INFORMATION REQUIREMENTS FOR RESOURCE CONSENT
DISCHARGE TREATED SEWAGE EFFLUENT TO LAND

When submitting your application to the Northland Regional Council "the council" for a Resource Consent to discharge "treated sewage effluent" (wastewater) to land, you need to ensure that sufficient information is supplied in support of your application.

The council has specific forms to help you supply the required information. When applying to discharge domestic wastewater to land, please ensure all the relevant questions in AEE 7 are answered fully. Supplying this information will enable council staff to assess your application in terms of the Resource Management Act 1991, and any relevant resource management plans.

If all the necessary information is not supplied with the application then the council may return your application or request further information (pursuant to section 92 of the Resource Management Act 1991). This will lead to delays in the processing of your application.

If the effects of the proposed discharge are minor, then the council is likely to process your application without public notification provided written approvals are gained from all parties that may be adversely affected by the discharge. Details of the consultation required are presented later in this document.

If you are unable to supply the necessary written approvals from the affected parties, or if the effects of the discharge are more than minor, then the council must publicly notify the application. This can result in significant delays in the processing of your application and additional processing costs.

If you have any doubts as to who you need to provide written approvals from, or what information should be supplied with your application, then you should contact council staff to discuss the matter.

The following information relates to questions asked in AEE 7 – Discharge Treated Sewage Effluent to Land, and is provided to assist you with answering the questions.

A – Description of the Proposed Activity

In this section you should answer all the questions between **A.1-A6**.

This section relates to the design details of the selected wastewater treatment and disposal system that you are proposing to install.

Question A.1 & A.2

For each source of wastewater, the questions asked help to determine the daily volume of wastewater that is likely to be discharged to land and the appropriateness of the selected treatment and disposal system.

Question A.3

Below are some examples, taken from the Auckland Council's Technical Publication No. 58 (TP 58) 'On-site Wastewater Disposal from Households and Institutes', of estimated daily wastewater flow allowances per person for different types of wastewater sources.

These estimates can be used to determine the likely maximum daily wastewater discharge volume based on the wastewater source. If other suitable publications are used to estimate the volume of wastewater to be discharged, please provide the title of the publication on which the estimates are based.

It should be noted that if the estimated discharge volume exceeds 3,000 litres per day, a discharge to air consent is also required. If this is the case, ensure that the appropriate box on the Application Form is ticked, in addition to the "discharge to land" box.

Source	Wastewater Flow Allowance in Litres/person/day	
	On–site Rainwater Collection	Community or Bore Water Supply
Households with standard facilities (including automatic washing machine)	140	180
Households with full water reduction fixtures	115	140
Households with extra wastewater facilities (dishwashers etc)	170	220
Restaurants – dinner	20	30
– lunch	15	25
Schools (pupils and staff)	30	40
Camping Grounds – full serviced	100	130
– recreation areas	50	65

Question A.4

Septic tanks and AWTS are currently the most common generic types of wastewater treatment systems used. Septic tanks provide primary treatment of wastewater while AWTS generally provide a higher level of treatment that is termed secondary. The quality of wastewater needs to be considered when designing the disposal system and assessing the environmental effects of the discharge to land. The manufacturers of the proposed treatment system can provide the specifications to answer the questions in this section.

Question A.5

Soakage trench/bed systems are normally installed when septic tanks are used, while irrigation lines are usually associated with AWTS. This is due to the differing qualities of wastewater discharged from the treatment systems. If your proposed disposal system is an Evapotranspiration Seepage (ETS) bed system then the section relating to “Soakage trench/bed systems” should be completed. The information requested is necessary to determine whether the disposal system has been designed for the estimated quality and quantity of wastewater that is to be discharged to land. This information is considered to be the minimum that the designer of your disposal system should have provided. A diagram of the proposed disposal system showing the dimensions and layout is usually supplied by the designer and should be attached to the application form as well.

Question A.6

If it is considered necessary, the disposal area may need to be planted with plants that prefer wet soil conditions, especially if it is located in an area that has poor draining soils. Also, irrigation lines may be installed within a planted area to maximise the usable area of the property. If the area is to be covered only in grass then this should be stated as well.

B – Site Details

This section covers the physical characteristics of the site that you are proposing to discharge treated wastewater to. A detailed site investigation is essential in determining the correct soil category for the disposal area and therefore the correct design parameters for the effective operation of the disposal system. It is also necessary to determine any environmental constraints within the site that may need to be taken into account when designing the treatment and disposal system. Therefore a suitably qualified person should be employed to undertake the site investigation.

