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Taranaki Regional Council

APPENDIX 'G'

Uruti Wetland Management System

REMEDIATION (NZ) LTD

URUTI COMPOSTING FACILITY

WETLAND TREATMENT SYTEM

MANAGEMENT PLAN

Prepared By

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Date: July 2010

Reference:

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1. Purpose of Plan

To ensure that the Wetland Treatment System meets the conditions set out in the Discharge Permit granted under Consent 5838-2 and meets all of Remediation (NZ) Ltd's environmental warranties.

2. Resource Consent

On 27th of May 2010 the Taranaki Regional Council issued the following resource consent

5838-2 **To Discharge:**
a) waste material to for composting; and
b) treated stormwater and leachate from composting operations;
 onto and into land in circumstances where contaminates may enter
 water in the Haehunga Stream catchment and directly into an unnamed
 tributary of the Haehunga Stream between approximate {NZTN}
 1731704E-5685796N, 1733127E-56884809N, 1732277E-5685101N,
 1732451E-5684624N and 1732056E-5684927N

A copy of the resource consent and conditions is attached as Appendix 1.

3. Incoming Material Pad 2

Paunch Grass is received (approximately 5-6,000 tonnes per annum) on a 4,000m² pad, where it is pre composted for up to six months before being feed to worms at various sites in Taranaki.

A diagram of Pad 2 is attached as Appendix 2.

4. Leachate Management

Leachate form Pad 2 is collected in 400m³ capacity pond on Pad 2, from there it is pumped to the Wetland on a as required bases, this allows solids from Pad 2 to settle out before pumping.

Leachate contamination levels in and out of the Wetland are Appendix 3 & 4

5 Wetland Structure

The wetland system consists of seven separate terraces and a final pond, collectively they have a holding capacity of 5 million litres.

Section One contains a series of filter sox which are designed to remove solids before they enter the planted sections of the wetland (refer to appendix 5).

Sections 2 to 7 are planted with species appropriate to nutrient loadings as leachate passes through the system. Each terrace has a filter sox before the exit weir (refer to appendix 6).

6 Sediment Management

The collection pond on Pad 2 and Section 1 of the Wetland system are checked weekly to maintain treatment performance and avoid sludge carry over into the wetland.

Sludge from the collection pond on Pad 2 is removed on a 20% full base.

Solids that have accumulated in section one (filter sox) and the exit weirs of the wetland system are monitored weekly and cleaned out and on a 20% base. A long reach digger is used.

Sludge build up in the remaining terraces is continually monitored and to date a build up has not been significant. Constructed Wetlands generally have a life expectancy of 20-30 years, sludge build up is contributing factor to this life expectancy

A copy of the Site Diary can be seen as appendix7 Site Diary monitoring is on a weekly base

7 Plant Management

The Wetland is inspected on a weekly bases, this inspections includes;

Plant health.

Weeds.

Pest problems.

Remedial action will be taken as necessary;

Dead plants will be replaced.

Weeds removed or sprayed.

Pests eradicated or discouraged.

Plant die- back (raupo) can reduce the treatment capabilities and capacity of the wetland system, which in turn may lead to higher ammonia levels in the discharge or contribute to higher levels by the break down of plant protein. Monitoring results to date seem to indicate ammonia levels were more elevated in the initial establishment stage of the raupo section. To reduce the potential for higher levels of ammonia in the discharge the top section (above water) of the plant will be cut and removed from the wetland section at the time of the die back.

TRC monitoring along with our own site dairy records indicate the removal of Raupo should occur as soon as any die – back is recorded, this is generally in late March early April. Remediation (NZ) Ltd will carry out alternate month testing for NH 3 to assist in identifying the trigger point for Raupo die back and harvesting.

8 Other Issues

In summer water levels in the wetland are monitored to ensure they do not get too low and plants become stressed, up to 50m³ a day can be added if necessary.

Discharge volumes and durations are measured and recorded as per consent conditions.

