Permitted Activity if it arises from:

- (4) between 1,000 and 5,000m² of *impervious areas* from a residential subdivision or development (including any access road) and it complies with all of conditions (ab), (b), (f) (sub clause (i) only), (g), (i) and (j); or,

- (5) *impervious areas* existing at the date of notification of this Plan (23 October 2001) from land zoned under a *rural classification* in an operative district plan if it complies with all of conditions (a), (aa), (b), (c), (d) and (e).

Conditions:

- (a) The land-use activity giving rise to the discharge shall not change to one which will generate increased levels of stormwater contaminants;
- (aa) The extent of impervious area giving rise to the discharge shall not exceed that which existed at the date of notification of this plan (23 October 2001);
- (ab) It is not otherwise authorised by a *stormwater network* consent granted under the provisions of Rules 5.5.10, 5.5.11, 5.5.12 or 5.5.13;
- (b) It does not cause scouring at the point of discharge;
- (c) It does not cause flooding, in a 100 year *ARI* storm, of a *habitable floor level* in any dwelling, authorised by a Territorial Local Authority, existing at the date of notification of this plan;
- (d) The discharge shall occur with the minimum of nuisance and damage and in particular shall avoid more than minor adverse effects on any downstream neighbouring property;
- (e) Modifications to existing *drainage* patterns shall be minimised. In particular, *stormwater* shall be discharged to land in a manner that disperses the flow and prevents scour and point discharges forming;
- (f) For discharges to land or to a *Permanent river or stream*, the method of *stormwater* disposal shall minimise changes to the pre-development hydrological regime (existing immediately prior to construction). In particular:
- (i) the peak flows for the 2 year and 10 year *ARI* post-development events shall not be greater than the corresponding peak flows for pre-development events; and
 - (ii) the volume of *stormwater* runoff for post-development events shall be minimised; and
 - (iii) the time of concentration for post-development events shall be maximised so that it is as close as practicable to those for pre-development events;
- (g) It does not cause flood levels in a 100 year *ARI* storm to rise within 0.5 metres of a *habitable floor level* (authorised by a *Territorial Authority*) in any dwelling unless the relevant District Plan or "*Local Authority Infrastructure Design Standards*" establishes an alternative freeboard requirement (above the 100 year *ARI* storm) in which case the District Plan or *Local Authority Infrastructure Design Standards* freeboard requirement shall prevail;
- (h) Primary sediment treatment shall be provided by methods such as cesspits or vegetated buffer strips;
- (i) *Overland flow* paths shall be provided and maintained for flows in excess of the primary *drainage network* capacity to allow flows up to and including the 100 year *ARI* storm to discharge with the minimum of nuisance and damage;
- (j) For any *stormwater* discharged from more than 1,000m² of *impervious area source control*, contaminant reduction or contaminant removal methods shall be designed to provide for the removal of at least 75% (or the alternative percentage specified in the relevant discharge consent for the area) of the *total suspended solids* anticipated from the *impervious area* on a *long term average basis*. These methods include but are not limited to constructed wetlands, swales, vegetative filters or *infiltration* practices.

Explanations:

- (1) Rules 5.5.1(1A) and 5.5.1(5) authorise existing activities that were previously authorised by permitted activity rules in the Transitional Regional Plan (Discharge from Development in Rural Areas, Discharge of Water from Roads). The terms in Rule 5.5.1(5) have been specifically used to ensure consistency with the Transitional Regional Plan. The Rule places a number of conditions on the discharge to limit adverse effects. Discharges from new **impervious areas** adjacent, or contiguous to the existing development require consent where they cannot meet the conditions of Rule 5.5.1(1).
- (2) Guidance in meeting conditions (e), (f), (h) and (j) is provided in ARC Technical Publications; "TP10: Stormwater Treatment Devices: Design Guideline Manual"; (stormwater treatment devices designed, constructed, and maintained in accordance with TP10 are deemed to achieve 75% **total suspended solids** removal on a **long term average basis**. Other treatment methods are acceptable provided that the applicant can demonstrate that they are designed to achieve 75% **total suspended solid** removal) "TP92: Large Lot Stormwater Management Design" and "TP124: **Low impact design** manual for the Auckland Region," Rodney District Council's "Management of Stormwater in **Countryside Living Zones - A Toolbox of Methods**," or Waitakere City Council's "Countryside and Foothills Stormwater Management Code of Practice."
- (3) Activities unable to comply with the standards and terms of Rule 5.5.1 default to Rule 5.5.2.
- (4) **Impervious areas** are calculated as the sum of the separate **impervious areas** from the completed subdivision or development. **Impervious areas** that are already authorised by another permitted activity or **stormwater** discharge permit are excluded. Existing **impervious areas** draining to a public **stormwater network** are excluded (as they are authorised by existing use authorisations under RMA s386 (2) and General Authorisation 11 in the Transitional Regional Plan).
- (5) The **Territorial Authority, stormwater or wastewater network utility operator or highway network operator** may not accept ownership/responsibility for the discharge from a site and any new **stormwater** infrastructure and its **maintenance**, unless otherwise agreed to and approved by the **Territorial Authority, stormwater or wastewater network utility operator or highway network operator**. It is prudent to discuss this matter with the relevant **territorial authority/network operator** before commencing the diversion or discharge.
- (6) Where the Operative Manukau District Plan 2002 applies, please refer to Chapter 9, Land Modification, Development and Subdivision, Part 9.14 Financial Contributions and Bonds. For new developments involving an additional **impervious area** of less than 5,000m², financial contributions may apply in lieu of **stormwater** mitigation works.
- (7) Conditions (a), (aa), (e), (h) and (j) shall not apply to discharge from the **Activity Area of an Industrial or Trade Activity**.

Inside or Outside Urban Areas**Other Stormwater Discharges from Impervious Areas Greater than 1,000m² but Less than or Equal to 5,000m²****Controlled Activity****5.5.2**

Other than for discharges authorised by Rules 5.5.1 the diversion and discharge of **stormwater** from **impervious areas** which total greater than 1,000 m² but less than or equal to 5,000m² is a Controlled Activity if it complies with all of the following standards and terms:

- (a) The combined *impervious areas* (not already authorised or consented) of the subdivision or development total less than or equal to 5000m²;
- (b) It is not otherwise authorised by a *stormwater network* consent granted under the provisions of Rules 5.5.10, 5.5.11, 5.5.12, or 5.5.13;
- (c) Inside the *Urban Area*, *Stormwater outfalls* that are likely to *cause* erosion at the *outfall* incorporate *erosion control* measures that do not impede *fish passage*;
- (d) It does not cause flood levels in a 100 year *ARI* storm to rise within 0.5 metres of a *habitable floor level* authorised by a *Territorial Local Authority*, in any dwelling, unless the relevant District Plan or "*Local Authority Infrastructure Design Standards*" establishes an alternative freeboard requirement (above the 100 year *ARI* storm) in which case the District Plan or "*Local Authority Infrastructure Design Standards*" freeboard requirement shall prevail;
- (e) For any *stormwater* discharged from more than 1,000m² of *impervious area source control*, contaminant reduction or contaminant removal methods shall be designed to provide for the removal of at least 75% (or the alternative percentage specified in the relevant network discharge consent for the area) of the *total suspended solids* anticipated from the *impervious area* on a *long term average basis*. These methods include but are not limited to constructed wetlands, swales, vegetative filters or *infiltration* practices;
- (f) *Overland flow paths* shall be provided and maintained for flows in excess of the primary *drainage network* capacity to allow flows up to and including the 100 year *ARI* storm to discharge with the minimum of nuisance and damage; and
- (g) Where the ownership of the proposed *stormwater* works are to be taken over by the Territorial Local Authority upon deposit of the survey plan, the written approval of that Territorial Local Authority regarding the operational and *maintenance* aspects of the proposed works has been provided to the ARC.

5.5.2A The ARC shall exercise its control over the following matters in rule 5.5.2:

- (a) The provision of methods to avoid downstream channel erosion;
- (b) The methods to achieve Rule 5.5.2 (c), (d) and (e) and *erosion control*, including the extent and type of vegetation and/or re-vegetation cover on *site*;
- (c) The location of the point of discharge;
- (d) The degree of consistency and integration with any *Integrated Catchment Management Plan* or *stormwater network* consent within the same catchment;
- (e) Effects on *archaeological sites*, *wāhi tapu*, and the matters listed in Policy 2.3.4.4.
- (f) Monitoring and reporting requirements; and
- (g) The duration of the consent.

Explanations:

- (1) *Impervious areas* are calculated as the sum of the separate *impervious areas* from the completed subdivision or development. *Impervious areas* that are already authorised by a permitted activity or *stormwater* discharge permit are excluded. Existing *impervious areas* draining to a public *stormwater network* are excluded (as they are authorised by existing use authorisations under RMA s386 (2) and General Authorisation 11 in the Transitional Regional Plan).
- (2) ARC Technical Publication 10 gives guidance in achieving the requirements of standard and term (e). *Stormwater* treatment devices designed, constructed and maintained in accordance with TP10 are deemed to achieve 75% *total suspended solids* removal on a *long term average basis*. Other treatment methods are acceptable provided that the applicant can demonstrate that they achieve (e).

- (3) *Activities unable to comply with the standards and terms (a) to (g) of Rule 5.5.2 default to Rule 5.5.3 for discharges from **impervious areas** less than 10,000m² and Rule 5.5.4 for discharges from **impervious areas** greater than 10,000m².*
- (4) *Standard and term (e) shall not apply to discharges from the **Activity Area** of an **Industrial or Trade Activity**.*
- (5) *Consent applicants/holders are informed that obtaining a resource consent for a particular discharge or diversion may not mean that the **Territorial Authority, stormwater or wastewater network utility operator or highway network operator** will accept ownership/responsibility for the discharge from that **site** and any new **stormwater infrastructure** and its **maintenance**, unless otherwise agreed to and approved by the **Territorial Authority, stormwater or wastewater network utility operator or highway network operator**. It is also suggested that consent applicants discuss this matter with the relevant **territorial authority/network operator** before applying for consent.*
- (6) *Where the Operative Manukau District Plan 2002 applies, please refer to Chapter 9, Land Modification, Development and Subdivision, Part 9.14 Financial Contributions and Bonds. For new developments involving an additional **impervious area** of less than 5,000m², financial contributions may apply in lieu of **stormwater** mitigation.*

Non Notification

Applications for controlled activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Stormwater Discharges from less than 5,000m² of impervious area not complying with Rules 5.5.1 and 5.5.2 or stormwater discharges from areas between 5,000m² and 10,000m²

Restricted Discretionary Activity

5.5.3 The diversion and discharge of *stormwater* which does not meet the conditions of Rules 5.5.1 or 5.5.9 or the standards and terms of Rule 5.5.2, or which arises from an *impervious* area between 5,000m² and 10,000m², is a Restricted Discretionary Activity if it complies with all of the following standards and terms:

- (a) The combined *impervious areas* (not already authorised or consented) of the subdivision or development total less than or equal to 10,000m²;
- (b) It is not otherwise authorised by a *stormwater network* consent granted under the provisions of Rules 5.5.10, 5.5.11, 5.5.12 or 5.5.13;
- (c) Where the ownership of the proposed *stormwater* works are to be vested to the **Territorial Authority**, the written approval of that **Territorial Authority** regarding the operational and *maintenance* aspects of the proposed works has been provided to the ARC.

5.5.3A The ARC shall restrict the exercise of its discretion to the matters within the conditions and standards and terms of Rules 5.5.1, 5.5.2 and 5.5.9 that the activity is unable to comply with together with the following matters:

- (a) The provision of methods to avoid downstream channel erosion;
- (b) The methods to achieve standards and terms (c) and (d) of Rule 5.5.2, including the extent and type of vegetation and/or re-vegetation cover on *site*;
- (c) The location of the point of discharge;
- (d) The effects of the discharge of contaminants after reasonable mixing in the relevant *receiving environment*;

- (e) The degree of consistency and integration with any *Integrated Catchment Management Plan* or *stormwater network* consent within the same catchment;
- (f) Effects on *archaeological sites*, *wāhi tapu*, and the matters listed in Policy 2.3.4.4;
- (g) Monitoring and reporting requirements; and
- (h) The duration of the consent.

Explanation:

- (1) *Activities unable to comply with Rule 5.5.3 default to Rule 5.5.4.*
- (2) *Consent applicants/holders are informed that obtaining a resource consent for a particular discharge or diversion may not mean that the Territorial Authority, stormwater or wastewater network utility operator or highway network operator will accept ownership/responsibility for the discharge from that site and any new stormwater infrastructure and its maintenance, unless otherwise agreed to and approved by the Territorial Authority, stormwater or wastewater network utility operator or highway network operator. It is also suggested that consent applicants discuss this matter with the relevant territorial authority/network operator before applying for consent.*
- (3) *Where the Operative Manukau District Plan 2002 applies, please refer to Chapter 9, Land Modification, Development and Subdivision, Part 9.14 Financial Contributions and Bonds. For new developments involving an additional impervious area of less than 5,000m², financial contributions may apply in lieu of stormwater mitigation works.*
- (4) *Matter of control (d) shall not apply to discharges from the Activity Area of an Industrial or Trade Activity.*

Non Notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Discretionary Activity

- 5.5.4** Other than for discharges authorised by Rules 5.5.1, 5.5.2, 5.5.3, 5.5.9 or a *stormwater network* consent granted under the provisions of Rules 5.5.10, 5.5.11, 5.5.12 or 5.5.13, the diversion and discharge of *stormwater* is a Discretionary Activity where the ownership of the proposed *stormwater* works are to be vested to the *Territorial Authority*, the written approval of that Territorial Local Authority regarding the operational and *maintenance* aspects of the proposed works has been provided to the ARC.

Explanations:

- (1) *Activities unable to comply with Rule 5.5.4 default to Rule 5.5.5.*
- (2) *Consent applicants/holders are informed that obtaining a resource consent for a particular discharge or diversion will not mean that the Territorial Authority, stormwater or wastewater network utility operator or highway network operator will accept ownership/responsibility for the discharge from that site or any new stormwater infrastructure or its maintenance, unless otherwise agreed to and approved by the Territorial Authority, stormwater or wastewater network utility operator or highway network operator. It is also suggested that consent applicants discuss this matter with the relevant territorial authority/network operator before applying for consent.*

- (3) *Where the Operative Manukau District Plan 2002 applies, please refer to Chapter 9, Land Modification, Development and Subdivision, Part 9.14 Financial Contributions and Bonds.*

(For Rule 5.5.4 see also Policy 5.4.4)

Non Complying Activity

- 5.5.5** The diversion and discharge of *stormwater* unable to comply with Rule 5.5.4 is a non-complying activity.

Explanation:

- (a) *Consent applicants/holders are informed that obtaining a resource consent for a particular discharge or diversion may not mean that the Territorial Authority, stormwater or wastewater network utility operator or highway network operator will accept ownership/responsibility for the discharge from that site or any new stormwater infrastructure and its maintenance, unless otherwise agreed to and approved by the Territorial Authority, stormwater or wastewater network utility operator or highway network operator. It is also suggested that consent applicants discuss this matter with the relevant territorial authority/network operator before applying for consent.*
- (b) *Where the Operative Manukau District Plan 2002 applies, please refer to Chapter 9, Land Modification, Development and Subdivision, Part 9.14 Financial Contributions and Bonds.*

Wastewater Discharges In All Areas

Explanation:

- (1) *This section covers the discharge of wastewater from individual pumping stations. Stormwater or Wastewater Network Utility Operators may use Rules 5.5.10 – 5.5.13 instead for network discharges. On-site wastewater disposal and the discharge of treated wastewater from treatment facilities are covered in Rules 5.5.20 to 5.5.28.*
- (2) *Where the ownership of a proposed pumping station is to be transferred to the Territorial Authority, the pumping station design should be approved by the relevant Territorial Authority.*

Permitted Activity

- 5.5.6** The discharge of wastewater from a wastewater pumping station (either via a constructed outlet of upstream manhole) is a Permitted Activity, subject to the following conditions:

- (a) The pump station and/or its location are shown on a plan with NZMS grid references (seven digit easting and northing), and by a photograph, both of which are provided to the ARC;
- (b) It does not render a currently used *potable water* source unsuitable for human consumption, as defined in the 'Drinking Water Standards for New Zealand', Ministry of Health (2000);
- (c) The *average dry weather flow* into the pumping station is less than 3 litres/second and the *design peak flow* into the pumping station is less than or equal to 15 litres/second;
- (d) Any discharge from the pumping station is free of any *trade waste* not authorised by the *wastewater network* operator receiving the discharge;
- (e) It is not otherwise authorised by a *wastewater network* consent granted under the provisions of Rules 5.5.10, 5.5.11, 5.5.12 and 5.5.13;

- (f) Storage shall be provided above the high level pump start to contain flows in excess of the pumping capacity to a minimum of four hours **average dry weather flow**;

Explanation:

Local Authority Infrastructure Design Standards or District Plans may specify a higher level or performance, particularly where a proposed wastewater pump station is intended to be vested in the local authority.

