Office Use
Application No: DP160229A
Submission No _____

Submission on Resource Consent Application

(Form 13 Resource Management Act 1991)

To: Chief Executive
C/- Client Services Administrator
Hawke's Bay Regional Council
Private Bag 6006
NAPIER 4142

Person Making Submission

Full name: Hastings District Council

Postal address: Private Bag 9002, Hastings

Post code 4156

Property address, if different: 207 Lyndon Road East, Hastings

Contact person (if different to above, or if submitter is an organisation): Asher Davidson, Barrister

Telephone Number: (09) 337 0700 Cell: 027 213 0538

E-mail: asher@casey.co.nz

Name of applicant: The Te Mata Mushrooms Company Limited

Consent Number: DP160229A

Location of activity: 174 – 176 Brookvale Road, Havelock North

Consent Activity: To discharge contaminants into the air from a compositing and mushroom growing operation, and associated activities.

Submission close Date: Monday 12 June 2017 at 5pm

Are you a trade competitor for the purposes of section 308B of the RMA 1991 Yes ☐ No ☑

If yes: Are you directly affected by an effect of the proposed activity that adversely effects the environment and does not relate to, or the effects of trade competition Yes ☐ No ☐

I/We support the above application ☐
I/We oppose the above application ☑
I/We neither support nor oppose the above application ☐

The specific parts of the application that my submission relates to are:

See attached submission.

My submission is: (you may attach submission detail to this form)

* *Include* the reasons for your views

See attached submission.

I seek the following decision from the Hawke's Bay Regional Council:

* *Give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought*

See attached submission.

I wish to be heard in support of my submission ☑

I **DO NOT** wish to be heard in support of my submission ☐

If others make a similar submission, I will consider presenting a joint case with them at the hearing ☐

I wish to attend any pre-hearing meeting that may be convened Yes ☑ No ☐

*I request that Council delegate its functions, powers, and duties required to hear and decide the application to 1 or more hearings commissioners who are not members of the local authority ☐

**Please note that a fee of $3000.00 is required to be lodged with your request, additional costs will be billed to you*

Signature of submitter: _____ Date **12**/ **6** / 2017
(or person authorised to sign on behalf of submitter)

Please note the person/s making this submission must also serve a copy on the applicant as soon as reasonably practicable

Attachment to Submission by Hastings District Council

To:	Hawkes Bay Regional Council (HBRC)
Name of submitters:	Hastings District Council (HDC)
Regarding:	Application by Te Mata Mushroom Company Ltd (TMM) to discharge contaminants into air from a composting and mushroom growing operation, and associated activities at 174 – 176 Brookvale Road, Havelock North (Application).

SUMMARY OF SUBMISSION

1. The Application seeks approval to increase compost production at the Application site from 120 tonnes per week to 500 tonnes per week, an increase of over 300%.

2. This increase is not authorised by TMM's current land use consent, and a new land use consent will be required. HDC considers that the Application should be put on hold to allow for the necessary land use consents to be sought, and that all applications necessary to authorise the proposal be considered together, in accordance with s 91 Resource Management Act 1991.

3. In its current form, the Application does not adequately assess adverse odour effects of the increase in compost production. HDC considers there is potential for adverse odour effects to occur with no provision for their avoidance or mitigation.

4. As a consequence, the grant of consent to the Application in its current form would be contrary to relevant objectives and policies in the Regional Resource Management Plan.

5. Absent the provision of further information to address HDC's concerns, outlined in further detail below, HDC **opposes** the grant of consent.

LAND USE CONSENTS

6. The Introduction to the Application asserts that, in 2013:[1]

> … a resource consent was obtained to increase the scale of the growing facilities by constructing additional mushroom growing rooms, effectively consenting the entire operation from a land use perspective.

[1] Application, page 7.

7. The Application further suggests that increased compost production is necessary "*to optimise the growing capacity of the operation i.e. that provided for under Hastings District Council consent RMA 20130216".*

8. HDC is concerned that the Application suggests that its land use consent RMA 20130216 authorises the proposed increase in compost production on the Application Site. It does not. TMM's application for land use consent specified that there was to be no increase in compost production, stating (emphasis added):[2]

> It is important to note that the production capacity of the operation will continue to be limited DP100128A [air discharge consent] i.e. there will be no change in respect to the volume of compost authorised to be produced on site.