A discharge sheet is attached as appendix 8

Appendix 1

Consent 5838-2

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council



CHIEF EXECUTIVE
PRIVATE BAG 713
42 CLOVEN ROAD
STRATHMORE
NEW ZEALAND
PHONE: 06 765 7127
FAX: 06 765 5027
www.trc.govt.nz

Please quote our file number
on all correspondence

Name of
Consent Holder: Remediation (NZ) Limited
P O Box 8045
NEW PLYMOUTH 4342

Consent Granted
Date: 27 May 2010

Conditions of Consent

Consent Granted: To discharge:
a) waste material to land for composting; and
b) treated stormwater and leachate from composting
operations;
onto and into land in circumstances where contaminants
may enter water in the Haehanga Stream catchment and
directly into an unnamed tributary of the Haehanga Stream
between approximate [NZTM] 1731704E-5685796N,
1733127E-5684809N, 1732277E-5685101N, 1732451E-
5684624N and 1732056E-5684927N

Expiry Date: 1 June 2018

Review Date(s): June 2011, June 2012, June 2013, June 2014, June 2015,
June 2016, June 2017

Site Location: 1450 Mokaui Road, Uruti

Legal Description: Sec 34 Pt Sec 4 Blk II Upper Waitara SD

Catchment: Mimi

Tributary: Haehanga

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

www.trc.govt.nz

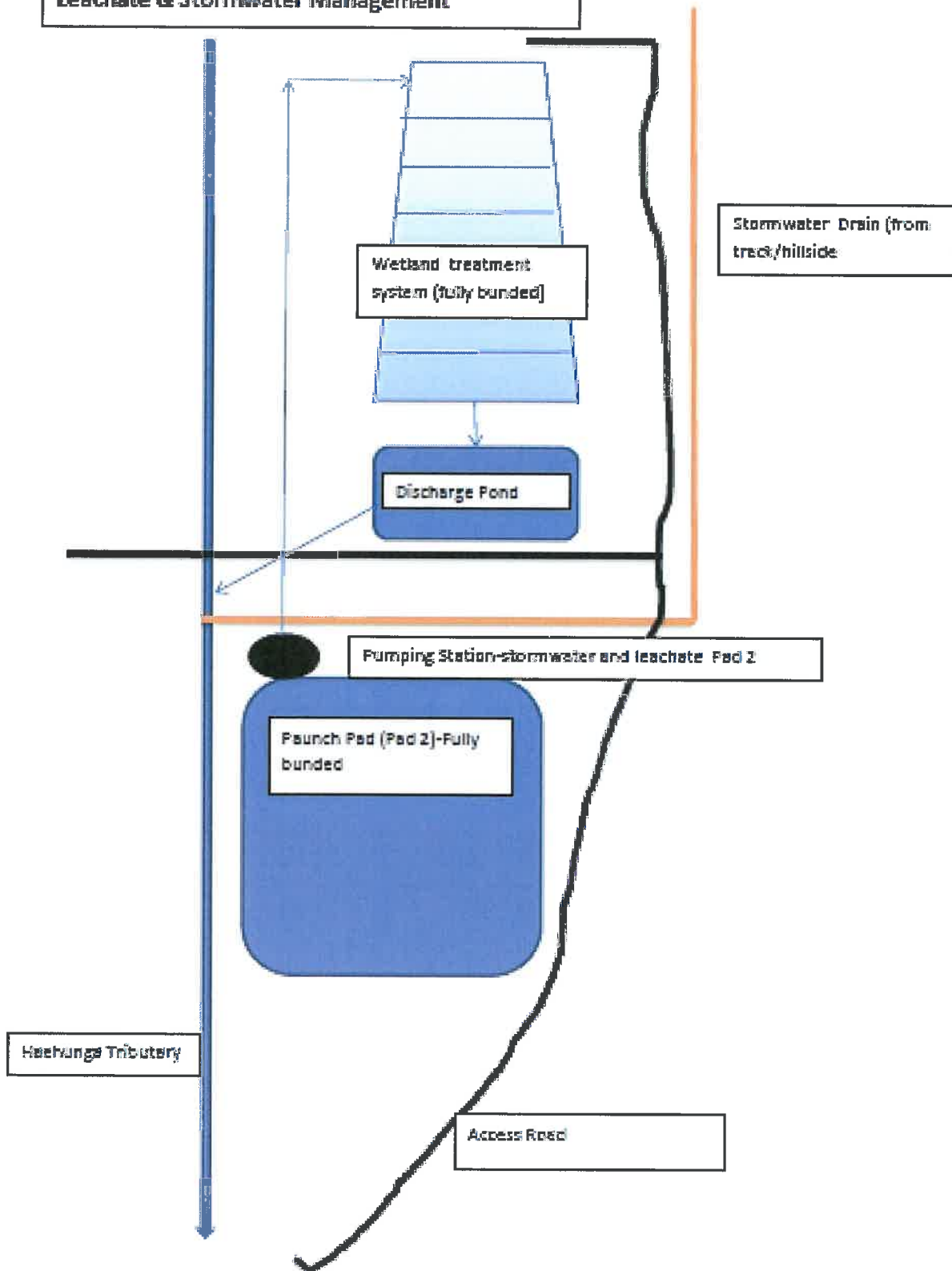
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Appendix 2

