

Before the Hearing Commissioners appointed by Hawke's Bay
Regional Council & Hastings District Council

In the matter of the Resource Management Act 1991
(the Act)

And in the matter of an application by The Te Mata
Mushroom Company Limited to
discharge contaminants into air from a
composting and mushroom growing
operation and associated activities at
174-176 Brookvale Road, Havelock
North

And in the matter of an application by The Te Mata
Mushroom Company Limited to
expand an existing intensive rural
production activity at 174-176
Brookvale Road, Hastings

Statement of evidence of Michael Jeffery Whittaker

17 July 2019

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INTRODUCTION

- 1 My full name is Michael Jeffery Whittaker. I am the sole director of The Te Mata Mushroom Company Limited (**the Company**), which has owned and operated the Te Mata Mushroom Farm at 174-176 Brookvale Road, Havelock North since 2012.
- 2 I have been in the Mushroom industry for 7 years, over the past 7 years I have visited compost yards and mushroom farms throughout Europe, Australia and the USA looking at new farm design, odour management and innovative bio dynamic solutions that the industry has developed. I consider myself well versed in the industry worldwide.
- 3 The farm has operated on its present site since 1967. The Company presently employs 120 staff, many of whom are long term employees. It contributes in excess of \$4 million to the local economy in annual wages and salaries. Over the past 52 years the company has employed many thousands of local people and it is one of the largest non-seasonal horticultural employers in the region.
- 4 When the farm was first established on its present site, it was surrounded entirely by rural horticulture and farmland. The farmland to the east remains today. However, the land to the south-west has been developed over the last 6-7 years. There are now approximately 160 new sections and/or dwellings which have been developed or built nearby – the closest of which is approximately 110 metres away.

PURPOSE AND SCOPE OF EVIDENCE

- 5 In this evidence, I:
 - 5.1 Address the Company's efforts to address odour issues since 2015.
 - 5.2 Discuss the vision for the Company and the reason why these resource consent applications have been made.

- 5.3 Explain the reason for the delay in lodging the application to Hastings District Council for land use consent.
 - 5.4 Explain why the Company cannot install the bale breaker within 8 months as the reporting officer for HBRC recommends.
 - 5.5 Provide costings of the upgrades proposed as part of the existing resource consent application to HBRC and compare that with the cost of the upgrades required under the existing air discharge consent held by the Company.
 - 5.6 Comment on the option of fully enclosing Phase 1 of the operation.
 - 5.7 Comment on the term for the consent proposed by HBRC's reporting officer.
- 6 The Company has recently made some changes to the proposed odour control measures and the timeframes for implementing them. The detail of that was included in a 9 July 2019 letter from the Company's planning consultant, Mr Cameron Drury to HBRC. Mr Drury addresses those matters in his evidence. I believe the resulting timeframes are realistic and can be achieved if the Hearing Panel agrees to the increases in production proposed once particular measures have been implemented.
- 7 For the Company to continue to be economically viable it needs to expand to gain production economies of scale. By way of example the largest Mushroom farm in New Zealand produces in excess of 180 tonnes of fresh mushrooms a week, whereas the Company produces only 25 tonnes of fresh mushrooms weekly. The investment in capital intensive new equipment is only possible if the company is able to expand and grow. The upgrades were proposed on the basis that small incremental levels of production growth were followed by significant investment in additional on-site odour mitigation. This approach gave the company the business certainty to expand and spend capital as well as the financial wherewithal to invest in the proposed upgrades.

EFFORTS TO ADDRESS ODOUR

- 8 I am aware that a large number of submitters have raised concerns about the Company's efforts to comply with its existing air discharge consent. I accept that many submitters are frustrated by what they perceive as the lack of progress in resolving odour concerns.
- 9 Although odour issues remain an ongoing concern for many, the Company has taken many steps over the years to try and address that issue. It has checked all aspects of its operation for fugitive emissions and undertaken the following work since 2014:
- 9.1 It installed a larger effluent storage and treatment pond and aerator to better manage dissolved oxygen levels at a cost of approximately \$100,000. This new system has lifted the Dissolved Oxygen (DO) from .05 to in excess of 4.0. The Company's current consent requires it to be greater than 1.0.
- 9.2 A decision was made to mix the chicken litter and gypsum off site because the mixing of those products had the potential to generate odour. This mixed product is delivered to the site, stored and then used in the compost process. This additional offsite service costs the Company \$52,000 annually.
- 9.3 The mixed chicken litter and gypsum is now stored in a fully enclosed shed to minimise rain water ingress or leachate escape. The delivery process is strictly managed and the bulk chicken/gypsum mix being transferred to a fully enclosed shed within 1 hour of it arriving on site.
- 9.4 A change was made to the Phase 1 composting process so that the full Phase 1 bunkers were emptied, turned and then water added, and the Phase 2 tunnels filled the same day.

