

**Hearing Panel**

**Date of Report: 9 July 2019**

**Date of hearing commencement: 31 July 2019**

**Applicant:** The Te Mata Mushroom Company Ltd  
**Activity Type:** Discretionary  
**Notification Type:** Publicly Notified  
**Application Number and Activities:** See Table 1 (below)

**Table 1: Consent Sought by the Applicant**

<b>Consent No's</b>	<b>Purpose</b>	<b>Property Address</b>
DP160229A	To discharge contaminants to air from a composting and mushroom growing operation and associated activities.	174-176 Brookvale Road, Havelock North.

**1. REPORT STATUS, AUTHOR AND FORMAT**

1. This report is a section 42A report prepared under the Resource Management Act 1991 (RMA). It provides an assessment and recommendations on the application made by The Te Mata Mushroom Co. Ltd (**TMMC**). This section of the RMA allows for provision of a report to the decision maker on a resource consent application and allows the decision-maker to consider the report at the hearing.
2. In accordance with s42A(1A) and (1B), where possible, material contained within the application documentation is referenced rather than repeated in this report.
3. This report does not represent any decision on the application and only provides the professional assessment and opinions of the report author. This report will be considered by Hearing Panel along with all other technical evidence and submissions. This report and its recommendations do not carry any greater weight than any other evidence or submissions that is considered by the Panel.

4. This report has been prepared by Paul Barrett, Principal Consents Planner at Hawke’s Bay Regional Council (HBRC). I hold a Master of Science in Environmental and Marine Science from Auckland University. I have experience in processing a range of consents, including discharge and water permits. I have been employed as a Consents Planner at HBRC for approximately 10 years.
5. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Notes (2014). I agree to comply with this Code of Conduct. This report is given within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.
6. In preparing this report I have referred to and have been guided by the technical advice from Mr Andrew Curtis, Technical Director – Air Quality at AECOM. Mr Curtis was engaged by HBRC to review the application and provide technical (air quality) advice.
7. The Ministry for the Environment ‘*Good Practice Guide for Assessing and Managing Odour*’ has also been referred to extensively in this report<sup>1</sup>. These guidelines were updated and republished in November 2016 and contain very relevant information on the nature, assessment and management of odour effects.
8. This planning report is presented as follows:

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<sup>1</sup> These are referred to in this report as the ‘Good Practice Guide’.

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### Summary of Approach to Recommendation

9. This application is the result of an enforcement order issued by the Court following the prosecution of the applicant by HBRC for breaches of its existing air discharge consent (DP100128A) that occurred in late 2015.
10. The company pleaded guilty to the charge of causing offensive or objectionable odour effects beyond the boundary of their property (a breach of condition 6 of their consent), and the Court directed in an Enforcement Order<sup>2</sup> that the company lodge an application for resource consent for an expanded composting operation, and that as part of this application, the applicant was to propose a suite of upgrades and/or odour control solutions intended to mitigate the odour for the expanded operation.
11. The applicant was directed to lodge a draft application with HBRC before 1 November 2016 and to lodge a final consent application by 20 December 2016. The draft application was provided to HBRC on 3 October 2016, and the final consent application was lodged on 20 December 2016.
12. A s92 further information request was made on 26 January 2017. This was responded to in part on 27 March 2017. Additional information on the proposed air extraction system proposed from Armatec Environmental was provided on 5 May 2017 as part of an amended s92 response.
13. The application was publicly notified on 13 May 2017, and the submission period closed on 12 June 2017. The submission from Hastings District Council (HDC) identified that an additional land use consent was required under the Hastings District Plan and requested that s91 of the RMA be

<sup>2</sup> Enforcement Order dated 18 April 2016, Judge CJ Thompsen

used to require this application to be lodged. A s91 request was subsequently made on 16 June 2017.

14. In August 2018 the applicant was again prosecuted by the Council for breaching condition 6 of its consent. The applicant pleaded guilty, and the Court directed via another Enforcement Order<sup>3</sup> that the HDC consent application be lodged by 1 October 2018. This application was lodged with HDC on 1 October 2018. This application was publicly notified on 16 March 2019.
15. The Enforcement Orders are contained as Appendix 1 of this report.
16. The air quality experts caucused to try to clarify and identify any differences of opinion in their area of expertise prior to this section 42A report being circulated. Caucusing between the experts took place on 21 May 2019 in Auckland<sup>4</sup> and via conference call<sup>5</sup> and the joint witness statement resulting from this caucusing session is attached to this report as Appendix 6.
17. The expert witness statement identified additional information that should be provided to assist the hearing. Importantly, this included further detail on how the proposed extended Phase 1 bunker hood air extraction system will work. This, along with other information, was requested from the applicant in a second s92 request on 30 May 2019. A partial response to this request was provided by the applicant on 5 July 2019<sup>6</sup>. A full response was received from the applicant on 9 July but was not able to be considered before this report was finalised.
18. Mr Curtis finalised his statement of evidence following caucusing, but prior to the applicant responding to the second s92 request. Therefore, this statement of evidence represents his views on the proposal following caucusing but prior to consideration of this further information. Mr Curtis' evidence is contained as Appendix 5.
19. In assessing this application, I have identified that two key issues are:
  - a. The speed at which the proposed odour mitigation measures are implemented, and the potential for ongoing odour effects until these measures are fully implemented.
  - b. The way in which odour effects have been assessed and described, and the significance of remaining adverse effects after full implementation of the proposed mitigation measures.
20. The efficacy of the proposed Phase 1 bunker hoods and air extraction system, and the degree to which this system can be relied upon to reduce odours to an acceptable level also remains a critical area of uncertainty. Further information was requested on this matter but this had not

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<sup>3</sup> Enforcement Order dated 22 August 2018, Judge CJ Thompsen

<sup>4</sup> Andrew Curtis, Jenny Simpson, Duncan Backshall

<sup>5</sup> Tracy Freeman

<sup>6</sup> Stradegy, 5 July 2019, 'APP-123602 – 174-176 Brookvale Road, Response to Further information.

been provided at the time of writing. It is my opinion that the application should be **refused** unless this issue can be addressed and the odour from this critical source can be adequately captured and treated.

21. If this issue can be addressed, then it is my view that the application could be granted subject to consent conditions. However, this recommendation is based on the necessary odour mitigation measures being instigated before any increases in compost production occur and within clearly defined timeframes. This differs from what is currently proposed by the applicant, which I do not believe provides sufficient certainty that odour effects will be adequately mitigated within a suitable timeframe. Unless it is amended, I recommend that consent for the applicant's current proposal is **refused**.
22. Draft conditions have been prepared. These draft conditions are provided as Appendix 2 and may be refined through the hearing process and by the commissioners when formulating their decision, should the commissioners determine that the consent can be granted.

## **2. DETAILS OF THE PROPOSAL**

23. The applicant proposes to continue mushroom composting and production on the site at 174 – 176 Brookvale Road, Havelock North.
24. The applicant also seeks to increase the production of compost from 120 tonnes per week to 500 tonnes per week. The proposed increase in production will help enable the company to invest in the proposed odour mitigation measures, which as proposed, will be introduced in two stages.
25. Other activities are undertaken in association with the production of compost, and these include storage and handling of imported ingredients including a mixture of gypsum and chicken litter and straw, the management of liquid waste and solid waste (spent compost), and the discharge of liquid waste via a travelling irrigator on the site. These associated activities also have odour generating potential.

## **3. BACKGROUND AND PHYSICAL ENVIRONMENT**

### **Background and site description**

26. The applicant's property has been used for mushroom production for over 50 years, with the operation being established in 1967.
27. The site is situated to the east of Havelock North, within the Mangateretere Stream catchment. Two watercourses flow across the site from the southeast towards Brookvale Rd. These watercourses flow under Brookvale Road and eventually join the Mangateretere Stream.
28. The 22.9 hectare site is surrounded by rural land, comprising vineyards, orchards and cropping and grazing land uses. The area immediately to the west, between Arataki Road and the site is

rural land consisting of a series of paddocks with some houses, outbuildings and a campervan site. The land to the west of Arataki Road is zoned Havelock North General Residential, and has undergone development into a residential area over approximately the last 10 to 15 years. The area to the west of Arataki Road is now largely developed in residential properties, although some new residential development continues, for example on the ex-Arataki Campground site.

29. The applicant's site is largely flat, except for a 20 m high terrace along the south-western side of the property. A carpark is situated on this terrace area, and a row of trees is planted along the property boundary on top of this terrace.
30. The applicant currently produces an average of approximately 100 tonnes of compost per week on the site<sup>7</sup>, which is within the production level limit (120 tonnes/week) set by the existing air discharge consent.
31. There are a number of buildings, yard areas and access ways on the site including the concrete Phase 1 bunkers, Phase 2 tunnels, inoculation/spawn rooms, storage sheds, growing rooms, and workshops. A large number of straw bales (up to 5,000<sup>8</sup>) are stored at the eastern end of the site.
32. The application documentation provides a description of the site and a site layout plan<sup>9</sup>. The site layout plan provided in the application is reproduced below as Figure 1. Some of the key site details are also discussed below.
33. There are currently two concrete Phase 1 bunkers on the site, which have been split in half to form four separate but shorter bunkers since August 2015.
34. A concrete yard area next to the Phase 1 bunkers is used for bale wetting, with the process water draining back to a sump at the edge of the concrete area. This is then recirculated via the wastewater holding pond.
35. The recycled water holding pond has been constructed in the south western corner of the site, along the property boundary. This pond is lined with a synthetic liner and is aerated.
36. A Hastings District Council drinking water treatment facility is located next to the upper entrance way to the site. This facility provides treatment to water abstracted from the nearby drinking water supply bore ('BV3'; HBRC well no. 4151). This bore is located adjacent to Brookvale Road, and approximately 175 m north east of the property.

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<sup>7</sup> AQP, page 9.

<sup>8</sup> AEE page 27. The number of bales would increase to 10,000 under full production.

<sup>9</sup> AQP, section 3, page 8 and AEE section 2.

37. The site is located outside, but close to, the Hastings Airshed 2 area, as defined by Schedule XIII of the RRMP (Figure 2).



**Figure 1. Site layout (from AQP)**

### **The Physical Environment**

38. A review of meteorological data is provided by the applicant<sup>10</sup>. This indicates that low wind speeds are more likely to result in noticeable downwind odours over greater distances. Stable atmospheric conditions, as typically occur around sunrise and sunset can result in the slower dispersion of odour and make odour nuisance more likely.
39. The applicant's wind data analysis indicates that winds from the north to east-southeast directions that put the site upwind of the sensitive residential receptors make up approximately 30% of all winds.

### **Zoning**

40. Under the Hastings District Plan the site is situated in the Plains Production Zone, which extends to the north-eastern side of Arataki Road. The Havelock North General Residential Zone extends back towards Havelock North from the south-western side of Arataki Road. The distance from

<sup>10</sup> AQP, section 6, pages 21 to 32

the site to the residential zone is therefore approximately 200 m. This is shown in Figure 2.1 of the AEE.



**Figure 2: Te Mata Mushroom Co. Ltd site (black) and local features, including the Hastings Airshed (blue).**

### Composting

41. The composting process is fully described in the application<sup>11</sup> and the associated technical report<sup>12</sup>. A brief summary is provided as follows.
42. Mushroom production comprises four main phases. These include Phase 1 – composting, Phase 2 – pasteurisation, Phase three – inoculation with spores, and Phase 4 – growing. The main potential for odour generation occurs during Phase 1, and in the transfer of Phase 1 material into

<sup>11</sup> AEE, section 4, page 24

<sup>12</sup> Air Quality Professionals Pty (AQP) Ltd 'Odour Assessment – Te Mata Mushrooms'. 19 December 2016. Section 8, page 35

Phase 2. Phases 2 to 4 are unlikely to produce significant odour, although some odour may continue to be generated immediately following the transfer of compost into the phase 2 tunnels.

43. Phase 1 commences after a period of wetting of the base substrate (straw) and the mixing of the organic material (chicken litter and gypsum mix) with this substrate. The applicant has used premixed chicken litter and gypsum since April 2015, avoiding the need to mix these products on the site.
44. Composting takes 12 days from when compost is moved into the Phase 1 bunkers. Two batches of compost are in production at any one time. The raw ingredients include straw, a chicken litter/gypsum mixture and recycled water (or “goody water”) from the yard area<sup>13</sup>. Aeration is used within composting bunkers to speed up the composting process. Air and odour within the Phase 1 bunkers is captured and ventilated to the bark biofilter, which is described in section 4.1 of the AQP report<sup>14</sup>. Air from the Phase 2 tunnels is currently not captured and treated and is released directly to air via roof top vents.
45. Some composting activities occur outside on a concrete yard area that drains to a sump and lined aerated pond. This includes bale wetting and breaking, and the mixing and turning of Phase 1 compost immediately before it is moved into the Phase 2 tunnels. The whole process, from pre-wetting of bales to until the time when the compost is ready to grow mushrooms takes approximately four weeks.
46. The AEE contains a summary diagram of the composting process for the two batches of compost in production at any one time and shows the days of the week on which they occur. This is reproduced in Figure 3 below.

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<sup>13</sup> Water from the bore onsite is used when recycled water and rainfall runoff is insufficient. This occurs under existing water permits - see section 3 of this report.

<sup>14</sup> AQP, page 12.

Day	Batch 1	Batch 2
Thursday	Pre-Wet	
Friday		
Saturday		
Sunday		
Monday		
Tuesday		
Wednesday	Pre-Wet finished	
Thursday	Bale break, bunker filled	Pre-Wet
Friday		
Saturday		
Sunday		
Monday	Bunker-to-bunker transfer	
Tuesday		
Wednesday		Pre-Wet finished
Thursday		Bale break, bunker filled
Friday	Bunker-to-bunker transfer	
Saturday		
Sunday		
Monday		Bunker-to-bunker transfer
Tuesday	Remove, mix, enter Phase 2	
Wednesday		
Thursday		
Friday		Bunker-to-bunker transfer
Saturday		
Sunday		
Monday		
Tuesday	Remove compost from Phase 2	Remove, mix, enter Phase 2
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		
Monday		
Tuesday		Remove compost from Phase 2

Composting Stage:

Pre-Wetting	
Phase 1	
Phase 2	

Figure 3. Composting activity by day of the week (From AEE Figure 4.1)

47. Some of the key composting activities are briefly summarised in Table 2 below.

**Table 2: Brief summary of key compost process steps.**

Activities occurring	Current Activity Description
Pre-wet	Recycled water is sprayed over the straw bales. Occurs for 30 hours over a 7-day period. Recently changed to a bale dunking process.
Bale breaking, Phase 1 bunker filled.	Straw bales are laid out in long rows, premixed gypsum/chicken litter is placed on top of the bales. The bales are broken and mixed with a turning machine, forming a windrow. Mixed material is moved to an empty Phase 1 bunker via front end loader. Breaking/mixing occurs from 6.30 am to about 3pm on a <b>Thursday</b> . Once in the bunkers air is blown through the compost to keep it aerated. Air is drawn from the bunkers through a bark biofilter.
Phase 1 bunker to bunker transfer	Turning and transfer of compost occurs. It is removed from a Phase 1 bunker using a front-end loader and loaded into a turning machine that sits within an empty phase 1 bunker. The turning machine turns and spreads the compost as it fills the empty bunker. Starts at 6.30 am and takes 8 hours, occurs <b>Monday and Friday</b> .
Remove from Phase 1 bunker, move to Phase 2 tunnel	Compost is removed from Phase 1 bunkers, turned and placed into Phase 2 tunnels. Compost is unloaded from Phase 1 bunkers using a front end loader to form a windrow outside, that is turned using a moving turning machine, and then moved (via front end loader) into the phase 2 tunnels. Occurs from 6.30 am to about 4.30-5 pm on a <b>Tuesday</b> . Air from the Phase 2 tunnels is vented without treatment.
Remove from Phase 2	Removal to Phases 3 and 4. The compost has little odour potential at this stage. Occurs <b>Tuesday</b> .

#### 4. CLASSIFICATION OF THE ACTIVITIES, EXISTING CONSENTS & NEW CONSENT SOUGHT

##### Relevant Rules and Provisions

48. The provisions of the Hawke's Bay Regional Resource Management Plan (RRMP) are relevant to the proposal.
49. As defined by s2 of the RMA, any premise used for composting organic materials is an *industrial or trade premise*.
50. Rule 13 allows as a Permitted Activity for the storage, transfer, treatment, mixing or use of less than 100 m<sup>3</sup> of compost for soil conditioning purposes. The applicant manufactures and uses compost for the production of mushrooms, rather than for soil conditioning purposes, and exceeds the 100 m<sup>3</sup> limit.
51. Rule 28 of the RMMP applies to discharges to air from specified industrial and trade premises. The discharge of contaminants to air from composting, where more than 100m<sup>3</sup> (in total) of raw material, composting material and compost is held on a premises at any one time requires consent as a discretionary activity.

52. Section 104B of the Act states that Council may grant or refuse the application and if it grants the application, the Council may impose conditions under section 108. Furthermore, section 105 of the RMA applies to this application and sets out additional considerations for the decision maker.

### Existing Consents

53. The applicant currently holds 11 existing consents issued by the Regional Council that relate to the subject site. These are set out in Table 3 below.

**Table 3: Existing Consents relating to activities on the subject site**

Consent no.	Description	Expiry Date	Comment
AUTH-121214-01	to discharge stormwater from roof and hardstand areas to land and water.	31/05/2025	Stormwater consent to cover the discharge of stormwater from existing buildings and from proposed new buildings including café and retail building, additional growing rooms and composting bunkers, and a car park area.
AUTH-121215-01	to discharge secondary treated domestic effluent from factory ablutions, a dairy barn facility and cafe and retail operations into the ground in circumstances where contaminants (or any other contaminants emanating as a result of natural processes from those contaminants) may enter water	31/05/2025	Consent for a new wastewater treatment system to service developments that are proposed. The consent allows for staged increases in wastewater flow as the site develops. The consented discharge volume is sufficient for 240 staff. Current staff levels are at about 100 – 120.
AUTH-121216-01, AUTH-121248-01, AUTH-121249-01	To construct two culvert crossings over a stream and to undertake other activities directly associated with the culverts, including a temporary diversion, that may be restricted by Section 13 and 14 of the RMA	31/05/2019	Crossing of the two streams on the site, and piping of a section of the central stream. Works not yet undertaken, replacement applications have been lodged.
AUTH-118863-02	to discharge wastewater from a mushroom composting operation onto land, in circumstances which may result in the contaminant, (or any other contaminants emanating as a result of natural processes from those contaminants) entering water	31/05/2025	Consent covers the discharge of wastewater to land generated from the mushroom composting area. Sets minimum storage pond size, specifies effluent application areas, and application rates/depth limits. Monitoring of wastewater volumes and quality is required.
AUTH-118862-01 (DP100128A)	to discharge contaminants into the air from a composting and mushroom growing operation, and associated activities.	31/05/2025	Existing discharge to air (odour) consent for the site. This consent limits production to 120 tonnes/week.

AUTH-113145-01	to take water from well no. 1098 (100 mm diameter) for general use on a mushroom farm	31/05/2022	Allows for abstraction of 500 m <sup>3</sup> /week.
AUTH-111427-01 (DP100128A)	to take water from well no. 1129 (200 mm diameter) to irrigate 9 hectares of pasture and for general use on mushroom farm	31/05/2022	Allows for abstraction of 2,925 m <sup>3</sup> /week.
AUTH-111428-01	to take water from well no. 1280 (200 mm diameter) to irrigate 9 hectares of pasture	31/05/2022	Allows for abstraction of 1,820 m <sup>3</sup> /week.
AUTH-111429-01	to take water from well no.15619 (150 mm diameter) for general use on a mushroom farm	31/05/2022	Allows for abstraction of 1,625 m <sup>3</sup> /week.

### Existing air discharge consent

54. It is useful to consider the existing air discharge consent and its requirements. This consent was granted on 13 April 2011 and transferred to the applicant on 6 November 2012. The application for this consent was publicly notified and there were 54 submissions, with 13 opposing the application. A hearing was avoided on the basis of an agreed set of conditions. These conditions include the following key requirements:

9. *By 1 March 2012 all chicken litter, gypsum, and chicken litter/gypsum mix shall be stored in three-sided and roofed bunkers that are enclosed with soft door flaps.*
10. *By 1 December 2011 the consent holder shall continuously measure and record the dissolved oxygen (DO) concentration (mg/L) at the point where wastewater flows from the storage pond into the aerated pond. The DO records shall be made available to the Council on request and at the time of each site inspection.*
11. *By 1 December 2012 the consent holder shall ensure that the aeration of wastewater is sufficient to maintain dissolved oxygen (DO) concentrations at no less than 1.0 mg/L at all times.*
12. *By 1 March 2015 the consent holder shall ensure that all Phase 1 composting and turning as defined in Condition 3(b), and 3(c), is undertaken in a fully enclosed building, or buildings, that is/are ventilated to a biofilter with sufficient design capacity.*

*Note: The physical emptying and loading of the Phase 1 bunkers during the Phase 1 turning processes will involve compost being transferred from one bunker to another via a front-end loader operating in an outdoor environment; with one door of each bunker being open at any one time to facilitate this process.*

13. *By 1 March 2017 the consent holder shall ensure that all Phase 1 turning, as defined in Condition 3(d), is undertaken in a fully enclosed building, or buildings, that is/are ventilated to a biofilter with sufficient design capacity.*

*Note: The physical emptying of the bunker containing the compost and the loading of the bunker containing the turning machine will involve compost being transferred from one bunker to another via a front-end loader operating in an outdoor environment; with one door of each bunker being open at any one time to facilitate this process.*

*Note: The transfer of compost from the Phase 1 bunker containing the turning machine to the Phase 2 bunker will involve compost being transferred from one bunker to another via a front-end loader operating in an outdoor environment; with one door of each bunker being open at any one time to facilitate this process.*

55. Phase 1 compost activities are defined by the following consent condition:

3. *For the purposes of this consent, 'Phase 1' activities are defined as:*

- a) *The filling of Phase 1 bunkers with a mixture of straw, chicken litter, and gypsum;*
- b) *Composting of this mixture (after it has been placed in the Phase 1 bunkers) including aeration of the compost and ventilation of the Phase 1 bunkers to odour control equipment;*
- c) *The turning of the compost during the composting process; and*
- d) *Removal of compost and final turning (prior to transferring the compost to the Phase 2 bunkers).*

56. The s42A report for the 2011 application<sup>15</sup> stated that:

*It is acknowledged in the recommended consent conditions that the physical emptying and loading of bunkers, and the transfer of compost from Phase 1 to Phase 2 will be undertaken by a front-end loader operating in an outdoor environment. The consent holder will be required to ensure that the design of the ventilation system and all access ways to and from the bunkers is sufficient to reduce any fugitive odours that may escape beyond the boundary of the property when the bunker doors are open.*

57. While the measures required by condition 9 to 11 have been implemented, the measures required by conditions 12 and 13 have not. The Council's view is that the Phase 1 bunkers and ventilation systems remain insufficient to capture fugitive odours. This view appears to be shared by the applicant's technical expert<sup>16</sup> and Phase 1 turning continues to be assessed as having a 'moderate to high' odour impact potential. The Council has previously considered that construction of an additional Phase 1 bunker is required to meet what was proposed through the consent process.

