

## **Final recommendation of Council Officers presented at the hearing (25/3/21)**

Our recommendation is that consents 5838-3.0 and 5839-3.0 to discharge contaminants from composting operations:

- to land, including in circumstances which may result in those contaminants (or other contaminants emanating from those contaminants) entering water in the Haehanga Stream catchment;
- directly into an unnamed tributary of the Haehanga Stream; and
- to air,

be approved for a period ending on 1 June 2028, subject to the following conditions:

### **General condition**

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of these consents, fixed in accordance with section 36 of the Resource Management Act 1991.

### **Special conditions**

1. These consents authorise the discharge of:
  - (a) stormwater and leachate from vermiculture operations, after treatment in the Wetland Treatment System, directly to an unnamed tributary of the Haehanga Stream;
  - (b) stormwater and leachate from composting operations by irrigation to land;
  - (c) solid organic material to land for composting;
  - ~~(d) material stored on Pad 3 as at the date of commencement of these consents ("stockpiled material") to land for use as a soil conditioner;~~
  - ~~(e)(d)~~ stormwater and leachate from stockpiled material to land via irrigation until pile removed; and
  - ~~(f)(e)~~ contaminants to air associated with site operations.
2. The exercise of these consents shall be undertaken in general accordance with the information provided in support of the application for these consents (prepared by Landpro Ltd, dated 26 June 2020). Where there is conflict between the application and consent conditions, the conditions shall prevail.

Insert Additional condition: Existing stockpiled waste must be removed

## **Acceptable wastes**

3. Subject to condition 4 below, the raw materials accepted on site shall be limited to solid compostable organic material, consisting of the following:
  - Paunch grass;
  - Animal manure from meat processing plant stock yards, and dairy farm oxidation pond solids;
  - Green vegetative wastes;
  - Mechanical pulping pulp and paper residue (excluding any pulping wastes that have been subject to chemical pulping or treated or mixed with any substance or material containing chlorine or chlorinated compounds);
  - Vegetable waste solids (being processing by-products);
  - Fish skeletal and muscle residue post filleting (free from offal); and
  - Poultry industry waste (eggs, macerated chicks and chicken mortalities);
  - Untreated sawdust;
  - Molasses;
  - Solid dairy industry waste (cheese, milk powder, casein);
  - Sausage waste ;
  - Domestic household and commercial food scraps from the New Plymouth kerbside collection (bones, fruit, vegetables, meat, bread, dairy, cooked food, paper towels, cut flowers, coffee grounds, tea leaves/bags, eggshells and seafood shells);
  - Palm kernel;
  - Prolick;
  - Food scraps from Powerco and Fonterra;
  - Diatomaceous earth mix;
  - Activated carbon;
  - Ox tails;
  - Organic waste from Brooklands Zoo;
  - Sheep and lamb skins.
4. Subject to condition (d)5 below, solid organic compostable material not listed in condition 3 may be accepted on a 'one-off' or temporary basis with the prior approval of the Chief Executive, Taranaki Regional Council ('Chief Executive'). Approval may only be given after the consent holder has made a specific request for authorisation to accept material pursuant to this condition, and provided the Chief Executive with full details of the material including:
  - (a) the type of material and its origin;
  - (b) the volume;
  - (c) the timing/duration of the discharge; and
  - (d) any other information that the Chief Executive may reasonably request in order to determine the likely effects of the discharge including chemical analysis.

5. The following materials shall not be allowed on site:
  - (a) material produced as a result of a dissolved air flotation process;
  - (b) biosolid waste;
  - (c) any waste that may contain human faecal material or body fluids;
  - (d) contaminated soil; or
  - (e) any oil and gas related waste.
6. The consent holder shall record the following information for all material accepted onto the site:
  - (a) the date and time that the material arrives;
  - (b) the type of material with reference to the list of authorised materials in condition 3;
  - (c) the weight of each type material; and
  - (d) the origin of the material.

The information required by this condition shall be provided to the Chief Executive, Taranaki Regional Council, within 24 hours of the material arriving on site.