- 9.5 The Company has purchased its own sump cleaning truck enabling it to empty and clean all compost yard sumps on a more regular basis - an investment of \$25,000.
- 9.6 Changes were made to the timing for placing chicken litter and gypsum mix on hay bales – a process which had been an overnight one was changed so begin at 5:30am on Thursday, thus eliminating any chicken/gypsum mix sitting in the open overnight. To accommodate this process change the Company has incurred additional wages.
- 9.7 Drainage and capture of effluent from the pre-wetting area was improved at a cost of over \$60,000.
- 9.8 The original two-bunker design was divided into four smaller bunkers to satisfy condition 12 of the Company's discharge permit. I am aware that HBRC does not accept that the Company has complied with this condition, but the changes made allowed for compost mixing by bunker-to-bunker transfer, rather than by turning the compost in a temporary outdoor windrow.
- 9.9 The Company closed down its retail compost operation after that operation was identified as a potential source of odour. That resulted in lost sales of \$60,000 annually and has reduced the shop customer traffic to the Company's retail store by 25% resulting in additional product sales loss.
- 9.10 It shifted the compost to a concrete bunker in the middle of the farm, so that it was further from the property boundary. The cost of constructing this new bunker was approximately \$65,000.
- 9.11 The Company has installed a new Phase 2 compost transfer conveyor system reducing the time by 50% required to transfer the compost from the Phase 1 bunkers to the Phase 2 tunnels. The cost of this upgrade was \$180,000

- 9.12 A new loader was purchased with greater capacity so that compost could be shifted more quickly.
- 9.13 A new effluent irrigator and an entirely new piping system was purchased to reduce the time it took to irrigate waste water thus reducing any potential odour. The cost of this system was \$55,000.
- 9.14 Continuous monitoring systems were installed on the farm's pond and biofilter to ensure more accurate data collection.
- 9.15 Finally, the Company trialled bale dunking, which has now been integrated into its production system.

VISION FOR THE COMPANY

- 10 If consent was granted for the entire volume sought (500 tonnes), the number of company employees would rise from current levels of 120 to 350 full time employees. The well published vision of the respective Hawke's Bay Councils is to grow more non-seasonal full time jobs in Hawke's Bay. All jobs created by the Company are generally full time and are all non-seasonal. The financial and social benefit to the Hawke's Bay economy would be significant. Both reporting officers seem to accept that.
- 11 I believe there is a perception amongst some submitters that the only reason the Company lodged these current resource consent applications is because it was forced to do so by the enforcement order made by the Environment Court. In fact, as far back as early 2015, the Company met with HBRC to discuss the requirements of the Company's existing resource consent application and explain how the Company's economic viability would be compromised if odour mitigation measures had to be implemented with the current production limitations (120 tonnes of compost per week).
- 12 HBRC was advised of the Company's intention to investigate alternative upgrades during 2015 so that it could apply to vary its existing consent or seek a new consent allowing an increase in production to help fund the proposed odour mitigation measures. The Company signalled to HBRC that

it wanted to grow the business. This growth would help fund the odour upgrades which are proposed as part of this resource consent application. Copies of correspondence Mr Drury sent to HBRC on 19 February 2015 and 26 March 2015 are **attached** to my evidence.

- 13 If anything, the Council's prosecutions have slowed down this process. The only thing HBRC achieved from the prosecution was an enforcement order offered by the Company to do exactly what it had said it would do back in 2015.
- 14 This situation has been incredibly frustrating for the Company and the community. Precious time has been lost and hundreds of thousands of dollars spent on RMA enforcement processes rather than implementation.

DELAYS IN THE PROCESS

- 15 The enforcement order – which the Company agreed to – required the Company to lodge a draft resource consent application with HBRC for an expanded composting operation by 1 October 2016, followed by a final application in December 2016. As part of that application, the Company was required to propose a suite of upgrades and/or odour control solutions intended to mitigate the odour from the expanded operation. Both timeframes were met by the Company.
- 16 Hastings District Council then lodged a submission stating that an increase in compost production would require a new land use consent, which HDC considered should be lodged before the air discharge application was heard. HBRC agreed and advised the Company that it should lodge a land use consent application with HDC so that the two consent applications could be heard together.
- 17 I accept that there was delay in getting the resource consent application with Hastings District Council lodged. That was for two reasons:
 - 17.1 The first was the Havelock North Water Supply Contamination which occurred in August 2016 and the subsequent inquiry.