58. The other critical condition is condition 6, which requires that:

6. *There shall be no objectionable or offensive odour to the extent that it causes an adverse effect at or beyond the boundary of the site (see Advice Note 1).*

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<sup>15</sup> HBRC s42A report dated 13 April 2011, pages 32 – 33.

<sup>16</sup> AQP page 39.

59. A full copy of this existing consent is contained as Appendix 3.

## Compliance

60. The compliance monitoring grades and comments given by Council for each year (1 July to 30 June) during the 2012 to 2018 period are shown in Table 4.

**Table 4: Compliance Grades 2012 - 2018**

Year	Grade	Comment
2017- 2018	Significant non-compliance	<p>The non-compliance relates to conditions 1, 2, 6, 12, 13, 15 and 19.</p> <p>There were 298 odour complaints received by Council in this period which was up 118 on last year's total of 180 complaints.</p> <p>The consent holder still has not obtained a new air discharge consent as per enforcement order.</p> <p>As mentioned in last year's report the existing bunkers have been subdivided which Council maintains is not compliant with the application which proposed the construction of an additional bunker.</p>
2016 -2017	Significant non-compliance	<p>The non-compliance relates to conditions 1, 2, 6, 12, 13 and 15.</p> <p>The upgrade required by condition 12 has not been completed. The consent holder is in the process of obtaining a new air discharge consent as per an enforcement order.</p> <p>The existing bunkers have been subdivided. Council maintains that this is not compliant with the application which proposed the construction of an additional bunker.</p> <p>The 3(d) turning operation has not been enclosed.</p> <p>There are frequent complaints when operations are undertaken, requiring these doors to be open.</p>
2015 -2016	Significant non-compliance	<p>The non-compliance relates to conditions 1, 2, 6 and 12.</p> <p>The third bunker as required by condition 12, as outlined in the Beca report, has not been constructed. Instead the existing bunkers have been subdivided. Council considers the subdividing of the bunkers does not provide the same level of odour containment as the proposed third bunker.</p> <p>There have been numerous complaints of odour from the site. In assessing the odour using the FIDOL factors Council has considered the odour offensive or objectionable.</p>
2014 -2015	Significant non-compliance	<p>The significant non-compliance relates to conditions 6 and 12.</p> <p>There have been complaints of odour verified by Council as objectionable or offensive.</p> <p>The turning of phase 1 compost as specified in conditions 3b and 3c remains an outside activity.</p> <p>The non-compliance identified in this report is significant. You need to ensure that full compliance is achieved immediately. Non-compliance with this consent is an offence under the Resource Management Act 1991.</p>

2013-2014	Significant non-compliance (environmental)	<p>The non-compliance relates to conditions 6, 8 and 11.</p> <p>Council has received numerous complaints of odour from residents, when the breeze is from the north-eastern quarter.</p> <p>The DO concentration in the wastewater pond has not been maintained above 1.0mg/L. The consent holder reported that a new aeration system is to be installed to meet this requirement.</p> <p>The review of the Odour Management Plan has not been provided.</p> <p>Please note condition 12 - the enclosing of the compost turning operation with venting to a biofilter is required by 1 March 2015.</p>
2012-2013	Non-compliance (technical)	<p>The non-compliance relates to condition 11. The consent holder has not been able to maintain the DO concentration above 1.0mg/L in the effluent pond despite trialling alternative aeration systems. A new wastewater storage pond and aeration has been designed to achieve compliance. The new pond has been installed and the aeration system will be installed soon.</p>
2011-2012	Compliance	<p>Full compliance with the conditions has been achieved. No odour complaints have been received in the reporting period.</p>

### Enforcement Action

61. The consent holder has previously been served with abatement notices under s322 and infringement notices under 338(1)(a) of the RMA. A summary of infringement and abatement notices relating to the existing air discharge is provided in Table 5 below:

**Table 5: Infringement (INF) and abatement notice (AN) summary**

Ref no.	Date of notice	Reasons given for notice
INF13.084	11/12/2013	Resource consent DP100128A (held by The Te Mata Mushroom Company Limited) condition 6 requires that there is no objectionable or offensive odour to the extent that it causes an adverse effect beyond the property boundary of the Te Mata Mushrooms site.
AN1314.084		On 5 November 2013 an Enforcement Officer responded to complaints from residences in Havelock North regarding objectionable odour. In the afternoon the odour was confirmed to be objectionable beyond the boundary of the property and emanating from the Te Mata Mushrooms Company Limited site, in the vicinity of the straw spraying area and liquid storage ponds.
INF15.003	28/01/2015	<p>Condition 6 of resource consent DP100128A (held by The Te Mata Mushroom Company Limited) requires that there is no objectionable or offensive odour to the extent that it causes an adverse effect beyond the property boundary of the Te Mata Mushrooms site.</p> <p>On 30 December 2014 an Enforcement Officer responded to complaints from residences in Havelock North regarding objectionable odour. In the afternoon the odour was confirmed to be objectionable beyond the boundary of the property and emanating from the Te Mata Mushrooms Company Limited site.</p>

INF15.007	12/03/2015	<p>Condition 6 of resource consent DP100128A (held by The Te Mata Mushroom Company Limited) requires that there is no objectionable or offensive odour to the extent that it causes an adverse effect beyond the property boundary of the Te Mata Mushrooms site.</p> <p>On 12th February 2015 an Enforcement Officer responded to complaints from residents in Havelock North regarding objectionable odour. In the afternoon the odour was confirmed to be objectionable beyond the boundary of the property and emanating from the Te Mata Mushrooms Company Limited site.</p>
INF17.076, INF17.077, INF 17.078	24/10/2017	The discharge of contaminants causing objectionable odour from an industrial premise, namely The Te Mata Mushroom Company Limited, Brookvale Road, Havelock North, into air when that discharge was not expressly allowed by a national environmental standard or other regulations, a rule in a regional plan, or resource consent.
AN0708.020	8/04/2008	Breach of discharge to air consent

## 5. OTHER CONSENT REQUIREMENTS

62. Two submissions<sup>17</sup> considered that additional resource consents are required for the discharge to land of contaminants such as chicken litter and gypsum and of spent compost. Further information on the handling and storage of these materials was requested from the applicant.
63. The applicant has confirmed that the gypsum/chicken litter storage building is fully covered and has a concrete floor.
64. For spent compost, the applicant has confirmed that it will be stored in a covered concrete area located centrally on the site, or will be removed from the site directly from the growing rooms<sup>18</sup>. If the spent compost is to be stored on site a covered structure will be constructed within 8 months of the consent being granted. Once covered, there will be no chance of runoff or leachate from the spent compost storage area. Covering of spent compost will also prevent it from becoming saturated with rain, reducing the risk that it will turn anaerobic and become odorous.
65. The applicant considers that it is likely that increasing compost production will decrease the volume of wastewater discharged. This is because water is used in the compost making process.
66. The existing wastewater discharge consent does not set a volumetric limit on the discharge. It has a limit on nitrogen loading across the discharge area. The applicant has remained within the nitrogen limit in the past<sup>19</sup> and has headroom for additional wastewater application under this existing consent if required.

<sup>17</sup> Submission 97 – Advance Properties Ltd and submission 98 – Lansdale Development Ltd

<sup>18</sup> Stradey, s92 response dated 5 July 2019.

<sup>19</sup> HBRC Compliance monitoring reports 2017-2018, 2016-2017, 2015-2016.

67. On this basis, I have not identified a requirement for any additional consents.

## **6. SITE VISIT**

68. I attended an initial site visit with Mr Curtis on 4 November 2016, prior to the application being lodged. A subsequent inspection of the site was undertaken by the reporting officer and Mr Malcolm Miller (HBRC Consents Manager) on 2 May 2017.

69. Mr Miller and I also visited the site on Thursday 20 June 2019. We observed the bale mixing and bale dunking processes and were also shown a new conveyor system that has been installed to assist in the transfer of compost from the Phase 1 bunkers to the Phase 2 tunnels. The applicant advised that they were likely to propose amendments to the timing and detail of some of the proposed mitigation measures. This information had not been received at the time of completing this report.

70. On three occasions I have also visited the local area after receipt of complaints from local residents, most recently on Wednesday 3 July 2019. On this day nine complaints were received. Activities occurring on the site on that day included removal of a significant volume of accumulated spent compost.

71. The Hearing Panel is undertaking a site visit on 31 July 2019.

## **7. CONSULTATION AND NOTIFICATION ASSESSMENT**

72. The application does not record that any specific consultation was undertaken by the applicant prior to lodging the application.

73. The application was publicly notified on 13 May 2017, with the submission period ending (after 20 working days) on 12 June 2017.

74. In addition to the notice in the local newspaper, the hard copies being available to view at the HBRC office and the Havelock North Library, and access to the application online, direct notification was also sent to residents within 1.4 km of the property.

## **8. SUBMISSIONS**

75. 317 submissions were received on the HBRC application in total. Of these submissions, 6 submissions were neutral, 133 were in support of the proposal and 178 were in opposition to the overall proposal or, specific parts of the proposal.

76. A map of the location of submitters who gave a local property address is provided below.

### **Submissions in Support**

77. A number of the submissions in support of the proposal were based around the economic benefits of the proposal, the employment offered by TMMC, and the fact that this is a long established business that has been encroached on by the growth of the residential area to the west.

78. The employment and economic value provided by the operation is clearly highly valued, as is the access to a nutritious locally produced product.

### **Submissions in Opposition**

79. The submissions that were received in opposition were typically from local residential residents. As a brief summary, submissions related to the adverse effects on their amenity from the odour generated by TMMC activities.
80. Many opposing submissions describe how this odour impacts on their way of life, and prevents them from enjoying the use of outside areas of their properties. They describe that the odour forces them to close windows and doors<sup>20</sup>. Some identified the odour as being 'horrible' and described it as being like 'rotten meat' or 'effluent'. Some explained that the odour makes them feel nauseous and permeates into houses and into clothes that have been hung outside to dry.
81. Some opposing submitters are particularly against the expansion in production that has been proposed, and consider that odour controls should be first established to deal with the odour from present levels of production before any expansion is considered<sup>21</sup>.
82. Some submitters also raised the issue of noise and water quality effects resulting from the applicant's operation, and questioned the need for additional resource consents for discharges to land.
83. The Hastings District Council (HDC) submission identified that a land use consent was required from HDC and requested that s91 be used to require this to be lodged. This submission was supported by a technical assessment of the application by Tonkin and Taylor.

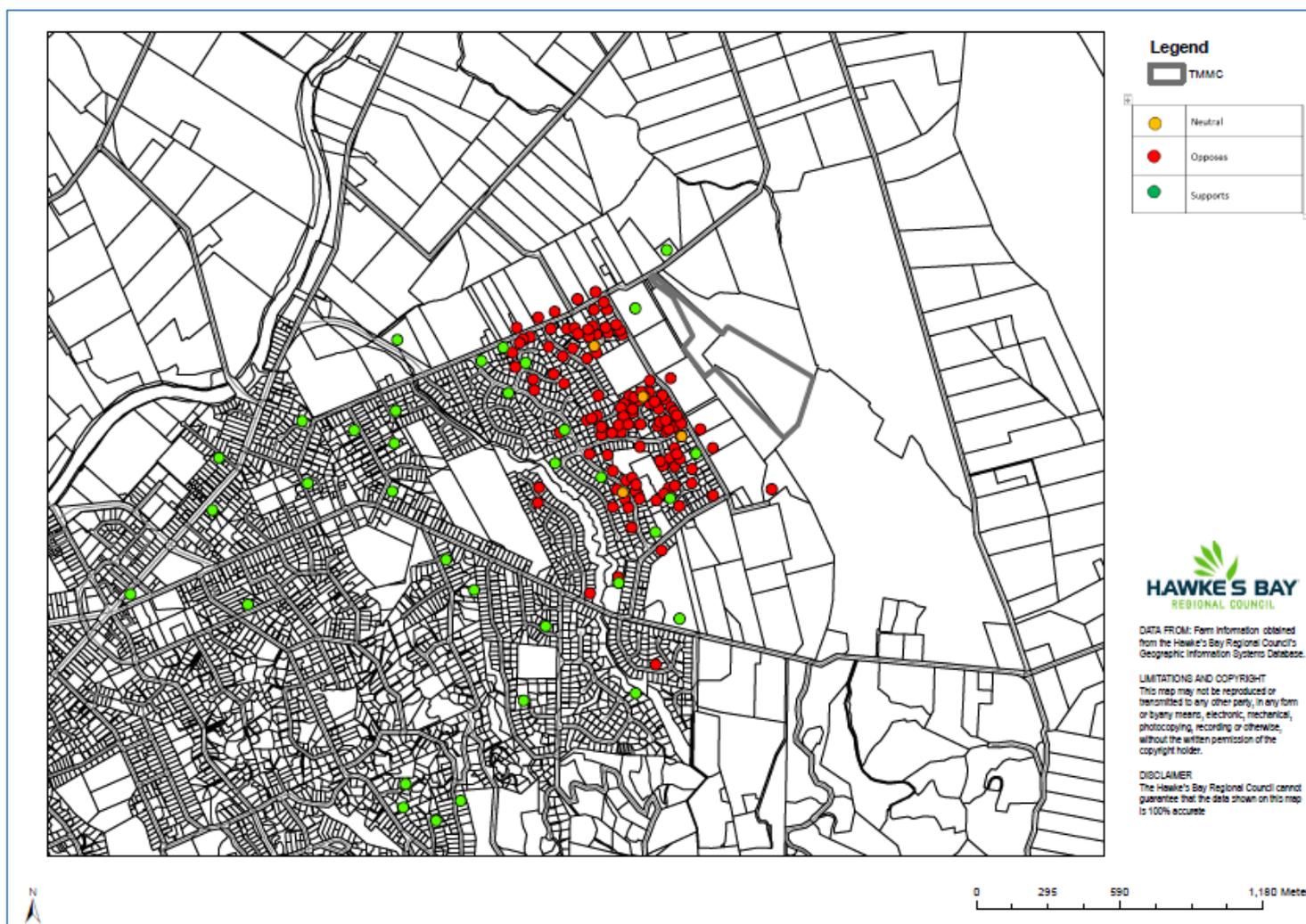
### **Pre-Hearing Meetings**

84. A full prehearing meeting was not held. Rather, expert witness causing was arranged, and a joint witness statement was subsequently produced (Appendix 6).

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<sup>20</sup> For typical examples see submissions 6, 59, 60 and 78

<sup>21</sup> For example, submission 32 from Mr Frost



**Figure 4: Submission location (where the submission relates to a property local to site)**

## 9. COMPLAINTS

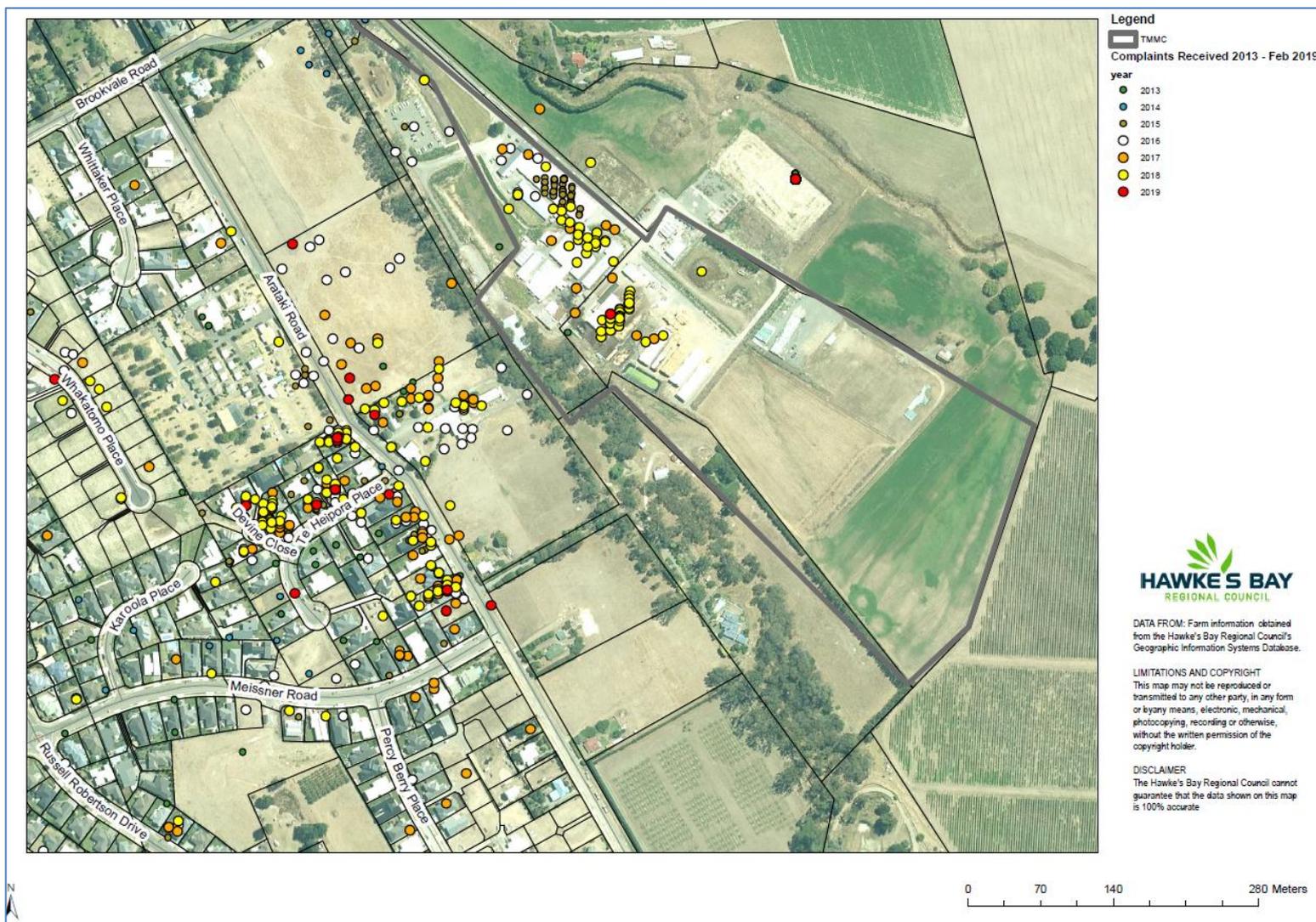
85. HBRC has received 330 complaints since 1 January 2017, and 990 complaints since 1 January 2013.
86. HBRC stopped responding to complaints in December 2015, but recommencing responding for a period over February and March 2018. This led to the further prosecution of the company in 2018, after which HBRC again stopped responding to complaints. This was because the enforcement action was proceeding.
87. The shortcomings of analysing complaints is well explained in the MFE Good Practice Guide<sup>22</sup>. The technical experts agree that *“the complaints data since 2015 provides an indication of community dissatisfaction, but because no incidents were investigated and there is no record of locations or number of complaints it is of limited value in understanding the extent of impacts”*.

<sup>22</sup> MFE 2016, 'Good Practice Guide for Assessing and Managing Odour'. Section 4.1.

88. While accepting the limitations of complaint analysis, I have used what data is available to look into patterns of 'community dissatisfaction'. I have included graphs of this data in Appendix 4.
89. The applicant's assessment (AQP) uses complaints in this way to prioritise the day of the week and corresponding on site activity that has the greatest odour impact potential<sup>23</sup>. This analysis supported the applicant's focus on the transfer and turning activities (Phase 1 and 2) that occur on Monday, Tuesday and Friday. The complaint data continues to indicate that these are significant days for complaints. The data also indicates that Thursday had a relatively high proportion of complaints in 2018 (Appendix 4 - Figure A4.3).
90. A review of complaint frequency (Appendix 4 - Figure A4.2) shows an increase in the level of complaints from around August 2013, with another increase from about February 2015. A seasonal pattern appears evident, with less complaints occurring over the winter months.
91. To get a sense of the frequency of complaints, I have looked at the complaints received by day over the period (1 January 2018 to 20 May 2019) (Appendix 4 – Figure A4.1). This indicates that at times there are days that attract a higher number of complaints, but that there is also frequently days with a lower level of complaints (i.e. 1 – 3 complaints).
92. A map of complaints received (see Figure 5 below) indicates that a majority of complaints occurs within approximately 500 m of the site, often in the area between Te Heipora Place to Messiner Road.
93. It must be remembered that the complaints received represent the local residents' response to the existing situation and demonstrates the sensitivity of some local residents to this odour.

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<sup>23</sup> AQP, Table 7 page 34.



**Figure 5: Recorded complaints 2013 – 2019**

## 10. ENVIRONMENTAL EFFECTS

94. Section 104(1) of the RMA requires the decision maker to have regard to any actual or potential effects on the environment from the proposed activity.

### Permitted Baseline

95. Section 104(2) enables a consent authority to disregard the effects of proposed activities where those effects would be the same as the effects of a permitted activity. This is referred to in case law as the permitted baseline. Disregarding effects forming part of the permitted baseline is not mandatory and is a discretionary consideration.
96. The permitted baseline assessment essentially enables a consent authority to disregard the effects of proposed activities where those effects would be the same as those of non-fanciful activities permitted on the site.

97. The permitted baseline provides the decision maker with a means of excluding adverse effects of that activity which would otherwise result from the activity.
98. There are few rules in the RRMP which allow for the discharge of contaminants to air as a permitted activity and which relate to alternative non-fanciful activities that could be undertaken on the site with comparable effects.
99. Discharges to air from industrial or trade premises typically require consent (i.e. under Rule 28), and so potential activities that could be considered under the permitted baseline are those associated with rural or production land based activities.
100. Rule 13 allows for the storage, transfer, mixing and use of compost for soil conditioning purposes. Rule 12 allows for the discharge to air from the use and storage of stock feed. Both require that there is no obnoxious or offensive odour beyond the boundary as a result of the discharge. These activities are likely to differ considerably from the applicant's activity in nature and frequency, and do not offer a reasonable comparison to the potential adverse effects of the applicant's proposed activity.
101. Ultimately I do not find it helpful to consider the adverse effects that may occur on the site as a permitted activity and do not recommend that the permitted baseline be applied in this case.

