

The Te Mata Mushroom Company

174 to 176 Brookvale Road, Havelock North

Application for Resource Consent to Discharge Contaminants into Air

13027-01AP5
20 December 2016

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Application for Resource Consent under Section 88 of the Resource Management Act 1991 to Discharge Contaminants into Air

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APPLICATION DETAILS

Consent Authority: Hawke's Bay Regional Council

The Applicant: The Te Mata Mushroom Company

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Site Details:

Street Address: 174 to 176 Brookvale Road, Havelock North

Legal Description: Lots 1 and 2 DP 16311, Lot 2 DP 7771 and Lot 3 DP 28543

Activity for which Consent is sought:

Resource consent is sought to discharge contaminants into the air from a composting and mushroom growing operation and associated activities as a **Discretionary Activity** under Rule 28 of the Regional Resource Management Plan.

EXECUTIVE SUMMARY

The Te Mata Mushrooms operation was established in 1967 and now employs approximately 120 people. It contributes in excess of \$3.5m to the local community in annual wages and salaries, and a total regional value added or gross regional product impact of approximately \$7.19 million.

The site is identified in the Hastings District Plan as a Scheduled Site for composting, mushroom growing and retail sales in recognition of the activities longstanding contribution to providing for the social wellbeing of the community.

Although originally established far from urban centres where the risk of reverse sensitivity effects was low, reverse sensitivity has become an issue as urban development has been allowed to creep closer to the site.

Ongoing process improvements have been occurring together with obtaining resource consents as part of providing for further upgrades as part of this application.

The Regional policy Statement recognises that conflict between incompatible land uses has generally arisen as a result of past land use planning decisions, and that as a result there is need for a collaborative approach to prevent and resolve problems moving forward.

This application is to discharge contaminants into air arising from the existing composting and mushroom growing operation and associated activities. Although currently authorized under Resource Consent DP100128A, the proposal involves a series of different odour control measures and a greater compost production limit than currently specified.

Upgrades that are proposed to be undertaken within 8 months of the consent being granted will focus on odour sources of the greatest potential impact, and will considerably reduce the extent of odour as sought under Objectives 17 and 18 of the RPS. The 8 month lead in time is reasonable taking into account time for detailed design, statutory approvals, fabrication and construction.

Without increased production however the operation will not be viable under the type of odour control measures required to manage the reverse sensitivity effect it now confronts. Nevertheless, the proposed upgrades have been devised and potential odour impact ratings determined taking these increased production levels into account, which will go on to enable further upgrades.

Overall, the approach embodied in the application is consistent with the Policy context established under the RPS and represents a collaborative approach to reducing odour in terms of amenity values while recognising what is a valuable District and Regional asset and the role it plays in providing for the social and economic wellbeing of the community.

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1. INTRODUCTION AND CONTEXT

The Te Mata Mushrooms farm was established in 1967. The operation involves the storage of materials used in the production of compost, the production of compost over two core phases, the growing of mushrooms and the management of spent compost.

The farm currently operates under Resource Consent DP100128A to discharge contaminants arising from a composting and mushroom growing operation and associated activities into air. Although DP100128A is not due to expire until 31 May 2025, this application is being made to provide for changes in the operation and associated odour control procedures.

Activities involving the discharge of contaminants into air derived from an industrial or trade premise are regulated by Rules 28 and 29 of the Regional Resource Management Plan.

Rule 28 relates to specific activities and classifies them as a Discretionary Activity. Rule 29 accommodates all other minor discharges not specifically regulated by any other rule in the RRMP and classifies them as a Permitted Activity (provided a number of conditions, standards and terms can be complied with). Non-compliance with Rule 29 renders an activity Restricted Discretionary under Rule 30.

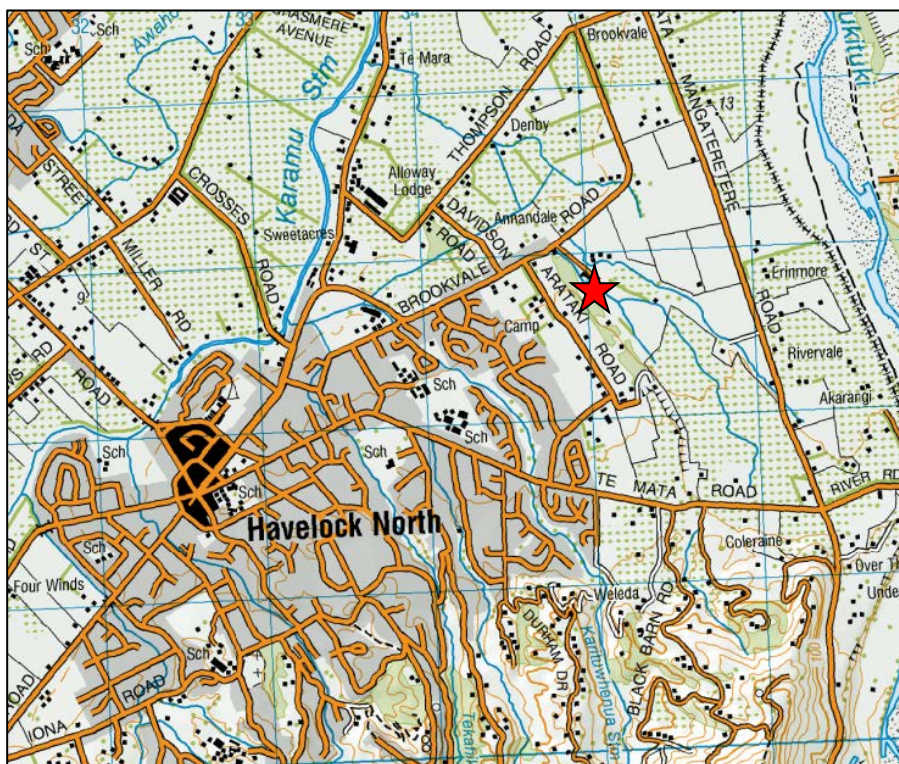
Rule 28 specifically accommodates composting activities where more than 100m³ of raw material, composting material and compost is held on the premise(s) at any one time. As the operation is characterized by a volume of greater than 100m³ of raw material, composting material and compost at any one time, it must be classified as a **Discretionary Activity** under Rule 28 of the RRMP.

The operation employs approximately 120 people, many of whom are long-term company employees. It contributes in excess of \$3.5m to the local community in annual wages and salaries. According to the report by Economic Solutions Limited (*Te Mata Mushrooms Ltd Business Operation – Regional Economic Impact Assessment*, June 2016), the company's current annual business operation generated the following total economic impact gains for the Hawke's Bay region:

- A total revenue impact of approximately \$18.61 million,
- A total net household income impact of \$4.45 million (that is additional total income accruing to the regional household sector),
- A total employment impact of approximately 200 persons/jobs comprising a direct impact of 120 persons/jobs and a flow-on/multiplied employment impact of 80 persons/jobs,
- A total regional value added or gross regional product impact of approximately \$7.19 million.

Although once located far from nearby urban centres, owing to urban growth and development it now finds itself on the periphery of Havelock North and within an area that is essentially characterized by a mix of residential and rural land uses and influences. The location of the site can be seen in Figure 1.1 below.

Figure 1.1: Location of Activity



Mushroom farming is included in the meaning of “Intensive Rural Production” in the Hastings District Plan and is provided for as a Controlled Activity within the Plains Production Zone in which the site is located. The activity had operated under existing use rights for some time. In 2013 however, 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 (refer RMA 20130216).

As part of the recent District Plan review however, Lot 2 DP 7771 and Lot 3 DP 28543, the specific lots containing the mushroom growing operation, were included as a Scheduled Activity (S37) in Appendix 26 of the Hastings District Plan where the following are provided for as Permitted Activities:

- 1) Mushroom growing and activities associated with the growing of mushrooms,
- 2) Composting operations for the purposes of mushroom growing,
- 3) Retail sales of mushrooms and compost produced on the site.

Scheduled Activities are introduced in Section 1.1.5.6 of the Hastings District Plan where they are described as uses that are not classified as a Permitted Activity in a zone but are longstanding activities recognised by Council as providing for the social wellbeing of the community.

A series of resource consents granted by the Hawke’s Bay Regional Council are also relied upon. Those relating to the mushroom growing operation include:

- (1) DP100128A – To discharge contaminants (odour) into air from a composting and mushroom growing operation and associated activities.
- (2) DP100129L – To discharge contaminants from a composting operation onto land.

- (3) WP000744T, WP000745, WP000746T and WP030248T – To take groundwater.

Resource Consent DP100128A was approved on 13 April 2011 and authorises the discharge of contaminants into air from a composting and mushroom growing operation and associated activities involving the production of up to 120 tonnes of compost per 7 days. It was approved for a period expiring on 31 May 2025. The activities approved under RMA20130216 (Hastings District Council land use consent) fall within the bounds of this consent.

DP100128A replaced a prior consent and contained the following requirements to be met over time:

- (1) Storage of compost substrate (chicken litter, gypsum, and chicken litter/gypsum mix) in three-sided roofed bunkers that are enclosed with soft door flaps,
- (2) Aeration of wastewater sufficient to maintain dissolved oxygen (**DO**) concentrations within the effluent pond at no less than 1.0 mg/L at all times,
- (3) Composting and turning as part of the Stage 1 composting process to be to be undertaken in a fully enclosed building, or buildings (refer Condition 12 of DP100128A),
- (4) Final turning to be undertaken in a fully enclosed building, or buildings (refer Condition 13 of DP100128A).

Items (1) and (2) have been complete. In addition to (1) however, the chicken litter and gypsum is now mixed off-site and delivered to the site as one substrate to avoid mixing on-site. We are advised by the applicant that an annual operating cost of \$24,000 - \$40,000 is required to facilitate this process.

In order to achieve (2), a larger effluent storage and treatment pond and aerator have been installed. We are advised by the consent holder that costs, including pumps and installation were in the order of \$100,000.

Operational changes to the first stage of the composting process (referred to as 'Phase 1 composting') have also been undertaken to concentrate these to a smaller window of time. These changes result in activities occurring over a longer period on a Tuesday and commencing earlier on a Thursday, but avoid any potential odour generation activities occurring on a Wednesday. We are advised by the applicant that costs associated with these operational changes are expected to fall in the order of \$50,000 per annum.

While works have been undertaken in regard to (3), Council has not accepted these as meeting full compliance with the relevant Condition. This is expanded upon below. Other additional works however have included:

- (1) Resource consent to construct additional growing rooms, bunkers and storage sheds has been obtained from the Hastings District Council (RMA20130216),
- (2) Considerable site works have been undertaken to improve site layout and appearance and to enable operations to be undertaken more efficiently and cleanly,
- (3) Resource consent to discharge stormwater (DP140244W) from the site has been obtained from the Hawke's Bay Regional Council to establish and confirm an integrated stormwater solution early so that future buildings associated with upgrades can be accommodated.
- (4) Resource consent has been obtained from the Hawke's Bay Regional Council for improved domestic wastewater management on the site (DP140245L).

In this regard, it is clear that whilst the conditions of DP100128A are relatively confined, there are other streams of work requiring considerable input in terms of design, approvals, expenditure and time. These work streams also relate to the wider business model, which influences the affordability, timing and overall viability of further upgrades. Compliance with item (4) was not required until March 2017.

Resource Consent DP100129L authorises the discharge of wastewater from the mushroom composting operation onto land situated to the south of the operation and the west along Arataki Road. This resource consent was approved on 30 November 2010 and is not due to expire until 31 May 2025.

At the beginning of 2015 the consent holder met with the Hawke's Bay Regional Council to discuss the issues and changes in the mushroom growing industry that were presenting a potential risk to the operation.

Here it was outlined that the largest mushroom growing farm, Meadow Mushrooms, accounted for 80% of the industry; a substantial increase from 65% in 2013, and that this was placing the viability of smaller farms such as Te Mata Mushrooms under considerable pressure; with the number of farms nationwide reducing from 8 to 5. At that time the cost of production had risen by 9-12%, whilst market prices were 10% less than they were 2013. Just over 18 months later, the cost of production has now risen by 15-18%, whilst market prices are only 8% greater than they had been in 2013.

A reduced market share, increased costs and reduced return was presenting a challenging economic climate, and it had taken time to become accustomed to these emerging conditions and to develop approaches to address them in order to sustain the operation and current employment levels of approximately 120 employees. Under the current structure of the consent however, the economic viability of the operation was considered to be significantly compromised if the current requirements were implemented under the production limitations currently imposed i.e. a limit of 120 tonnes of compost per 7 days.

In response, it was the intention of the consent holder to investigate alternative upgrades over the course of 2015 with the view of applying for a variation to DP100128A, or alternatively a new consent, which would also provide for an associated increase in production to sustain the economic viability of the operation under the costs of increased odour control.

Enforcement action was subsequently undertaken by the Council alongside this process with one of the outcomes associated with these proceedings being a requirement to prepare a new resource consent application as previously signalled by the consent holder. In overseeing the proceedings the Environment Court Judge referred to the situation as being 'a classic situation of reverse sensitivity'.