### **Site operations**

7. The site shall be constructed and maintained to ensure that, at all times:
  - (a) stormwater runoff is prevented from entering Pad 1, Pad 2, Pad 3, the Paunch Maturation Pond, and any other area used for vermiculture activities; and
  - (b) all stormwater and/or leachate from Pad 1, Pad 2, Pad 3, the Paunch Maturation Pond, and any other area used for vermiculture activities shall be discharged to land or directed through the Wetland Treatment System.
- Note: For the purposes of this condition, the location and extent of Pads 1- 3, the Paunch Maturation Pond, and the worm beds are shown on Figure 1, attached as Appendix 1 of these consents.*
8. Pad 1, Pad 3 and all worm bed areas shall at all times be constructed, compacted and maintained, including by having a positive grade and low permeability, to ensure that runoff flows directly from them without ponding.
9. From a date no more than 60 days following the commencement of these consents the Truck Wash Pond, Irrigation Pond, Paunch Maturation Pond and any pond that may contain stormwater and/or leachate, shall be lined with material that has a permeability not exceeding  $1 \times 10^{-9} \text{ ms}^{-1}$  to prevent leakage through the bed or sidewalls.
10. From the commencement of these consents, at intervals not exceeding 24 months, the consent holder shall engage a suitably qualified and experienced person to check the permeability of the ponds referred to in condition 9, and provide a report to the Chief Executive, Taranaki Regional Council, that demonstrates compliance with that condition.

11. Within 3 hours of raw waste material being received, it shall be mixed with greenwaste on Pad 1 in the appropriate proportions for composting, and windrowed so that the composting process begins.
12. Under no circumstances shall there be any discharge of waste material to the 'collection pond', or to the material stockpiled on Pad 3.
13. Within 90 days of these consents commencing the Duck Pond, the Collection Pond and other ponds associated with Pad 3 shall be filled with inert solid material and remediated.

*Note: For the purposes of these consents, the 'Collection Pond', the Duck Pond and Pad 3 are shown on Figure 1, attached as Appendix 1 of these consents.*

Insert additional condition: minimum dissolved oxygen in the irrigation pond. Suggest 1 mg/L

### Irrigation

14. From a date no later than 60 days after these consents commencing, the consent holder shall measure and record the rate and volume of discharge from the Irrigation Pond at intervals not exceeding 1 minute to an accuracy of +5%.
15. The consent holder shall provide the Chief Executive, Taranaki Regional Council, with a document from a suitably qualified and experienced person certifying that measuring and recording equipment required by condition 14 ('the equipment') has been:
  - (a) installed and/or maintained in accordance with the manufacturer's specifications; and/or
  - (b) tested and shown to be operating to an accuracy of  $\pm 5\%$ .

The documentation shall be provided:

- (i) within 30 days of the installation of any equipment;
- (ii) at other times when reasonable notice is given and the Chief Executive, Taranaki Regional Council has reasonable evidence that the equipment may not be functioning as required by these consents; and
- (iii) no less frequently than once every five years.

16. The consent holder shall record the location and area over which wastewater is irrigated and provide the record to the Chief Executive, Taranaki Regional Council, at the end of each calendar month.

17. There shall be no discharge to water as a result of irrigating wastewater to land. To achieve this, practices to ensure there is no discharge to water shall include, but not necessarily be limited to, ensuring that:
- (a) no irrigation occurs closer than 10 metres to any surface water body;
  - (b) the discharge does not result in surface ponding that lasts longer than 30 minutes;
  - (c) no spray drift enters surface water;
  - (d) the discharge does not occur at a rate at which it cannot be assimilated by the soil/pasture system; and
  - (e) pasture cover within irrigation areas is maintained at all times.
18. Except within a mixing zone extending 30 metres downstream of the Wetland Treatment System discharge (monitoring location HHG000103), the discharges allowed by these consents shall not give rise to any of the following effects in the Haehanga Stream or any of its tributaries:
- (a) a rise in carbonaceous biochemical oxygen demand of more than 2.00 gm<sup>-3</sup>;
  - (b) a concentration of unionised ammonia greater than 0.025 gm<sup>-3</sup>;
  - (c) the presence of total recoverable hydrocarbons;
  - (d) a concentration of chloride greater than 150 gm<sup>-3</sup>;
  - (e) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
  - (f) any conspicuous change in the colour or visual clarity;
  - (g) any emission of objectionable odour;
  - (h) the rendering of fresh water unsuitable for consumption by farm animals; and
  - (i) any significant adverse effects on aquatic life.
19. After 1 June 2022 ~~2026~~ the discharges allowed by these consents shall not give rise to a concentration of:
- (a) ammonia exceeding 0.4 mg/L (annual maximum) or 0.24 mg/L (annual median); or
  - (b) nitrate nitrogen exceeding 3.5 mg/L (annual 95<sup>th</sup> percentile) or 2.4 mg/L (annual median);