### **Existing environment**

102. The first step in considering an application is to identify the relevant environment which the effects of the proposal should be assessed against. This is referred to as the existing or receiving environment.
103. "*Environment*" embraces the environment as it exists, as well as the reasonably foreseeable environment. Existing activities that are lawfully occurring form part of the existing environment.
104. The application describes the growth of the residential area towards the western boundary of the applicant's property, and that this growth is reflected in an increased number of complaints. I agree that the reduction of the separation distance between the site and the residential area has made the likelihood of people experiencing adverse odour effects more likely.
105. The history of these zoning decisions and growth of this area is contained in section 2 of the AEE. This has led to residential properties being located from as near as 170 m to the applicant's property's western boundary<sup>24</sup>.
106. Further residential development continues within the local area. Since the application was lodged the former Arataki Campground site has been subdivided into 40 residential lots, and residential dwellings

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<sup>24</sup> For example, those residential properties at the corner of Te Heipora and Arataki Road. These properties are approximately 230 m from the composting yard area.

are currently under construction there. This site is located approximately 170 – 190 m west of the applicant's western property boundary<sup>25</sup>.

107. It is evident that the existing environment is now one which contains residential properties within a residential zone located in close proximity to the site. Residential areas are recognised as typically being highly sensitive to odour<sup>26</sup>. This is the receiving environment that the effects of the proposal must be considered against and it must be recognised that this is now a sensitive receiving environment.

### **Effects assessment**

108. The applicant commissioned an air quality expert to assist the development of their assessment of effects (AEE).
109. Council had its own technical expert (Mr Curtis) review the air quality report above to inform the recommendation set out by this report. Mr Curtis' evidence is contained Appendix 5.
110. For the purpose of this report, the assessment focuses on the following effects:
- Odour effects
  - Health effects
  - Positive effects
  - Other effects

### **Odour effects**

111. The critical issue with this operation has been, and is, the generation of odour and the effects of this discharge on the environment. The complaints, compliance and enforcement actions and submissions referred to in this report describe an existing situation where adverse odour effects are regularly experienced by the nearby residents.
112. The Good Practice Guide provides relevant background on the effects of odour and how it is perceived by individuals, and how offensive and objectionable odours should be determined
113. It explains that there can be intense emotional and behavioural responses to certain odours, and that individuals can be sensitised to odour through acute odour events or as a result of exposure to repeated chronic odour. This can lead to high levels of complaints over the long term, and a general distrust within the community of those perceived to be causing the odour. This appears to be the case here, with various submitters questioning the applicant's ability to successfully implement the proposed measures. Alternatively, repeated exposure to odour can lead people

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<sup>25</sup> And from approximately 250 m from the composting yard area.

<sup>26</sup> Ministry for the Environment (MFE). 2016. 'Good practice guide for assessing and managing odour'. ME 1278, November 2016: Table 4, page 19.

to become desensitised so they no longer detect the odour even though it is present in the air – for example those working where there is a persistent odour may be unaware of its presence

114. Individuals perceive the character of odour differently, and odours may be described quite differently by different people. The character of an odour is also referred to as the hedonic tone. Submitters and complainants have described the odour they experience as having characteristics of ‘rotten meat’, ‘dead animals’, ‘ammonia’ and ‘raw sewage’. One submitter attributed the odour to a specific chemical – trimethylamine<sup>27</sup>.
115. Offensive and objectionable odour effects can be caused by acute events and/or chronic events. Acute events involve high intensity and/or highly unpleasant odours occurring infrequently or for short time periods. Chronic events involve low intensity and/or moderately unpleasant odours occurring frequently or continuously over longer periods<sup>28</sup>.
116. It is offensive and objectionable odour that must be avoided. Offensive means “*giving or meant to give offence; disgusting, foul smelling, nauseous, repulsive*”. Objectionable means “*open to objection, unpleasant, offensive*”<sup>29</sup>.
117. Whether an odour is offensive or objectionable requires an overall judgement that considers the frequency, intensity, duration, offensiveness, character and location of the odour event. These are known as the FIDOL factors and commonly form the basis for assessing an odour effect to determine if it is offensive or objectionable.
118. The FIDOL factor based assessment is described in the Good Practice Guide<sup>30</sup>, and in summary includes assessment of the following :

<b>Frequency</b>	How often an individual is exposed to odour;
<b>Intensity</b>	The strength of the odour;
<b>Duration</b>	The length of a particular odour event;
<b>Offensiveness/character</b>	The ‘hedonic’ tone of an odour which may be pleasant, neutral or unpleasant;
<b>Location</b>	The type of land use and the nature of human activities in the vicinity of an odour source.

119. For this activity, complaints indicate that the odours from the site can cause adverse effects on a frequent basis over some periods. This is shown in the complaints data (Appendix 4) which

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<sup>27</sup> Submission 91

<sup>28</sup> MFE Good Practice Guide, 2016.

<sup>29</sup> RRMP, 6.1.4, page 117.

<sup>30</sup> MFE Good Practice Guide (2016), section 2.4

indicates periods of frequent complaint, particularly over spring-summer in some years. This will depend on the wind conditions at the site over time. The meteorological assessment indicates that 30% of all winds will be in the direction of the sensitive receiving environment.

120. The proposed mitigation measures will reduce the frequency of adverse odour events because it will see more of the odour generating processes undertaken in a manner that will capture odour for treatment.
121. Complainants often consider the intensity of the odour to be moderate to strong, although this can vary.
122. The duration of events is hard to characterise, and have been described by complainants as ranging from short lived to lasting for many hours. Some submitters describe the odour lingering overnight. The proposed odour mitigation measures will reduce the exposure time of some practices and reduce the potential duration of odour events.
123. The odour from this operation is often described as being deeply unpleasant, and while the mitigation proposed will see a greater proportion of odour captured and treated, the potential for offensiveness will remain for any odour releases that are uncaptured or untreated.
124. The location of the site is also critical, as it is now located close to a highly sensitive residential area. This offensiveness of the odour and the lack of a suitable separation distance to sensitive receptor makes it more likely that odour received over the boundary will be judged as offensive or objectionable.
125. The odours generated from the applicant's site are likely to be a mixture of acute and chronic events depending on the atmospheric conditions at the time, the activity being undertaken at the site and whether there is system failure or abnormal condition or events.

### **Mitigation proposed**

126. The applicant's assessment<sup>31</sup> identifies the following activities as having 'high' or 'moderate – high' impact potential:
  - a. Transfer of compost from Phase 1 bunkers into Phase 2 tunnels ('high')
  - b. First and second turning of compost in Phase 1 bunkers ('moderate-high')
127. The applicant assessed the following activities as having 'moderate' or 'low-moderate' impact potential:
  - c. Bale breaking and mixing ('moderate')

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<sup>31</sup> AQP, Table 9, page 50

- d. Bale wetting ('low-moderate')
- e. Phase 2 composting (low- moderate')

128. The following activities were assessed as having a low impact potential:

- f. Chicken litter- gypsum storage and handling
- g. Emptying of Phase 2 tunnels.

129. Mitigation options are then considered for each odour generating activity, and mitigation strategies are proposed where the applicant's assessment has deemed these necessary in order to reduce the odour impact potential. The mitigation strategy proposed involves a staged approach, with priority given to the odour mitigation for the activities presenting the highest odour impact potential. The two proposed stages for implementation are eight months from granting of a new consent and when production reaches 200 tonnes per week.

**Table 6. Proposed odour control/mitigation measures**

Activity	Within 8 months	When production reaches 200 tonnes/week
Bale wetting		Minimise time that bales are laid out by bale spiking (or dunking).  Use of an aerated pad for pre-wetting.
Bale breaking / mixing	Avoid early morning (start after 8 am) <sup>32</sup>	Use of bale breaker machine.  Blending line under eave with extraction system to biofilter.
Phase 1 turning and transfer	Extend existing bunker lengths by 10 m  Install entrance canopy/eaves <sup>33</sup> with air extraction system	Construction of a third bunker.  Once third bunker constructed, un-split existing bunkers, all transfer/loading from western end <sup>34</sup> .  Reduce hours, and operational management, e.g. avoiding early morning <sup>35</sup>
Phase 1 to Phase 2 transfer	New turning building, hopper and conveyor/mixer with air extracted to new biofilter. Would start later in morning (11 am) and have shorter duration (finish before 4pm) <sup>36</sup>  Phase 2 air to new biofilter.	
Stockpiling spent compost	Remove within 7 days	

<sup>32</sup>Applicant will accept as a condition of consent (S92 response, 27 March 2017)

<sup>33</sup> At the eastern and western ends (s92 response, 27 March 2017)

<sup>34</sup> S92 response (27 March 2017)

<sup>35</sup> "if necessary, at a later stage". AQP, page 41.

<sup>36</sup> AQP, page 42. Current process occurs 6.30 am – 4.30/5 pm on Tuesday.

	Store spent compost on covered concrete pad on centre of site.	
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130. Mr Curtis’s evidence indicates that many of the proposed mitigation measures are appropriate and represent the best practicable option for the site. The key area of uncertainty relates to the degree to which the extended hoods will capture and treat odour.
131. The experts noted that the use of extended hoods is a compromise method compared to full enclosure, but that their use is essential and that with appropriate treatment of odours this should reduce off-site odours. This was predicated on appropriate engineering information being provided to show how the proposed system would work.
132. The method for transferring Phase 1 compost to Phase 2 tunnels was considered appropriate, provided that adequate extraction and treatment of odours is provided.
133. Mr Curtis considers that implementing the bale breaking system is a high priority, and that this activity represented the most significant odour sources after implementation of mitigation for the Phase 1 bunker to bunker transfer and Phase 1 to Phase 2 transfer is implemented.
134. The need for a third Phase 1 bunker is also considered a high priority by Mr Curtis for the reasons set out in his evidence. The applicant’s AEE considered that the third bunker is only required in response to increased production<sup>37</sup>, whereas the technical assessment appears to consider that a third bunker is necessary to reduce odour from Phase 1 composting, through minimising loader travel distances<sup>38</sup>.
135. The experts considered the appropriateness of a staged approach to introducing mitigation. They agreed that there needs to be a clear timetable for implementation of mitigation, and the ability to accelerate implementation of specific measures if required.
136. The experts agreed that it is appropriate to focus mitigation of the main odour sources and on appropriately implementing the proposed mitigation. Once the priority mitigation measures are implemented, the contribution of other sources could be assessed and addressed.
137. The experts considered the potential for increased production to increase the risk of offsite odour effects. This is also of concern to a number of submitters, who would prefer to see the necessary mitigation measures installed as soon as possible and prior to any production increases. The experts agreed that the impact of increasing compost production was uncertain, but that a staged approach to increases in conjunction with an appropriately designed monitoring regime could manage this uncertainty.

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<sup>37</sup> AEE, page 46

<sup>38</sup> AQP, page 41

138. The proposed mitigation measures appear to be appropriate and these will target the priority odour sources. However the timing of implementation of these measures is in contention. The impact of increasing production is also unclear, and this should be avoided until it can be demonstrated that the odour from existing production levels can be appropriately managed.
139. Once mitigation is implemented, other odour sources may become apparent and need to be responded to. Should consent be granted, I recommended conditions require ongoing odour monitoring and complaint response, and this will lead to identification of areas that require additional odour control.

### **Residual effects after implementation of mitigation measures**

140. The applicant's odour assessment<sup>39 40</sup> considers the potential odour sources on the site and ranks them based on their odour impact potential (low, low-moderate, moderate, moderate- high, or high). After implementation of all of the proposed mitigation, the applicant's assessment indicates that the activities will have a 'low' or 'low-moderate' potential odour impact. It is not clear whether a 'low' or 'low-moderate' odour impact potential means that adverse effects from offensive or objectionable odour beyond the boundary will be avoided. This has been identified by Mr Curtis as a key issue.
141. The applicant has focused on developing mitigation measures that focus on the 'high' and 'moderate-high' odour potential activities. The applicant's expert has explained that it is not possible to capture all odour generated from key odour generating processes such as Phase 1 transfer and turning, even with the proposed mitigation measures in place<sup>41</sup>, and as discussed by Mr Curtis in his evidence, there is a risk that there will continue to be odour complaints even with the full implementation of the odour mitigation measures.
142. The experts also commented on this uncertainty. They state that "*we agree that there is uncertainty as to whether the proposed measures will reduce odours to the level where no offensive or objectionable effects occur. However, we consider that once implemented, the proposed measures will reduce odour risk. The systematic implementation of mitigation in conjunction with an appropriate monitoring regime is likely to reduce the risk to an acceptable level, although some level of complaints may continue given the unpleasant hedonic tone of the residual odour from certain activities*".

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<sup>39</sup> Air Quality Professionals Pty Ltd (AQP) 'Odour Assessment – Te Mata Mushrooms'. 19 December 2016. Section 10, pages 48 – 53.

<sup>40</sup> AEE, Table 4.1, page 27

<sup>41</sup> AQP page 37.

143. I am aware that the Environment Court considered a similar situation in 2007<sup>42</sup>. This case involved an established mushroom compost production facility (Phase 1) that was located in a rural area outside of Morrinsville. In that case the Court considered whether to insist on full enclosure of the composting operations, which the expert evidence indicated would have achieved a guaranteed level of odour capture. They concluded that it was necessary for there to be enclosure of the bunker to bunker transfer operation, which was the predominant source of odour. In that case the Court decided that if consent was to be granted, it was to be on the basis that the bunker to bunker transfer operations were enclosed to the level required to achieve a level of odour capture which ensures that there are no offensive or objectionable odours beyond the boundary. Some form of staging of the required upgrades was acceptable to the court.
144. The proposed staging of the applicant's proposed mitigation does not in my view adequately recognise the potential for ongoing odour effects before the proposed mitigation measures are implemented in full. Mr Curtis also considers that the high priority odour mitigation measures, being those associated with Phase 1 compost production and transfer to Phase 2 need to be implemented as soon as possible<sup>43</sup>.
145. Avoidance of offensive or objectionable odours will require implementation of key mitigation measures within set timeframes. In considering appropriate implementation timeframes the following should be taken into account:
- That enclosure, capture and treatment of odour from the Phase 1 turning and transfer process and the Phase 1 to Phase 2 transfer process is already a (now past) requirement of the existing consent. This arguably extends to the third Phase 1 bunker. Council has previously taken the view that a third bunker was part of what was required under the existing consent conditions.
  - The existing consent condition (condition 6) requires that there be no offensive or objectionable odour beyond the boundary such that it causes an adverse effects should be retained in any new consent that is granted. Until the mitigation measures are in place there will continue to be a higher risk of offensive or objectionable odours beyond the boundary, and it is doubtful that the applicant will be able to comply with this condition.
146. The mitigation measures proposed will improve the situation as these will result in more enclosure of odorous activities and treatment of these odours. Until this occurs there will remain the potential for offsite adverse effects because of the location of the site and the offensiveness of the odour (see FIDOL comments above).

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<sup>42</sup>Waikato Environmental Protection Society v Waikato Regional Council W060/2007 [2008] NZRMA 431

<sup>43</sup> Evidence of Mr Andrew Curtis, para. 57.

147. I recommend that if consent is granted that the consent conditions require more rapid implementation of the key odour mitigation measures than is currently proposed by the applicant. As set out in Mr Curtis's evidence, if consent is granted, the following measures should be implemented within 8 months:
- Extended Phase 1 bunkers, eaves and ventilation to odour treatment
  - Bale breaking/blending line to odour treatment.
  - A third Phase 1 bunker
  - Phase 2 transfer building
148. Until these measures are implemented, Phase 1 composting and bale breaking activities should only occur between the hours of 8 am to 6pm, as adverse odour effects are less likely to occur during these times.
149. The applicant has indicated that they will be proposing changes to the timing and detail of the proposed upgrades. Given the risk of adverse effects and potential for non-compliance with the requirement to avoid offensive or objectionable odour beyond the boundary, the applicant should provide detailed justification for any lead in periods that they propose. This information may alter the recommended sequence of implementation, depending on the extent to which these measures address key odour sources. For example, Mr Curtis has indicated that a delay to the Phase 2 transfer building may be justified if the odour risk from the Phase 2 transfer process can be adequately reduced in the interim through use of a conveyor transfer system.
150. I agree with the 18 month period suggested by Mr Curtis. This will mean that the proposed mitigation is largely in place within 8 months and will be fully in place by summer 2020/2021. This reflects that the adverse effects of the operation, as shown by the patterns of complaints and submissions, is generally more significant in the summer when people make greater use of outdoor areas.

## Health Effects

151. Some submitters have raised concerns over the potential health impacts of the discharge. This is also raised in the Hawke's Bay District Health Board (HBDHB) submission on the HDC land use consent application.
152. The reported effects of odour include nausea, headaches, retching, difficulty breathing, frustration, annoyance, depression, stress, tearfulness, reduced appetite, being woken in the night, and embarrassment<sup>44</sup>. A number of these effects are described in the submissions, and

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<sup>44</sup> MFE Good practice Guide, page 17.

some submitters describe their sense of frustration, inability to sleep, and embarrassment at having visitors. These contribute to a reduced quality of life and amenity.

153. Strong odours can occur when an odorous compound is present in concentrations well below those that could harm physical health.
154. I have not seen any evidence to date that suggests that the discharge as proposed could cause physical illness through the spread of pathogenic bacteria or other microorganisms. Mr Curtis's evidence indicates that it is unlikely that process will result in the release of bacteria or viruses to affect residents<sup>45</sup>.
155. I am aware that the HB DHB investigated the incidences of viral pneumonia reported in the local area. At a public meeting in May 2018, a HB DHB representative<sup>46</sup> explained that the DHB had not found any evidence of increased pneumonia rates in the Brookvale area. The HB DHB may wish to present more evidence on this matter at the hearing.

### **Other Effects**

156. Some submitters have raised concerns over other effects resulting from the activity, including noise from extraction fans<sup>47</sup>, increased traffic<sup>48</sup> and water quality effects<sup>49</sup> resulting from the composting operation.
157. Noise and traffic effects are outside the scope of this application and are to be considered through the HDC land use consent application.
158. The discharges to land associated with the composting activities are authorised under a separate consent (see section 3 of this report). The site is located in close proximity to a registered drinking water supply bore, and is in an area where contamination of groundwater has previously occurred.
159. In August 2016 a contamination event caused the widespread illness of thousands of Havelock North residents. While this event was not attributed to the activities occurring at the applicant's site, it does highlight the potential risk of groundwater contamination in this area, where only a thin surficial aquitard exists between the land surface and the aquifer.
160. While recognising the vital importance of protecting groundwater quality, I consider water quality effects to be outside of the scope of what can be considered under this application for an air discharge consent.

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<sup>45</sup> Evidence of Mr Andrew Curtis, para. 68

<sup>46</sup> Dr Oz Mansour, Medical Officer of Health

<sup>47</sup> Submissions 59, 90, 119

<sup>48</sup> Submission 238

<sup>49</sup> Submission 78

161. The applicant has confirmed that the proposed increase in compost production is not likely to lead to a need to change or expand the existing wastewater discharge consent. The effects of discharging wastewater on this site should be addressed through the existing wastewater discharge consent, and if an increased risk of effects occurs, the review of this consent would be an avenue for addressing this.
162. The applicant has also confirmed that spent compost will be managed so that there is no runoff of leachate from this material to ground. Consent conditions are recommended that require the spent compost to be stored in a covered concrete floored structure located centrally on the site, or until this occurs, be removed from the site directly from the growing rooms. Recommended conditions also require spent compost stored on the site to be removed within 7 days.

### **Positive Effects**

163. The potential positive effects associated with the proposal are significant and must also be given consideration because they contribute towards the purpose and principles of the RMA by enabling people and communities to provide for their social and economic well-being<sup>50</sup>.
164. In regard to the contribution of the company to the regional economy, the applicant has stated that the operation directly employs approximately 120 people and contributes in excess of \$3.5 m to the local economy. The wider impacts on the economy are also significant, including an estimated \$7.19 m gross regional product impact and flow-on employment impact of 80 people<sup>51</sup>.
165. The applicant's company clearly makes a significant contribution to the local and regional economy. This point is not disputed and a number of submitters acknowledge the benefits that result from the employment offered by the applicant's operation.

### **Conclusion**

166. Existing adverse effects from this operation are significant. The proposed mitigation measures, once fully implemented, will significantly reduce the potential for adverse offsite odour effects, and may reduce this potential to an acceptable level. However, the applicant's proposed approach of staging the upgrades using a production trigger could lead to ongoing adverse effects and does not provide sufficient certainty that odour effects will be appropriately mitigated within a reasonable timeframe.
167. There is uncertainty over the extent to which adverse odour effects will continue after the mitigation measures are fully implemented. Given this uncertainty, and the sensitivity of the receiving environment, I recommend that the consent should only be granted if the critical mitigation measures are implemented within clearly established timeframes. I also recommend

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<sup>50</sup> RMA, Part 2, Section 5

<sup>51</sup> AEE, page 6

that any production increases only be provided for after odour mitigation has proved to be successful.

168. If consent is granted, it should include a requirement for increased monitoring of odour from the site. Further implementation of odour controls measures upgrades could then be required if odour monitoring indicates that aspects of the process continue to cause offsite adverse effects.
169. This approach recognises the positive effects from the operation and would allow for it to continue provided that odour control measures are implemented as required to avoid offensive or objectionable odour effects beyond the boundary.

## 11. ASSESSMENT OF ALTERNATIVES

170. The RMA requires a description of any alternative locations or methods for undertaking the activities proposed if it is likely that the activity will result in any significant adverse effect on the environment<sup>52</sup>.
171. Similarly under s105, if the activity includes the discharge of any contaminant, a description of any possible alternative methods of discharge, including discharge into any other receiving environment must be included in the AEE and must be given regard to by the decision makers.
172. The applicant has provided an assessment of the alternative methods<sup>53</sup>, but considers that consideration of alternative locations is not required because the activity will not result in significant adverse effects on the environment.
173. The applicant considers that as the odour potential after mitigation has been assessed as 'low' or 'low-moderate' that the adverse effects will not be significant and that an assessment of alternatives sites is not required.
174. The applicant considers that with the mitigation measures proposed, all of the composting process steps will be able to be considered the Best Practicable Option (BPO).
175. The applicant's expert considered the need for complete enclosure of the composting processes, but although this was identified as 'best practice' it was ruled out, partly due to health and safety issues for workers<sup>54</sup>. The applicant's air quality expert commented that<sup>55</sup>:

*"..it is usually not necessary for an established industrial/production site to move directly to a decision of full enclosure as there are significant associated engineering, materials, handling, staff/health/safety, and cost implications. In addition, complete enclosure results in a very large volume of weak odour requiring treatment in very large and expensive odour control systems, as*

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<sup>52</sup> Schedule 4, subsection 6(1)(a).

<sup>53</sup> AEE, section 5, page 38

<sup>54</sup> AQP, page 40.