- (g) An alarm shall warn the operator when storage is being utilised, including during times of loss of mains power supply, and the operator shall take all reasonable steps to prevent a discharge;
- (h) **Outfalls** from pump stations shall discharge to land and the potential for the discharge to enter water bodies or the coastal marine area shall be minimised;
- (i) Inspection, operation and **maintenance** procedures shall be developed and implemented to ensure that inflow and **infiltration** to the pump station is minimised, storage is available, and alarms are maintained in good working order.

Restricted Discretionary Activity

5.5.7

The discharge of **wastewater** from **wastewater** pumping stations (either via a constructed outlet or upstream manhole) that does not comply with one or more standards and terms of Rule 5.5.6 is a Restricted Discretionary Activity.

The ARC will restrict the exercise of its discretion to the standards and terms of Rule 5.5.6 that the activity is unable to comply with, together with the following additional matters:

- (a) the quality, volume, rate and frequency of the discharge;
- (b) the methods of **wastewater** collection, treatment and discharge;
- (c) methods to avoid, remedy or mitigate adverse effects on public health and ecology;
- (d) methods to remedy (or cleanup) any residual adverse effects of authorised **wastewater overflow** discharges on public health, **amenity** values and ecology;
- (e) the location of the point of discharge;
- (f) the degree of integration with any **wastewater network** consent within the same catchment;
- (g) the degree of integration with any **structure plan** for the catchment;
- (h) Effects on **archaeological sites**, **wāhi tapu**, and the matters listed in Policy 2.3.4.4;
- (i) the scope and nature of any further consultation required; and
- (j) monitoring and reporting requirements.

Non Notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless specifically requested by the applicant or required by a rule or national environmental standard. However, the application may be publically notified if in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Stormwater and Wastewater Networks

Explanation:

(1) *The following Rules 5.5.8 to 5.5.13 apply to **stormwater and wastewater networks** for a whole, or part of, a catchment although they may also apply on a scale larger than a single catchment (for example a district or sub-regional scale) to allow the integrated management of multiple catchments, networks and **receiving environments**. The ARC has established a regime whereby existing and new **stormwater and wastewater network** discharges within **Urban Areas** are controlled activities unless they cannot meet specified standards and terms, in which case they are restricted discretionary or discretionary activities.*

(2) *Outside of **Urban Areas** **stormwater and wastewater network** discharges arising from urban land development are discretionary activities.*

*The rules (Rules 5.5.10 to 5.5.13) only apply to “**stormwater or wastewater network utility operators**” and “**highway network operators**” defined in this Plan. These operators may alternatively apply for consent for individual discharges under Rules 5.5.2, 5.5.3, 5.5.4, 5.5.5, or 5.5.7.*

(3) *A **stormwater network** consent authorises the discharge of **stormwater** from the **stormwater networks** over which the consent holder has control. A **wastewater network** consent authorises the discharge of **wastewater** from the piped **wastewater network** and includes discharges from combined (i.e. a reticulated system that is designed to convey both **wastewater and stormwater**) **stormwater and wastewater networks**. Specific exclusions are therefore:*

- (i) *discharges from private developments to land, rivers, lakes or ground (no public **network** exists), and*
- (ii) *discharges from private developments to a public **network** which are not in accordance with the land-use zonings and intensities set out in the **network** consent (ie the discharge is to a public **network** and it occurs from new developments that are not specifically identified and authorised within a **network** consent/NMP).*

*Such a consent could authorise all existing elements of the network(s) that require consent from the ARC if the application includes those elements. Appropriate parts of a network consent can be authorised under the relevant provisions of Chapter 6: Water Allocation and Chapter 7: Beds of Lakes and Rivers & Diversion of Surface Water of this Plan. Where the network discharges directly to the coastal marine area, this discharge and any associated structures are assessed under Chapters 10: General, 11: Activities, 12: Structures, and Chapter 20: Discharge of Contaminants of the Auckland Regional Plan: Coastal. A network consent does not authorise the discharge of the catchment stream(s) to marine waters (as no consent is required for such discharges) and does not transfer the regulatory control for other discharges within the catchment from the ARC to the consent holder. Where the supporting information for the **stormwater network** consent identifies the effects of future urban intensification, and the discharges from the intensified areas occur directly to the network, then the quality and quantity of those future discharges are authorised by the consent. A **stormwater network** consent issued to a **highway network operator** must be consistent with any existing **Integrated Catchment Management Plans** for the catchment or relevant **stormwater network** consents.*

Exfiltration**Permitted Activity**

- 5.5.8** The discharge of *wastewater* from a *wastewater network*, via *exfiltration* to *groundwater* is a Permitted Activity, if it complies with all of the following conditions:
- the discharge shall not render a *potable water* source unsuitable for human consumption, as defined in the "Drinking Water Standards for New Zealand", MoH (1995);
 - The *wastewater network utility operator* shall have a programme in place to determine the general extent of *exfiltration* within the network and identify areas of proportionally high *exfiltration*;
 - The *wastewater network utility operator* shall have an operation and *maintenance* programme aimed at the progressive reduction, where practicable, of *wastewater exfiltration*; and
 - The *wastewater network utility operator* shall report to the ARC regarding the programmes under (b) and (c) upon request.

Explanations:

- Refer also to Rule 6.5.34 which permits the taking of *groundwater* for the purposes of *infiltration* into the network in certain circumstances.
- Programmes to determine the extent of *infiltration* and methods to reduce it will satisfy the requirements of conditions 5.5.8(b) and (c).

Non-Network Operator Activities**Permitted Activity**

- 5.5.9** Other than as provided for by Rules 5.5.1, 5.5.2, 5.5.3, 5.5.4 or 5.5.5; the diversion and discharge of *stormwater* to ground or to surface water (which the relevant *stormwater network utility operator* or *highway network operator* does not manage or otherwise have responsibility for) originating from a *site* located within either:
- The extent of a *stormwater network* consent granted under Rules 5.5.10 to 5.5.13 of this Plan which has accounted for the actual or potential *stormwater* discharges from the *site*; or
 - The extent of a comprehensive catchment consent issued under the Auckland Transitional Regional Plan and that consent has accounted for the actual or potential *stormwater* discharges from the *site*;

is a Permitted Activity if it complies with all of the following conditions:

- With regard to *impervious area*, the land use activity giving rise to the diversion and discharge shall be authorised under the relevant District Plan as a designation, permitted activity or controlled activity, or shall have a resource consent, or shall have existing use rights;
- The discharge shall not cause scouring at the point of discharge;
- Overland flow paths* shall be provided and maintained for flows in excess of the primary *drainage network* capacity to allow flows up to and including the 100 year *ARI* storm to discharge with the minimum of nuisance and damage;
- The person undertaking the diversion and discharge has obtained the written approval of the *stormwater network utility operator* for the area and that approval is provided to the ARC prior to the activity commencing.

Activities that fall within the definition of (a) or (b) but are unable to comply with one or more of conditions (i) to (iv) will be assessed as a restricted discretionary activity under Rule 5.5.3.

Explanation:

- (1) Rule 5.5.9 authorises the diversion and discharge of *stormwater* from private *sites* and developments to ground or to rivers and streams within an area covered by a *stormwater network* discharge consent prepared by a *territorial authority*, or to a *territorial authority network*, provided that the land use giving rise to the discharge is authorised under the district plan and the supporting information for the network consent considered and prevented or minimised the potential adverse effects of the private diversion and discharge. For the purposes of *stormwater* quality controls, discharges from the *Activity Area* of an *Industrial or Trade Activity* are excluded from the coverage of Rule 5.5.9 as those activities have their own discreet suite of rules.
- (2) Where the Operative Manukau District Plan 2002 applies, please refer to Chapter 9, Land Modification, Development and Subdivision, Part 9.14 Financial Contributions and Bonds.

Network Operator Activities Within Urban Areas**Controlled Activities**

5.5.10 The following activities are controlled activities when undertaken by a *stormwater or wastewater network utility operator or highway network operator*:

- (a) The diversion of *stormwater*;
- (b) The discharge of *stormwater*;
- (c) The discharge of *wastewater* via a pumping station or network *overflow*;
- (d) *Exfiltration* of *wastewater* not authorised under Rule 5.5.8

if they comply with all of the following standards and terms:

- (i) The activity is undertaken by a *stormwater or wastewater network utility operator or highway network operator*;
- (ii) The activity occurs within an *Urban Area*
- (iii) The applicant has prepared either:
 1. An *Integrated Catchment Management Plan (ICMP)*; or
 2. An Assessment of Environmental Effects (AEE);
 that addresses each component required by schedule 9 of this plan;
- (iv) The discharge is not into a Coastal Protection Area 1 listed in Table 20.2A "Table of Ecological CPA 1s" of the Auckland Regional Plan: Coastal;
- (v) For *stormwater* activities:
 1. All *outfall* discharges that may cause scour at the *outfall* incorporate *erosion control* measures;
 2. The passage of fish and other aquatic organisms both up and down stream is maintained;
 3. The discharge shall not cause flood levels in events up to and including the 100 year ARI flood to rise within 0.5 metres of the habitable floor levels of dwellings or increase flooding of a state highway, unless the relevant District Plan establishes an alternative freeboard requirement in which case the District Plan freeboard requirement shall prevail;
 4. *Overland flow paths* are provided and maintained for flows in excess of the primary *drainage network* capacity to allow flows up to and including the 100 year *ARI* storm to discharge with the minimum of nuisance and damage;

5. For individual *sites* (or additions to the state highway network if a *highway network operator*) or subdivision, that were developed after 23 October 2001, that have in excess of 1,000m² of *impervious area* and were included in the land use development scenario modelled in the *ICMP* or AEE for the area, *stormwater* diversions and discharges are managed to:
 - a. remove at least 75% of *total suspended solids* (TSS) loads on an *average annual basis*; or
 - b. prevent or minimise any more than minor adverse effects from the *stormwater* discharge of contaminants;
 6. *Stormwater* diversions and discharges in non - greenfield areas/networks (or from existing state highway networks if a *Highway network operator*) are managed to:
 - a. remove at least 30% of *total suspended solids* (TSS) on an average annual basis; or
 - b. prevent or minimise any more than minor adverse effects from the *stormwater* discharge of contaminants;
 7. *Stormwater* diversions and discharges in greenfield areas are managed to:
 - a. prevent or minimise downstream channel erosion in any receiving river or stream and;
 - b. reduce the TSS load that is anticipated from future *land use intensification* and development within the catchment by at least 75% on an *average annual basis*; or
 - c. prevent or minimise the more than minor potential adverse effects from the *stormwater* discharge of contaminants;
- (vi) For *wastewater* activities:
1. The activity does not render a currently used *potable water* source unsuitable for human consumption as defined in the 'Drinking Water Standards for New Zealand', MoH (2000);
 2. All *outfall* discharges that may cause scour at the *outfall* incorporate *erosion control* measures;
 3. The *wastewater* collection network is designed and operated to avoid dry weather overflows during normal operation of the network, and the network operator has an operational and *maintenance* programme in place that minimises dry weather *overflows* to the environment;
 4. The *wastewater* collection network is designed to minimise wet weather *overflows* to the environment and no *overflow* point in the separated *wastewater network* shall be designed to *overflow* during or following a storm event of a 6 month *ARI* or less;
 5. The discharge is not likely to result in gross floatable solids being visible in the *receiving environment* during or following a storm event of 1 in 6 month *ARI* or less; where regular public usage (*contact* and non-contact) occurs in the *receiving environment* area affected by the *overflow* discharge and the *gross* solids could be expected to remain visible for more than six hours after the discharge ceases;
 6. Pumping stations which have any potential to *overflow wastewater* to the environment and have a *contributing catchment equivalent population* (EP) of 100 or more are continuously monitored by telemetry.

5.5.10A When assessing applications by *stormwater or wastewater network utility operators* or a *highway network operator* under Rule 5.5.10 the Council shall restrict the exercise of its control to the following matters:

- (a) The location of any future discharges where the overall quantity and effects of those discharges have been assessed, but their precise location had not been specified in the application for consent;
- (b) The effects of the discharge of contaminants from the *stormwater or wastewater network* or highway network, after reasonable mixing in the relevant *receiving environment*. For *stormwater* and state highway networks, if standard and terms (v)(f)(1), (g)(1) or (h)(2) of Rule 5.5.10 are met, then additional treatment or removal of *total suspended solids* (TSS) shall not be required;
- (c) The programme of works, services and other methods adopted to prevent or minimise the actual or potential adverse effects on the environment from diversions and discharges;
- (d) Effects on *archaeological sites*, *wāhi tapu*, and the matters listed in Policy 2.3.4.4;
- (e) Monitoring, reporting and review requirements;
- (f) Consent duration; and
- (g) Administrative fees and charges.

Explanations:

- (1) For the purposes of matter of control (b) the contaminants and any effects arising from their discharge to the environment shall be identified in the relevant *Integrated Catchment Management Plan (ICMP)* or an *Assessment of Environmental Effects (AEE)* in accordance with Schedule 9 of this Plan.
- (2) Applicants for consent under Rule 5.5.10 shall include within their AEE application details on how the standards and terms of the Rule are intended to be met.

Non Notification

Applications for controlled activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless specifically requested by the applicant or required by a rule or national environmental standard. However, the application may be publically notified if in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Restricted Discretionary Activities

5.5.11 The following activities are restricted discretionary activities:

- (a) The *diversion of stormwater*;
- (b) The discharge of *stormwater*;
- (c) The discharge of *wastewater* via a pumping station or network *overflow*;
- (d) *Exfiltration* not authorised under Rule 5.5.8.

that comply with standards and terms (i), (ii), (iii) of Rule 5.5.10 but are unable to comply with one or more of the standards and terms in (iv), (v) or (vi) of Rule 5.5.10.

5.5.11A The ARC will restrict the exercise of its discretion to the following matters:

- (a) Where a discharge is to a Coastal Protection Area 1 listed in Table 20.2A "Table of Ecological CPA 1s" of the Auckland Regional Plan: Coastal, measures to prevent or minimise the adverse effects of the discharges on the environmental values for which the area is classified as a CPA 1;
- (b) For those standards and terms in (v) and (vi) of Rule 5.5.10 that are not complied with, specific measures to prevent or minimise the adverse effects of the discharges in respect of those standards and terms;
- (c) The location of any future discharges, where the overall quantity and effects of those discharges have been assessed, but their precise location had not been specified in the application for consent;
- (e) The effects of the discharge of contaminants from the *stormwater* or *wastewater network*, or highway network after reasonable mixing in the relevant receiving environment. For stormwater and state highway networks, if standard and terms (v)(f)(1), (g)(1) or (h)(2) of Rule 5.5.10 are met, then additional treatment or removal of *total suspended solids (TSS)* shall not be required;
- (f) The programme of works, services and other methods adopted to prevent or minimise the actual or potential adverse effects on the environment from diversions and discharges;
- (g) Monitoring, reporting and review requirements;
- (h) Consent duration; and
- (i) Administrative fees and charges.

Explanation:

*For the purposes of matter of discretion (e) the contaminants and any effects arising from their discharge to the environment shall be identified in the relevant **Integrated Catchment Management Plan (ICMP)** or an **Assessment of Environmental Effects (AEE)** in accordance with Schedule 9 of this Plan.*

Non Notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless specifically requested by the applicant or required by a rule or national environmental standard. However, the application may be publically notified if in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Discretionary Activities

5.5.12 The following activities are discretionary activities:

- (a) The diversion of *stormwater*;
- (b) The discharge of *stormwater*;
- (c) The discharge of *wastewater* via pumping station or network *overflow*; and
- (d) *Exfiltration* not authorised under Rule 5.5.8.

that do not comply with standard and term (iii) of Rule 5.5.10.

(For Rule 5.5.12 see also Policy 5.4.11)

Outside Urban Areas

Discretionary Activities

5.5.13 Other than as provided for by Rules 5.5.22 to 5.5.63 the following activities undertaken by a *stormwater or wastewater network utility operator* or highway network operator outside of the Urban Area are Discretionary Activities:

- (a) The diversion of *stormwater*;
- (b) The discharge of *stormwater*;
- (c) The discharge of *wastewater* via pumping station or network *overflow*; and
- (d) *Exfiltration* not authorised under Rule 5.5.8.

