Hearing Committee Report and Decision on a resource consent application by the New Plymouth District Council to discharge contaminants onto and into land and into air at the New Plymouth Wastewater Treatment Plant on a contingency basis

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Taranaki Regional Council
Private Bag 713
STRATFORD

23 March 2015

Doc#1475863

Report and decision
of a Committee of the Taranaki Regional Council which heard,
commencing at 9.30 am on 25 February 2015,
at the Taranaki Regional Council offices, Stratford,
an application by the New Plymouth District Council.

The application seeks to discharge contaminants onto and into land and into air at the New Plymouth Wastewater Treatment Plant on a contingency basis.

The application, made in accordance with the Resource Management Act 1991 [the RMA] was lodged with the Taranaki Regional Council [Council] and is referenced as application 14-09984-1.0.

Present

Commissioners:

Cr David Lean [Chairperson]
Cr Michael Joyce
Cr Neil Walker

Applicant: **New Plymouth District Council**

Kimberley Hope	[on behalf of applicant]
Graeme Pool	[on behalf of applicant]
Graeme Morris	[on behalf of applicant]
Alan Webb	Legal counsel
Andrew Britton	Legal counsel

Taranaki Regional Council Officers:

Colin McLellan	Consents Manager
Gary Bedford	Director- Environmental Quality
Sean Mooney	Consents Officer
Darlene Ladbrook	Senior Consents Administration Officer
Janette Harper	Consents Administration Officer

Submitters:

Hamish Fairey	Technix Industries Ltd
Annie Sanderson	Bubbles Ltd
Nick Collins	Bubbles Ltd
David Olsen	NPE-Tech & CMO Properties
Alan Rasmussen	Razz Trust/Betts & Bishop Landscaping
Lisa McCready	Downer NZ Ltd

Description of Proposed Activity and Existing Environment

1. The application by New Plymouth District Council (NPDC) is to discharge contaminants onto and into land and into air at the New Plymouth Wastewater Treatment Plant (NPWWTP) on a contingency basis.

2. The application is to discharge on to three separate areas, 'A', 'B' and 'C', as shown on Figure 1 below. In the original application Areas 'A' and 'B' were larger, but NPDC advised early in the hearing that they were to be reduced to that shown in Figure 1.

3. The subject site is located at the end of Rifle Range Road, 400 metres inland from the Tasman Sea (Figure 1). The Waiwhakaiho River is located within 100 metres of the western boundary and an unnamed tributary runs along the northern boundary.

Figure 1: New Plymouth Wastewater Treatment Plant site layout

4. The surrounding land use consists of farmland, a golf course to the east, coastal reserve to the north, and the Waiwhakaiho industrial area to the south and south west. Lake Rotomanu recreational area and New Plymouth Coastal Walkway are also located within 500 metres of the site.

5. NPDC also currently holds resource consent 4740 to discharge contaminants into the air from sludge drying and processing activities at the NPWWTP. The consent requires that emissions do not give rise to any odours that are offensive or objectionable at or beyond any boundaries of the site. It does not authorise emissions to air associated with the land disposal of sludge.

6. Wastewater that enters the NPWWTP is initially treated through the plant before it is discharged to the aeration basin where it is treated to create biological sludge. Surplus sludge which accumulates in the basin is removed and dewatered (to 14% dry) before being thermally dried by the Thermal Drying Facility (TDF). During this drying process the sludge is sterilised and a biosolid product, with less than 10% moisture content, is produced that is then sold as a dry fertiliser.

7. NPDC is applying to discharge dewatered sludge (14% dry solid) to land surrounding the NPWWTP during circumstances when the material produced can not be processed or used as normal and must be disposed of. For example when:
    - the TDF is not operational during maintenance or breakdown;
    - the sludge volume exceeds the operational capacity of the TDF; and
    - the TDF is being upgraded.

