

# AUCKLAND COUNCIL



## Decision following the hearing of an application for resource consent

**SUBJECT:** Application for resource consent under section 88 of the Resource Management Act 1991 by Craddock Farms Limited to establish and operate a chicken egg layer farm at 254 Patumahoe Road, Patumahoe. held on Monday - Wednesday 17 -19 November 2014 at The Franklin Centre, 12 Massey Road, Pukekohe.

**CONSENT, PURSUANT TO SECTIONS 104 AND 104B  
OF THE RESOURCE MANAGEMENT ACT, IS DECLINED  
THE FULL DECISION IS SET OUT BELOW**

<b>Hearing Panel:</b>	The Application was heard by a Hearing Commissioner Panel consisting of:	
	Mr Dave Serjeant	Chairperson
	Ms Louise Wickham	
	Mr Gavin Lister	
	Mr Brent Catchpole	

<b>Council Officers:</b>	Mr Richard Gard'ner	Reporting Planner
	Ms Chelsea Gosden	Advisor Air Quality
	Mr Paul Crimmins	Advisor Air Quality
	Mr David Russell	Senior Development Engineer
	Mr Trent Sunich	Stormwater Consultant
	Ms Paulette Gagamoe	Democracy Advisor - Hearings

<b>APPEARANCES:</b>	
<b>For the applicant:</b>	Mr Michael Savage, Counsel for the applicant Mr Stefan Craddock Ms Laurel Smith, Noise Mr Eric Hebner, Traffic Dr Terence Brady, Air Quality Mr Lee Marr, Planning
<b>Submitters</b>	<u>Peta and Ray Berry</u> Mrs Peta Berry Mr Ray Berry Mr Richard Chilton, Air Quality Ms Kay Eglin on behalf of the Berry's Mr Dave Husband on behalf of the Berry's Ms Kay Carter on behalf of the Berry's Mr Andrew Sinclair on behalf of the Berry's Paula Crosswell on behalf of the Berry's Ms Hester den Ouden, Planning
	P & J Millen

	Mr Peter Millen
	Wai Shing Holdings Limited Mr Jeremy Brabant, Counsel for Wai Shing Holdings Limited Mr Wellingford Wai Shing Mr Mark Apeldoorn, Traffic Mr Andrew Curtis, Air Quality

## APPLICATION DESCRIPTION

### Application and Property Details

<b>Application Number (s):</b>	R/LUC/2014/260 (District Landuse), R/REG/2014/264 (Regional Air Discharge), R/REG/2014/266 (Regional Earthworks), R/REG/2014/485 (Regional Stormwater Discharge)
<b>Site Address:</b>	254 Patumahoe Road, Patumahoe
<b>Applicant's Name:</b>	Craddock Farms Limited
<b>Lodgement Date:</b>	21 January 2014
<b>Notification date:</b>	Limited Notification 3 June 2014
<b>Submissions closed date:</b>	3 July 2014
<b>Hearing Panel's Site Visit:</b>	17 November 2014
<b>Hearing Closed</b>	2 December 2014

### Decision

1. Pursuant to sections 104 and 104B of the Resource Management Act 1991, the discretionary activity resource consent application by Craddock Farms Limited to establish and operate a chicken egg layer farm for up to 310,000 birds at any one time housed in ten sheds at 254 Patumahoe Road, Patumahoe being Lot 1 DP 20000 (CT/NA 480/139) is declined.
2. Pursuant to section 113 of the Resource Management Act 1991, the following matters have been taken into account in making this decision.

### Relevant plan provisions

3. The relevant planning documents considered were:
  - Auckland Council Regional Policy Statement (ACRPS);
  - Auckland Council District Plan: Franklin Section (District Plan);

- Auckland Council Regional Plan: Air, Land and Water (ACRP: ALW);
- Auckland Council Regional Plan: Sediment Control (SCP); and
- Proposed Auckland Unitary Plan (PAUP).

### **Resource consents required**

4. The section 42A report identified the following reasons for resource consent being required:

#### Auckland Council District Plan: Franklin Section

- Rule 23A.1.3.5 provides for Intensive Farming as a restricted discretionary activity.
- Rule 15.5.3 provides for earthworks over 250m<sup>3</sup> over a 12 month period, with a maximum depth of excavation cut or fill over 1.5 metres, and with a maximum area in excess of 2,000m<sup>2</sup> in the Rural zone as a restricted discretionary activity.

#### Auckland Council Regional Plan: Air, Land and Water

- Rule 5.5.4 provides that the diversion and discharge of stormwater is a discretionary activity because the impervious area will be over 10,000m<sup>2</sup> with the proposed impermeable surface being approximately 12,000m<sup>2</sup>.
- Rule 4.5.121 states that the discharge of contaminants into air from any process that includes the intensive livestock farming of poultry on site that does not comply with Rule 4.5.116, Rule 4.5.117 or Rule 4.5.119 is discretionary activity.

#### Auckland Council Regional Plan: Sediment Control

- Rule 5.4.2.1 provides for earthworks outside of a Sediment Control Protection Area, on an area between 1 and 5 hectares where the land has a slope of less than 15 degrees as a controlled activity.

#### Proposed Auckland Unitary Plan

- Rule 3.H.4.1.1 provides for intensive farming of any number of poultry not meeting permitted, controlled or restricted discretionary controls (i.e. established after 21 October 2001 and over 180,000 birds) as a discretionary activity.
- Rule 3.H.4.2.1 provides for earthworks greater than 2,500m<sup>2</sup> and 2,500m<sup>3</sup> as a restricted discretionary activity.

- Rule 3.H.4.14.1 provides for any new impervious areas discharging to ground that is greater than 1,000m<sup>2</sup> as a discretionary activity.

### **Site visit**

5. The Commissioners undertook a site visit at 254 Patumahoe Road prior to the hearing on 17 November, 2014. Following the hearing that day we visited the existing Craddock layer farm at Coulston Road, Pukekohe East. The Commissioners experienced the odour from the layer sheds in close proximity to the fan exhaust, at maximum intensity close to the source itself. This afforded us a good understanding of the character of the odour associated with intensive egg laying operations. The weather conditions at the time of our visit were cloudy with a gusty north-west wind.

### **Summary of evidence**

6. In reaching our decision, evidence was considered from those persons listed above and as summarised in the following sections. We were assisted in our understanding of the expert evidence by the pre-circulation of evidence and we thank the parties for their cooperation in that process.

### **Applicant's evidence**

7. Mr Michael Savage, counsel for the applicant, provided opening submissions. He outlined the Craddock Farms existing operation, the features of the proposed site and the proposed operation. He agreed with the consents required as outlined in the Council planning report and that the adoption of a bundling approach to consent activity status was appropriate. Consequently, the application should be assessed on a discretionary activity basis.
8. Mr Savage noted the two written approvals to the application and accordingly<sup>1</sup> we are required to exclude from our consideration any effects on these consenting parties, being the owners of 207 Patumahoe Road and 268a Union Road.
9. Mr Savage then described the various positive effects of the proposal, including income and employment to the local and regional economies from construction and operation, continuity of the established business in response to the 2012 Animal Welfare Code, the provision of food to a growing Auckland population, improved access to the site in terms of amenity to the neighbour (P & J Millen at

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<sup>1</sup> RMA section 104(3)(ii)

260 Patumahoe Road), and the remediation of an existing unauthorised landfill at the rear of the property.

10. Mr Savage also considered that the proposal ensured the site was used for a rural purpose and that the landscaping would enhance the rural environment. He described the visual effects of the proposed buildings in terms of the existing and proposed screening and the distance from the buildings to Patumahoe Road and adjoining properties.
11. Mr Savage then introduced, by way of a summary, the key points of his experts on noise, traffic, air quality and planning. In doing so, he highlighted the matters of difference or dispute between the applicant's experts and those experts appearing for the submitters on traffic and air quality. It was apparent early in the hearing that noise effects would be minor (subject to a proposed noise attenuation fence or bund) and able to comply with the District Plan limits, and that the key traffic matter was the extent of the upgrade required to the site entrance. More commentary is provided on these matters below.
12. It was also clear that air quality, in particular odour, was the issue that was going to occupy most hearing time and consideration. Mr Savage highlighted for us the agreements and differences between Dr Brady for the applicant, and Messrs Curtis and Chilton for the submitters, giving us a useful introduction to these matters.
13. Mr Savage then went briefly through the relevant planning provisions and the statutory framework, indicating agreement with Mr Gardner's report, including his view that relatively little weight should be accorded to the Proposed Auckland Unitary Plan given its early stage in the process. Finally, he provided brief comment on Part 2 of the Act, concluding that the purpose of the Act would be served by the consent being granted to the proposal.
14. Mr Savage also provided closing submissions addressing the key points of the case and a revised site management plan.
15. Mr Stefan Craddock, General Manager of Craddock Farms Limited presented a report titled "Company Statement – Craddock Farms Ltd" in support of the application.

16. Mr Craddock outlined their current operation, the layer farm at Coulston Road, comprising 12 sheds housing a total of 160,000 hens and a pack house on 16 acres of land.<sup>2</sup>
17. Mr Craddock then went on to explain the site selection at 254 Patumahoe Road, the shed design, feed and water, manure removal, ventilation, shed clean out process, egg collection/packing, benefits of development and a response to submitter's expert evidence.
18. Mr Craddock explained that the site was assessed and met the key site requirements as follows: flat or rolling contour, an available pool of labour from Patumahoe and Pukekohe townships, closeness to the existing site at Coulston Road and transport access into the greater Auckland area.<sup>3</sup>
19. Each shed at the Patumahoe site is proposed to be 79m long x 13m wide with a sidewall height of 4.5m. Each shed will hold 31,000 hens housed in 60 hen colonies stacked five high in three continuous rows. Inspection aisles will run the length of the shed between the rows allowing access to each individual colony.<sup>4</sup>
20. Mr Craddock further explained that the feed will be stored outside the shed in fully enclosed galvanised steel silos. Augers at the base of the silos deliver the feed into the shed. Water flows into nipple drinkers throughout the colonies, where a drip tray under each nipple ensures there is no leakage onto the manure belt.<sup>5</sup>
21. Manure removal is by conveyor belts running the length of the rows under each colony. The belts are static until turned on for manure removal every 3-5 days. Conveyor belts take the manure from the shed and deposit it into a waiting truck or trailer. The external section of the conveyor is covered. Mr Craddock emphasised that the manure remains dry during the process due to the ventilation and the limited amount of manure on the conveyor belts.<sup>6</sup>
22. The ventilation system proposed for the sheds at the Patumahoe site is a tunnel ventilation system.<sup>7</sup> This was explained as each shed having tunnel inlets along the front or eastern end and temperature controlled automated extraction fans at the rear or western end of the shed.

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<sup>2</sup> Craddock Farms Ltd Company Statement, paragraph 2.1

<sup>3</sup> Craddock Farms Ltd Company Statement, paragraph 3.5

<sup>4</sup> Craddock Farms Ltd Company Statement, paragraph 3.9

<sup>5</sup> Craddock Farms Ltd Company Statement, paragraph 3.12 and 3.13

<sup>6</sup> Craddock Farms Ltd Company Statement, paragraph 3.15

<sup>7</sup> Craddock Farms Ltd Company Statement, paragraph 3.23

23. Mr Craddock further explained that an enclosure would be installed at the western end of the sheds behind the extraction fans to reduce the noise from the fans. This enclosure would also have a chimney effect directing the discharged air upwards and reducing the potential for odour.<sup>8</sup>
24. Mr Craddock went on to describe the shed cleanout process following depopulation of the sheds after a cycle of 65 weeks using a dry air cleaning technique.
25. Eggs would be collected via a canvas belt that runs the length of the shed and then transferred via a purpose-built chain link conveyor to the grading and packing house and into a temperature controlled storeroom<sup>9</sup>. Mr Craddock acknowledged that no noise assessments had been done on the storeroom chiller unit.
26. Mr Craddock responded to the submitters expert evidence focusing on the evidence of:
- Mr Andrew Curtis – Odour evidence
  - Mr Richard Chilton – Odour evidence
  - Mr Mark Apeldoorn – Traffic evidence
27. Mr Craddock dismissed Mr Curtis' concerns around particulate emissions and microbial contamination. In particular he considered that Mr Curtis' evidence that pathogen contamination derives from particulates associated with poultry manure had no scientific basis.<sup>10</sup>
28. He told us that the strict steps, based around the Hazard Analysis and Critical Control Points (HACCP), followed by the company and its suppliers in the company Risk Management Plan (RMP), together with vaccination and feed treatment ensures salmonella is unlikely to be present at their premises<sup>11</sup>.
29. Mr Craddock went on to correct Mr Curtis' assumption that the dry clean out would result in emissions to air. He re-emphasised that the cleaning process via blowing at the end of each housing cycle occurs with the shed ventilation completely shut off and with all vents closed.<sup>12</sup>

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<sup>8</sup> Craddock Farms Ltd Company Statement, paragraph 3.30

<sup>9</sup> Craddock Farms Ltd Company Statement, paragraph 3.34-3.37

<sup>10</sup> Craddock Farms Ltd Company Statement, paragraph 5.2

<sup>11</sup> Craddock Farms Ltd Company Statement, paragraph 5.6 These steps are covered in Craddock's company RMP and audited by MPI and Assure Quality.