<sup>55</sup> AQP, page 19

*opposed to targeted capture of odours at source which results in a smaller volume of air with stronger odour concentration which can be more sustainably treated”.*

176. Neither the applicant nor Mr Curtis are aware of any operational mushroom composting facilities in New Zealand that are using a complete enclosure system.
177. The applicant was asked to consider and comment on why upgrades scheduled for the second stage (i.e. at 200 tonnes/ week production) could not be brought forward. They concluded that it is not feasible to bring any of these upgrades forward, and that the proposed approach is reasonable given the “*design timeframes, statutory approval processes, effects and financial implications*”<sup>56</sup>.
178. The applicant has applied for a new consent to discharge contaminants to air from mushroom compost production and growing at a site on Mount Herbert Road, Waipukurau. This application is on hold awaiting further information (under s92 of the RMA) and so has not progressed yet to the stage where it can be said that it is a viable alternative site. Little weight can be placed on the applicant’s application for a new consent to discharge at a different site. At this stage it can only be seen as an option that the applicant is investigating and, assuming consent is granted for the discharge at this site, one which they may or may not choose to take up at a future date.

## **12. PLANNING PROVISIONS**

179. Section 104(1) of the RMA states that the decision maker must have regard to the relevant provisions of national and local planning instruments. Of particular relevance to this application are the National Environmental Standards for Ambient Air Quality (September 2004) and the Regional Resource Management Plan (2006).

### **National Environmental Standards for Ambient Air Quality (September 2004)**

180. The NES for air quality was introduced in 2004 to set air quality standards for specified contaminants to ensure the protection of people’s health. Discharges of odour are not addressed by these regulations<sup>57</sup>.

### **Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007**

181. Regulations 7 and 8 of the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 (NES SHDW) apply to water and discharge permits issued by regional councils.

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<sup>56</sup> S92 response, dated 27 March 2017.

<sup>57</sup> MFE, 2016. ‘Good Practice Guide for Assessing and Managing Odour’. ME1278, November 2016.

182. Regulations 7 and 8 only apply to an activity that has the potential to affect a registered drinking-water supply that provides no fewer than 501 people with drinking water for not less than 60 days each calendar year.
183. Regulations 7 and 8 only apply to Regional Councils and will not apply to the HDC land use consent application.
184. Regulation 12 only applies to an activity that has the potential to affect a registered drinking-water supply that provides no fewer than 25 people with drinking water for not less than 60 days each calendar year. Regulation 12 is applicable to both the HBRC and HDC consent applications.
185. The Hastings District Council (HDC) Brookvale Road water supply bore (“BV3”) is situated approximately 400 m north of the composting facilities on the site<sup>58</sup>. Water taken from this bore is treated to a high standard, with treatment including filtration and UV exposure followed by chlorination<sup>59</sup>. Treatment occurs at the water treatment facility adjacent to the upper entrance into the applicant’s site.
186. Hastings District Council have applied to replace the water take consent relating to this bore. This application indicates that the bore will cease to be a primary once water supply infrastructure upgrades are completed. These upgrades are expected to have been completed by the end of this year, and once these are completed, the bore will be used in an augmentation capacity. It will not normally be used, but may be used in times of unusually high demand or emergency situations. HDC have proposed that the will stop being used as a public water supply by 2023.
187. The location of the registered drinking water supply bore and the water treatment facility is shown in Figure 2.
188. Consent is sought for a discharge to air, and by its nature it does not have the potential to affect the drinking water supply. Other activities that are related to the composting on the site do have the potential to impact on groundwater quality. This includes the discharge of wastewater to land. This activity is authorised by an existing consent.
189. This activity proposed (discharge of contaminants to air) does not have the potential to affect the quality of groundwater at the HDC water supply well. However, in accordance with Regulation 12, it would be prudent to include a notification consent condition should the consent be granted. This would require the consent holder to notify HDC should an event occur on site that could cause an adverse effect on the quality of water at the water supply bore. This could include, for

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<sup>58</sup> And 175 m from the nearest boundary of the site

<sup>59</sup> Hastings District Council, 2017. ‘Brookvale Bore Abstraction Resource Consent Renewal – Assessment of Environmental Effects’. November 2017

example, the spillage or loss to ground of chemicals or effluent. A condition of this nature is already included on other consents for the site.

### Hawke’s Bay Regional Policy Statement

190. This Regional Policy Statement is incorporated in the Hawke’s Bay Regional Resource Management Plan, which became operative in 2006. Chapter 3.5 is particularly relevant, and contains objectives and policies relating to the management of conflicting land uses, as identified in Table 7 below.
191. The relevant objectives and policies of the RPS and Regional Plan are set out in full in Appendix 7 of this report.

**Table 7: Relevant RPS Objectives and Policies**

Objective / Policy	RPS – Relevant Objectives and Policies
<b>OBJ 16</b>	Relates to future activities and seeks that these are located to avoid off site impacts, and is not considered to be relevant to this activity, which has been at its current location for many years.
<b>OBJ 17</b>	Relevant to existing activities, including their expansion, and seeks that the extent of off-site impacts or nuisance effects from these activities are remedied or mitigated.
<b>OBJ 18</b>	For the expansion of existing activities which are tied operationally to a specific location, the mitigation of offsite impacts or nuisance effects arising from the location of conflicting land use activities adjacent to or in the vicinity of the areas required for current or future operational needs.
<b>POL 5</b>	Identifies the role of non-regulatory approaches, particularly liaison with TLA as the primary means of preventing or resolving problems arising from incompatible land uses.
<b>POL 6</b>	Relates to the future establishment of potentially conflicting land use activities, and is not considered relevant in this case.
<b>POL 7</b>	Sets out the approach for addressing existing problems with conflicting land use activities.
<b>POL 8</b>	Sets out the decision-making criteria for resource consent applications that involve discharges of odour, and states that factors including those recognised as the FIDOL factors are considered, along with the extent to which lawfully established resource use activities operates in a manner that adopts the best practicable option, or which is otherwise environmentally sound
<b>OBJ 20</b>	Seeks to manage and use organic material derived from industries processing primary products in a manner that does not result in any adverse effects on humans or the environment.
<b>POL 14</b>	Requires the establishment and maintenance of separation distances in relation to the storage, use or disposal of organic material to ensure that there are no offensive or objectionable odours imposed on neighbouring properties.

192. Objectives 17 and 18 both call for the remedy or mitigation of the extent of off-site impacts or nuisance effects resulting from the location of conflicting land use activities. Objective 18 appears based on spatial expansion of an activity rather than increased production within an existing footprint. In both cases the objectives seek that off-site impacts or nuisance effects are remedied

or mitigated, and significant odour mitigation is required to allow for the continuation of the existing activity regardless of expansion plans.

193. The applicant proposes to mitigate the extent of offsite odours by staging the introduction of odour control measures. Introducing measures to mitigate offsite odour effects is consistent with meeting these objectives, provided that the proposed measures are effective at reducing offsite nuisance and the timeframes for their introduction recognises the potential for adverse effects to the neighbouring residents.
194. Policy 5 identifies the role that non-regulatory approaches (as set out in Chapter 4 of the RRMP) can play in avoiding or resolving conflicting land use. This policy recognises that incompatible land use situations arise out of past land use decisions and that a collaborative approach between councils can help to prevent and resolve these situations.
195. Conflicting land uses are clearly impacting upon each other in this case, but the previous land use decisions that have exacerbated this issue are now beyond challenge. This conflict needs to be reduced by implementation of appropriate odour control measures on the applicant's site.
196. The applicant considers that Policy 5 provides a basis for a collaborative approach in which the applicant implements the proposed odour mitigation upgrades, and that the councils and community play their part by allowing time and increased production levels to support the implementation of these measures<sup>60</sup>. I consider that this policy seeks some degree of collaboration, but this is primarily between the councils, and there is no expectation from this policy that the community must tolerate significant ongoing adverse effects.
197. I also note that previous consent application for the existing air discharge was settled in a collaborative manner, with opposing submitters not seeking to be heard on the basis of the consent conditions that were agreed to by the applicant. The affected community has already provided time for the implementation of odour mitigation measures but these conditions have not been complied with in the set timeframes.
198. Policy 7 sets out the approach for addressing existing problems arising from conflicting land use activities. It recognises existing lawfully established activities that are operated in a manner that adopts the best practicable option (BPO) or which are otherwise environmentally sound and indicates that HBRC will endeavour to resolve issues by facilitating discussions between affected parties. If consent is granted, conditions requiring ongoing odour monitoring and regular community meetings would be consistent with the approach set out in Policy 7.

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<sup>60</sup> AEE Section 7, page 48

199. There is focus on existing activities adopting measures that are the BPO, and an acceptance that in some cases activities could be environmentally sound without needing to adopt the BPO, for example, where a site is operating in a remote location. Conversely, Policy 7 establishes that existing activities should implement the BPO and that this should be developed to the degree required to prevent the activity from causing objectionable or offensive odour beyond the boundary. This is reflected in the activity's existing (and recommended) consent condition that requires avoidance of offensive and objectionable odour beyond the boundary.

200. The BPO is defined by the RRMP as:

9.1 **Best practicable option \***

In relation to a discharge of a contaminant or an emission of noise, means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to:

- (a) The nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects, and
- (b) The financial implications, and the effects on the environment, of that option when compared with other options, and
- (c) The current state of technical knowledge and the likelihood that the option can be successfully applied.

201. *Environmentally sound* activities are defined as those complying with the environmental guidelines set out for that activity, in this case those contained in Table 6 of Policy 69, and any resource consents for the activity. For odour, the relevant guideline states that '*there should be no offensive or objectionable odour beyond the boundary of the subject property*'.

202. I have considered and commented on some of the relevant factors that help determine the BPO below:

*Nature and sensitivity of the receiving environment*

203. As discussed in section 10 of this report and in Mr Curtis' evidence, the site is now located close to a residential area that is sensitive to the effects of odour from the applicant's activities. This nature of the odour is likely to be considered unpleasant by most people<sup>61</sup>, and the lack of separation to the residential area means that adverse effects are likely unless effective odour controls are put in place.

*Financial implications and effects on the environment of that option*

204. The applicant has provided estimates of the cost of the proposed upgrades, and these are significant, totalling \$2.75 million<sup>62</sup>. It would be useful for the applicant to detail the difference in

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<sup>61</sup> Evidence of Mr Andrew Curtis, para. 24

<sup>62</sup> AEE, page 46.

cost between the proposed mitigation options and an option that would involve complete enclosure of the compost transfer activities.

205. The applicant was required to undertake investment in odour control measures under the existing consent, within set timeframes and under the existing compost production limit of 120 tonnes/week. Some of the key mitigation measures that have been proposed are the same as those that have been known to be required since 2011 (i.e. the enclosure of the Phase 1 transfer/mixing process and the enclosure of the Phase 1 to Phase 2 turning process within a suitable building). This context should play a role in consideration of the financial implications of establishing the BPO.

### *State of technical knowledge*

206. With respect to determining the BPO, the MFE Good Practice Guide for Assessing Air Discharges from Industry (2016)<sup>63</sup> explains that the ‘current state of technical knowledge’ is generally assessed by comparison with best practice and that “*while best practice will generally be consistent for a particular industry, the best practicable option may differ, depending on factors such as the environmental setting and potential for adverse effects*”<sup>64</sup>.
207. Mr Curtis has identified that many of the measures proposed by the applicant could be described as the BPO for this site. Likewise, the experts agree that the measures proposed for some critical processes are appropriate (e.g. Phase 2 tunnel loading) and that it is appropriate to focus on the implementation of mitigation of the main odour sources with a clear timetable.
208. The experts identified that ‘full enclosure’ or automated transfer equipment are ‘more effective’ methods that could be used in relation to managing Phase 1 transfer odours. While I have not been made aware of any other mushroom composting facilities operating a completely enclosed composting process, this does not preclude this option from being the BPO in a specific case, where the risk of adverse effects warrants this level of capture and treatment. This is the control method which is likely to provide the greatest certainty of controlling the effects of odour discharges and the applicant should provide further detail on why complete enclosure cannot be implemented on this site and the difference in the level of odour capture that could be achieved if this option was implemented.
209. My view is that the further information requested on the Phase 1 bunker eave extraction system would need to be considered and amendments to the applicant’s proposed implementation strategy would be required before the proposal can be demonstrated to be the BPO. These

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<sup>63</sup> MFE November 2016, ME 1276.

<sup>64</sup> MFE November 2016, ME 1276, page 36

amendments would place a greater emphasis on implementing key mitigation measures within set timeframes, rather than based on production increases. If there is disagreement by the applicant about the methods and/or timing needed to achieve the BPO then this will need to be demonstrated. If the reasons are financial information should be provided to justify this. This information could be made available to the decision makers but kept confidential from other parties.

210. Policy 8 sets out the decision-making criteria for resource consent applications that involve discharges of odour, and states that factors including those recognised as the FIDOL factors are considered, along with the extent to which lawfully established resource use activities operate in a manner that adopts the best practicable option (BPO), or which is otherwise environmentally sound.
211. Objective 20 seeks the management and use of organic material in a manner that does not result in adverse effects on humans and the environment. This objective reinforces that there is a need for the rapid implementation of effective odour mitigation measures to address the current level of adverse effects.
212. Policy 14 recognises the importance of buffer zones between composting activities and neighbouring properties to ensure that there are no offensive or objectionable odours imposed on neighbouring properties.
213. Minimum buffer zone requirements for this activity have previously been estimated at 500 to 600 m<sup>65 66</sup>. There is now less than 200 m between the boundary of the applicant's site and the nearest residential property. The lack of a suitable buffer zone makes it more difficult for the applicant to meet the requirement that there be no objectionable or offensive odour beyond the boundary that causes an adverse effect. This is a condition of the existing consent and should continue to be a requirement of any new consent that is granted. The lack of a buffer zone results in a greater reliance on the applicant implementing effective on-site odour treatment and controls.

### **Hawke's Bay Regional Resource Management Plan (RRMP)**

214. Chapter 5 of the RRMP relates to Air Quality. This chapter includes objectives and policies that were introduced to give effect to the Resource Management (National Environmental Standard for Air Quality) Regulations 2004.
215. The key objectives and policies of the RRMP are listed in Table 8 (and are contained in full in Appendix 7):

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<sup>65</sup> Jacobs, 2015. 'Reverse Sensitivity Assessment for Arataki Re-Zoning Proposal'. 29 May 2015, 0001 – Final.

<sup>66</sup> Tonkin and Taylor 2016. 'Assessment of Separation Distances'. March 2016. N.B: A separation distance of 600 m was recommended from the boundary of the active composting area, and not from the property boundary.

**Table 8 – Relevant RRMP Objectives and Policies**

<b>Objective and Policy</b>	<b>RRMP – Relevant Objective and Policies</b>
<b>OBJ 39</b>	Requires the maintenance of a standard of ambient air quality that is not detrimental to human health, amenity values, or the life-supporting capacity of air
<b>OBJ 39a</b>	Seeks that local air quality is maintained at a level that is not detrimental to human health, and amenity values
<b>POL 69</b>	Is to manage the effects of activities affecting air quality in accordance with Table 6 Environmental Guidelines. For odour, Guideline 1 state that there should be no offensive or objectionable odour beyond the boundary of the subject property.

216. Objectives 39 and 39a are relevant and seek that local and ambient air quality is maintained at a level that is not detrimental to human health and amenity values. The current activity is adversely affecting the amenity value of the local residential area. In order to be consistent with this policy, implementation of adequate odour mitigation is required so that the currently occurring adverse effects on amenity values are mitigated as soon as possible.
217. Policy 69 is to manage the effects of activities affecting air quality in accordance with Table 6 Environmental Guidelines for air quality. For odour, these guidelines state that there should be no offensive or objectionable odour beyond the boundary of the subject property. This has been a condition of consent for the air discharge on this site since prior to 2001, when an air discharge consent was first obtained<sup>67</sup>.

### **Conclusion on Planning Provisions**

218. In my view, the policy framework provides recognition for existing activities and seeks that these activities manage their odour effects so that they avoid causing offensive or objectionable odour effects beyond the boundary. Odour should be captured and treated to the level necessary to achieve this.
219. I agree with the applicant that this does not mean that no odour can be discharged beyond the boundary at all, but it does mean that the nature and scale of the discharge (as assessed using the FIDOL framework) will need to be managed so that they do not reach an offensive or objectionable level.
220. The policy framework clearly establishes that offensive or objectionable odours should not be imposed upon the community. This supports my recommendation that consent be refused unless more information can be provided by the applicant to demonstrate that a key mitigation measure (i.e.

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<sup>67</sup> Consent no. DP980233A

the Phase 1 odour capture system) will achieve the necessary level of odour capture and treatment.

221. In my view the applicant’s proposed implementation approach does not provide enough certainty that the necessary mitigation measures will be implemented so that the continuation of adverse effects is avoided. This is inconsistent with the objectives and policies of the plan.
222. I consider that the implementation of the necessary mitigation measures should be required within clearly established timeframes. These timeframes should require the rapid implementation of the required odour control measures and should take into account the high sensitivity and proximity of the sensitive residential area, and the existing level of adverse effects. This approach would be consistent with the relevant objectives and policies which require mitigation and avoidance of adverse offsite odour effects.
223. This approach recognises that this is an established industry in its current location, but that it must implement all of the necessary measures if it is to avoid causing objectionable and offensive odour (i.e. be environmentally sound). The recommended conditions would also prevent production increases until it can be demonstrated that the mitigation measures achieve this requirement.
224. This does not preclude further actions being required by the consent holder to address any residual sources of odour as they become apparent. The monitoring framework set out in the recommended conditions will assist in establishing the degree to which odours continue to cause adverse effects after implementation of the mitigation measures.

**RMA Section 104B**

225. The applications is for a discretionary activity. Consent may be granted or refused, and if granted, consent conditions can be imposed under s108.

**RMA Sections 105 and 107**

226. As well as the framework for decisions established in section 104 of the RMA, section 105 provides specific additional considerations for section 15 applications (discharges).

**Table 9: Analysis of Applications in terms of RMA section 105**

RMA Section	Commentary
105(1)(a)	Decision-makers to have regard to in relation to discharge permits (RMA section 15) – <i>“the nature of the discharge and the sensitivity of the receiving environment”</i> . As set out in Mr Curtis’ evidence, the odour from the process is likely to be considered unpleasant most people and the residential area to the west of the site is sensitive to odour discharges.
105(1)(b)	Decision-makers are to have regard to in relation to discharge permits (RMA section 15) – <i>“the applicant’s reason for the proposed choice”</i> .

	The reasons for the applicant's choice and the alternatives considered are set out in section 5 of the AEE. In summary, highest priority odour sources are targeted and mitigation measures are to be introduced progressively. The applicant's proposed choice is based on the longstanding existing location of the activity and mitigation of offsite odours through adoption of the BPO over time, and with associated increases in compost production.
105(1)(c)	This provides an additional matter for decision-makers to have regard to in relation to discharge permits – <i>“any possible methods of discharge, including discharge into any other receiving environment”</i> . Alternatives, including the need to consider alternative discharge methods or locations are considered by the applicant. The applicant's view is that consideration of an alternative location is not necessary because the adverse effects of the activity will not be significantly adverse once the proposed mitigation is put in place.

227. While RMA section 105 provides additional matters for the decision maker to have regard to, these do not prevent the proposed activity being granted consent, subject to the outstanding issues identified by this report being resolved.

## Part 2 of the RMA

228. Part 2 of the RMA is the Act's purpose and principles, including matters of national importance in section 6, other matters which particular regard must be had in section 7, and Treaty principles in section 8.

229. Section 104(1) of the RMA makes all decisions on resource consent applications subject to Part 2.

230. In April last year the Court of Appeal released its decision in RJ Davidson Family Trust v Marlborough District Council<sup>68</sup>. The Court of Appeal found that consent authorities *“must have regard to the provisions of Part 2 when it is appropriate to do so”*.

231. The court found that there may be situations where it would be appropriate and necessary to refer to Part 2 when considering consent applications, including where there is doubt that a plan has been competently prepared under the RMA.

232. I have no reason to believe that the current plan has not been competently prepared. However, for completeness, and in case the Panel finds it helpful to refer back to Part 2, I consider the matters in Section 7 to be particularly relevant, namely (c) *the maintenance and enhancement of amenity values*, and (f) *maintenance and enhancement of the quality of the environment*.

233. Finally, section 5 sets out the purpose of the RMA as being the promotion of sustainable management. In this case the applicant proposes to continue to discharge contaminants to air

<sup>68</sup> R J Davidson Family Trust v Marlborough District Council [2018] NZCA 316

to enable the production of compost for their business operation, thereby contributing to economic wellbeing. This needs to be balanced with ensuring that the social wellbeing and health of the community is provided for and that the actual and potential adverse effects associated with the activity are avoided, or sufficiently mitigated.

### 13. RECOMMENDED CONSENT CONDITIONS

234. A set of recommended consent conditions is provided in Appendix 1 for consideration.
235. If the consents are granted, the suite of conditions finalised by the Panel will be transferred onto the standard Council consent document template.
236. Consent conditions must be clear and certain to all parties. They must be fair and reasonable and able to be monitored and enforced. I have used the compost process descriptions from the existing consent because these are already clearly established and have proved suitably clear and useful. I recommend the use of a detailed schedule to describe the necessary upgrades so that there is no ambiguity over what the required mitigations measures are to include and when they are to be implemented by.
237. The Good Practice Guide recommends that access to meteorological monitoring data be included as consent conditions. This is also proposed by the applicant and is included as a recommended condition.
238. The Good Practice Guide also recommends a consent condition that states: *there shall be no noxious, dangerous, offensive or objectionable odour to the extent that it causes any adverse effects at or beyond the boundary of the site*. This is similar to the condition of the existing consent (condition 6) and should be included as a condition if consent is issued.
239. The recommended consent conditions require the implementation of the priority mitigation measures within 8 months. They also limit production to current levels until the odour mitigation measures are installed and are shown to have been effective.
240. As identified in Mr Curtis' evidence<sup>69</sup>, some adjustment to the timing of installation of the Phase 2 mixing/transfer building could be considered if further information can be provided to show that changes to on-site processes have occurred to reduce the odour risk from the Phase 2 transfer process.
241. If the 8 month timeframe is demonstrated to be unreasonably short, a longer timeframe could be considered, but should take into account the need to avoid a long period of ongoing adverse effects on the community. Complaint data indicates greater complaint levels in summer, and the

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<sup>69</sup> Paragraph 85(d).

full suite of required odour mitigation measures should be implemented before summer 2020 (i.e. approximately 18 months).

242. The recommended conditions also include an independent odour monitoring regime. This process would see weekly monitoring of odour in the vicinity of the site, as well as establishment of independent complaint response process. The purpose of this framework is to provide information on the success of the odour control measures and to help with identification of other sources of odour from the site and their significance. It would help to provide for the quicker response to any complaints, but does not preclude Council enforcement officers investigating complaints if it was deemed to be necessary. This information would also be used to report back to the local community on any apparent odour trends through six monthly community liaison meetings.

