

*Pursuant to the Resource Management Act 1991, the Northland Regional Council
(hereinafter called "the council") does hereby grant a Resource Consent to:*

FAR NORTH DISTRICT COUNCIL, PRIVATE BAG 752, KAIKOHE 0400

To carry out the following activities associated with the operation of a wastewater treatment system receiving wastewater from Paihia, Haruru Falls and Opuia, at Waitangi Forest, on Pt Lot 1 DP 137183 Blk III Kawakawa SD:

- AUT.001108.01.05:** To discharge treated wastewater to an unnamed tributary (Waitangi Wetlands) of the Kerikeri Inlet, at or about location coordinates 1692980E 6098110N
- AUT.001108.02.04:** To discharge contaminants to land via seepage from the base of a treatment system, at or about location coordinates 1693350E 6097950N.
- AUT.001108.03.02:** To discharge contaminants to air, at or about location co-ordinates 1693350E 6097950N.

Subject to the following conditions:

AUT.001108.01 and AUT.001108.02.03: DISCHARGES TO WATER AND GROUND

- 1 The quantity of wastewater inflow into the treatment system shall not exceed 2,700 cubic metres per day, as calculated using average daily dry weather flow. For compliance purposes, the "average daily dry weather flow" shall be calculated in accordance with the details provided in Schedule 1 (**attached**).
- 2 The Consent Holder shall minimise, as far as practicable, any increase in the quantity of wastewater discharged as a result of stormwater inflow and infiltration into the sewage reticulation network and treatment system. This shall include the prevention, as far as is practicable, of stormwater run-off from the surrounding land entering the treatment system.
- 3 The Consent Holder shall install and maintain flow measuring devices each with a measurement error of $\pm 5\%$ to measure the volume of wastewater:
 - (a) Inflow to the wastewater treatment system;
 - (b) Sub condition 3 (b) deleted.
 - (c) Discharged to the modified wetland.

- 4 The Consent Holder shall keep a written record of the daily volume of wastewater through the flow measuring devices required by Condition 3, in accordance with Schedule 1 (**attached**). A copy of these records shall be forwarded to the Northland Regional Council in accordance with Schedule 1 (**attached**), and also immediately upon request by the Northland Regional Council's assigned Monitoring Officer.
- 5 The Consent Holder shall test the electronics of the meters required by Condition 3, at least annually to ensure that the specified accuracy is maintained. Written verification from a suitably qualified person that the meters have been tested during the previous 12 month period and meet the specified accuracy shall be forwarded to the Northland Regional Council by 1 May each year.
- 6 By 31 April 2015, all wastewater shall receive treatment within a fully commissioned and operating treatment process specifically designed to reduce the concentration of total ammonia within the treated wastewater prior to it entering the receiving wetland.
- 7 The Consent Holder shall provide a written report on progress as at 30 November 2014 with the upgrade required by Condition 6, and the expected date for the upgrade to be fully operational, to the Northland Regional Council by 5 December 2014.
- 8 The Consent Holder shall notify the Northland Regional Council in writing of the date that the upgrade required by Condition 6 will be fully commissioned and operational, at least one week beforehand.
- 9 Once the upgrade required by Condition 6 is fully operational, the quality of the treated wastewater, as measured at the final outlet from the treatment system prior to discharge, shall meet the following:

Determinand	50 th percentile	90 th percentile
Total suspended solids (grams per cubic metre)	60	90
Carbonaceous Biochemical Oxygen Demand (grams per cubic metre)	30	40
Total Ammonia Nitrogen (grams per cubic metre)	2	4
Total Nitrogen (grams per cubic metre)	30	40
Escherichia coli per 100 millilitres	1500	10000

Compliance with the 50th and 90th percentile concentrations shall be in accordance with Section 3 of Schedule 1 (**attached**).

In addition, the dissolved oxygen concentration shall be 2 grams per cubic metre or greater and the pH shall be 6.5 or greater.

- 10 The Consent Holder shall at all times provide a sampling port for the collection of treated wastewater samples from the outlet of the treatment system.
- 11 Deleted.
- 12 Deleted.