<sup>12</sup> Craddock Farms Ltd Company Statement, paragraph 5.7

30. Mr Craddock also pointed out that the spreading of poultry manure is undertaken periodically in the wider Patumahoe area and in particular on neighbour Charlie Ng's (207 Patumahoe Road) land located between their site and the Wai Shing property.<sup>13</sup>
31. In relation to Mr Chilton's evidence, Mr Craddock told us that the declarations signed by the Coulston Road layer operation neighbours stated in each case that the signatories had never experienced any odour from the Coulston Road operation.<sup>14</sup>
32. Mr Craddock addressed Mr Apeldoorn's traffic evidence and gave assurance that all Craddock Farms company trucks will use the southern route via Gun Club Road in order to avoid heavy traffic moving through Patumahoe village.<sup>15</sup>
33. He then responded to Mr Apeldoorn's concerns of congestion on internal roads by explaining that farm feed supply and manure removal traffic movements are generally organised to occur at different times of the day to avoid congestion. He also explained that onsite parking can be provided in a safe area.<sup>16</sup>
34. Dr Terry Brady, an independent air quality expert engaged by the applicant, provided both a primary (30 October 2014) and rebuttal (13 November 2014) statement of evidence on air quality aspects of the proposal (odour, dust, particulate and pathogens). Dr Brady also provided an erratum (6 November 2014) to correct a technical aspect of the modelling.<sup>17</sup> Dr Brady noted that he was not involved in the original air quality assessment, rather he had been engaged by the applicant to review the technical information and to advise on any changes he considered necessary.
35. Dr Brady considered that traditional dispersion modelling of poultry farm odour emissions (using volume sources) could both over-predict and under-predict actual odour downwind. This is due to dispersion models not including any thermal buoyancy effects (from volume sources) despite poultry shed emissions having significant plume rise. Dr Brady provided a research study from Queensland (RIRDC, 2010)<sup>18</sup> which found that poultry shed emissions can have significant plume rise due to the temperature differential between the warm air

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<sup>13</sup> Craddock Farms Ltd Company Statement, paragraph 5.8

<sup>14</sup> Craddock Farms Ltd Company Statement, paragraph 5.16

<sup>15</sup> Craddock Farms Ltd Company Statement, paragraph 5.18

<sup>16</sup> Craddock Farms Ltd Company Statement, paragraph 5.19 and 5.20

<sup>17</sup> This erratum does not materially change any conclusions and is not discussed further.

<sup>18</sup> *Separation Distances for Broiler Farms: Verifying methods including the effects of thermal buoyancy*, Rural Industries Research and Development Corporation, Publication No. 10/073, July, 2010. Available at: <https://rirdc.infoservices.com.au/downloads/10-073.pdf>

exiting the sheds and the ambient temperature (even when only 1-2°C warmer than ambient). This means that the models can over-predict at locations close to the sheds where in fact, the plume has lifted off the ground. Given that the proposal includes fan enclosures, Dr Brady considered it more appropriate to model poultry sheds as stack sources to include plume buoyancy effects. Dr Brady did not elaborate on the potential for modelling to under-predict downwind odour.

36. Dr Brady then presented data showing the wide variability in odour emissions from layer farms (DEEDI, 2011)<sup>19</sup> with emission rates ranging from around 50 – 550 OU/s<sub>1000 birds</sub>, varying on a day-to-day basis [Dr Brady's emphasis]. Dr Brady also presented odour emissions test data from the Coulston Road laying farm. Whilst within the range of Queensland reported data, the Coulston Road emissions data was at the upper end of reported odour emissions (360 – 570 OU/s<sub>1000 birds</sub>). Dr Brady considered that the reported variability in emission rate meant that it would not be appropriate to model an *average* odour emission rate (e.g. 300 OU/s<sub>1000 birds</sub>) because at any one time, actual emissions could be higher or lower by a factor of up to five or more.
37. Dr Brady then referred to a study he had undertaken for the Poultry Industry Association of New Zealand (PIANZ) with Mr Andrew Curtis.<sup>20</sup> He stated that this study concluded that odour dispersion modelling predictions for poultry sheds were completely [Dr Brady's emphasis] uncorrelated with observed odour nuisance. It was his view, therefore, that dispersion modelling had no real predictive value for odour emissions from poultry farms. However, Dr Brady considered that dispersion modelling could be useful for a comparative analysis in order to determine the relative levels of odour when comparing one farm to another.
38. Dr Brady then presented comparative dispersion modelling outputs for the existing Coulston Road and proposed Patumahoe Road sites based on:<sup>21</sup>
- a nominal odour emission rate of 300 OU/s<sub>1000 birds</sub>;
  - 160,000 chickens at Coulston Road which equates to 48,000 OU/s from all 13 sheds;

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<sup>19</sup> *Dust and odour emissions from layer sheds*, Australian Poultry Cooperative Research Centre, Department of Employment, Economic Development and Innovation, Queensland, September, 2011

<sup>20</sup> Reference not provided.

<sup>21</sup> Dr Brady primary evidence, para 38, Attachments C and D

- 300,000 chickens at Patumahoe Road which equates to 90,000 OU/s from all 10 sheds;
  - sheds represented as stack sources at 22°C;
  - terrain data at Coulston Road (but not at Patumahoe Road),<sup>22</sup> and
  - the Auckland Council meteorological data file for Papakura.
39. Predicted offsite levels of odour were between 5 and 20 OU at both sites. Dr Brady's key point was that given the existing Coulston Road farm has no *actual* odour detected offsite, it is reasonable to conclude that the proposed Patumahoe Road farm will similarly have no *actual* odour detected offsite. Dr Brady attached a map showing the location of 12 neighbours who had signed a declaration that they do not detect any odour from the Coulston Road farm.
40. Dr Brady then presented a research study that investigated pathogen and dust emissions from broiler chicken farming (RIRDC, 2010b)<sup>23</sup>. This study found no significant effects of pathogens (including salmonella, campylobacter, E-Coli, and fungi) offsite from broiler shed emissions. The study also found that the only staphylococci detected offsite were harmless and ubiquitous strains that were at normal ambient background levels at distances greater than 400m. Given broiler farms emit significantly more particulate (and therefore bio-aerosols) than egg laying farms, Dr Brady concluded there would be no adverse effects offsite due to pathogens.
41. Dr Brady then presented modelling results for particulate matter less than 10 micrometres in diameter (PM<sub>10</sub>) based on an assumed emission rate of 0.1 mg/s<sub>1000 birds</sub>, which was at the upper end of reported test data. Dr Brady noted that, like odour, PM<sub>10</sub> emissions data spanned a factor of about 10 (DEEDI, 2011). Dr Brady concluded that maximum predicted offsite levels of PM<sub>10</sub> (around 3 µg/m<sup>3</sup> as a 24-hour average) were trivial in comparison with existing background levels for Patumahoe.
42. Mr Eric Hebner, a qualified traffic engineer with 12 years' experience, provided primary and rebuttal traffic evidence on behalf of the applicant.
43. Mr Hebner estimated that the proposal would typically generate in the order of 20 cars and 12 trucks arriving and leaving the site per day (i.e. a total of 32

<sup>22</sup> As advised during questioning in the Hearing

<sup>23</sup> *Evaluating Risks Posed by Pathogen and Dust Emissions from Meat Chicken Sheds*, Rural Industries Research and Development Corporation, September, 2010.

inbound and 32 outbound vehicle movements per day (vpd)). He went on to postulate a 'worst case' in which infrequent occurrences coincided on a single day, which might result in up to 42 inbound and 42 outbound vehicle movements.<sup>24</sup>

44. He described Patumahoe Road as a 'collector road' currently conveying in the order of 2600 - 4000 vpd, and stated that it has ample capacity to accommodate the additional traffic<sup>25</sup>. He stated that the road has a 100kph speed limit, but that traffic speeds recorded at traffic count locations north and south of the site indicated that 85<sup>th</sup> percentile traffic speeds were less than 100kph (i.e. 84.2kph northbound and 77.7kph southbound).<sup>26</sup>
45. Mr Hebner recommended improvements to the site entrance for operational and safety reasons. He recommended a widened left turn shoulder for vehicles approaching from the south, to comply with the New Zealand Transport Agency (NZTA) RTS6 standard detail which Mr Hebner said is similar to the Franklin R31 standard detail and the NZTA Diagram D design.<sup>27</sup> During the course of the hearing Mr Hebner also accepted that the driveway within the site should be designed so that a vehicle waiting to exit the site would not impede a truck and trailer turning into the site.<sup>28</sup>
46. The reason he limited his recommendations to the left-turn movement is that he expects most truck movements to be to-and-from the south because that direction provides a more convenient and direct route to SH1<sup>29</sup>, and because staff are more likely to be drawn from the local population at Pukekohe, which is to the south, rather than from the north.<sup>30</sup>
47. Mr Hebner did not consider either a full left turn deceleration lane or a right turn bay was warranted taking into account the Patumahoe Road peak hour traffic volumes and the predicted movements to-and-from the site<sup>31</sup>. Mr Hebner reworked his calculations in his rebuttal evidence based on Mr Apeldoorn's higher projected 2025 traffic volumes, but came to the same conclusion that

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<sup>24</sup> Mr Hebner, primary evidence, paragraph 2.3

<sup>25</sup> Mr Hebner, primary evidence, paragraphs 3.12 and 6.1, rebuttal evidence paragraph 1.23

<sup>26</sup> Mr Hebner, primary evidence, paragraph 3.3

<sup>27</sup> Mr Hebner, primary evidence, paragraphs 3.27-3.30

<sup>28</sup> Mr Hebner, rebuttal evidence, paragraph 1.7 and 1.54

<sup>29</sup> Mr Hebner, primary evidence, paragraph 2.4

<sup>30</sup> Mr Hebner, primary evidence, paragraph 2.5

<sup>31</sup> Mr Hebner, primary evidence, paragraphs 3.23-3.26

even with higher volumes the proposal did not meet the requirement for left turn deceleration lane or a right turn bay under the Austroads standards.<sup>32</sup>

48. Mr Hebner concluded that, subject to his recommended entrance improvements, the traffic generated by the proposal could be accommodated on the immediate and wider road network without resulting in any traffic capacity, operation or safety concerns of significance.<sup>33</sup>
49. Ms Laurel Jean Smith, a qualified acoustic specialist with 11 years' experience, provided noise evidence on behalf of the applicant.
50. Ms Smith identified the two most sensitive receptors as the houses on the Millen and Berry properties (260 and 228 Patumahoe Road respectively).
51. In the absence of relevant noise standards in the District Plan, Ms Smith instead used the Proposed Auckland Unitary Plan (PAUP) standards as a benchmark and recommended conditions limiting noise to the PAUP standards<sup>34</sup>. Her evidence was that the proposal would comply with the PAUP standards except for the period between 6am and 7am. During this one hour period, which is subject to the more restrictive night-time noise limits of 45 dB  $L_{Aeq}$  and 75 dB  $L_{Amax}$ , trucks on the driveway would exceed the noise limits with respect of the Millen residence. By way of background, we were told that the applicant's delivery trucks would normally leave the site during this period. Ms Smith recommended a noise attenuation fence be constructed near the boundary with the Millen property to mitigate such effects. The fence would extend between the front boundary and the house on the applicant's site, which would be well beyond the house on the Millen property, and have a minimum height of 1.8m. Ms Smith's evidence was that such a fence would reduce the noise of truck movements so that they would comply with the PAUP night-time noise limits at the Millen residence.
52. Ms Smith also gave evidence that noise from other sources, including fans and chickens, would satisfy the PAUP night-time noise limits at both 260 and 228 Patumahoe Road.<sup>35</sup>
53. Ms Smith concluded that, subject to her recommended mitigation, the noise effects of the proposal on residents at 260 and 228 Patumahoe Road (and by extension all other residents) would be reasonable and acceptable.<sup>36</sup>

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<sup>32</sup> Mr Hebner, rebuttal evidence, paragraphs 1.11-1.15

<sup>33</sup> Mr Hebner, primary evidence, paragraph 1.12

<sup>34</sup> Ms Smith, evidence, paragraph 11.1

<sup>35</sup> Ms Smith, evidence, paragraph 8.2

54. Mr Lee Marr provided both a primary and rebuttal statement of planning evidence for the applicant. Mr Marr had been involved with site selection and was project manager for the preparation of the application. He noted the main features of the existing site and local environment (as referred to in Section 2.1 of the Application report). We generally agree with that description and note the following for reference later in this decision:

- The site is currently used as stables, for horse racing purposes and general grazing, although on our site visit there seemed to be a very low level of activity;
- There are existing shelterbelts along the southern boundary and in places across the site. The site rises to the west, away from Patumahoe Road, limiting views into the site;
- The surrounding area has a mix of larger and smaller, rural residential lots; and
- The site is part of a major rural production area, given its versatile soils<sup>37</sup> and proximity to Auckland. This area includes a large amount of horticulture, but also intensive farming. Poultry Industry Association of New Zealand records indicate 34 intensive chicken farming operations within the former Franklin District.

55. Mr Marr summarised the actual and potential effects of the proposal on the environment, relying largely on the assessments and conclusions of other experts for the applicant, to which we refer elsewhere.

56. While no expert evidence was provided from a landscape architect, Mr Marr provided planning evidence on rural character and visual amenity. His evidence was that sheds of the type proposed are not unusual in the rural zones of the former Franklin District, and would be in keeping with large buildings evident in the surrounding area.<sup>38</sup> He noted that there are five properties with large sheds within a five kilometre radius of the site. With regards visual amenity he stated that the buildings:

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<sup>36</sup> Ms Smith, Evidence, paragraph 11.3

<sup>37</sup> Mr Gard'ner advised us (last paragraph on page 24) that the site contains Class 1w1 soils, which are versatile soils in the District Plan

<sup>38</sup> Mr Marr, primary evidence, paragraphs 4.5-4.7, rebuttal evidence, paragraph 2.9

- Would comply with the building height controls for the rural zone (the sheds roof ridge is to be approximately 6.5m high and side walls approximately 4.5m high);
  - Should be considered in the context of the 19ha site;
  - Would be set back from Patumahoe Road, the nearest public viewpoint, by 300m; and
  - Would be largely screened by existing and proposed shelter planting (once mature).<sup>39</sup>
57. In terms of the objectives and policies of the relevant statutory documents, including those listed already above, plus the National Environment Standards (NES being the NES for Air Quality and the NES for Assessing and Managing Contaminants in Soil to Protect Human Health), the National Policy Statement on Freshwater Management 2014, and the Auckland Regional Policy Statement, Mr Marr agreed with Mr Gard'ner's assessment, to which we refer below.
58. Overall, Mr Marr concluded that the applications should be granted consent as adverse effects were at an "acceptable" level and the proposal was consistent with the relevant objectives and policies.<sup>40</sup> He largely agreed with Mr Gard'ner's recommended conditions.
59. In relation to submissions made, Mr Marr advised that the nearest shed on the property had been relocated so as to be in the 'back' or western row of sheds. He attached a plan to his rebuttal evidence which clarified the distances from the (now) nearest shed and the fan location to the Berry's boundary and dwelling.
60. Attached to Mr Marr's evidence were copies of eight declarations from neighbours of the Craddock's Coulston Road egg layer operation. These declarations had been sought by Mr Craddock in March 2014 and signed by neighbours between March and July 2014. Each declaration was accompanied by a letter from Stefan Craddock outlining the Patumahoe proposal and seeking to demonstrate that "modern farms operating to best management practices can exist in a rural environment without creating any odour issues for close neighbouring properties". We did not enquire further as to the method of obtaining these declarations because the statement agreed to by each

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<sup>39</sup> Mr Marr, primary evidence, paragraphs 4.9-4.13

<sup>40</sup> In paragraph 5.3 Mr Marr stated that the proposal would "not be contrary" to the objectives and policies, but later modified this assessment, when acknowledging that the application was not for a non-complying activity.

neighbour (as well as confirming their length of residence as a neighbour) was unconditionally that “I confirm that...I have not experienced any odour emitting from Craddock Farms site at 8 Coulston Road.”