9. The applicant reiterated that no increase in compost production was proposed in an email stating (emphasis added):[3]

> No additional deliveries of straw or other inputs are envisaged to occur as production levels are already limited by DP100128A (HBRC air discharge permit).
>
> The purpose of the additional growing rooms is to optimise the current operation, but as the volume of compost produced will not increase, the proposed buildings are unlikely to result in an increase in the number of staff on site or the number of car parks required, nor will they influence any existing loading or delivery patterns.

10. The grant of the land use consent application was premised on compost production levels remaining the same, which affected HDC's assessment of relevant matters including odour and traffic effects. An increase in compost production would require a new land use consent.[4]

11. HDC also notes that the plans provided with the Application are unclear, and there is no certainty that the physical works proposed are consistent with the current land use consent.

12. HDC considers that the current Application should be heard in conjunction with an application for the necessary land use consent, to ensure there is a holistic understanding of the nature of the proposal, and its effects on the environment, and a complementary set of conditions. It therefore considers that HBRC should determine not to proceed with a hearing at this time, under s 91 Resource Management Act 1991.

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2 Letter Cameron Drury, Cheal Consultants to Roger Wiffin (then Hastings District Council), 5 August 2013 '176 Brookvale Road: RMA20130178 – Additional Intensive Rural Production Activities / Buildings', p4.

3 Email Cameron Drury to Roger Wiffin, 'Re RMA20130216 Te Mata Mushrooms', 31 January 2014.

4 HDC notes that the area in which composting is to occur is outside the Scheduled Site area.

13. HDC acknowledges that its role as submitter in this hearing means that any hearing of the land use consent will likely need to be heard by an Independent Commissioner(s).

ADVERSE EFFECTS ON THE ENVIRONMENT

14. The Application is supported by an odour assessment, prepared by Air Quality Professionals. In order to inform its position of the Application, HDC engaged Tonkin & Taylor to review that assessment (**T&T report**). The T&T report is attached as **Attachment A**.

15. The T&T report indicates some gaps in the assessment which indicate that there may be adverse odour effects, in particular:

    (a) Mitigation to address current odour effects will not be implemented for 8 months (in the case of transfer of compost from Phase 1 bunkers to Phase 2 tunnel); or until production reaches 200 tonnes (first and second turning of compost in Phase 1 bunkers and laying out mixing and breaking bales). This indicates:

        (i) Current odour potential will remain high for 8 months (and may increase if the proposal is that production would increase in the first 8 months);

        (ii) Current odour potential will remain Moderate-High / Moderate for an indeterminate period until production reaches 200 tonnes. Because over this time production will increase by 66%, these existing levels of odour potential are expected to increase;

    (b) If and when production reaches 200 tonnes per week, mitigation measures will be put in place. That mitigation then allows production to increase to 500 tonnes before the final mitigation package is required to be implemented. The T&T report anticipates that there will be increased odour effects over time, particularly associated with a greater quantity of bales being broken and wetted, and larger volumes of material needing to be transferred and mixed in Phases 1 and 2.

16. As the trigger for implementation of mitigation relates to production volume, there is potential for 'Moderate High' odour effects to continue indefinitely, if production operates just below the 200 tonne or 500 tonne thresholds.

17. The T&T report notes that the air quality assessment provided with the Application does not assess the point at which odour effects may become offensive and objectionable, and states:

> Given the proximity of sensitive receptors, a Low to Moderate potential for adverse odour impacts may equate to odour effects that are offensive and objectionable.

18. Based on T&T's report, HDC considers that the grant of consent to the Application in its current form would result in offensive and objectionable odours beyond the boundary of the site, for which adequate mitigation is not provided and which could occur over a long period of time.