Relatively early on in the investigation into the source of that contamination, the Company was incorrectly blamed as having been responsible for the event. This distraction continued for many months with both Councils and the Commission of Inquiry fully investigating the full cause of the event. Ultimately the Inquiry confirmed that the Company was not the source of the Havelock North Water Supply Contamination.

- 17.2 HBRC decided to take a second prosecution against the Company for odour offences. A good deal of my time in 2018 was spent responding to those charges. That meant I was not able to focus on the application to be made to HDC.
- 18 The Company is a small, privately owned company. It does not have a huge depth of management to call upon to solve issues like the prosecutions taken by HBRC and the fallout to the Company from the Hastings District Council water contamination inquiry, while also continuing to operate the business daily.
- 19 While the Company had always been committed to obtaining resource consents from HBRC and HDC, it did not (and does not) have unlimited financial resources. Money which would have been better spent progressing the land use application was spent paying legal fees and the fine imposed by the Environment Court.
- 20 At the same time, there were incidents of trespass onto company property and interference with equipment which led to the need to increase security, install cameras and implement a site monitoring regime. Once again, this diverted staff and resources from where they needed to be.

RESPONSE TO MATTERS RAISED IN THE SECTION 42A REPORT

- 21 I have reviewed the Section 42A reports issued on 9 July 2019.
- 22 I do not have any comments to make in relation to the report prepared by Ms Janeen Kydd-Smith, the consultant planner engaged by Hastings District

Council. Her recommendation that the application be declined is based on concerns about the potential for adverse odour effects and their nature and scale. These concerns are much the same as have been raised by Mr Paul Barrett, the reporting officer for HBRC. For that reason, I have responded to particular concerns raised in his section 42A report below.

Bale breaking system

- 23 In his statement of evidence, Mr Andrew Curtis states that the installation of a dedicated bale breaker is “a high priority”¹ and should occur prior to any increases in production. However, he does not give a particular timeframe for that step to be taken. Mr Barrett has incorporated that requirement into his report and recommends that a bale breaking/blending line be implemented within eight months of consent being granted.²
- 24 Thursday is the day the bales are broken in the weekly compost production process. It is on average the fourth highest day for odour complaints.³
- 25 While I can understand the recommendation to have the bale breaking line installed as soon as possible, an eight month timeframe is simply not feasible. This machinery is specialised in its nature and must be manufactured in the Netherlands. It is bespoke machinery, so the time needed just to build the bale breaking machinery is more than eight months.
- 26 I have used my best efforts to estimate how long it would take for the machinery to be manufactured in the Netherlands, shipped to Havelock North and fully commissioned. I have removed areas of contingency since outlining the 36 month period referred to the 9 July 2019 letter to arrive at 30 months. The estimated timeframes are as follows:

¹ Section 42A report, page 81, paragraph 38.

² Section 42A report, page 31, paragraph 147.

³ Page 34 of Report by Air Quality Professionals dated 19 December 2016, Appendix 2 of Resource Consent Application.

Step	Timeframe
Design and engineering	12-16 weeks (4 months)
Machinery manufacture in Netherlands	12-14 months
Shipping and transport from Netherlands to Havelock North	8-10 weeks (3 months)
On site installation and building construction post installation	4 months
Commissioning until quality compost produced	12-14 weeks (4 months)
Total	29 - 30 months

- 27 I have asked for confirmation from the manufacturer in the Netherlands about the accuracy of those timeframes. I had not received that confirmation at the time this evidence was prepared but hope to have that available for the hearing.

Financial implications

- 28 At the time the application was lodged, the estimated cost of the upgrades proposed was \$2.75million and was predicated on the Company's ability to expand to afford such an investment.
- 29 In his section 42A report, Mr Barrett points to the consent conditions under the Company's existing air discharge permit and notes that some of the mitigation measures proposed as part of this current application are the same as were required under the Company's existing consent.
- 30 The existing consent required:
- 30.1 All Phase 1 composting and turning (the third bunker) to be undertaken in a fully enclosed building or buildings that is ventilated to a biofilter by 1 March 2015.⁴

⁴ Condition 12 of DP100128A.