Explanation:

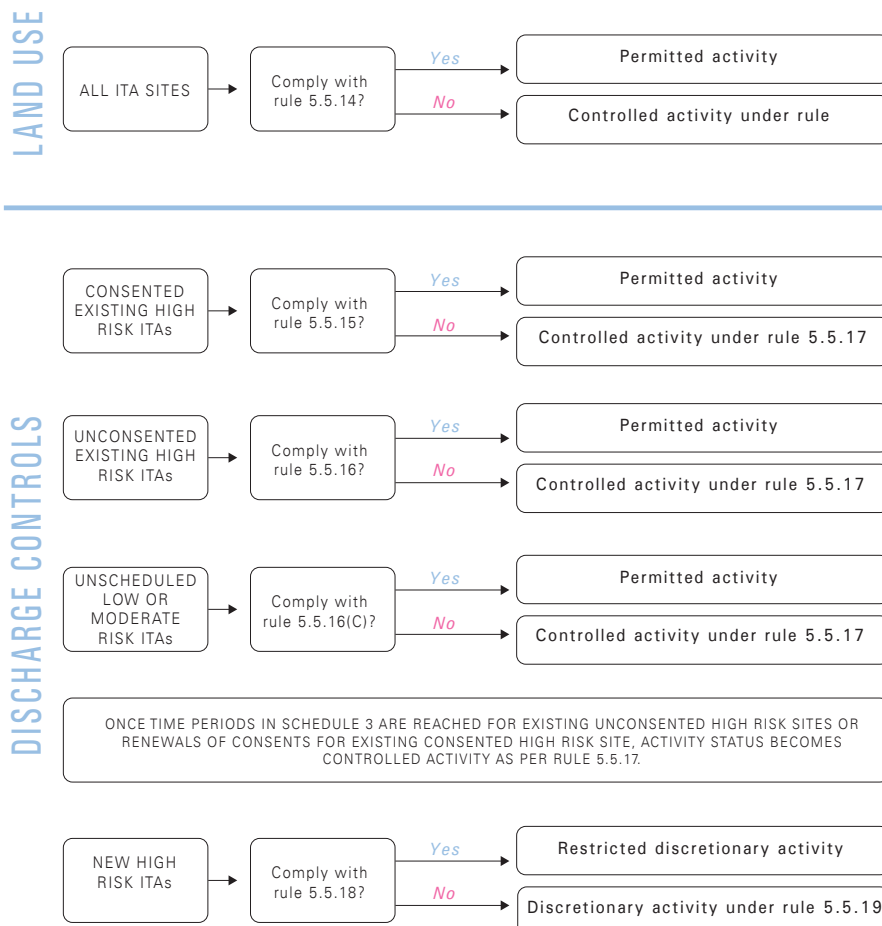
Rule 5.5.13 makes the provision of *stormwater* and *wastewater network* discharges, including discharges from state highway networks, discretionary activities outside of the *Urban Areas*. *Stormwater* and *wastewater* discharges from individual sites are able to be authorised under Rules 5.5.1 to 5.5.5 of this Plan.

Industrial or Trade Activities

Note: Onehunga Volcanic Aquifer is a Quality Sensitive Aquifer Management Area

Figure 5.1 Rules for Industrial or Trade Activities

The following diagram is for explanation purposes only and to assist the reader to determine the relevant rule applying to their activity. Refer to each Rule for the required conditions.



Permitted Activities

5.5.14 The use of land for the purposes of an *Industrial or Trade Activities* is a Permitted Activity, subject to the following conditions:

- Schedule 3 Low Risk Activities and *Industrial or Trade Activities* not listed in Schedule 3 are subject to conditions (a) to (h).
 - Schedule 3 Moderate and High Risk Activities are subject to conditions (a) to (j).
 - Conditions (d), (g), (i) and (j) shall be complied with within 12 months of this Rule becoming operative and all other conditions of this Rule shall be complied with within 18 months of this Rule becoming operative.
- (a) *Waste* compactors and bins shall be located and operated in such a manner that prevents *leachate* or waste leaking from them onto land in a position where it may enter water;
- (b) *Wastewater* produced by the *Industrial or Trade Activity* shall be collected either for recycling, or disposal to a system or facility with all the appropriate authorisations to accept *wastewater* of that type. For the purposes of this rule *wastewater* shall also include:
- (i) boiler blow down and condensate;
 - (ii) all *waste* liquids generated or collected as part of an *Industrial or Trade Activity*;
 - (iii) cooling tower water excluding vapour; and
 - (iv) condensate from three phase air compressors.

Explanation:

Where the Industrial or Trade Activity is located within a sewage treatment facility then the wastewater may be disposed of within that facility.

- (c) *Washwater* produced by the *Industrial or Trade Activity* shall be:
- (i) collected for recycling or disposal to a *consented waste disposal system*; or
 - (ii) discharged onto or into land in a manner that does not result in overland flow of the *washwater* leaving the land on which the *Industrial or Trade Activity* is undertaken and does not result in accumulation of *environmentally hazardous substances* onto or into land.
- (d) Where any *environmentally hazardous substance* is stored on land on which the *Industrial or Trade Activity* is undertaken at a greater quantity than used for *domestic purposes* an Emergency Spill Response Plan shall be developed. Such plans shall include:
- (i) a schedule of inspection to check that *environmentally hazardous substances* are stored and/or contained appropriately (such as within a *bund*);
 - (ii) a protocol/method for identifying and stopping the discharge of *environmentally hazardous substances* to land or water and avoiding future events of this nature;
 - (iii) emergency containment and clean-up procedures;
 - (iv) a list of appropriate spill kits contents to enable the containment and/or absorption of spilled material and a plan showing spill kit locations;
 - (v) a requirement for appropriate signage to identify the location of spill kits and the actions to be taken in the event of a spill;

- (vi) actions to remedy or mitigate any adverse effects on the environment or public health and safety arising from discharges or spills of *environmentally hazardous* substances to land or water;
- (vii) methods for disposal of spilled *environmentally hazardous substances* and any other contaminated materials used in the spill clean-up;
- (viii) a schedule of adequate training for personnel in the use of the Emergency Spill Response Plan and in anticipating and preventing the likelihood of spills;
- (ix) up-to-date and accurate copies of all *drainage* plans for the land on which the *Industrial or Trade Activity* is undertaken showing the location of the final discharge point to the public *stormwater* system, or land or water; and
- (x) a procedure for notifying as soon as practicable the ARC's 24 hour emergency response service and the relevant *stormwater or wastewater network utility operator* in the event of any discharge of environmentally hazardous substances on the land on which the *Industrial or Trade Activity* is undertaken that results in, or is likely to result in, contamination of any stormwater system, or land or water; and
- (xi) A procedure to determine, prior to draining a secondary containment device, whether any fluid collected in the containment device is contaminated.

Explanation:

- (1) For *environmentally hazardous substances* in quantities covered by Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, a Spill Response Plan prepared in accordance with these regulations will be considered to comply with Permitted Activity Rule 5.5.14(d) provided the Plan also explicitly addresses matters (vii) to (x) above.
 - (2) For *environmentally hazardous substances* not covered by Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, a Spill Response Plan prepared in accordance with the ARC's 'Environmental Operations Plan 2001' will be considered to comply with Permitted Activity Rule 5.5.14(d).
- (e) *Environmentally hazardous substances* shall be stored in a manner that prevents the entry of rainwater into the container;
 - (f) When the quantity stored above ground exceeds that used for *domestic purposes*, *environmentally hazardous substances* shall be stored in a container with a secondary containment device (such as a *bund*) or within a containment system. The secondary containment device or system shall be:
 - (i) constructed of impervious materials that are resistant to chemical attack from the substances contained therein;
 - (ii) designed, constructed and managed so that uncontaminated *stormwater* runoff is prevented from flowing into the contained area;

Explanation:

- (1) For *environmentally hazardous substances* in quantities covered by Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, storage requirements in accordance with these regulations will be considered to comply with Permitted Activity Rule 5.5.14(e) and (f).
- (2) For *environmentally hazardous substances* not covered by Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, storage requirements in accordance with the ARC's 'Environmental Operations Plan 2001', however *bund* sizing criteria for secondary stage storage are:

- (i) for tanks the **bund** has a storage capacity of at least 110% of the capacity of the largest tank taking into account the volume displaced by any equipment or materials stored within the **bund**; and
 - (ii) for drums the **bund** has an effective storage height of at least 100mm (allowing for any sloping ground) and the bund is set back from the drums by a distance that equates to half the height of the stacked or stored drums.
- (g) A procedure shall be developed and implemented so that reconciliation measurements are recorded by the site operator for any **environmentally hazardous substance** stored in an underground storage tank;
- (h) **On-site vehicle re-fuelling facilities** with a total storage capacity of greater than 5,000 litres shall be contained and housed under cover, and/or surrounded by a drain that drains to an appropriately designed and sized **stormwater** treatment and spill containment device fitted with a shut-off valve;
- (i) Operations within the land on which the **Industrial or Trade Activity** is undertaken shall be undertaken in accordance with an Environmental Management Plan specific to the **Industrial or Trade Activity** which:
 - (i) specifies how conditions (a) to (h) will be complied with;
 - (ii) identifies **environmentally hazardous substances** associated with the **Industrial or Trade Activity**;
 - (iii) sets out the methods to be used to avoid discharges of **environmentally hazardous substances** onto or into land or water where practicable, and to remedy or mitigate the effects of discharges where they cannot be avoided;
 - (iv) For **stormwater** runoff arising from land on which the **Industrial or Trade Activity** is undertaken, sets out the primary sediment treatment or source control methods that may be necessary to avoid, remedy, or mitigate more than minor adverse effects on the **receiving environment**;
 - (v) identifies assessment requirements to report on the performance of the Environmental Management Plan.
- (j) The **Industrial or Trade Activity** shall be inspected and assessed for compliance (either by way of self assessment or independent assessment) with the conditions (a) to (i) and the methods set out in the Environmental Management Plan by an assessor registered by the ARC, with the first assessment being undertaken no later than 12 months after this Rule becomes operative and forwarded to the ARC upon request, and thereafter inspections and assessments shall be undertaken:
 - (i) Annually until such time as the Environmental Management Plan has been fully complied with for three consecutive years, after which the inspections and assessments shall occur every two years (subject to (ii) below). Each assessment shall be made separately available to the ARC upon request.
 - (ii) If non-compliance with the Environmental Management Plan is discovered under (i) above, a second assessment shall be done within 30 working days or within a timeframe otherwise agreed with ARC. Non-compliance beyond the second assessment date will result in the **Industrial or Trade Activity** being authorised under Rule 5.5.14A instead of Rule 5.5.14.

Second assessments occurring under (ii) shall be forwarded to the ARC within 5 working days of the completion.

Explanation:

- (1) An appropriate Environmental Management Plan can be formulated using the practices outlined in the ARC's 'Environmental Operations Plan', (2001);
- (2) A self assessor is someone who is a part of the environmental management of the **Industrial or Trade Activity**. The self assessor may be either an employee or a consultant who has contributed to the environmental management of the **Industrial or Trade Activity**. An independent assessor is someone who is independent of the management of the **Industrial or Trade Activity**. Other Method 5.6.8A advises that ARC will keep a register of competent assessors and Other Method 5.6.9 advises that ARC will establish a training programme for assessors.

Controlled Activity - All Industrial or Trade Activities unable to comply with Rule 5.5.14, or which have failed to comply with a second assessment carried out under Rule 5.5.14(j)

5.5.14A The use of land for the purposes of an **Industrial or Trade Activity** that does not comply with one or more of the conditions or standards of Rule 5.5.14, or which have failed to comply with the second assessment carried out under Rule 5.5.14(j), is a Controlled Activity.

The ARC shall exercise its control over the following matters:

- (a) Avoiding, remedying or mitigating any adverse effects resulting from the non-compliance with any relevant conditions or standards of Rule 5.5.14;
- (b) The content of the Emergency Spill Response Plan and, where relevant, the content of the Environmental Management Plan and the inspection and assessment regime for that Plan;
- (c) The duration of the consent; and
- (d) The timing and nature of review of consent conditions.

Applications for Controlled Activities under Rule 5.5.14A will be considered without notification or the need to obtain the written approval of affected parties in accordance with Section 95A(3) and 95B(2) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 95A(4) of the RMA.

Discharge Controls

Permitted Activity – Consented Existing High Risk Activities

5.5.15 The discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the **Activity Area** of an **Industrial or Trade Activity** categorised as High Risk in Schedule 3: Industrial and Trade Activities is a Permitted Activity subject to the **site** being listed in Schedule 14: Consented Existing High Risk Activities, or the **site** being covered by a consent that was granted under the **Industrial or Trade Activities** provisions of this Plan prior to the date of this Plan becoming operative.

The activity shall cease to be a Permitted Activity under this Rule when the listed **stormwater** discharge consent or the **Industrial or Trade Activities** consent for the **site** reaches its stated expiry date, subject to:

- (a) The activity shall continue to be a Permitted Activity under this Rule if a replacement application has been made by the consent holder more than 6 months prior to the expiry date for that consent being reached and the application has yet to be finally determined;
- (b) The activity shall continue to be a Permitted Activity under this Rule if a replacement application was made prior to 1 October 2001, for authorisations and/or consents that were expiring at that time pursuant to Section 386(3) of the RMA, and the application has yet to be finally determined;

- (c) The activity shall continue to be a Permitted Activity under this Rule until applications under (a) and (b) above are finally determined;
- (d) The activity shall continue to be a Permitted Activity under this Rule if the ARC review the listed consent or the consent holder varies the conditions of the listed *stormwater* consent or the *industrial or trade activity* consent and the ARC assigns an alternative consent number to the reviewed or varied consent.

The ARC may, from time to time, extend the coverage of Rule 5.5.15 to other consents by way of public notice of the details of those consents.

Permitted Activity – Unconsented Existing High Risk Activities and Discharges of contaminants including environmentally hazardous substances from the Activity Area of Unscheduled, Low or Moderate Risk Sites

5.5.16 Other than as provided for by Rule 5.5.15, the discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the *Activity Area* of either:

- (a) An *Industrial or Trade Activity* that is either not listed in Schedule 3, or is categorised as a Low or Moderate Risk activity in that Schedule; or
- (b) an *existing Industrial or Trade Activity* categorised as High Risk in Schedule 3: *Industrial or Trade Activities*, which was established at 23 October 2001;

is a Permitted Activity until such time as the listed time periods for each industry activity shown in Schedule 3 are reached, subject to:

- (i) If more than 6 months prior to a Schedule 3 time period being reached the ARC publicly notifies an *extension* to that time period (which shall not exceed 24 months), the Permitted Activity status of the relevant activity shall continue until the new Schedule 3 notified time period is reached;
- (ii) The activity shall continue to be a Permitted Activity under this Rule if a resource consent application for the *Industrial or Trade Activity* has been made by the consent holder under Rule 5.5.17 more than 6 months prior to the Schedule 3 time period being reached and the application has yet to be finally determined;
- (iii) If the discharge results in significant adverse effects on the *receiving environment* then the activity shall cease to be a Permitted Activity under this Rule and it shall require a resource consent under Rule 5.5.17;

Explanation:

If an activity is required to obtain consent under this Rule and it is not listed in Schedule 3, then for the purposes of this Rule the activity shall be assigned a Schedule 3 description that in the opinion of the ARC most closely corresponds with the nature of the activity.

Controlled Activity – Activities that cease to be Permitted Activities under Rule 5.5.15 or 5.5.16 and the renewal of existing consents granted under the industrial or trade activities provisions of this Plan

5.5.17 The discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the *Activity Area* of an *Industrial or Trade Activity* is a Controlled Activity if:

- (a) the activity ceases to be a Permitted Activity under Rule 5.5.15 or 5.5.16; or
- (b) the activity was previously the subject of a consent granted under the *Industrial or Trade Activity* provisions of this Plan.

The ARC shall exercise its control over the following matters:

- (i) The quality of the discharge arising from the *Activity Area* of the *Industrial or Trade Activity*; where it discharges either to an authorised *stormwater* or *wastewater network* or after reasonable mixing in the *receiving environment*;
- (ii) The degree of adverse environmental effects on the receiving environment;
- (iii) Management practices, treatment systems or devices, to the extent that they are required to avoid, remedy or mitigate more than minor adverse effects having regard to (i) and/or (ii) above and Policy 5.4.18;
- (iv) The content of the Environmental Management Plan and the inspection and assessment regime for that Plan;
- (v) The duration of the consent; and
- (vi) The timing and nature of reviews of consent conditions.