ASSESSMENT AGAINST OBJECTIVES AND POLICIES

19. On the strength of the T&T Report's assessment that the Application may involve offensive and objectionable odours beyond the boundary of the Application site, HDC considers that there is a conflict between the Application and the applicable objectives and policies in the Regional Resource Management Plan, particularly:

    (a) Objective 18, which relates to the expansion of existing activities which are tied operationally to a specific location, and requires "*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*";

    (b) Or Objective 16 which requires the avoidance or mitigation of off site impacts or nuisance effects arising from the location of conflicting land use activities, for future activities;

    (c) Policy 8 which requires HBRC to have regard to the 'FIDOL' factors when considering conditions on resource consents where a discharge of odour to air occurs;

    (d) Objective 20, which provides that the use of organic materials from industries processing primary products "*does not result in adverse effects on humans or the environment"*

    (e) Policy 14, which relates to the establishment and maintenance of separation distances for the storage, use or disposal of organic material to ensure that there are no offensive or objectionable odours imposed on neighbouring properties;

    (f) Objective 39a, which refers to "*A standard of local air quality is maintained that is not detrimental to human health, amenity values or the life supporting capacity of air*".

    (g) Policy 69 which requires the management of effects of activities affecting air quality so that "*There should be no offensive or objectionable odour beyond the boundary of the subject property"*.

20. HDC notes that Objective 18 refers to existing activities being 'tied operationally' to the Application site. HDC notes that other mushroom farms carry out composting operations on separate sites from where the mushroom farms themselves are located, and this is an alternative

which has not been adequately addressed in the Application. It will be necessary for HBRC to determine whether Objective 16 or 18 applies.

RELIEF SOUGHT BY HDC

21. For the reasons noted above, HDC seeks that the Application be put on hold and assessed together with an application for land use consent necessary to authorise the increased compost production now proposed.

22. HDC also seeks clarification from TMM, prior to the hearing if possible, on those issues raised in the T&T report, and outlined above. Concerns particularly relate to the assessment and quantification of adverse odour effects at all relevant stages (first 8 months, near to 200 tonnes production without mitigation required at 200 tonnes, near to 500 tonnes production without mitigation required at 500 tonnes, and at 500 tonnes production). HDC considers that this information should be pre-circulated to submitters as soon as possible, to ensure adequate opportunity to understand the proposal and comment on it at the hearing.

23. If there is insufficient certainty that an increase in compost production cannot occur without causing offensive or objectionable odours beyond the boundary of the Application site, then HDC seeks that:

    (a) Consent only be granted for that level of compost production for which the odour effects can be adequately mitigated; or

    (b) Consent be declined.

24. In the event that consent is granted, HDC considers that the consent should be subject to a condition requiring that there be no offensive or objectionable odour beyond the boundary of the Application site; and that additional conditions be imposed to ensure appropriate mitigation of effects, such as:

    (a) Preventing any increase in compost production until the initial mitigation works are in place (noting that it would be inappropriate to allow for an increase in production, and therefore odour, to occur within the first 8 months before mitigation is implemented);

    (b) The possibility of a staged consent, for instance additional production being triggered only after monitoring and/or an odour assessment establishes that the mitigation works are operating as forecast.

Attachment A – Tonkin & Taylor Report

Job No: 1002348
12 June 2017

Hastings District Council
Private Bag 9002
Hastings

Attention: Neil Taylor

Dear Neil

Review of Te Mata Mushrooms Odour Assessment

1 Introduction

This report sets out a technical review of the consent application by the Te Mata Mushroom Company (TMM) for an air discharge consent for the existing facility at 174 to 176 Brookvale Rd, Havelock North. Our report focuses on the technical aspects of the assessment of odour effects.

We have reviewed the following documents:

- Odour Assessment – Te Mata Mushrooms. Air Quality Professionals Pty Ltd. 19 December 2016 (Odour Assessment).
- Application for Resource Consent to Discharge Contaminants into Air. The Te Mata Mushroom Company. Cheal Consultants Ltd. 20 December 2016 (Consent Application)
- Response to Request for Further Information. Cheal Consultants Ltd. 27 March 2017 (Further Information).

This report is set out as follows:

- An overview of our findings;
- A review of the methodology used to assess odour effects;
- Comments on the possible impact of increased production on odour emissions; and
- Comments on the proposed odour mitigation measures and timing.

2 Overview

The purpose of the Odour Assessment includes to "*assess the potential impact of the proposal to increase compost production to 500 tonnes per week coinciding with the implementation of odour mitigation measures*".

The Good Practice Guide (GPG)[1] states that the purpose of an odour assessment to accompany a resource consent application is generally to "*determine whether the odour is (or will be) offensive and/or objectionable, and therefore likely to cause adverse effects on the local community.*" In New

[1] Ministry for the Environment. 2016. Good Practice Guide for Assessing and Managing Odour. Wellington: Ministry for the Environment.