30.2 All Phase 1 turning⁵ to be undertaken in a fully enclosed building or buildings ventilated to a biofilter by 1 March 2017.⁶

31 The cost of implementing those measures are as follows:

Description	Completed?	Cost
Installation of the third bunker (by partitioning the two existing bunkers to create four bunkers)	Yes	\$35,000
<i>Phase 1 to 2 compost turn and transfer</i>		
Phase 2 transfer line	Yes	\$180,000
Building enclosure	No	\$250,000
Biofilter and piping	No	\$80,000 – \$100,000
Total		\$ \$545,000 - \$565,000

32 This should be compared with the costs of implementing the measures proposed as part of the current consent application, which are as follows:

Description	Completed?	Cost
<i>Third bunker - if built independently for compost production increase</i>		
Concrete bunker, under floor airlines, fan and monitoring		\$650,000 to \$750,000
Eastern eves and bunker extension		\$160,000
Western eves		\$45,000
Biofilter, fans and piping		\$80,000 to \$100,000

⁵ For the purposes of this condition 'turning' is defined as removal of compost and final turning prior to transferring the compost to the Phase 2 bunkers.

⁶ Condition 13.

<i>Phase 1 to 2 compost turn and transfer</i>		
Transfer line	Installed	\$180,000
Building enclosure		\$250,000
Biofilter and piping		\$80,000 to \$100,000
<i>Bale dunking and aerated floor</i>		
Bale dunking container and pumps	Installed	\$18,000
Aerated floor including aeration system and concrete pad		\$125,000 to \$140,000
<i>Concretes compost holding pad and enclosure</i>		
Compost bunker	Installed	\$65,000
Enclosure		\$35,000 to \$50,000
<i>Bale breaking and mixing line</i>		
Bale breaking and mixing line Equipment		\$841,000 (Euro) or \$1.501million
Equipment Transport to New Zealand		\$75,000
Bale line building		\$220,000
Commissioning and installation		\$60,000 to \$80,000
Biofilter and piping		\$80,000 to \$100,000
Total		\$3,624,000 to \$3,834,000

- 33 A quote I have obtained from the company that would manufacture the bale breaking and mixing line is **attached** to this evidence. I have drawn a line through item CC.220 because that is not needed. The quote, when that figure is stripped out, is Euro 840,785.

34 Finally, Mr Barrett was interested to know how the costs in the table in para 32 above compared to the costs of an option involving complete enclosure of the compost transfer activities.⁷

35 In her evidence Ms Freeman comments as follows:

At the TMM site, full enclosure would require a building over the concrete pads outside the Phase 1 bunkers. I understand that there would be practical issues around full enclosure related to health and safety of workers, due to the movement and operation of front end loaders within the enclosed space and decreased visibility due to steamy vapours. In addition, the extracted air volumes from the enclosed space requiring treatment would be massive, and very costly to treat as biofilters are sized based on the volume of air delivered to them. Alternatively, the whole Phase 1 composting operation would need to be redesigned and retrofitted with new in-bunker equipment so that there is less reliance on front end loaders for transfer and mixing of Phase 1 compost.

36 I agree with her comments. For my part I offer the following comments on the efficacy of full enclosure as an option:

36.1 My concerns about the option of full enclosure are not a matter of cost (although the cost would be significant). My concerns are about the practicality of that option.

36.2 There are a number of practical challenges to fully enclose a compost facility but overriding all of these challenges is the issue of disease risk or contamination between Phase 1, 2 and 3 of the composting process. Contamination can destroy an entire crop of mushrooms and can take months to eradicate and at significant costs.

36.3 I also have concerns about workers' safety working in such conditions, building corrosion, and air control effectiveness.

36.4 I am not aware of any compost yard that is fully enclosed.

⁷ In his section 42A report, Mr Barrett suggested it would be useful for the applicant to provide this information – see section 42A report, page 39, para 204.

Term

- 37 Mr Barrett recommends a 10 year term for the air discharge consent if it is granted.
- 38 The cost of the proposed upgrades is over \$3.5million. Mr Drury's evidence talks about the safeguards in place to address odour – including the review condition. That should give HBRC and submitters the certainty they need that any odour issues can be addressed. From an economic perspective a 10 year term simply does not work. The cost of the proposed upgrades exceeds the total financial contribution the Company would produce over the 10 year proposed consent duration. Compost yards are highly capital intensive. They are specialised controlled processes, constructed in concrete and all equipment is industrial grade stainless steel due to the corrosive nature of the environment. They are designed with 30 year useful life expectations.