Non-notification

Applications for Controlled Activities under Rule 5.5.17 will be considered without notification or the need to obtain the written approval of affected parties in accordance with Section 95A(3) and 95B(2) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 95A(4) of the RMA.

Explanation:

This Rule applies to applications to renew consents that are either listed in Schedule 14 (see Rule 5.5.15) or have been granted under Industrial or Trade Activity provisions of this Plan but are not listed in Schedule 14. It also applies to applications to discharge contaminants, including environmentally hazardous substances, from the Activity Area of existing or new Unscheduled, Low or Moderate Risk sites and existing High Risk sites whose industry sector expiry dates (as set out in the column titled "Months after Rule 5.5.16 becomes operative" in Schedule 3) have passed (see Rule 5.5.16). It does not apply to new High Risk sites as new High Risk sites are considered under Rule 5.5.18.

Where discharges contain environmentally hazardous substances any necessary approval must be obtained from the relevant stormwater and/or wastewater network utility operator prior to any discharges from the Industrial or Trade Activity entering a public stormwater or wastewater network.

Restricted Discretionary Activity – New High Risk Activities

5.5.18 The discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the *Activity Area* of a new *Industrial or Trade Activity* categorised as High Risk in Schedule 3: Industrial or Trade Activities is a Restricted Discretionary Activity subject to the following standards and terms:

- (a) The *Industrial or Trade Activity* was not existing at its current location at 23 October 2001;
- (b) All treatment devices utilised for the *Industrial or Trade Activity* are installed and maintained in accordance with the manufacturer's recommendations or the best practicable option.

Explanation:

One means of complying with the best practicable option referred to in Rule 5.5.18(b) is to adopt the practices outlined in the ARC guideline document 'Stormwater management devices: Design guidelines manual, Second edition, May 2003, ARC Technical Publication No. 10'.

- (c) Where discharges include *environmentally hazardous substances* any necessary approval has been obtained from the relevant *stormwater* and/or *wastewater network utility operator* prior to any discharges from the *Industrial or Trade Activity* entering a public *stormwater* or *wastewater network*.

The ARC shall restrict the exercise of its discretion to the following matters under Rule 5.5.18:

- (i) The quality of the discharge arising from the *Activity Area* of the *Industrial or Trade Activity*, where it is discharged either to an authorised *stormwater* or *wastewater network* or after reasonable mixing in the *receiving environment*;
- (ii) The degree of adverse environmental effects on the receiving environment;
- (iii) Management practices, treatment systems or devices, to the extent that they are required to avoid, remedy or mitigate more than minor adverse effects having regard to (i) and/or (ii) above and Policy 5.4.18;
- (iv) The inspection and assessment regime for the Environmental Management Plan;
- (v) The duration of the consent; and
- (vi) The timing and nature of reviews of consent conditions.

Discretionary Activities

- 5.5.19** The discharge of contaminants, including *environmentally hazardous substances*, onto or into land or water from the *Activity Area* of an *Industrial or Trade Activity* that is unable to comply with the standards and terms of Rule 5.5.18 is a Discretionary Activity.

Explanation:

Where consents are required under the rules for both Industrial or Trade Activities and the stormwater Rules 5.5.1 to 5.5.13, these will be processed and where necessary heard together as provided for in Section 103 of the RMA.

(For Rule 5.5.19 see also Policies 5.4.1, 5.4.2, 5.4.16 to 5.4.18)

Sewage Treatment and Disposal

Permitted Activities

- 5.5.20** The discharge of *domestic wastewater* from one dwelling, commercial, industrial or other premise to land within a lot via a treatment and land application disposal system, from the date that this Rule becomes operative is a Permitted Activity, subject to conditions (a) - (i). For the purposes of conditions (c) and (g), TP58 means the ARC Technical Publication No. 58 "On-site Wastewater Systems: Design and Management Manual," August 2004 edition. In the event that the Auckland Council publishes a replacement design and management manual for on-site wastewater systems, all references within conditions (c) and (g) to TP58 will be treated as references to that replacement manual from the date of its publication, rather than as references to TP58:

- (a) The design flow is not greater than 2m³ per day;
- (b) The ratio of gross lot area to discharge volume is equal to or greater than 1.5m² per litre per day;
- (c) All aspects of on-site *wastewater* treatment and land application disposal system, design, installation, and operation shall be in accordance with TP58, and in particular the following:
 - (i) The *site* assessment practices required to determine system suitability;
 - (ii) The flow allowances used to establish system design flow in (a) above, without any decrease below 120 litres per person per day for water reduction fixtures or grey water reuse;

- (iii) The septic tank with outlet filter; unless the equivalent level of treatment is provided within the aerobic treatment system;
 - (iv) The secondary treatment system design criteria and parameter ranges;
 - (v) The pressure compensating drip irrigation land application disposal system;
 - (vi) The discharge quality standards to be achieved by the system; and
 - (vii) The minimum reserve disposal area allocation.
- (d) The discharge does not result in actual or potential contamination of ground water at a point of extraction, any *surface water*, *stormwater* drain, neighbouring property, or any public health threat;
 - (e) The treatment and land application disposal system are approved by the territorial local authority under the Building Act;
 - (f) The lot is not contained or described in a title issued under the Unit Titles Act 2010 or a cross-lease form of title;
 - (g) There is a programmed *maintenance* contract in accordance with the supplier's specifications or the requirements of TP58 whichever is the more stringent; and records of each *maintenance* action are retained and made available on the site for inspection by Council officers or their agents;
 - (h) The activity shall not disturb any *wāhi tapu* or other *archaeological site* including those identified in any regional or district plan, in the NZ Archaeological Association's Site Recording Scheme, or by the Historic Places Trust except where the Historic Places Trust approval has been obtained; and
 - (i) In the event that an *archaeological site* or *wāhi tapu* is discovered while undertaking the activity, the activity shall cease immediately and the ARC shall be notified as soon as practicable. The activity shall not be recommenced without the approval of the ARC.

Explanation:

- (1) *It is important to note that the relevant components of AS/NZS 1547:2000 have been included within the August 2004 edition of TP58 and that systems complying with TP58 requirements will also meet the requirements of AS/NZS 1547:2000.*
- (2) *It is recognised that new technologies will develop over time and that TP58 will therefore require amendments over the longer term. The Auckland Council intends to review and update TP58. When the updated TP58 is published, the new guidelines will apply.*

5.5.21 The discharge of *domestic wastewater* to land via a treatment and land application disposal system lawfully in existence at the date this Rule becomes Operative is a Permitted Activity subject to the following conditions:

- (a) The nature of the discharge is the same as that existing at the date the Plan becomes operative; and
- (b) The discharge does not exceed 2 m³ per day and the design flow is no greater than that existing at the date the plan becomes operative; and
- (c) The discharge does not result in actual or potential contamination of ground water at a point of extraction, any *surface water*, *stormwater* drain, neighbouring property, or any public health threat.

5.5.22 The discharge of *domestic wastewater* from one dwelling, commercial, industrial or other premise without permanent power supply to land within a lot via a treatment and land application disposal system, from the date that this Rule becomes operative is a Permitted Activity, subject to conditions (a) - (i). For the purposes of conditions (c) and (g), TP58 means the ARC Technical Publication No. 58 "On-site Wastewater Systems: Design and Management Manual", August 2004 edition. In the event that the Auckland Council publishes a replacement design and management manual for on-site wastewater systems, all references within conditions (c) and (g) to TP58 will be treated as references to that replacement manual from the date of its publication, rather than as references to TP58:

- (a) The design flow is not greater than 2m³ per day;
- (b) The ratio of gross lot area to discharge volume is equal to or greater than 1.5m² per litre per day;
- (c) All aspects of on-site *wastewater* treatment and land application disposal system, design, installation, and operation shall be in accordance with TP58, and in particular the following:
 - (i) The *site* assessment practices required to determine system suitability;
 - (ii) The flow allowances used to establish system design flow in (a) above, without any decrease below 100 litres per person per day for water reduction fixtures or grey water reuse;
 - (iii) The septic tank with outlet filter;
 - (iv) The disposal system comprising of either pressure compensating drip irrigation or the low pressure *effluent* distribution disposal system (LPED) or trenches or beds;
 - (v) The discharge quality standards to be achieved by the system; and
 - (vi) The minimum reserve disposal area allocation.
- (d) The discharge does not result in actual or potential contamination of ground water at a point of extraction, any *surface water*, *stormwater* drain, neighbouring property, or any public health threat;
- (e) The treatment and land application disposal system are approved by the territorial local authority under the Building Act;
- (f) The lot is not contained or described in a title issued under the Unit Titles Act 2010 or a cross-lease form of title;
- (g) There is a programmed *maintenance* contract in accordance with the supplier's specifications or the requirements of TP58 whichever is the more stringent; and records of each *maintenance* action are retained and made available on the *site* for inspection by Council officers or their agents;
- (h) The activity shall not disturb any *wāhi tapu* or other *archaeological site* including those identified in any regional or district plan, in the NZ Archaeological Association's Site Recording Scheme, or by the Historic Places Trust except where the Historic Places Trust approval has been obtained; and
- (i) In the event that an *archaeological site* or *wāhi tapu* is discovered while undertaking the activity, the activity shall cease immediately and the ARC shall be notified as soon as practicable. The activity shall not be recommenced without the approval of the ARC.

5.5.23 The discharge of *domestic wastewater* to land via treatment and land application disposal systems from up to 3 dwellings, commercial, industrial or other *premises* within a lot, in circumstances where the *premises* are sufficiently remote from each other that the *wastewater* systems cannot be feasibly combined is a Permitted Activity, subject to conditions (a) - (j). For the purposes of conditions (c) and (h), TP58 means the ARC Technical Publication No. 58 "On-site Wastewater Systems: Design and Management Manual", August 2004 edition. In the event that the Auckland Council publishes a replacement design and management manual for on-site wastewater systems, all references within conditions (c) and (h) to TP58 will be treated as references to that replacement manual from the date of its publication, rather than as references to TP58:

- (a) The design flow for each system is not greater than 2m³ per day;
- (b) The ratio of gross lot area to discharge volume is equal to or greater than 3m² per litre per day per dwelling;
- (c) All aspects of on-site *wastewater* treatment and land application disposal system, design, installation, and operation shall be in accordance with TP58, and in particular the following:
 - (i) The *site* assessment practices required to determine system suitability;
 - (ii) The flow allowances used to establish system design flow in (a) above, without any decrease below 160 litres per person per day for water reduction fixtures or grey water reuse;
 - (iii) The septic tank with outlet filter; unless the equivalent level of treatment is provided within an aerobic treatment system;
 - (iv) The disposal system comprising of either pressure compensating drip irrigation or low pressure *effluent* distribution systems (LPED) or trenches or beds; and
 - (v) The discharge quality standards to be achieved by the system;
- (d) No less than 100 percent reserve disposal area per system;
- (e) The discharge does not result in actual or potential contamination of ground water at a point of extraction, any *surface water*, *stormwater* drain, neighbouring property, or any public health threat;
- (f) The disposal area shall be fenced to prevent heavy vehicle or stock access;
- (g) The treatment and land application disposal systems are approved by the *territorial authority* under the Building Act;
- (h) There is a programmed *maintenance* contract in accordance with the supplier's specifications or the requirements of TP58, whichever is the more stringent; and records of each *maintenance* action are retained and made available on the site for inspection by Council officers or their agents;
 - (i) The activity shall not disturb any *wāhi tapu* or other *archaeological site* including those identified in any regional or district plan, in the NZ Archaeological Association's Site Recording Scheme, or by the Historic Places Trust except where the Historic Places Trust approval has been obtained; and
 - (j) In the event that an *archaeological site* or *wāhi tapu* is discovered while undertaking the activity, the activity shall cease immediately and the ARC shall be notified as soon as practicable. The activity shall not be recommenced without the approval of the ARC.

Controlled Activities

5.5.24 The discharge of *domestic wastewater*, from a *wastewater* treatment and land application disposal system which is not permitted by Rules 5.5.20, 5.5.21, 5.5.22, or 5.5.23, is a Controlled Activity, subject to the following standards and terms. For the purposes of condition (c) TP58 means the ARC Technical Publication No. 58 "On-site Wastewater Systems: Design and Management Manual", August 2004 edition. In the event that the Auckland Council publishes a replacement design and management manual for on-site wastewater systems, the reference in condition (c) to TP58 will be treated as references to that replacement manual from the date of its publication, rather than as references to TP58:

- (a) The design flow does not exceed 6m³ /day;
- (b) It is maintained in a programmed manner approved by and reported to the ARC; and
- (c) Design and installation details are in accordance with the principles, procedures, and parameter ranges in TP58.

5.5.25 The ARC shall exercise its control over the following matters under Rule 5.5.25:

- (a) The design of the treatment system, and the level of contamination;
- (b) The design of the disposal system, disposal method, rate of land application, reserve application area and the effects arising from the method chosen;
- (c) Effects on *archaeological sites*, *wāhi tapu*, and the matters listed in Policy 2.3.4.4;
- (d) The duration of the consent; and
- (e) The monitoring of the discharge including reporting in an approved format.

Non Notification

Applications for controlled activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Discretionary Activities

5.5.26 The discharge of *domestic wastewater* by existing deep *bore* systems that do not comply with Permitted Activity Rule 5.5.21 and that require replacement *bores* where there is no viable alternative land disposal option is a Discretionary Activity.

5.5.27 The discharge of *domestic wastewater* and/or *trade wastes* that are not provided for by any other Rule in this section is a Discretionary Activity.

(For Rules 5.5.26 – 5.5.27 see also Policies 5.4.1, 5.4.2, 5.4.19 to 5.4.24)

Prohibited Activities

5.5.28 The discharge of *domestic wastewater* by new *deep bore disposal* systems is a Prohibited Activity.

Sewage Sludge (including Biosolids)

Permitted Activities

5.5.29 In reference to the biosolids grading system detailed at section 4.3 of the Guidelines for the Safe Application of Biosolids to Land in New Zealand, (August 2003) the application of Grade Aa *biosolids* onto or into land is a Permitted Activity, subject to the following standards and terms:

- (a) There is no direct application or run-off into any surface water body;
- (b) The application is not to land used for food production or residential activities;
- (c) The Aa Grade biosolids, after any blending with other matter, meet the requirements including the soil limit concentrations in Tables 4.1 and 4.2 of the Guidelines for the Safe Application of Biosolids to Land in New Zealand (August 2003), including the soil limit concentrations and the requirement to obtain accredited quality assurance;
- (d) The application is not to any Water Supply Management Area(s);
- (e) The biosolids are stored and handled to avoid groundwater or surface water contamination;
- (f) The biosolids application does not occur at any identified *wāhi tapu* site;
- (g) The application must provide for buffer zones between the application area and neighbouring land uses or sensitive environments as follows:
 - (i) 20 metres from any property boundary;
 - (ii) 20 metres from any surface water body and the coastal marine area;
 - (iii) 20 metres from any water supply bore;
 - (iv) 20 metres from a significant geothermal feature;
- (h) The application must not result in any offensive or objectionable odour or dust beyond the property boundary on which the biosolids are applied;
- (i) The applier must keep the following records and make these records available to Council upon request:
 - (i) The nature of the biosolids including dry solids content, application volume, location and frequency;
 - (ii) The total nitrogen mass-load applied per hectare per annum.

Restricted Discretionary Activities

5.5.30 In reference to the biosolids grading system detailed at section 4.3 of the Guidelines for the Safe Application of Biosolids to Land in New Zealand (August 2003), the application onto or into land of Grade Ab, Ba and Bb *biosolids*, and Grade Aa *biosolids* that do not meet the permitted activity controls, is a Restricted Discretionary Activity. In addition to the permitted activity standards and terms these activities are subject to the following standards and terms:

- (a) The Grade Ab, Ba and Bb biosolids, after any blending with other matter, meet the requirements including the soil limit concentrations in Tables 4.1 and 4.2 of the Guidelines for the Safe Application of Biosolids to Land in New Zealand (August 2003);
- (b) Resource consent applications for the application onto land of Grade Aa biosolids not meeting the permitted activity controls shall include specific information addressing the potential effects of not meeting the permitted activity controls, and how any such effects will be avoided or mitigated.