8. The land proposed for the discharge in this application was approximately 4.2 ha. The application states that it would therefore likely provide sufficient capacity for disposal of 10,000 wet tonnes of sludge. However, recognising the maximum proposed discharge rate of 2000 tonnes/ha, and taking account of buffer distances, NPDC agreed at the hearing that the capacity would be less than this.

9. Any sludge that is to be discharged to land is dewatered to 14% dry solids and then transported to the disposal site where it will be mixed with the soil by rotary hoeing the sludge to a depth of up to 150 mm. The sludge will be spread evenly and incorporated into the soil on the same day to reduce the potential for odour.

10. The application rate of sludge is determined by the level of heavy metals in the sludge and in the soil. By using the soil limits set in established guidelines an application rate can be determined. The application rate will be a maximum of 1000 tonnes/hectare per application, and will not normally exceed 2000 tonnes/hectare in total.

11. The disposal of sludge to land is to be undertaken in accordance with a management plan.

Regional Plan Rules

12. The relevant regional plans are the *Regional Air Quality Plan for Taranaki* (RAQP) and the *Regional Freshwater Plan for Taranaki* (RFWP).

13. The application is a discretionary activity under Rule 55 of the RAQP and 44 of the RFWP.

Notification and Submissions

14. The application was limited notified on 12 September 2014, in accordance with section 95B of the RMA. Notice was served to the following neighbours surrounding the NPWWTP:
    - Technix Group Ltd;
    - Merrilands Enterprises Ltd;
    - Bubbles Ltd;
    - AD & RJ Rasmussen;

- CMO Properties;
- Go Mobile NZ 2011 Limited (Triple R Holdings);
- ICL Properties Limited;
- Plumbtech Taranaki Ltd;
- Vickers Road Limited;
- New Plymouth Golf Club Inc;
- Ngati Tawhirikura Hapu;
- Taranaki Concrete Recyclers;
- Betts & Bishop Landscaping;
- NPE- Tech Ltd;
- Excel Refrigeration and Air Conditioning;
- Downer Group NZ; and
- Alta Copco NZ.

15. A total of 10 submissions were received from the following parties:
    - NPE-Tech Limited & CMO Properties;
    - Triple R Holdings Limited;
    - Betts & Bishop Landscaping;
    - Alan & Robyn Rasmussen;
    - Bubbles Limited;
    - Vickers Road Partnership;
    - Downer New Zealand;
    - New Plymouth Golf Club Inc (NPGC);
    - Tawhirikura Iwi; and
    - Technix Industries Limited.

16. All submissions opposed the granting of the application except NPGC which supported the proposal but expects that appropriate conditions should be placed on the consent to ensure that the odour from the discharges does not affect the users of the golf club anymore than it already does and that the health risk to members is minimised.

17. The 9 opposing submissions were on similar grounds. The key issues raised were:
    - The general effects of odour and dust on neighbours ;
    - Potential health effects from air borne pathogens;
    - Groundwater contamination;
    - Effects of the discharge on property values; and
    - The lack of alternative disposal sites.

Pre-circulated Evidence

18. Council staff prepared a report [the Officer Report] in accordance with section 42A of the RMA, which was provided to all parties before the hearing in accordance with section 41B of the RMA. The Officer Report included an assessment of the proposal under the provisions of the RMA and recommended that the discharge be allowed to occur until 1 June 2020, but that the consent itself expires in 1 June 2022.

19. The recommendation included conditions of consent including restricting the circumstances in which land disposal may occur.

20. The evidence of Mr Morris, Mr Pool and Mrs Hope was also pre-circulated.

21. None of the submitters provided any expert evidence for pre-circulation in accordance with section 41B. However the day before the hearing, Mr Collins provided a statement from a Consultant Engineer about the grading of the sludge, which the Council sent to all parties.

The Hearing

Procedural Matters

22. The Chairperson, Cr David Lean, opened the hearing and introduced the members of the Committee [the Committee].

23. Cr Lean welcomed the applicant, submitters and Council staff and asked parties to introduce themselves. He also noted that the Committee were familiar with the subject site and its general area, having visited the site recently.