#### **14. DECISION TO REFUSE CONSENT**

243. A decision to refuse consent would see the applicant falling back to relying on the existing consent (DP10288A) which expires May 2025. This would leave the applicant in a state of non-compliance with the requirements of the conditions this consent. Operating with the current lack of required odour control measures in place is likely to again result in a breach of condition 6 of this consent.
244. Should the panel decide to refuse consent, they could do so outright, or consider an alternative that offered some form of 'twilight' or phasing out approach. This could take the form of a consent that would give the applicant time to remove the Phase 1 composting operation from the site in a set timeframe, while allowing the less odorous Phase 2 to 4 processes to remain.

#### **15. CONSENT DURATION**

245. The applicant has sought a 35 term of consent as provided for by s123(d) of the RMA. The need for a long consent term are based on the considerable investment proposed and the need for certainty to support this expenditure.
246. In recommending a consent duration I have considered a number of factors including but not limited to the below:
- The duration of consent sought by the applicant.
  - RRMP guidance (Chapter 26.4)
  - The level of information provided regarding the effects of the activities, and certainty that mitigation measures will prove effective over the term of the consent.
  - The potential effects of the activities.

247. Section 26.4 of the RRMP provides guidance on consent duration. The RRMP states that the Regional Council will grant resource consent for other activities, including discharges, for a period of 20-35 years unless one or more of the following exceptions apply:
- the activity has a duration of less than 20 years, in which case a consent will be granted for the duration of the activity
  - there is a need to align the consent expiry date with others, in order that the cumulative effects of activities can be considered through a common consent renewal process
  - the consent is for the allocation of gravel or another resource whose availability changes over time in an unpredictable manner
  - the type of activity has effects that are unknown or potentially significant for the locality in which it is undertaken
  - at the time of granting consent, the effects of the activity are/were unknown or little understood and a precautionary approach is adopted
248. The effects of the activity have been discussed in Section 10 of this report and by the evidence of Council's expert attached as Appendix 5. This information indicates that the receiving environment is particularly sensitive, and there is uncertainty about the degree of adverse effects that will remain after the mitigation measures are completely implemented. Therefore, I consider that a term of less than 20 years is warranted.
249. I recommend that if granted the consent expire in 2029. A 10 year term in my view strikes an appropriate balance between providing certainty for the applicant and recognises the uncertainty inherent in the activity. But in allowing this duration the expectation is that required improvements will be quickly put in place.
250. The existing air discharge consent will need be surrendered if a new consent sought is granted. This existing consent would have expired in 2025.

## **16. MONITORING**

### **Monitoring by Consent Holder**

251. The draft conditions of consent recommended requires establishment of independent and regular odour monitoring. They also provide for an independent odour complaint response. This shifts this burden of monitoring and response to complaints from the Council to the applicant. It also better provides for feedback on how the improvements have worked, and will complement the regular community meetings that the recommended consent conditions also require.
252. These conditions make it apparent that the applicant is responsible for managing their odour, and will be responsible for reporting on progress to the local residents.

## Monitoring by Council

253. It is recommended there be provision for Council to undertake frequent monitoring of the discharge. The costs of this monitoring will be charged to the consent holder and shall be in accordance with the Annual Plan in place at that time.
254. "Non routine" inspections will be made on other occasions if there is reason to believe (e.g. following a complaint from the public, or monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in the RMA. This is likely to be required less frequently if the independent odour complaint response process set out in the recommended conditions is implemented.

## 17. CONCLUSION

255. This assessment has been carried out in accordance with s 104, 105, and 104B of the RMA. It is recommended that consent be refused unless further information can be provided to show that odour from the Phase 1 transfer process can be captured and treated. I have also concluded that to be considered consistent with the relevant objectives and policies, the key mitigation measures need to be implemented as soon as possible.
256. This recommendation recognises that the activity is existing, but also that rapid implementation of odour mitigation measures is necessary to ensure that offensive or objectionable odours beyond the site boundary are avoided. This recommendation balances the need for rapid improvements to the current situation while recognising the economic benefits and employment offered by the applicant's operation.
257. Without this mitigation being fully in place it seems unlikely that offensive or objectionable odour effects could be avoided, given the separation distance to the sensitive residential area and nature of odour involved. The community is sensitive to the odour generated from the site as it has occurred over a number of years. The community should not have to tolerate offensive and objectionable odour over an extended period of time and there is an urgent need for odour mitigation measures to be implemented. The applicant's proposed approach to implementing the odour mitigation measures does not adequately recognise the need to mitigate adverse effects and is not supported.
258. The implementation of the odour mitigation measures will significantly reduce offsite odour nuisance. There is a risk that even with the odour mitigation in place that because of the separation distance and sensitive nature of the residential area that from time to time adverse odour effects will occur. That could lead to further enforcement action and/or the need for further improvements. This is a risk that will need to be carefully considered by the applicant.

## 18. RECOMMENDATION

259. My recommendation is that the resource consent should not be granted unless further information can be provided that demonstrates that the Phase 1 extended eaves and ventilation system can adequately capture and treat odour.
260. If this information is provided, then I consider that consent could be granted but only if it is subject to conditions that require the rapid implementation of priority odour control measures prior to increases in compost production.

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Recommending Officer



**Paul Barrett**  
**Principal Consents Planner**  
REGULATION GROUP

9 July 2019

Recommendation Confirmed



**Malcolm Miller**  
**Manager Consents**  
EXTERNAL RELATIONS GROUP

9 July 2019

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## 19. APPENDIX 1 – ENFORCEMENT ORDERS

IN THE DISTRICT COURT  
AT HASTINGS

CRI-2015-020-1551

**HAWKES BAY REGIONAL COUNCIL**  
Prosecutor

v

**THE TE MATA MUSHROOM COMPANY LTD**  
Defendant

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**ENFORCEMENT ORDER MADE UNDER  
s339(5)(a) and s314 RESOURCE MANAGEMENT ACT 1991**

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Enforcement Order issued:

19 APR 2016



[1] This Enforcement Order is made as a consequence of the prosecution of the defendant company on a charge laid under s15(1)(c) of the Resource Management Act 1991. Having sought and been given a sentencing indication in terms of the Criminal Procedure Act, the defendant company entered a plea of guilty to the charge, and indicated that it would consent to the making of an Enforcement Order in the terms to be set out.

[2] The Court agreed that such an Order is appropriate and therefore, by consent, makes an Enforcement Order under s339(5)(a) and s314 of the Resource Management Act 1991 in the following terms:

In relation to the composting facility located at the property at 174-176 Brookvale Road, Havelock North and operated by The Te Mata Mushroom Company Ltd (the Company):

1. By 1 October 2016 the Company shall lodge with the Hawke's Bay Regional Council a resource consent application for an expanded composting operation. As part of that application, the Company will propose a suite of upgrades and/or odour control solutions intended to mitigate the odour from the expanded operation.
2. By 20 December 2016, the Company shall lodge a final application for resource consent with Hawke's Bay Regional Council. Any final application for resource consent shall take into account and, where appropriate, incorporate comments from and/or recommendations made by Regional Council staff in respect of the draft application for resource consent.
3. Leave is reserved for any party to apply to the Court for further directions on five days notice to the other party.

Dated at Wellington this 18th day of April 2016

  
C J Thompson  
District Court Judge/Environment Judge



IN THE DISTRICT COURT  
AT HASTINGS

CRI-2018-020-000900  
[2018] NZDC 16930

HAWKE'S BAY REGIONAL COUNCIL  
Prosecutor

v

THE TE MATA MUSHROOM COMPANY LIMITED  
Defendant

BEFORE THE ENVIRONMENT COURT  
I MUA I TE KOOTI TAIAO O AOTEAROA

IN THE MATTER	of the Resource Management Act 1991
AND	of an application under s 314 of the Act
BETWEEN	HAWKE'S BAY REGIONAL COUNCIL  Applicant
AND	THE TE MATA MUSHROOM COMPANY LIMITED  Respondent

Court: Environment Judge C J Thompson

Hearing: In Chambers under s 309 of the Resource Management Act 1991

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**ENFORCEMENT ORDER**

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Decision issued: **22 AUG 2018**



[1] The following enforcement orders are made pursuant to s 314 of the Resource Management Act 1991.

1. The Te Mata Mushroom Company Limited shall on 1 October 2018 cease producing compost at its Brookvale Road site unless the company has lodged with Hastings District Council an application for a land use consent in respect of, and to be advanced in conjunction with, its application for resource consent filed on 1 December 2016 pursuant to the enforcement order in CRI-2015-020-1551.

Dated at Wellington the 13<sup>th</sup> day of August 2018



C J Thompson  
District Court Judge/Environment Judge



## 20. APPENDIX 2 - RECOMMENDED CONDITIONS OF CONSENT

**Note:** If the consents are granted, the final consent conditions will be issued by HBRC in Council's standard consent document format.

1. All works and structures relating to this consent shall be installed to conform to best engineering practices and at all times maintained to a safe and serviceable standard.
2. The consent holder shall undertake all operations in accordance with any drawings, specifications, statements of intent and other information supplied as part of this application. Specifically this shall include:
  - a) The Te Mata Mushrooms Company Limited – Application To Discharge Contaminants Into Air, Cheal, 20 December 2016.
  - b) DP160229A – Response to Request for Further Information, Cheal, 27 March 2017.
  - c) APP-123602 – 174-176 Brookvale Road, Hastings – Response to Further Information. Strategy, 5 July 2019.

Where a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.

3. There shall be no offensive or objectionable odour to the extent that it causes an adverse effect at or beyond the boundary of the site.
4. For the purposes of this consent, 'Phase 1' activities are defined as:
  - a) The filling of Phase 1 bunkers with a mixture of straw, chicken litter, and gypsum; and,
  - b) Composting of this mixture (after it has been placed in the Phase 1 bunkers) including aeration of the compost and ventilation of the Phase 1 bunkers to odour control equipment; and,
  - c) The turning of the compost during the composting process; and
  - d) Removal and final turning of compost from Phase 1 (prior to transferring the compost to the Phase 2 bunkers).
5. For the purposes of this consent 'Phase 2' activities are defined as:
  - a) The filling of Phase 2 bunkers with compost; and,
  - b) Ventilation of the Phase 2 bunkers during their filling with compost; and,
  - c) Aeration of compost to achieve pasteurisation, and ventilation of the Phase 2 bunkers during this process; and,
  - d) The removal of pasteurised compost from the Phase 2 bunkers.

### Production limit

6. The contaminants discharged to air shall be from the operation of a mushroom compost plant producing not more **500 tonnes of compost per 7 days**.

The consent holder shall record the tonnage of compost manufactured over any 7 day period and make the records available to the Council (Manager Compliance) on request and at the time of the site visits.

Advice Note: For the purposes of this condition 'compost' is defined as the product produced from the Phase 2 pasteurisation process prior to it being placed within the compost trays.

### Required upgrades

7. Within **3 months** of commencement of this consent, spent compost shall be stored within a covered building that has an impermeable concrete floor. This building shall be located centrally on the site, and not within 100 m of any property boundary. Spent compost shall be removed from the site within 7 days of having been removed from the growing rooms.
8. Until condition 7 is achieved, all used compost will be removed from the site within 12 hours of having been removed from the growing rooms.
9. Within **8 months** of the commencement of this consent, the consent holder shall construct and commission the following:
  - a) At least one additional Phase 1 bunker.
  - b) The Extended eaves/hoods on the western end of Phase 1 bunkers.
  - c) The Phase 2 transfer building.
  - d) A bale breaking machine and semi-enclosed blending line system.
10. All of the structures, processes and buildings described in condition 9 shall be:
  - a) Designed, constructed and subsequently used as described in Schedule 1;
  - b) Ventilated to appropriately designed, sized and operated odour control system as required to minimise the release of fugitive odour and to the extent that condition 3 can be complied with.
11. Until the requirements of conditions 9 and 10 are met:
  - a) Bale breaking and mixing/blending and the activities described in conditions 4 and 5(a) shall only occur between the hours of 8am and 6pm.
  - b) Production shall not exceed **120 tonnes per week**.
12. After implementation of the measures described by conditions 9 and 10, compost production may increase above 120 tonnes per week but shall not exceed **200 tonnes of compost per week** until;
  - a) the measures required by conditions 9 and 10 have been demonstrated to be effective at ensuring compliance with condition 3; and,
  - b) The following additional measures (as described in Schedule 1) have also been fully implemented:
    - i) Bale wetting on an aerated pad

- ii) Bale spiking and/or dunking.
  - iii) Venting of the Phase 2 tunnels to an appropriate odour control system.
13. For the purposes of condition 12(a), 'demonstrated' shall be considered to mean an absence of any non-compliance with condition 3 in the preceding 6 month period, as assessed by the Council (Manager Compliance) and/or by the independent monitoring person required under conditions 37 and 38.

### Process/operational requirements

14. The measures required by 9 and 10 shall be sufficient to ensure that Phase 1 composting and turning as defined in Condition 4(b), and 4(c), is undertaken in a fully enclosed building, or buildings, that is/are ventilated to an odour control system with sufficient design capacity.
15. The measures required by condition 9 c) shall ensure that all Phase 1 final turning and transfer to Phase 2 operations as described in Condition 4(d) and 5(a) are undertaken in a fully enclosed building(s) that are ventilated to an odour control system with sufficient design capacity.

Note: The physical emptying of a bunker containing compost and the loading a bunker containing the in-vessel turning machine will involve compost being transferred from one bunker to another via a front-end loader operating in an outdoor environment; with one door of each bunker being open at any one time to facilitate this process.

16. The consent holder shall ensure that negative pressure is maintained within the facilities required by Condition 9 as sufficient to reduce fugitive odour emissions to the extent that condition 3 can be complied with, and for Phase 1 bunkers and phase 2 tunnels, it is maintained at all times **when the doors are closed** while composting activities are being carried out.
17. Where Phase 1 bunker to bunker transfer and Phase 1 to Phase 2 transfer occurs and this requires that bunker or building **door(s) are open** to allow for the transfer process, then sufficient additional ventilation for that bunker or building shall occur that prevents fugitive odour emissions from that source to an extent that condition 3 can be complied with.
18. No part of the composting process shall be operated without the associated emissions control equipment being fully operational and functioning correctly. This includes ensuring that all ducting to odour control equipment shall draw sufficient negative pressure during operation to ensure that fugitive emissions are kept to a practicable minimum.
19. All processes on site shall be operated, maintained, supervised, monitored and controlled to ensure that odour discharges authorised by this consent are maintained at the minimum practicable level.
20. All process equipment, buildings, ducting and odour control equipment shall be maintained in good condition and as far as practicable shall be free from leaks and/or blockages so as to prevent the discharge of fugitive emissions
21. All chicken litter/gypsum mix shall be stored in three-sided and roofed bunkers that are enclosed with soft door flaps.

### Odour Control Design Certification

22. The consent holder shall engage a suitably qualified professional to design the odour treatment systems and devices required by this consent . The designer shall provide the following

information to the Council (Manager Compliance) prior to installation of any new odour treatment systems and prior to increasing air flow to the existing biofilter:

- a) Design plans and details of the proposed odour treatment systems/devices.
- b) A description of the source of the odorous air that will be treated by each device/system,
- c) The key design parameters, assumptions and inputs, including air flow rates and volumes of the odour treatment system, and
- d) any operating constraints and limits for the devices/systems proposed.

23. The odour treatment systems/devices shall constructed in accordance with the design plans.

24. After modification or installation of any odour control systems/devices, the consent holder shall provide certification from the designer that the system/device has been installed in accordance with the design plans. This certification shall be provided to the Council (Manager Compliance) in writing within 10 working days of installation or modification of nay odour control system/device.

### **Biofilter(s)**

25. The temperature of the inlet air to the biofilter, or biofilters, shall not exceed 40°C.

26. The consent holder shall ensure that the design parameters of the ventilation air biofilter, or biofilters, are consistently maintained in order to minimise the emission of odour so that condition 3 is able to be complied with. This maintenance shall include, but is not limited to:

- a) Maintaining satisfactory moisture levels in the biofilter, or biofilters, at all times;
- b) Maintaining the design depth of active media in the biofilter or biofilters;
- c) Ensuring that the biofilter media is maintained to avoid short-circuiting of the gases being treated through the bed;
- d) Replacing the biofilter media at an appropriate time. This shall be considered to be when the pressure differential is unable to be maintained within its normal design operating range, and/or evaluation of representative samples of media indicates that it is approaching or has reached the end of its effective life, or at any time when it is evident that the biofilter, or biofilters, are no longer performing to a satisfactory level in respect to odour removal and cannot be remediated.

27. The consent holder shall monitor and maintain records of the operational parameters of the biofilter, or biofilters, as follows:

- a) The inlet air temperature shall be monitored continuously, and recorded once between 6:00 am and 10:00 am and once between 2:00 pm and 5:00 pm per operating day;
- b) The pressure differential within representative inlet air distribution laterals of the biofilter, or biofilters, shall be monitored continuously and recorded once between 6:00 am and 10:00 am and once between 2:00 pm and 5:00 pm per operating day, with a note as to significant rainfall that has occurred for an hour or more preceding each recording (see Advice Note 3);
- c) The media moisture level and the condition of the biofilter bed, or beds, at a depth of 20 to 25 cm from the surface of the bed and at the locations specified in the Odour Management

Plan, shall be qualitatively monitored and visually inspected at least once every week, and the observations shall be recorded;

- d) The media moisture content within the biofilter bed, or beds, at depths of 25 cm **and** 50 cm from the surface of the bed, and at the locations specified in the Odour Management Plan, shall be measured via gravimetric method in February and August each year and the results shall be recorded;
- e) The pH within the biofilter bed, or beds, at a depth of 50 cm from the surface of the bed and at the locations specified in the Odour Management Plan, shall be measured by an appropriate method, as documented in the Odour Management Plan, each year in February and August and the results shall be recorded;
- f) The records collected in accordance with this condition shall be made available to the Council (Manager Compliance) on request and at the time of each site inspection.

### **Recycled Water and Wastewater Management**

- 28. The consent holder shall continuously measure and record the dissolved oxygen (DO) concentration (mg/L) in the aerated pond. The DO records shall be made available to the Council (Manager Compliance) upon request and at the time of each site inspection.
- 29. The consent holder shall ensure that the aeration of recycled water in the pond is sufficient to maintain dissolved oxygen (DO) concentrations at no less than 1.0 mg/L at all times.
- 30. The consent holder shall check for and ensure that after each irrigation event the irrigation lines are completely empty and do not contain residual wastewater.
- 31. Recycled water shall only be used in fully bunded areas that have an impervious concrete base and which are graded to ensure that all excess recycled water and runoff is captured and returned to the holding pond.

### **Odour Management Plan**

- 32. The consent holder shall undertake all operations in accordance with a written Odour Management Plan held on site. The OMP shall be developed with input from a suitably qualified and experienced professional odour management expert, and within **3 months** of the consent commencing. It shall set out clearly the best practice odour control measures that are to be implemented for the works authorised by this consent. Those measures shall represent the best practicable options for minimising, to the maximum extent practicable, offensive or objectionable odour emissions caused by or associated with the operation of this site.

The OMP shall include (but is not limited to):

- a) A description of the purpose of the plan;
- b) The names and contact phone numbers and addresses of key personnel;
- c) A general description of the activities undertaken at the site and a site plan detailing the location of key buildings and processes;
- d) A description of the stages of the composting processes and associated systems: pre-wetting, phase-1 (compost mixing), phase-2 (pasteurisation), air treatment systems, wastewater system, fresh water system, spent compost management.

- e) Identification of the potential sources of odour, including the stockpiling and transfer of spent mushroom compost;
  - f) A full description of the odour mitigation system;
  - g) Relevant operating procedures that need to be undertaken to minimise odour emissions at each stage;
  - h) The procedures and maintenance necessary to ensure:
    - i) the consistent operation of the biofilter(s) or other odour treatment systems;
    - ii) the monitoring required to assess the efficiency and effectiveness of the biofilter(s) or other odour treatment systems in removing odorous compounds from discharges to air associated with compost manufacture
  - i) A diagram that clearly identifies the locations across the surface of any biofilter(s) where moisture and pH sampling will be carried out to provide representative data (see Advice Note 2);
  - j) A detailed description of the method used to determine the pH of the media in any biofilter(s);
  - k) An inventory of odour mitigation equipment and materials;
  - l) An equipment maintenance programme;
  - m) A procedure for responding to an adverse effect as a result of an offensive or objectionable odour beyond the boundary;
  - n) A list of records that need to be kept including maintenance and control parameters, weather records and odour complaint and investigation records;
  - o) A description of staff training including methods, frequency and training records;
  - p) Procedures for regular ambient odour monitoring in the vicinity of the site and training for the odour monitor.
  - q) A description of the process for reviewing the overall system performance.
  - r) Steps to be taken when odour is detected during ambient odour monitoring;
  - s) Complaints investigation, monitoring and reporting procedures;
  - t) Notification protocols and procedures for community liaison group meetings
  - u) A contingency plan for plant failures, power failures, and extreme rainfall events, including an alarm callout system and an emergency phone list.
33. Until the OMP required by condition 32 is available, the consent holder shall continue to operate in accordance with the existing OMP developed for the site under consent no. DP100128A.
34. The consent holder shall review the OMP at least annually and shall update it as appropriate, including upon the introduction of new odour control systems/devices. A copy of the OMP shall be submitted to the Council (Manager Compliance) within one month of completing each review.

## Meteorological monitoring

35. Within three months of the date of commencement of this consent, the Consent Holder shall install and then operate and maintain a meteorological monitoring station to measure wind speed (m/s), wind direction (degrees true) and air temperature (dry bulb and wet bulb) at the site. The monitor shall continuously log these meteorological conditions in real-time and be in a location that minimises the potential for obstacles to affect the accuracy of the readings and in a location will provide data that is representative of the wind patterns of the site. The meteorological station shall be serviced and maintained at least annually and in accordance with the manufacturer's instructions.
36. Within one month of installation the meteorological monitoring station, the consent holder shall provide to the Council (Manager Compliance) a statement from a suitably qualified air quality professional confirming that:
  - a) As far as practicable, the siting of meteorological monitoring instruments should meet the AS/NZS 3580.1.1:2007 Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment standard; and,
  - b) The requirements of condition 36 are being met.