5.5.31 The ARC shall restrict the exercise of its discretion under Rule 5.5.30 to the following matters:

- (a) The rate and frequency of application to control nutrient and contaminant loading rates;
- (b) The type of blending material;
- (c) Risk to the environment - land, air and surface and ground water resources - or to human or stock health in terms of concentrations of nutrients, heavy metals, pathogens and synthetic organic chemicals;

- (d) The effects on:
 - (i) archaeological sites as defined by the Historic Places Act (1993);
 - (ii) registered historic places, areas or *wāhi tapu* sites as defined by the Historic Places Act (1993);
 - (iii) Water Supply Management Areas, Wetland Management Areas, Natural Stream Management Areas, Natural Lake Management Areas, High Use Stream or Aquifer Management Areas;
- (e) The effect of odour and dust beyond the application site boundary;
- (f) Contingency measures in the event of mechanical failure or prolonged wet weather;
- (g) Monitoring and information requirements;
- (h) Duration of consent;
- (i) Review of consent conditions;
- (j) Compliance monitoring.

Non Notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Discretionary Activities

5.5.31A The application onto or into land of *biosolids* that do not meet the permitted or restricted discretionary activity standards and terms, and the application of *biosolids* that are not otherwise listed, is a discretionary activity.

5.5.31B The application onto or into land of *sewage sludge* that does not meet the product specifications to become *biosolids* and the storage of *sewage sludge* on land is a discretionary activity.

Prohibited Activities

5.5.31C The direct application of *sewage sludge* and *biosolids* to water is a prohibited activity.

Land Management

Note: Anyone undertaking land management activities in accordance with Rules 5.5.32 and 5.5.33 should also refer to Rule 6.5.57 in Chapter 6 Water Allocation relating to the establishment of a dam for the purpose of controlling sediment discharges from cultivated land.

Permitted Activity

5.5.32 The *cultivation* of soil and the associated management and discharge of sediment laden *stormwater* runoff from rainfall events is a Permitted Activity, subject to the following conditions (see Explanation 1):

- (a) The cultivated area is less than 0.25ha; or
- (b) The cultivated area is equal to or greater than 0.25ha and:
 - (i) A minimum separation distance of 10 metres is maintained in a *vegetated* condition at all times between the cultivated land and areas identified as Coastal Protection Area 1 or 2 in the Auckland Regional Plan: Coastal; or any Wetland Management Area, or Natural Lake Management Area (providing however that any regrassing of the land within the 10 metre separation distance shall not be deemed to breach this condition); and

- (ii) The **slope** of the **cultivated** area is less than an average of 15 degrees (27%), other than where the purpose of the cultivation is for regrassing or for planting a crop from pasture with the intention of regrassing the cultivated area once the crop has been harvested or grazed, in which case there shall be no restriction on the **slope** of the cultivated area (see Explanation 2); and
- (iii) That appropriate **stormwater** management measures are implemented and maintained, in accordance with recognised best management practices, in order that there is no significant **off-site** movement of soil, including deposition in **road-side drains** or onto public roads, or to natural environments such as waterbodies, wetlands, **lakes** and the Coastal Marine Area.

Except that compliance with Condition 5.5.32(b)(iii) shall not be required where the purpose of the **cultivation** is for regrassing or for planting a crop from pasture with the intention of regrassing the cultivated area once the crop has been harvested or grazed, and no more than 21 days passes between the initial disturbance of the soil and the planting of the seed or seedling.

Explanation:

- (1) While the **cultivation** of land is permitted by this Plan (subject to conditions), regard should be had to any controls in the relevant District Plan for the area.
- (2) **Slope** is to be determined as the average **slope** over 90% of a contiguous parcel of land. 15 degrees (27%) is the **slope** above which the potential erosion and movement of soil has been measured to greatly increase. Whilst there are many other factors which contribute to erosion potential, (e.g. soil type, crop type and stage, and soil water status), **slope angle** remains a dominant factor.
- (3) Compliance with Rule 5.5.32(b)(iii) can be achieved by adopting the principles and practices outlined in the **best management practice** guideline as set out in Schedule 12, which is derived from the document 'Doing it Right – Franklin Sustainability Project Guide to Sustainable Land Management' (2000). Reference should also be made to the full Guideline document as it provides good practice options for sustainable land management, including methods to reduce sediment generation.

Controlled Activities

5.5.33 Any **cultivation** of soil and discharge of sediment laden **stormwater** runoff from rainfall events that is not authorised by Rule 5.5.32 is a Controlled Activity.

The ARC will have control over the following matters under Rule 5.5.33:

- (a) Avoiding, remedying or mitigating any actual or potential adverse effects associated with the discharge of sediment or sediment laden **stormwater** that arise from non-compliance with any of the conditions (b)(i) to (b)(iii) of Rule 5.5.32, including through:
 - (i) **Soil conservation** measures;
 - (ii) Alternative **cultivation** practices;
 - (iii) The use of cover crops;
 - (iv) The continuous length of time the soil surface or a percentage of the soil surface is left exposed (not **vegetated**);
 - (v) The time of year when the **cultivation** activity is able to be undertaken.
- (b) Avoiding, remedying or mitigating any actual or potential effects of the discharge of sediment or sediment laden **stormwater** on the following Management Areas:
 - (i) Wetland;
 - (ii) Natural **Lake**;

- (iii) Natural Stream;
 - (iv) *Urban River and Stream* (Stream Mouths/Tidally Affected Channels, and High Value Low Disturbance Streams);
 - (v) High Use Stream; and
- (c) Requirements for environmental offset mitigation; and
 - (d) Monitoring, reporting and review requirements; and
 - (e) Consent duration.

Non Notification

Applications for controlled activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Discharges From Production Land Activities

Permitted Activities

5.5.34 Discharges from production land activities listed in (a) to (i) of this Rule onto or into land are Permitted Activities, subject to the conditions in Rule 5.5.35:

- (a) *Composting* and stockpiling of solid *vegetative material* or animal *waste* that is not decomposing at such a rate or in such a manner as to produce *leachate* which discharges from the material overland to *surface water*;
- (b) *Composting* and stockpiling of solid vegetative *waste* or animal *waste* that is decomposing and producing *leachate* on an impervious surface that collects all discharges from the material, and directs it to a treatment system. Note: Treatment of liquid *waste* must be treated in accordance with the appropriate provisions for liquid *wastes*;
- (c) *Vegetative material* related to forest harvesting and preparation;
- (d) The spreading of *vegetative material* or solid animal *waste*;
- (e) The storage of liquid contaminants from production land activities;
- (f) Discharges to land of liquid contaminants from production land activities that is less than 10m³ per *discharge system* per day;
- (g) Discharges to land of *greenhouse nutrient solution* from greenhouses with a total floor area of 1 ha or less;
- (h) The emergency land application of milk on the property from which it was produced;
- (i) Stockdip liquid contaminants disposal in accordance with the manufacturer's recommendations; or
- (j) The disposal of livestock and *offal*, using *offal holes*, shallow trenches or *composting*, except where the material originates from a commercial animal processing business, providing that material to be composted does not create odour or pest problems.

5.5.35 All Permitted Activities in Rule 5.5.34 are subject to the following conditions:

- (a) There is no discharge into any **surface water** body, or contamination of **groundwater** body;

Explanation:

*One way to avoid direct discharges into water is to leave a separation distance between the application area and waterbodies. A 20 metre separation distance from **surface water** bodies and a 100 metre separation distance from water supply bores is a useful guide, however the actual distance will be dependent on site-specific conditions (including weather) at the time of application.*

- (b) Any discharge to land shall not result in hydraulic overloading; and

Explanation:

Overland flows and/or the presence of ponding of liquid contaminants more than 5 hours after application provides evidence that hydraulic overloading has occurred. In addition, excessive levels of organic materials may lead to anoxic conditions especially if for prolonged periods.

- (c) The application rate of nitrogen from any combination of contaminants and **nitrogenous fertiliser**

- (i) onto grazed pasture shall be:

1. at a rate not exceeding the equivalent of 150kgN/ha/year and 30kgN/ha in any 31 day period in those areas underlain by aeolian sands and volcanic basalt;

(This includes Awhitu, Kaipara, Tapora, Pakiri, Omaha Flats, Pukekohe, Puni, Waiuku, Bombay and Mangere).

2. at a rate not exceeding the equivalent of 200kgN/ha/year and 50kgN/ha in any 31 day period on soils other than those stated above

Explanation:

The daily application rate is based on maximum recommended nitrogen application rates for grazed pasture that minimises leaching rates of nitrates to soil water.

- (ii) onto ground other than grazed pasture, shall be in a manner and at a rate that does not exceed the reasonable nitrogen requirements of the crop being grown.

Explanation:

Nitrogen applications at rates in excess of those described in Rule 5.5.35(c) (i) shall be considered to have complied with this rule if the application is consistent with crop uptake. This may be determined by an appropriate nutrient budget.

- (d) The discharge is not an **environmentally hazardous substance**;
- (e) The discharge shall not result in any significant adverse effects from the spread of pathogens or the attraction of pests; and
- (f) Additional condition for discharges of liquid contaminants from production land activities (Rule 5.5.34 (f) and (g)):

There shall be contingency measures in place to ensure that there is no contravention of rule 5.5.34 in the event of system failure.

Explanation:

The contingency plan shall be implemented in the event of system failure or inclement weather conditions preventing land application, and consideration must be given to alternative options of storage and/or disposal in the event that normal land application of **washwater** or liquid contaminants cannot be undertaken.

Note: Rules relating to **Fertiliser Use** are set out in Rules 5.5.38 and 5.5.39. Products discharged as part of a **waste treatment process** are not considered **fertilisers**.

Controlled Activities

5.5.36 Discharges from the activities listed in Rule 5.5.34 onto or into land which exceed the thresholds or conditions identified are Controlled Activities and the conditions specified in Rule 5.5.35 (a) to 5.5.35 (g) inclusive, shall be the standards and terms for Rule 5.5.36.

The ARC will exercise its control over the following matters under Rule 5.5.36:

- (a) The suitability of the disposal area, including consideration of adjacent land uses;
- (b) The provision of adequate equipment for the collection, treatment and disposal of any discharge;
- (c) The capacity and security of any storage, including design and construction methods and materials used;
- (d) The degree of soil contamination;
- (e) Measures to avoid, remedy or mitigate adverse effects on the following;
 - (i) the values identified in Chapter 2; and
 - (ii) the following Management Areas:
 1. High Use **Aquifers**
 2. Quality Sensitive **Aquifers**; and
 - (iii) any **surface water** body;
- (f) Monitoring requirements for the discharge.

Non Notification

Applications for controlled activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Discretionary Activities

5.5.37 Discharges from rural activities onto or into land and into water that are not specifically provided for by any rule in this plan; or is specifically provided for but does not meet the conditions, standards or terms of any rule in this chapter are Discretionary Activities.

(For Rules 5.5.37 see also Policies 5.4.1, 5.4.2, 5.4.29, 5.4.30, 5.4.31)

Fertiliser Use**Permitted Activities**

5.5.38 Subject to Rule 5.5.35(c) the application of **fertiliser** into or onto land in circumstances where it may enter water is a Permitted Activity, subject to the following conditions:

- (a) All reasonable steps (see Explanation 1 below), shall be taken to ensure that the **fertiliser** is applied in a manner, which is consistent with the relevant Code of Practice (see Explanation 2 below), to minimise the potential for nutrients from the **fertiliser** to directly or indirectly enter water;
- (b) All reasonable steps shall be taken to ensure that **fertiliser** is not directly applied within 20 metres (see Explanation 3 below) of:
 - a *Wetland Management Area*;
 - the shoreline of any **lake** in a *Natural Lake Management Area*; or
 - a stream in a *Natural Stream Management Area*.

except for hand applications for the purposes of revegetation, landscaping, horticulture and domestic use.

Explanation:

- (1) "Reasonable steps" include avoiding **fertiliser** application:
 - a. immediately preceding heavy rain (as predicted by the New Zealand Meteorological Service), which is likely to cause **fertiliser** runoff;
 - b. during high wind, which is likely to result in drift and deposition of **fertiliser** into water;
 - c. when soils are saturated;
 - d. directly over surface waterbodies, where possible.
- (2) The relevant Code of Practice for the appropriate application of **fertiliser** is The Code of Practice for Fertiliser Use (New Zealand Fertiliser Manufacturers' Research Association, August 1998 (updated 2002)).
- (3) The 20 metre separation distance is based on:
 - a. collective scientific opinion on appropriate minimum separation distance for reasonable risk reduction, taking into account a range of factors including **slope angle** and length, riparian vegetation type and width, and soil type and conditions;
 - b. the need to provide certainty to users regarding separation distances for most situations. A greater separation distance is encouraged where land management and weather conditions could result in nutrients entering water.
- (4) The application of **nitrogenous fertiliser** onto areas that do not receive discharges from production land activities is covered under Rules 5.5.38 and 5.5.39. The application of **nitrogenous fertiliser** onto areas that also receive discharges from production land activities is covered by Rule 5.5.35(c). The discharge of dairy sludge and/or farm dairy **washwater** from farm dairies is covered by the Auckland Regional Plan: Farm Dairy Discharge (ARP: FDD). Rule 6.2.1 of the ARP: FDD specifies maximum nitrogen application rates onto land.

Restricted Discretionary Activities

5.5.39 The application of **fertiliser** into or onto land in circumstances where it may enter water which does not comply with one or more of the conditions of Rule 5.5.38 is a Restricted Discretionary Activity.

The ARC shall restrict the exercise of its discretion under Rule 5.5.39 to:

- (a) Measures to prevent or minimise the potential for nutrients from the **fertiliser** to directly or indirectly enter water;
- (b) Measures to avoid, remedy or mitigate any actual or potential adverse effects resulting from the close proximity of application of **fertiliser** to any Wetland, Natural Lake, or *Natural Stream Management Area*;

- (c) Monitoring, reporting and review requirements;
- (d) Consent duration.

Explanation:

Discharges from production land activities onto or into land are managed by Rules 5.5.34 and 5.5.35 and are not considered as fertilisers.

Non Notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Contaminated Land

General Explanation:

- (1) *The remediation (or decontamination) and development of land containing elevated levels of contaminants including contaminated land may also be subject to provisions in District Plans.*
- (2) *Discharges of contaminants to air from land containing elevated levels of contaminants including contaminated land need to be authorised and comply with any relevant provisions of Chapter 4 – Air Quality of this Plan.*
- (3) *A resource consent from the ARC for land containing elevated levels of contaminants including contaminated land is only required if a discharge is occurring. Discharges include the situation where contaminants move through the soil profile and consequently may enter groundwater.*
- (4) *If soil or material from land containing elevated levels of contaminants including contaminated land is to be removed offsite it can only be disposed of at a facility or site authorised to accept such material.*
- (5) *For all of the rules in this section the preparation of investigation and other technical reports only needs to be undertaken to a scale and degree of detail commensurate with the potential effects of the discharge and the contaminants concerned and the physical conditions of the land.*
- (6) *The Rules in this section do not relate to the routine discharge of stormwater from impervious areas, the accumulation of contaminants in authorised stormwater treatment or detention devices, nor to any authorised discharge of stormwater or environmentally hazardous substances arising from an industrial or trade activity, which are covered elsewhere in this Plan.*
- (7) *The term “land containing elevated levels of contaminants” is defined in Chapter 12 of the Plan.*

Permitted Activities

Trenching, small scale disturbance and intrusive investigations

5.5.40 The discharge of contaminants to land or water arising from the trenching or the similar small scale disturbance of *land containing elevated levels of contaminants*, and intrusive investigations of land that involve chemical testing or monitoring (excluding soil fertility testing), is a Permitted Activity subject to:

- (a) The ARC is advised in writing prior to the commencement of the activity;
- (b) The discharge shall not give rise to any of the effects referred to in section 70(1) of the RMA;
- (c) Any water encountered shall be discharged or disposed of without causing more than minor adverse effects on the environment;

- (d) The duration of the trenching or disturbance activity is less than one month;
- (e) The volume of *earthworks* at any one time is less than 200m³;
- (f) Erosion and *sediment controls* are implemented in general accordance with ARC Technical Publication No. 90 'Guidelines for land disturbing activities in the Auckland Region';
- (g) The land, material or discharge shall not contain *separate phase liquid contaminants*, including *separate phase hydrocarbons*;
- (h) Any contaminated soil or materials removed from the *site* shall be disposed of at a facility or site authorised to accept such materials; and
- (i) The disturbed area is reinstated to an erosion-resistant state within one month of the completion of the works.