61. There were eight signed declarations attached to Mr Marr’s evidence, whereas Dr Brady’s evidence indicated 12 such declarations had been made. We were to be provided with the remainder of the declarations but that has not eventuated. We checked the location of the eight we had obtained and appreciated that we had declarations from all the closest neighbours, so in the circumstances we have let the matter of the missing ones rest.

### **Submitter’s Evidence**

#### Ray and Peta Berry

62. Mrs Peta Berry presented a “Statement of Evidence by Ray George Berry and Peta Lynn Berry”. The Berry’s own and have resided at 228 Patumahoe Road for over three years. Their dwelling is the closest to the site of the proposed poultry operation.
63. Mrs Berry introduced a number of additional lay witnesses in support of the Berry submission, including Mr Dave Husband and Ms Kay Eglin property owners of 225B and 225A Patumahoe Road respectively. Mrs Berry noted that both Mr Husband and Ms Eglin, despite their properties being located immediately across Patumahoe Road from the Craddock Farm site, were excluded from the notification process.
64. Mrs Berry disputed the applicant’s odour assessment and believed it to be inaccurate. Mrs Berry further pointed out that the Franklin District Council 100m buffer zone<sup>41</sup> for odour emissions from chicken farms is out-dated and no longer in line with neighbouring councils such as Waikato District Council and Matamata-Piako District Council. For example, Matamata-Piako requires a minimum 250m buffer zone for affected neighbouring properties.
65. She further noted that Waikato Regional Council refers to the Victorian Broiler Code recommendation formula. Using this formula a buffer zone of 598m from the edge of the sheds<sup>42</sup> would be required for 310,000 birds.
66. To further demonstrate the inadequacies of the Franklin District Council 100m buffer zone Mrs Berry referenced the Buckland Poultry Farm located within

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<sup>41</sup> Berry Statement of Evidence, paragraph 5

<sup>42</sup> Berry Statement of Evidence, paragraph 5 and 6

110m of the Buckland Primary School. This chicken layer operation had been closed down by Franklin District Council due to the site location and poor operating standards that had resulted in a “sickly stench and swarms of flies”.<sup>43</sup>

67. Mrs Berry further considered that the buildings would be out of character with typical rural area amenity, and specifically that they would detract from the outlook from their property. Mrs Berry also provided photomontages depicting an impression of the mass of proposed building as seen from their driveway.
68. Mrs Berry disagreed with the applicant’s claim that the noise produced by the operation would not be inconsistent with those expected to occur in a rural area, suggesting that, because of its intensity it cannot be considered a standard rural or farming activity.
69. Mrs Berry highlighted two concerns regarding noise; 1) during construction staged over 10 years and 2) the day to day operation of the proposed layer farm. Mrs Berry pointed out that their boundary is only 55m from the nearest proposed building.<sup>44</sup>
70. Mr Ray Berry introduced himself as a Senior Engineering Geologist with 10 years’ experience.<sup>45</sup> Mr Berry expressed concern that dust and waste from poultry farm sources would contaminate the underlying aquifer that feeds their domestic water supply bore. The applicant proposes the construction of a storm water collection system and pond that discharges directly to porous ground. He considered that this would enable contaminants that would be carried from the manure load out area, roofs and paved areas by stormwater to the detention pond to then find their way into the groundwater.<sup>46</sup>
71. Mr Berry pointed out that the intake for their water is located within a shallow groundwater aquifer comprising loose scoriaceous gravels, silts and sands associated with the South Auckland Volcanic Zone.<sup>47</sup> Mr Berry was not sure of the depth of his aquifer, however Mr Peter Millen noted his bore is 6m deep. Mr Berry considered that contamination could also affect the Whangamaire Spring and Stream, which are already affected by relatively high nitrate levels from past and present pastoral farming activities.<sup>48</sup>

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<sup>43</sup> Berry Statement of Evidence, paragraph 7 and 8

<sup>44</sup> Berry Statement of Evidence, paragraph 17 (We note that this was amended to 82m).

<sup>45</sup> Berry Statement of Evidence, paragraph 21

<sup>46</sup> Berry Statement of Evidence, paragraph 27

<sup>47</sup> Berry Statement of Evidence, paragraph 28.b

<sup>48</sup> Berry Statement of Evidence, paragraph 28.c

72. Mr Richard Chilton, an independent air quality expert engaged by Mr and Mrs Berry, presented primary evidence on odour effects associated with the proposal.
73. Mr Chilton noted that the AUSPLUME model is no longer supported by its developers, the EPA of Victoria, and that rather more sophisticated models such as AERMOD and CALPUFF are now preferred. However, Mr Chilton did consider that the AUSPLUME model could provide a useful “screening assessment of potential odour impacts given that the site and surrounding land are essentially on flat ground”.<sup>49</sup>
74. Mr Chilton noted critical flaws in the original Harrison Grierson air discharge assessment, these being non-representative meteorological data and erroneous emission calculations. These errors were accepted by all parties and the original assessment was omitted from our decision making process.
75. Mr Chilton then presented AUSPLUME dispersion modelling outputs for the proposed Patumahoe Road site based on:<sup>50</sup>
- an odour emission rate of 79 OU/s<sub>1000 bird</sub>;<sup>51</sup>
  - 307,800 chickens which equates to 24,320 OU/s from all ten sheds;
  - sheds represented as volume sources;
  - terrain data for Patumahoe Road;<sup>52</sup> and
  - the Auckland Council meteorological data file for Papakura.
76. Mr Chilton expressed concerns that the Auckland Council meteorological file for Papakura does not accurately represent conditions at the proposed site, Patumahoe Road being 17 km south west of Papakura, further inland away from coastal influences and subject to different local wind conditions. To address this, Mr Chilton re-ran his model with local (i.e. Patumahoe) meteorological data extracted from the Auckland regional CALMET dataset. This increased predicted odour concentrations to the east and northeast of the proposed site (where the Berry’s live).
77. Mr Chilton’s dispersion modelling indicated maximum odour levels at the Berry’s house of 14 OU/m<sup>3</sup>, with maximum values on the Berry property up to

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<sup>49</sup> Chilton Statement of Evidence, paras 3.3

<sup>50</sup> Chilton Statement of Evidence, paras 3.12, 3.17

<sup>51</sup> This was based on corrected values in the Harrison Grierson assessment and was noted as being at the low end of reported values.

<sup>52</sup> As advised during questioning in the Hearing

24 OU/m<sup>3</sup>.<sup>53</sup> It further indicated maximum odour levels at the Wai Shing packhouse of around 10 - 15 OU/m<sup>3</sup>, with maximum levels in the fields up to 25 OU/m<sup>3</sup> (southern Craddock boundary).

78. Mr Chilton considered the rural lifestyle area surrounding the proposed Craddock Farm to have a moderate to high sensitivity, especially in the vicinity of residential dwellings. On balance, Mr Chilton considered a modelling assessment criterion of 5 OU/m<sup>3</sup> (as a 1-hour 99.5<sup>th</sup> percentile) appropriate. He noted this was consistent with an Environment Court decision on odour (C023/2004) and the Ministry for the Environment Good Practice Guide recommendations (MfE, 2003).<sup>54</sup>
79. Given that the maximum predicted odour levels at the Berry property significantly exceeded 5 OU/m<sup>3</sup> (as a 1-hour 99.5<sup>th</sup> percentile), Mr Chilton concluded the Berry property could be subject to significant adverse odours from the proposed Craddock Farm layer operation.
80. Mr Chilton then provided comment on Council's section 42A report. He disagreed with Mr Gard'ner's comment that "*odour may well be noticeable beyond the boundary of the site [but] it should not be of a nature that is objectionable or offensive when considering the range of odours that may be present in a typical rural environment*". Mr Chilton noted the proposed egg laying operation is intensive, permanent in its location, and likely to be relatively continuous in its discharge of odour. He considered it different therefore, to general rural activities, otherwise permitted under the plan, which are small scale and may from time to time give rise to odours that are of a short duration, occur infrequently and/or be transient in their location.<sup>55</sup>
81. Mr Chilton further took issue with Mr Gard'ner's omission of assessment of FIDOL factors (frequency, intensity, duration, offensiveness and location). However, during questioning, Mr Chilton provided no assessment of frequency of predicted maximum odours.
82. Mr Chilton referred to his previous study that recommended a separation distance of 350m for intensive poultry operations with less than 180,000 birds

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<sup>53</sup> Inferred from contour plot for Patumahoe meteorological data at Berry SW boundary. All values 1-hour average, 99.5<sup>th</sup> percentile.

<sup>54</sup> *Good Practice Guide for Assessing and Managing Odour in New Zealand*, Ministry for the Environment, Wellington, June, 2003.

<sup>55</sup> Chilton Statement of Evidence, paras 4.3

(Golder, 2007).<sup>56</sup> He further noted similar separation distances in Australian jurisdictions (422m South Australia EPA, 2007 as applied to 310,000 birds; 250m EPA Victoria, 2013; 300m – 1,000m Western Australia, 2007). His point being that odour effects are a significant consideration for large intensive poultry operations.<sup>57</sup>

83. Mr Chilton wanted conditions of consent requiring ongoing (weekly) odour monitoring (on the site boundary) and manure removal every 3-5 days in the event that consent was granted.

84. Mr Chilton then provided comment on Dr Brady's primary evidence noting that Dr Brady's overall approach of benchmarking predicted odour against reported community feedback was reasonable. However, Mr Chilton made the following criticisms:

- The Coulston Road site is moderately complex terrain and better suited to a more sophisticated model such as CALPUFF.<sup>58</sup>
- The RIRDC report that found significant plume rise, and on which basis Dr Brady has selected stack sources (instead of volume sources), has not been benchmarked against community feedback (this was a key recommendation of the study).<sup>59</sup>
- The use of Papakura meteorology data was inappropriate for both sites.

85. Mr Chilton further criticised the declarations provided by Coulston Road neighbours, these not being obtained in accordance with best practice community survey guidelines (MfE, 2003). As we have noted above, Dr Brady did not obtain these declarations. Further, they were more attestations of the fact that no odour had ever been detected, as opposed to an investigative community odour survey.

86. Overall whilst Mr Chilton considered that Dr Brady's approach was reasonable in principle, it was not sufficiently robust in its execution that it could be relied upon to ignore the predicted exceedance of odour criteria by dispersion modelling. Mr Chilton concluded, therefore, that offensive or objectionable odours impacting the Berry residence could not be discounted.

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<sup>56</sup> *Review of Rules and Management Practices Relating to Intensive Poultry Farming*, Report prepared for Auckland Regional Council by Golder Kingett Mitchell, 2007.

<sup>57</sup> Chilton Statement of Evidence, paras 4.10

<sup>58</sup> Despite this Mr Chilton acknowledged the AUSPLUME model was suitable for the relatively flat Patumahoe Road site.

<sup>59</sup> Mr Chilton further acknowledged that, for comparative modelling, Dr Brady's consistent application of stack sources was appropriate.

87. Ms Hester den Ouden, a qualified planner with some 30 years' experience, provided primary evidence and an addendum on behalf of the Berrys.
88. Ms den Ouden's evidence focused on a response to the policy framework, relying on others to establish the environmental effects.<sup>60</sup> In relation to rural character and visual amenity effects she relied on the submission of Mrs Peta Berry.<sup>61</sup> Ms den Ouden asserted that the proposal would:
- Be incompatible with surrounding rural lifestyle;<sup>62</sup>
  - Be out of scale with the existing rural and lifestyle environment;<sup>63</sup>
  - Have adverse effects on amenity and rural character,<sup>64</sup> and
  - Constitute "industrial or trade activity" and therefore be out of character with the rural area.<sup>65</sup>
89. Ms den Ouden also provided us with an extensive list of provisions from the ACRPS and the District Plan including those on the importance of versatile soils and the potential for reverse sensitivity effects between intensive farming and rural residential activity. She considered that the activity could be located "virtually anywhere else and especially on less versatile soils".<sup>66</sup> She also advised us that the granting of consent to the operation could lead to a reverse sensitivity situation in the future between the poultry farm and its neighbours.
90. Mr Dave Husband resides with his wife Beryl at 225B Patumahoe Road. Their property boundary is approximately 350m to the east of the proposed development of the closest shed and their house is a further 240m away.<sup>67</sup>
91. Mr Husband presented a short statement in support of Mr and Mrs Berry's submission and expressed outrage at the limited notification of the proposed development within 350m of their boundary. Mr Husband presented a community petition with over 800 signatures opposing the proposal.<sup>68</sup>

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<sup>60</sup> Ms den Ouden, primary evidence, paragraph 10

<sup>61</sup> Ms den Ouden, primary evidence, paragraph 9

<sup>62</sup> Ms den Ouden, primary evidence, paragraph 44

<sup>63</sup> Ms den Ouden, primary evidence, paragraph 16 and 56(e)

<sup>64</sup> Ms den Ouden, primary evidence, paragraphs 18(a) and (b), 45 and 56(a)

<sup>65</sup> Ms den Ouden, addendum to evidence, paragraph 5

<sup>66</sup> Ms den Ouden, primary evidence, paragraph 55

<sup>67</sup> Ms den Ouden, primary evidence, paragraph 18(d)

<sup>68</sup> Dave Husband Lay Witness statement in support of the Berry submission, paragraph 4

<sup>69</sup> Dave Husband Lay Witness statement in support of the Berry submission, paragraph 7

92. Mr Husband further expressed concern about the effects of odour, storm water run-off into the local stream and dust from the proposed poultry farm operation blowing onto their property by the prevailing winds.<sup>70</sup>
93. In relation to the petition, we did not check the veracity of all the signatories, or accept the petition in any way as a submission on the application. However, it was a measure of the general opposition to the proposal in the community.
94. Ms Kay Eglin resides at 225A Patumahoe Road directly across the road from the proposed operation. She runs a pet rescue facility on her property.
95. Ms Eglin presented a short statement in support of Mr and Mrs Berry's submission. She also expressed concern at being excluded from the limited notification despite being within 350m of the applicant's property.
96. Ms Eglin expressed concern about odour along with the effect on her drinking water.<sup>71</sup> She also highlighted noise from the increase in vehicle movements associated with the proposed operation and pointed out that her road access way would also be impacted upon by the changes to the applicant's site access.
97. Ms Paula Crosswell, the coordinator of the Patumahoe Village Inc. (PVI) presented comments on behalf of PVI and the Patumahoe community in support of Mr and Mrs Berry's submission. Those comments included that both the Franklin District Council and the Auckland Council had identified Patumahoe as a residential growth node.<sup>72</sup>
98. Ms Crosswell further highlighted community concerns regarding offensive odours on hot summer evenings when local residents open windows to assist with comfort when trying to get to sleep.<sup>73</sup> She considered that the community was firmly of the view that the proposed poultry operation would create adverse odour emissions that were more than minor.
99. Mr Andrew Sinclair, a member of PVI, read a statement in support of Mr and Mrs Berry's submission opposing the proposed operation. He expressed concern about the effect the proposed operation would have on the Patumahoe Springs and the Whangamaire Stream. He pointed out that the Whangamaire Stream already has the highest nitrate levels in Auckland<sup>74</sup> and gave a practical water

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<sup>70</sup> Dave Husband Lay Witness statement in support of the Berry submission, page 2, paragraph 2

<sup>71</sup> Kay Eglin Lay Witness statement in support of the Berry submission, page 3, paragraph 2

<sup>72</sup> Paula Crosswell lay witness statement in support of the Berry submission, paragraph 9

<sup>73</sup> Paula Crosswell lay witness statement in support of the Berry submission, page 2, paragraph 3

<sup>74</sup> Andrew Sinclair lay witness statement in support of the Berry submission, page 2, paragraph 4

sample test demonstration on water from the Whangamaire Stream that showed high nitrate levels.