13 The exercise of these consents shall not cause any of the following effects on the quality of the receiving wetland, as measured at NRC Sample Site 100251 (upstream end of Te Wairoa Road culvert):

- (a) The pH shall be within the range of 6.0 to 9.0;
- (b) The natural colour and clarity of the waters shall not be changed to a conspicuous extent;
- (c) There shall be no conspicuous oil or grease films, scums or foams, floatable or suspended materials, nor emissions of objectionable odour;
- (d) Any significant adverse effects on aquatic life;
- (e) Until such time as the upgrade required by Condition 6 is fully operational, the concentration of total ammonia nitrogen ($[\text{NH}_3 + \text{NH}_4\text{-N}]$) based on any single sample, shall not exceed:

pH	Total Ammonia Nitrogen ($[\text{NH}_3 + \text{NH}_4\text{-N}]$) (grams per cubic metre)
6.5	48.8
6.6	46.8
6.7	44.6
6.8	42.0
6.9	39.1
7.0	36.1
7.1	32.8
7.2	29.5
7.3	26.2
7.4	23.0
7.5	19.9
7.6	17.0
7.7	14.4
7.8	12.1
7.9	10.1
8.0	8.40
8.1	6.95
8.2	5.72
8.3	4.71
8.4	3.88
8.5	3.20
8.6	2.65
8.7	2.20
8.8	1.84
8.9	1.56
9.0	1.32

- (f) Once the upgrade required by Condition 6 is fully operational, the concentration of total ammonia nitrogen ($[\text{NH}_3 + \text{NH}_4]\text{-N}$) shall not exceed the following:

ANZECC (2000) 95% Protection Guideline for Slightly to Moderately Disturbed Freshwater Systems

pH	Total Ammonia Nitrogen ($[\text{NH}_3 + \text{NH}_4]\text{-N}$) (grams per cubic metre)
6.0	2.57
6.1	2.56
6.2	2.54
6.3	2.52
6.4	2.49
6.5	2.46
6.6	2.43
6.7	2.38
6.8	2.33
6.9	2.26
7.0	2.18
7.1	2.09
7.2	1.99
7.3	1.88
7.4	1.75
7.5	1.61
7.6	1.47
7.7	1.32
7.8	1.18
7.9	1.03
8.0	0.90
8.1	0.78
8.2	0.66
8.3	0.56
8.4	0.48
8.5	0.40
8.6	0.34
8.7	0.29
8.8	0.24
8.9	0.21
9.0	0.18

- 14 A survey of the vegetation species in the wetland area between the discharge point from the wastewater treatment system's constructed wetland and NRC Sample Site 100251 (upstream end of Te Wairoa Road culvert) shall be undertaken by a suitably qualified and experienced person. A written report on the vegetation survey shall be provided to the Northland Regional Council by 5 December 2014 and shall include the following:

- (a) The survey methodology used;
- (b) The species of vegetation present;
- (c) The extent of eutrophic wetland vegetation species; and
- (d) A programme for resurveying the extent of eutrophic wetland vegetation species over the term of this consent.

The results of this survey shall form the baseline for ongoing monitoring, in accordance with Schedule 1 (**attached**), of any change to the extent of eutrophic wetland vegetation that may occur as a result of the exercise of this consent.

AUT.001108.03: DISCHARGE TO AIR

- 15 The exercise of this consent shall not result in the discharge of contaminants which are deemed by a Monitoring Officer of the Northland Regional Council to be noxious, dangerous, offensive or objectionable at or beyond the boundary of the area legally occupied by the wastewater treatment system.

GENERAL CONDITIONS APPLYING TO ALL CONSENTS

- 16 The Consent Holder shall maintain the treatment system so that it operates effectively at all times, and a written record of all maintenance undertaken shall be kept. A copy of this record shall be forwarded to the Northland Regional Council immediately on written request.
- 17 The Consent Holder shall monitor the exercise of these consents in accordance with Schedule 1 (**attached**). Changes may be made to Schedule 1 upon the prior written approval of the Northland Regional Council's Monitoring Manager.
- 18 The Consent Holder shall, for the purposes of adequately monitoring the consent as required under Section 35 of the Act, on becoming aware of any contaminant associated with the Consent Holder's operations escaping otherwise than in conformity with this consent:
- (a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain such escape; and
 - (b) Immediately notify the Northland Regional Council by telephone of an escape of contaminant; and
 - (c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and
 - (d) Report to the Northland Regional Council in writing within one week on the cause of the escape of the contaminant and the steps taken or being taken to effectively control or prevent such escape.