CONCLUSION

- 39 The Company has made considerable efforts to address odour issues since 2014. These efforts have been hampered to some extent by HBRC's decisions to prosecute the Company (twice) rather than working with it to progress the resource consent application foreshadowed in Mr Drury's letters of 19 February 2015 and 26 March 2015.
- 40 The Company cannot install the bale breaker within 8 months. Based on the best information available at the time this evidence was prepared a 30 months timeframe for the installation of that machinery is realistic.
- 41 The cost of the mitigation proposed by these consent applications is significant – over \$3.6 million. This can be compared with the cost of implementing the conditions of the Company's current consent – which is \$545,000-\$565,000.
- 42 Full enclosure of the compost transfer activities is not practical for reasons unrelated to cost.

43 A decision to grant consent for only a 10-year term imperils the implementation of the consent if it is granted. A longer term is necessary to justify the level of expenditure proposed here.

Michael Whittaker

17 July 2019

OUR REF 2013-027-01L21

19 February 2015



Hawkes Bay Regional Council
Private Bag 6006
NAPIER 4142

ATTENTION: MALCOLM MILLER

Email: malcolm@hbrc.govt.nz

Dear Malcolm

TE MATA MUSHROOMS : RESOURCE CONSENT DP100128A

Thank you for meeting with Michael Whittaker and myself to discuss Resource Consent DP100128A. Our discussions were centred on the staged upgrade requirements set down during the processing of DP100128A in 2010/2011 and the changes in the mushroom growing industry that have influenced progress towards constructing an additional bunker as required under Condition 12 of DP100128A.

The purpose of this correspondence is to summarise the issues and changes that have arisen in the mushroom growing industry over the last two years since DP100128A was granted on 13 April 2011 and to demonstrate how this has affected the implementation of DP100128A to a point where it is necessary to review its approach in order to ensure that its anticipated outcomes are achieved while also providing a realistic chance and framework for the mushroom growing operation to sustain itself. Indeed, under the current structure and given the recent changes in the mushroom growing industry, the economic viability of the operation would be significantly compromised if the current requirements of the consent were implemented under the production limitations currently imposed. This is not a fault of any particular party; it is simply an implication of the commercial reality of this particular industry at this particular time, which could not have been envisaged in 2010/2011 when DP100128A was originally conceived. Owing to the competitive nature of the industry and infrastructure requirements; there are only five mushroom growing farms in the country.

The consent holder acknowledges the operation needs to adapt to its changing environment and associated expectations and is still completely aware and understanding of the overall outcomes envisaged by DP100128A. One must be cognisant of the economic environment as well however and there is certainly a place for adaptive management here too. It is therefore proposed to quantify the implications of the market place, reassess whether or not the approach set down in DP100128A is in fact the best way of proceeding towards improved odour management and develop an improved framework whereby the influence of the changing economic climate and realities of the market place are factored into considerations and production optimised in order to enable and more importantly, sustain the best practicable solutions for odour management. This is a fair and reasonable request in light of the social and

economic benefits the operation provides to its employees and community, and the need to get the right solutions in place.

In terms of the number of complaints received over the last few years compared the 2011 – 2012 period, there have been no changes to the processes undertaken on the farm, thus the additional complaints are a function of additional dwellings being constructed and creeping insidiously closer to the rural environment. We understand there have been approximately 160 new sections/dwellings developed in the Arataki area over in the last 3 years.

The following goes on to outline:

- (1) Observed Changes in the Mushroom Growing Industry,
- (2) Upcoming Requirements of DP100128A and the Implications of the Changes in the Mushroom Growing Industry,
- (3) Review of DP100128A.

Observed Changes in the Mushroom Growing Industry

We are advised that the largest mushroom growing farm, Meadow Mushrooms, now accounts for 80% of the industry; a substantial increase from 65% just two years ago. This places the viability of smaller farms such as Te Mata Mushrooms under considerable pressure, and the number of farms has reduced from 8 to 5. Adding to this, we are advised that the cost of production has risen 9% to 12% whilst market prices are 10% less than they were two years ago.

A reduced market share, increased costs and reduced return is not a great economic climate, thus it has 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.

Upcoming Requirements of DP100128A and the Implications of the Changes in the Mushroom Growing Industry

Conditions (9) – (11) of DP100128A relate to upgrades over the 2011 – 2012 period, all which have essentially been completed. A new aerated pond has been constructed with a designed for purpose aerator being installed at a cost of \$100,000. Also considerable site works have been undertaken to improve site layout and appearance and to enable operations to be undertaken more efficiently and cleanly. Resource consent to discharge stormwater from the site has also been obtained to accommodate existing buildings and surfaces while also providing a solution and a framework to accommodate further development involved with possible upgrades and improvements. This work was undertaken in advance of the requirements of DP100128A to establish and confirm an integrated stormwater solution early so that future buildings could be accommodated. The stormwater management framework was designed under the Hawkes Bay Waterway Guidelines - Stormwater Management and to our knowledge is one of the few land uses in the District to have lifted itself to these newer standards. This demonstrates sincere progress in achieving the outcomes anticipated under DP100128A.