## Odour monitoring

37. The consent holder shall engage a suitably qualified and appropriately trained independent person(s) to undertake regular (at least weekly) ambient odour monitoring in the vicinity of the site. The frequency of monitoring, methods, and reporting shall be set out in the OMP. The individual(s) shall be verified as suitable by the Council (Manager Compliance). The results of the monitoring shall be made available to the Council (Manager Compliance) every three months. Monitoring shall commence prior to the upgrades required by condition 9 being implemented, shall target days and times that are have the highest assessed odour impact and shall utilise the procedures and assessment form set out in Appendix 3 of the MFE '*Good Practice Guide for Assessing and Managing Odour*' (ME1278, 2016) or an alternative method agreed with the Council (Manager Compliance).
38. The consent holder shall ensure that the person(s) required by condition 37 must also be available as follows:
  - a) to assess odour complaints as far as practicable within 60 minutes of receiving notification from either the consent holder or the Council (Manager Compliance); and:
  - b) to provide a written report to the consent holder and to the Council as far as practicable within 24 hours of receiving notification of the complaint on whether the odour relating to the complaint originated from the site and if so, whether that odour was considered:
    - i. to have an offensive or objectionable adverse effect beyond the boundary of the site; or:
    - ii. to be objectionable, if it became continuous or occurred on a regular or frequent basis.
39. Where the consent holder receives a complaint directly, that in the opinion of the complainant may be a breach of Condition 3 they shall refer this directly to the independent odour monitoring person(s) as soon as reasonably practical but no later than 30 minutes of receipt.
40. After receipt of a complaint and at the request of the consent holder or the Council (Manager Compliance), the independent monitoring person(s) shall be tasked to assess the odour and report in accordance with condition 38(b);
41. The consent holder shall:

- a) provide the independent person with access to the site for the purposes of carrying out inspections or measurements relevant to its investigation; and
- b) shall be responsible for paying all costs associated with the independent person's investigation and report.

Advice Note: Non-payment of these costs is non-compliance and may result in enforcement action. The requirements of conditions 37 – 41 does not preclude Council enforcement officers from investigating any complaints.

### **Community consultation**

42. The consent holder shall facilitate regular community liaison meetings, and shall invite owners and occupiers of properties within the residential zone within 400 metres of the subject property and nominated monitoring staff from the Council, Hastings District Council and Hawke's Bay District Health Board to attend such meetings. Meetings shall be held in the local area, outside of normal work hours (8am to 5pm) and public holidays and shall be held at least every 6 months unless otherwise agreed by the community members and the Council (Manager Compliance). The purpose of the meetings shall be:
- a) for the community to raise any issues regarding odour emissions and effects;
  - b) for the consent holder to report to the community on compliance with the conditions of this consent and in particular odour complaint records and the results of independent ambient odour monitoring (conditions 37 and 38); and
  - c) for the consent holder to report to the community on any past or proposed changes to operations that may affect odour emissions.

### **Complaints**

43. The consent holder shall log all odour complaints received. The log shall include:
- a) The date and time of the odour incident;
  - b) The date and time the complaint was received;
  - c) A detailed description of the odour incident, taking into account the FIDOL factors outlined in Advice Note 1 as far as it is possible to ascertain these from the complainant;
  - d) The name, telephone number, and address of the complainant;
  - e) Weather conditions (including an estimate of wind speed and direction) at the time of the odour incident;
  - f) Details of key operating parameters at the time of the odour incident;
  - g) Any corrective action taken.

The log of complaints shall be made available to the Council (Manager Compliance) at the time of any site visit, and on request.

44. Where an odour event is verified by an enforcement officer as being non-compliant with condition 3, the consent holder shall:

- a) Engage a suitable qualified air quality professional to review site operations and to report on the cause of the odour event, and identify remedial actions/measures available for addressing the cause of the event.
- b) Provide the report from the expert to the Council (Manager Compliance) within 20 working days of the event.
- c) Specify a timeframe over which the recommended remedial actions will be implemented.
- d) Subsequently implement the actions within the specified timeframe.

**Miscellaneous**

- 45. This consent shall not be exercised until consent no. DP100128A (or any subsequent consent) is surrendered.
- 46. All records, monitoring and test results that are required by the conditions of this consent shall be made available on request by the Council (Manager Compliance) during working hours, and shall be kept for a minimum of two years from the date of each entry.
- 47. That where, for any cause, contaminants associated with the consent holder’s operations are discharged to air such that an adverse effect does, or is likely to, occur beyond the boundary of the site, the consent holder shall:
  - a) Immediately take all practicable steps to cease the emission of the contaminants, and;
  - b) Immediately notify the Council, and;
  - c) Report to the Council, if requested, in writing and within 7 days, describing the manner and cause of the discharge and steps taken to control it and prevent its recurrence.
- 48. If an event occurs on-site that may lead contamination of groundwater, the Consent Holder shall notify the Hastings District Council Drinking Water Supply Manager and the Hawke’s Bay Regional Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs

**Advice Note:** Such an event might include for example a chemical or effluent spill. The Hastings District Council can be contacted on 871 5000. The Regional Council 24 hour Pollution Hotline should also be contacted on 0800 108 838.

**Review**

- 49. The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with s. 36(1) of the RMA.

Times of service of notice of any review:                      During the month of May, of any year.

Purposes of review:	of	To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time, or which became evident after the date of issue.
		To require the adoption of the best practicable option to remove or reduce any effects on the environment.

To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.

To impose a discharge standard if it is considered necessary.

## Schedule 1

Requirement	Description of requirement	Relevant Plan	When to be achieved
Phase 2 Transfer Building	Construct a new turning building located to the west of the Phase 1 bunkers adjacent to Phase 2 tunnels with a hopper under an extended eave alongside. The building and eave will be designed and constructed and operated to ensure that final turning and mixing of compost prior to transfer to the Phase 2 tunnels will be undertaken in an enclosed area that is ventilated to a biofilter.	A02, A04, A05	Within 8 months of commencement of consent - condition 9
Additional Phase 1 Bunker	A third Phase 1 bunker adjoining the existing two Phase 2 bunkers, with one door at the western end and of even length, ventilated to a biofilter. The bunker will achieve full enclosure of the in-vessel turning machine.	A02, A03, A05	Within 8 months of commencement of consent - condition 9
Phase 1 western bunker eaves	Extended eaves/hood constructed on the western end of the Phase 1 bunkers and fitted with air extraction equipment to capture fugitive odour and direct this to an appropriately sized biofilter.	A02, A03	Within 8 months of commencement of consent - condition 9
Bale breaking machine and blending line	Install a bale breaking machine and construct a semi-enclosed bale blending line, located under an eave that is ventilated to an appropriately sized biofilter. Mixing/blending is to occur via one uncovered hopper. Mixed material is to be delivered as near as possible to the Phase 1 bunker entrances.	A03, A05	Within 8 months of commencement of consent - condition 9
Bale wetting	Pre-wetting of bales over an aerated pad. Bale spiking or dunking to ensure recycled water penetrates centre of bales.		Prior to production exceeding 200 tonnes per week.
Phase 2 composting	Phase 2 tunnels to be ventilated to a biofilter or other appropriately designed, constructed and maintained treatment system.		Prior to production exceeding 200 tonnes per week.

21. APPENDIX 3 – CURRENT CONSENT DP100128A



**TRANSFER OF RESOURCE CONSENT:** DP100128A

**DATE:** 6<sup>th</sup> November 2012

**To:** **The Te Mata Mushroom Company Limited**  
PO Box 8137  
Havelock North 4157

**FROM:** Te Mata Mushrooms Limited

**LOCATION:** 174 - 176 Brookvale Road, Havelock North

**LEGAL DESCRIPTION:** Site of discharge: Lot 1 & 2 DP16311, Lot 2 DP 7771,  
Lot 3 DP 28543 & Section 28 &  
Section 8 Blk IV Te Mata SD

A handwritten signature in black ink, appearing to read "Tim Waugh".

**Tim Waugh**  
**Consents Advisor**  
RESOURCE MANAGEMENT GROUP



**RESOURCE CONSENT**  
**Discharge Permit**

In accordance with the provisions of the Resource Management Act 1991 (RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

**The Te Mata Mushroom Company Limited**  
PO Box 8137  
Havelock North 4157

to discharge contaminants into the air from a composting and mushroom growing operation, and associated activities.

**LOCATION**

**Address of site:** 174 – 176 Brookvale Road, Havelock North

**Legal description** (site of discharge): Lot 1 and Lot 2 DP 16311,  
Lot 2 DP7771  
Lot 3 DP28543  
Section 28 & Section 8 Blk IV Te Mata SD

**Map reference:** V21: 2845205 6164508

**CONSENT DURATION**

This consent is granted for a period expiring on 31 May 2025

**LAPSING OF CONSENT**

This consent shall lapse in accordance with s.125 on 31 May 2016 if it is not exercised before that date.



**Darryl Lew**  
**Group Manager**  
ENVIRONMENTAL MANAGEMENT GROUP  
Under authority delegated by Hawke's Bay Regional Council  
13<sup>th</sup> April 2011

## CONDITIONS

1. All works and structures relating to this consent shall be installed to conform to best engineering practices and at all times maintained to a safe and serviceable standard.
2. The consent holder shall undertake all operations in accordance with any drawings, specifications, statements of intent and other information supplied as part of this application. Specifically this shall include:
  - a) Te Mata Mushrooms Limited – Resource Consent Application To Discharge Contaminants (Odour) Into Air, Planoramic Ltd Environmental Planning Consultants, 23 February 2010 090030.
  - b) DP100128A – Request for Further Information, Planoramic Ltd Environmental Planning Consultants, 10 December 2010 090030

Where a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.

3. For the purposes of this consent, 'Phase 1' activities are defined as:
  - c) The filling of Phase 1 bunkers with a mixture of straw, chicken litter, and gypsum;
  - d) Composting of this mixture (after it has been placed in the Phase 1 bunkers) including aeration of the compost and ventilation of the Phase 1 bunkers to odour control equipment;
  - e) The turning of the compost during the composting process; and
  - f) Removal of compost and final turning (prior to transferring the compost to the Phase 2 bunkers).
4. For the purposes of this consent 'Phase 2' activities are defined as:
  - g) The filling of Phase 2 bunkers with compost;
  - h) Ventilation of the Phase 2 bunkers during their filling with compost;
  - i) Aeration of compost to achieve pasteurisation, and ventilation of the Phase 2 bunkers during this process; and
  - j) The removal of pasteurised compost from the Phase 2 bunkers.
5. The contaminants discharged to air shall be from the operation of a mushroom compost plant producing not more than 120 tonnes of compost per 7 days. The consent holder shall record the tonnage of compost manufactured over any 7 day period and make the records available to the Council on request and at the time of the site visits.

Note: For the purposes of this condition 'compost' is defined as the product produced from the Phase 2 pasteurisation process prior to it being placed within the compost trays.
6. There shall be no objectionable or offensive odour to the extent that it causes an adverse effect at or beyond the boundary of the site (see Advice Note 1).
7. The consent holder shall undertake all operations in accordance with a written Odour Management Plan held on site that includes (but is not limited to):

- k) A description of the purpose of the plan;
  - l) The names and contact phone numbers and addresses of key personnel;
  - m) A general description of the activities undertaken at the site;
  - n) Identification of the potential sources of odour, including the stockpiling and transfer of spent mushroom compost;
  - o) A full description of the odour mitigation system;
  - p) Relevant operating procedures that need to be undertaken to minimise odour emissions;
  - q) A diagram that clearly identifies the locations across the surface of the biofilter, or biofilters, where moisture and pH sampling will be carried out to provide representative data (see Advice Note 2);
  - r) A detailed description of the method used to determine the pH of the media in the biofilter, or biofilters.
  - s) An inventory of odour mitigation equipment and materials;
  - t) An equipment maintenance programme;
  - u) A contingency plan in the event that there is an adverse effect as a result of an offensive or objectionable odour beyond the boundary;
  - v) A list of records that need to be kept including maintenance and control parameters, weather records and odour complaint and investigation records;
  - w) A description of staff training including methods, frequency and training records;
  - x) A description of the process for reviewing the overall system performance.
8. The consent holder shall review the Odour Management Plan at least every two years and update as appropriate. A copy of the Odour Management Plan shall be submitted to the Council (Manager Compliance) within one month of completing each review.
  9. By 1 March 2012 all chicken litter, gypsum, and chicken litter/gypsum mix shall be stored in three-sided and roofed bunkers that are enclosed with soft door flaps.
  10. By 1 December 2011 the consent holder shall continuously measure and record the dissolved oxygen (DO) concentration (mg/L) at the point where wastewater flows from the storage pond into the aerated pond. The DO records shall be made available to the Council on request and at the time of each site inspection.
  11. By 1 December 2012 the consent holder shall ensure that the aeration of wastewater is sufficient to maintain dissolved oxygen (DO) concentrations at no less than 1.0 mg/L at all times.
  12. By 1 March 2015 the consent holder shall ensure that all Phase 1 composting and turning as defined in Condition 3(b), and 3(c), is undertaken in a fully enclosed building, or buildings, that is/are ventilated to a biofilter with sufficient design capacity.

Note: The physical emptying and loading of the Phase 1 bunkers during the Phase 1 turning processes will involve compost being transferred from one bunker to another via a front-end

loader operating in an outdoor environment; with one door of each bunker being open at any one time to facilitate this process.

13. By 1 March 2017 the consent holder shall ensure that all Phase 1 turning, as defined in Condition 3(d), is undertaken in a fully enclosed building, or buildings, that is/are ventilated to a biofilter with sufficient design capacity.

Note: The physical emptying of the bunker containing the compost and the loading of the bunker containing the turning machine will involve compost being transferred from one bunker to another via a front-end loader operating in an outdoor environment; with one door of each bunker being open at any one time to facilitate this process.

Note: The transfer of compost from the Phase 1 bunker containing the turning machine to the Phase 2 bunker will involve compost being transferred from one bunker to another via a front-end loader operating in an outdoor environment; with one door of each bunker being open at any one time to facilitate this process.

14. The consent holder shall ensure that negative pressure within the enclosed Phase 1 bunkers, and within buildings required by Condition 12 and 13, is sufficient to reduce fugitive odour emissions to the extent that condition 6 can be complied with, and is maintained at all times when the doors are closed while composting activities are being carried out.
15. The consent holder shall ensure that the design of the ventilation system and the design of all access ways (to and from the bunkers) will reduce any fugitive odour emissions that may occur when the enclosed bunker doors and doors of buildings required by Condition 12 and 13 are open, to an extent that condition 6 can be complied with.
16. The loading rate of the biofilter, or biofilters shall not exceed 50 m<sup>3</sup> air per hour per m<sup>3</sup> of bark media.
17. If the biofilter existing at the time this consent was granted does not comply with the loading rate stated in Condition 16, the consent holder shall, by 1 December 2011, engage a professional biofilter designer to provide written evidence, to the satisfaction of the Council (Manager Compliance), that the biofilter design will be fit for purpose over a specified period of time.
18. If the biofilter existing at the time this consent was granted is upgraded to receive additional air flow and/or additional biofilters are installed, and the existing biofilter or new biofilters will not comply with the loading rate stated in Condition 16, the consent holder shall engage a professional biofilter designer to determine the rate of odourous air flow to be treated per m<sup>3</sup> of media. The designer shall provide written evidence, prior to upgrading the existing biofilter or before new biofilters are constructed, to the satisfaction of the Council (Manager Compliance), that the biofilter design will be fit for purpose over a specified period of time.
19. The temperature of the inlet air to the biofilter, or biofilters, shall not exceed 40°C.
20. The consent holder shall ensure that the design parameters of the ventilation air biofilter, or biofilters, are consistently maintained in order to minimise the emission of odour so that condition 6 is able to be complied with. This maintenance shall include, but is not limited to:
  - a) Maintaining satisfactory moisture levels in the biofilter, or biofilters, at all times;
  - b) Maintaining the design depth of active media in the biofilter or biofilters;
  - c) Ensuring that the biofilter media is maintained to avoid short-circuiting of the gases being treated through the bed;

- d) Replacing the biofilter media at an appropriate time. This shall be considered to be when the pressure differential is unable to be maintained within its normal design operating range, and/or evaluation of representative samples of media indicates that it is approaching or has reached the end of its effective life, or at any time when it is evident that the biofilter, or biofilters, are no longer performing to a satisfactory level in respect to odour removal and cannot be remediated.
21. The consent holder shall monitor and maintain records of the operational parameters of the biofilter, or biofilters, as follows:
- a) The inlet air temperature shall be monitored continuously, and recorded once between 6:00 am and 10:00 am and once between 2:00 pm and 5:00 pm per operating day;
  - b) The pressure differential within representative inlet air distribution laterals of the biofilter, or biofilters, shall be monitored continuously and recorded once between 6:00 am and 10:00 am and once between 2:00 pm and 5:00 pm per operating day, with a note as to significant rainfall that has occurred for an hour or more preceding each recording (see Advice Note 3);
  - c) The media moisture level and the condition of the biofilter bed, or beds, at a depth of 20 to 25 cm from the surface of the bed and at the locations specified in the Odour Management Plan, shall be qualitatively monitored and visually inspected at least once every week, and the observations shall be recorded (see Advice Note 4);
  - d) The media moisture content within the biofilter bed, or beds, at depths of 25 cm **and** 50 cm from the surface of the bed, and at the locations specified in the Odour Management Plan, shall be measured via gravimetric method each year in February and August and the results shall be recorded. (see Advice Note 5);
  - e) The pH within the biofilter bed, or beds, at a depth of 50 cm from the surface of the bed and at the locations specified in the Odour Management Plan, shall be measured by an appropriate method, as documented in the Odour Management Plan, each year in February and August and the results shall be recorded. (see Advice Note 6);
  - f) The records collected in accordance with this condition shall be made available to the Council on request and at the time of each site inspection.
22. The consent holder shall log all odour complaints received. The log shall include:
- a) The date and time of the odour incident;
  - b) The date and time the complaint was received;
  - c) A detailed description of the odour incident, taking into account the FIDOL factors outlined in Advice Note 1 as far as it is possible to ascertain these from the complainant;
  - d) The name, telephone number, and address of the complainant;
  - e) Weather conditions (including an estimate of wind speed and direction) at the time of the odour incident;
  - f) Details of key operating parameters at the time of the odour incident;
  - g) Any corrective action taken.

- h) The log of complaints shall be made available to the Council at the time of any site visit, and on request.
23. That where, for any cause, contaminants associated with the consent holder's operations are discharged to air such that an adverse effect does, or is likely to, occur beyond the boundary of the site, the consent holder shall:
- a) Immediately take all practicable steps to cease the emission of the contaminants, and;
  - b) Immediately notify the Council, and;
  - c) Report to the Council, if requested, in writing and within 7 days, describing the manner and cause of the discharge and steps taken to control it and prevent its recurrence.
24. If an event occurs on-site that may lead to contamination of groundwater, the Consent Holder shall notify the Hastings District Council Water Supply Manager and the Hawke's Bay Regional Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.

**Advice Note:** Such an event might include for example a chemical or effluent spill. The Hastings District Council can be contacted on 871 5000. The Regional Council 24 hour Pollution Hotline should also be contacted on 0800 108 838.

## REVIEW OF CONSENT CONDITIONS BY THE COUNCIL

The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with s. 36(1) of the RMA.

Times of service of notice of any review: During the month of May, of any year.

- Purposes of review:
- To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time, or which became evident after the date of issue.
  - To require the adoption of the best practicable option to remove or reduce any effects on the environment.
  - To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.
  - To impose a discharge standard if it is considered necessary.
  - To require the installation of an electric bale breaking line to reduce the time bales are kept wet and the time it takes to create the compost substrate.
  - To require the process of transferring Phase 1 compost from bunker to bunker for Phase 1 turning purposes to be ventilated to a biofilter with sufficient design capacity.
  - To require the process of transferring Phase 1 compost from any Phase 1 bunker to a Phase 2 bunker, to be ventilated to a biofilter with sufficient design capacity.
  - To require the Phase 2 bunkers to be ventilated to a biofilter with sufficient design capacity, to ensure that the Phase 2 compost

process, after filling and before emptying, does not create objectionable or offensive odour to the extent that it causes an adverse effect at or beyond the boundary of the site.

To require the adoption of suitable measures to ensure odour arising from the disturbance of spent mushroom compost does not create objectionable or offensive odour to the extent that it causes an adverse effect at or beyond the boundary of the site.

## REASONS FOR DECISION

The activity will have minor actual or potential adverse effects on the environment and is not contrary to any relevant plans or policies. The activity is also consistent with the purpose and principles of the Resource Management Act 1991.

## ADVICE NOTES

1. When assessing whether odour is offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the site the Council shall generally follow the procedure outlined in section 6.1.4 of the Hawke's Bay Regional Resource Management Plan (RRMP). This assessment will take into account the FIDOL factors – frequency, intensity, duration, offensiveness and location; and shall be undertaken by a Council officer who has experience in odour complaints and has had his/her nose calibrated using olfactometry.
2. The number of locations across the surface of each bed should be not less than 10.
3. The pressure differential across any biofilter containing bark media generally should not exceed 100 mm water gauge.
4. Qualitative assessment is squeezing a sample of media in the palm of the hand – as a guide it should feel damp and when released the palm should not be obviously wet, and the squeezed media “ball” should easily disaggregate and not be sticky (see also Advice Note 5).
5. As a guide, bark media moisture content should be within 40 – 60 % by weight (determined on a wet basis) for optimum performance. The assessment description of media in Advice Note 4 applies to this moisture range. However, moisture content of 70% by weight or higher may still ensure good performance. Moisture content much less than 40% by weight can result in “dry” media and substandard biofilter performance.
6. If pH is determined from actual media samples, the most appropriate depths are 50 cm or deeper because acidification of the media from oxidation of hydrogen sulphide and other reduced sulphur compounds is more pronounced at depth, with the acidification ‘rising’ as deep media becomes sulphate-bound. Shallow depths are not appropriate because they can be influenced by the natural acidity of rainwater (clean rainwater has a pH of approximately 5.6 due to its CO<sub>2</sub> content but it may be less than this if there are acid gas emitters in the area), or higher than this if the bed has been surface-topdressed with lime. Bed pH can also be reasonably estimated from sampling the biofilter drainage water providing it does not come into contact with concrete which may neutralise acidity. However, drainage water pH does not provide an indication of varying pH through the bed (a pH profile) that may occur due to changes in media composition and consistency and other factors. In addition, during dry periods there may be no drainage of water from the media. The optimum operating range for most biofilters is between pH 5 to 8.

## MONITORING BY THE COUNCIL

### Routine monitoring

Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than twice every year to check compliance with the conditions of the consent. The costs of **any** routine monitoring will be charged to the consent holder in accordance with Council's Annual Plan of the time.

### Non-routine monitoring

*“Non routine” monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA.*

Section 17(1) of the RMA states:

*Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on, by or on behalf of that person, whether or not the activity is in accordance with a rule in a plan, a resource consent, section 10, section 10A, or section 20.*

### CONSENT IMPACT MONITORING

In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council may levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Annual Plan process.