This application seeks a new resource consent to discharge contaminants (odour) arising from a composting and mushroom growing operation and associated activities into air, and seeks an increased compost production limit together with progressive upgrades in regard to odour control. The application has been informed by the report prepared by Air Quality Professionals Party Limited (AQP) provided in Appendix 2.

Statutory Considerations

Section 88 of the RMA allows any person to make a resource consent application, provided it is in the prescribed form and includes, in accordance with Schedule 4, an assessment of environmental effects in such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.

Schedule 4 of the Act lists those matters that must be included in a resource consent application and an assessment of environmental effects. These matters are referenced throughout the body of this report confirming that the application meets all the requirements of Section 88.

In accordance with section 104(1), and when considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2 of the Act, have regard to:

- a) Any actual and potential effects on the environment of allowing the activity; and
- b) Any relevant provisions of:
 - i) a national environmental standard;
 - ii) other regulations;
 - iii) a national policy statement;
 - iv) a New Zealand coastal policy statement;
 - v) a regional policy statement or proposed regional policy statement;
 - vi) a plan or proposed plan; and
- c) Any other matter the consent authority considers relevant and reasonably necessary to determine the application.

Having considered the location of the site in Section 2, the relevant planning documents under which the proposal is to be considered are introduced and analysed in Section 3 prior to explaining the details of the proposal in Section 4. Having established the context under which the proposal is to be assessed, the assessment of the activity's actual or potential effects in terms of section 104(1)(a) is undertaken in Section 6 prior to returning to the consideration of the relevant provisions of the Regional Policy Statement and Regional Plan in terms of 104(1)(b) in Section 7. A summary of findings is provided in Section 8.

Part 2 of the Act contains sections 5, 6, 7 and 8. Section 5 outlines the purpose of the Act, which is to "*promote the sustainable management of natural and physical resources*", and the meaning of the "sustainable management". Sections 6 and 7 contain "matters of national importance" and "other matters", while Section 8 provides for the principles of the Treaty of Waitangi. Part 2 of the Act is considered in Section 10 where an overall judgement, taking the proposed condition framework into account is arrived upon.

2. LOCATION AND SITE CHARACTERISTICS

Schedule 4 (2)(1)(b)

The site is located at 174 to 176 Brookvale Road, Havelock North, and falls within the Plains Production Zone of the Hastings District Plan. It is currently comprised of four titles, being Lots 1 and 2 DP 16311, Lot 2 DP 7771 and Lot 3 DP 28543, and has a total area of 22.8928 hectares. Certificates of Title are provided in Appendix 1.

As outlined above, the following are specifically provided for as Permitted Activities on Lot 2 DP 7771 and Lot 3 DP 28543, being the specific lots containing the mushroom growing operation (refer S37 of Appendix 26 of the Hastings District Plan):

- 1) Mushroom Growing and activities associated with the growing of mushrooms,
- 2) Composting operations for the purposes of mushroom growing,
- 3) Retail sales of mushrooms and compost produced on the site.

The site fronts Brookvale Road to the north and adjoins other Plains Production zoned properties along all boundaries. The site is generally flat with the exception of a 20m high escarpment running along the south west boundary. The comparatively elevated land along this escarpment is also zoned Plains Production, however this gives rise to the Havelock North General Residential Zone approximately 160m westwards.

Nearby zones and properties in regard to distance are shown in Figures 2.1 and 2.2 below.

Figure 2.1: District Plan Zoning

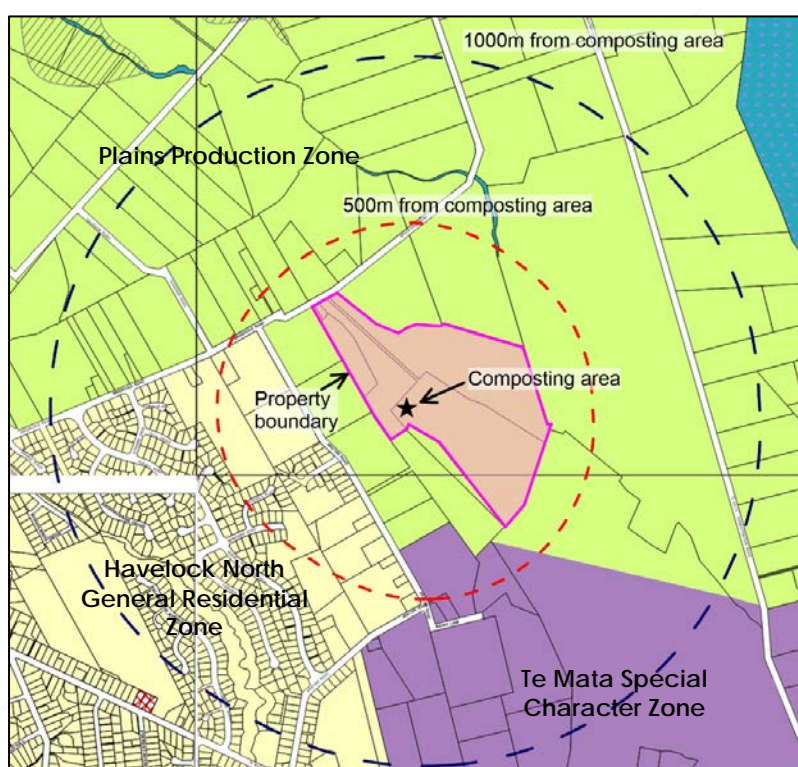
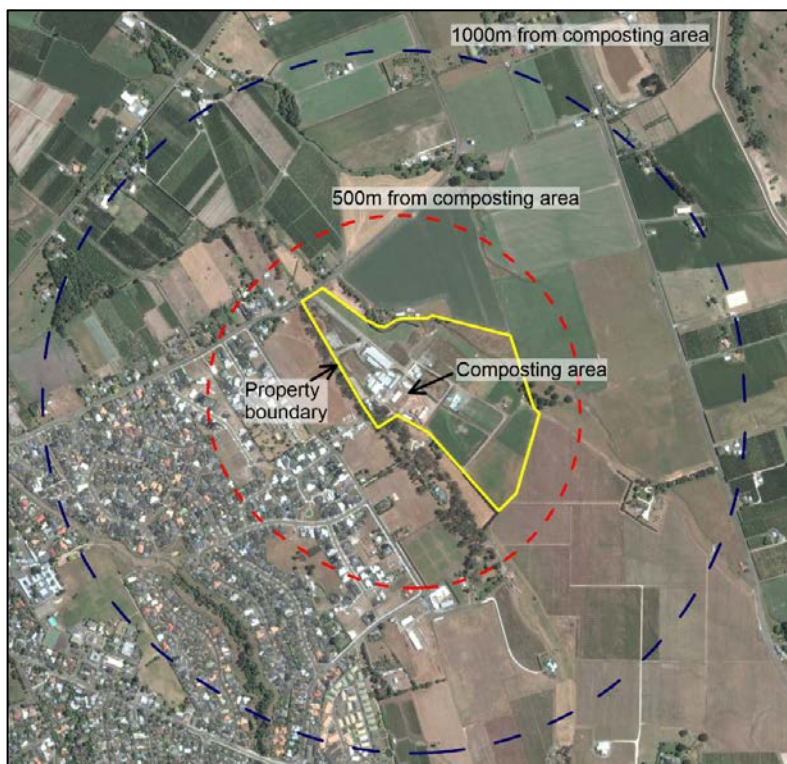


Figure 2.2: Surrounding Environments



The following matters are outlined and considered to determine the sensitivity of the receiving environment to adverse effects:

- 1) The Plains Production Zone,
- 2) Re-zoning of the sites rural surrounds and the gradual creep of the urban periphery,
- 3) Meteorological conditions.

Plains Production Zone

Provisions for the Plains Production Zone focus on safeguarding the life-supporting capacity of the land resource for present and future generations. They still however seek to enable the resource to be used for a wide range of activities while avoiding, remedying or mitigating adverse effects on the rural community, adjoining activities, marae and the environment.

Fundamentally however, the Zone represents a rural environment where the establishment of rural based land production activities and the production of primary products are targeted, and as a result, such environments are characterized by different amenity levels and expectations compared environments such as residential areas. Indeed, the Zone provides for land based primary production activities including livestock rearing, horticulture and associated buildings such as dairy sheds (not associated with an Intensive Rural Production Activity) for example.

In developing the Brookvale/Arataki Structure Plan during the HUDS to facilitate this, it was identified that it would be desirable to provide a substantial buffer between the existing mushroom farm and any residential development, and that it was reasonable to afford the mushroom farm protection from residential encroachment¹. This was reflected in Objective 2.7, which set out to ensure that the interface between Residential 3 and adjoining Rural Zones was managed in a fashion that protected the residential environment without limiting the rights of existing rural users to farm productively.

Having notified the proposed Plan Change, a submission was received from Te Mata Mushrooms (under previous ownership) objecting to the lack of permanent buffer between the proposed urban area and existing rural activities. A similar submission was received from Arataki Honey, another nearby land based primary production activity. The specific relief sought from Te Mata Mushrooms was a 30 m wide buffer zone along the eastern boundaries of Lots 1 and 2 DP 19433 and Lots 1 and 2 DP 2315, and to exclude those properties adjoining Arataki Road from the rezoning proposal. The buffer zone that was requested is shown in Figure 2.3 above by the dashed line.

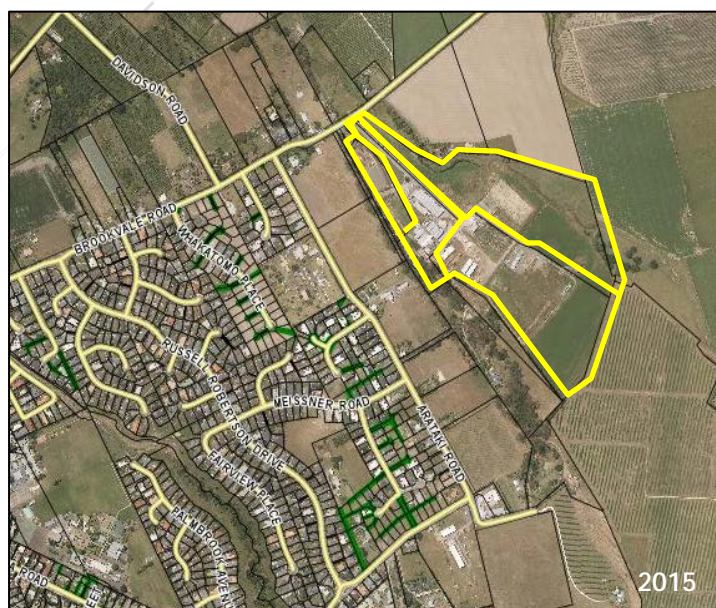
Although buffer zones (or separation distances) are not an alternative to source control, it is common practice to use them to manage residual odours or the effects of unintended or accidental discharges. This implies an acknowledgement that even under the most onerous controls/resource consent conditions, discharges to air are likely to be sufficiently affected by such variables that under certain conditions and/or at certain times, some degree of odour beyond the boundary is an unavoidable characteristic of the activity type.

In deciding upon the Plan Change however, the Commissioners favoured the provision of residential development and in terms of the rural/residential interface, considered Arataki Road to be a logical boundary. A further 10m wide buffer in addition to the width of the road reserve was recommended to be considered at the time of re-zoning the Deferred Residential area to Residential 3 however.

Since the initial Plan Change rezoning the neighboring land from Rural 2 to Residential 3, the area has become known as the Havelock North General Residential Zone, which extends from Havelock North all the way to Arataki Road. The rate of development during 1999 to 2015 can be seen in the aerial photographs shown below.



¹ Brookvale/Arataki Structure Plan, Beca, 1 August 1994, page 17.



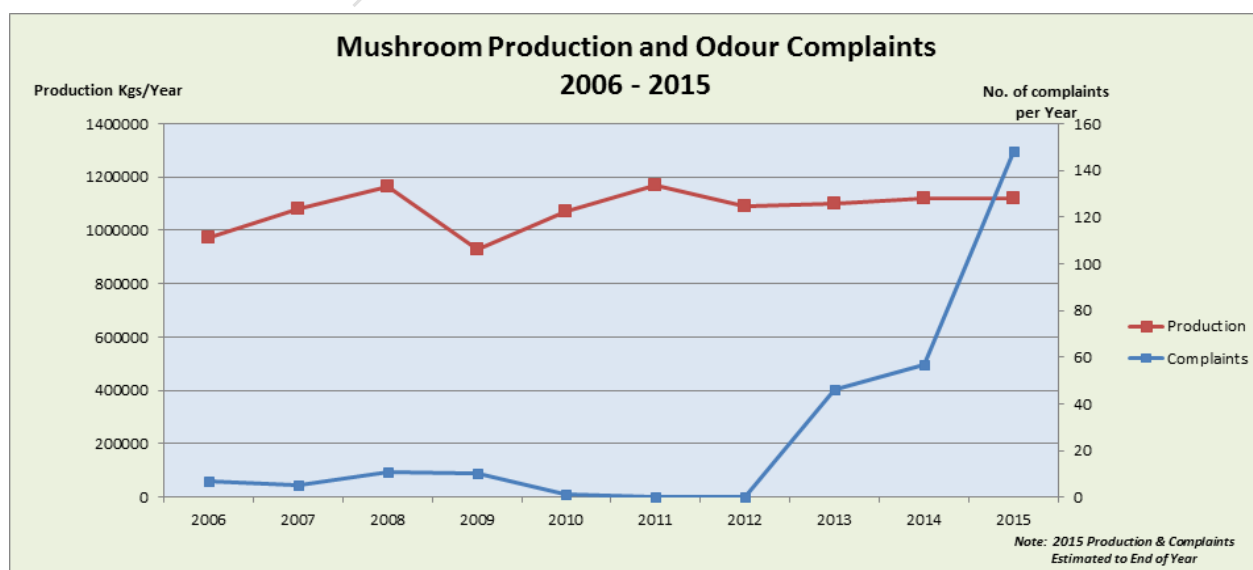
Interestingly, the bulk of complaints received since 2013 come from properties within the buffer originally sought by Te Mata Mushrooms (as introduced above and shown by the dashed line in Figure 2.4 below).