Condition (12) goes on to require, by 1 March 2015 that the turning aspect of the Phase 1 composting process be undertaken in an enclosed building that is ventilated to a biofilter. This effectively involves the construction of an additional bunker.

In practice, this would see compost being removed from one bunker and placed in another prior to it being put back into the original bunker as a means of turning the compost substrate mid process. Current practice is to remove the compost substrate from a bunker, place it on the outdoor composting pad and then put it back into the original bunker as a means of enacting the turning process.

Condition (17) moves on to focus on the later stages of the Phase 1 composting process and requires the final turning process, which involves physical turning by a mobile machine, to also be undertaken in an enclosed building that is ventilated to a biofilter. This effectively involves the construction of an additional and much larger bunker to accommodate the compost and the necessary machinery and more likely than not a considerable upgrade in the capacity of any biofilter to accommodate the volume of this expansive structure.

Combined costs are likely to be well in excess of \$1.3 million and given the 120 tonne weekly production limit, which is equivalent to around 7.5% of national production, economic viability would be marginal at best. Indeed, it is not the will of the consent holder or technology that is the constraint; it is the production limit which is limiting potential income and economic certainty that then flows on to inhibit high cost upgrades.

Resource consents have been obtained from the Hastings District Council to construct additional growing rooms. These processes were undertaken over 2013-2014 as a means of working towards the upgrades required under DP100128A and are in place to optimise potential production as a means of commencing the process towards developing the economic certainty now required to invest in infrastructure as opposed to ceasing operations. It is therefore proposed that the weekly production limit be increased to 450 tonne in order to provide an economic platform that is robust and fitting for the changing market in order to enable the certainty required to give effect to the improvements envisaged by DP100128A and that a review of the future odour management procedures and methodologies be undertaken in lieu of the requirements of Condition (12). This is expanded upon below; however the clear intent is to ensure that investment in infrastructure leads to the most effective and efficient improvements in odour control and management appropriate for the environment. Given that DP100128A is very focused on one particular framework, a new consent may be considered as a consequence of the process. This will be determined in time.

Review of DP100128A

In lieu of the requirements of Condition (12) by 1 March 2015, we propose the following approach:

1. HBRC to confirm by 1 March 2015 its acceptance to consider the proposed increase in production,
2. By 31 March 2015 consent holder to outline any interim changes in process to better control odour in respect to existing infrastructure/processes.
3. By 30 June 2015 consent holder to outline available odour control solutions and costs.
4. By 31 October 2015 consent holder to provide an assessment of best practicable solutions together with proposed "upgrade" timeframes/stages.

We would be happy to meet with the Council to discuss/confirm the methodology/matters associated with each stage prior to commencing. There will be greater value in doing this at that stage as opposed to now.

A resource consent process would then follow to give effect to the changes. The nature of this process will be influenced by the preceding phases. It is hoped however that the approach for the operation will be provided for in an updated resource consent prior to March 1 2016.

We trust this proposal demonstrates the commitment of the consent holder to achieve the broader outcomes DP100128A. Please do not hesitate to contact us should you wish to discuss any matter raised in this letter, or how the approach proposed can be further developed/provide for.

Yours sincerely



CAMERON DRURY
SENIOR PLANNER – MANAGER HAWKES BAY
Email: camerond@cheal.co.nz

OUR REF 2013-027-01L23

26 March 2015



Hawkes Bay Regional Council
Private Bag 6006
NAPIER 4142

ATTENTION: WAYNE WRIGHT

Email: wayne@hbrc.govt.nz

Dear Sir

THE TE MATA MUSHROOM COMPANY : DP100128A – UPDATE TO LETTER DATED 19 FEBRUARY 2015

In our letter dated 19 February 2015 we explained the constraints encountered by the Te Mata Mushrooms Company (**TMM**) over the last few years and outlined an approach to achieve the broader outcomes of DP100128A in terms of odour control, which involved:

1. By 31 March 2015 consent holder to outline any interim changes in process to better control odour in respect to existing infrastructure/processes.
2. By 30 June 2015 consent holder to outline available odour control solutions and costs.
3. By 31 October 2015 consent holder to provide an assessment of best practicable solutions together with proposed "upgrade" timeframes/stages.