Explanation:

- (1) *The purpose of this Permitted Activity is to allow short duration land disturbance activities (such as trenching for services), but not land remediation, that may encounter contaminants in land on sites and for which the activity is incidental to the land use or contamination on the site.*
- (2) *If trenching or small scale land disturbance activities encounter land containing elevated levels of contaminants once those activities have already commenced, then the ARC should be advised in writing of that as soon as is reasonably practicable.*
- (3) *Investigations of land are undertaken to determine whether or not a site is contaminated and what, if any, site remediation is required. The information obtained from the notification of site investigations will assist the ARC in the delivery of its RMA Section 30(1)(ca) function which is "the investigation of land for the purposes of identifying and monitoring contaminated land". This information will be used to complement the register of land referred to in Method 5.6.23.*

Low Level Contamination

Explanation:

For land where the degree of contamination generates only low level risks to the environment or human health, the ongoing discharge of contaminants from that land is a Permitted Activity.

5.5.40A The discharge of contaminants to land or water from *potentially contaminated land* that is production land is a Permitted Activity subject to:

- (a) the land shall not previously have been used for non-primary production purposes (such as for commercial or industrial activities that may have led to the contamination of the land), nor for the dumping of chemicals;
- (b) the land shall not be redeveloped or used for non-primary production land purposes;
- (c) the discharge shall not give rise to any of the effects referred to in section 70(1) of the RMA; and
- (d) the discharge shall not have adverse effects on *potable water supplies*.

Explanation:

Production land has the same meaning as defined in the RMA. Where land that is currently rural land is to be redeveloped for urban use, then that land is subject to Rule 5.5.41. Activities that cannot comply with any other conditions of the Rule are dealt with under Rule 5.5.43.

The ARC intends to review the adequacy of this Rule once there has been some monitoring of its operation and experience of its appropriateness.

5.5.41 Other than as provided by Rule 5.5.40A, the discharge of contaminants to land or water from land is a Permitted Activity subject to:

- (a) Concentrations of target contaminants, or the 95% upper confidence limit of the mean which shall be determined in accordance with the Contaminated Land Management Guidelines No 5 Site Investigation and Analysis of Soils (MfE, February 2004), shall not exceed the greater of (i) or (ii) below:
 - (i) for in situ soil and material imported and/or deposited onto the land:
 1. the criteria specified in Schedule 10: Permitted Activity Criteria. The human health values in Schedule 10 apply unless the effects of land use on human health have been expressly authorised either through District Plan rules or a resource consent granted by a *territorial authority*. For contaminants not included in Schedule 10;
 2. the Tier 1 soil acceptance criteria for the current land use or, in the case of a proposed change in land use, the proposed land use and for the more stringent of either the *protection* of human health or sensitive *groundwater* specified in the 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand', MfE 1999; or for contaminants not included in Schedule 10 or the Petroleum Hydrocarbon guidelines;
 3. the soil quality guidelines for the current land use or, in the case of a proposed change in land use, the proposed land use in the 'Canadian Environmental Quality Guidelines', Canadian Council of Ministers of the Environment, CCME 1991 (update 2002) for the currently zoned landuse, or for contaminants not included in Schedule 10, the Petroleum Hydrocarbon guidelines or the CCME guidelines;
 4. for dieldrin and lindane only, the soil quality guidelines in "Identifying, Investigating and Managing Risks Associated with Former Sheep-dip Sites: A guide for local authorities", MfE 2006.
 - (ii) for in situ soil and material imported and/or deposited onto the land the natural *background levels* for that soil or material or the relevant *background levels* specified in ARC Technical Publication "Background concentrations of inorganic elements in soils from the Auckland region", TP153, October 2001.
- (b) The in situ soil or material historically imported shall not contain *separate phase liquid contaminants* including *separate phase hydrocarbons*.

Explanation:

- (1) 'Target contaminants' are potential contaminants identified during a non-intrusive or desk top environmental site investigation.
- (2) For the purposes of Condition (a)(i)(2) 'sensitive groundwater' is defined in section 5.2.3 of the 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand', MfE 1999.
- (3) The 'Canadian Environmental Quality Guidelines', Canadian Council of Ministers of the Environment, CCME 1991 (update 2002) have been referenced to provide criteria for a wide range of contaminants. These are to only be used for contaminants not already listed within the other Guidelines referenced in Rule 5.5.41(a)(i).
- (4) The various contaminant guidelines referred to in Rule 5.5.41(a)i and ii are attached in Schedule 11 – Compilation of acceptance guidelines.
- (5) Land that cannot comply with standards, terms and conditions (a) or (b) of Rule 5.5.41 is dealt with under either Rule 5.5.43 if it is to remain in its current state and Rules 5.5.42A or 5.5.44 if it is to be disturbed or remediated.

Petroleum Underground Storage Tanks

- 5.5.42** The discharge of contaminants to land or water from land¹ resulting from either:
- (a) underground tanks and associated underground systems used or previously used for the storage of petroleum *hydrocarbons* that are covered by the 'Guidelines for Assessing and Managing Petroleum *Hydrocarbon* Contaminated Sites in New Zealand', (MfE, 1999) is a Permitted Activity subject to (a) and (c); or
 - (b) the removal of underground tanks and associated underground systems previously used for the storage of petroleum *hydrocarbons* that are covered by the 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand', (MfE, 1999) is a Permitted Activity subject to (i)(1), (i)(2), (ii), (iii), (iv) and (v) and additionally (i)(3) once the tank removal is completed.
 - (i) The concentration of soluble contaminants shall not exceed the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) Guidelines (October 2000 version) Table 3.4.1 toxicant trigger levels for marine or freshwater, where relevant, at the level of protection for 80% of species in any of:
 1. *stormwater* discharged as overland flow from the land at the *site boundary*, excluding *stormwater* from buildings and impervious surfaces; or
 2. *surface water* within the site; or
 3. *groundwater* at the site boundary.
 - (ii) The concentration of contaminants remaining in the soil on the *site* following the removal of underground tanks and associated underground systems shall not exceed the Tier 1 soil acceptance criteria for the current land use or, in the case of a proposed change in land use, the proposed land use and for the *protection of groundwater* within a sensitive *aquifer* specified in the 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand', MfE 1999.
 - (iii) The discharge shall not contain separate phase hydrocarbons.
 - (iv) Any contaminated materials removed from the site shall be disposed of to a facility or site authorised to accept such materials.
 - (v) The tank removal investigation, remediation, validation and management processes shall be carried out in accordance with 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand', (MfE, 1999) and 'Contaminated Land Management Guidelines for Reporting on Contaminated Sites in New Zealand', (MfE, November 2003). This shall include the preparation of a tank removal report a copy of which shall be retained and provided to the ARC upon request.

Explanation:

- (1) For the purposes of Condition (2)(b) 'sensitive aquifer' is defined in section 5.2.3, page 5-3 of the 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand', MfE 1999.
- (2) Condition (2)(a)(i) is intended to capture *stormwater* which has come into direct contact with soil on the land.
- (3) The various guidelines referred to in Rule 5.5.42(2)(a) and (b) are attached in Schedule 11 – Compilation of acceptance guidelines.

¹ This Rule does not apply to land bounded by the coastal marine area and a line drawn along the middle of Pakenham Street to a point where it meets the boundary of the coastal marine area at each end.

- (4) Land that cannot comply with Rule 5.5.42 is dealt with under Rule 5.5.43 if it is to remain in its current state and Rules 5.5.42A or 5.5.44 if it is to be remediated.

Permitted Activity – discharges from the remediation of land containing contaminants to allow existing uses to continue in a sustainable manner.

5.5.42A The discharge of contaminants to land or water arising from the *remediation of land containing elevated levels of contaminants* is a Permitted Activity subject to:

- (a) The land is owned or controlled by a *territorial authority* as defined in Section 5 of the Local Government Act 2002;
- (b) The *remediation* is to enable existing land uses to meet public health or environmental *protection* criteria consistent with their current use;
- (c) The ARC is advised in writing of the *remediation* prior to the commencement of the *remediation* works. This advice shall include:
 - (i) The proposed date of commencement of the *remediation* works;
 - (ii) A (intrusive) Site Investigation Report (SIR) prepared for the *site* in general accordance with Schedule 13 (A3) - Schedules for Reporting on Contaminated Land;
 - (iii) A Remedial Action Plan (RAP) prepared for the *site* in general accordance with Schedule 13 (A4) – Schedules for Reporting on Contaminated Land;
- (d) The duration of the *remediation* works is less than 6 months;
- (e) The *remediation* works do not intersect soil that contains *separate phase liquid contaminants* including *separate phase hydrocarbons*;
- (f) Any off-site discharge of water or *stormwater* that has come into contact with land exposed during the *remediation* works meets the following:
 - (i) The soluble contaminants do not exceed the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) Guidelines (October 2000 version) Table 3.4.1 toxicant trigger levels for freshwater at the level of *protection* for 80% of species; and
 - (ii) The concentrations of contaminants in suspended sediment shall not exceed the ANZECC Guidelines (October 2000 version) Table 3.5.1 ISQG-Low trigger values for the *protection* of aquatic *ecosystems* multiplied by a factor of five (5);
- (g) The discharge shall not give rise to any of the effects referred to in section 70(1) of the RMA;
- (h) The discharge shall not have adverse effects on *potable water* supplies;
- (i) The *remediation* works either:
 - (i) Do not intersect *groundwater*; or
 - (ii) Are not likely to cause soluble contaminants in *groundwater* at the *site boundary* to exceed the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) Guidelines (October 2000 version) Table 3.4.1 toxicant trigger levels for freshwater at the level of *protection* for 80% of species;
- (j) A Site Validation Report (SVR) for the land is undertaken in general accordance with Schedule 13 (A5) - Schedules for Reporting on Contaminated Land and provided to the ARC within 3 months of the *remediation* works being completed;
- (k) Any discharges of contaminants to air as a result of the *remediation* works shall comply with the relevant provisions of Chapter 4 – Air Quality; and
- (l) Any contaminated materials removed from the site shall be disposed of to a facility or *site* authorised to accept such materials.

Explanation:

- (1) The purpose of Rule 5.5.42A is to allow the **remediation** of **sites** undertaken by a **territorial authority** to provide for their existing use in an environmentally sustainable manner. This includes **remediation** to protect the health of users of the **site** or to mitigate existing effects on the environment. This recognises that territorial authorities also have statutory responsibilities for managing **contaminated land**.
- (2) Rule 5.5.42A does not authorise the **remediation** of **sites** as part of development, redevelopment or land use change. Such **remediation** is typically of a larger scale and often results in the creation of more sensitive land uses. Accordingly, it is appropriate for such **remediation** to be subject to a higher level of control through a Controlled Activity resource consent process under Rule 5.5.44.
- (3) ARC recognises that the RAP prepared under Condition c(iii) may change as the **remediation** process progresses. Such changes will be reflected in the SVR prepared once **remediation** is completed. Land that cannot comply with Rule 5.5.42A is dealt with under Rule 5.5.44.

Controlled Activities**Contamination above Permitted Activity levels****Explanation:**

For land where the degree of contamination has the potential to generate greater than low level risks to the environment or human health, the ongoing discharge of contaminants from that land is a Controlled Activity.

5.5.43 The discharge of contaminants to land or water from **land containing elevated levels of contaminants** that does not meet the standards, terms and conditions of Rule 5.5.40A, or standards, terms and conditions (a) or (b) of Rule 5.5.41, or standards, terms and conditions (i), (ii) or (iii) of Rule 5.5.42 is a Controlled Activity subject to:

- (a) Standards and terms (i), (ii) and (iii); or alternatively
- (b) Standards and terms (i) and (iv); or alternatively
- (c) Standards and terms (i) and (v).

Standards and terms:

- (i) The resource consent applicant preparing an (Intrusive) Site Investigation Report (SIR) which shall be provided to the ARC. The SIR shall be prepared in general accordance with Schedule 13 (A3) – Schedules for Reporting on Contaminated Land to a scale and degree of detail commensurate with the potential effects of the discharge and the contaminants concerned and the physical conditions of the land. The SIR shall include a **groundwater** investigation unless such an investigation is shown to be unnecessary by a **site** specific risk assessment; and
- (ii) The concentration of soluble contaminants in any of:
 1. **stormwater** discharged as overland flow from the land at the **site boundary**, excluding **stormwater** from buildings and impervious surfaces; or
 2. **surface water** within the **site**; or
 3. **groundwater** at the **site boundary**.

shall not exceed the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) Guidelines (October 2000 version) Table 3.4.1 "Trigger values for toxicants at alternative levels of protection" for marine or freshwater, where relevant, at the level of **protection** for 80% of species.

- (iii) The concentrations of contaminants in suspended sediments entrained in *stormwater* discharged as overland flow from the land at the *site boundary*, excluding *stormwater* from buildings and impervious surfaces, shall not exceed the greater of either the criteria listed in Schedule 10 or the ANZECC Guidelines (October 2000 version) Table 3.5.1 "Recommended Sediment Quality Guidelines": ISQG-Low trigger values for the *protection of aquatic* ecosystems multiplied by a factor of five (5) except for zinc which is multiplied by a factor of two (2).
- (iv) The applicant for resource consent shall complete an environmental and human health risk assessment undertaken in accordance with Schedule 13 (A1) - Schedules for Reporting on Contaminated Land to demonstrate that the contaminated *stormwater* or *groundwater* will either meet (b) and (c) above, or will not cause significant adverse effects on human health or the environment.
- (v) The in situ soil or material imported and/or deposited onto the land shall be contained beneath a continuous *impervious layer* and shall be located above the highest seasonal *groundwater* level beneath the *site*.

The ARC shall exercise its control over the following matters under Rule 5.5.43, having regard to any relevant consents granted or required for the *site* from the relevant *territorial authority*:

1. The preparation and implementation of a Monitoring and Management Plan (MMP) for the land which specifies how the relevant standards and terms of this Rule will be complied with on an ongoing basis. The MMP shall set out any future requirements specified in an environmental and human health risk assessment prepared under (iv) above. The MMP shall be prepared by the applicant in general accordance with Schedule 13 (A6) - Schedules for Reporting on Contaminated Land to a scale and degree of detail commensurate with the potential effects of the discharge and the contaminants concerned and the physical conditions of the land;
2. Methods to avoid adverse effects on *potable water* supplies;
3. Methods to control vapour migration;
4. In relation to land, materials or discharges containing *separate phase liquid contaminants* including *separate phase hydrocarbons*, the preparation, contents and implementation of any necessary Remedial Action Plan. Having regard to the potential mobility of the *separate phase liquid contaminants* and the risk posed by any such mobility, the Remedial Action Plan shall address the level of residual *separate phase liquid contaminants* sought to be achieved and any monitoring to be undertaken;
5. The duration of the consent; and
6. The timing and nature of reviews of consent conditions.

Non-notification

Applications for controlled activities under Rule 5.5.43 will be considered without publicly notifying them in accordance with Section 95A(3) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA. However, the applications will be served on the landowner and may be served on neighbouring properties in accordance with Section 95E of the RMA.

Explanation:

Conditions (b)(i) and (c) are intended to capture *stormwater* which has come into direct contact with soil on the land.

Land containing elevated levels of contaminants that cannot comply with Rule 5.5.43 is dealt with under Rule 5.5.44 if it is to be disturbed or remediated or otherwise under Rule 5.5.44A.

Where groundwater contamination at the site boundary exceeds standard and term 5.5.43(ii)(1) the ARC will generally directly serve the application on neighbouring properties (undertake limited notification).

Sites Undergoing Land Disturbance or Remediation above Permitted Activity Levels

5.5.44 The discharge of contaminants to land or water from *land containing elevated levels of contaminants* that is undergoing *remediation* or land disturbance that does not meet the standards, terms or conditions of Rules 5.5.40, 5.5.42(b) or 5.5.42A, is a Controlled Activity, subject to the following standards and terms:

- (a) An (Intrusive) Site Investigation Report (SIR) shall be provided to the ARC. The SIR shall be prepared in general accordance with Schedule 13 (A3) - Schedules for Reporting on Contaminated Land to a scale and degree of detail commensurate with the potential effects of the discharge and the contaminants concerned and the physical conditions of the land. The SIR shall include a *groundwater* investigation unless such an investigation is shown to be unnecessary by a *site* specific risk assessment; and
- (b) A Remedial Action Plan (RAP) shall be provided to the ARC. The RAP shall state the level of residual *site* contamination sought to be achieved by the disturbance or *remediation* and any monitoring to be undertaken during the *site* disturbance or *remediation*. The RAP shall also be prepared in general accordance with Schedule 13 (A4) - Schedules for Reporting on Contaminated Land to a scale and degree of detail commensurate with the potential effects of the discharge and the contaminants concerned and the physical conditions of the land.