24. Cr Lean outlined the hearing process, noting that submissions and pre-circulated evidence would be taken as read. He also advised that the hearing was being recorded and asked each speaker to identify themselves before speaking.

Summary of evidence heard

Applicant

25. Written evidence was presented by Mrs Hope, Mr Pool and Mr Morris on behalf of NPDC. Mr Webby presented legal submissions.

Evidence of Mr Pool

26. Mr Pool is the Manager Operations (Water and Waste) at NPDC with 20 years of experience in wastewater treatment plants. Mr Pool's evidence covered the history, operations and management of the NPWWTP. Key points of his evidence are in the following paragraphs.

27. The NPWWTP was commissioned in 1984 and was designed to allow staged increase in capacity. The original plant was designed to thicken sludge to 14% by centrifuge (subsequently by belt filter press) and it was routine practice to discharge dewatered sludge to land during this time. However, in 1999 the TDF was constructed which removed the more frequent need for land disposal by generating a marketable product.

28. A report produced in 2008 identified potential capacity issues with the NPWWTP. As a result a 30 year master plan for the plant was produced, which included future upgrades. The future upgrades were estimated and incorporated into the 2009-19 Long Term Council Community Plan.

29. There are three reasons why land disposal may be required:

- Excess load – residential sewage has fairly consistent characteristics and trade waste is controlled by NPDC Bylaws which allow for appropriate planning. The plant is susceptible to illegal discharge and if the loads exceed the 12 day buffering capacity then land disposal is required;
- Equipment failure or breakdown – The TDF is a highly mechanical and automatic process which experiences high rates of wear on moving components. The TDF is now 15 years old and is in the latter stages of its design life so it is becoming more susceptible to breakdowns; and
- Future replacement of the TDF - It will need replacement at some stage, the management of the TDF replacement will need to take into account the need for an alternative disposal option during a change-over, but as a contingency measure, disposal to land maybe required.

30. Work has gone into mitigating the risk of excess sludge being produced, including looking into new technologies to increase the plant's operational capacity and reliability.

31. Mr Pool concluded that the exercising of this consent would not be undertaken lightly and will not be selected if there are viable alternatives. His evidence has shown that NPDC is undertaking measures to minimise the risk of an event that will require land disposal and this risk will decrease with further upgrades but a contingency option is still required as part of risk management.

32. In response to questions from the committee Mr Pool advised that areas B and C together have the capacity to receive around 6 months of sludge production.

Evidence of Mr Morris

33. Mr Morris is the Optimisation Engineer in the Waste Water section at NPDC and has worked within the Council waste and waste team since 1996. Mr Morris' evidence covered the NPWWTP sludge stream processing operation and the proposed methodology for the discharge of dewatered sludge to land. Key points of his evidence are in the following paragraphs.

34. The NPWWTP has the capacity to process normal peak loads and by using available storage has a 12 day 'buffering' capacity to respond to sludge processing facility maintenance, unusually high loads or equipment failures before land disposal is required.

35. The plant receives wastewater from 6 major pumping stations and this can derive from domestic or industrial sources. The domestic waste arrives in a predictable pattern, its quantity increases at a steady rate with population growth. Whereas industrial waste is much more variable in strength and volume, trade waste permits put controls in place to ensure they are within the plant's capacity. Industrial waste accounts for 30% of the NPWWTP load with 25% of that from one trade waste customer.

36. His evidence goes into details on how the waste is treated and describes specific processes and equipment. This includes describing the redundancy and buffering capacity of each process unit and that normal maintenance requirements at the plant can be accommodated without the need of disposal to land.

37. Mr Morris provided an updated Management Plan to be considered as part of the application, and when doing so emphasised that:

- only 'fresh' dewatered sludge is to be discharged;
- any discharge will occur before 3pm each day and will be incorporated into the soil on the same day;
- dewatered sludge is to be spread out using a tractor bucket, it is then incorporated into the soil using rotary hoes or discs;
- following each application the area will be sown with grass; and
- lime will be applied if necessary to ensure that the pH is at least 5.8.