### DEBT RECOVERY

It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to the monitoring of this resource consent shall be borne by the consent holder as a debt due to Council, and for that purpose Council reserves the right to produce this document in support of any claim for recovery.

### CONSENT HISTORY

Consent No. (Version)	Date	Event	Relevant Rule	
			Number	Plan
DP100128A	13/04/2011	Consent initially granted	52	Regional Resource Management Plan

## 22. APPENDIX 4 – COMPLAINTS ANALYSIS

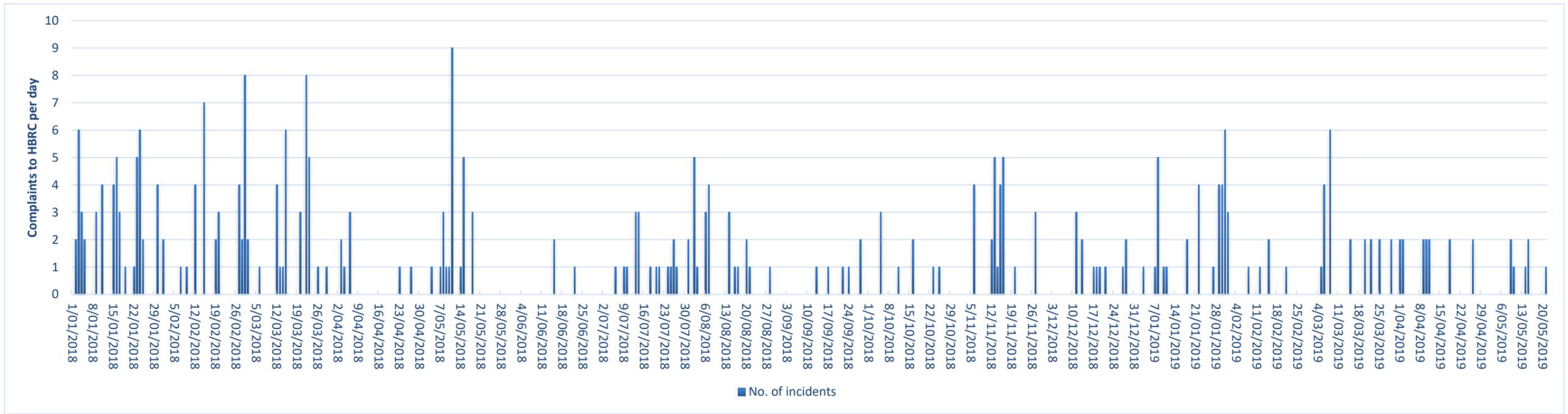


Figure A4.1: Number of complaints per day 1 January 2018 to 20 May 2019

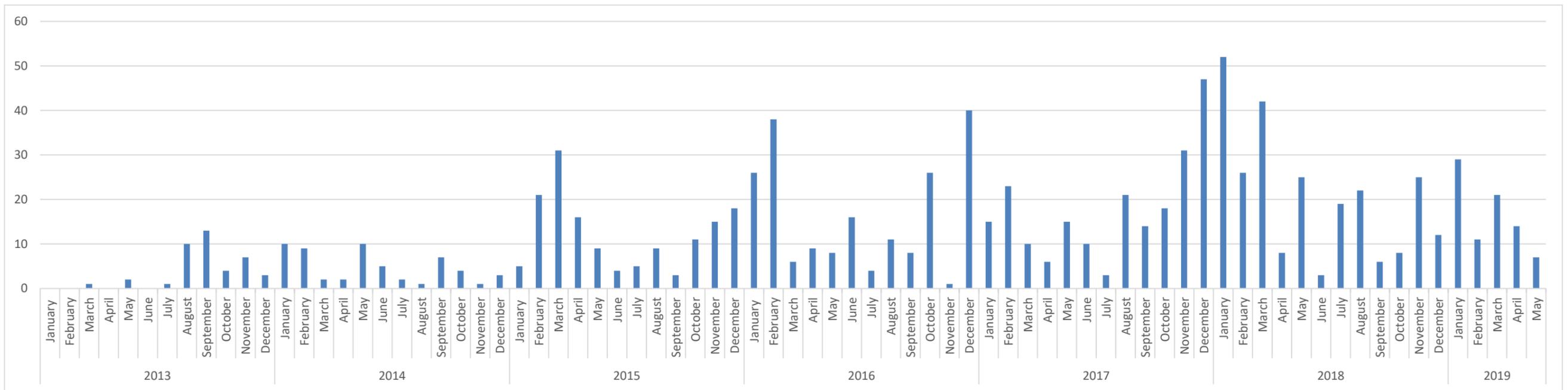


Figure A4.2: Number of complaints per month for period 1 January 2013 to 20 May 2019

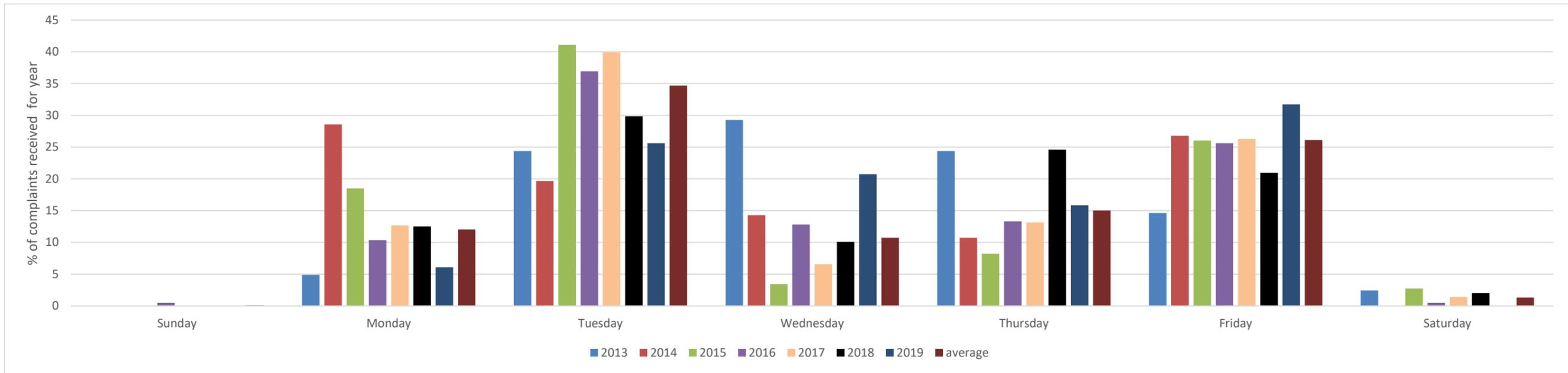


Figure A4.3: Percentage (%) of each year's complaints by day of the week

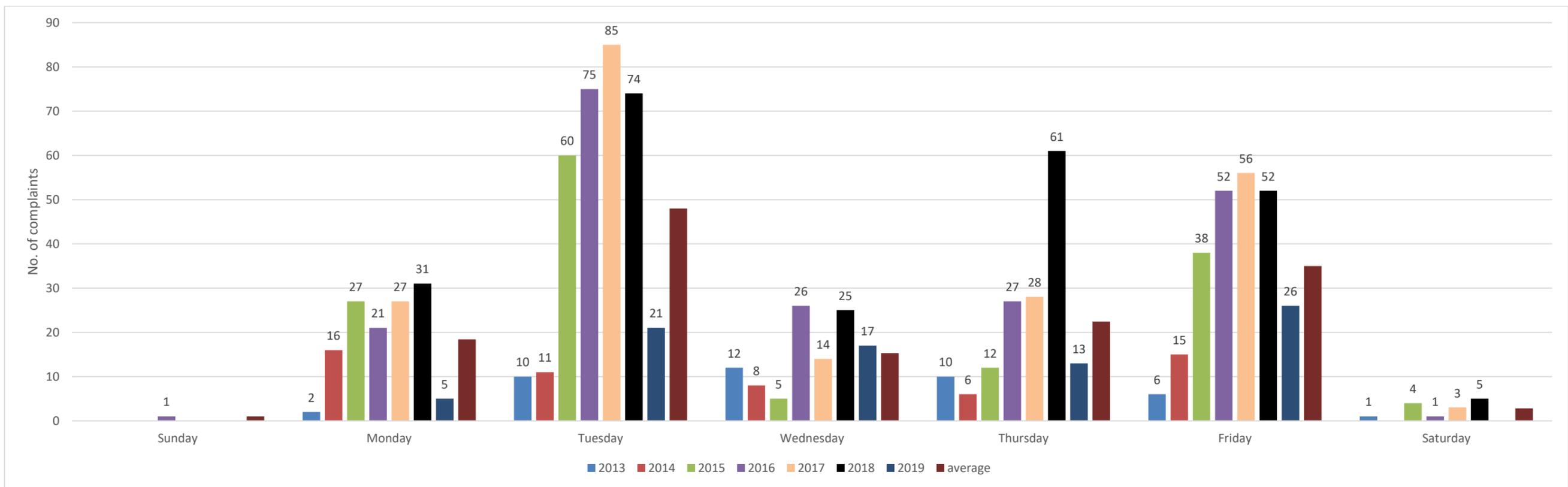


Figure A4.4: Number of complaints received by day of week

**23. APPENDIX 5 - STATEMENT OF EVIDENCE BY MR ANDREW CURTIS**

**BEFORE THE HAWKE'S BAY REGIONAL COUNCIL AND HASTINGS DISTRICT  
COUNCIL**

**IN THE MATTER** of the Resource Management  
Act 1991

**AND**

**IN THE MATTER** of an application by Te Mata  
Mushroom Co. Ltd (TMMC) for  
resource consents to discharge  
contaminants to air.

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**STATEMENT OF EVIDENCE OF**

**ANDREW CURTIS**

**3 July 2019**

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## **QUALIFICATIONS / EXPERIENCE**

1. My name is Andrew Ferguson Curtis and I am a Technical Director at AECOM New Zealand Limited (AECOM). I have over 30 years engineering experience and have specialised in the field of air quality for over 20 years.
2. I have a Bachelor's degree in Chemical and Materials Engineering, and a Post Graduate Diploma in Toxicology. I am a Certified Air Quality Professional.
3. I have extensive experience in the assessment of odours from a wide range of activities, including mushroom compost manufacture and composting more generally.
4. I have been contracted to provide air quality expertise to Hawkes Bay Regional Council (HBRC) in respect of resource consent applications by the Te Mata Mushroom Co. Ltd (TMMC) ("Applicant").
5. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Notes (2014). I agree to comply with this Code of Conduct. This report is given within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.
6. I undertook a visit to the TMMC site in Havelock North on 4 November 2016, at which time I also drove around the local area and had the opportunity to assess off-site odours.
7. I was involved in an expert conference on odour that occurred on 21 May 2019.

## **BACKGROUND**

8. The Applicant has applied for a resource consent for air discharges from its existing mushroom production site in Te Mata. This consent was sought as a result of a direction from the Environment Court following enforcement proceedings relating to offensive off-site odours (CRI-2015-020-1551).
9. The Application seeks consent not only for the existing production but also for increases in production up to 500 tonnes per week.
10. The Applicant provided a draft Application for review in early October 2016, with the full Application submitted on 20 December 2016. The assessment of odour effects was prepared by Air Quality Professionals Pty Ltd.
11. The Applicant provided further information following a Section 92 Request, dated 26 January 2016. The Applicant also provided further information to HBRC in an email dated 1 July 2019.

## **ACTIVITY DESCRIPTION**

12. The activity is described in detail in the Application, but in short it involves the composting of a mixture of pea straw, gypsum and chicken manure to produce a suitable substrate for growing mushrooms. The first phase of this operation involves forced aeration inside an enclosure to speed up the

composting process. The second phase also occurs within an enclosure but does not involve aeration.

13. Once the compost is mature it is seeded with mushroom mycelium and placed in growing sheds.
14. The potential for odours from this activity are primarily associated with the initial phases of the composting process, with little to no odour associated with the mature compost or the growing activities.
15. There is some potential for odour to be generated by the “used or spent compost” if it is stored outdoors for prolonged periods.
16. Because only one crop of mushrooms is grown in each batch of compost, and because of the time required for the compost to mature, a new batch of compost is started every week. This, as discussed in the Application results in a very regular pattern of activities and potential odour discharges from them.

## **RECEIVING ENVIRONMENT**

17. As is discussed in the Application, there has been a significant increase in the urbanisation of the area to the southwest of the site, to the extent that the Brookvale/Arataki subdivision (containing hundreds of properties) is essentially only 200 metres away from the site.
18. In other directions the land remains rural, and is used for a range of pastoral and cropping purposes.
19. During the site visit odours were detectable at the southwestern site boundary, which due to the geology is elevated compared to the site, as is the Brookvale/Arataki subdivision.
20. Aside from the odour associated with mushroom composting, the odours that were detectable in the local environment were those associated with normal rural activities.
21. The Applicant has presented CALMET<sup>70</sup> generated meteorological data which demonstrates that while the predominant winds in the area are from the southwest, there is a significant percentage of the time when winds are light and from the northeast, in other words blowing towards the residential areas.

## **DISCHARGE SOURCES AND CHARACTERISTICS**

22. As discussed in the Application and in the Joint Witness Statement, there are a number of processes and sources of odour associated with the manufacture of mushroom compost, and in particular what is called Phase 1 of the composting process.
23. In particular the sources are:

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<sup>70</sup> CALMET is a meteorological model which combines topographic data together with available meteorological data. While its primary purpose is developing the meteorological parameters required to run the CALPUFF atmospheric dispersion model, the CALMET output is also commonly used in New Zealand to develop windroses in locations where suitable actual data is not available.

- (a) Wetting of the straw bales;
  - (b) Mixing of straw with chicken manure and gypsum;
  - (c) Loading and unloading of the Phase 1 bunkers;
  - (d) Transfer of the Phase 1 compost to Phase 2; and
  - (e) Storage of the recycled water (referred to as goody water).
24. The odours associated with these activities or sources are very distinct and readily identifiable. They would generally be considered unpleasant to very unpleasant by most members of the public.
25. There are a variety of mitigation measures that can be implemented to control the odours from these sources, and as indicated in the Joint Witness Statement, I am comfortable that through the implementation of the mitigation measures there will be a reduction in odours from the site.
26. In particular I am confident that through the use of the following measures (which DEFRA<sup>71</sup> consider Best Available Technology (BAT)), odour discharges associated with these processes or activities will either be eliminated or significantly reduced.
- (a) The installation of an aeration unit on the goody water pond;
  - (b) Dunking the straw bales rather than sprinkling them;
  - (c) Construction of a new building and associated odour control system for the Phase 2 compost transfer and handling; and
  - (d) Use of a dedicated bale breaking machine.
27. I am also confident that appropriately designed hoods with adequate extraction and an upgraded treatment system will capture and treat the captured portion of the odours from the Phase 1 compost transfer process.
28. However, as I have not seen specific information on the design of the hoods, the rate of air extraction or the treatment system proposed, I am unable to confirm that what TMMC is proposing will be adequate to control odours from this activity. In particular any system would need to be suitably designed to capture emissions as winds become stronger.
29. As discussed in the Application and the Joint Witness Statement, this is one of the key odour sources, with any off-site odour from this source, likely to be considered offensive if experienced by members of the public
30. The only option that would totally eliminate odours from this source would be full enclosure of all transfer activities with the associated odours appropriately treated. I am not aware of any sites in New

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<sup>71</sup> Department for Environment Food & Rural Affairs, Process Guidance Note 6/30(13) Statutory guidance for mushroom substrate manufacturing processes and installations, December 2013

Zealand that currently have a fully enclosed Phase 1 process, but note that DEFRA indicates that full enclosure does represent BAT for sites “*where there are persistent recurrent strong offensive odour at sensitive receptors*”.

### **Timing of Mitigation Installation**

31. The Applicant has proposed a staged approach to the installation of mitigation, with the installation of some of the mitigation tied to production levels.
32. While I understand why the Applicant has proposed this, I am extremely uncomfortable with the approach, given the large quantity of complaints that have been received.
33. In my opinion installation of the extended hoods with appropriate extraction and treatment on the Phase 1 building is the highest priority and should occur as soon as possible. The Applicant also indicated in its 27 March 2017 S92 response that it would construct the new reception building for the Phase 2 area within the first eight months of consent being granted, although I understand from comments made to Council Officers by the Applicant during a 20 June 2019 site visit, that it is now reconsidering the practicality of this.
34. It is my opinion that the construction of the third Phase 1 bunker is also a high priority and should occur within the first eight months. I have set out below two reasons why I consider that this would be positive in terms of reducing the potential for odour emissions from the site:
  - (a) It would avoid the need to transfer the Phase 1 compost via loader in the open to the western end of the split bunkers, avoiding odours from the uncovered compost and speeding up the transfer process.
  - (b) It would eliminate the need to have extended eaves at the eastern end of the bunker and the costs associated with expanding the extraction and treatment system to accommodate this.
35. The combination of these measures should significantly reduce odours from Phase 1 compost as odours from the bunkers are captured and the time that compost is outside the bunkers is reduced, noting my comments in paragraph 28.
36. While eight months seems like a long time, given the amount of time that is likely to be required to get the design approved, manufacture the components as well as install them on site it is not unreasonable.
37. In the interim, before the installation occurs the transfer of Phase 1 compost could be scheduled to occur as far as practical during between 8 am and 6 pm when atmospheric conditions are more dispersive.
38. It is also my opinion that the installation of a dedicated bale breaker is a high priority and should occur prior to any increases in production. The current bale breaking and mixing process results in the raw

materials being exposed for extended periods of time on a Thursday, which based on an analysis of complaints by HBRC, now seems to be one of the main days when complaints occur.

39. I have observed the operation of a bale breaker at the Meadow Mushrooms compost facility near Christchurch, and consider that the use of a similar machine at TMMC would significantly speed up the activity and consequently reduce the risk of off-site odours occurring from this source. The risk of odours from this activity being detectable off-site would be further reduced if the system was designed to deliver the mixed raw materials to a point under the extended hoods.
40. I think that the implementation of other mitigation measures proposed such as dunking the straw bales are of lessor importance in terms of generating off-site odour based on my experience. However because of the dominance of other onsite sources, the true off-site impacts of these other sources will only be determined once the dominant ones are eliminated.
41. Given the fact that any increase in production, in the absence of the measures discussed above will extend the time and volume of material (including used compost) exposed to the environment, and increase the risk of off-site odours being detected, I cannot support any increase in production in advance of full implementation of the mitigation measures discussed above.
42. At a site visit undertaken by Council Officers on 20 June 2019, the Applicant updated HBRC on the fact that it was now dunking bales rather than using the sprinkler system, and had constructed a conveyor system to transfer Phase 1 compost to the Phase 2 building.
43. Both of these measures are considered positive in terms of reducing odour potential from the site. Unfortunately due to how recently these changes have occurred, I have not had an opportunity to observe the changes and therefore cannot comment on whether there has been an actual reduction in off-site odour effects.

#### **Off-site Odour Risk**

44. One of the biggest issues, in my opinion, with the assessment that has been undertaken is the use of a qualitative assessment of the odour impact potential. The methodology used to develop these ratings is set out in Section 10 of the Odour Assessment. I have set out below the key point from that section.

*“The rating system is qualitative, based on Air Quality Professionals’ observations of odour strength from each source, size and volumetric flow rates from each source, time of day when sources are present, and the author’s experience with the typical rate of downwind dispersion of odours from such sources.”*

45. While I accept that, as air quality professionals we often have to prepare qualitative assessments, I am concerned that in this case an assessment methodology such as FIDOL (Frequency, Intensity, Duration Offensiveness and Location) or one of the other tools identified by the Ministry for the

Environment in Appendix 2 of its Good Practice Guide for Assessing and Managing Odour has not been used.

46. Based on the information that has been provided, all we have to rely on in terms of the effectiveness of the mitigation is the statement that with all of the mitigation in place the potential for adverse odour impacts at sensitive receptors will be “low to moderate”.
47. Unfortunately, due to the unpleasant odour characteristic associated with Phase 1 compost, I am not confident that a potential periodic exposure is any better for the local community than a more regular one, and in fact based on my experience it is often the periodic exposures that cause more offence, simply because they are unexpected. This situation is exacerbated by the fact that the Te Mata community appears to have become highly sensitised to compost odour which means that it is likely to be readily identifiable even when present at low concentrations.
48. In addition, there is nothing that is being proposed for the Phase 1 composting, that will change the character of the odours, therefore if the mitigation measures proposed for that activity do not adequately control the odours, there is a high likelihood that any odours detected by members of the public, whether they are sensitised or not, will be considered offensive.

## **SUBMISSIONS**

49. There have been 317 submissions received on this application with 133 in support and 178 in opposition and the remainder neutral.
50. Given the number of submissions it is not practical to respond to all of them, therefore I have made some comments based on the following themes which are raised in the submissions in opposition:
  - Odour from the current operation
  - The effectiveness of the mitigation proposed
  - The timing of any mitigation
  - The effects from expansion of the site
  - Potential health effects
  - Odour From Current Operation
51. The majority of the submissions in opposition raise concerns about the effect that odours from the activity have had on the submitters.
52. Given the number of complaints that have been received, and my experience and observations I am not surprised by the concerns that have been raised.
53. In particular, the observations about the times of day when effects are experienced, coincides with the less dispersive atmospheric conditions which are exactly the conditions when I would expect odours, if they were occurring be detectable off-site.

54. Consequently I consider the submissions present a realistic picture of off-site effects.

### **Effectiveness of Proposed Mitigation**

55. A number of the submissions raise concerns about how effective the proposed mitigation measures will be.

56. As outlined in the Joint Witness Statement and my statement, I am confident that in the absence of full enclosure, the mitigation proposed will once fully implemented, significantly reduce the potential for off-site odours to occur.

57. I think that the mitigation measures need to be appropriately prioritised with those that capture and control odours from Phase 1 compost production and transfer to Phase 2 implemented as soon as possible, and then the other measures.

58. Unfortunately, I am unable to provide any assurance that the residual odours, following the implementation of mitigation, will not on occasions still result in odour nuisance.

### **Timing for Implementation of Mitigation**

59. A number of the submissions raise concerns about the Applicant's proposed timetable for implementing mitigation measures, and the fact that it does not provide any certainty to them.

60. I share this concern, and as I have already outlined, I think that there needs to be a clearly defined timetable for implementing the mitigation measures which forms part of the resource consent conditions, if consent were to be granted. This would provide certainty to the community as well as the Applicant.

61. However I accept that it will take time to organise and install the various mitigation measures, and therefore it is not unreasonable to have an off-set period to allow for the installation. That having been said there are some mitigation measures such as restrictions on start times for certain activities, such as turning Phase 1 compost that should occur immediately.

### **Production Expansion**

62. A number of submitters are concerned about the proposal to expand the operation above the current 120 Tonnes/week.

63. Given the off-site odour issues that have occurred to date, I can understand the concerns, and in the absence of further mitigation I would agree.