For telephone notification during the Northland Regional Council's opening hours (8am to 5pm), the Northland Regional Council's assigned Monitoring Officer for these consents shall be contacted. If that person cannot be spoken to directly, or it is outside of the Northland Regional Council's opening hours, then the Environmental Emergency Hotline shall be contacted.

19 The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions annually during the month of May for any one or more of the following purposes:

- (a) To deal with any adverse effects on the environment that may arise from the exercise of the consents and which it is appropriate to deal with at a later stage, or
- (b) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

The Consent Holder shall meet all reasonable costs of any such review.

EXPIRY DATE: 30 APRIL 2034

The original resource consents dated 14.12.2018 were authorised by Stuart Savill under delegated authority from the council. This change (deletion) to consent Conditions 11, 12 and 7. (c) of Schedule 1 are granted this Twenty Sixth day of February 2020 under delegated authority from the council by:



Paul Maxwell
Coastal & Works Consents Manager

SCHEDULE 1

MONITORING PROGRAMME

The Consent Holder, or its authorised agent, shall undertake the following monitoring:

1. WASTEWATER VOLUMES

The Consent Holder shall keep a written record of the daily, midnight to midnight, wastewater flows through the meters required by Condition 3 of this Consent.

The average dry weather flow shall be a “rolling” (moving) average calculated using the recorded inflow volumes to the wastewater treatment system from the 30 most recent “dry weather flow” days. For the purposes of this calculation, a “dry weather flow day” is any day on which there is less than 1 millimetre of rainfall and that day occurs after three consecutive days, each day of which has had less than 1 millimetre of rainfall.

The daily rainfall shall be taken from the Northland Regional Council’s automatic rainfall station named Veronica Channel at Opuā. This data can either be downloaded from the Northland Regional Council’s website or supplied by the Northland Regional Council on request.

2. WASTEWATER AND RECEIVING WATER QUALITY

The following sampling and analyses shall be undertaken on one occasion each calendar month.

A composite* wastewater sample shall be collected from:

- (a) The final outlet of the treatment system (NRC Sampling Site 100250); and
- (b) At the upstream end of the culvert on Te Wairoa Road (NRC sampling Site 100251).

The composite samples shall be analysed for the following:

Escherichia coli		
Carbonaceous Demand	Biochemical	Oxygen
Total Suspended Solids		
Total Ammonia Nitrogen		
Total Nitrogen		

**A sample made up of equal volumes from three samples taken at least one minute apart during the same sampling event.*

Temperature, pH and dissolved oxygen concentration shall be recorded in the composite sample using an appropriate meter, and in accordance with standard procedures.

3. COMPLIANCE WITH CONDITION 9

Compliance with the 50th and 90th percentile values shall be determined over a fixed 12 month period. The 50th and 90th percentile values shall be calculated using the 12 “monthly” monitoring results required by Section 2 of this schedule and up to 4 monitoring results from audit sampling undertaken by the Northland Regional Council.

The **number of allowable exceedances** within a 12 month period for the 50th and 90th percentile are shown in the following table:

Number of samples	50th percentile value: Allowable number of exceedances	90th percentile value: Allowable number of exceedances
12	6	1
13	7	1
14	7	1
15	8	2
16	8	2

A non-compliance occurs when the number of exceedances for a percentile value is greater than that allowable for the number of samples used to calculate the percentile. If a non-compliance occurs, then the 12 month period for that determinand and percentile begins again. An allowable exceedance of a percentile value shall only be as a result of natural variation in the treated wastewater quality from a well maintained and effectively operating treatment system.