38. The method of disposal proposed is an important management technique for reducing exposure to pathogens, maximising dilution and dispersion of contaminants, and minimising losses from wind or run-off after application.

39. The plant has sufficient buffering capacity to accommodate normal variations in load, including peak loads and planned maintenance, without the need to dispose to land. The proposed application method has been derived from over 30 years of land disposal experience elsewhere and will ensure that the risk of offensive odours being produced beyond the disposal site, or pathogens being released, is low.

40. Mr Morris responded to Mr Collins' contention that the sludge was not a 'B' grade biosolid. Although the dewatered sludge has not been treated for pathogens prior to soil incorporation (as required to meet the 'B' standard) the proposed disposal method including the extended exclusion period will safeguard the immediate public health threats. This conclusion has been based on the *Public Health Guidelines for the Safe Use of Sewage Effluent and Sewage Sludge on Land (1992)* which recommends soil incorporation as a method to safeguard public health threats.

41. Council staff asked Mr Morris clarification about the testing regime for dioxin levels in the dewatered sludge and the pH of the receiving soil. Mr Morris advised that the sludge had been tested for dioxin in 2014, but he could not immediately provide further detail. Subsequently he provided laboratory reports with the information. The pH of the receiving soils is 5.6 in Areas B and C, and 5.4 in Area A. Dioxin levels are well below any level of concern.

Evidence of Mrs Hope

42. Mrs Hope is the Manager Compliance – Water and Wastes at NPDC with 16 years of experience in environmental management. Her evidence summarised the application, and proposed changes to it. She also addressed issues raised by submitters, commented on the consent conditions recommended in the Officer Report, and proposed changes to those conditions. Key points of her evidence are in the following paragraphs.

43. Changes to the application were:

- reducing the proposed disposal areas to that shown in Figure 1;
- the offer to discharge within 150 m of offsite buildings, only with approval of the occupier is withdrawn;

- the application is to discharge dewatered sludge only; and
- changes to the Management plan as described by Mr Morris.

44. The discharge sites are within the land use designation for the NPWWTP under the New Plymouth District Plan.

45. The application is for a contingency discharge, and the likelihood of a discharge being required is very low.

46. There is potential for odour, however, the likelihood of that off-site odour occurring is extremely low.

47. A discharge, as proposed, would result in a limited period when odour could be released. This period is that between when the sludge is transported to the site and when it is incorporated into the soil. To minimise this risk of odour NPDC will ensure only fresh sludge is disposed to land and will impose time limit within which the dewatered sludge has to be incorporated into the soil.

48. NPDC needs a contingency option for sludge disposal to ensure best practice and reduce the potential for adverse effects.

49. The methodology proposed ensures that the potential for noxious or offensive odour during this activity is low. The methodology has proven effective in minimising effects on air, soil and water quality at the past sites. The frequency of the activity is expected to be low and short term.

50. Prompted by a question Mrs Hope stated that disposal at the Colson Road landfill is not an option because the designation does not allow the disposal of unstabilised sludge.

Legal Submission (Mr Webb)

51. Mr Webb acted as legal counsel for NPDC, his submissions are summarised in the following paragraphs.

52. NPDC generally agrees with the Officer Report, but have some disagreement on certain conditions, as detailed in Mrs Hope's evidence, including the condition that effectively limits the duration of consent to 5 years.

53. NPDC does not dispute Mr Collins' contention that the dewatered sludge at the time of land application cannot be considered a grade 'B' biosolid as defined in *Guidelines for the safe application of Biosolids to land in New Zealand* (2003).

Submitters

Evidence of Alan Rasmussen

54. Mr Rasmussen provided verbal evidence along with survey plans of his land parcel on the immediate southern boundary of the NPWWTP. His evidence is summarised in the following paragraphs.