Figure 2.4: Location of Complaints Received



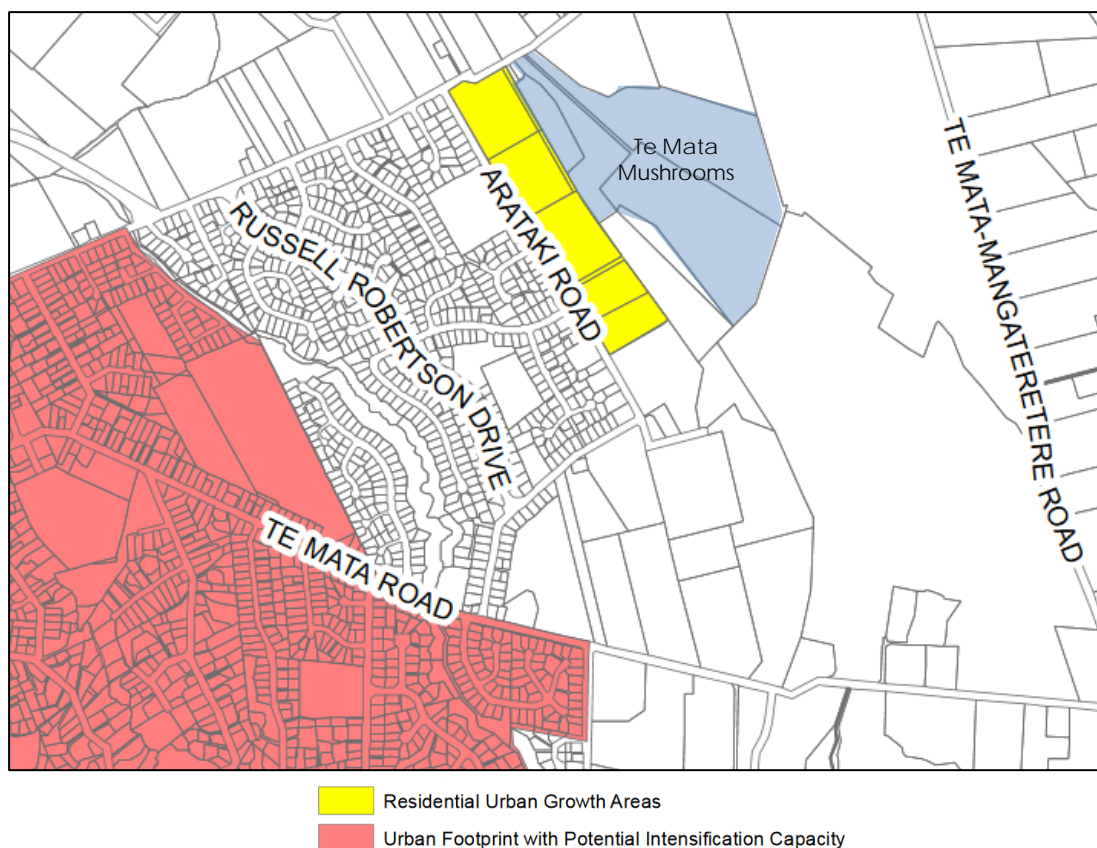
The relationship between residential development and the number of complaints received in relation to odour is also reflected in Figure 2.5 below (provided by the applicant based on HBRC data), which demonstrates that despite constant production levels over that time, complaints have increased.

Figure 2.5: Complaints vs Production



Notwithstanding the above, the eastern side of Arataki Road immediately adjoining the mushroom farm is identified in Appendix 2 of the Hastings District Plan as a potential residential growth area as shown in Figure 2.6 below.

Figure 2.6: Potential Growth Areas



We understand this is simply a signal of where further development could occur, and further investigations and processes as to whether this will be pursued, and how the reverse sensitivity risk may be managed are yet to commence. Nevertheless, we understand Hastings District Council has received advice from both Jacobs² and Tonkin and Taylor³ that in managing the risk of reverse sensitivity it would be appropriate to maintain a separation distance from the mushroom farm.

The report prepared by Jacobs recommended a separation distance of at least 500m from the 'boundary' of the property. In contrast, the report prepared by Tonkin and Taylor recommended a separation distance of 600m from the active composting area on the site and 500m from other operational areas. Both reports considered guidance from Australia that a separation distance of 1,000m may in certain circumstances be appropriate.

A submission emphasizing the reverse sensitivity issue and need to maintain an appropriate buffer distance has been made by the applicant on the *Revised Heretaunga Plains Urban Development (HPUDS) Strategy 2016*.

² Reverse Sensitivity Assessment for Arataki Re-zoning Proposal – Phase 1 Advice on Odour, 29 May 2015

³ Assessment of Separation Distances – Te Mata Mushrooms, March 2016

To summarize the site's history, it has experienced considerable and focused residential growth towards its western boundary, seemingly without any tangible acknowledgment or management of the reverse sensitivity risk. Like any other proposals, re-zoning and structure planning processes involve the need to consider actual or potential effects and measures to avoid, remedy or mitigate such effects. Policy UD12(l) of the Regional Policy Statement validates this view in that it requires territorial authorities to have regard to the avoidance, remediation or mitigation of reverse sensitivity effects arising from the location of conflicting land use activities.

We also note that while any new residential building (or building being part of a marae, place of assembly, commercial activity or industrial activity) erected within the Plains Zone within 150m of an intensive rural production activity (involving organic matter and effluent storage, treatment and utilization) requires resource consent as a Discretionary Activity (under Rule PP27 of the Hastings District Plan), there are no such (or even similar) requirements for any new residential buildings within the nearby Residential Zone, which presumably presents a greater reverse sensitivity risk.

This very much influences the 'context' in which this application must be considered. What is the level of burden i.e. limitations and obligations, that rightfully falls with the applicant when the reverse sensitivity issue was not sufficiently managed during the preparation of the urban growth strategy or in the associated re-zoning and structure planning processes which followed?

That said, it is fair to say that the decision to rezone and the success of the ensuing framework to manage its effects is beyond recourse, but it is also fair to say that its consequences are there to be managed by all. One must therefore be cognizant of the context in which the activity now finds itself when weighing and considering the relevant matters in coming to an overall decision on this application and developing a condition framework. The Regional Policy Statement considers this very matter and sets down the context and framework within which activities involving the management of organic matter and conflicting land uses are to be considered. This is introduced and expanded upon in Section 3 of this report.

Meteorological Conditions

Meteorological conditions affecting the operation are outlined in Section 6 of the AQP Report. In summary:

- Wind from the north through to east-southeast wind directions has the potential to carry odours from the site towards sensitive receptors in the Brookvale area. Approximately 30% of all winds put the operation upwind of a potentially sensitive receptor,
- However, the prevailing wind is a south-westerly, which would carry odours from the site away from any sensitive receptors,
- Wind patterns at the site are influenced by a ridge which lies along the southwestern boundary of the site. Terrain to the southwest of this ridge, where the new residential subdivision of Brookvale is located, remains at the same height as the ridge several metres higher in elevation than the site. Wind directions are observed to fluctuate and swirl around the site in response to the presence of the ridge. This ridge, as well as trees planted along the ridge, which increase the effective height of the ridge, help provide some enhanced initial dilution of odours from the composting plant,
- The most important meteorological conditions affecting dispersion of odour are wind speed and direction, and atmospheric stability. For emissions occurring close to ground or entrained in building downwash eddies, such as those at the site, low wind speeds (roughly less than about 2 -

3 metres per second, or 4 - 6 knots) tend to result in noticeable odour at greater downwind distances than at higher wind speeds,

- The atmospheric stability is a measure of the vertical mixing, or turbulence, of the atmosphere close to ground. During low wind speeds around sunset and sunrise, and overnight, the atmosphere can be very stable, with "inversion" caps keeping pollutants emitted close to the ground from rising high into the atmosphere. If such conditions coincide with odour emissions from sources located close to the ground, such as the odour sources at the site, the dispersion of odour downwind from the source can be slow with odour nuisance more likely to be noticed by downwind sensitive receptors. These stable atmospheric conditions do not occur during the daytime. Avoiding odour discharges during stable conditions (such as around sunrise) can be a good way of reducing or limiting the risk of odour nuisance.

Sensitivity of the Receiving Environment

Section 105(1)(a) and Schedule 4(6)(1)(d)(i)

Residential development has been allowed to protrude into best practice buffer zones to produce a situation where the sensitivity of the receiving environment to adverse effects has increased considerably since the facility was first established in what was originally a Rural Zone far from urban areas. It was then an environment with a low sensitivity to adverse effects for the following reasons:

- A low population density meaning a lower risk of people being adversely affected,
- People living in and visiting rural areas generally have a high(er) tolerance for rural activities and their associated effects.

The presence of the urban environment cannot be ignored however, and in determining the inputs and factors to inform the development of odour control measures, the sensitivity of the receiving environment, being one of these factors, must be considered high. Eventual outcomes and approaches will of course be guided by the applicable Policy framework(s).

3. STATUTORY CONTEXT

Prior to introducing the details of the proposal the following will introduce and analyse the statutory context under which the activity is to be assessed.

In accordance with section 104(1)(b), of the RMA, a consent authority must, subject to Part 2 of the RMA, have regard to the relevant provisions of any statutory plans and policy statements. This includes any relevant provisions of:

- (i) a national environmental standard:
- (ii) other regulations:
- (iii) a national policy statement:
- (iv) a New Zealand coastal policy statement:
- (v) a regional policy statement or proposed regional policy statement:
- (vi) a plan or proposed plan;

National Environmental Standards

National Environmental Standards (NES's) are regulations made under the RMA. Standards can be numerical limits, narrative statements or methodologies in a legally enforceable form. The National Environmental Standard for Air Quality is the only NES applicable to an activity involving a discharge of contaminants into air, however it does not apply to odour. As such, it is not relevant to this proposal.

Other Regulations

With the exception of regulations applying to administrative processes, there are no other applicable Regulations.

National Policy Statements and the New Zealand Coastal Policy Statement

National policy statements are instruments issued under section 52(2) of the Resource Management Act 1991 and state Objectives and Policies for matters of national significance. There are no National Policy Statements that apply to air quality, and while the New Zealand Coastal Policy Statement (NZCPS) refers to discharges to air, the site is not located within the coastal environment and the NZCPS is not applicable.

Regional Policy Statement and Regional Plan

The purpose of a Regional Policy Statement is to provide an overview of the region's resource management issues and the Policies and methods proposed to achieve the integrated management of natural and physical resources. The provisions of the Regional Policy Statement must reflect the provisions of any National Policy Statement.

The Hawke's Bay Regional Policy Statement is contained in Chapters 2 and 3 of the Regional Resource Management Plan document, which also contains the Regional Plan.

The purpose of a Regional Plan is to assist a Regional Council to carry out its functions in order to achieve the purpose of the RMA. To this effect, Regional Plans contain Objectives, Policies and Rules. These form the overall regulatory framework for the management of land, air, surface water, groundwater and the coastal marine area. The Objectives and Policies of the Regional Plan are contained in Chapter 5 of the Regional Resource Management Plan document.

As outlined above, the proposal is classified as a **Discretionary Activity** under Rule 28 of the Regional Resource Management Plan. In accordance s104B of the RMA, when assessing an application for a Discretionary Activity, the Council may take any relevant resource management matter into account in its assessment of environmental effects, and may impose conditions in regard to any relevant resource management matter.

The relevant Objectives and Policies of the Regional Resource Management Plan in terms of both the RPS and the Regional Plan are introduced below.

Regional Resource Management Plan Objectives and Policies

As outlined above, the presence of existing activities that may cause conflict with new activities and the risk of reverse sensitivity issues to arise are to be acknowledged when that new activity is first proposed. **Policy UD12(I)** validates this view in that it requires territorial authorities to have regard to

the avoidance, remediation or mitigation of reverse sensitivity effects arising from the location of conflicting land use activities.