in the Haehanga Stream or any of its tributaries.

## Pond Systems

20. The Irrigation Pond and the Paunch Maturation Pond shall include storage facilities that can contain a volume of wastewater adequate to manage the volume of stormwater and leachate produced, and achieve compliance with the conditions of these consents.

21. From a date no later than 60 days after commencement of these consents, the discharges to land and water shall be managed and operated in accordance with a Pond System Management Plan (the 'PSMP') that has been approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The PSMP shall detail management practices undertaken to ensure compliance with the conditions of these consents and maximise treatment capabilities of the two systems. It shall address, but not necessarily be limited to, the following matters:

- (a) how the build-up of sediment and/or sludge will be managed within the treatment systems, how the level of build-up will be monitored including factors that will trigger active management, and the frequency of undertaking the identified measures or procedures;
- (b) how overloading of each system will be prevented;
- (c) how available storage in the Pond Treatment System will be managed;
- (d) how plant die-off within the Wetland Treatment System will be managed, and the frequency and/or timing of undertaking the identified measures or procedures; and
- (e) how the effectiveness of the Wetland Treatment System in removing Nitrogen is to be demonstrated annually.

22. The discharge from the Wetland Treatment System shall meet the following standards (at monitoring site IND003008):

- (a) the suspended solids concentration shall not exceed 100 g/m<sup>3</sup>; and
- (b) the pH shall be between 6.0 and 9.0.

### **Soil quality**

23. The discharges shall be managed to ensure that no constituent in the soil in any irrigation area exceeds the maximum value shown in the following table:

Constituent	Maximum value (mg/kg unless otherwise stated)
Arsenic <sup>1</sup>	17
Barium – Barite <sup>2</sup>	10,000
Extractable Barium <sup>2</sup>	250
Cadmium <sup>1</sup>	0.8
Chromium <sup>3</sup>	600
Copper <sup>3</sup>	100
Lead <sup>1</sup>	160
Nickel <sup>3</sup>	60
Mercury	1
Zinc <sup>3</sup>	300
Sodium	460
Conductivity	290 mS/m
Chloride	700
Sodium adsorption ratio	8 (ratio)
TPH C7-C9	120
TPH C10-C14	58
TPH C15-C36	4000
Naphthalene	7.2
Pyrene	160

Benzo (a) pyrene	0.027
Benzene	1.1
Toluene	68
Ethylbenzene	53
Xylenes	48
<sup>1</sup> SCS – Rural Residential MfE 2011b; <sup>2</sup> Alberta Environment 2009; <sup>3</sup> NZWWA 2003, lowest of protection of human health and ecological receptors. (Biosolids to land)	

## Groundwater quality

24. The consent holder shall maintain all groundwater monitoring wells on site.
25. The Total Nitrogen discharged to any hectare of land shall not exceed:
- (a) 400 kilograms in any 12-month period for 'cut and carry areas'; or
  - (b) 200 kilograms in any 12-month period for any other land (including grazed pasture).
26. From a date no later than 90 days after these consents commence, irrigation of effluent shall be managed in accordance with a Nitrogen Management Plan (the 'NMP') that has been approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The NMP shall detail how effluent irrigation will be managed to ensure compliance with condition 25 above.