55. His land is currently vacant but a new commercial building is being constructed.

56. His business is a landscaping business so he stores topsoil and other landscaping material outside. He does not believe that NPDC has appropriate mitigation measures in place to ensure that pathogens do not travel over the boundary and has concern that pathogens have the potential to accumulate on the products he stores outside and sells. Mr Rasmussen believes there is a health risk in selling and using these materials if dewatered sludge is disposed adjacent to the section.

57. Odour and airborne pathogens from the discharge will create an unsafe work environment and he could have to close his business during this time. The removal of proposed Area 'A' would resolve most of his issues raised but it will not satisfy them all.

Evidence of Mr Collins

58. Bubbles Limited owns property immediately to the south of Area 'A'. Mr Collins provided written and verbal evidence. He is a retired environmental scientist with a BSc in chemistry and MSc in Marine Physics with 30 years of experience. He stated that, although he has expert qualifications he can not be considered as one in this situation because he is acting as an advocate. His evidence is summarised in the following paragraphs.

59. The evidence included a statement from Brett Eaton, a Senior Process Engineer from Cardno BTO, that the sludge proposed for disposal does not meet 'B' standard as stated in the Officer Report. The sludge would only be considered a 'B' grade biosolid once the dewatered sludge has been discharged to land and undergone a withholding period.

60. The evidence also included a statement from the Medical Officer of Health stating that because the sludge does not meet 'B' classification its disposal as proposed is not best practice.

61. Sites to the south of the NPWWTP are zoned 'Industrial C' and workplaces are based both indoors and outdoors so any buffer distances used to buildings do not take into account the outdoor workspace, leaving workers in these areas unprotected.

62. A discharge may be necessary during heavy rain and in such weather the discharge will likely lead to pathogens being transported to surface water or beyond the boundary.

63. He does not agree with the evidence supplied on groundwater and the movement of pathogens within the water table, he believes there is an unacceptable risk to public health.

64. The application should be declined, but in the event that it is granted the following consent conditions need to be included:

- All waste will comply will a minimum of 'B' grade stabilization before being applied to land,
- No discharge occurs within 225 metres of the southern boundary of the site,
- Vector control will be such that no birds or other animals carry waste outside the site boundary,

- A monitoring programme including borehole monitoring will be carried out that includes his property to ensure no contaminants are transported outside the boundary,
- Sludge will not be disposed of to land if there is rain or surface flooding at the time, and
- After incorporation into the soil, the soil shall be kept wet at all times until new grass has become established.

Evidence of Mr Olsen

65. Mr Olsen provided verbal evidence in support of NPE-Tech Ltd and CMO Properties submission. His evidence is summarised in the following paragraphs.

66. They have accepted the current odours associated with the NPWWTP, however, the proposal will see odours exceed the current levels and duration that his staff are currently subject to.

67. The application stated that there would be signage advising of the discharge but simply placing signage to warn of the risk in the area does not change the effect on air quality and may also send the wrong message to potential clients.

Presentation of Officer Report

68. Mr McLellan presented the Officer Report.

69. Mr McLellan advised that Council officers, after hearing the evidence, have modified the recommended conditions. He tabled a document with a modified set of recommended conditions and orally made further modifications. The oral changes were:

- Inclusion of a new condition requiring that 'Area A' is used only after the others areas have reached capacity; and
- Condition 8 is removed and dioxin is included in the second list of parameters in condition 7, that is, the list that allows for the provision of the most recent analysis that is more than 12 months old.

Applicant's right of reply

70. Mr Webb's reply on behalf of NPDC was brief. His key points were that NPDC wants the authority to discharge for a period of 10 years, and during major upgrades to sludge processing equipment. A shorter duration than that applied for and not allowing a discharge resulting from the TDF being replaced would impose an unfair and unreasonable burden on NPDC and the ratepayer, as they will subsequently be going down the same process in 5 years time.