100. Mr Sinclair expressed concerns about the flawed odour modelling provided by the applicant and in particular the incorrect wind rose.<sup>75</sup> He also questioned the proposed separation distances in support of the Berry submission.
101. The Commissioner's record that the Berry lay witness evidence from Ms Eglin and Ms Crosswell and Messrs Husband and Sinclair was received and interpreted as being limited to matters in the Berry submission. We did not include for consideration any additional matters that these witnesses might have raised which pertained to them as persons in their own right, as they were not submitters.

#### P and J Millen

102. Mr Peter Millen resides at 260 Patumahoe Road adjacent to the south eastern boundary of the applicant's property. Mr Millen presented his submission pointing out that he is a shift worker and that odour, noise, dust, traffic access and separation distances were his primary concerns.
103. Mr Millen considered the odour assessment document provided by the applicant to be flawed<sup>76</sup> and that it relied on technical data with discrepancies. He acknowledged that farming odours are part of rural living, but they are varied and short lived "here today, gone tomorrow type effects".<sup>77</sup> He considered this to be unlike the odour from the intensive farming activity proposed by the applicant.
104. Mr Millen commented on a claim referred to in a report supplied by the applicant, that the existing hedge<sup>78</sup> would act as a sound barrier reducing adverse effects. He pointed out that the hedge does not in fact run along the boundary in front of his house as claimed. He also expressed concern about a proposal to erect a solid wooden "gang headquarters" style fence along his boundary.<sup>79</sup>
105. Mr Millen's preference was for the access road to be moved to run through the middle of the applicant's site. He suggested that a sound wall erected along the boundary would not be sufficient to reduce the effect of exhaust stacks on some trucks that may visit the site. He also requested that any such sound barrier be

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<sup>75</sup> Andrew Sinclair lay witness statement in support of the Berry submission, page 4, paragraph 4

<sup>76</sup> Millen Submission Against Craddocks Consent Proposal pg17 (counted from front) paragraph 20

<sup>77</sup> Millen Submission Against Craddocks Consent Proposal pg17 (counted from front) paragraph 29

<sup>78</sup> Millen Submission Against Craddocks Consent Proposal pg17 (counted from front) paragraph 23

<sup>79</sup> Millen Submission Against Craddocks Consent Proposal pg17 (counted from front) paragraph 24

set back from the boundary to allow screen planting on his side of the wall and that this planting be maintained by the applicant.

106. Mr Millen expressed concern about the potential effect of fan noise<sup>80</sup> and dust generated during operations (eg the cleaning of sheds) and its potential effect on his bore water supply.<sup>81</sup>
107. Mr Millen questioned whether he would be bound by the District Plan restriction on a new dwelling house being built within 300 metres of an existing intensive farming activity. He considered that this restriction could apply should he choose to remove the existing dwelling and build a new one in the same location.<sup>82</sup>

Wai Shing Holdings Ltd, the Wai Shing brothers and related Trusts (Wai Shing)

108. Mr Jeremy Brabant, counsel for Wai Shing, provided legal submissions. Mr Brabant outlined the size and nature of the Wai Shing horticultural operations, which were detailed by Mr Wai Shing, and recorded below. He advised that Wai Shing is fundamentally concerned about odour, dust, noise and traffic on its operations.
109. Mr Brabant considered that the exact nature of the permitted baseline, as a comparison for the current proposal, was unclear. We discuss this in more detail below.
110. Mr Brabant then focussed on the traffic, odour and dust effects, these effects being the matters addressed by his two expert witnesses. A summary of their evidence is set out below. However, Mr Brabant made several more general comments on odour.
111. He submitted that the Environment Court has not endorsed the view that modelling of odour should not be relied upon. He provided us with a copy of a recent decision<sup>83</sup> where dispersion modelling from a broiler chicken operation was relied on to assess likely odour concentrations. The Court accepted that the 5 OU/m<sup>3</sup> 1-hour 99.5<sup>th</sup> percentile odour contour is the modelled guideline value considered reasonable for broiler chicken farms located in rural areas where people are accustomed to rural odours. Although the Court acknowledged the experts caution that this is not a “pass or fail” test and that the predicted odours

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<sup>80</sup> Millen Submission Against Craddocks Consent Proposal pg17 (counted from front) paragraph 21

<sup>81</sup> Millen Submission Against Craddocks Consent Proposal pg17 (counted from front) paragraph 26

<sup>82</sup> Millen Submission Against Craddocks Consent Proposal pg17 (counted from front) paragraph 16

<sup>83</sup> GN and LG Burgess v Selwyn District [2014] NZEnvC 11 at 23 -37

may or may not eventuate, it nevertheless relied on the model in making findings.

112. He further noted that the Court took the approach that objectionable and offensive odours could be effects which have high potential impact even if the probability of them occurring was low, and he submitted that this was the appropriate approach in the current case.
113. In relation to Dr Brady's odour evidence he noted that Dr Brady relied on the accuracy of the modelling contour outputs, but that the predicted odour levels, in terms of whether a person might find them offensive, or even notice them, could not be relied on. Mr Brabant considered that this was 'cherry-picking' the model outputs, which was not a proper approach.
114. He also noted that Dr Brady had run multiple meteorological data sets for Coulston Road in relation to the sensitivity of the model to meteorological data input. However, a greater understanding of the potential odour effects at the proposed site would have been obtained if he had run a sensitivity analysis on the Patumahoe Road model varying inputs such as temperature, and alternative weather data. We return to consider these points in our findings below.
115. Finally, in relation to conditions of consent, Mr Brabant considered that the proposed management plan was inadequate. He provided a farm management plan from a decision of the Environment Court that suggested an additional level of detail was needed.
116. Mr Wellingford Ng Wai Shing presented evidence outlining concerns on odour, dust and traffic from the proposal. Mr Wai Shing's evidence was presented on behalf of himself and his brothers (Messrs Clinton and Franklin Wai Shing) who work equally in partnership in Wai Shing Holdings Limited. Wai Shing Holdings Limited is a large commercial vegetable growing enterprise, owning eight properties located adjacent to or in close proximity to the applicant's site as well as other leased properties in the area.
117. Wai Shing vegetables (onions, potatoes, squash, kale, broccoli, cabbage, cauliflower, carrots and pumpkin) are grown outdoors in a crop rotation system. The majority (70%) are provided fresh to export markets. The company employs around 60 full time employees throughout the year, however, this increases to over 300 employees and contractors in the peak summer season.

118. Being large and well established, the Wai Shing properties (primarily the main packhouse and nurseries located at 194 Patumahoe Road) are regularly visited by tour groups visiting and studying New Zealand horticulture. This includes ambassadors/trade embassies, university students and export customers and potential new customers. Mr Wai Shing noted there are two residential houses at 194 Patumahoe Road.
119. Mr Wai Shing agreed with the applicant that there would be some economic benefits to the area, but he expressed concerns that these benefits were not at the expense of economic cost to his business.
120. Specifically, Mr Wai Shing raised concerns about dust and particle emissions from the chicken layer farm settling on crops (which are not usually washed prior to export). Dust deposition is known to impact on crop growth and visual appeal and may further introduce a risk of contamination (chicken sheds potentially emitting salmonella, bacteria, fungi, mycotoxins (moulds) and viruses).
121. Mr Wai Shing further expressed concerns about potential odour effects on people living in the residences, and people working long hours (in peak harvesting season) in the fields, offices and packing sheds at 194 Patumahoe Road. Mr Wai Shing was concerned that people would not want to work at Wai Shing if odours from the proposal impacted on their properties.
122. Mr Wai Shing requested conditions of consent for monitoring of odour and particulate matter to address these concerns.
123. Mr Wai Shing provided additional evidence on the significant traffic already present in Patumahoe Road from Wai Shing operations. He noted that at 6 pm on 18 November (not peak season) the log book registered 180 vehicle movements to his site that day (employee cars, trucks, couriers, visitors and reps).
124. Finally, Mr Wai Shing expressed disappointment at the limited notification decision by council. He had been personally contacted by members of the local community who strongly objected to the proposal and were frustrated that they would not be heard.
125. Mr Mark Apeldoorn, a qualified traffic engineer, gave traffic evidence on behalf of Wai Shing Ltd. His evidence responded to that of Mr Hebner and covered matters relating to:
- characteristics of Patumahoe Road;

- site entrance safety;
- on-site matters (including circulation, loading and parking); and
- construction traffic.

126. Mr Apeldoorn made the following points in relation to Patumahoe Road:

- Patumahoe Road carries 3,804 vpd opposite the site on the basis of a 2009 survey adjusted for growth to 2014. (This compares with Mr Hebner's estimate of 2,600-4,000 vpd);
- traffic volumes are predicted to increase to 4,597 vpd by 2025 (or 5,063 vpd if the proposed Patumahoe Hill Structure Plan is taken into account),<sup>84</sup>
- traffic speeds may be higher than the 78-84 kph recorded in the Auckland Transport surveys relied on by Mr Hebner. Based on a radar speed snapshot he undertook during a site visit, Mr Apeldoorn surmised that the 85<sup>th</sup> percentile speed might be in the order of 95 to 100kph,<sup>85</sup>
- the applicant might have under-estimated the number of additional vehicle movements, and specifically the number of journeys to-and-from the north;<sup>86</sup>
- Patumahoe Road had a crash record twice that which occurs on similar roads elsewhere. His opinion was based on three injury crashes (including one fatality) on this section of Patumahoe Road during the previous five years.<sup>87</sup>
- road design factors contribute to safety concerns on Patumahoe Road – namely a narrow carriageway<sup>88</sup> and a pronounced dip in the road north of the site which restricts visibility in such a way that overtaking is unsafe in both directions,<sup>89</sup> and
- trucks driving the 270m stretch of Patumahoe Road between the Gun Club Road intersection and the site entrance would be travelling much slower than the 100kph speed limit. This would impede other traffic and could tempt unsafe overtaking.<sup>90</sup>

<sup>84</sup> Mr Apeldoorn, primary evidence, paragraph 23

<sup>85</sup> Mr Apeldoorn, primary evidence, paragraph 16

<sup>86</sup> Mr Apeldoorn, primary evidence, paragraphs 41 and 42

<sup>87</sup> Mr Apeldoorn, primary evidence, paragraph 30

<sup>88</sup> Mr Apeldoorn, primary evidence, paragraphs 25-27

<sup>89</sup> Mr Apeldoorn, primary evidence, paragraph 33

<sup>90</sup> Mr Apeldoorn, primary evidence, paragraphs 31-33.

127. In order to address these matters Mr Apeldoorn recommended entrance improvements on both sides of the road to accommodate vehicles turning into the site from both north and south. He initially recommended the NZTA Diagram D configuration.<sup>91</sup> During the course of the hearing he revised his recommendation to widening the sealed shoulder by approximately 1.5m to provide a total sealed carriageway of 6m from centreline, as depicted on the NZTA RTS6 diagram.

128. In addition to matters relating to the entrance and external road environment, Mr Apeldoorn also maintained that the on-site layout has the following traffic shortcomings:<sup>92</sup>

- The cul-de-sac roads by the sheds do not have passing opportunities;
- Vehicles loading and unloading on the cul-de-sacs could block other vehicles;
- The 10m cul-de-sac radii would not accommodate the maximum size vehicles permitted on New Zealand roads (up to 12.5m radius turning space);
- There is insufficient information to support a departure from the number of car park spaces required by District Plan standards; and
- The parking area in front of the stables is not level, conflicts with stable doors, and might not provide appropriate disabled access (although it was clear Mr Apeldoorn's comments on the parking area were misdirected to an incorrect area).

129. Finally, Mr Apeldoorn considered insufficient attention had been paid to traffic matters during the construction period. He concluded there is potential for significant adverse traffic safety effects due to construction traffic unless appropriate conditions are imposed.<sup>93</sup>

130. Mr Andrew Curtis, an independent air quality expert engaged by Mr Wai Shing, presented primary evidence on odour, dust and pathogens associated with the proposal. Mr Curtis noted significant concerns over deficiencies in the original (Harrison Grierson) air discharge assessment. He largely confined his evidence to commenting on Dr Brady's primary statement of evidence.