This isn't to say that existing activities don't have a duty under Section 17 of the RMA to avoid, remedy, or mitigate any adverse effects that may arise in the context of the environment as it develops, however there is a clear theme in the following Objectives and Policies, which may be different from other planning frameworks, of protecting those existing activities provided *best practicable options* are adopted.

In the case of an existing activity (including their expansion), **Objective 17** sets out to remedy or mitigate the 'extent' of nuisance effects arising from the present location of conflicting land use activities. Remedying or mitigating the 'extent' of nuisance effects could mean reducing the distance from a site that offensive or objectionable odour maybe detected, or implementing changes/mitigation to reduce the frequency that offensive or objectionable odour is detected.

For the expansion of existing activities that are tied operationally to a specific location, **Objective 18** seeks 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.

Both Objectives consider the expansion of existing activities; however the main difference between the two seems to be that Objective 18 ensures that land surrounding areas required for an expansion are considered in the same manner as land surrounding the existing areas of an activity. This difference is not a relevant matter in this particular case however as odour sources will generally remain within the current footprint. Nevertheless, as this proposal involves both an 'existing' component as well as an 'expansion' component, both Objectives are relevant.

Objective 16 relates to future activities, but on the basis of the proposal being an expansion of an existing activity and not a new activity on the site, it is not considered to be applicable.

Policy 5 is to use non-regulatory methods as set out in Chapter 4 of the RRMP, in particular liaison with territorial authorities, as the primary means of preventing or resolving problems arising from incompatible land use activities and implementing the problem-solving approaches set out in Policies 6 and 7.

This Policy recognises that while the issues that arise are controlled by the HBRC, the conflict between incompatible land uses has generally arisen as a result of past land use planning decisions, and that as a result, there is need for a collaborative approach to prevent and resolve problems that arise.

Policy 6 relates to future activities, but in a similar manner to Objective 16 is not considered to be strictly applicable. Indeed, the activity is existing and this is validated by the site being scheduled in the District Plan.

Policy 7 seeks 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:

- (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.

- (b) The HBRC will place emphasis on holding discussions and providing information as the primary means of conflict resolution.
- (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:
 - (i) Working with organisations representing resource users, if such organisations exist
 - (ii) Promoting the use of community working groups which bring affected people together in order to discuss the problem
 - (iii) Using an independent facilitator to mediate between disputing parties
 - (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.

Of particular relevance to establishing the context in which this resource consent application is to be assessed, this Policy expressly recognises the rights of existing lawfully established activities that adopt the “best practicable option” or which are otherwise environmentally sound.

Best Practicable Option is defined in the RRMP and Section 2 of the RMA as meaning:

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*

Policy 8 requires regard to be given to the following matters when considering conditions of resource consents for activities involving the discharge of odour into air:

- (a) The likely frequency and duration of odour events,
- (b) The nature of the odour,
- (c) The nature of the local environment where odour may be experienced and the reasonable expectation of amenity within that environment given its zoning,
- (d) Any antecedent or contributing factors, including climatic or topographical features,
- (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.

There is specific reference in the explanatory notes to taking into account such factors as the frequency, intensity, duration, offensiveness and location of odour events when determining resource consent conditions - confirming the intention is not to prevent odour outright, rather avoid, remedy or mitigate as appropriate and reasonable.

Objective 20 applies to the management of organic material derived from industries processing primary products, and seeks to achieve the management and use of organic material in a manner that does not result in any adverse effects on humans or the environment.

In support of Objective 20 are Policies 11, 12, 13 and 14. **Policy 11** is relevant insofar as its general approach of encouraging the composting of suitable material rather than disposal. Policy 12 relates to discharge activities from the use of organic material, Policy 13 to composting specifically, and Policy 14 to separation distances.

Policy 12 sets out the circumstances where the Council may request a management plan, while **Policy 13** sets out the mechanism to require a resource consent for composting activities involving more than 100 m³ of compost and raw material. This is given effect through Rule 28 as outlined above.

In regard to air quality, **Policy 14** requires the establishment and maintenance of separation distances to ensure that there are no offensive or objectionable odours imposed on neighbouring properties.

Objective 39 is contained in the Regional Plan chapter of the RRMP document and seeks 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, and which meets National Environmental Standards.

Objective 39a is similar and refers to maintaining a standard of local air quality that is not detrimental to human health, amenity values or the life supporting capacity of air. Objectives 39b and 39c relate to PM₁₀ and are not applicable.

Objectives 39 and 39a are supported by **Policy 69**, which goes on to outline a number of environmental guidelines to manage the effects of activities affecting air quality in accordance with. These guidelines are contained in Table 6 of the RRMP, of which only Guideline 1 pertaining to odour is applicable. Here it is stated that “there should be no ‘offensive’ or ‘objectionable’ odour beyond the boundary of the subject property”.

‘Offensive’ is defined in Chapter 6.1.4(b) of the RRPM document as “giving or meant to give offence, disgusting, foul-smelling, nauseous, repulsive”. ‘Objectionable’ is defined as “open to objection, unpleasant, offensive”. Chapter 6.1.4(b) goes on to state “Case law has established that what may be offensive or objectionable under the RMA cannot be defined or prescribed except in the most general of terms. Each case will depend upon its own circumstances.”

It is further stated that an assessment in relation to ‘offensive’ or ‘objectionable’ odour will take into account the FIDOL factors, these being frequency, intensity, duration, offensiveness and location.

The factors outlined in 6.1.4(b) align closely with those outlined in Policy 8 of the RPS – being the higher order document, and it is implicit that implementation of Guideline 1 in Policy 69 does not anticipate the prevention of odour beyond the boundary outright, rather the avoidance of *offensive or objectionable* odour – applying a *best practical option* approach as continuously referred to throughout Policy 7 and 8 of the RPS.

Policy 69a relates to PM10 levels and is not applicable.

Key Points

Key points include:

- (1) The Policy framework recognises that conflict between incompatible land uses has generally arisen as a result of past land use planning decisions, and that as a result there is need for a collaborative approach to prevent and resolve problems moving forward,
- (2) The establishment and maintenance of separation distances are key matters in managing the potential for offensive or objectionable odours – however in this case past planning decisions have already allowed residential development to protrude beyond industry accepted separation distances,
- (3) Just because the issue of reverse sensitivity may not have been successfully managed when considering a Plan Change or Structure Plan process, the general thrust of Policy UD12(l) that reverse sensitivity effects should be avoided, remedied or mitigated when dealing with urban growth and existing activities should not be lost when dealing with replacement applications for such activities, and can be reflected in many indirect ways such as timeframes within which further odour control is to be implemented,
- (4) Objectives 17 and 18 do not seek the avoidance of odour outright; rather they seek the ‘extent’ of effects to be remedied or mitigated. This could mean reducing the distance from a site that offensive or objectionable odour maybe detected, or implementing changes/mitigation to reduce the frequency that offensive or objectionable odour is detected,
- (5) The ‘bar’ for existing activities and the expansion of existing activities to meet is the ‘best practicable option’.

Being a Discretionary Activity, these provisions must be given regard to in considering the application against Part 2 of the RMA. Not to be confused with the policy based gateway test associated with a Non-Complying activity, where an application is tested as to whether or not it is contrary to provisions, not every provision needs to be met in the strictest sense. Indeed, it is a matter of coming to an overall judgment of a proposal taking an array of matters into account in terms of Part 2 of the RMA. We return to the consideration of these provisions in relation to Section 104(1)(b)(vi) in Section 7.

4. DESCRIPTION OF PROPOSAL

Schedule 4(2)(1)(a)

The proposal is to discharge contaminants (odour) arising from a composting and mushroom growing operation and associated activities into air. As the actual growing of mushrooms within the mushroom growing sheds does not present a risk of objectionable or offensive odour, the discharge to be authorised by way of resource consent is primarily odour derived from the:

- 1) Storage of compost materials,
- 2) Production of compost,
- 3) Management of compost by-products.

The following outlines:

- (1) The sources of odour and nature of the discharge using the existing operation as a baseline,
- (2) The process changes and progressive odour control upgrades forming this proposal.

Sources of Odour and Nature of the Discharge

Section 105(1)(a) and Schedule 4(6)(1)(d)(i)

Details of the existing composting process including the storage of compost materials, existing odour control measures and the management of compost by-products are outlined in Sections 3.1-3.3 of the AQP Report and are summarised in Figure 4.1 and Table 4.1 below.

In summary, straw is wetted and mixed with gypsum and chicken litter to form a substrate which is then left to compost in a bunker. The substrate is then removed mid-process and turned where further water is added if necessary. The substrate is then placed back into a bunker to complete the composting process. The compost is then removed from this Phase 1 bunker, turned once again and transferred to the Phase 2 pasteurisation tunnels before it is used to form the compost beds upon which mushrooms are grown in the mushroom growing sheds. The spent compost is stored on-site for sale. Any remaining spent compost is removed after a set period of time. Runoff from the composting pad is stored and treated in an effluent pond (to control odour) and is the source of the water used in the process as referred to above. These various process steps essentially form the odour sources that characterise the activity.

Both Figure 4.1 and Table 4.1 include a rating of each source's potential for adverse odour impacts to occur at sensitive receptors based on the analysis of odour sources in Section 8 of the AQP Report. The rating system is qualitative, based on AQPs' 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. Figure 4.1 and Table 4.1 should be read in conjunction.

This initial analysis pertaining to the existing process identifies the key areas of potential risk to focus mitigation and timeframes around in terms of developing further mitigation, which is expanded upon below.