The purpose of this letter is to satisfy (1) and to provide an indication of the odour control solutions that are likely to be considered as part of (2); the timeframe for which is proposed to be brought forward to 30 May 2015. It is also proposed to review the timeframe for (3) with a view of bringing it forward.

Interim Changes in Process to Better Control Odour in Respect to Existing Infrastructure/Processes

Firstly, there have been no discernible changes in processes over recent times compared to previous years that an increase in complaints could be attributable to. The operation has for some 10 years plus continued to produce up to 20 tonne of mushrooms and 100 tonne of compost per week and maintain employment for around 120 people, and we note that the consent holder has made a genuine effort to comply with the everyday operational requirements of DP100128A. Around 160 new dwellings have recently been constructed closer to the site however, and we also note that climatic conditions that are essentially outside the control of the consent holder can influence the effectiveness of odour control measures.

In addition to the changes outlined below to better control odour, a resource consent to construct additional growing rooms, bunkers and storage sheds has been obtained from the Hastings District Council and considerable site works have been undertaken to improve site layout and appearance and to enable

operations to be undertaken more efficiently and cleanly. Resource consent to discharge stormwater from the site has also been obtained from the Hawkes Bay Regional Council to accommodate existing buildings and surfaces while also providing a solution and a framework to accommodate further development involved with possible upgrades and improvements such as additional bunkers.

This work was undertaken in advance of the requirements of DP100128A to establish and confirm an integrated stormwater solution early so that future buildings could be accommodated. The stormwater management framework was designed under the "Hawkes Bay Waterway Guidelines - Stormwater Management" and to our knowledge is one of the few land uses in the District to have lifted itself to these newer standards. This demonstrates sincere progress in establishing a platform to achieve the broader outcomes anticipated under DP100128A. Resource consent has also been obtained from the Hawkes Bay Regional Council for improved domestic wastewater management on the site and to construct drain crossings in order to improve public access from Brookvale Road and internal access within the site.

In this regard it is clear that whilst the conditions of DP100128A are relatively confined, there are other work streams requiring considerable input in terms of design, approvals, expenditure and time. These work streams also relate to the wider TMM business model, which influences affordability, timing and overall viability. In this regard the actions that have been undertaken to date are reasonable and necessary to establish the overall framework within which compliance with the broader outcomes of DP100128A is to be achieved.

The following has been undertaken to better control odour in respect to existing infrastructure/processes:

1. A larger effluent storage and treatment pond and aerator has been installed to better manage dissolved oxygen levels. We are advised by the consent holder that costs, including pumps and installation are expected to fall in the order of \$100,000
2. The chicken litter and gypsum is now mixed off-site and delivered to the site as one substrate to be stored and ultimately used in the compost process. This avoids mixing on-site. We are advised by the consent holder that costs are expected to fall in the order of \$24,000 - \$40,000 per annum to facilitate this process
3. Phase 1 composting processes have been concentrated to a smaller window of time as follows:

Tuesdays previously involved emptying half a Phase 1 bunker, turning and adding water if required and filling one of the Phase 2 tunnels. The remaining Phase 1 bunker was then emptied on a Wednesday together with turning and water being added if required with the second Phase 2 tunnel being filled that day. Alongside this, the chicken litter and gypsum was placed on the hay bales on a Wednesday morning and left overnight until Thursday.

Tuesdays now involve emptying a full Phase 1 bunker, turning and adding water if required and filling both Phase 2 tunnels within the same day.

Similarly, the chicken litter and gypsum is no longer placed on the hay bales on a Wednesday morning to be left overnight until Thursday, rather processes on a Thursday start from 4.30am in order to complete this process within one day over the course of Thursday.

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. All processes are of course subject to public holidays, machinery breakdown and health and safety requirements, however we are advised by the consent holder that these changes are expected to

reduce the potential odour footprint in regard to time by 20%. We understand the consent holder has already provided an updated Compost Management Plan as attached.

We are advised by the consent holder that when considering the costs of overtime and the higher pay rates for skilled loader drivers that the costs associated with these changes in process are expected to fall in the order of \$50,000 per annum.

Potential Odour Control Solutions

Odour control solutions moving forward are likely to involve a bale breaking machine being used on each side of the Phase 1 process, the establishment of a third Phase 1 bunker as originally anticipated and an upgraded biofilter or ozone system to accommodate the additional bunker and an extended roof over the bale breaking machine.

Although further detail will certainly follow, the bale breaking machine will essentially replace the process of wetting of bales and laying out of the chicken litter and gypsum on the composting pad, considerably reducing the time associated with this process, and ultimately placing the compost substrate within improved odour control infrastructure for longer.