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<sup>91</sup> Mr Apeldoorn, primary evidence, paragraph 38

<sup>92</sup> Mr Apeldoorn, primary evidence, paragraphs 51-70

<sup>93</sup> Mr Apeldoorn, primary evidence, paragraph 73

131. Mr Curtis noted that whilst the Wai Shing property was located in a rural area, the Craddock proposal would introduce a new, potentially objectionable or offensive, odour to the area. He further noted that the Wai Shing property lay under the highest predicted odour concentrations in certain meteorological conditions.
132. Mr Curtis then pointed out that there are times of the year when there are large numbers of people working in the fields adjacent to the proposed site, and in the packing building. During questioning it became apparent that these workers could be present for significant periods of time (e.g. 8 – 10 hours a day), for many days or weeks at a time depending on the crop. This is different to a typical farm where there might only be one person present in a field, and who may be there for a relatively short period of time.
133. Mr Curtis therefore, considered persons on the Wai Shing property to be sensitive receivers. Mr Wai Shing also had a requirement to ensure that his employees were not subject to nuisance odour or other adverse effects from the Craddock proposal.
134. Mr Curtis then raised the issue of bio-aerosols from the proposed chicken farm and the potential for dust to settle on crops. Mr Curtis considered that whilst the risk may be low, given that Wai Shing crops are exported the potential consequences could be significant.
135. Mr Curtis agreed with Dr Brady's approach of using dispersion modelling for comparative purposes only. Somewhat paradoxically then, Mr Curtis considered that Dr Brady's modelling indicated a potential for odour nuisance over the Wai Shing property (this is not what Dr Brady concluded).
136. Mr Curtis considered adherence to good management practice to be essential to avert potential odour. Mr Curtis criticised the site management plan submitted with the original application as simply a description of site operations and not sufficiently comprehensive. During questioning on what would constitute good management, Mr Curtis referred us to the Ministry for the Environment Odour Guide (MfE, 2003).
137. Mr Curtis then queried the risk of pathogenic contamination when the sheds are cleaned "*by blowing the sheds down with air*". As a result of further questioning of the applicant we understand that the fans are not on during shed cleaning, all vents are closed and there are no discharges to air from this process.

138. Mr Curtis considered the detection of any bacterial contamination offsite to present a significant problem for Wai Shing and requested a precautionary approach in the event that consent was granted. The Commissioners disagree that the presence of *any* bacteria is potentially of concern, noting that normal background air contains detectable levels of harmless bacteria - as noted in the RIRDC report (indeed this was a key finding of the study). This is discussed in our main findings below.
139. Mr Curtis then provided comment on Council's section 42A report. He criticised the Council assessment of the original application by Ms Gosden, which was based on a flawed assessment by Harrison Grierson. As noted above, the errors in the original Harrison Grierson assessment were accepted by all parties during the course of the hearing and this assessment was disregarded in our decision making process.
140. Mr Curtis noted the omission of Policy 4.4.5 from the Auckland Regional Plan; Air, Land and Water which he believed to be fundamental to any decision on an application with odour emissions. We agree that this policy is important to our decision.
141. Mr Curtis further criticised Ms Gosden's assessment that the (original) site management plan was "*considered to meet best practice*". We consider this to be a fair criticism.
142. With respect to proposed consent conditions, Mr Curtis wished to see conditions that contained not only standards, but also consequences or actions to be undertaken for not meeting those standards. The Commissioners concur that this approach would be desirable in conditions of consent and consistent with recent Environment Court guidance.<sup>94</sup>
143. Should consent be granted, Mr Curtis requested conditions of consent for baseline pathogen monitoring (offsite) as well as (monthly) odour monitoring (at the site boundary) in accordance with best practice (German VDI standard 3490) for a period of two years and in the event of odour complaint.

### **Council Officers' Reports**

144. Ms Chelsea Gosden provided two technical memorandums (5 May 2014 and 15 July 2014) that formed the basis of the Mr Gard'ner's section 42A report in relation to air quality matters.

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<sup>94</sup> Mr Curtis referred us to a recent series of Environment Court workshops on conditions of consent run by the Resource Management Law Association of NZ.

145. In her first memo (5 May 2014), Ms Gosden did not recognise the errors in the original Harrison Grierson air discharge assessment, notably incorrect meteorological data and erroneous emission rate calculation. Furthermore, Ms Gosden did not comment on the selection of the Papakura meteorological data for the Patumahoe site modelling, other than to recommend that more than one dataset be used. We note that this was subsequently addressed in the section 92 response by Harrison Grierson but forms no part of this decision (the original assessment being disregarded due to aforementioned errors).
146. Ms Gosden noted that similar established farms in the region have been the subject of odour complaints from neighbouring properties.<sup>95</sup> During the hearing Ms Gosden provided a list of all odour complaints in the Auckland Council database related to intensive poultry operations to the Panel. This is discussed further below.
147. Ms Gosden noted that, in the absence of any practical odour abatement options, *“the extent of likely air quality effects is best assessed by the Golder Kingett Mitchell guidance. This document recommends a minimum separation distance of 350m from poultry layer farms of this proposed size to neighbouring properties”*.<sup>96</sup> We note this guidance also recommended a buffer distance of 200m to the notional boundary.
148. Elsewhere, Ms Gosden’s memo stated that the nearest residential dwelling was approximately 260m to the north of the sheds, with further residential properties located to the north and east at a distance of approximately 350m and to the south-east at 280m and 300m.<sup>97</sup> Ms Gosden also noted that the proposed sheds were approximately 50m from the north-western site boundary.<sup>98</sup> We note that these distances were altered due to the relocation of the shed nearest the Berry residence.
149. Ms Gosden noted the inclusion of a farm management plan in the original application and stated that *“this plan is considered to meet best practice for controlling the discharge of contaminants into air and is an adequate control mechanism for reducing the levels of odour and dust discharged.”*<sup>99</sup> As noted above, the applicant subsequently revised this plan, attached to the closing submissions. We comment further on this revised plan later in the decision.

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<sup>95</sup> Technical memorandum dated 5 May 2014, Chelsea Gosden, section 4.2 at page 7

<sup>96</sup> Technical memorandum dated 5 May 2014, Chelsea Gosden, section 4.2 at page 7

<sup>97</sup> Technical memorandum dated 5 May 2014, Chelsea Gosden, section 4.2 at page 3

<sup>98</sup> Technical memorandum dated 5 May 2014, Chelsea Gosden, section 4.2 at page 5

<sup>99</sup> Technical memorandum dated 5 May 2014, Chelsea Gosden, section 4.2 at page 8

150. Ms Gosden made a point of discussing the inclusion of ventilation fan enclosures in the Craddock Farm proposal, noting that these had been successful in resolving odour complaints at other layer farms in the Auckland Region. Based on this “*additional mitigation*”, Ms Gosden considered the potentially affected area less than the 350m buffer zone identified in the Golder Kingett Mitchell guidance and that “*odour and dust were not likely to be detectable beyond the immediately adjoining properties*”.<sup>100</sup>
151. Ms Gosden concluded that whilst the dispersion modelling showed odour beyond the boundary of the site, based on her experience with similar farms “*there is a potential for minor adverse odour effects at the adjoining properties to the farm, likely to be particularly [sic] when the sheds are open, waste is being removed, or ventilation is increased.*”<sup>101</sup> Overall, Ms Gosden judged the adverse effects arising from the proposal to be minor and limited to the adjoining properties.
152. At the hearing, Ms Gosden provided an additional summary of evidence (19 November 2014). This maintained her original opinion that the effects of air discharges from the proposed layer farm would be no more than minor at adjoining properties.
153. In her additional evidence, Ms Gosden agreed with the air quality experts that the original modelling undertaken for the proposal was inadequate. Ms Gosden further agreed with Dr Brady and Mr Curtis that odour modelling has its limitations and should not be relied upon as the only tool for assessing potential odour impacts of this application.
154. Ms Gosden’s preferred method of assessment for this application included a number of steps as follows:
- “*good-quality modelling*” using US EPA approved AERMOD or CALPUFF models;
  - use of the Auckland CALMET dataset, which includes data for Patumahoe;
  - consideration of the effects of similar facilities; and
  - community consultation.<sup>102</sup>

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<sup>100</sup> Technical memorandum dated 5 May 2014, Chelsea Gosden, section 4.2 at page 8

<sup>101</sup> Gosden May 2014 memo, page 8 Conclusion

<sup>102</sup> Summary of evidence dated 19 November 2014, Chelsea Gosden, para 2.2

155. Ms Gosden disagreed with Mr Chilton that the area surrounding the applicant's site was of moderate sensitivity, stating that it was a better fit with the MfE Odour Guide low-sensitivity category. However, Ms Gosden did agree that an odour assessment criterion of 5 OU/m<sup>3</sup> (MfE, 2003)<sup>103</sup> was "*a reasonable guideline to assist with the determination of effects*".<sup>104</sup>
156. Ms Gosden noted the difficulties Dr Brady faced in selecting a representative emission rate. In her opinion, it was typical to model with the 'worse-case' discharge rate to determine the maximum potential effects, while qualifying the unlikelihood that they would occur in reality. Ms Gosden noted that periods of no emission (such as at night when the fans are off) could be accounted for in the model through a reasonably simple variable emissions option. We note that a variable emission rate was not used in any of the modelling, nor was any sensitivity analysis undertaken.
157. Because the emission rates are not well defined, it was Ms Gosden view that a careful consideration of the actual effects experienced at other similar farms to be more relevant. Ms Gosden noted that since 2006, Auckland Council had received around 35 complaints regarding odour from all types of intensive poultry farms. Of these, 13 related to odour discharges from two farms that have since closed, owing in part to poor farm management. There was only one (non-validated) odour complaint near an intensive layer farm, received in March 2006.<sup>105</sup>
158. Ms Gosden noted the presence of another larger, intensive layer farm with up to 425,000 birds contained in four sheds that was established in the mid-1960s. This site has residential properties located within 100m of the sheds but has not been a source of any odour complaints to Auckland Council. This farm also has fan enclosures on the majority of sheds to assist with odour dispersion.
159. Based on her experience, Ms Gosden considered that the fan enclosures reduce the concentration of odour in the immediate area of the sheds. She has visited a layer farm with these structures and did not notice particularly strong odour down-wind of the sheds.<sup>106</sup>
160. Ms Gosden noted that Auckland Council does not have any (existing) statutory regulations for separation distances. Ms Gosden stated that the 400m

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<sup>103</sup> As a 1-hour average, 99.5<sup>th</sup> percentile

<sup>104</sup> Summary of evidence dated 19 November 2014, Chelsea Gosden, para 2.4

<sup>105</sup> Summary of evidence dated 19 November 2014, Chelsea Gosden, para 3.3

<sup>106</sup> Summary of evidence dated 19 November 2014, Chelsea Gosden, para 3.5

separation distance in Rule 4.5.119 of the Auckland Regional Plan; Air, Land and Water is a limit within which an application can be considered subject to a restricted discretion, as opposed to a recommended separation distance.

161. Ms Gosden considered that dust emissions from the site would be negligible as the vast majority of feathers would settle within the bunkers around the end of the sheds. Her findings were based on observations she undertook at the Coulston Road farm where there was no significant dust or litter evident outside the bunkers. Ms Gosden noted only minor odour during her visit to the Coulston Road farm around the fan enclosures. During questioning, Ms Gosden's clarified that her visits to Coulston Road were arranged in advance.
162. In her additional evidence, Ms Gosden considered that a farm management plan represents the best practicable option for mitigation of odour from chicken farms. Contrary to her previous assessment, Ms Gosden agreed with Mr Curtis that the management plan needed to be more comprehensive. Ms Gosden recommended that it be revised to address the requirements of Appendix 3 of the MfE Odour Guide (MfE, 2003).
163. Ms Gosden considered that once the farm had been established and fully stocked, that odour monitoring would be appropriate. Ms Gosden preferred to have site management personnel undertake the odour monitoring to better engage staff in compliance aspects of the consent. She considered the requirement for an independent odour expert to be unduly onerous.<sup>107</sup>
164. Ms Gosden concluded that, based on her experience with numerous intensive poultry operations, the proposal included advanced sheds and control equipment and would not be likely to cause offensive or objectionable odour or dust beyond the boundary of the site.
165. Ms Gosden recommended granting consent with revised conditions for the site management plan and odour monitoring by site personnel.
166. Mr Gard'ner was the author of the Council's section 42A report, relying on input from Ms Gosden on air quality, as noted above, and other Council staff and consultants as referred to below for erosion and sediment control, stormwater, environmental health and site development, including traffic matters.

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<sup>107</sup> Summary of evidence dated 19 November 2014, Chelsea Gosden, para 5.3

167. Mr Gard'ner identified the reasons for the application in terms of the District Plan and Regional Plans and the status of the application, which we adopt and have set out above.

168. Mr Gard'ner reviewed the actual and potential effects on the environment, guided by the input of other advisors, and concluded that any adverse effects would be no more than minor, taking into account the imposition of conditions. We have fully reviewed the advice he received on air quality above. Other key matters in his assessment were as follows:

- Flora and fauna – the site does not have any special natural or ecological values.
- Landscape and visual – buildings of the scale proposed are not unusual in the South Auckland rural landscape. Existing shelter belts and the separation distances to Patumahoe Road will make the visual impact from the road minimal. Screen planting will be needed to ensure that the visual effect on 228 Patumahoe Road (the Berry property) would be acceptable.
- Noise – The Council's Senior Environmental Health Officer, Mr Andrew Gordon, agreed in his report with the applicant's assessment that the proposed activity would be able to meet both construction and operational noise standards. This conclusion was subject to the installation of a noise attenuation fence adjacent to the Millen house, as described previously.
- Stormwater – Council's Stormwater Consultant, Mr Trent Sunich, considered that there would be negligible contaminant loads in the site stormwater system. In his opinion, the suspended solids that carry contaminants would be captured by the soil matrix beneath the detention pond. For these reasons he concluded that potable water supply from the bore at 228 Patumahoe Road would not be compromised by any stormwater discharge to ground.
- Traffic – Council's Senior Development Engineer, Mr David Russell, concluded that traffic effects would be no more than minor provided that the site vehicle entrance was upgraded to ensure that additional traffic movements can safely enter and exit the site with minimal impact on other road users.

- Earthworks – Council’s Erosion and Sediment Control Consultant, Mr Steve Bryant reported on earthworks. He considered that the adverse effects of earthworks on water quality would be no more than minor provided that the measures indicated in the application were implemented. These include sediment and erosion controls in accordance with Auckland Council TP90, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region; the site being progressively stabilised with the earthworks being undertaken within the earthworks season (being 1 October to 30 April in any year); regular monitoring being undertaken and clean water diversion bunds being employed on the site to direct clean around the area of works to control potential erosion. Mr Gard’ner’s report also noted that site stabilisation would minimise the potential for dust during earthworks.