Figure 4.1: Existing Process

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	

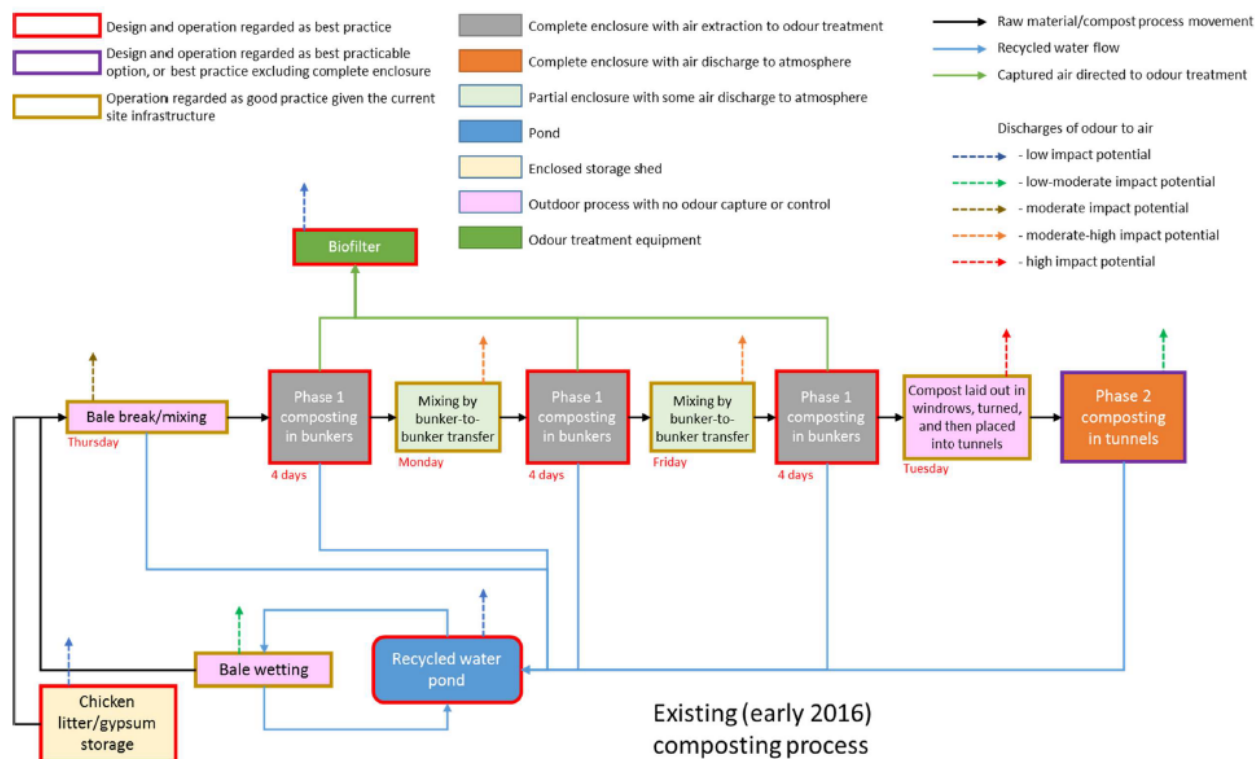


Table 4.1: Sources of Odour and Nature of the Discharge

Process	Explanation	Potential for Odour
Bale wetting	<ul style="list-style-type: none"> Up to 5,000 straw bales (increasing to 10,000 straw bales under full production levels) will be stored on site at any one time. Odour is generated from the spraying of recycled water over the bales. The process occurs for approximately 30 hours over a seven day period. The spraying action is via a low pressure delivery system from a moving irrigation arm, which minimises aerosol formation. The magnitude of odour emissions is highly dependent on the quality of the recycled water. 	Low-moderate
Chicken litter/gypsum storage and handling	<ul style="list-style-type: none"> Chicken litter and gypsum is mixed off site. The premixed chicken litter is stored in a three-sided roofed bunker with a tarpaulin draped over the opening to keep the litter dry. Up to 50 tonnes (increasing to 200 tonnes under full production levels) will be stored on site at any one time. 	Low
Laying out bales and spreading chicken litter/gypsum mix on bales, then breaking and mixing bales and placing mix into bunker.	<ul style="list-style-type: none"> Odour emissions during this process are driven by the quality of the inner material in the bales and the chicken litter. If either of these materials has become anaerobic and started to rot, odour emissions can be elevated. This process occurs every Thursday over the period from 6.30am to about 3pm (approximately 8.5 hours). This process is considered to be the main cause of complaints on Thursdays. 	Moderate
First and second turning of compost in Phase 1 bunkers	<ul style="list-style-type: none"> The compost is currently turned twice during Phase 1 on Monday and Friday (4 and 8 days after initial mixing). The process takes about 8 hours, starting at 6.30am (Monday and Friday). There is potential for odour to occur while the bunkers are open and while the compost is transferred from bunker to bunker in the bucket of a front end loader. When full of compost, the bunkers are not long enough to accommodate the turning machine and windrow of turned compost that is subsequently formed. 	Moderate-High
Transfer of compost from Phase 1 bunkers, mixing and placement into Phase 2 tunnels	<ul style="list-style-type: none"> The compost is removed from the Phase 1 bunkers, turned and placed into the Phase 2 tunnels on a Tuesday (12 days after initial mixing). The method of transferring the compost from Phase 1 to Phase 2 involves unloading the compost from the Phase 1 bunker using a front end loader, forming the compost into a long windrow outside that is turned (with water added) using the moving turning machine, and then placement of the compost into an empty Phase 2 tunnel. The full process is carried out on Tuesdays only, from 6.30am until about 4.30-5pm (10-11 hours). 	High
Phase 2 composting	<ul style="list-style-type: none"> Once the compost is loaded into one of the two Phase 2 tunnels, the doors at both ends of the tunnel are sealed. The only means of odour emission is from the portion of recirculated air which is passively vented to atmosphere from a vent on the roof of each tunnel. 	Low-Moderate
Emptying of Phase 2 tunnels	<ul style="list-style-type: none"> Compost is removed from the Phase 2 tunnels on Tuesdays so that the tunnels can be cleaned ready to receive new Phase 1 compost on the same day. The compost is relatively mature by this time and is placed directly into a hopper beside the tunnels which conveys the compost into a building for placement into mushroom growing trays. 	Low

Stockpiling and removal of spent compost (after use for mushroom cultivation)	<ul style="list-style-type: none"> Spent compost is sterilised (to kill mushroom spores) and taken by truck to the compost stockpile area towards the front of the site. This process usually occurs on Friday afternoon to Sunday morning. Odour emissions are only significant from the stockpile area when large volumes of compost in poor condition are disturbed. This can occur after extended periods of wet weather when removal trucks are unable to access the storage piles. 	Low-Moderate
Recycled water drainage/collection	<ul style="list-style-type: none"> Drainage water is a consequence of outdoor operations, however runoff areas have been reduced over previous months through the installation of additional drainage channels in the concrete slabs and the removal of outdoor windrows as a consequence of the first turning process occurring within the bunkers. Use of water within the process is essential to the compost production process so runoff water is stored in a pond for re-use. Odour emissions from the pond are dependent on the condition of the recycled water. With the introduction of the new aerated storage pond in August 2015, the recycled water is now retained in aerobic condition which minimises the potential for emission of odours whilst the recycled water is draining on the yard. The decommissioning of the aerated sump is also likely to have removed an odour source. 	Low
Recycled water storage pond	<ul style="list-style-type: none"> A new recycled water pond was constructed in 2015. Aeration was removed from the initial collection sump with a new high-rate aeration system installed in the new pond. Dissolved oxygen levels are monitored continuously. The new recycled water pond consistently reports dissolved oxygen levels exceeding 2 mg/L, twice the concentration required by the current resource consent. This is considered sufficient to maintain the recycled water in aerobic condition in the pond. 	Low
Biofilter	<ul style="list-style-type: none"> The biofilter design has been independently reviewed and found to be fit for current purpose. The odour from the biofilter was found to be a musty, earthy character typical of biofilters. 	Low

In summary:

- The transfer of compost from the Phase 1 bunkers to the Phase 2 tunnels on a Tuesday presents the highest potential odour impact i.e. a 'high',
- The first and second turning processes as part of the Phase 1 composting process on a Monday and Friday present the second highest potential odour impact i.e. 'moderate-high',
- The bale breaking and mixing process on a Thursday presents the third highest potential odour impact i.e. 'moderate',
- All other processes present a 'low' or 'low-moderate' potential impact.

Process Changes and Progressive Odour Control Upgrades

Schedule 4(6)(1)(e)

As outlined above, changes in market share have presented considerable viability challenges for smaller farms such as Te Mata Mushrooms, with the cost of production also increasing by 15-18% over the last 18-24 months and market prices by only 8%. Costs associated with further mitigation are considerable, and under current production levels, which are the primary income driver, we have been advised by the applicant that the operation is unlikely to be viable.

In order to invest in further odour control measures, greater income through increased production combined with improved efficiencies is required to finance the investment. For this reason, and to optimise the growing capacity of the operation i.e. that provided for under Hastings District Council consent RMA 20130216, production levels are proposed to increase to 500 tonnes of compost per 7 day period. These increased production levels have been taken into account in developing the proposed odour control measures, and the effect of the proposed increase is considered in Section 6 of this report.

The approach under which the new odour control measures have been developed is introduced in Section 5 of the AQP Report, and has focussed on the following. This strategy is consistent with the general thrust of Objectives 17 and 18, which are all about reducing the extent of nuisance effects – in this case odour.

1. Accommodating an increase in production levels,
2. Changing the way activities are carried out so that the potential for odour generation is minimised, including the hedonic tone of any residual odour (i.e. reducing the potential for that odour to be regarded as offensive or objectionable due to its degree of unpleasantness),
3. Where sufficient reduction of odour generation is not possible, focus is on odour capture and treatment at source.

A full review of local meteorology, complaint patterns, and odour sources has been carried out to inform the development and assessment of these odour control measures. These reviews are presented in Sections 6, 7 and 8 of the AQP report, with the proposed odour control measures in Sections 9 and 10. The AQP Report should be read in conjunction with this application report.

As outlined above, the greatest potential odour impact arises from the transfer of compost from the Phase 1 bunkers to the Phase 2 tunnels on a Tuesday and the first and second turning processes as part of the Phase 1 composting process on a Monday and Friday. Upgrades in relation to these processes are proposed within 8 months of granting consent, with further upgrades occurring in relation to processes of less potential odour impact upon increasing production levels to greater than 200 tonnes per 7 day period. These upgrades, being those to the bale wetting/breaking/mixing processes and construction of a third Phase 1 bunker, although contributing to a reduction in overall odour potential, are primarily proposed to maintain this aspect of the process within the existing 'timeframe footprint' i.e. although there will be a greater volume of raw material, the upgrades will enable it to be processed more quickly. This lead-in approach focuses the immediate upgrades on those sources of greatest potential impact and provides time to consolidate after the initial investment before investing again in further upgrades.

The Plans provided in Appendix 3 provide conceptual drawings of the:

- (1) Bale breaking process proposed to be established alongside the Phase 1 bunkers,
- (2) The proposed extensions to the Phase 1 bunkers,
- (3) The new 'filling room' to reduce odour derived from transferring the compost from the Phase 1 bunkers to the Phase 2 tunnels.

Odour control/mitigation measures in relation to each odour source together with the proposed upgrades and implementation triggers are outlined in Table 4.2 below, where each is also considered regarding whether or not the *best practicable option* is being/will be achieved. Figure 4.2 presents this information 'in process'.

Table 4.2: Proposed Upgrades and Best Practicable Option Analysis

Odour Source	Current Management/Mitigation	Current Practice Rating	Proposed Management/Mitigation	Implementation Date/Trigger	Upgraded Practice Rating
Bale wetting	<ul style="list-style-type: none"> • Drainage of recycled water back to storage pond • Recycled water stored in aerobic condition 	Good Practice (given current site infrastructure)	<ul style="list-style-type: none"> • Bales spiking - recycled water is injected into the middle of the bales prior to laying the bales out for further wetting. This will: <ul style="list-style-type: none"> ◦ Reduce the area required for bale wetting processes. • Pre-wetting over an aerated pad draining to the existing sump. This will: <ul style="list-style-type: none"> ◦ Avoid the centre of the bails becoming anaerobic. ◦ Minimise the footprint for bale wetting and recycled water drainage back to collection sumps. At full future production rates, the footprint for bale wetting will be similar to the current dimensions. 	Upon increasing compost production to 200 tonnes	Best Practicable Option
Chicken litter/gypsum storage and handling	<ul style="list-style-type: none"> • Mixed off site • Stored in a three-sided roofed bunker with a tarpaulin draped over the opening to keep the litter dry 	Best Practice	None required		Best Practice
Laying out bales and spreading chicken litter/gypsum mix on bales, then breaking and mixing bales and placing mix into bunker.	<ul style="list-style-type: none"> • Keeping the chicken litter/gypsum mix dry during storage • Storing recycled water in aerobic condition to reduce odour emissions from bales as they are opened and mixed 	Good Practice (given current site infrastructure)	<ul style="list-style-type: none"> • Bale mixing and breaking using a bale breaker machine instead of laying out the chicken litter substrate over lines of bales. • The blending line (attached to the Phase 1 bunker) will be semi enclosed with a mixing hopper placed under an extended eave. An air extraction system within the blending line and eave will extract most of the odour from the blending line, eave and the immediate vicinity for filtration in the biofilter system. This will: 	Upon increasing compost production to 200 tonnes	Best Practicable Option

			<ul style="list-style-type: none"> Speed up the mixing process - the duration per tonne of compost is expected to reduce about 4-fold Reduce the potential odour footprint to the confines of a hopper as opposed to long lines of exposed bales. Enable the blended inputs to be placed directly (via loader) into a Phase 1 bunker, again reducing the potential odour footprint/time of exposure due to avoiding rows of compost being laid out on the outdoor compost pad. Remove odour from the extracted air via passage through the bio-filter. 		
First and second turning of compost in Phase 1 bunkers	<ul style="list-style-type: none"> Using a spare "half" bunker to enable direct bunker-to-bunker transfers without using an interim outdoor windrow 	Good Practice (given current site infrastructure)	<ul style="list-style-type: none"> Extend the length of existing bunkers by approximately 10m to contain the turning machine and turned compost within the bunker during the bunker to bunker transfer process, and construct a canopy over the extended bunker entrance containing additional air extraction to the biofilter to help capture odour that may escape the bunker while the door is open during the process. Construct a third bunker long enough to contain the turning machine and turned compost, and construct a canopy over the new bunker entrance containing additional air extraction to the biofilter to help capture odour that may escape the bunker while the door is open during the process. These measures will: 	<p>Within 8 months of consent being issued</p> <p>Upon increasing compost production to 200 tonnes</p>	Best Practicable Option

			<ul style="list-style-type: none"> o Enable the footprint of odour emissions from the mixing of compost to be fully retained within the bunkers o Capture most of the odours escaping from the bunker opening 		
Removal of compost from Phase 1 bunkers, mixing and placement into Phase 2 tunnels	<ul style="list-style-type: none"> • Restriction of the process to one day per week 	Good Practice (given current site infrastructure)	<ul style="list-style-type: none"> • Construct a new building to the west of the Phase 1 bunkers adjacent to the Phase 2 tunnels with a hopper underneath an extended eave alongside. The new building will incorporate loading of the turned compost into the Phase 2 tunnels. • This will allow the final turning and mixing processes to be undertaken in a semi enclosed environment. • The building and extended eave will be ventilated to a new biofilter with sufficient design capacity. • This will: <ul style="list-style-type: none"> o Eliminate the need for a temporary outdoor windrow for mixing and transfer of compost from Phase 1 and Phase 2, which is a significant current odour source. o Reduce the volume of compost exposed to the atmosphere i.e. compost will be retained within semi enclosed areas except when it is being transferred between the Phase 1 bunkers and the new hopper in a front end loader. o Speed up the process, enabling a later start thereby removing the potential for odour emissions early in the morning whilst meteorological conditions place odour nuisance at greater risk. 	Within 8 months of consent being granted	Best Practicable Option/Best Practice