## Riparian planting

27. The consent holder shall undertake (and maintain) fencing and riparian planting for the entire stream length of the streams on the property, in accordance with the Riparian Management Plan for the property (RMP 90383). The additional fencing and/or riparian planting required, shall be carried out in accordance with the following programme:

Length of stream bank to be fenced and/or planted (m) (in addition to that existing on 1 March 2021)	Completion date
At least 1000	1 August 2021
At least 2000	1 August 2022
All remaining	1 August 2023

## Dust

28. The discharges authorised by these consents shall not give rise to suspended or deposited dust at or beyond the boundary of the site that is offensive or objectionable. For the purpose of this condition, discharges in excess of the following limits are deemed to be offensive or objectionable:
- (a) the dust deposition rate 0.13 g/m<sup>2</sup>/day; and/or
  - (b) suspended dust level 34 mg/m<sup>3</sup> (at all times).

Note: For the purposes of this condition, the consent holder's site is defined as Sec 34 Pt Sec 4 Blk II Upper Waitara SD.

## **Odour**

29. The discharges authorised by these consents shall not give rise to an odour at or beyond the boundary of the site that is offensive or objectionable.

*Note: For the purposes of this condition:*

- *The consent holder's site is defined as Sec 34 Pt Sec 4 Blk II Upper Waitara SD; and*
- *Assessment under this condition will be in accordance with the Good Practice Guide for Assessing and Managing Odour, [Ministry for the Environment \(2016\) in New Zealand, Air Quality Report 36, Ministry for the Environment, 2003](#).*

30. Within 90 days of the commencement of these consents, the site shall be operated in accordance with an 'Odour Management Plan' (the 'OMP') that has been approved the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The OMP shall be prepared by a suitably qualified and experienced person and shall detail the practices undertaken to ensure that odour is avoided as far as practical and there is no offensive or objectionable odour beyond the site boundary. It shall address, but not necessarily be limited to, the following matters:

- (a) identification of all activities on site which have the potential to generate odour (e.g. turning compost piles, removing sludge from ponds);
- (b) the conditions and/or time of day when activities identified under (a) above should be undertaken (e.g. during favourable weather conditions and the identification of those conditions) and/or measures that shall be implemented to avoid odours arising (e.g. containment measures);
- (c) measures undertaken to minimise odours during receiving and storing material, and throughout the composting and vermiculture processes (e.g. method(s) used to cover material once received, how anaerobic conditions are maintained);
- (d) measures undertaken to minimise odours arising in the Wetland Treatment System, and identification of the time of year and/or frequency when undertaken;
- (e) measures undertaken to minimise odours arising in the Irrigation Pond and associated treatment measures and identification of the time of year and/or frequency when undertaken; and
- (f) an assessment of alternate treatments or methods available that could further minimise odour, and the reasons that they have not been adopted.

Certification by the Chief Executive, Taranaki Regional Council may include, at the consent holder's cost, a peer review by a suitably qualified and experienced person.

31. The consent holder shall review and update the OMP required by condition 30 and provide it to the Chief Executive, Taranaki Regional Council for recertification before 31 December 2023 and at 2-yearly intervals thereafter. Recertification may include peer review by a suitably qualified and experienced person.

32. The consent holder shall maintain a monitoring device that continuously records wind speed and direction in the area of the composting activity. The data shall be provided telemetrically to the Taranaki Regional Council. If this method is not at first technically feasible, the data shall be provided to the Taranaki Regional Council at a frequency and a form advised by the Chief Executive, Taranaki Regional Council until such a time it is technically feasible to telemetric the data.

#### **Discharge of existing stockpiled waste**

33. ~~The discharge of stockpiled material to land for use as a 'soil conditioner' shall not occur within 10 metres of any surface water.~~
34. ~~The discharge of stockpiled waste to land shall only occur after:~~
- (a) ~~the consent holder has provided the Chief Executive, Taranaki Regional Council with the following information:~~
- (i) ~~the volume of material to be discharged;~~
- (ii) ~~a map or aerial image identifying the specific area where the discharge is to occur;~~
- (iii) ~~a calculation of the Nitrogen loading of the discharge proposal;~~
- (iv) ~~test results from a representative sample of the waste to be discharged showing that it meets the standards shown in the table below;~~
- (v) ~~details of the sampling procedure showing that the test sample is representative of the wastes; and~~
- (b) ~~the Chief Executive, Taranaki Regional Council, having assessed the information provided advises that the discharge may occur.~~