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Zealand, a qualitative approach to assessing odour effects using a FIDOL assessment (rather than the alternative of a numerical, modelling assessment), is often the most suitable approach.

A FIDOL assessment considers the frequency, intensity, duration, offensiveness/character, and location of the odour (as this relates to the sensitivity of the receiving environment) and makes an overall judgement as to whether the effects are (or are likely to be) offensive or objectionable. It is necessary to consider both chronic and acute effects. Acute effects are situations where a single exposure, for example to a very strong odour, is sufficient to be considered offensive or objectionable. Chronic effects can arise from cumulative exposure to a number of odour events that, taken in isolation, would not individually constitute an offensive or objectionable.

An odour assessment for a change to an existing activity generally considers the current effects of the activity (which are already known) and compares these with the predicted effects after the proposed changes. In the case of the TMM application, the proposed changes comprise both improvements to odour control and an increase in production. The application covers four different periods of time (scenarios) with different odour characteristics:

a zero to eight months after granting consent (existing level of odour effects);

b additional odour controls eight months after granting consent;

c further odour controls after production reaches 200 tonnes per week; and

d an increase in production from 200 tonnes per week to up to 500 tonnes per week.

The Odour Assessment considers only scenarios (a) (Table 9 of the Odour Assessment) and (d) (Table 10 of the Odour Assessment). The Odour Assessment does not describe the potential for adverse odour effects if production does not increase beyond 200 tonnes per annum (scenario b), and further odour controls are not implemented. This is important because the further odour controls are contingent on is a substantial increase (66%) over the current production limit of 120 tonnes per annum and the application does not propose any timeframe for this to occur. We understand that the potential for odour effects during this intervening period will be higher than the "future upgrade and expanded scenario" (scenario d). These effects need to be characterised as the consent being sought would authorise this level of emissions indefinitely.

The odour character and sensitivity of the receiving environment are unchanged within each of the scenarios identified above (although there is the potential for sensitivity of the receiving environment to increase longer term if further residential housing is developed in the vicinity of the site). Therefore, we would expect the odour assessment to characterise the change in frequency, intensity and duration of odours of each subsequent period.

The Odour Assessment identifies the principal sources of odour at the site and rates their relative potential to cause adverse effects. This rating includes consideration of some aspects of the FIDOL factors, such as the day of week the activity occurs and, in some cases, the duration of the activity. However, it is not clear how the relative "potential for adverse odour impacts at sensitive receptors" of these different sources relates to actual effects on the environment. Therefore, while the assessment anticipates a relative reduction in the potential for adverse odour impacts over time, the assessment does not fully characterise the effects of the residual odour or make an overall judgement as to whether the odours would be offensive or objectionable.

The assessment includes an evaluation of the proposed odour control measures against best practice and the best practicable option. We understand that some activities cannot be fully enclosed and vented to an odour control system (such as complete enclosure of the Phase 1 transfer process). Certain activities will need to be carried out outdoors (such as bale breaking and mixing) or in partially enclosed areas (e.g. "full enclosure" of Phase 1 transfer). Consequently, the Odour Assessment acknowledges that odour emissions will not be eliminated. For this reason, we consider that there needs to be consideration as to the adequacy of separation from sensitive receptors to

avoid adverse effects of these residual odours, as well as from unplanned emissions that may occur from time to time (such as failure of the biofilter or breaking straw bales that have unexpectedly gone anaerobic).

The Odour Assessment concludes that the relative potential for odour effects from the future upgraded and expanded site operations is "Low-Moderate". It does not make any overall judgement, based on a FIDOL assessment, as to whether the effects would be acceptable or result in an adverse effect. Given the proximity of sensitive receptors, a Low to Moderate potential for adverse odour impacts may equate to odour effects that are offensive and objectionable.

3 Odour assessment methodology

3.1 Receiving environment

The Odour Assessment identifies sensitive activities in the area and discusses the increase in sensitivity of the receiving environment over time as residential housing has moved close to the western side of the TMM site. The AEE Report identifies that the area on the eastern side of Arataki Road is a Residential Urban Growth Area (shown in Figure 2.6) under the Hastings District Plan. We understand that Arataki is not currently intended for development and its status is intended to be changed to a reserve area. Any decision to rezone this land to residential could reduce the separation distance to sensitive receptors and increase the sensitivity of the receiving environment. Although it is not explicitly stated in the Odour Assessment, we understand that it assumes the sensitivity of the receiving environment does not change over time.