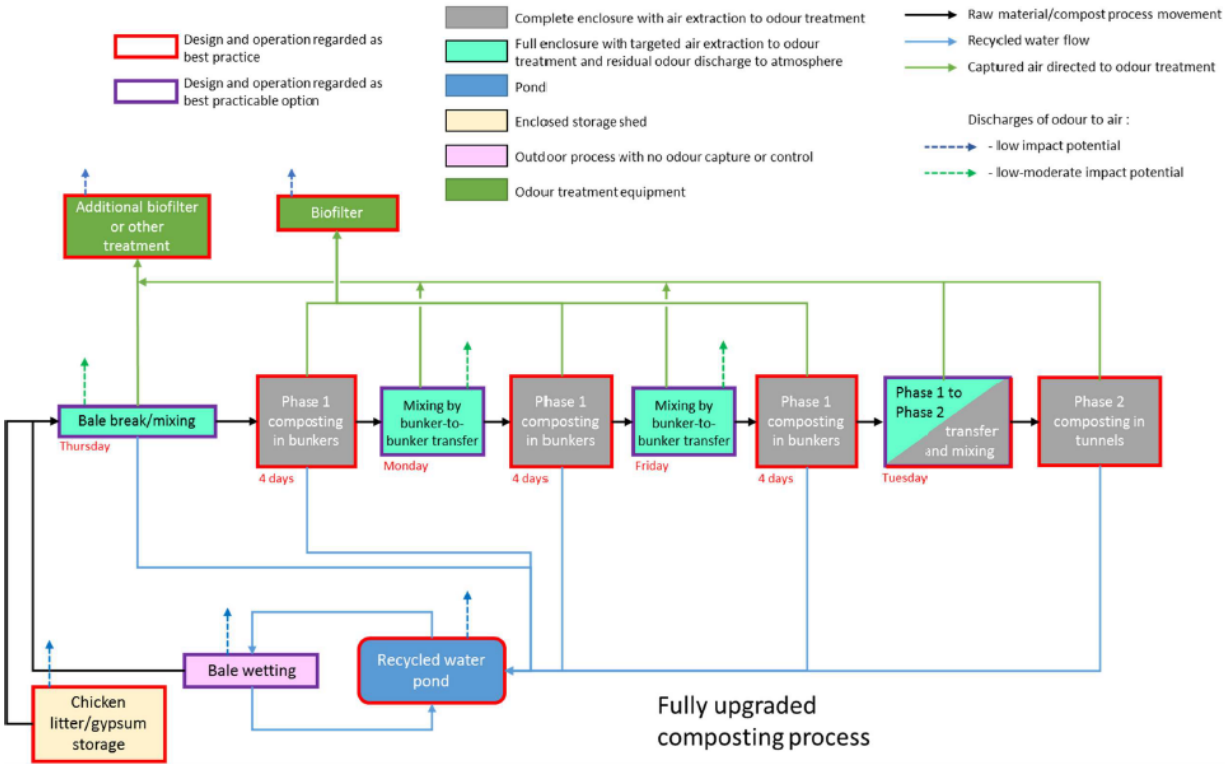
Phase 2 composting	<ul style="list-style-type: none"> Passive ventilation of a portion of recirculated air to atmosphere from a vent on the roof of each tunnel 	Best Practicable Option	Although not considered to be strictly necessary, vents from the tunnels will be ducted to the new biofilter servicing the conveyer and new building referred to above.	Within 8 months of consent being granted	Best Practice
Emptying of Phase 2 tunnels	None required		None required		
Stockpiling and removal of spent compost (after use for mushroom cultivation)	<ul style="list-style-type: none"> Removal of old, anaerobic stockpiled material from site Introduction of practices for regular removal of spent compost from the site and reduction of stored volumes 	Good Practice (given current site infrastructure)	<ul style="list-style-type: none"> Spent compost will be stored within either of the following areas: <ul style="list-style-type: none"> On a concrete pad in the existing spent compost area located at the front of the site under a canopy to keep the spent compost dry – any remaining compost will be removed from the site within 7 days, On a concrete pad in the centre of the site - any remaining compost will be removed from the site within 7 days. 	Within 8 months of consent being granted	Best practice
Recycled water drainage/collection	<ul style="list-style-type: none"> Removal of intermediate sumps Installation of new drainage channels in concrete pad 	Best Practicable Option	None required - with previous upgrades completed the source is already well managed however it will be further improved through additional drainage channels and minimising the footprint of the bale wetting activity as outlined above.		Best practice
Recycled water storage pond	<ul style="list-style-type: none"> Continuous aeration to retain dissolved oxygen concentration of at least 1 mg/m³ Continuous monitoring of dissolved oxygen and water temperature 	Best practice	None required		Best practice
Biofilter	<ul style="list-style-type: none"> The biofilter design has been independently reviewed and found to be fit for current purpose The biofilter temperature is continuously monitored 	Best Practice	<ul style="list-style-type: none"> Biofilter upgrades or new biofilters will be required when the proposed modifications are implemented to the: 	As required in relation to the above	Best Practice

	<ul style="list-style-type: none"> • Biofilter backpressure, moisture and pH is intermittently monitored • The monitoring demonstrates that the biofilter is operating within normal parameters for optimum odour treatment efficiency 		<ul style="list-style-type: none"> ○ Phase 1 composting system i.e. additional volumes of air will be extracted from the: <ul style="list-style-type: none"> - extended bunkers, - new third bunker, - new extraction points in the canopies over the entrances to the bunkers, - conveyer/static turning building, phase 2 tunnel entrance and phase 2 tunnel vents, ○ Bale breaking process i.e. new extraction points in the eaves under which the blending line and mixing hopper will be located. 		
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Figure 4.2: Activity / process following all Upgrades

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	



The 1st, 4th and 5th columns of Table 4.2 are suggested to form a Schedule in the consent to which conditions relating to the proposed upgrades can refer (or similar). This is expanded upon in Section 6 of this report.

It is also anticipated that a condition will be imposed requiring new/increased biofilters to be designed by a suitably qualified expert once all design criteria is established upon detailed design of the process upgrades.

Table 4.3 below provides a comparison of the potential odour impact from pre 2015, under the current operating regime and through the progressive upgrades - the outcome being that the potential odour impact, or extent of nuisance effects will be reduced to 'low' to 'low-moderate'.

It is also demonstrated that the processes with the greatest potential odour impact will be upgraded to meet the *best practicable option* bar or better by no later than 8 months following the granting of consent. This is expanded upon in Section 6 as part of the Assessment of Environmental Effects.

As outlined in the AQP Report, upgrades undertaken since 2015 have already made progress towards reducing the extent/potential for odour.

Table 4.3: Outcome Analysis

Odour Source	Stage	Potential Impact Rating (taking into account the time of day when the activity is actually carried out)						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Bale wetting	Pre 2015	-	-	-	-	-	-	-
	Current	GP	GP	GP	GP	GP	GP	GP
	After 8 months	GP	GP	GP	GP	GP	GP	GP
	Final	BPO	BPO	BPO	BPO	BPO	BPO	BPO
Chicken litter/gypsum storage and handling	Pre 2015	-	-	-	-	-	-	-
	Current	BP	BP	BP	BP	BP	BP	BP
	After 8 months	BP	BP	BP	BP	BP	BP	BP
	Final	BP	BP	BP	BP	BP	BP	BP
Chicken litter/gypsum mixing	Pre 2015				-	-		
	Current							
	After 8 months							
	Final							
Laying out bales/breaking/mixing/placing into bunker	Pre 2015				-			
	Current				GP			
	After 8 months				GP			
	Final				BPO			
First and second turning of compost in Phase 1 bunkers	Pre 2015	-				-		
	Current	GP				GP		
	After 8 months	BPO				BPO		
	Final	BPO				BPO		
Transfer of compost from Phase 1 to Phase 2	Pre 2015		-	-				
	Current		GP					
	After 8 months		BPO/BP					
	Final		BPO/BP					
Phase 2 composting	Pre 2015	-	-	-	-	-	-	-
	Current	BPO	BPO	BPO	BPO	BPO	BPO	BPO
	After 8 months	BP	BP	BP	BP	BP	BP	BP
	Final	BP	BP	BP	BP	BP	BP	BP
Emptying of Phase 2 tunnels	Pre 2015		-	-				
	Current		BP					
	After 8 months		BP					
	Final		BP					
Recycled water drainage / collection	Pre 2015	-	-	-	-	-	-	-
	Current	BP	BP	BP	BP	BP	BP	BP
	After 8 months	BP	BP	BP	BP	BP	BP	BP
	Final	BP	BP	BP	BP	BP	BP	BP
Recycled water storage pond	Pre 2015	-	-	-	-	-	-	-
	Current	BP	BP	BP	BP	BP	BP	BP
	After 8 months	BP	BP	BP	BP	BP	BP	BP
	Final	BP	BP	BP	BP	BP	BP	BP

Potential for adverse odour impacts at sensitive receptors

Not active	Low	Low-Moderate	Moderate	Moderate – High	High
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Practice Rating

Not assessed (historical)
Good Practice

-
GP Best Practicable Option
Best Practice

PBO
PB

5. ALTERNATIVE LOCATIONS OR METHODS

Section 105(1)(b) and (c), Schedule 4(6)(1)(a) and Schedule 4(6)(1)(d)(ii)

If an application is for a discharge permit to do something that would contravene Section 15 of the RMA i.e. the discharge of contaminants into air, Section 105 of the RMA states that the consent authority must, in addition to the matters in Section 104(1), have regard to the applicant's reasons for the proposed choice and any possible alternative methods of discharge, including discharge into any other receiving environment.

This is echoed in Schedule 4(6)(1)(d)(ii) and also Schedule 4(6)(1)(a) where a description of any possible alternative locations or methods for undertaking the activity is required to be provided if it is likely that the activity will result in any 'significant' adverse effect on the environment.

Alternative Sites

In *Dome Valley District Residents Soc Inc v Rodney DC* (CIV-1008-404-587 (No.2)), the Court stated that the consideration of alternative sites may be an issue where (1), Section 6 matters of national importance were involved, or (2), where the application would have significant adverse effects.

In terms of Section 6(a), the activity involves the expansion of an existing activity and will not compromise any natural character values. Turning to Section 6(b) and (c), the operation will not compromise the protection of outstanding natural features and landscapes or the preservation of areas of significant indigenous vegetation and significant habitats of indigenous fauna. Likewise, access along rivers as provided for in Section 6(d) is not a relevant matter in this particular case.

There are no heritage values that maybe compromised in terms of Section 6(f), nor will the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga be threatened as a result of the activity.

Turning to the scale of effects, on the basis that potential odour impacts arising from the upgraded processes are expected to be 'low' to 'low-moderate', it is not necessary to consider alternative sites. This is expanded upon in Section 6 of this report.

Alternative Methods

Consideration of alternative methods of undertaking the activity should consider whether:

- Alternative processes are available that produce the same product for a reduced or different level of emissions,
- There are alternative management techniques that can be used, which may reduce or change the types of levels of emissions being discharged.

These matters have been considered by AQP in its technical role of developing and assessing the proposed odour control measures and in doing so, it has been determined that all process steps meet the *best practicable option* bar.

6. ASSESSMENT OF ENVIRONMENTAL EFFECTS

Section 104B and 104(1)(a)

Odour sources together with the current and proposed odour control measures, whether they meet the *best practicable option* bar and their subsequent potential odour impact (as informed by AQP) has been outlined above. The following assessment will consider the following 5 fundamental questions in undertaking an assessment of environmental effects of the proposed activity, these being:

- 1) What are the effects during the progressive upgrades?
- 2) Will the upgrades work?
- 3) Can the upgrades be done more quickly?
- 4) What's the effect of increased compost production levels?
- 5) How do the progressive upgrades compare with the requirements of the existing consent?

6.1 What are the effects during the progressive upgrades?

Table 4.3 above summarises the upgrades that are proposed to be implemented 8 months after the granting of consent and once production levels exceed 200 tonnes per 7 days.

Versions of Table 4.3 specific to the processes and odour control measures occurring at any one time together with comments and conclusions in regard to the associated scale of effects during these times are outlined below.

6.1.1 *The Initial 8 months Following the Granting of Consent*

This period represents the time until the first round of upgrades are undertaken i.e. within 8 months of consent being granted. Over this time (referred to as 'current' in the table below) the operation will be run under existing processes as summarised below.

Table 6.1: Outcome Analysis over the 6 month period following the grant of consent

Odour Source	Stage	Potential Impact Rating (taking into account the time of day when the activity is actually carried out)						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Bale wetting	Current	GP	GP	GP	GP	GP	GP	GP
Chicken litter/gypsum storage and handling	Current	BP	BP	BP	BP	BP	BP	BP
Chicken litter/gypsum mixing	Current							
Laying out bales/ breaking/ mixing/placing into bunker	Current				GP			
First and second turning of compost in Phase 1 bunkers	Current	GP				GP		
Transfer of compost from Phase 1 to Phase 2	Current		GP					
Phase 2 composting	Current	BPO	BPO	BPO	BPO	BPO	BPO	BPO
Emptying of Phase 2 tunnels	Current		BP					
Recycled water drainage / collection	Current	BP	BP	BP	BP	BP	BP	BP
Recycled water storage pond	Current	BP	BP	BP	BP	BP	BP	BP

Potential for adverse odour impacts at sensitive receptors

Not active	Low	Low-Moderate	Moderate	Moderate – High	High
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Practice Rating

Good Practice	GP
Best Practicable Option	BPO
Best Practice	BP

The following conclusions can be reached in regard to the operation under this scenario while the first round of proposed upgrades are developed:

- The potential for odour to impact sensitive receptors will remain 'moderate' to 'high' during weekdays (except Wednesdays),
- Although good practice processes will continue to be undertaken, and although some aspects will meet the *best practicable option* or better i.e. best practice, the *best practicable option* bar will remain to be met 'throughout'.