<b>Constituent</b>	<b>Maximum value (mg/kg unless otherwise stated)</b>
Arsenic <sup>1</sup>	47
Barium-Barite <sup>2</sup>	10,000
Extractable Barium <sup>2</sup>	250
Cadmium <sup>4</sup>	0.8
Chromium <sup>3</sup>	600
Copper <sup>3</sup>	100
Lead <sup>1</sup>	160
Nickel <sup>3</sup>	60
Mercury	4
Zinc <sup>3</sup>	300
Sodium	460
Conductivity	290 mS/m
Chloride	700
Sodium adsorption ratio	8 (ratio)
TPH C7-C9	120
TPH C10-C14	58
TPH C15-C36	4000
Naphthalene	7.2
Pyrene	160
Benzo (a) pyrene	0.027
Benzene	1.1
Toluene	68

Ethylbenzene	53
Xylenes	48
Pathogen	
E-coli	Less than 100 MPN/g
Campylobacter	Less than 1/25g
Salmonella	Less than <2 MPN/g
Human adenovirus	Less than 1 PFU/0.25g
Helminth ova	Less than 1 PFU/0.25g
<sup>1</sup> SCS—Rural Residential MfE 2011b; <sup>2</sup> Alberta Environment 2009; <sup>3</sup> NZWQA 2003, lowest of protection of human health and ecological receptors. (Biosolids to land)	

## Monitoring Plan

35.33. Within 90 days of the commencement date of these consents, the consent holder shall ensure a Monitoring Plan is prepared. The purpose of the Monitoring Plan is to identify the techniques, methodologies and procedures that will be employed to acquire data in relation to, and to monitor compliance with the conditions of these consents, and the effects of the discharges authorised by these consents. The plan shall include at least the following:

- (a) provision for site inspections to be undertaken at least once every week;
- (b) installation of an in-situ water quality monitoring sonde to measure real-time water quality of the Haehanga Stream;
- (c) camera surveillance of the site with images transmitted to the Council in real time;
- (d) ~~requirement~~ provision for cultural monitoring to be undertaken by Ngati Mutunga;
- (e) provision for E. Coli sampling;
- (f) requirements for sampling and testing to ensure compliance with the conditions of these consents;
- (g) groundwater sampling and testing to determine the risk that groundwater quality may present for surface water; and
- (h) annual reports that record the information that has been collected in accordance with the consent conditions and compliance with those conditions.

*Note: The Taranaki Regional Council assumes responsibility for the preparation and implementation of the Monitoring Plan for annual compliance purposes.*

## Contingency Plan

36.34. The consent holder shall develop and regularly update a ‘Contingency Plan’ that details measures and procedures that will be undertaken to prevent and remedy any environmental effects from a spillage or any discharge of contaminants not authorised by these consents. The plan and any amended versions shall be provided to the Chief Executive, Taranaki Regional Council.

## Site reinstatement

37.35. Within 3 months of the commencement date of these consents, the consent holder shall engage a suitably qualified and experienced person, approved by the Chief Executive, Taranaki Regional Council, to prepare and submit a Site Exit Plan (SEP) which details how

the site is going to be reinstated at the end of its life. A bond is required under condition 38, in relation to performance of the SEP.

The SEP shall address, but is not necessarily limited to, the following matters:

- (a) how the site will be reinstated so that no raw materials listed or approved under conditions 3 or 4 of these consents remain on site after the consent expires;
- (b) how the site will be reinstated so that no partially decomposed material remains on site after the consents expire;
- (c) how all stockpiled waste will be removed and appropriately disposed of;
- (d) how any remaining leachate or sludge, resulting from the operation, will be either removed from the site, buried, treated or otherwise to avoid any adverse effects on groundwater or surface water;
- (e) how irrigated soils and groundwater will be remediated;
- (f) timeframes for undertaking the activities identified in association with (a) to (e) above;
- (g) estimates of costs of reinstating the site;
- (g)(h) how the SEP addresses the concerns of Ngāti Mutunga and provides for kaitiakitanga; and
- (h) a recommended initial bond quantum. *Note: this recommendation is not final, and is subject to the process set out at condition 38 (d)(i) – (iii) below.*

The first time the SEP is drafted it shall be submitted for approval to the Chief Executive, Taranaki Regional Council, acting in a certification capacity.