169. In terms of the statutory framework, Mr Gard’ner provided the following information and assessments.

170. In relation to Part 2 of the RMA, he identified sections 6(e), on the relationship of Maori and their culture and traditions with their ancestral lands, water, sites waahi tapu and other taonga, 7(b) on efficient use and development of natural and physical resources, 7(c) on the maintenance and enhancement of amenity values, and 7(f) on the maintenance and enhancement of the quality of the environment as being relevant. We come back to consider Part 2 later in the decision.

171. Mr Gard’ner considered that the type and complexity of effects associated with the proposed activity meant that the permitted baseline does not provide a useful comparison. However, in his verbal report to the hearing he noted that the size and scale of buildings (for permitted activities) could be very large. We understood Mr Gard’ner was referring to buildings such as glasshouses and packhouses, which are limited by height in relation to boundary and yard and water setback controls but not coverage controls. We consider this to be a relevant matter for the permitted baseline.

172. In relation to National Environmental Standards and National Policy Statements, Mr Gard’ner drew our attention to the National Environmental Standard for Air Quality Regulations, the National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health and the National Policy

Statement on Freshwater Management 2011. He considered that the first of these is not relevant and that the application was consistent with or complied with the latter two national documents.

173. Mr Gard'ner reviewed the parts of the ACRPS that were relevant to the application, being the provisions on water quality and air quality and the strategic objectives in relation to the use of the rural land resource for intensive farming. He considered that the proposal was consistent with these provisions and that rural amenity values and the character of the area would not be compromised.
174. Mr Gard'ner then reviewed the relevant provisions of the ACRP: ALW on water and air quality. As the effects of discharging stormwater, from either the earthworks activity or site operational activities were considered to be minor, Mr Sunich and Mr Gard'ner considered that the proposal was consistent with the relevant objectives and policies (Objectives 5.3.1 and, 5.3.5 and Policies 5.4.4, 5.4.4B, 5.4.4C).
175. In relation to air quality, Mr Gard'ner summarised the ACRP: ALW objectives as follows:<sup>108</sup>

*The objectives of the ACRP:ALW are generally to avoid, remedy or mitigate significant adverse effects of air discharges so that air quality is maintained or enhanced throughout the Auckland region (Objectives 4.3.1 and 4.3.2). This overall objective is supported by objective 4.3.10 to avoid significant adverse effects on human health and environment into air from individual sources including intensive farming.*

176. Mr Gard'ner then considered Policies 4.4.3, 4.4.6, 4.4.9, 4.4.10 and 4.4.14. These policies refer to the avoidance of significant adverse effects, reference to the FIDOL approach, the use of Best Practicable Option, the precautionary approach and ensuring all discharges are considered. Based on the advice he had received from Ms Gosden he concluded that the application was consistent with these policies. All of these policies are relevant, however, we note that Mr Gard'ner did not refer to Policy 4.4.5 which states:

*The discharge of contaminants into air shall be considered inappropriate where:*

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<sup>108</sup> Section 42A report, penultimate paragraph page 22.

*(a) It causes, or is likely to cause, noxious, dangerous, offensive or objectionable odour, dust, particulate, smoke or ash, beyond the boundary of the premises on which the discharge is occurring; ...*

177. Mr Gard'ner also referred us to the relevant objectives and policies of the ARP:SC.
178. In his section on the District Plan provisions Mr Gard'ner covered many relevant provisions. On land use matters these included Part 17A Strategic Rural and Coastal Areas and Villages Objectives, Part 17C.2 Key Rural – Coastal Zone Objectives And Policies, 17C.3.2 Objective – Coastal and Rural Amenity and Character and Part 17E.2.4 Central Rural Management Area Objectives. Collectively, these provisions cover matters relating to the appropriateness of the proposed activity in the rural area in terms of amenity values, conflicts between activities, rural character and the effects on versatile soils. In each case, Mr Gard'ner considered that the proposal was consistent with them.
179. Mr Gard'ner then went through the relevant assessment criteria in Section 23A of the District Plan for the proposal as a restricted discretionary activity (but which contains matters still relevant to the exercise of overall discretion) and Section 53 for discretionary activities. His assessment was that the proposal measured well against the criteria. In the interests of brevity, we note at this point that with the exception of the criteria relating to odour, we accept his assessment. We do however provide further discussion on soils and we express some residual concerns about stormwater effects below.
180. In the context of the assessment criteria, Mr Gard'ner recorded the outcomes of his consultation with tangata whenua. Ngati Tamaoho appeared to be the most relevant iwi for the application, with Ngati Maru and Ngati Paoa deferring to “iwi who have closer association” or otherwise not expressing specific interest. While Ngati Tamaoho were sent a copy of the application, no further contact was received. Mr Gard'ner considered that there was “no substantive evidence to suggest that this iwi are affected by the proposal”. We note that matters typically of interest to tangata whenua, such as contaminants in land or water, are addressed elsewhere. Further, that any consent to disturb the land would have the usual accidental discovery protocol attached.
181. In his review of the PAUP provisions, Mr Gard'ner considered that the proposal was “consistent with and not contrary to the strategic objectives and policies” and

also noted that the specific objectives and policies on air discharges, stormwater discharges and earthworks had not significantly changed from the operative plans. We agree with his view that the provisions of the PAUP should be given relatively less weight than the operative provisions for this application.

182. Finally, Mr Gard'ner brought our attention to sections 105 and 107 of the RMA in relation to certain discharges. Consistent with his conclusions on the relevant planning documents, Mr Gard'ner considered that the provisions of section 105 were met and that the activity would not give rise to any discharge effects listed in section 107(1) relating to discharges to land or water.

### **Principal Issues in Contention and Main Findings**

183. We consider the principal issues in contention to be:

- Rural character and visual amenity
- Soils
- Noise
- Traffic
- Earthworks
- Stormwater
- Odour

184. We have addressed the issues in the above order because, with the exception of odour, we consider all the other actual and adverse effects are able to be avoided, remedied or mitigated to an acceptable level.

### **Rural character and visual amenity**

185. The issues relate to whether the proposal would have unacceptable adverse effects on:

- The rural character of the area; and
- The visual amenity of the Berry property.

### *Rural Character*

186. We accept Mr Marr's evidence and Mr Gardner's advice that the Rural zone provides for, and therefore anticipates, buildings related to rural activities such as poultry sheds, packing sheds, greenhouses and the like. This was confirmed by our site visit to the area, including observation of the packing shed on the Wai Shing property. We therefore conclude that the poultry farm, in general terms, would not be out of character with the area.
187. We also accept Mr Marr's evidence, which was similarly confirmed by our site visit, that potential adverse amenity effects of the proposal would be mitigated by a number of factors. These include the location of the sheds some distance (300m) back from Patumahoe Road beyond the existing stables building, the modest height of the sheds, and the presence of an existing shelter belt to the south.
188. We did not accept Ms den Ouden's contention that the proposal constitutes 'industrial or trade activities' and would therefore be out of character with the rural area. Such a contention does not reasonably describe the farming of hens that characterises poultry farms and that such poultry farms are normally located in rural areas. We also noted Mr Marr's rebuttal evidence that the definitions in the RMA do not support such interpretations.<sup>109</sup>

### *Visual Amenity from the Berry Property*

189. The Commissioners accept that there will be some adverse effects on the outlook from the Berry property. However, we consider the effects would be acceptable for the following reasons:
- The poultry sheds are proposed to be 82m and 187m from the Berry property and house respectively;<sup>110</sup> and
  - The poultry sheds would be screened from the Berry house and garden by the existing shelter belt on the Berry property.
190. We consider that the proposed shelter planting could (depending on details such as plant height and density) provide adequate mitigation of the residual amenity effects from the Berry property. The Berry's submitted that such planting would

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<sup>109</sup> Mr Marr, rebuttal evidence, paragraph 2.3-2.6

<sup>110</sup> Mr Marr, rebuttal evidence attachment, 'Shed Distances Plan'

itself cause an adverse effect by reducing the open rural outlook. However, the District Plan does not protect such an outlook. Shelter belts are common features of the countryside and it would not be unreasonable to anticipate such a shelter belt along the site's boundary. However, we note in passing that the proposed planting would be more effective in screening views from the Berry property if it followed the boundary rather than angling across the site as depicted on the planting plan.

## **Soils**

191. As noted, the site contains Class 1w1 soils, which are versatile soils in terms of the District Plan definition. The planning evidence from Mr Marr, Ms den Ouden and Mr Gard'ner drew our attention to the objectives and policies relating to the sustainable management of soils in Franklin. These provisions are in both the District Plan and the PAUP.

192. The District Plan Strategic Rural and Coastal Areas and Villages Objectives Section 17A Objective 5 states:

5. *To recognise and provide for the life supporting capacity of versatile land and its contribution to the economic and social well being of the District.*

193. The District Plan Key Rural – Coastal Zone Objectives and Policies Section 17C.2 Objectives 1, 2 and 4 state:

1. *To maintain and enhance opportunities for rural activities that utilise soil resources in a sustainable manner and for activities which rely on natural and physical resources.*

2. *To manage landuse activities, subdivision and development carefully so that versatile land resources are not compromised, reverse sensitivity issues are minimised and rural character and amenity values are maintained or enhanced.*

4. *To avoid, remedy or mitigate the adverse effects of reverse sensitivity between agriculture and horticulture activities, mineral extraction sites, rural industry, major industrial activities and countryside living opportunities.*

194. These objectives are implemented through the following policies on rural production activities and land and on reverse sensitivity:

1. *Provide for rural production activities that utilise the soil, land and water resources in a sustainable manner.*

2. *Recognise the value of versatile land and ensure the versatile land is protected from subdivision, use or development, which adversely affect the life supporting capacity and versatility of the land.*

5. *Manage reverse sensitivity conflicts between countryside living and rural activities by controlling design and layout of subdivisions and locations of house sites.*

195. Ms den Ouden also referred us to ACRPS Sections 2.6.1 and 2.6.17 that contain strategic policies for urban containment and rural areas. Strategic Objective 2.6.1.8 seeks:

*To protect the rural land resources from the adverse effects of inappropriate subdivision, use or development.*

196. Ms den Ouden referred us to the relevant policy on urban containment (Section 2.6.2.2 ix), which was that “*Areas of elite land are avoided*”. While Ms den Ouden suggested to us that the proposed activity was not a rural activity, and in fact an industrial activity, we do not accept that. Poultry farms are an intensive farming activity by definition in the District Plan, and that such a categorisation is a common one in district plans. The District Plan zoning provisions for intensive farming (and packhouses and greenhouses) confirm that their rural location is appropriate, even though they do not directly use the versatile soil resource and can potentially cover large areas of it.

197. The policy referred to above is in the context of the extension of the Metropolitan Urban Limits for urban activities and so is not relevant to this application.

198. Ms den Ouden’s reference to the policies in ACRPS 2.6.17 is relevant and the District Plan provisions we have referred to above give effect to those policies.

199. The use of versatile land, of which the soils physical and structural characteristics are a key component as per the definition, is clearly an important matter for the district and region. While the District Plan provides for packing sheds and horticultural glasshouses as permitted activities, and no consideration of the use of versatile land is required, Mr Gard’ner referred us to Rule 23A4.1.4 in the assessment criteria for intensive farming as a restricted discretionary activity and for this application, which states:

*Where any SITE contains VERSATILE LAND, Council will consider the extent to which any proposed BUILDINGS, structures or DEVELOPMENTS preclude or compromise the use or availability of this land for activities that directly rely on them. Depending on the scale and nature of the effects in any particular case, the Council will consider the range of alternative locations available within the SITE, and the practicalities of other locations for part or all of what is proposed. Council may decline consent to the application or may impose conditions requiring alternative locations within the SITE for all or some of the proposed BUILDINGS, structures or DEVELOPMENTS where necessary to avoid or mitigate any adverse effect.*

200. The criterion requires the assessment of the scale and nature of effects. It also requires the consideration of alternatives considered in order to avoid or mitigate the activity's potential to preclude or compromise the use or availability of the land for other activities that directly rely on the versatile land.
201. The proposal is for 4.65ha of earthworks involving the removal of topsoil and the cutting and filling of part of the site in a way that will preclude the use of the soil's physical and structural characteristics. This part of the site would not be considered versatile land any more. We understand that all of the site has the same Class 1w1 soil classification so that these effects could not be avoided by relocating the proposed development within the site. The only way to avoid the effect altogether would be to decline consent.
202. Mr Gard'ner took into account as mitigating factors that the building's footprint comprised only 10% of the overall site, and that the balance of the site can still be used for other rural activities. He compared the permitted activity status of glasshouses and packhouses and concluded that the overall impact on soil versatility would be small. While our view is that the proportion of the site compromised is more like 25% (4.65ha/19ha), because both the buildings and access and parking areas must be included in the calculation, we agree that the balance of the site is still available for other rural activities. The scale of effects is therefore limited.
203. Ms den Ouden took a more absolute approach to the policy framework, such that any amount of versatile soil not available in the future would be contrary to the policy.
204. Mr Marr pointed us to the details of the Land Use Capability system upon which the soil classification is based. He focused on the other properties of the land that contributed to its capability and made it suitable for the proposed activity, such as susceptibility to erosion or flooding, gradient and wetness. However, we consider that the main aspect of capability that is the subject of the policy framework is the versatility of the soils.
205. We note an apparent internal conflict in the District Plan, which has a policy framework which seeks the protection of versatile soils, but which also provides for, as permitted activities, rural operations with large buildings that do not directly use the versatile soil. As noted above, no assessment of adverse effects on versatile soils is required for these activities. Furthermore, they are not limited in their site coverage. In contrast, the large buildings associated with an

intensive farming operation are subject to the criterion in Rule 23A4.1.4. We consider that this assessment criterion should be applied in the context of the overall District Plan rural land use provisions in relation to effects on versatile soils. On balance, we consider that while the assessment criterion at Rule 23A4.1.4 suggests that the proposed activity would be more consistent with the plan provisions if it was on land that did not contain versatile soils, the limitation of only 25% of the site being used for the proposed activity limits the overall effect, and maintains some level of consistency with the policy framework by keeping 75% of the land available for activities that directly rely on them. The same might not be said for a much larger proposal on the same site.