3.2 Use of assessment tools

The Good Practice Guide outlines a range of odour assessment tools. It is not necessary to use all of these tools, however the GPG suggests the priority that should be given to the various tools depending on the situation. The selection of appropriate tools for an odour assessment depends on:

- Whether the activity is existing or proposed – in this case the resource consent application is to authorise modifications to an existing activity (an increase in production); and
- Whether the odour effects are likely to be chronic or acute - in this case both chronic and effects are possible.

The following table sets out the assessment tools described in the GPG and identifies whether they have been used in the assessment. Assessment tools that are recommended as a high priority in the GPG, but have not been used in the assessment are identified in bold/underline and discussed after the table.

Table 1: Use of recommended odour assessment tools

Assessment tool	Priority	Used in Odour Assessment	Comments
Community consultation	High	No	Neither the Odour Assessment nor the AEE make any reference to consultation having been undertaken.
Complaint records	High	Yes	The Odour Assessment uses the review of recent odour complaints (since September 2014) to inform the odour mitigation strategy.

Assessment tool	Priority	Used in Odour Assessment	Comments
			The AEE sets out a longer history of odour complaints but does not directly relate these to effects.
Industry/council experience	High	Yes, indirectly	While the Odour Assessment does not explicitly refer to experiences of the industry or regional council with other similar discharges, this is effectively covered by the discussion of best practice.
Odour annoyance survey	High (chronic effects)	No	Odour annoyance surveys are generally only appropriate where there is sufficient residential density to generate statistically significant results. Odour diaries can be used as an alternative to an odour annoyance survey.
Meteorology and terrain assessment	High (to assess effects of proposed changes)	Yes	The assessment includes a discussion of meteorology and terrain as these relate to dispersion of odours.
Review emission control systems	Moderate (acute effects)	Yes	The assessment includes an evaluation of best practice and BPO.
Odour diaries and weather monitoring	Moderate	No	Recommended in areas with low population density (i.e. where odour survey would be of limited use)
Review of odour management plan and contingency procedures, risk assessment	High (acute effects)	No	The Odour Assessment does not explicitly identify high probability/ low potential impact and low probability/ high impact events.
Olfactometry and odour modelling	Low	No	We do not consider that olfactometry and odour modelling would be an appropriate tool for this situation as the emission sources are difficult to quantify and, as this is an existing activity, there are tools that are more appropriate to evaluate actual effects on the community.

Table 1 highlights that the assessment does not use any community feedback tools other than complaints records. However, there are a number of reasons why odour complaints records may not be a reliable indicator of odour effects, or the level of community concern about odour.

The longer term odour complaints record (p16 of the Consent Application) highlights an increase in complaints since 2012. The Consent Application attributes this to an increase in residential dwellings in the vicinity of the site, which we agree is likely given the number of people that may be exposed to odours have increased. The Odour Assessment also notes a significant increase in complaints in 2015/16 compared to 2014/15 and suggests that may be related to the timing of the Environment Court hearing for the prosecution of TMM rather than as a direct indication of an increase in odour emissions from the site. In our experience, an increase in odour complaints can occur around the time of consent applications or enforcement actions, so this may be the case. However, another recognised phenomenon is "complaint fatigue" whereby people may initially complain but then

stop, or not complain at all, because they consider that it will be ineffective. Complaint fatigue may (or may not) have been a contributing factor to the relatively low level of complaints prior to 2014/15.

Overall, we consider that the Odour Assessment would have been more complete if it had incorporated direct feedback from the community on odour effects. This could have been achieved qualitatively through consultation, or quantitatively by using an odour annoyance survey or odour diaries. Because these tools have not being used, the odour effects of TMMs current activities are not fully characterised in terms of the frequency, intensity and duration of odours. As a consequence, although the Assessment indicates that odour effects will reduce over time, it is unclear what the actual residual level of odour effects will be at the various stages identified.