Hearing closure

71. Cr Lean, on behalf of the Committee, thanked the submitters and the applicant for the information they provided and the manner in which it was presented.

72. Cr Lean noted that all evidence presented at the hearing would be carefully considered and a written decision would be issued in accordance with the timeframe in the RMA.

Principal issues in contention

73. The RMA requires the Committee to identify the principal issues in contention and the main findings of fact. The Committee determines the principal issue in contention to be the discharge of odour and airborne pathogens beyond the boundary.

Main findings of fact

74. The Committee deliberated on the application, the submissions, the Officer Report, and other evidence presented, with particular regard to the matters which it is required to address under the RMA. The evidence presented has led the Committee to the findings detailed in the following paragraphs.

75. Disposal at the Colson Road landfill could occur if the sludge is stabilised or if the designation is changed. Both options are costly but available for NPDC to pursue.

76. The fact that NPDC is investigating options for upgrading the TDF and alternative disposal sites is a significant impediment to granting any long term consent. It is clear from the evidence of NPDC staff at the hearing that the timing of any TDF upgrade is political, rather than a technical or financial, decision.

77. Regardless of the 'grading' of the discharged material in any guidelines there is no public access to the disposal areas and if managed properly the risk of pathogens being transported to nearby properties is very small. Any environmental effect resulting from a risk to public health from a discharge at any of the proposed sites is therefore less than minor.

78. Discharging only when the soil pH is at or above 5.8 is essential for avoiding adverse environmental effects, so NPDC needs to take immediate action to increase the pH to this level in anticipation of any intention to exercise the consent.

79. The proposed activity, if not managed appropriately, may result in the discharge of odour or airborne pathogens beyond the boundary during and after the dewatered sludge is disposed.

80. Taking into account that:
    - no sludge withdrawn from the main aeration basins for more that 24 hours will be discharged;
    - soil incorporation will be completed on the day of discharge;
    - there is to be comprehensive incorporation, rather than just folding in, of dewatered sludge;
    - NPDC has volunteered to not use the southern part of Area B closest to submitters;

- the frequency of wind direction from Area B or C towards submitters is low; and
- the prevailing nature of local air quality (i.e. the NPWWTP with existing sludge management facilities);

when undertaken on Areas B and C, there is an acceptably low risk of this activity being offensive to neighbouring properties taking into account the suite of factors described above.

81. However, the discussion and conclusion in the previous paragraph do not apply to Area A. Recognising that:
    - Area A is extremely close to neighbouring properties (a matter of a few metres compared to 370 m for Area C), and this proximity would increase the intensity of any odour reaching these properties;
    - Area A has a relatively long common boundary with neighbouring properties and this would lead to a greater likelihood of odour occurring across the boundary;
    - there is an inherent absence of certainty associated with the uncontrolled discharge of odourous contaminants;
    - Areas B and C together would provide sufficient area to dispose of about 6 months of sludge production; and
    - the need for a precautionary approach;

    the environmental effects of odour from the proposed discharge to Area A can not be adequately avoided, remedied or mitigated. So any discharge to Area A is disallowed.

82. The environmental risk associated with a discharge on Areas B and C is acceptable in the circumstances. However, the circumstances are that the TDF will soon require an upgrade (which has been budgeted for), the likelihood of breakdowns will continue to increase until an upgrade is completed and there is currently no way to dispose of excess sludge, therefore allowing any discharge must be considered as an interim contingency measure only. Long term disposal options can only be made once NPDC has made its decision about upgrading the TDF and completed its investigation into alternative disposal sites.

83. A consent authorising a discharge only until 2020, and only during breakdowns and at the times sludge production exceeds the drying capacity, is therefore appropriate.

Relevant statutory provisions

84. The relevant statutory provisions are detailed in the Officer Report and, although they form part of this decision, they are not repeated.