The SEP shall be reviewed by Ngāti Mutunga and a suitably qualified and experienced person approved by the Chief Executive, Taranaki Regional Council, and submitted to the Chief Executive, Taranaki Regional Council for re-approval at 5-yearly intervals. The consent holder shall implement the approved SEP upon expiry of these consents.

## Bond

38.36. Within 6 months of the commencement date of these consents, the consent holder shall enter into an enforceable written agreement (**bond agreement**) to provide and maintain in favour of the Taranaki Regional Council, a cash bond or bank bond pursuant to sections 108(2)(b) and 108A of the Resource Management Act, on terms and conditions satisfactory to the Taranaki Regional Council in all respects.

The following terms apply in respect of the bond:

- (a) the bond quantum shall be sufficient to ensure compliance with condition 37 above in the event of any default by the consent holder;
- (b) any bank bond shall be in a form used by a bank registered to conduct business in New Zealand and approved by the Taranaki Regional Council;
- (c) the bond agreement shall include the terms and conditions on which the bond will be established, maintained, changed, transferred or surrendered. In the event of the Taranaki Regional Council not agreeing with the consent holder on the terms of the

- bond agreement, then the dispute shall be resolved through an agreed disputes resolution process or referred to arbitration;
- (d) the initial bond quantum shall be determined as follows:
- (i) Upon preparing the SEP, and in accordance with condition 37(g) and (h) above, a suitably qualified and experienced person (approved by the Chief Executive of the Taranaki Regional Council) who has been engaged by the consent holder shall make a recommendation as to the initial bond quantum;
  - (ii) The Taranaki Regional Council will then engage a suitably qualified and experienced person to peer review the bond quantum recommended under condition 37(h); and
  - (iii) In the event of the consent holder and the Taranaki Regional Council not reaching an agreement on the initial bond quantum, it shall be assessed by an independent bond assessor appointed by the Taranaki Regional Council, and the decision of that person will be final and binding.
- (e) the bond quantum may be reviewed and reassessed every two years from the date the initial bond quantum is lodged until a date two years after the date on which these consents have been given effect to. The purpose of the adjustment is to reflect changes in the risk profile of the activity at the site. After that, the bond quantum may be reviewed and reassessed by the consent holder and the Taranaki Regional Council at five yearly intervals for the duration of these consents. The method of review must follow the same procedure set out in condition 38(d) above.
- (f) the bond terms and quantum may also be varied or cancelled or renewed at any other time by agreement between the consent holder and the Taranaki Regional Council using the methodology described in condition 38(d);
- (g) if at any time the amount of the bond is varied under conditions 38(e) or 38(f), then the consent holder shall, within five (5) working days of the replacement bond agreement being executed, put in place a new bond for the varied amount or the additional amount required in excess of the existing bond;
- (h) if the consent is transferred to another party or person, the bond lodged by the transferor shall be retained by the Taranaki Regional Council until a replacement bond is entered into by the transferee to ensure compliance with conditions of the consents unless condition 37 has already been complied with;
- (i) at all times the consent holder shall comply with the terms of the bond or varied bond;
  - (j) the consent holder shall reimburse the Taranaki Regional Council for all reasonable costs incurred in developing the bond agreement and any subsequent reviews or reassessments;
  - (k) for the avoidance of doubt, the bond agreement may provide for the bond to be held after the expiry of these consents if the SEP is not given effect to and condition 37 not complied with.

## Review

39.37. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June each year, for any of the following purposes:

- (a) ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; or
- (b) setting of specific groundwater quality standards if testing indicates that it is reasonably required to avoid adverse effects on surface water.