The ARC shall exercise its control over the following matters under Rule 5.5.44, having regard to any relevant consents granted or required for the *site* from the relevant *territorial authority*:

- (i) Methods to avoid adverse effects on *potable water* supplies;
- (ii) Methods to control vapour migration;
- (iii) The adequacy and implementation of the RAP for the land;
- (iv) The preparation and implementation of a Site Validation Report (SVR) for the land. The SVR shall be prepared by the applicant in general accordance with Schedule 13 (A5) - Schedules for Reporting on Contaminated Land to a scale and degree of detail commensurate with the potential effects of the discharge and the contaminants concerned and the physical conditions of the land;
- (v) The duration of the consent; and
- (vi) The timing and nature of reviews of consent conditions.

Non-notification

Applications for controlled activities under Rule 5.5.44 will be considered without publicly notifying them in accordance with Section 95A(3) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA. However, the applications will be served on the landowner and may be served on neighbouring properties in accordance with Section 95E of the RMA.

Explanation:

Contaminated land that cannot comply with Rule 5.5.44 is dealt with under Rule 5.5.44A.

Applicants can apply for a resource consent for *remediation* under Rule 5.5.44 and at the same time can apply for a resource consent to authorise the ongoing discharge from the *site* under Rule 5.5.43.

Restricted Discretionary Activities

Activities that do not meet the Controlled Activity rules

5.5.44A The discharge of contaminants to land or water from *land containing elevated levels of contaminants* that does not comply with the standards and terms Rule 5.5.43 or Rule 5.5.44 is a Restricted Discretionary Activity.

The ARC shall restrict the exercise of its discretion to the following matters under Rule 5.5.44A:

- (a) The particular matter of non-compliance with the standards and terms of Rule 5.5.43 or Rule 5.5.44;
- (b) Methods to avoid adverse effects on *potable water* supplies;
- (c) Methods to control vapour migration;
- (d) The preparation, adequacy and implementation of an (Intrusive) Site Investigation Report (SIR), an environmental and human health risk assessment, a Remedial Action Plan (RAP), a Monitoring and Management Plan (MMP), and a Site Validation Report (SVR) for the land prepared in accordance with the requirements of Rules 5.5.43 and 5.5.44;
- (e) The duration of the consent; and
- (f) The timing and nature of reviews of consent conditions.

Discretionary Activities

5.5.45 The discharge of contaminants to land or water from *land containing elevated levels of contaminants* including *contaminated land* that is not otherwise provided for is a Discretionary Activity.

Landfills

Note: The operation of a landfilling activity is subject to the provisions of the Auckland Regional Plan: Sediment Control (2001).

Permitted Activities

5.5.48 The discharge of contaminants onto or into land from a *cleanfill* is a Permitted Activity, subject to the following conditions:

- (a) The siting, design, installation and management shall be in accordance with 'A Guide to the Management of Cleanfills' Ministry for the Environment (2002);
- (b) It is not located in a Wetland, Natural *Lake*, Natural Stream or High Use Stream Management Area(s); and
- (c) It is not located in a floodplain or *watercourse*, an area with a high risk of instability or a site with a *slope* greater than 15°.

5.5.49 The discharge of contaminants to *groundwater* or *surface water* from a *solid waste landfill* that was lawfully being carried out and that has been closed for at least 30 years, is a Permitted Activity subject to the following conditions:

- (a) The contaminants in the discharge shall not exceed the 95 per cent trigger values for:
 - (i) freshwater; or

- (ii) marine waters where the discharge is to a saline environment that is outside of the Coastal Marine Area, as identified in the Auckland Regional Plan: Coastal;

both as specified in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000), at the downgradient edge of the *landfill* footprint; and

- (b) *Leachate* generation and discharge shall be managed through the implementation of the following measures:
 - (i) The surface of the *landfill* is capped to facilitate *surface water* runoff and to minimise ponding;
 - (ii) The final capping layer is topsoiled and planted with vegetation that will maintain groundcover to manage surface erosion and *surface water infiltration*;
 - (iii) Minimise catchment runoff entering the *landfill*; and
 - (iv) *Stormwater* drains shall be adequately maintained so as to minimise *leachate infiltration* from the *landfill* and *stormwater exfiltration* into the *landfill*.

Explanation:

The operation of landfilling operations may be subject to the Air Quality provisions set out in Chapter 4 of this Plan.

5.5.50 The discharge of contaminants to *groundwater* or *surface water* from a *solid waste landfill* that closed prior to the enactment of the Resource Management Act on 1st October 1991, is a Permitted Activity, subject to the following conditions:

- (a) The fill materials shall consist of at least 80% *cleanfill* by volume; or
- (b) The total volume does not exceed 1,000m³; and
- (c) No significant quantities of *hazardous substances* are known to have been deposited in the *landfill*;
- (d) The contaminant discharged shall not exceed the 95 per cent trigger values for:
 - (i) freshwater; or
 - (ii) marine waters where the discharge is to a saline environment that is outside of the Coastal Marine Area, as identified in the Auckland Regional Plan: Coastal;

both as specified in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000), at the downgradient edge of the *landfill* footprint; and

- (e) *Leachate* generation and discharge shall be managed through the implementation of the following measures:
 - (i) The surface of the *landfill* is capped to facilitate *surface water* runoff and to minimise ponding;
 - (ii) The final capping layer is topsoiled and planted with vegetation that will maintain groundcover to manage surface erosion and *surface water infiltration*;
 - (iii) Minimise catchment runoff entering the *landfill*; and
 - (iv) *Stormwater* drains shall be adequately maintained so as to minimise *leachate infiltration* from the *landfill* and *stormwater exfiltration* into the *landfill*.

Controlled Activities

5.5.51 The discharge of contaminants to *groundwater* or *surface water* from a closed *solid waste* landfill, which does not meet Permitted Activity conditions (Rules 5.5.49 and 5.5.50) is a Controlled Activity.

The ARC shall exercise its control over the following matters in Rule 5.5.51:

- (a) The adequacy of the measures used for *protection* from *saltwater*, freshwater and *groundwater* intrusion;
- (b) The mitigation measures necessary to protect *receiving water* quality, including such measures as containment, treatment and disposal systems, and capping design and *maintenance*;
- (c) The design and operation of *stormwater* systems;
- (d) The frequency, location and method of sampling, and the contaminants to be measured and method of measurement;
- (e) The duration of the consent; and
- (f) The timing and nature of reviews of consent conditions.

Non Notification

Applications for controlled activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Restricted Discretionary Activities

5.5.52 The discharge of contaminants onto or into land from a *cleanfill* that does not comply with the conditions of Permitted Activity Rule 5.5.48 is a Restricted Discretionary Activity.

The ARC shall restrict the exercise of its discretion to the following matters under Rule 5.5.52:

- (a) The siting, design, installation and management of the *cleanfill*;
- (b) The duration of the consent; and
- (c) The timing and nature of reviews of consent conditions.

Non Notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Discretionary Activities

5.5.53 The discharge of contaminants to *groundwater* or *surface water* from a *solid waste landfill* that is not otherwise provided for is a Discretionary Activity.

(For Rule 5.5.54 see also Policies 5.4.1, 5.4.2, 5.4.39 to 5.4.43)

Other Discharges of Contaminants to Land or Water

Permitted Activities

- 5.5.54** The discharge of *wastewater* and/or *washwater* from the following activities is a Permitted Activity (subject to the conditions in Rule 5.5.55):
- (a) Concrete/asphalt laying or reworking;
 - (b) *Drilling* activities excluding *bore* development and testing;
 - (c) Mobile cleaners (including carpets, blinds, domestic animals etc);
 - (d) The washing of vehicles, plant or machinery;
 - (e) The cleaning, *maintenance* and preparation of surfaces of buildings and associated structures (e.g. driveways, garages etc);
 - (f) The *maintenance* and repair of buildings, bridges or other structures that do not span, is immediately adjacent to, or otherwise extend over any water body;
 - (g) Road construction activities;
 - (h) The construction, installation, *maintenance, alteration*, removal or upgrading of any component of the *stormwater* or *wastewater network* that does not span, is immediately adjacent to, or otherwise extends over any water body;
 - (i) The installation, repair, *maintenance, alteration* or removal of *network utility infrastructure* that does not span, is immediately adjacent to, or otherwise extends over any water body;
 - (j) Dust suppression;
 - (k) *Site* dewatering during building construction and excavation;
 - (l) Emergency services response training activities; and
 - (m) The maintenance and cleaning of Quay Cranes.
- 5.5.55** The activities in Rule 5.5.54 are subject to the following conditions:
The discharge shall be either:
- (a) collected for reuse; or
 - (b) discharged to land so that runoff or the accumulation of contaminants does not occur;
 - (c) recycled or collected for disposal at an *authorised facility*; or
 - (d) discharged onto land resulting in runoff, including to any natural or man-made *stormwater drainage* system, where the discharge has been minimised to the greatest extent practicable, in a manner that does not give rise, after reasonable mixing, in the receiving waterbody to any or all of the following:
 - (i) the production of any conspicuous oil or grease films, scum, foams, of floatable or suspended material;
 - (ii) any conspicuous change in the colour or visual clarity;
 - (iii) a change in the natural pH of more than 1 pH unit; or
 - (iv) any significant adverse effect on aquatic life.
- 5.5.56** Discharge of dye or tracer material for investigative purposes is a Permitted Activity, subject to the following conditions:
- (a) Notice of the intended discharge shall be given to the ARC and the relevant *territorial authority* at least 12 hours before the discharge occurs;

- (b) The dye or tracer shall be of a type that is designed to be used in natural water and shall be used in accordance with manufacturer's recommendations and any relevant and recognised standards and practices.

5.5.57 The discharge of water from the following is a Permitted Activity:

- (a) Testing or emptying of pipelines, tanks or *bunds*;
- (b) A reticulated water supply system, excluding backwash water from water treatment plants;
- (c) Swimming pools, other than saltwater pools and filter backwash water, into any waterbody;
- (d) *Bore* development, testing or purging (dewatering), except for contaminated *groundwater*;
- (e) Temporary and permanent discharge of diverted uncontaminated *groundwater*;
- (f) The discharge of water used for freshwater fish farming ponds, tanks or other containment structures operating without chemical additives on a continuous flow-through basis.

5.5.58 The activities in Rule 5.5.57 are subject to the following conditions:

- (a) As far as practicable no welding residues or other debris contained within the pipeline shall be discharged to the *receiving water*;
- (b) Swimming pool water shall be discharged into a reticulated *wastewater* system where available and connection is approved by the *TA* or Local Network Operator. If a reticulated system is not available, the swimming pool shall be left uncovered and shall not be dosed with chemical additives for at least 14 days before the discharge;
- (c) The contaminant discharged shall not either by itself or in combination with other contaminants after reasonable mixing exceed the greater of the 95 percent trigger values for freshwater (*groundwater*) specified in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000), or the natural *background level*, with the exception of the discharge of treated water by a network utility operator where the discharged water has been dechlorinated and does not exceed a chlorine level of 0.02mg/L;
- (d) The discharge does not change the natural temperature of the *receiving water* by more than 3°C after reasonable mixing;
- (e) The discharge does not enter into any Wetland (excluding Wetland Management Area Number 450), Natural *Lake* or *Natural Stream Management Area* except in the case of a discharge by a network utility operator carrying out maintenance, routine operations, or emergency works on any component of a water or wastewater network and provided there are no adverse effects on the Wetland, Natural *Lake* or *Natural Stream Management Area*;
- (f) The discharge does not change the natural pH of the water by more than 1.0 pH unit after reasonable mixing;
- (g) The discharge does not cause erosion or scouring at the point of discharge or alter the natural course of the water body;
- (h) The discharge does not, after reasonable mixing, give rise to the production of:
 - (i) Any conspicuous oil or grease film, scum or foam, or floatable or suspended materials;
 - (ii) Any conspicuous change in the colour or visual clarity;
 - (iii) Any emission of objectionable odour; or

- (iv) The rendering of freshwater unsuitable for consumption by farm animals; and
- (i) The discharge does not include *washwater* used for the external cleaning of a reticulated water supply system (i.e. water discharged under Rule 5.5.54).

5.5.59 The discharge of swimming pool filter backwash water to land, in a manner that does not result in runoff into *surface water* is a Permitted Activity.

5.5.60 The discharge of geothermal water from any *site* at Parakai or Waiwera Thermal Aquifer Management Areas (as shown in Map Series 2), is a Permitted Activity, subject to the following conditions:

- (a) Any discharge of backwash water shall only take place from pools with a volume of less than 10m³;
- (b) Except as provided for by (a), the discharge shall comprise geothermal water only and shall contain no residual added chemicals;
- (c) The temperature of the discharge shall be less than 35°C;
- (d) The discharge shall be less than 100m³ per day;
- (e) The discharge shall not be directly into any water body and if directed to a territorial *stormwater* system, shall occur through a connection approved by the owner and/or operator of that *stormwater* system.

5.5.61 Any discharge from a New Zealand Defence Force weapons system to land within areas designated for "Defence Purposes" is a Permitted Activity, subject to the following conditions:

- (a) Any unexploded munitions are located and destroyed as soon as practicable;
- (b) Any metallic debris is removed from *site* where practicable;
- (c) The discharge does not result in the contamination of other land not designated for defence purposes;
- (d) The discharge does not result in the contamination of *groundwater* used by other parties; and
- (e) The discharge does not lead to contamination of *surface water*.

5.5.62 The discharge of contaminants into a waterbody that are incidental to, or derived from or generated during the normal operation of a vessel provided adverse effects are minimised to the greatest extent practicable is a Permitted Activity.

Controlled Activities

5.5.63 The discharge of *wastewater* and/or *washwater* into water or onto land where it will enter water, arising from:

- (a) the cleaning, *maintenance* and repair of buildings, bridges and other structures;
- (b) the installation, repair, *maintenance* and removal of *network utility infrastructure*;
or
- (c) the construction, installation, *alteration*, removal or upgrading of any component of the *stormwater* or *wastewater network*;

that span, is immediately adjacent to, or otherwise extend over any waterbody, is a Controlled Activity, subject to the following standards and terms:

- (i) The discharge is not permitted by Rule 5.5.54;
- (ii) The discharge does not enter any Wetland, Natural *Lake* or *Natural Stream Management Area*.

The ARC shall exercise its control over the following matters under Rule 5.5.63:

- (a) the volume and level of contamination;
- (b) the method of discharge and effects arising from the method chosen;
- (c) the provision and adequacy of equipment for the collection, treatment and disposal of any discharge; and
- (d) the requirements for and specifications of consent monitoring.

5.5.64 The discharge of wastes as a result of wet or *dry abrasive blasting* activities is a Controlled Activity, subject to the following standards and terms:

- (a) The discharge is not permitted by Rule 5.5.54;
- (b) The discharge does not enter any Wetland, Natural *Lake* or *Natural Stream Management Area*.

The ARC shall exercise its control over the following matters under Rule 5.5.64:

- (i) the duration of the discharge;
- (ii) the volume and level of contamination;
- (iii) the method of discharge and effects arising from the method chosen;
- (iv) the provision and adequacy of equipment for the collection, treatment and disposal of any discharge;
- (v) the notification of affected parties prior to works commencing; and
- (vi) the requirements for and specification of consent monitoring.

5.5.65 The discharge of geothermal water at Parakai or Waiwera Thermal *Aquifer* Management Areas (as shown in Map Series 2) that does not comply with Permitted Activity Rule 5.5.60, is a Controlled Activity, subject to the following standards and terms:

- (a) The discharge shall comprise geothermal water, with or without the addition of pool chemical treatments;
- (b) The discharge shall not contain any filter backwash water;
- (c) The contaminant discharged shall not either by itself or in combination with other contaminants exceed the 95 per cent trigger values for freshwater (*groundwater*) specified in the ANZECC (2001) Water Quality Protection Guidelines;
- (d) The temperature of the discharge shall be less than 35°C;
- (e) The discharge after reasonable mixing does not change the natural temperature of the *receiving water* by more than 30°C;
- (f) The discharge after reasonable mixing does not change the natural pH of the water by greater than 1.0 pH unit;
- (g) The discharge does not cause erosion or scouring at the point of discharge or cause downstream channel erosion or alter the natural course of the water body; and
- (h) The discharge does not result in significant flooding.