Question B.1 & B.2

It is very important that a map(s) showing the details requested and a map reference are supplied with the application form. This allows the council to locate your property and will assist in determining any potentially affected parties. While the map(s) does not have to be to scale, it should clearly show approximate separation distances between the disposal area and the identified features, plus the location and dimensions of the disposal area.

Question B.3

Self-explanatory.

Question B.4 & B.5

Most commonly the slope of the land will determine whether there is a need to install surface water or groundwater cut-off drains. These drains reduce the amount of water entering the disposal area and can help to mitigate any potential adverse environmental effects to shallow groundwater or nearby surface water.

Question B.6

Results of percolation tests are required by the council because they provide an indication of the hydraulic capacity of the disposal area. A suggested method for performing percolation tests can be found in TP 58, Appendix D. For more reliable results a constant-head test can be undertaken. A suggested method for this test can be found in the Australian/New Zealand Standard (AS/NZS 1547:2000) "On-site domestic-wastewater management", Appendix 4.1F, page 102. A description of how the percolation tests were carried out and the reasons for any variations from the suggested methods should accompany the application form.

Question B.7-B.9

Investigation holes or pits should be used to determine the groundwater level and soil profile of the proposed disposal area. The depth of the investigation holes/pits should be at least **2 metres below the base of the proposed disposal system** i.e. if 450 mm deep trenches are to be installed, then the investigation hole should have a depth of at least 2.45 metres. If groundwater is intercepted before the required depth then further investigation may not be possible. When the site investigation is carried out during the summer months, the likely winter groundwater level will have to be estimated. A method for this can be found in TP 58, Appendix C "Assessment of Soil Characteristics", Section 5. The soil profile should provide at least a description of the soil colour, texture and structure of each individual soil horizon within the investigation hole or pit. Suggested procedures for such descriptions can be found in TP 58, Appendix C "Assessment of Soil Characteristics" and AS/NZS 1547:2000, Appendix 4.1D "Site and Soil Properties", page 95.

Question B.10

The correct determination of the soil category is one of the most important factors in the design of the disposal system because it dictates the final design-loading rate to be used. The soil category selection process should take into account the results of the site investigation and the answers to questions B3 to B9. The soil categories listed have been taken from AS/NZS 1547:2000, Table 4.1.1 "Determination of Soil Category", page 59, and show the soil category, its soil texture and indicative drainage class. Table 4.1.1 also includes information on soil structure and indicative permeability for each soil category.

C – Assessment of Environmental Effects

In this section you need to consider what the effects of your proposed discharge to land will be on the surrounding environment. For the purposes of this section you will need to consider the effects of your proposed discharge to land under the "*worst case scenario*". This is likely to be when the discharge volume is greatest, the soil moisture content of the disposal area is high and the groundwater level is elevated. This type of scenario will generally occur in Northland during the winter months.

Please note the word *"environment"* includes other groundwater users, surrounding groundwater resource, surface water, land and local iwi. The information below will help you answer the questions of this section.

Questions C.1

If written approval cannot be gained from all affected parties, i.e. bore owners within 20 metres of your disposal area, then you will need to assess what effect your discharge could have on the water quality of those groundwater bores. Factors to consider when making this assessment should include the level of treatment the wastewater has received prior to discharge, the wastewater disposal system, the soil category of the disposal area and the depth at which water is being taken at in the neighbouring groundwater bores. Mitigation measures may include improved wastewater treatment prior to discharge to land, surface and/or groundwater cut-off drains, planting of the disposal area or monitoring of the groundwater for any adverse effects from the discharge.

Question C.2

To assess the potential for more than minor contamination of groundwater quality occurring as a result of your proposed discharge to land, you will need to consider the depth to the winter groundwater level, the duration of the highest winter groundwater level, the soil category of the disposal area, the daily maximum discharge volume and the treatment and disposal system that has been selected. This will help determine the level of treatment the discharged wastewater receives as it moves through the unsaturated soil layers prior to entering any groundwater. The potential for more than minor contamination to groundwater quality is likely to increase if the groundwater resource is easily accessible and is currently being used as a source of water.

Question C.3 & C.4

This question does not relate to the possibility of surface water contamination from the overland flow of wastewater from the disposal area. If the disposal system has been designed correctly this event should not occur. This question relates to the contamination of surface waters that may occur as a result of the discharged wastewater moving laterally through soil layers to then enter a nearby watercourse. To assess the potential for more than minor contamination occurring, you will need to consider the same factors as in Question C.2 plus the horizontal separation distance to any nearby watercourses.

Question C.5

Tick the boxes that correspond to the parties with whom you have consulted regarding your proposed discharge. The council can advise you of those parties considered to be “affected” and can also supply you with a list of appropriate iwi contacts.

If you have any queries relating to information requirements, please contact the Northland Regional Council.

Northland Regional Council offices:				
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