Decision

The Committee, acting pursuant to the powers delegated to it by the Taranaki Regional Council, hereby grants the following resource consent subject to the conditions detailed below for a period to 1 June 2022:

Consent 9984-1.0– to discharge contaminants onto and into land and into air at the New Plymouth Wastewater Treatment Plant on a contingency basis.

General condition

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

Special conditions

1. This consent only authorises the discharge of dewatered sludge from the New Plymouth Waste Water Treatment Plant on to the areas marked, 'B' and 'C' on Figure 1 (attached).

2. There shall be no discharge of sludge after 1 June 2020.

3. The discharge may occur only in the following circumstances:

   (a) the Thermal Drying Facility is not operational due to an unforeseen breakdown; or
   (b) the Thermal Drying Facility is operating as normal but sludge volume exceeds its operational capacity because:
      - of a significant temporary increase in sludge production and no onsite storage is available: or
      - process issues resulting in reduced ability to process sludge.

4. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge of contaminants from the site.

5. The consent holder shall undertake a programme of sampling and testing that monitors the effects of the exercise of this consent on fresh water, groundwater and soil properties to assess compliance with this consent (the 'Monitoring Programme'). The Monitoring Programme shall be submitted to the Chief Executive, Taranaki Regional Council ('the Chief Executive') for approval, acting in a certification capacity, within 60 days of this consent commencing, and shall detail the specific parameters to be analysed pursuant to conditions 7 and 8.

6. The Monitoring Programme shall include sampling of groundwater from bores installed in accordance with NZS 4411:2001. The bores shall be of a depth, location and design determined after consultation with the Chief Executive, Taranaki Regional Council.

7. The consent holder shall take representative samples of the waste before each discharge event and have it analysed for:

   (a) Heavy metals;
   (b) Pathogens; and
   (c) Nitrogen, potassium and sodium.

8. Before 31 July each year the consent holder shall also forward routine monitoring data of dewatered sludge and dried biosolids for the 12 month period ending on 30 June, or the most recent analysis if this is greater than 12 months:

a) Heavy metals;
b) Dioxin;
c) Organochlorides;
d) Pathogens; and
e) Nitrogen, potassium and sodium.

9. No discharge of sludge shall occur at any time when any of the contaminants in the following table exceed the concentration indicated in any groundwater down gradient of the sludge disposal area or in either of the two unnamed tributaries of the Waiwhakaiho River immediately to the north and south of the treatment plant.

Contaminant	Concentration
Ammonia (NH_3)	10 g/m^3
Oxidised Nitrogen (NO_3)	50 g/m^3
Faecal Coliforms	1000 per 100 ml

10. No discharge shall occur within:

(a) 20 metres of a surface water body;
(b) 10 metres of a neighbouring property; or
(c) 150 metres of a residential building.

11. Any discharged sludge shall be spread evenly as practicable over the disposal area at a rate not exceeding 1000 tonnes per hectare in any single application and incorporated into the top 150 mm as soon as practicable but no later than midnight on the day of application.

12. As soon as practicable following the discharge of dewatered sludge, areas shall be sown into pasture or crop. The consent holder shall monitor revegetation and if adequate establishment is not achieved within two months of sowing, shall provide a report to the Chief Executive, Taranaki Regional Council detailing a programme for stabilising the soil and preventing visible dust from blowing off the disposal area.

13. As soon as practicable after this consent commences the consent holder shall ensure that the pH of the receiving soil is no lower than 5.8, and at all times after that remains higher than 5.8.

14. The discharge, either by itself or in combination with discharges to air from other sources on the site of the New Plymouth Waste Water Treatment Plant, shall not cause an odour beyond the boundary of the site that is offensive or objectionable.

Note: For the purposes of this condition:

(i) The consent holder's site is defined as Secs 5-6 SO 314271 Pt Sec 224 Hua Dist Blk II Paritutu SD; and
(ii) Assessment under this condition shall be in accordance with the Good Practice Guide for Assessing and Managing Odour in New Zealand, Air Quality Report 36, Ministry for the Environment, 2003.