Another gap in the odour assessment is a lack of identification of potential breakdowns or other scenarios that might give rise to abnormal odour emissions, as well as an assessment of the risk of these occurring and discussion of contingency measures. It is unclear to what extent abnormal emissions have been the cause of odour complaints compared to normal, ongoing emissions. At a minimum, we consider there should be a risk assessment be undertaken and contingency measures identified for inclusions in an odour management plan (if consent is granted).

3.3 Qualitative rating of odour emission sources

The Odour Assessment uses a qualitative rating scale to determine the potential for adverse odour impacts from each of the various sources. The report states that the rating is based on:

- The degree of unpleasantness of the odour;
- The time of day when the activity is carried out (related to meteorological conditions);
- The author's observations of odour strength from each source;
- Size and volumetric flow rates of each source;
- Time of day when sources are present (as this relates to meteorology); and
- The author's experience with the typical rate of downwind dispersion of odours from such sources.

We consider that this qualitative approach is appropriate to evaluate the relative potential for effects and that the rating takes into account the appropriate factors. T+T staff have previously visited the TMM site and the key odour sources identified are consistent with our observations at the time.

The odour ratings for the pre-2015 situation have been broadly calibrated against the complaints records, which suggest that complaints were more likely on a Tuesday (when Phase 1 to Phase 2 transfer takes place) or Friday (bunker to bunker transfer), followed by a Monday (bunker to bunker transfer) or Thursday (bale breaking). This is consistent with these activities being rated as having a high potential for adverse odour impacts (apart from bale breaking and mixing which is rated as moderate).

Following a number of improvements in odour control, the current (since early 2016) level of odour effects is anticipated to be reduced compared to the pre-2015 situation. The Odour Assessment anticipates that the potential for adverse odour impacts is still high on a Tuesday but would have reduced somewhat on Mondays and Fridays (from high to moderate-high). Given that it is approaching mid-2017, there should now be evidence available (such as from community feedback) to verify this assessment. Ground-truthing of the current scenario would increase confidence in the findings related to future scenarios.

4 Impact of increased production on odour effects

A series of odour control improvements are proposed when production reaches 200 tonnes per week. The application provides for a further increase in production to up to 500 tonnes per week. The Odour Assessment considers the ultimate "future, upgraded and expanded" scenario (Table 10 of Odour Assessment), but not the interim scenario of around 200 tonnes per week production. We consider it likely that there would be a correlation of increasing odour emissions with increasing production rates, for the following reasons:

- More raw material brought onto the site;
- A greater quantity of bales needing to be broken and wetted;
- More partially composted material present on the site at any one time;
- Larger volumes of material needing to be transferred between bunkers/tunnels; and
- Possibly more finished composted present on the site at any one time.

Consequently, we consider it likely that odour emissions from the site will reduce once production reaches 200 tonnes per annum and further odour controls are put in place, but then increase over time as production increases.

Table 2 sets out our comments on the possible impacts on odour of increased production.

Table 2: Odour effects of increased production from 200 to 500 tonnes per week

Effect of increased production	Odour Assessment	Commentary
More raw material stored on the site	Further Information states that if additional bunkers are required these will be of the same standard as the existing ones.	Not likely to be a significant odour source provided mixing continues to be carried out off-site and material is stored indoors.
Greater quantity of bales needing to be broken and wetted	The footprint for bale wetting will be similar to current dimensions. May be necessary to minimise the duration of bale breaking and avoid early morning period.	We would expect the odour generation rate to be related to the volume of straw/ wastewater rather than just the footprint. On this basis, we expect odour emissions would increase with increasing production.
More partially composted material present on the site at any one time	Vented air will be treated through a new biofilter	Odour emissions should not increase substantially provided the biofilter is appropriately sized and properly maintained.
Larger volumes of material needing to be transferred between Phase 1	Duration of bunker to bunker transfers will be no longer than currently used. May be necessary to minimise the duration of bunker to bunker transfers and avoid early morning period. Odour emissions will not change as production increases.	Bunker to bunker transfers are currently rated as 'moderate-high'. Once the third bunker is built, outdoor transfer times will reduce and the rating reduces to 'low-moderate'. However, outdoor transfer times will progressively increase with production. If the duration of transfers returns to current levels, it is unclear why the potential for effects does not return to "Moderate-High" levels.