206. Finally, on this point, we are aware that in other parts of the country, such as Hawkes Bay, when new arterial roads have been laid through versatile soils, these soils have been removed for beneficial use to enhance other soils elsewhere in the rural area. We consider that this type of mitigation would be relevant to the assessment required for Rule 23A4.1.4.

207. The above policies also refer to reverse sensitivity. Reverse sensitivity is an effect that occurs when a new sensitive activity locates close to an activity with existing or potential effects beyond its boundary, such that the new activity could potentially limit the economic future of the existing activity. That is not what is happening as a result of this application.

208. The objective and policy quoted above on reverse sensitivity focus on the prevention of sensitive rural residential activities locating close to rural activities.

209. However, Ms den Ouden's evidence was that granting consent to this application could lead to a situation where reverse sensitivity effects resulted in restrictions on the development and use of neighbouring rural residential land. Mr Millen expressed the same concern. He referred us to Rule 23A.2, the Performance and Development Standards for the Rural Zone Rule 11 which requires any dwelling house in the zone to have a 300m separation or buffer distance to existing intensive farming activity.

210. We consider that reverse sensitivity is an important issue to address in the rural area. However, in this case the Berry and Millen houses already exist. Mr Millen raised the matter of re-building a house on his property, all of which is within the 300m buffer distance. This was not a matter that we took any additional advice on, but consider it unlikely that the above rule would prevent the right to re-build. It might prevent a new house being built closer to the intensive farming activity.

211. There is the more general point that reverse sensitivity only arises if there is an adverse effect beyond the boundary of the activity causing the effect. In this case the applicant maintained that the operation could be managed so that these effects would not occur, if consent was to be granted. For the reasons set out below we are not convinced that there would not be such adverse effects and have therefore declined consent.

### **Noise**

212. Ms Smith provided the only expert evidence on noise. We accept her evidence that the standards in the PAUP provide an appropriate benchmark in the absence of any standards in the District Plan. We also rely Ms Smith's conclusions that the proposal would meet the PAUP standards subject to construction of a noise attenuation fence parallel to the boundary with the Millen property.

213. At the same time, we accept Mr Millen's submission that:

- a noise attenuation fence on the boundary would detract from the visual amenity of his property; and
- such a fence might not fully control the noise from trucks with high-mounted exhausts.

214. We consider these matters could be adequately mitigated by:

- Off-setting the noise-attenuation fence being off-set from the boundary and undertaking the proposed planting between the fence and the boundary, as suggested by Mr Millen. Obtaining input on the fence and planting design from Mr and Mrs Millen would also be desirable;
- Disallowing use of trucks with high level exhausts during night-time hours (i.e. 10pm – 7am Monday-Saturday, before 9am and after 6pm Sunday). Such a condition was proposed by the applicant; and
- Requiring the noise attenuation fence to be constructed at the commencement of the construction period.

215. We consider it would not be warranted to impose more restrictive noise standards on the applicant as a consequence of the fact that Mr Millen is a shift worker. However, we acknowledge Ms Smith's evidence that:

- existing day-time ambient noise is already above the PAUP night-time standard;<sup>111</sup> and
- the recommended noise attenuation fence would reduce noise to below the PAUP night-time standard throughout the day.<sup>112</sup>

216. Overall, we considered that compliance with noise limits would be achieved subject to the mitigation referred to above.

### **Traffic**

217. We considered that there were broadly three traffic matters to address:

- Site entrance (safety on Patumahoe Road);
- On-site circulation and parking; and
- Construction matters.

#### Site entrance (safety on Patumahoe Road)

218. During the course of the hearing the experts reached agreement, which we accept, on the site entrance configuration for the west side of Patumahoe Road. Such a design would include a widened shoulder in accordance with the left turn component of NZTA RTS6 and a sufficiently wide driveway so that vehicles entering the site would not be hindered by exiting vehicles (including vehicles queueing to exit).<sup>113</sup> The outstanding matter in relation to the site entrance was whether a passing shoulder would be necessary on the opposite (east) side of Patumahoe Road.

219. We had regard to Mr Hebner's opinion that such measures are not necessary because the majority of traffic movements will be to-and-from the south. The applicant reinforced that position by proposing a condition that would restrict the movements of their own and contractors' vehicles accessing the site from the south.

220. On balance, however, we were persuaded by the opinions of Mr Apeldoorn and Mr Russell that such measures would be necessary to mitigate a potential safety hazard. Our reasons are:

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<sup>111</sup> Ms Smith, evidence, paragraph 4.2

<sup>112</sup> Ms Smith, evidence, paragraph 6.3

<sup>113</sup> Mr Hebner, rebuttal evidence, paragraphs 1.7-1.8 and attachment A

- While it is hard to quantify the small additional safety hazard that would result from the increase in traffic movements, we consider the consequences of such an increase are such that a cautious approach is prudent. We had regard in this respect to the 100kph speed limit and the current shortcomings in carriageway width and vertical alignment. We accepted Mr Apeldoorn's evidence that a sealed shoulder opposite the entrance would provide a slightly more forgiving roadway; and
- While the applicant proposed a condition restricting the direction of truck movement, it is reasonable to expect at least a proportion of vehicles to access the site from the north. We also understand Mr Apeldoorn's evidence to mean that a widened shoulder would also mitigate right turns out of the site.<sup>114</sup>

221. In reaching this conclusion we did not place any weight on two matters raised by Mr Apeldoorn. Firstly, we did not consider the crash rate was significant given the small sample size, and we noted Mr Hebner's rebuttal that one of the crashes occurred on a driveway and was therefore unrelated to Patumahoe Road itself.<sup>115</sup> Secondly, we considered the traffic effects should be assessed against the existing environment, not the future traffic volumes projected by Mr Apeldoorn.

222. We were mindful that there are practical constraints on road widening at this point because of the steep bank on the opposite side of the road. In saying this, Mr Apeldoorn and Mr Russell indicated the works could be achieved economically by shifting the centreline a short distance to the west.

223. We note Mr Hebner's recommendations with regard to yellow 'no-passing' lines in the vicinity of the site entrance. Such markings already exist for south-bound traffic and Mr Hebner noted that the vertical alignment would similarly satisfy the criteria for such markings for north-bound traffic<sup>116</sup>. While such a measure is beyond the scope of this hearing, we endorse Mr Hebner's recommendation that it be raised with the road controlling authority (Auckland Transport).

#### On-site circulation and parking

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<sup>114</sup> Mr Apeldoorn, evidence, paragraph 39

<sup>115</sup> Mr Hebner, rebuttal evidence, paragraph 1.32

<sup>116</sup> Mr Hebner, rebuttal evidence, paragraph 1.47

224. We did not accept Mr Apeldoorn's concerns about on-site circulation and parking. We consider the applicant, who has the benefit of experience of their existing operation, is best placed to accurately forecast parking requirements and to configure the site to accommodate their operations. We are satisfied that the site has ample space within which to remedy any shortcomings that may occur (for instance to construct wider internal roads, passing bays, loading areas, additional car parking, larger radius turning areas, or loop roads), and that any shortcomings would be unlikely to have adverse effects beyond the site. We noted that Mr Apeldoorn's criticisms of the parking area were made in respect of an incorrect location.

#### Construction matters

225. We accept Mr Hebner's evidence that potential adverse traffic effects during construction could readily be addressed by way of conditions and a Construction Management Plan (CMP). The safety of the entranceway could be addressed by a condition requiring that the entrance be improved at the commencement of the works (i.e. prior to the main construction beginning).

#### **Earthworks**

226. The Applicant is seeking resource consent to undertake approximately 4.65ha and 15,111m<sup>3</sup> of cut to fill earthworks associated with the construction of the ten poultry sheds and associated facilities. The works are proposed to be undertaken in three stages.

227. The proposed relocation of one of the sheds requires a further 1000m<sup>3</sup> of earthworks. The panel was provided with an updated site plan showing the relocated shed. However, the panel did not receive an updated plan showing the required earthworks.

228. Mr David Russell, the Council's Development Engineer, advised us<sup>117</sup> that the new sediment control plans submitted with Mr Marr's evidence incorrectly showed the location of the clear water diversion bund associated with the earthworks for the relocated shed, and that this needed to be corrected. We further noted that some adjustment to the staging plans would be needed for the relocated building.

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<sup>117</sup> Auckland Council officers' comments on evidence submitted, paragraph 3.1

229. In our experience it is usual for an updated Site Management Plan to be provided to Council to reflect the changes in the earthworks areas and the sediment control measures required for staged development as a condition of consent. We consider that the effects of earthworks and related sediment issues could be adequately managed, provided that the new plan accounted for the proposed development stages.

### **Stormwater**

230. Mr and Mrs Berry raised two concerns about stormwater-borne contaminants adversely affecting water quality:

- faecal matter (particulates) carried by stormwater entering the aquifer supplying their domestic water supply bore (which if it was similar to the depth of Mr Millen's would be approximately 6m deep); and
- increased nitrate levels in the Whangamaire Stream.

231. We consider that there is potential for faecal matter (particulates), having built up around the exhaust fans<sup>118</sup>, and from roads and roofs, being flushed into the stormwater system following heavy rainfall. However, the level of this contamination and the fate of the contaminants in the pond and then groundwater was not determined. Despite Mr Berry's geology qualifications and experience he did not purport to give hydrogeological or geochemistry evidence. The applicant did not consider groundwater contamination to be a likely effect of the operation<sup>119</sup> however no evidence was provided on the matter. Council's advice was that contaminants in the stormwater would be captured within the soil matrix beneath the pond. Our own understanding is that biological contaminants do not persist in groundwater (as opposed to surface water).

232. Similarly, there is the potential for nitrates, related to the ammonium content in the manure, to be carried into the stormwater pond and groundwater. We accept Mr Berry's characterisation of the shallow ground water aquifer being comprised of materials which would transmit soluble contaminants. However, we have no evidence to make any direct connection in terms of groundwater flows between the stormwater pond and the Berry's bore.

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<sup>118</sup> The panel observed a build of dust around the fan enclosures when we visited the Applicant's layer farm in Coulston Road, Pukekohe East.

<sup>119</sup> Reply Submissions for the Applicant paragraph 51

233. Mr Sinclair provided Auckland Council data that showed high levels of nitrates in the Whangamaire Stream.<sup>120</sup> The high nitrate level is the result of existing pastoral and horticultural activities in the area. Although there is the potential for some increase in nitrate levels in groundwater generally from the proposed stormwater detention ponds, we consider that any further contamination of the aquifers, Whangamaire Springs and Stream would be minor compared with the existing contaminant sources.

234. In summary, our findings on stormwater effects and on-site management are not conclusive and would have been assisted by a report from a hydrogeologist or other suitably qualified person on the matter.

### **Odour**

235. As noted above, the main issue in contention was the potential for objectionable or offensive odour from the proposed farm. We received evidence from three air quality experts: Dr Brady for the applicant, Mr Chilton for Mr and Mrs Berry and Mr Curtis for Mr Wai Shing. We also heard from Council's air quality officer Ms Gosden, with supporting verbal evidence provided by Mr Paul Crimmins at the hearing. We also heard planning evidence from Mr Marr and Ms den Ouden in relation to odour, as well as Mr Gard'ner's report.

236. The evidence can be broadly categorised into three main approaches to assessing odour and avoiding objectionable and offensive odour effects:

- Separation distances
- Predictive modelling
- Experience or comparison with existing poultry operations

237. We note that the Ministry for the Environment Odour Guide (MfE, 2003) says "*odour assessment can be conducted based on a combination of approaches and information from a range of sources*" (MfE, 2003).

#### Separation distances

238. All experts agreed that separation distances are a conservative and somewhat arbitrary approach intended to cover both good and bad operators, and also

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<sup>120</sup> Mr Sinclair evidence included a graph showing nitrate levels in streams around Auckland.

broiler and layer farms. We had evidence from Mr Chilton on separation distances in Australian states that ranged from 250m to 1,000m, emphasising that odour effects are a significant consideration for large intensive poultry operations.<sup>121</sup> We had evidence from Ms Berry that, closer to home, Matamata-Piako District Council requires a minimum 250m buffer zone for intensive poultry operations. We also received evidence that the Poultry Industry Association of New Zealand similarly recommends a separation distance of 250m for new intensive poultry farms and that modern layer farms typically have less odour emissions than broiler farms.

239. Separation distances are based on experience with other operations, so the Commissioners considered it necessary to be cautious in disregarding them. We are mindful that the proposal (80m to the boundary and around 260m to the nearest dwelling) is considerably closer than the separation distances typically adopted (200m to the boundary and 350m to the nearest dwelling).<sup>122</sup>
240. We understand that potential odour is directly proportional to the emission rate. This application is for a very large layer farm with significant odour emissions. Irrespective of which emission data is used it is clear to the Commissioners that tens of thousands of odour units will be emitted per second.
241. The Commissioners also consider the odour potentially emitted from poultry layer farms to be offensive and objectionable in character, having perceived it (at maximum intensity) at source at Coulston Road. Dr Brady presented us with the only frequency analysis of predicted odour. However, this was based on dispersion modelling at a "nominal" emission rate that was performed for comparative purposes only. Dr Brady considered that the results of dispersion modelling were "*completely uncorrelated with observed odour nuisance*".<sup>123</sup>
242. The sensitivity of a receptor will also affect what is considered a reasonable separation distance. Based on the sensitivity classifications in the MfE Odour Guide (MfE, 2003), we consider the neighbouring houses, including the Berry house and those on the Wai Shing property, to be highly sensitive to odour. We also consider the Wai Shing pack-house to be a highly sensitive receptor, given the staff numbers present and the regular presence of visiting trade and educational delegations. We further consider the Wai Shing workers to be moderately sensitive to odour, given their on-going, but not continuous, exposure

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<sup>122</sup> Golder, 2007

<sup>123</sup> Dr Brady primary evidence, paragraph 33

when harvesting fields adjacent to the proposed site. We agree with Mr Curtis, who noted the odour will also be a new one for receptors,<sup>124</sup> who are from time to time already subject to other rural productions odours.

243. Based on the above factors, namely:

- close proximity of the sheds to sensitive receptors;
- the scale of operation and associated high emission rate; and
- the potentially offensive and objectionable nature of the emission

we conclude it would be unwise to disregard separation distances.