15. On each occasion that a discharge occurs the consent holder shall notify the Chief Executive, Taranaki Regional Council, at least 2 working days beforehand. Notification shall be emailed to worknotification@trc.govt.nz. Notification shall include the following information:
    (a) the consent number;
    (b) the expected volume to be discharged;
    (c) the specific circumstances that have resulted in the need to discharge;
    (d) the specific area over which the waste will be discharged; and
    (e) the likely duration of the discharge.

16. The consent holder shall keep records of the following:
    (a) volumes of material disposed;
    (b) disposal area[s], including a map showing individual disposal areas with GPS co-ordinates;
    (c) dates of commencement and completion disposal events;
    (d) results of the sampling required by conditions 7 and 8;
    (e) dates that sowing disposal areas occurred;
    (f) details of monitoring, including sampling locations, sampling methods and the results of analysis.

    and shall provide the records to the Chief Executive, Taranaki Regional Council on request or by 31 August of each year, a report on all records required to be kept in accordance with this condition, for the 12 month period ending on the previous 30 June.

17. The concentration of heavy metals in the soil shall not exceed the values in the following table:

Constituent	**Standard [mg/kg dry weight]**
Arsenic	20
Cadmium	1
Chromium	600
Copper	100
Lead	300
Mercury	1
Nickel	60
Zinc	300

18. The discharge shall be undertaken in accordance with a 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the discharge will be managed to achieve compliance with the conditions of this consent and shall include but not be limited to:
    (a) The situations when the consent maybe exercised;
    (b) A detailed map of the discharge site;
    (c) The process of notifying interested parties;
    (d) Steps undertaken to prepare the site;
    (e) Steps to be taken to ensure that the soil pH in the discharge areas are at a minimum of 5.8 and remains above 5.8;

(f) Methods to ensure the generation of dust is avoided;
(g) How the sludge will be disposed;
(h) Details of how the disposal of sludge is to be managed to ensure no over runoff occurs;
(i) Details of how records will be kept; and
(j) How the site will be reinstated.

The Management Plan shall be submitted to the Chief Executive, Taranaki Regional Council for approval with 90 days of this consent commencing.

19. Before exercising this consent, the consent holder shall prepare and thereafter regularly update a 'Contingency Plan' that details measures and procedures that will be undertaken in the event of odour beyond the boundary of the site that is offensive or objectionable . The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity as being adequate to avoid, remedy or mitigate the environmental effects of such an event.

20. In the event that any archaeological remains are discovered as a result of works authorised by this consent, the works shall cease immediately at the affected site and tangata whenua and the Chief Executive, Taranaki Regional Council, shall be notified within one working day. Works may recommence at the affected area when advised to do so by the Chief Executive, Taranaki Regional Council. Such advice shall be given after the Chief Executive has considered: tangata whenua interest and values, the consent holder's interests, the interests of the public generally, and any archaeological or scientific evidence. The New Zealand Police, Coroner, and Historic Places Trust shall also be contacted as appropriate, and the work shall not recommence in the affected area until any necessary statutory authorisations or consents have been obtained.

21. At least once every year, the consent holder shall convene a meeting with representatives of the Taranaki Regional Council, interested submitters on the application for this consent and adjacent landowners or occupiers. The meetings shall be for the purpose of reporting on and discussing matters relating to the exercise of this consent including, but not limited to:

(a) Consent monitoring;
(b) Consent compliance; and
(c) Details of the proposed upgrade to the Thermal Drying Facility, including timing.

This meeting may be held in conjunction with the annual meeting required by condition 22 of coastal permit 0882-4.

22. This consent shall lapse on 1 June 2020, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

23. 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:
(a) 60 days immediately following the date that any discharge event commences; and
(b) the months of June 2016 and/or June 2018;

for the purpose of 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.

For the Taranaki Regional Council: Dated: 23 March 2015

Cr David Lean [Committee Chairman]

Cr Michael Joyce

Cr Neil Walker