Owing to the 'moderate' to 'high' potential odour impact, there is risk of more than minor effects during this time. Nevertheless, a lead-in time to undertake upgrades is required and this 'higher' risk and associated actual or potential effects will only occur for a limited and somewhat short duration in the context of the consented term.

6.1.2 The Period Commencing 8 months after the Granting Of Consent until Increasing Production to 200 Tonnes of Compost per 7 days

The following upgrades are proposed to be undertaken within 8 months of granting consent:

- Extend the length of existing bunkers by approximately 10m to contain the turning machine and turned compost within the bunker during the bunker to bunker transfer process, and construct a canopy over the extended bunker entrance containing additional air extraction to the existing biofilter to assist capturing odour while doors are open during the process,
- Construct a new building to the west of the Phase 1 bunkers adjacent to the Phase 2 tunnels with a hopper under an extended eave alongside. This building will incorporate loading of the turned compost into the Phase 2 tunnels so that final turning and mixing can be undertaken in a semi enclosed environment - the building will be ventilated to a new biofilter with sufficient design capacity.
- Spent compost will be stored within either of the following areas:
 - On a concrete pad in the existing spent compost area located at the front of the site under a canopy to keep the spent compost dry – any remaining compost will be removed from the site within 7 days,
 - On a concrete pad in the centre of the site - any remaining compost will be removed from the site within 7 days.

As outlined above, the necessary upgrades together with their trigger for implementation are anticipated to be outlined in a Schedule attached to the consent to which conditions can relate. The following condition (or similar) maybe imposed in this regard:

-
- x. The Consent Holder shall implement upgrades (as outlined Schedule X) in relation to the following processes within 8 months of the granting of consent:
- First and second turning of compost in Phase 1 bunkers - extending the length of existing bunkers,
 - Transfer of compost from Phase 1 to Phase 2,
 - Management of spent compost.
-

As outlined in the Table 6.2 below (referred to as 'after 8 months'), extending the length of existing bunkers will reduce the potential odour impact from 'moderate-high' to 'low-moderate'. Although the 3rd bunker will not be constructed at this time, following the proposed extension of the existing bunkers this will only be required in response to volume i.e. the proposed extensions and associated extraction will enable this aspect of the process to meet the *best practicable option* bar while production levels are less than 200 tonnes per 7days. The additional bunker will be constructed to accommodate production increases.

Constructing a new building (filling room) to semi enclose the final mixing and turning processes and filling of the Phase 2 tunnels is the greatest improvement in process, as this will reduce the potential odour impact from this aspect of the activity from 'high' to 'low'. Odour control associated with bale breaking and mixing will remain the same until compost production increases beyond 200 tonnes per 7 days.

Table 6.2: Outcome Analysis following upgrades due 8 months following the grant of consent

Odour Source	Stage	Potential Impact Rating (taking into account the time of day when the activity is actually carried out)						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Bale wetting	Current	GP	GP	GP	GP	GP	GP	GP
	After 8 months	GP	GP	GP	GP	GP	GP	GP
Chicken litter/gypsum storage and handling	Current	BP	BP	BP	BP	BP	BP	BP
	After 8 months	BP	BP	BP	BP	BP	BP	BP
Chicken litter/gypsum mixing	Current							
	After 8 months							
Laying out bales/breaking/mixing/placing into bunker	Current				GP			
	After 8 months				GP			
First and second turning of compost in Phase 1 bunkers	Current	GP				GP		
	After 8 months	BPO				BPO		
Transfer of compost from Phase 1 to Phase 2	Current		GP					
	After 8 months		BPO/BP					
Phase 2 composting	Current	BPO	BPO	BPO	BPO	BPO	BPO	BPO
	After 8 months	BP	BP	BP	BP	BP	BP	BP
Emptying of Phase 2 tunnels	Current		BP					
	After 8 months		BP					
Recycled water drainage / collection	Current	BP	BP	BP	BP	BP	BP	BP
	After 8 months	BP	BP	BP	BP	BP	BP	BP
Recycled water storage pond	Current	BP	BP	BP	BP	BP	BP	BP
	After 8 months	BP	BP	BP	BP	BP	BP	BP

Potential for adverse odour impacts at sensitive receptors

Not active	Low	Low-Moderate	Moderate	Moderate – High	High
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Practice Rating

Good Practice	GP
Best Practicable Option	BPO
Best Practice	BP

The following conclusions can be reached regarding the operation under this scenario:

- The *best practicable option* bar (or better i.e. best practice) will be met across all aspects of the process with the exception of those processes associated with bale wetting, breaking and mixing,
- The potential for odour to impact sensitive receptors will overall be 'low' to 'low-moderate', with only the bale breaking and mixing processes presenting a 'moderate' risk on a Thursday. This represents a considerable reduction in the extent of nuisance effects in terms of Objectives 17 and 18 of the RPS,
- The *best practicable option* bar (or better i.e. best practice) can be met across all process days with the exception of Thursdays,

- Thursdays, during which the bale wetting, breaking and mixing processes will be carried out have attracted the lowest number of complaints (refer Table 7 of the AQP Report) – confirming the sources of greatest potential impact have been the first to be focused on and reduced.

As outlined in Section 6.4 below, the outcomes by this time will exceed those envisaged under DP100128A.

6.1.3 The Period Following the Increase in Production to 200 Tonnes and Thereafter

Having already implemented the above upgrades, the following upgrades are proposed to be undertaken upon increasing production to 200 tonnes per 7 days:

- Bale spiking,
- Pre-wetting over an aerated pad draining to the existing sump,
- Bale mixing and breaking using a bale breaker machine,
- Constructing a semi enclosed bale blending line with targeted air extraction.

The following condition (or similar) maybe imposed in this regard:

-
- x. The Consent Holder shall implement upgrades (as outlined Schedule X) in relation to the following processes upon increasing production to 200 tonnes of compost per 7 days:
- Bale wetting,
 - Chicken litter/gypsum storage and handling,
 - Laying out bales/breaking/ mixing/placing into bunker,
 - Constructing a third Phase 1 bunker.
-

These upgrades combined with those above will go on to accommodate progressive increases in production through to the maximum volume authorised by the consent. A third bunker will also be constructed within the Phase 1 composting process to maintain the *best practicable option* in regard to this process.

This will see all components of the operation meeting the *best practicable option* bar, with only 'low' to 'low-moderate' potential for odour to arise across the boundary.

The proposed upgrades under this scenario (referred to as 'final' in the table below) represent a considerable reduction in odour potential compared to the existing situation and the extent of nuisance effects in terms of Objectives 17 and 18 of the RPS.

Table 6.3: Outcome Analysis upon increasing production beyond 200 tonnes per 7 days.

Odour Source	Stage	Potential Impact Rating (taking into account the time of day when the activity is actually carried out)						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Bale wetting	Current	GP	GP	GP	GP	GP	GP	GP
	After 8 months	GP	GP	GP	GP	GP	GP	GP
	Final	BPO	BPO	BPO	BPO	BPO	BPO	BPO
Chicken litter/gypsum storage and handling	Current	BP	BP	BP	BP	BP	BP	BP
	After 8 months	BP	BP	BP	BP	BP	BP	BP
	Final	BP	BP	BP	BP	BP	BP	BP
Chicken litter/gypsum mixing	Current							
	After 8 months							
	Final							
Laying out bales/breaking/ mixing/placing into bunker	Current				GP			
	After 8 months				GP			
	Final				BPO			
First and second turning of compost in Phase 1 bunkers	Current	GP				GP		
	After 8 months	BPO				BPO		
	Final	BPO				BPO		
Transfer of compost from Phase 1 to Phase 2	Current		GP					
	After 8 months		BPO/BP					
	Final		BPO/BP					
Phase 2 composting	Current	BPO	BPO	BPO	BPO	BPO	BPO	BPO
	After 8 months	BP	BP	BP	BP	BP	BP	BP
	Final	BP	BP	BP	BP	BP	BP	BP
Emptying of Phase 2 tunnels	Current		BP					
	After 8 months		BP					
	Final		BP					
Recycled water drainage / collection	Current	BP	BP	BP	BP	BP	BP	BP
	After 8 months	BP	BP	BP	BP	BP	BP	BP
	Final	BP	BP	BP	BP	BP	BP	BP
Recycled water storage pond	Current	BP	BP	BP	BP	BP	BP	BP
	After 8 months	BP	BP	BP	BP	BP	BP	BP
	Final	BP	BP	BP	BP	BP	BP	BP

Potential for adverse odour impacts at sensitive receptors

Not active	Low	Low-Moderate	Moderate	Moderate – High	High
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Practice Rating

Good Practice	GP
Best Practicable Option	BPO
Best Practice	BP

The following conclusions can be reached in regard to the operation under the fully upgraded scenario:

- The *best practicable option* bar (or better i.e. best practice) will be met across all processes,
- The odour profile across the processes involved in the operation will be characterised by 'low' and 'low-moderate' potential odour impacts. This represents a considerable reduction in the extent of nuisance effects in terms of Objectives 17 and 18 of the RPS.

6.2 Will the upgrades work?

One of the key aspects of the approach is that all sources of odour with a 'moderate' or greater potential impact will involve capture and treatment 'at source' via biofilters. Although detailed design has not been undertaken at this stage, it is anticipated that a condition will be imposed requiring new/increased biofilters to be designed by a suitably qualified expert once all design criteria is established. Biofilter treatment is a proven mitigation tool and is accepted as standard industry practice.

The proposed upgrades have been assessed by AQP in terms of meeting the *best practicable option* bar, and having undertaken a full review of odour sources, local meteorology and complaint patterns in respect to the sensitivity of the receiving environment, a considerable reduction in potential odour impact has been confirmed.

6.3 Can the upgrades be done more quickly?

As outlined above, investments have already been made in an array of process refinements, site works and statutory approvals to reduce odour and establish a 'platform' for further odour control measures to be implemented. These have involved:

- Having the chicken litter and gypsum delivered to the site as one substrate - costs to facilitate this process will be \$24,000 - \$40,000 per annum,
- Installing a larger effluent storage and treatment pond at a cost of approximately \$100,000,
- Refining Phase 1 processes to avoid any potential odour generation activities occurring on a Wednesday – at an ongoing cost of approximately \$50,000 per annum,
- Obtaining further resource consents (in advance) to facilitate various aspects of further upgrades i.e. stormwater management.

Moving forward, an array of further works are proposed as part of the first round of upgrades, which will reduce the potential odour impact arising from the Phase 1 turning and transfer processes from 'high' to 'low' to 'low-moderate', representing a considerable reduction in the extent of nuisance effects in terms of Objectives 17 and 18 of the RPS. These works will require detailed design of structures and biofilters, as well as Building Consent and fabrication before construction can even commence. Minor variations to RMA20130216 (land use consent for buildings) and DP140244W (discharge of stormwater from hardstand and buildings) maybe required. This would involve providing for a minor re-configuration of buildings rather than increasing site coverage or runoff however. As such, it is not considered necessary for these applications to be lodged in terms of Section 91 of the RMA to better understand the effects of the air discharge.

The proposed 8 month period allows 2 months for detailed design, 2 months for statutory approvals and 4 months for fabrication and construction. Although under ideal scenarios the works will be completed quicker, we believe the proposed 8 month period presents a reasonable timeframe for completion taking relevant timeframes into account.

We are advised that these upgrades are expected to cost \$750,000-\$850,000. While income from increased production beyond the current limit of 120 tonnes of compost per 7 day period will assist to finance this investment, it is not until further increases in production to beyond 200 tonnes per 7 day period that the next round of upgrades will be required or affordable, which are expected to be in order of \$1.8-1.9M.

Indeed, the upgrades to the bale wetting and mixing processes together with the construction of the 3rd bunker are largely required to accommodate the increased production levels within the 'timeframe footprint' of the current processes. This combined with the additional treatment at source will go on to mitigate the effects of increased production and further reduce odour arising from the broader operation.

Overall, the approach around the proposed upgrades can be considered reasonable taking design timeframes, statutory approval processes, effects and financial implications into account.

6.4 What's the effect of increased compost production levels?

The proposed upgrades have been devised and potential odour impact ratings determined taking the increased production levels into account. Key points include:

- Increased raw materials will be stored in the same manner as is currently the case – being the best practice and producing a low potential odour impact,
- Upgrades to the bale wetting and mixing processes at the time of increasing beyond 200 tonnes of compost per week will enable this process to be undertaken within the same duration as it is currently but involving less odour emissions,
- Once extended, the existing Phase 1 bunkers will have sufficient capacity to process up to 200 tonnes of compost per 7 day period, after which the new third bunker will be constructed to accommodate the additional compost (biofilters will be upgraded/constructed as required subject to conditions),
- Although there will be a greater volume of compost to transfer between the Phase 1 bunkers and Phase 2 tunnels, processes will be largely enclosed enabling the odour to be captured and treated at source, thereby avoiding any significant change in potential odour impact despite the increase in volume.