#### Predictive modelling

244. The experts agreed that predictive modelling also does not necessarily accurately predict what might happen in reality. Messrs Chilton and Curtis, and on review, Ms Gosden,<sup>125</sup> placed at most only partial weighting on predictive modelling. Dr Brady considered predictions to be completely uncorrelated with actual odour and instead relied on predictive modelling for comparative purposes only.

245. However, we note that despite significantly different inputs, both Dr Brady and Mr Chilton predicted maximum odour concentrations of around 15 – 20 OU/m<sup>3</sup> (1-hour average, 99.5<sup>th</sup> percentile) on the Berry and Wai Shing properties. These levels are well in excess of the MfE odour criterion of 5 OU/m<sup>3</sup> that Ms Gosden and Mr Chilton supported.

246. We consider Dr Brady's evidence to be problematic in this regard in that he advocated a comparative approach but the comparison did not appear reasonable or completely consistent. As noted by Dr Brady in his primary evidence, "*the magnitude of the [odour] effect is directly proportional to the magnitude of the odour emission rate.*" We would expect therefore, that the odour impact of the proposed Patumahoe Road site (310,000 chickens with 90,000 OU/s) to be significantly higher than that of Coulston Road (160,000 chickens with 48,000 OU/s). However, Dr Brady's modelling showed the two sites to be broadly similar in predicted impacts (maximum 10 – 20 OU/m<sup>3</sup>). When questioned on this similarity, Dr Brady offered the differences in terrain

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<sup>124</sup> Mr Curtis, evidence, paragraph 3.2

<sup>125</sup> In her technical memo supporting the section 42A report (May 2014) Ms Gosden did not see any errors and accepted the original assessment at face value. Ms Gosden's revised summary of evidence agreed with the other air quality experts that "*modelling has its limitations and should not be relied on as the only tool in assessing potential odour impacts for this application*".

between the two sites as a reason. We note, however, that terrain was included as a factor in the modelling at Coulston Road, but not at Patumahoe Road, where it was assumed the site was flat.

247. The terrain at Patumahoe Road is largely flat. Terrain contours indicate the land slopes very slightly from the proposed site towards the Berry property.<sup>126</sup> This would promote local drainage flows in the same direction.
248. In relation to meteorology, we were not presented with any evidence on the prevalent seasonal wind patterns or even a wind rose for the local area, despite a meteorological station being located only a few kilometres from the proposed site. We understand that the prevailing wind direction is directly from the proposed site towards the Berry property.
249. We were left thinking that we needed to be doubly cautious if our decision was to rely on predictive modelling for comparative purposes, while disregarding such modelling as predictive of actual odour. Our overall conclusion was that we cannot rule out the possibility that significant adverse odours may be experienced at the Berry house, the Berry property, the Wai Shing pack-house and in the fields surrounding the proposed site (noting of course that the owners of 207 Patumahoe Road and 268A Union Road have given written approval).

#### Experience and comparison with existing poultry farms

250. The third approach relies on experience and comparison with the existing Craddock Farm layer farm at Coulston Road. There have been no odour complaints and the closest neighbours have signed a declaration that they have never experienced odour from the Coulston Road site. The complaint history and declarations are consistent with Ms Gosden's experience with another existing poultry farm (425,000 chickens) that has had no odour complaints despite very close proximity (around 100 m) to residences. In effect, Ms Gosden opinion was that modern intensive laying operations, utilising conveyor belts for manure removal and fan enclosures, do not cause odour problems offsite provided they are appropriately managed.
251. In contrast, Mrs Berry advised us that local community opposition to the current proposal was related to the adverse effects of an existing egg laying facility in much closer proximity to Patumahoe Village. Mrs Berry also referenced the

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<sup>126</sup> Lee Marr, rebuttal evidence, Attachment 1 Proposed Layout Plan (Drawing No 135350-100 Rev 5)

Buckland Poultry Farm, which had been closed down by the Council due to poor operating standards.

252. We had evidence from three witnesses that farm management is a critical factor in controlling odour (Dr Brady, Mr Curtis and Ms Gosden). However, two witnesses (Mr Curtis and Ms Gosden) considered the proposed farm management plan<sup>127</sup> was inadequate. Mr Craddock subsequently revised this plan and we discuss this further below.

253. In order to grant consent based on the experiential and comparative approach, while disregarding the predictive modelling and lack of separation distance, the Commissioners considered that there would need to have been greater certainty on the comparative modelling, as already noted, and on odour prevention through direct management controls.

254. Despite the lack of complaints in relation to the Coulston Road operation and the declarations of 'no odour' from the neighbours we are reluctant to transfer its success as a likely outcome to the Patumahoe Road proposal. This is because of the doubling in the number of birds, our caution with the proximity of sensitive receptors, our caution with the predictive modelling, our inability to put weight on the comparative modelling, and the fact that the management plan does not provide us with sufficient certainty of odour prevention.

255. We find the revised site management plan<sup>128</sup> to be insufficient in comparison with the requirements of Appendix 3 of the MfE Odour Guide (MfE, 2003). For example:

- No (or placeholders) names, contact numbers for key personnel;
- No monitoring procedures for boundary odour monitoring (e.g. no noting meteorological conditions in event of odour complaint, no reference to VDI specifications);
- No check on whether or not site manager actually has a sense of smell, no requirement to do odour check before going onsite;
- No staff training/frequency/records;
- No review, continuous improvement procedures;

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<sup>127</sup> Craddock Farms Ltd, Farm Management Plan Version 1 Dated 8 January 2014 as provided in Harrison Grierson Combined Land Use Consent, Air Discharge Permit, Stormwater Discharge Permit, Sediment Control Works & Assessment of Environmental Effects, January 2014, Appendix 6.

<sup>128</sup> Stefan Craddock, Version 2 dated 25 November 2014

- No details at all off "requirements" of key agencies (e.g. MPI, FSANZ, EPFNZ);
- Limited details on contingency measures (is ventilation/temperature/humidity monitoring alarmed);
- No details on the sanitising programme; and
- No details on cleaning fan enclosures.

256. In the event that an odour problem was detected, we questioned Mr Curtis as to what additional odour mitigation or remediation might be available assuming already best practice operation was already employed. Mr Curtis advised that there was little that could be done in this event, typical options such as bio-filtration being prohibitively expensive for the proposed operation.

257. The potential for an odour problem to be created by granting the consent, that could not then be avoided, remedied or mitigated, leads us to support the retention of adequate separation distances as necessary.

258. Overall, we were not sufficiently confident to rely on the experience at the existing Coulston Road operation and its transferability to the Patumahoe Road proposal to disregard typical buffer distances that are normally required. As noted above, we remain concerned over the proposed doubling in size of operation at Patumahoe Road compared with Coulston Road, with associated doubling of odour emission rate and potential magnitude of effect. We were similarly not persuaded that the proposed management plan provides sufficient certainty that odour would be prevented.

259. As a minimum such a plan should:

- identify odour prevention as a purpose of the plan;
- identify the causes of potential odour and the management measures essential to avoid such odour;
- detail benchmarks against which compliance could be measured;
- detail methods to monitor compliance; and
- outline remedies should odour occur.

260. There was significant conflict in the evidence presented to us by different experts. We consider that at least some of this conflict would have been

resolved if Ms Gosden's preferred method of assessment had been adopted.<sup>129</sup> In addition we consider that the modelling should include both stack and volume sources, maximum and minimum emission rates, terrain features at both sites, and a comprehensive sensitivity analysis. We note that best practice for air discharge assessments, particularly when modelling variable emission rates, is to carry out a sensitivity analysis (MfE, 2008).<sup>130</sup>

#### Alternative approaches

261. We considered the option of using an adaptive management approach to increase certainty regarding potential odour impacts. For example, we considered consenting the proposal on a staged basis for a lower number of chickens (for example two sheds or 60,000 chickens), at the maximum possible distance from the boundary with the Berry and Wai Shing properties, with the ability to expand only upon demonstrated compliance with acceptable odour emission levels.
262. However, ultimately we faced the problem that the site is only 250 m wide affording a maximum separation distance of only 125 m. Even for a modest two shed proposal there is the potential for significant adverse odour effects beyond the boundary.

#### Summary of odour effects

263. The applicant's evidence on odour effects relied on no odour being experienced near the existing Coulston Road operation, and a comparative assessment that indicated similarity between the Coulston Road operation and the proposal at Patumahoe Road. The Commissioners gave this approach and the applicant's evidence and argument serious consideration. However, for the reasons set out above, we were not convinced that this approach could be substituted for the more traditional and conservative reliance on separation distances for a very large poultry farm proposal. We were concerned that all dispersion modelling presented to us indicated we could not rule out the possibility of adverse odour effects at sensitive locations in close proximity. We were similarly not confident that the proposed management plan provided sufficient certainty of odour prevention to the extent that we could therefore set aside those other concerns. Finally, and somewhat critically to this application, there do not appear to be

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<sup>129</sup> See paragraph 154 above.

<sup>130</sup> *Good Practice Guide for Assessing Discharges to Air from Industry*, Ministry for the Environment, May, 2008.

reasonable remedies should odours occur. As a consequence we consider that the application should be declined.

### **Pathogens**

264. The RIRDC study referred to us by Dr Brady (RIRDC, 2010b) provided compelling evidence to support Dr Brady's assessment of potential effects from pathogens. We agree with Dr Brady's conclusions that there should be no adverse effects offsite from pathogens associated with egg laying.

265. However, we also note a key finding of this study was (RIRDC, 2010b):

*At one study site that featured a very open topography in front of the sheds, the staphylococci could be detected at elevated levels close to the shed, returning to background levels at 400 metres from the shed, during the meat chicken production cycle. While these bacteria are harmless to both humans and the environment, they provide a good indicator of level of impact of airborne bacteria from meat chicken facilities, offering an easy management tool.*

266. The broiler farm in question (our emphasis) had just under 200,000 chickens present and gives some indication of the absolute 'no-effects' level for that facility, at that location. It also demonstrates that ambient monitoring for (harmless) staphylococci could provide extremely useful information for understanding the impacts of intensive poultry farming. We consider that such monitoring should be a condition of consent for this type of operation.

### **Particulate**

267. The RIRDC study presented by Dr Brady found (RIRDC, 2010b):

*With PM [particulate matter] there are two aspects of concern: the level of airborne particles in the house and the amount of particles that are emitted from the poultry house. PM emissions are a function of the level of particulates and volume of air discharged. In theory, high particulates levels inside the poultry house will occur when emissions are the lowest. As an example during times of minimal ventilation such as during winter months, the particulates levels will be the highest. However, the low ventilation rate will result in low particulates emissions.*

268. Whilst this study focussed on broiler farms, we concur with Dr Brady that its findings would similarly hold true for laying farms albeit at lower emission levels. However, we are concerned at the reported variability of particulate emissions given the lack of sensitivity analysis in the information presented to us. Dr Brady has noted that actual PM<sub>10</sub> emissions vary significantly by a factor of up to 10 and yet the PM<sub>10</sub> assessment rests entirely on one emission rate (albeit at the higher end of the scale).

269. Satisfactory resolution of this matter would include demonstration in accordance with best practice (MfE, 2008) that:

- maximum potential PM<sub>10</sub> emissions would result in offsite PM<sub>10</sub> concentrations well below relevant criteria when assessed on a cumulative basis with background levels for short-term (i.e. daily) exposure; and
- typical PM<sub>10</sub> emissions would result in offsite PM<sub>10</sub> concentrations well below relevant criteria when assessed on a cumulative basis with background levels for long-term (i.e. annual) exposure.

#### **Section 104, 104B, 105 and 107 Assessment**

270. In the section of his report headed Statutory Considerations Mr Gard'ner helpfully summarised the provisions of the RMA that provide the framework for our decision. This included sections 104, 104B, 105 and 107, all of which are subject to Part 2 of the RMA. We adopt his assessment as recorded above, except for the following matters:

- His conclusions, as supported by Ms Gosden, on the potential for adverse odour effects are not supported by the evidence we heard. As a result the application is also inconsistent with the relevant objectives and policies of the ACRP: ALW and the District Plan in relation to air discharges.
- We consider that further consideration needs to be given to the mitigation of the loss of versatile land, so as not to preclude or compromise the use or availability of the soils that provide this versatility for activities that directly rely on them. Such mitigation would make the application more consistent with the many plan provisions that seek to protect versatile land.
- Further assessment is needed to be certain that adverse effects from the proposed stormwater treatment and disposal system do not exacerbate the already degraded water quality in the Whangamaire Spring and Stream.

271. We reiterate that Mr Gard'ners conclusions on matters relating to noise and traffic are generally supported, subject to the mitigation we have identified above, and as referred to in the summing up of the Council officers.

## **Part 2 of the RMA**

272. Mr Gard'ner recognised sections 6(e), 7(b), 7(c) and 7(f) as being relevant matters in Part 2. We agree with his selection of clauses in section 7, but given the absence of specific issues sufficient to draw the attention of local iwi, we doubt that section 6(e) is relevant to the application. Our conclusions on whether or not the proposal constitutes efficient use and development of natural and physical resources and the maintenance and enhancement of amenity values and the quality of the environment turn on the matter of odour. For the reasons set out above, we consider that the proposal does not have appropriate regard to these matters as required by section 7.

273. It then follows that the proposal does not meet the overall test in section 5 in relation to the sustainable management of natural and physical resources.

## **Reasons for the decision**

274. Our reasons for this decision are as follows:

- The proposal is for a very large poultry layer farm, which will have very high emissions of an odour which has an offensive and objectionable character (at source) and which is located in close proximity to sensitive receptors. While the existing Coulston Road experience suggested that no odour would be experienced beyond the boundary of the site, we were unable to place reliance on the odour modelling that sought to transfer this experience to the Patumahoe Road proposal. To the extent that any weighting could be placed on modelling, it indicated the potential for significant odour effects. The (revised) management plan that we were presented with was not sufficiently robust in order to overcome our concerns in relation to these matters. This was further exacerbated by the lack of any realistic remedies to address any adverse effects from odour if these did occur.
- We therefore considered that the application was inconsistent with the relevant provisions of the District Plan and the ACRP: ALW, it did not have

appropriate regard to sections 7(b), 7(c) and 7 (f) of the RMA and it did not promote sustainable management of natural and physical resources.

- For the absence of doubt, our concerns in relation to odour are the sole reasons for declining the application.

Chairperson: Dave Serjeant

A handwritten signature in blue ink, appearing to read 'D Serjeant', with a large, stylized initial 'D'.

Date: 12 January 2015