64. However, once all of the mitigation measures proposed are installed, have been shown to be operating effectively, and designed to accommodate expansion, and off-site odour reduced to the point that the site can operate within its resource consent requirements, then within reason, the level of production is irrelevant.

65. However as discussed, I think it is up to the Applicant to appropriately demonstrate compliance with “no offensive or objectionable odour” at the site boundary, before any site expansion occurs. If it cannot do this then no expansion should be permitted.
66. Therefore, if consent were to be granted, I consider that site expansion should not be automatic, but something that would only occur after it was appropriately demonstrated that the site was complying with the consent at the current production rate and any odour from the expanded production can be controlled by the mitigation measures.

### **Potential for Health Effects**

67. A number of submitters raise concerns about the potential for health effects associated with discharges from the composting process, and in particular a number are concerned about airborne viruses or bacteria. Some of this concern may have arisen because of the well-publicised issues with legionella and gardening compost.
68. Given the temperatures that the compost process operates at, and the fact that the compost is relatively dust free due to the moisture content, I consider that it is unlikely that there will be any release of bacteria or viruses that would affect residents.
69. In addition the only time when compost is outside for periods of time when it could dry out is after the mushroom growing cycle when it is stored prior to being taken off-site to be used as a fertiliser. This only occurs after the compost has been sterilised to kill the mushroom spores. Therefore there is a low potential for there to be infectious bacteria present.
70. I consider the Applicant’s proposal to only store spent compost on site for seven days is appropriate, and should be included as a condition, if the Panel makes a decision to grant consent.

### **DISCUSSION**

71. I am not able to comment on whether all of the odours that have been reported in the complaint register have reached the “offensive or objectionable” threshold as there is not enough data available for me to do so.
72. However having visited the site, and having had experience with other mushroom composting sites, I have no doubt that at times the current activities at TMMC have resulted in off-site odour concentrations that have breached the current consent conditions for the site and resulted in nuisance effects for people living in the local area.
73. The only mitigation option that would completely eliminate the potential for off-site odour effects would be to fully enclose all of the Phase 1 composting activities, and treat any air discharges from it. As mentioned in paragraph 30, DEFRA, would consider that this measure would be BAT for TMMC given the level of complaint that has occurred.
74. That is not an option that the Applicant has proposed, and therefore it is only possible to consider the effectiveness of the mitigation that has been proposed.

75. As I have already discussed, I consider the mitigation proposed represents in many cases what can be considered the Best Practical Option for the particular operations, and should significantly reduce the potential for off-site odour effects from those activities. However for the reasons outlined earlier, it is not possible to be confident that the proposed mitigation will eliminate all off-site nuisance odours.
76. Unfortunately because the Applicant has not quantified what is meant by a “low potential for adverse odour impacts” I do not know how frequently effects might occur once the mitigation is implemented, compared with the current level of effects.
77. While I do not consider that any level of off-site nuisance odour is acceptable, one or two complaints a year from a site such as TMMC is not uncommon and allows for occasional equipment breakdown or process upsets.
78. Consequently if the Applicant’s definition of “low” equates to nuisance odours occurring more than one or two times a year I would be concerned.
79. I have already discussed the fact that the key mitigation proposed is the capture and treatment of the odours from the Phase 1 compost. Because of the importance of this, I requested additional information on it more than two years ago when preparing questions for the initial Section 92 request.
80. To date the information I require has not been provided, and consequently while I am confident that an appropriately designed and installed system will capture and treat odours, I am uncomfortable that I have not seen detailed information on what will be installed. In particular I would require information on the hood design, air extraction rates and proposed treatment.
81. While it is not uncommon for consents to contain conditions requiring detailed information to be provided post the granting of consent, I do not consider that this is appropriate in this case, as I consider the information is critical to my recommendations to Council as well as the decision that the Panel must make.
82. If the Applicant were to provide information on the system prior to the hearing then I could potentially provide updated evidence at the Hearing.
83. I also consider that given the complaints that have occurred to date, it is not appropriate to allow the site to increase production in advance of the Applicant demonstrating that it is able to adequately control odours from its existing operations.
84. This could be provided for by way of conditions that tie production increases to the number of complaints, or lack thereof, or by some form of independent odour assessments.

## **RECOMMENDATIONS**

85. My recommendations based on the analysis and discussion set out above are as follows:
  - (a) In the absence of the Applicant providing sufficient detail on the information set out in paragraph 80 that allows an informed decision to be made, I recommend Declining the Application.

- (b) If the Applicant provides sufficient information to satisfy the Panel that consent can be granted, I recommend imposing conditions that set firm timetables for the implementation of the mitigation measures, and tie any increases in production to documentary evidence that:
- i. The mitigation has been successfully implemented; and
  - ii. There has been a reduction in off-site odour nuisance to the point that the site is able to comply with its consent limit.
- (c) Specifically the timetable should require that the following measures are installed within eight months of granting consent:
- i. The extended eaves on the Phase 1 bunker and associated air extraction and treatment system;
  - ii. The third bunker; and
  - iii. The bale breaking system.
- (d) I also consider that the Phase 2 transfer building and associated treatment system remains a high priority, but consider that this could be delayed to be installed within 18 months, if the Panel is satisfied that the conveyor system that has recently been installed has sufficiently reduced the odour risk from the Phase 2 transfer process. I note that in regard to this, that covering the conveyor would further reduce the potential for odour from this source, and would make me more comfortable with delaying the construction of the Phase 2 Transfer building.
- (e) I also recommend that until such time that the above are installed, the site only undertake activities involving Phase 1 compost or bale breaking between the hours of 8 am to 6 pm, to minimise the potential for off-site odours.
- (f) If consent is granted, include conditions that:
- i. Require the Applicant to provide evidence from an appropriately qualified person that all mitigation is appropriately designed and has been installed correctly.
  - ii. Require regular (potentially weekly) independent assessments of off-site odour. These assessments need to be documented, and the Applicant be required to investigate any incidents/issues identified and implement appropriate solutions and to report on the actions taken.
  - iii. Require the Applicant to implement additional mitigation in the event that an off-site odour is confirmed as being “offensive or objectionable” by HBRC Compliance Officers. The condition should be written in such a way that “additional mitigation” could include reductions in production if that reduces the odour potential.

Dated 3 July 2019

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Andrew Curtis

## 24. APPENDIX 6 - JOINT WITNESS STATEMENT

BEFORE THE HAWKE'S BAY REGIONAL COUNCIL AND HASTINGS DISTRICT COUNCIL

IN THE MATTER of the Resource Management  
Act 1991

AND

IN THE MATTER of an application by Te Mata  
Mushroom Co. Ltd (TMMC) for  
resource consents to discharge  
contaminants to air.

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JOINT WITNESS STATEMENT FOLLOWING CONFERENCING OF AIR QUALITY EXPERTS

21 May 2019

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1. This joint witness statement has been prepared as part of expert conferencing on the topic of odour, in relation to the application for resource consents made by TMMC to Hawke's Bay Regional Council (HBRC) and Hastings District Council (HDC). The application relates to the applicant's proposal to discharge odour to air from a mushroom composting and production facility, and to undertake associated land use activities .
2. The expert conference was held on 21 May 2019 at the AECOM New Zealand Limited Auckland office (and via conference call).
3. The air quality experts who attended the conference were:
  - (a) Andrew Curtis (engaged by Hawkes Bay Regional Council)
  - (b) Duncan Backshall (engaged by Hawkes Bay District Health Board)
  - (c) Jenny Simpson (engaged by Hastings District Council)
  - (d) Tracy Freeman (engaged by The Te Mata Mushroom Company Ltd)
4. This joint witness statement is prepared in accordance with section 4.7 of the Environment Court Practice Note 2014.
5. It is confirmed that all attendees have read the Environment Court Practice Note 2014, and agree to abide by the Code of Conduct.
6. Site visit  
It was noted that neither Jenny Simpson nor Duncan Backshall had had an opportunity to visit the site at the time of the conferencing.
7. This joint witness statement sets out:
  - (a) those matters which are agreed between the experts;
  - (b) those matters which need to be addressed prior to the hearing that require further information; and
  - (c) those matters which are not agreed and the reasons in each case.

Te Mata Mushrooms Expert Air Quality Caucusing

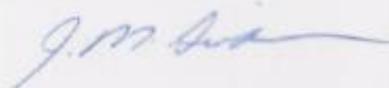
Dated 23 May 2019



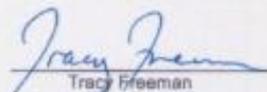
Andrew Curtis



Duncan Backshall



Jenny Simpson



Tracy Freeman

Ta Mata Mushrooms Expert Air Quality Counting

	Issue/question	Matters agreed	Further information required prior to the hearing	Matters not agreed (with each expert's view and reasons)
1.	Whether further mitigation is required to deal with the storage and handling of chicken litter.	We considered that current storage and handling procedures are appropriate and no further mitigation is required.		
2.	Whether the proposal to wet bales by dunking needs to be implemented prior to increases in production.	The potential odours from this activity are currently likely to be masked by other sources. We recommend that the timing of the implementation of bale dunking is reconsidered once other higher priority mitigation is implemented.		
3.	Whether the proposed bale breaking system needs to be implemented prior to increases in production.	We agreed that implementing this mitigation measure is a high priority, as this is likely to be the most significant remaining odour source on site after the modification to the methods for bunker-to-bunker transfers and bunker-to-Phase 2 transfers. Ideally this would be implemented as soon as practicable and Andrew Curtis, Jenny Simpson and Duncan Backshall agreed that	A review of the most recent odour complaints comparing date and times with activities.	Tracy Freeman was not convinced on the need to implement this measure well before production reaches 200 tonnes, as the analysis of complaints up to August 2016 showed that the bale break activity is not a common cause of complaints, but would reconsider this issue following

Te Mata Mushrooms Expert Air Quality Caucusing

	Issue/question	Matters agreed	Further information required prior to the hearing	Matters not agreed (with each expert's view and reasons)
		this. should be implemented well before production reaches 200 tonnes		review of the most recent odour complaints.
4.	The effectiveness of the extended hoods to capture odours from Phase One.	The extended hoods are a compromise method of collecting odours during transfer, compared to full enclosure. We consider that the use of extended hoods over any bunker openings of the Phase one building that are used for filling is essential and, with appropriate extraction and treatment of odours, should reduce off-site odours (subject to detailed design).	Appropriate engineering information on the extraction and treatment system and how the proposed system would work.	
5.	Is the recycling of compost leachate for irrigating the bales problematic and a potential odour source.	We agreed that the use of aerated recycled leachate is unlikely to result in additional odour emissions compared to using fresh water to wet the bales.		
6.	Whether there are other methods that could be implemented which are more effective for controlling odours from Phase One Transfer.	There are other methods which could control odours more effectively than the proposed extended hoods, for		

Te Mata Mushrooms Expert Air Quality Caucusing

	Issue/question	Matters agreed	Further information required prior to the hearing	Matters not agreed (with each expert's view and reasons)
		example full enclosure or automated transfer equipment.		
7.	Whether the methods proposed to control odours from the loading of Phase Two tunnels are appropriate.	We consider that what is proposed (the enclosure of the mixed compost and Phase two loading area, with extraction and appropriate treatment) is appropriate.		
8.	Whether a staged approach to implementation of further mitigation is appropriate for this site given the level of community concern.	There was a general discussion on this, and we agreed that there needs to be a clear timetable for the implementation of mitigation, and the ability to accelerate the implementation of specific measures if required. There needs to be a careful consideration about how "if required" is defined.		
9.	Whether the assessed reduction in odour frequency is sufficient to reduce the risk of odours being considered offensive and objectionable by the local community.	We agreed that there is uncertainty as to whether the proposed measures will reduce odours to the level where no offensive or objectional effects occur. However, we considered that once		

Te Mata Mushrooms Expert Air Quality Caucusing

	Issue/question	Matters agreed	Further information required prior to the hearing	Matters not agreed (with each expert's view and reasons)
		<p>implemented, the proposed measures will reduce the odour risk.</p> <p>The systematic implementation of mitigation in conjunction with an appropriate monitoring regime is likely to reduce the risk to an acceptable level, although some level of complaints may continue given the unpleasant hedonic tone of residual odour from certain activities..</p> <p>Duncan Backshall, Andrew Curtis and Jenny Simpson indicated that this agreement is caveated on the resolution of what measures are implemented and when.</p>		
10.	Whether there are additional mitigation measures that could be implemented that would further reduce the risk of off-site odours being considered offensive or objectionable.	<p>At this stage we consider that it is appropriate to focus the mitigation on the main odour sources, and appropriately implementing the proposed mitigation.</p> <p>If there is still an issue with odour once these measures have been</p>		

	Issue/question	Matters agreed	Further information required prior to the hearing	Matters not agreed (with each expert's view and reasons)
		implemented, then we consider that it would be appropriate to have a comprehensive review of the remaining sources.		
11.	Whether there are monitoring techniques which could be implemented to provide early warning of odours.	We are not aware of any practical early warning systems. However being cognisant of weather conditions when undertaking high odour risk activities is important.		
12.	If mitigation measures are successful in reducing odour to less than offensive and objectionable after the production increases to 200 tonnes, how will this be affected by the increase to 500 tonnes?	We cannot be certain at this time whether there will be additional issues at the higher production rate, as this will depend on the effectiveness of the mitigation implemented earlier. A staged approach to increases in production in conjunction with an appropriately designed monitoring regime would manage the uncertainty.		
13.	What weight can be applied to the complaint data	We agreed that the data available since December 2015 provides an indication of community		

	Issue/question	Matters agreed	Further information required prior to the hearing	Matters not agreed (with each expert's view and reasons)
		dissatisfaction, but because no incidents were investigated and there is no record of locations or number of complainants it is of limited value in understanding the extent of impacts.		

## 25. APPENDIX 7 – RELEVANT RRMP OBJECTIVES AND POLICIES

Objective / Policy	RPS – Relevant Objectives and Policies (Chapter 3)
OBJ 16	For future activities, the avoidance or mitigation of off site impacts or nuisance effects arising from the location of conflicting land use activities.
OBJ 17	For existing activities (including their expansion), the remedy or mitigation of the extent of off site impacts or nuisance effects arising from the present location of conflicting land use activities.
OBJ 18	For the expansion of existing activities which are tied operationally to a specific location, the mitigation of off site impacts or nuisance effects arising from the location of conflicting land activities adjacent to, or in the vicinity of, areas required for current or future operational needs.
POL 5	To use non-regulatory methods as set out in Chapter 4, in particular <b>liaison with territorial authorities</b> , as the primary means of preventing or resolving problems arising from incompatible land use activities and implementing the problem-solving approaches set out below.
POL 6	To recognise that the future establishment of potentially conflicting land use activities adjacent to, or within the vicinity of each other is appropriate provided no existing land use activity (which adopts the best practicable option or is otherwise environmentally sound <sup>5</sup> ) is restricted or compromised. This will be primarily achieved through liaison with territorial authorities and the use of mechanisms available to territorial authorities, which recognise and protect the ongoing functioning and operation of those existing activities.
POL 7	<p>To adopt the following approach for addressing existing problems arising from conflicting land use activities that are adjacent to, or within the vicinity of each other:</p> <ul style="list-style-type: none"> <li>(a) Recognise existing lawfully established resource use activities that are operated in a manner that adopts the best practicable option, or which is otherwise environmentally sound.</li> <li>(b) The HBRC will place emphasis on holding discussions and providing information as the primary means of conflict resolution.</li> <li>(c) In the event that further action is necessary, the HBRC may adopt a range of methods to seek to address the problem, including one or more of the following: <ul style="list-style-type: none"> <li>(i) Working with organisations representing resource users, if such organisations exist</li> <li>(ii) Promoting the use of community working groups which bring affected people together in order to discuss the problem</li> <li>(iii) Using an independent facilitator to mediate between disputing parties</li> <li>(iv) Using the services of independent experts to carry out investigations and for Council to use that information to guide resource user/parties in dispute.</li> </ul> </li> </ul>
POL 8	To have regard to the following factors when considering conditions on resource consents where a discharge of odour to air occurs:

<sup>5</sup> “Environmentally sound activities” are considered to be those which comply with the Environmental Guidelines set out in Chapter 5; any relevant rules of this Plan; any effects-based environmental guidelines, standards or rules of the relevant territorial authority; and any resource consents required for the activity.

<b>Objective / Policy</b>	<b>RPS – Relevant Objectives and Policies (Chapter 3)</b>
	<ul style="list-style-type: none"> <li>(a) the likely frequency and duration of odour events</li> <li>(b) the nature of the odour</li> <li>(c) the nature of the local environment where odour may be experienced and the reasonable expectation of amenity within that environment given its zoning</li> <li>(d) any antecedent or contributing factors, including climatic or topographical features</li> <li>(e) the extent to which lawfully established resource use activities operate in a manner that adopts the best practical option, or which is otherwise environmentally sound.</li> </ul>
<b>OBJ 20</b>	The management and use of organic material derived from industries processing primary products in a manner that does not result in any adverse effects on humans or the environment.
<b>POL 12</b>	<p>To provide for the discharge of contaminants into air, into land or onto land, from the use of organic material, in such a manner that any adverse effects on the environment are avoided or minimised.</p> <p>The HBRC may request that a management plan is prepared where the circumstances are such that:</p> <ul style="list-style-type: none"> <li>(a) organic material is sourced from industrial or trade premises</li> <li>(b) there are residential properties in close proximity to the activity</li> <li>(c) large volumes of organic material are being stored and/or used</li> <li>(d) the organic material is likely to be malodorous in nature</li> <li>(e) nutrient loadings may exceed the natural uptake rate by grass or crops</li> <li>(f) the groundwater resource is particularly susceptible to contamination e.g. on the Heretaunga Plains unconfined aquifer, or on highly permeable soils</li> <li>(g) when organic material is stored in a position where it can potentially enter a surface water body.</li> </ul>
<b>POL 14</b>	<p>To require the establishment and maintenance of separation distances in relation to the storage, use or disposal of organic material to ensure that:</p> <ul style="list-style-type: none"> <li>(a) there is no direct runoff of leachate into surface water</li> <li>(b) there is adequate vertical separation from groundwater, such that the activity is consistent with Objectives 21 and 22, and</li> <li>(c) there are no offensive or objectionable odours imposed on neighbouring properties.</li> </ul>

<b>Objective and Policy</b>	<b>RRMP – Relevant Objective and Policies (Chapter 5)</b>				
<b>OBJ 39</b>	A standard of ambient air quality is maintained at, or enhanced to, a level that is not detrimental to human health, amenity values or the life supporting capacity of air, and meets National Environmental Standards.				
<b>OBJ 39a</b>	A standard of local air quality is maintained that is not detrimental to human health, amenity values or the life supporting capacity of air.				
<b>POL 69</b>	<p>To manage the effects of activities affecting air quality in accordance with the environmental guidelines and standards set out in Table 6 below.</p> <p><b>Table 6. Environmental Guidelines &amp; Standards – Air Quality</b></p> <table border="1" data-bbox="406 616 1465 810"> <thead> <tr> <th data-bbox="406 616 654 672">Issue</th> <th data-bbox="657 616 1465 672">Guideline</th> </tr> </thead> <tbody> <tr> <td data-bbox="406 676 654 810"><b>1. Odour</b></td> <td data-bbox="657 676 1465 810">There should be no offensive or objectionable odour beyond the boundary of the subject property<sup>14</sup>.</td> </tr> </tbody> </table>	Issue	Guideline	<b>1. Odour</b>	There should be no offensive or objectionable odour beyond the boundary of the subject property <sup>14</sup> .
Issue	Guideline				
<b>1. Odour</b>	There should be no offensive or objectionable odour beyond the boundary of the subject property <sup>14</sup> .				
<b>POL 70</b>	<p>To implement Policies 69, and 69a predominantly in the following manner:</p> <ul style="list-style-type: none"> <li>(a) <b>Regional rules</b> – The environmental guidelines and standards for air quality have been incorporated primarily in conditions, standards and terms in the rules set out in Chapter 6 of this Plan as appropriate. The environmental guidelines for air quality that refer to ‘noxious’, ‘dangerous’, ‘offensive’ or ‘objectionable’ effects will be interpreted in the manner described in section 6.1.4 of this Plan, and in accordance with any relevant case law.</li> <li>(b) <b>Resource consents</b> – The environmental guidelines and standards for air quality will also be used in the process of making decisions on resource consents, in accordance with Resource Management Act.</li> <li>(c) <b>Enforcement</b> – Enforcement action will be used, where necessary, to aid in implementing the standards and terms of the rules set out in Chapter 6 of this Plan. Any enforcement action will be undertaken in accordance with the enforcement provisions of the Resource Management Act.</li> <li>(d) <b>Resource Management Regulations</b> – National Environmental Standards apply across New Zealand. Some of these national standards prohibit or restrict certain types of activities affecting air quality. The Hawke’s Bay Regional Council will enforce these standards in accordance with (c) above.</li> <li>(e) <b>Non-regulatory methods</b> – Non-regulatory methods will also be used, where appropriate, to assist in achieving the objectives and implementing policies within Section 5.3 of this Plan including: <ul style="list-style-type: none"> <li>i. liaising with territorial authorities to seek the inclusion of appropriate land use policies, rules and methods within district plans, and building codes, as necessary to meet the objectives and policies within Section 5.3 of this Plan.</li> <li>ii. the Hawke’s Bay Regional Council will influence and inform the community through the development of an appropriate communications and marketing strategy. Information will be provided to assist the community (including industrial and horticultural operators) understand the types of effects that can occur as a result of discharges of contaminants into air and the overall effects of such discharges on ambient air quality. Information will be provided advising appropriate</li> </ul> </li> </ul>				

<sup>14</sup> “Subject property” means the legally defined property, whether private land or public land, within which the subject activity occurs and includes all land that is under common ownership.

Objective and Policy	RRMP – Relevant Objective and Policies (Chapter 5)
	<p>methods to avoid, remedy or mitigate any adverse effects of discharging contaminants into air.</p> <ul style="list-style-type: none"> <li>iii. the Hawke’s Bay Regional Council will encourage the use of dry wood through education.</li> <li>iv. the Hawke’s Bay Regional Council will develop a best practice guide for the sale of wood by accredited dry wood merchants.</li> <li>v. provision of financial incentives. The Hawke’s Bay Regional Council may choose to provide incentives and financial assistance to assist the Council in achieving Objective 39b and thereby comply with the NESAQ for PM<sub>10</sub></li> <li>vi. development of a best practice guide for outdoor burning to ensure that those undertaking the activity are aware of what steps need to be taken to minimise the effects from outdoor burning.</li> <li>vii. encouraging people currently using open fires and small scale solid fuel burners that are not NESAQ compliant burners to install cleaner forms of heating.</li> </ul>