Effect of increased production	Odour Assessment	Commentary
Larger volumes of material needing to be mixed and placed in Phase 2 tunnels	Not discussed	Outdoor transfer times will progressively increase with production. Although the Phase 2 material is not as odorous as Phase 1, we expect that the potential for odour effects will increase with production.
More finished composted present on the site at any one time	Not discussed	Not likely to be a significant odour source if spent compost piles are well-managed and removed from the site within 7 days.

5 Mitigation measures

The Odour Assessment identifies the activities with the greatest potential for offsite odour impacts, in order of importance and excluding activities with a low potential, as being:

1 Transfer of compost from Phase 1 bunkers into Phase 2 tunnel (High)
2 First and second turning of compost in Phase 1 bunkers (Moderate – High)
3 Laying out bales then breaking, mixing and placing into bunker (Moderate)
4 Bale wetting (Low-Moderate)
5 Phase 2 composting (Low-Moderate)

Appendix A outlines our understanding of the proposed mitigation measures and timing of implementation, as well as the relative potential for adverse odour impacts after each stage of mitigation.

The timing of the proposed mitigation is such that the second and third highest priority sources, will not be fully addressed until production exceeds 200 tonnes per week (a 66% increase over the current production limit of 120 tonnes per week). There will be a partial improvement in odour emissions from the first and second turning of Phase 1 compost, however the outdoor transfer of compost from one end of the bunker to the other using a loader will continue. The existing level of odour emissions from bale wetting/breaking activities, which are assessed as having a Moderate potential for odour effects, would continue indefinitely if production did not increase beyond 200 tonnes per week. These odour emissions could increase if production increased towards, but did not exceed, 200 tonnes per week.

6 Applicability

This report has been prepared for the exclusive use of our client Hastings District Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd

Environmental and Engineering Consultants

Report prepared by:

.....

Jenny Simpson

Director – Natural Resources

JMS
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Appendix A: Summary of mitigation measures

Activity	Current odour potential	Mitigation to be implemented within 8 months of consent	Odour potential after 8 months	Mitigation to be implemented once production exceeds 200 tonnes per 7 days	Odour potential after production exceeds 200 tonnes	Comments
Transfer of compost from Phase 1 bunkers into Phase 2 tunnel	High	Construct a new hopper and turning building. The compost will be turned inside the new building before transfer to the Phase 2 tunnels Install a new biofilter to treat air extracted from the new building.	Low			
First and second turning of compost in Phase 1 bunkers	Moderate – High	Extend the length of each existing bunker by 10m and construct a canopy with additional air extraction ('full enclosure').	Not stated	Construct a third bunker with full enclosure. This will avoid the need to transfer compost from one end of the bunker to the other using a loader.	Low-Moderate	It is unclear whether the existing biofilter can accommodate the additional air flows proposed from around the new extensions/ canopies on the existing building. The AEE states that construction of the additional bunker is only required to accommodate production increases. However the air quality assessment notes that the additional bunker will avoid the need to transfer compost outside from one end of the bunker to the other - this will minimise loader travel distances and the duration of compost exposure outdoors.

Activity	Current odour potential	Mitigation to be implemented within 8 months of consent	Odour potential after 8 months	Mitigation to be implemented once production exceeds 200 tonnes per 7 days	Odour potential after production exceeds 200 tonnes	Comments
Laying out bales then breaking, mixing and placing into bunker	Moderate		Moderate	Install bale breaking machine Construct a semi-enclosed bale blending line under the eave attached to the Phase 1 bunker with air extraction	Low-Moderate	
Bale wetting	Low-Moderate		Low-Moderate	Pre-wet the bales over an aerated pad Bale spiking to introduce recycled water into the centre of the bales This reduces the time that the bales need to be laid out for wetting	Low	
Phase 2 composting	Low-Moderate	Duct odour emissions to the new biofilter.	Low			The air quality assessment notes that once production increases beyond 500 tonnes per week, the existing Phase 2 tunnels will be extended and additional tunnels constructed. We assume this would increase the volume of air needing

Activity	Current odour potential	Mitigation to be implemented within 8 months of consent	Odour potential after 8 months	Mitigation to be implemented once production exceeds 200 tonnes per 7 days	Odour potential after production exceeds 200 tonnes	Comments
						to be treated, so this would need to be taken into account in the design of the new biofilter.