Overall, increased production levels will enable the proposed upgrades to be implemented, and will enable the operation together with its contribution to the economic and social wellbeing of the community to sustain itself without increasing the potential odour impact. Without increased production the operation will not be viable under the type of odour control measures required to manage the reverse sensitivity effect it now confronts.

6.5 How do the progressive upgrades compare with the requirements of the existing consent?

The key upgrades required under DP100128A are outlined in Conditions (9), (11), (12) and (13) as follows:

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.
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.

Conditions (9) and (11) have already been met, and the outcome associated with Condition (12) will be met within 8 months of the consent being granted, with improved outcomes being achieved by the extended canopies to assist in capturing odour while the doors of the bunker are open as part of the process.

Condition (13) through its reference to Condition 3(d) requires the final turning of the compost to be undertaken in a fully enclosed building (or buildings) that is ventilated to a biofilter by 1 March 2017. This will be achieved within 8 months of granting the consent, with improved outcomes being achieved in relation to filling of the Phase 2 tunnels as well.

In summary, the outcomes envisaged under DP100128A in relation to the first and second turning processes will be realised, if not exceeded, albeit slightly later. This proposal also has the added

value of introducing additional odour control to that required under DP100128A in relation to broader processes, in particular:

- Bale spiking,
- Pre-wetting over an aerated pad draining to the existing sump,
- Bale mixing and breaking using a bale breaker machine,
- Establishing a semi enclosed bale blending line with targeted air extraction,
- Constructing a canopy over the Phase 1 Bunker entrances containing additional air extraction to the existing biofilter to assist capturing odour while doors are open during the process,
- Constructing a new filling room to accommodate final turning and mixing and loading into the Phase 2 tunnels,
- Ducting the Phase 2 tunnel vents to a biofilter,
- Improving the management of spent compost.

Despite the proposed increase in compost production, the proposed outcome is considered superior to the outcome currently provided for under DP100128A.

7. RELEVANT OBJECTIVES AND POLICIES

The provisions of the relevant documents referred to in Section 104(1)(b) of the RMA, namely the Regional Policy Statement and Regional Plan (as contained in the Regional Resource Management Plan) have been outlined in Section 3 of this report. The following will traverse the key points of these provisions in regard to this particular proposal and its outcomes.

Objectives 17 and 18 effectively require a reduction in the extent of odour. This is achieved over progressive 'time based' and 'production level' upgrades, with those sources of the greatest potential odour impact being focused on firstly - and essentially immediately taking the time associated with design, statutory approvals processes and construction timeframes into account. The proposal can therefore be considered consistent with these overarching Objectives.

Taking the more specific Policies into account, it has been demonstrated that the Policy intent through Policies 7 and 8 of the RPS and Policy 69 of the Regional Plan is not to prevent of odour beyond the boundary outright, rather the avoidance of *offensive or objectionable* odour – applying a *best practical option* approach.

As referred to above, the operation finds itself in a classic example of reverse sensitivity, and although the decision to rezone and the success of the ensuing framework to manage its effects is beyond recourse, its consequences are there to be managed by all.

This view is validated in Policy 5 of the RPS where there is a clear message that a collaborative approach is required to prevent and resolve problems that arise from incompatible land use issues. In this case, it is proposed that the applicant exercises its 'collaborative' role by undertaking the proposed upgrades, and that the authorities and community exercise theirs through allowing the time and the production levels necessary to implement the proposed odour control measures.

Indeed, being directed in a similar manner as the applicant, authorities and the community must acknowledge Policy 7, which clearly states existing lawfully established activities that are operated in a manner that adopts the *best practicable option*, which the proposal does/will, must be recognized.

As demonstrated above, aspects of the operation already meet the *best practicable option* bar, and in some aspects exceed it. The progression towards the *best practicable option* in the remaining aspects, and in some aspects beyond, is clear, and on this basis the proposal qualifies to receive the acknowledgement referred to in Policy 7, which can be duly implemented by allowing the time associated with the progressive upgrades.

Indeed, while the option of relying on the establishment and maintenance of separation distances has been denied to the applicant by past planning decisions, implementing the messages in Policies 5 and 7 around collaboration, through allowing time to upgrade, can still enable the general thrust of Policy UD12(l) to be achieved i.e. reverse sensitivity effects should be avoided, remedied or mitigated when dealing with urban growth.

Although this outcome, or the outcome of similar Policies at the time may not have been given the opportunity to be achieved during the re-zoning process, the approach embodied in this proposal does, albeit somewhat retrospectively and in a form that has resulted in greater onus on the applicant than the proponent of the change in environment giving rise to the issue.

It is also important to recognize that these policy approaches would not have leapt to requiring relocation of the existing activity as a result of a more sensitivity activity establishing in close proximity. This is echoed in Policy 6 of the RPS, which recognises 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 (which the proposal does), is restricted or compromised.

The premise that the operation is not inappropriate for the site and warrants recognition is therefore valid, and on the basis that the 'method' or 'vehicle' of this recognition, being the progressive upgrades under the collaborate approach outlined above, is also valid, and that lastly, there will be a considerable reduction in potential odour impact, the proposal can overall be considered consistent with the policy framework of the RPS and Regional Plan.

8. FINDINGS

- (1) The operation was established in 1967 far from urban centres where the risk of reverse sensitivity effects was low,
- (2) The operation employs approximately 120 people and contributes in excess of \$3.5m to the local community in annual wages and salaries, and a total regional value added or gross regional product impact of approximately \$7.19 million,
- (3) The site is identified in the Hastings District Plan as a Scheduled Site for composting, mushroom growing and retail sales in recognition of the activities longstanding contribution to providing for the social wellbeing of the community,

- (4) Reverse sensitivity has become an issue as urban development has been allowed to creep closer to the site - seemingly without any tangible acknowledgment or management of the reverse sensitivity risk or maintenance of standard industry separation distances,
- (5) Although enforcement action has been undertaken in relation to one condition of the existing air discharge permit, ongoing process improvements have been occurring together with obtaining resource consents as part of providing for further upgrades,
- (6) Changes in the mushroom growing sector have placed the viability of smaller farms such as Te Mata Mushrooms under considerable pressure,
- (7) Objectives 17 and 18 of the RPS seek the 'extent' of nuisance effects to be remedied or mitigated,
- (8) The 'bar' in the RPS for existing activities and the expansion of existing activities to meet is the '*best practicable option*',
- (9) The Policy framework recognises that conflict between incompatible land uses has generally arisen as a result of past land use planning decisions, and that as a result there is need for a collaborative approach to prevent and resolve problems moving forward,
- (10) Implementation of Guideline 1 in Policy 69 does not anticipate the prevention of odour beyond the boundary outright, rather the avoidance of *offensive or objectionable* odour - applying a *best practical option*,
- (11) There will be a consideration reduction in the extent of odour effects within 8 months of consent being granted as a result of the proposed upgrades, with the *best practicable option* bar (or better or better i.e. best practice) being met for odour sources with the greatest potential impact,
- (12) The odour profile across the processes involved in the operation upon the upgrades associated with increasing production levels of 200 tonnes per 7 day period will be characterised by 'low' and 'low-moderate' potential odour impacts. This represents a considerable reduction in the extent of nuisance effects in terms of Objectives 17 and 18 of the RPS. The *best practicable option* bar (or better i.e. best practice) will be met across all processes,
- (13) One of the key aspects of the approach is that all sources of odour with a 'moderate' or greater potential impact will involve capture and treatment 'at source' via biofilters. Biofilter treatment is a proven mitigation tool and is accepted as standard industry practice,
- (14) The initial 8 month lead in time is reasonable, taking time for detailed design, statutory approvals, fabrication and construction into account,
- (15) Without increased production the operation will not be viable under the type of odour control measures required to manage the reverse sensitivity effect it now confronts. Nevertheless, the proposed upgrades have been devised and potential odour impact ratings determined taking these increased production levels into account,
- (16) Despite the proposed increase in compost production, the proposed outcome is considered superior to the outcome currently provided for under DP100128A,
- (17) The proposed upgrades will result in a consideration reduction in the extent of nuisance effects in terms of Objectives 17 and 18 of the RPS,
- (18) The approach towards this reduction represents a collaborative approach as provided for under Policy 5 of the RPS,
- (19) The approach embodied in this proposal will enable the general thrust of Policy UD12(l) of the RPS - that reverse sensitivity effects should be avoided, remedied or mitigated when/at the time of dealing with urban growth, to still be achieved.

9. CONSENT DURATION

Section 123 of the RMA relates to consent duration, and subject to s123(d), allows a discharge permit to be granted for up to 35 years. Section 8.2.4 of the RRMP also relates to consent duration and that states resource consents will be granted for a period of 20 to 35 years unless one or more of the following exceptions apply:

- a) The activity has duration of less than 20 years, in which case a consent will be granted for the duration of the activity.
- b) 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.
- c) The consent is for the allocation of gravel or another resource whose availability changes over time in an unpredictable manner.
- d) The type of activity has effects that are unknown or potentially significant for the locality in which it is undertaken.

Matter (a) is not relevant as the proposed activity is intended to have a duration of greater than 20 years. This is evidenced by its already long history. In terms of matters (b) there is no need to align the consent expiry date with others to manage cumulative effects, and there are no allocation matters in terms of (c).

In terms (d), the effects of the activity are well understood, and any issue of uncertainty in this particular case could be just as well managed through review or enforcement processes, as has been proved recently, rather than limiting consent duration. Indeed, the proposed upgrades require considerable investment, thus optimal certainty is appropriate to provide economic certainty. It is therefore proposed that the consent be granted for a period of 35 years.

10. PART 2 OF THE RESOURCE MANAGEMENT ACT 1991

The assessments contained in Sections 6 and 7 of this report are subject to the matters contained in Part 2 of the RMA, which contains sections 5, 6, 7 and 8.

Section 5 sets out the purpose of the RMA, which is to promote the sustainable management of natural and physical resources and is supported by sections 6, 7 and 8. Sections 6 and 7 contain the “matters of national importance” and “other matters” and section 8 provides for the principles of the Treaty of Waitangi. These sections are hierarchical and provide for a different level of consideration to be given to each.

In terms of Section 6(a), the activity involves the expansion of an existing activity and will not compromise any natural character values. Turning to Section 6(b) and (c), the operation will not compromise the protection of outstanding natural features and landscapes or the preservation of areas of significant indigenous vegetation and significant habitats of indigenous fauna. Likewise, access along rivers as provided for in Section 6(d) is not a relevant matter in this particular case.

There are no heritage values that maybe compromised in terms of Section 6(f), nor will the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi

tapu and other taonga be threatened as a result of the activity. Similarly there are no Section 7(a), 7(aa) or 8 matters.

In terms of Section 7(b), being the efficient use and development of natural and physical resources, the proposal represents the on-going use of a highly valuable physical resource in a manner where it has responded to its surrounds, and having been guided by the Policy framework, struck a balance with Sections 7(c) and 7(f), being the maintenance and enhancement of amenity values and the quality of the environment.

In this sense, the economic value and contribution of the activity to the District and Region, particularly the wellbeing of the 120 employees, has been demonstrated and balanced against the extent and rate of odour reduction, which has been demonstrated to be consistent with the methods and outcomes sought in the Policy framework.

In addition to national and international clients, Te Mata Mushrooms is also valued and supported by a large local wholesale and direct sales cliental that frequently visits the site and relies on the operation to purchase a high quality product. Retaining such operations and enabling the utility derived from such opportunities is valued by the broader community also, and can establish a sense of identify around locally produced foods. These values manifest themselves in positive social effects, which must also be weighed and considered in regard to the scale of any adverse social and environmental effects, as have considered throughout the body of this report.

Having considered all these matters, and in light of the meaning of sustainable management, the proposal is overall considered to be consistent with the principles and purpose of Part 2 of the RMA and deserving of consent.

11. CONCLUSION

The application is to discharge contaminants into air arising from an existing composting and mushroom growing operation and associated activities. Although currently authorized under Resource Consent DP100128A, the proposal involves a series of different odour control measures and a greater compost production limit than is currently specified.

The application falls to be assessed as a Discretionary Activity under Rule 28 of the Regional Plan.

Various upgrades focusing on sources of greatest potential odour impact have been proposed as part of a regime that works towards a progressive reduction in the extent of odour across all aspects of the operation, taking increased production levels into account. The lead times associated with these upgrades are reasonable taking into account the time required for detailed design, statutory approvals, fabrication and construction.

Overall, the approach embodied in this application is consistent with the Policy context established under the Regional Policy Statement and represents a collaborative approach to reducing odour in terms of amenity values while recognising what is a valuable District and Regional asset and the role it plays in providing for the social and economic wellbeing of the community.

Although raising the need to consider various matters in coming to an overall judgement, the proposal is overall considered to be consistent with the principles and purpose of Part 2 of the RMA, and is subsequently considered deserving of consent pursuant to Sections 104 and 104B.

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20 December 2016