



Department of
Infrastructure, Planning and Natural Resources

**REPORT ON THE ASSESSMENT OF
DEVELOPMENT APPLICATION NO. 390-11-2002-i
PURSUANT TO SECTION 80 OF THE ENVIRONMENTAL PLANNING AND
ASSESSMENT ACT, 1979**

**PROPOSAL BY PROTEN KARUAH LIMITED TO
CONSTRUCT AND OPERATE A POULTRY BROILER FARM AT THE BRANCH
LANE, KARUAH**

Department of Infrastructure, Planning and Natural Resources

February 2004

EXECUTIVE SUMMARY

ProTen Ltd (the Applicant) is proposing to construct and operate a poultry broiler facility at The Branch Lane, Karuah, located approximately 4.5 kilometres to the north of the township of Karuah, in the Great Lakes local government area (refer to Figure 1).

The proposed development involves the construction of five farms comprising of 8 tunnel-ventilated sheds each on approximately 240 hectares of an 1873 hectare site. The proposed 'farms' are essentially identical to one another in design and facilities in order for each farm to be managed and operated as a separate unit. Each of the five farms includes:

- eight tunnel ventilated sheds, with each shed having a dimension of 114m by 18m;
- three feed silos;
- a manager's house;
- a 30m³ water storage tank;
- chemical storage area;
- effluent treatment pond; and
- an irrigation area.

In addition to each 'farm', supplementary development including machinery storage shed, freezer, an incinerator and three dams would be constructed and two existing dams augmented to cater for the proposed development.

The proposed development would operate on a 62-day production cycle, in which approximately 1.8 million chickens would be accepted, grown and removed for off-site processing. With approximately six cycles per year, it is anticipated that approximately ten million chickens would be grown on site per year.

Due to the nature of the proposal, the proposed development would operate 7 days a week, 24 hours a day. However, the majority of the operational activities would occur during normal weekday working hours, with the exception of feed receipt (weekend) and chicken dispatch (night periods).

The proposed development has a capital investment value of \$20 million and is expected to create 16 new full-time and 6 part-time positions at the site.

On 14 November 2002, the Applicant lodged a development application (DA) and supporting environmental impact statement (EIS) for the proposal with the Department.

Under the *Environmental Planning and Assessment Act 1979* (the Act), the proposed development is classified as State Significant, Integrated and Designated Development. Consequently, the Minister is the consent authority for the DA. In addition, the proposed development also requires additional approvals from the Department of Environment and Conservation (formerly the Environment Protection Authority), Great Lakes Council and the Department (for functions formerly administered by the Department of Land and Water Conservation).

The DA and EIS were publicly exhibited from 5 December 2002 to 14 February 2003 by the Department in accordance with the requirements for public participation under Part 6, Division 6 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation).

In response to the exhibition period, the Department received a total of 188 submissions: 178 objecting to the development (16 of which contain a request for a Commission of Inquiry (Col)), 3 supporting the proposed development, and 6 submissions from government authorities. The key issues raised in these submissions include:

- Air quality impacts relating to odour and dust impacts;
- Water quality impacts relating to the Karuah River and the oyster industry in this region;
- Socio-economic impacts;
- Bio-security risks; and
- Solid waste management.

In December 2002, the Department and integrated approval bodies requested additional information from the Applicant in response to issues identified in the assessment of the proposal. The Applicant provided this information to the Department in September 2003.

Due to the strong public interest in the proposal, the Department publicly exhibited the additional information between 25 September and 13 October 2003 to enable interested parties to provide any further comments on the proposal. During this period, the Department received a further 27 submissions; 23 from the general public, and 5 from government agencies.

The Department's assessment of the issues raised in both exhibition periods is outlined in Section 6 of this assessment report.

The Department has assessed the development application including issues of concern raised in submissions, and recommends that the Minister approve the proposed development, subject to conditions. It is considered that the conditions of the recommended instrument of consent impose appropriate stringent measures to ensure the environmental impacts associated with the proposed development are appropriately managed, mitigated and monitored.