The ARC shall exercise its control over the following matters:

- (i) the volume, rate and frequency of any discharge;
- (ii) the method of discharge and the effects arising from the chosen method;
- (iii) the quality of any discharge including methods for the treatment and disposal of contaminants, including pool treatment chemicals and filter backwash water;

- (iv) the location of any discharge point; and
- (v) the monitoring of the consent.

Non Notification

Applications for controlled activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Restricted Discretionary Activities

- 5.5.66** The discharge of geothermal water at Parakai or Waiwera that does not comply with Controlled Activity Rule 5.5.65 is a Restricted Discretionary Activity. The ARC shall restrict the exercise of its discretion under Rule 5.5.66 to the effects of failing to comply with any condition(s) of the Controlled Activity (Rule 5.5.65).

Non Notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Discretionary Activities

- 5.5.67** Any discharge of geothermal water outside of Parakai and Waiwera Thermal Aquifer Management Areas (as shown in Map Series 2) is a Discretionary Activity.
- 5.5.68** Any discharge, which is not otherwise provided for in any other rule in this chapter is a Discretionary Activity.
- (For Rules 5.5.68 – 5.5.69 see also Policies 5.4.1, 5.4.2, 5.4.44 to 5.4.48)*

5.6 Other Methods

Stormwater Diversions and Discharges & Wastewater Overflow Discharges

- 5.6.1** The ARC will encourage TAs to prepare an *Integrated Catchment Management Plan* to support any proposal for land-use intensification in the District Plan. As part of the land intensification proposal *TA's* should ensure that increases in demand are managed to remain within the existing, or an upgraded, hydraulic capacity of the *stormwater* and *wastewater networks*.
- 5.6.2** The ARC will encourage *TA's* to:
- (a) Include *low impact design* principles for *stormwater* within *structure planning* or similar planning for urban and higher intensity rural development; and
 - (b) Enable *low impact design* solutions for *stormwater* to be implemented during land development by ensuring that Council Standards and Codes of Practice facilitate these concepts.
- 5.6.3** The ARC will facilitate the development of common methodologies (such as a common harbour model) amongst *stormwater* and *wastewater network utility operators* to improve understanding of environmental performance of their systems and discharges, and of their effects on *receiving environments*.

5.6.4 The ARC will consider transferring powers for the regulation of *stormwater* diversions and discharges, and minor stream works, within specific catchments to ***Territorial Authorities***, where:

- (a) The ARC and the ***Territorial Authority*** agree that a Transfer of Powers will result in the more efficient and integrated management of those activities within the specific catchment;
- (b) There is an agreed ***Integrated Catchment Management Plan*** and ***stormwater network*** discharge consent for the specific catchment, prepared in accordance with Policies 5.4.6, 5.4.10 and 5.4.11 of this Plan;
- (c) The ***Territorial Authority*** has demonstrated that it has the capability (institutional capacity and appropriately qualified and experienced personnel) to effectively implement a Transfer of Powers.

5.6.5 The ARC will continue to investigate and record the effects of *stormwater* and sediment discharges on ***receiving environments*** and make this information publicly available.

5.6.6 The effectiveness of rules relating to *stormwater* management at sites conducting an ***industrial or trade activity*** will continue to be assessed by the ARC.

5.6.7 The ARC has developed Environmental Indicators for monitoring contaminant levels in the urban Coastal Marine Area and these are contained in the Regional Plan: Coastal. The Environmental Indicators address bathing water quality, sediment quality and water quality. These indicators will be monitored or will be used by the ARC and ***stormwater and wastewater network utility operators***. Chapter 20 of the Regional Plan: Coastal identifies how this information is to be used.

Industrial or Trade Activities

5.6.7A The ARC will work with industry associations and representative groups in order to facilitate the provision of relevant and cost effective training to affected industries regarding the implementation of the provisions of this Plan.

5.6.8 The ARC will establish and maintain a publicly available register of assessors (both self assessors and independent assessors) confirmed by the ARC as having the appropriate combination of qualifications and experience to assess the implementation of Environmental Management Plans for ***Industrial or Trade Activities***.

Individuals can become registered assessors where they either:

- (a) Have passed the ARC assessor training programme; or
- (b) Are experienced practitioners in the field of industrial *site* assessments and are approved by a panel to appointed by the ARC.

An assessor's registration may be withdrawn by the ARC through assessment and recommendation by the panel.

Explanation:

- (1) *The Permitted Activity rules for Industrial or Trade Activities require periodic assessment of the activities and the implementation of their Environmental Management Plans. These assessments need to be undertaken by ARC registered individuals. Through the ARC maintaining a register of such individuals all parties will have certainty over who is properly able to undertake the assessments. There is nothing to prevent the employees of a company operating the Industrial or Trade Activity from seeking to become a registered self assessor for that particular activity.*

(2) *There is no expectation that the adequacy of Environmental Management Plans will be assessed by **Industrial or Trade Activity** assessors. For High Risk activities the adequacy of the Plans will generally be assessed by the ARC during the processing of consents for those activities and/or compliance monitoring visits. For Moderate Risk activities the adequacy of the Plans will generally be assessed by ARC during compliance monitoring visits. For other categories of activity the adequacy of the Plans may be checked by ARC if the sites of those activities are inspected in response to complaints or contamination incidents.*

5.6.8A The ARC will develop and make available the **Industrial or Trade Activity** assessor training programme referred to in Policy 5.4.18A and Other Method 5.6.8. The programme will cover a range of topics, including:

- (a) **Drainage** systems (e.g. *drainage*, treatment, location, design standards);
- (b) Site features (e.g. storage, **bunds**, roofing, refueling);
- (c) Housekeeping (e.g. loading, **stormwater** systems, **waste** treatment, historical issues, vehicle maintenance);
- (d) Spill related issues (e.g. assessment of risk, risk reduction, education);
- (e) **Waste** management issues;
- (f) Air quality issues;
- (g) Soil contamination; and
- (h) Environmental Management Plan.

Sewage Treatment and Disposal

5.6.9 The ARC will work in partnership with **TA**'s in the development and delivery of an education and training strategy and develop an advocacy role by facilitating regional forums on a regular basis for information transfer between on-site **wastewater** management industry, regulators, practitioners and system users.

5.6.10 The ARC will work in partnership with **TA**'s to develop monitoring and inspection procedures associated with **maintenance** certification under the Permitted Activity Rules 5.5.22, 5.5.23 or 5.5.24 and to report to the ARC the number of Permitted Activities assessed by that authority for the preceding 6 months.

5.6.11 The ARC will facilitate the development and implementation of a consultative forum to undertake regular reviews of new types of on-site treatment and disposal systems and the development of design guidelines for adoption by TP58. The forum will comprise as a minimum, representatives from ARC, **TA**'s, consulting engineers, system installers and the Auckland Area Health Board.

5.6.12 The ARC will establish a database of on-site **wastewater** disposal systems with the assistance of **Territorial Authorities**.

Land Management

5.6.15 The ARC will advocate **best management practices** for **soil conservation** and sustainable land management, including the following:

- (a) Advancing the integrated management of land and soil resources through liaison between landowners, resource users and tangata whenua; and
- (b) Providing input when individuals, communities, local and central government are considering the Region's land management issues.

5.6.16 The ARC will support and promote industry initiated Codes of Practice and guidelines, and help landowners prepare individual property plans that identify opportunities and risks associated with sustainable land management.

Discharges from Production Land Activities

5.6.17 The ARC will encourage public education programmes regarding sustainable re-use of *waste* from production land activities.

5.6.18 The ARC will carry out a range of activities in relation to Rural Wastes and Fertiliser Use, including;

- (a) Developing partnerships with industry, resource users and community groups to increase awareness of the adverse effects on the environment;
- (b) Undertaking and sharing research;

Providing up to date information on good management practices through publications, pamphlets, seminars, field days and workshops.

5.6.19 The ARC will, following consultation with relevant industry groups undertake further monitoring to effectively measure the state, pressure and response of the impact of various production land use activities, including *waste* disposal and discharges of *waste* from production land activities on the health, versatility, quantity, productiveness and integrity of regions land and water resources. This consultation will consider incorporating the Council compliance monitoring into established independent audit procedures.

5.6.19A The ARC will promote the use of nutrient management tools as one means of avoiding potential adverse effects on *groundwater* and *surface water* quality.

Fertiliser Use

5.6.20 The ARC will encourage the use of *fertilisers* in accordance with codes of practice promulgated by industry.

5.6.21 The ARC will promote the development of a holistic farm planning process for landowners including good farming practices that minimise adverse environmental effects.

5.6.22 The ARC will facilitate training in, and promote the use of, nutrient management practices.

Contaminated Land

5.6.23 The ARC will identify and classify in a publicly available register all land in the Auckland Region that is confirmed as contaminated by the ARC using the Contaminated Land Management Guidelines No. 4, Classification and Information Management Protocols, (MfE June 2004). This information will also be supplied to the relevant territorial local authority.

5.6.24 The ARC will assist with the development of national guidelines for the identification, assessment and management of *contaminated land*.

5.6.25 The ARC will educate the public on the potential risks associated with existing *land containing elevated levels of contaminants* including *contaminated land* and the need to avoid future contamination.

5.6.26 The ARC will undertake a proactive programme of investigating land for contamination, focusing first on those listed as high risk in the Contaminated Land Management Guidelines No. 3, Risk Screening System, (MfE February 2004).

5.6.27 The ARC will encourage the development and implementation of non-regulatory and regulatory methods by Local Authorities for the management of *contaminated land*.

- 5.6.28** Where *contaminated land* is disclosed the ARC will work proactively with Local Authorities and landowners/occupiers to determine an appropriate management or *remediation* strategy on a *site by site* basis utilising both regulatory and non-regulatory methods, with regard to any relevant industry guidelines.

Landfills

- 5.6.29** The ARC will assist *territorial authorities* and other *landfill* owners with guidance regarding the potential risks associated with discharges to *groundwater* and/ or *surface water* and the need for post-closure care to avoid, remedy or mitigate contaminant discharges.

Other Discharges of Contaminants to Land or Water

- 5.6.30** The ARC will produce and disseminate education material that details the importance of appropriately disposing of *wastewater* and *washwater* from the activities listed as Permitted Activities under Rules 5.5.54 to 5.5.60 inclusive, including acceptable methods of disposal with input and support from the industries concerned.

Stock Access

- 5.6.31** The ARC will take a long-term co-operative approach to working with landowners, Federated Farmers, Landcare Groups and other interested parties to promote the *protection* of rural streams from uncontrolled access of stock. This includes:
- education and advocacy to increase landowner awareness of the potentially adverse effects of stock in streams and the methods available to restrict stock access;
 - the use of financial incentives to support voluntary landowner initiatives to retire and protect vulnerable areas; and
 - the establishment and operation of demonstration *sites* to prove the effectiveness of a variety of practices/techniques to protect or enhance vulnerable areas while maintaining sustainable farming practices.
- 5.6.32** To support existing District Plan provisions that require the *protection* of riparian zones and the beds of *lakes* and rivers through the subdivision approval process.
- 5.6.33** To encourage the inclusion of District Plan provisions that require the *protection* of riparian zones and the beds of *lakes* and rivers through the subdivision approval process.
- 5.6.34** The ARC will work in conjunction with landowners, Landcare groups, Fonterra and all other relevant groups to encourage riparian planting of the margins of *lakes*, rivers and streams.

5.7 Anticipated Environmental Results

The following are the results anticipated from the provisions of this plan in relation to the provisions of Chapter 5 – Discharges to Land or Water.

This chapter of the plan includes a wide range of activities, including the discharges of *stormwater* and *wastewater* from *network* systems to *contaminated land* and the application of *fertilisers*. All of these activities are different and they have differing environmental effects. However all of these activities potentially contribute to degraded land and water quality which can adversely affect the natural functioning of aquatic and terrestrial *ecosystems*. Therefore while there are a number of specific results set out below the overarching anticipated result that is expected from the provisions of this section, as well as the other sections, is:

“that the values of aquatic and terrestrial *ecosystems* are maintained where they are currently high and that they are enhanced where they are degraded”

The following are the more specific results anticipated particularly for the relevant management areas.

- 5.7.1** The *maintenance* and *protection* of freshwater stream *ecosystems* and habitats and their associated riparian zones, no barriers to *fish passage*, within the *Natural Stream Management Area*, characterised by the presence of an appropriate full range of native fish and stream invertebrates including freshwater crayfish, a keystone species, along with a healthy range of native aquatic vegetation. The riparian zone will consist of a natural assemblage of healthy native plants covering a minimum zone of 40 metres either side of the *watercourse* and 600 metres in length.
- 5.7.2** That the water quality in degraded rural streams and rivers (outside of the Natural Stream Management Area) will at least be maintained and where practicable improved, characterised by reduced bacterial levels, nutrients, turbidity, temperature and increased dissolved oxygen levels and *minimum flows*. Also instream physical habitat will be extensive and diverse with stable stream banks. An increase, over time, in the diversity and abundance of native fish, invertebrates and aquatic plants is expected.
- 5.7.3** The *maintenance* and *protection* of aquatic and terrestrial *ecosystems* associated with the rural *lakes* within Natural Lake Management Area which have existing high water quality characterised by the presence of an appropriate full range of native fish and *lake* invertebrates including the freshwater crayfish, a keystone species, along with a healthy range of native aquatic plants including planktonic species. The riparian zone will consist of a natural assemblage of healthy terrestrial and wetland plants.
- 5.7.4** That the *lakes* within the Natural Lakes Management Area which have degraded aquatic and associated terrestrial *ecosystems* will, where practicable, be improved, characterised by reduced bacterial levels, nutrients, turbidity and *maintenance* of minimum water levels so that marginal emergent vegetation and wetlands are enhanced.
- 5.7.5** That the biological communities and water quality in urban streams (within the Urban River and Stream Management Area) will be maintained where it is currently good, characterised by healthy and diverse fish and invertebrate communities, stable, diverse stream channels, low levels of bacteria, nutrients, turbidity, settleable solids, contaminants, oil, foams etc, and water temperatures and normal dissolved oxygen levels.
- 5.7.6** That the biological communities and water quality in degraded urban streams (within the Urban Streams Management Area) will at least be maintained and where practicable enhanced, characterised by an increase in the abundance and diversity of fish aquatic invertebrates, reduced levels of bacteria, nutrients, turbidity, settleable solids, contaminants, oil, foams, temperature and increased dissolved oxygen levels.
- 5.7.7** The preservation and *protection* of wetlands within the Wetland Management Area and other wetlands characterised by healthy and diverse wetland flora and fauna, and normal water quality.
- 5.7.8** The improvement where practicable of degraded wetland *ecosystems* within the Wetland Management Area and other wetlands characterised by improved health and diversity of wetland flora and fauna, and water quality.
- 5.7.9** High Quality Coastal and Estuarine *ecosystems* adjacent to where streams and rivers discharge will be protected or where adverse effects are unavoidable these will be minimised characterised by low bacterial levels and contaminants in water, sediments and aquatic organisms, absence of nuisance plant growths, a normal range of turbidity, dissolved oxygen and sediment characteristics, and aquatic biota will be abundant, diverse and healthy.

- 5.7.10** Degraded Coastal and Estuarine *ecosystems* adjacent to where streams and rivers discharge will be characterised by reduced levels of bacteria and contaminants in water, sediments and aquatic organisms, reductions or absence of nuisance plant growths, a more normal range of turbidity, dissolved oxygen and sediment characteristics leading to reduced levels of adverse effects on the abundance, diversity and health of aquatic biota.
- 5.7.11** The *maintenance* and *protection* of water quality within those *aquifers* identified in the Quality Sensitive Aquifer Management Area characterised by water that is not degraded.
- 5.7.12** The recognition of the relationship of tangata whenua with the wetlands, *lakes*, and rivers of the region in accordance with Section 6 (e) of the RMA.
- 5.7.13** That the quality of urban and rural land within the region, is maintained and where practicable enhanced.
- 5.7.14** That the management of *stormwater* and *wastewater networks* is undertaken in an integrated way to ensure:
- the efficient removal of contaminants from within the urban parts of the region;
 - that the quality of the discharges is as high as practicable thereby reducing adverse effects on the aquatic and terrestrial *ecosystems* to give effect to the 'anticipated environmental results' specified above;
 - that the affordability and social and economic impacts of *network* improvements are considered through the consent process;
 - the healthy and safety of people and communities from flooding; and
 - the efficient management of flooding and overland flow so as to prevent or minimize the flooding of habitable floors.
- 5.7.15** Sustainable land use through the appropriate management or *remediation* of *contaminated land* resulting in reduced risks to human health and the environment.