Uruti Compost Pad 2

Leachate & Stormwater Management



ESAM Web

[New Search](#)

[Site Details](#) » [Chemical Data](#) » [Sample TRC082167](#)

Site **IND000000 -- INDUSTRIAL MISCELLANEOUS.**

Location **Taranaki Region.**

Sample ID **TRC082167**

Sample Type **Wastewater**

Collected **17 Sep 2008** by **Scott Cowperthwaite**

Registered By **Scott Cowperthwaite**

Checked **2 Oct 2008** by **John Williams**

Job Code **3402 09 441**

Project(s) **SPORDMON120**

Comment **Weather: Fine NE breeze. Sample taken from the stormwater pond on pad2 (that is pumped up to the top of the wetland) at about 1732714E 5695018N. Sample was dark and turbid and had strong organic odour.**

Laboratory Results

Parameter	Method	Lab	Result	Units	Type	Batch
Ammoniacal nitrogen	NH4-1	TRC	196	g/m3 N	Lab	LNG080926113727
Bioch.Ox.Demand,5day,fit:Ninh	BODCF-2	TRC	180	g/m3.	Lab	LNG080924081426
Temperature	TEMP-1	TRC	18	Deg.C	Field	
Un-ionised ammonia.	NH3-1	TRC	4.99759	g/m3	Lab	
pH	PH-1	TRC	7.8	pH	Lab	LNG080923160053

ESAM Web

[New Search](#)

Site Details » Chemical Data » Sample TRC082168

Site **IND003008 -- PEL, URUTI**

Location **Composting wetland treated wastewater discharge.**

Sample ID **TRC082168**

Sample Type **Wastewater**

Collected **17 Sep 2008** by **Scott Cowperthwaite**

Registered By **Scott Cowperthwaite**

Checked **2 Oct 2008** by **John Williams**

Job Code **3402 09 441**

Project(s) **SPORDMON120**

Comment **Weather: Fine NE breeze. Discharge ~30 lt/min. Sample was dark and turbid and had strong organic odour.**

Laboratory Results

Parameter	Method	Lab	Result	Units	Type	Batch
Ammoniacal nitrogen	NH4-1	TRC	57.8	g/m3 N	Lab	LNG080926113727
Bioch.Ox.Demand,5day,filtr,Nin h	BODCF-2	TRC	25	g/m3.	Lab	LNG080924081426
Temperature	TEMP-1	TRC	14.7	Deg.C	Field	
Un-ionised ammonia.	NH3-1	TRC	1.15833	g/m3	Lab	
pH	PH-1	TRC	7.8	pH	Lab	LNG080923160053

Appendix 5



Appendix 6



Appendix 8

Uriti Wetland Discharge Sheet					
Date	Duration	Volume	Date	Duration	Volume
3.6.20		160 LTM			
4.1.20		140 LTM			
23.6.19		110 LTM			
1.7.19		120 LTM			
6.7.19		140 LTM			
14.7.19		150			
26.7.19		120 LTM			
30.7.19		110 LTM			
1.8.19		140 LTM			
4.8.19		200 LTM			
9.8.19		120 LTM			
12.8.19		230 LTM			
24.8.19		80 LTM			
5.9.19		100 LTM			
14.9.19		80 LTM			
23.9.19		140 LTM			
4.10.19		180 LTM			
8.10.19		160 LTM			
14.10.19		190 LTM			
20.10.19		30 LTM			
28.10.19		140 LTM			
4.11.19		60 LTM			
10.11.19		30 LTM			
16.11.19		100 LTM			
22.11.19		50 LTM			
29.11.19		130 LTM			
2.12.19		120 LTM			
5.12.19		100 LTM			
29.12.19		120 LTM			
5.1.20		100 LTM			
23/1/20		120 LTM			
26/1/20		130 LTM			
12/2/20		6 LTM			