4. MUDFISH MONITORING

- (a) Mudfish numbers shall be monitored each year in August/September at a minimum of 4 sites in the Waitangi Wetland complex. At least one site shall be an impact site located within, or adjacent to, the discharge path and one site shall be a control site located away from the discharge path.
- (b) The Mudfish monitoring shall measure the mean catch rate and variation at each control and impact site by way of using 10 Gee minnow traps at each site for 1 night, unless clause 4(e) applies.
- (c) The location of the Gee minnow traps for 3 of the sites shall be in general accordance with Table 1 below. The fourth site shall be a control site that is determined each year. Once mudfish are located at this fourth site, then the location of the Gee minnow traps at this site shall be added to Table 1.
- (d) If the Consent Holder wishes to change the location of any site in Table 1, then the opinion of the Department of Conservation to the change shall be provided to the Northland Regional Council along with the request for the change to a site. Table 1 shall only be amended with the approval of the Northland Regional Council’s Monitoring Manager.
- (e) The approximate size and age structure of the mudfish population shall also be assessed by measuring and recording length (snout to end of tail) to the nearest 5 millimetre of each mudfish caught.
- (f) In 2018, and on a five yearly basis thereafter, the required annual monitoring shall use 10 Gee minnow traps at each site per night for three successive nights.

Table 1: LOCATIONS OF GEE MINNOW TRAPS

Site	NZTM_X	NZTM_Y
Impact Site 1	1693038	6097855
Impact Site 1	1693041	6097854
Impact Site 1	1693041	6097847
Impact Site 1	1693034	6097844
Impact Site 1	1693034	6097845
Impact Site 1	1693028	6097842
Impact Site 1	1693032	6097839
Impact Site 1	1693027	6097836
Impact Site 1	1693024	6097836
Impact Site 1	1693018	6097836
Control Site 1	1692286	6098974
Control Site 1	1692285	6098973
Control Site 1	1692276	6098965
Control Site 1	1692267	6098947
Control Site 1	1692269	6098939
Control Site 1	1692259	6098929
Control Site 1	1692257	6098921
Control Site 1	1692249	6098913
Control Site 1	1692237	6098898
Control Site 1	1692232	6098885
Control Site 2	1692552	6097914
Control Site 2	1692553	6097913
Control Site 2	1692565	6097907
Control Site 2	1692572	6097904
Control Site 2	1692585	6097893
Control Site 2	1692584	6097887
Control Site 2	1692588	6097888
Control Site 2	1692619	6097848
Control Site 2	1692618	6097844
Control Site 2	1692621	6097844

5. VEGETATION SURVEY

The programme for resurveying the extent of eutrophic wetland vegetation species over the term of this consent, as required by Condition 14, shall be assessed by Northland Regional Council for its adequacy. Once the Consent Holder and Northland Regional Council have agreed to a vegetation resurveying programme, it shall be included as part of this schedule.

The wetland vegetation species in the area between the discharge point from the wastewater treatment system's constructed wetland and NRC Sample Site 100251 (upstream end of Te Wairoa Road culvert) shall then be monitored in accordance with the agreed vegetation resurveying programme by an appropriately qualified and experienced person(s).

A written report on the results of each vegetation survey shall be prepared that includes:

- (a) The survey methodology used in accordance with the requirements of the agreed vegetation resurveying programme;
- (b) The species of wetland vegetation present;

- (c) A mapped comparison of the extent of eutrophic wetland vegetation when compared to the results of the baseline survey; and
- (d) Any observed trends in vegetation changes.

6. SAMPLE COLLECTION, SAMPLE TRANSPORT, AND LABORATORY REQUIREMENTS

All samples shall be collected in using standard procedures and in appropriate laboratory supplied containers.

All samples collected as part of this monitoring programme shall be transported in accordance with standard procedures and under chain of custody to the laboratory.

All samples collected shall be analysed at a laboratory with registered quality assurance procedures[#], and all analyses are to be undertaken using standard methods, where applicable.

[#] Registered Quality Assurance Procedures are procedures which ensure that the laboratory meets recognised management practices as would include registrations such as ISO 9000, ISO Guide 25, Ministry of Health Accreditation.

All samples are to be collected using standard methods and approved containers.

7. REPORTING

By the 15th of each month, the following information for the previous calendar month shall be forwarded to the Northland Regional Council:

- (a) The monitoring results for Sections 1 and 2 of this schedule;
- (b) An assessment of compliance with Condition 9 in accordance with Section 3 of this schedule.

This information shall be in an electronic format that has been agreed to by the Northland Regional Council.

A written report on the results of the mudfish monitoring and vegetation survey, as required by Sections 4 and 5 of this schedule respectively, shall be provided to the Northland Regional Council within one month of the required monitoring being undertaken.