The third Phase 1 bunker will enable the compost to be "turned" within the bunker as opposed to outdoors on the composting pad; again placing the compost substrate within improved odour control infrastructure for longer.

The bale breaking machine will be used again in the turning process between the Phase 1 bunkers and the Phase 2 tunnels where water is often required to be added to the substrate. This will avoid the compost having to be emptied from the Phase 1 bunker in one go and will speed up the turning process while retaining the compost substrate within improved odour control infrastructure for longer.

In terms of timeframes, initial thoughts are to commission the bale breaking machine first, over the next 12 months, with the third Phase 1 bunker being constructed by March 2017, at which time the bale breaking machine will be able to be covered by an extended eave so that surrounding air can be treated by the biofilter and/or ozone system that will be suitably designed in respect to inflow. Here we note that the March 2017 date is consistent with the last improvements required under DP100128A.

Costs are anticipated by the consent holder to be in the order of \$1.5M - \$1.8M to implement these upgrades.

Review of Timeframes

In our letter dated 19 February 2015 it was proposed to outline available odour control solutions and costs by 30 June 2015. The above is an indication of where we think the proposal is going however we propose to confirm this by 30 May 2015, a month earlier than originally indicated.

Similarly, it was originally proposed to provide an assessment of the best practicable solutions together with proposed "upgrade" timeframes/stages by October 2015 with a view to lodging the necessary application documentation by March 2016. Again, the above provides an indication of this, and we now believe we can aim to prepare the necessary application documentation by early as September/October 2015, much earlier than March 2016 as originally indicated. It is hoped that this will allow the bale breaking machine to be commissioned within the next 12 months as indicated above.

We trust this progress and review of timeframes demonstrates the consent holder's commitment to achieving the broader outcomes DP100128A. Please do not hesitate to contact us should you wish to discuss any of the matters raised in this letter, or how the approach proposed can be further developed/provided for.

Yours sincerely



CAMERON DRURY
SENIOR PLANNER / MANAGER HAWKES BAY
Email: camerond@cheal.co.nz

Enclosures:

1. Updated Compost Management Plan.

COMPOST MANAGEMENT PLAN

As of 25th February 2015

Thursday;

Bales laid out

Pre-wet started

Time and amount of water varied Daily to achieve satisfactory moisture content when Turning Bales

Wednesday pm;

1 Row of bales laid out

Thursday;

Rest of bales laid with Chicken/Gypsum placed on top

Bales turned twice then placed into bunker

Aeration on 4 while filling

Monday;

Removed, mixed and refilled into bunker

Aeration set to 2

Water added if required

Friday;

Removed, mixed and refilled into bunker

Aeration set to 3

Water added if required

Tuesday am;

Half removed from bunker and formed ready for filling
Turned with Turner, water added if required
2nd half removed from bunker and formed ready for filling
Turned with turner, water added if required
Filled into tunnel as soon as empty
Reduced air and fan speed in Tunnel for aprox 2hrs

Wednesday;

Bunker cleaned ready for Thursday
Fan turned on for minimum of 30mins after hosing

Chicken mixed weather permitting either Tuesday pm or Thursday pm

This plan is subject to change owing to

1. Public Holidays
2. Machinery Breakdown
3. Pre wetting of Straw (weather conditions and Straw)

QUOTATION



Mushroom Compost Production Facility

3 phase I composting bunkers
&
Scrubber installation
&
Phase I composting equipment

Client: **Te Mata Mushrooms**

Client reference: **455**

Quotation no.: **P162140.13**

Date of issue: **14 March 2019**

■ Engineering

■ Controls

■ Equipment

■ Constructions

SECTION 3 – PHASE I COMPOSTING EQUIPMENT		PRICE	
EN.122	Engineering	€	17.170,00
RF.400	Walking-floor hopper	€	159.500,00
SU.440	Chicken litter trailer	€	70.400,00
TB.060	Chicken litter conveyor	€	19.910,00
KM.030	Chicken litter spreader	€	29.150,00
SC.020	Blending machine	€	107.195,00
TS.200	Troughed conveyor system (23.00 m)	€	65.780,00
TS.200	Troughed conveyor system (32.00 m)	€	91.520,00
CC.220	Cascade conveyor system	€	146.300,00
FC.171	Bunker filling cassette	€	168.575,00
CO.220	Electrical control and operating system	€	111.585,00
Transport		not included	
Mounting / start-up		not included	
Total		€	987.085,00