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1. INTRODUCTION

On 14 November 2002, the Department received a development application (DA) and supporting environmental impact statement (EIS) from ProTen Ltd for the construction and operation of a poultry broiler farm at The Branch Lane, Karuah. The poultry broiler farm site is located approximately 4.5 kilometres to the north of the township of Karuah with access being off The Branch Lane which runs to the north from the Pacific Highway, in the Great Lakes local government area (refer to Figure 1).

The proposed development involves the construction of five farms comprising of 8 tunnel-ventilated sheds each on approximately 240 hectares of an 1873 hectare site. The proposed 'farms' are essentially identical to one another in design and facilities in order for each farm to be managed and operated as a separate unit. Each of the five farms includes:

- eight tunnel ventilated sheds, with each shed having a dimension of 114m by 18m;
- three feed silos;
- a manager's house;
- a 30m³ water storage tank;
- chemical storage area;
- effluent treatment pond; and
- an irrigation area.

In addition to each 'farm', supplementary development including machinery storage shed, freezer, an incinerator and three dams would be constructed and two existing dams augmented to cater for the proposed development.

The proposed development has a capital investment value of around \$20 million and is expected to create 16 new full-time and 6 part-time positions at the site.

This report represents the Department's assessment of the proposed development, in accordance with the *Environmental Planning and Assessment Act 1979*. The Department recommends approval of the development application subject to a number of conditions.

2. SITE CONTEXT

2.1 Site Location

The proposed site is located on Lot 14 DP 1024340 and Lot 50, DP 1036893, The Branch Lane, Karuah, in the Great Lakes local government area, as shown in Figure 1.

2.2 Site Description

The property has an area of 1873 hectares of which about 1200 hectares is cleared grazing land with introduced pasture species of relatively poor agricultural quality. The poultry farm site comprises a total of around 240 hectares of the 1873 hectare site. The property has been previously and would continue to operate as a beef cattle farm.

The terrain is gently undulating and gradually rises from the Karuah and The Branch Rivers to a low wooded hill and gully formations of just over 100m elevation. Both the Karuah and The Branch Rivers are tidal and this tidal influence runs well into the property along several major creek lines where there are extensive areas of wetland comprising of mangrove swamp, salt marsh and other wetland communities. The wetland areas are an assemblage of *State Environmental Planning Policy No.14 – Coastal Wetlands* (SEPP No.14) designated wetlands and follow the north-western boundary of the property. There is about 10 kilometres of property frontage onto the Karuah and The Branch Rivers and there are working oyster leases on both sides of the riverbanks.

2.3 Surrounding Land Uses

The poultry farm site is located in a rural area with the surrounding land uses including the Karuah Nature Reserve and Wallaroo State Forest to the south of the site, and some scattered rural residential properties to the north and west of the proposed development. The proposed poultry farm sheds are located some 2km from the nearest private residential property and around 250m from the Karuah River (Refer to Figure 1).

The Karuah Bypass is currently under construction to the south of the site and access to the property will be easily obtained from the Pacific Highway, via the Karuah Bypass (once completed).

3. DEVELOPMENT PROPOSAL

3.1 Outline of the Proposal

The proposed development would consist of 40 poultry sheds within a 240 hectare development area. The 40 sheds will be divided into 5 farms, consisting of 8 sheds at each farm (refer to Figure 2). Each shed is to be 144m x 18m and will be 2.95m at its highest point. The sheds would be of a tunnel ventilated type with internal climate control by evaporative cooling and gas heating. It is proposed that 4 sheds would be constructed initially with the remaining sheds being constructed at a rate of two sheds per month.

The proposed 'farms' are essentially identical to one another in design and facilities in order for each farm to be manage and operated as a separate unit. Consequently, to support each 'farm', the Applicant is proposing to provide:

- a small building containing an office and staff amenities;
- a generator and chemicals storage shed;
- residential dwelling for the on-site farm manager;
- three feed silos;
- a 30m³ water tank;
- 7.5m³ liquid natural gas tank;
- effluent treatment pond; and
- irrigation area.

A number of supplementary developments are proposed to support the total development. This includes a bundled six bay machinery storage building of pre-fabricated steel, two twenty-tonne capacity freezers, an incinerator, three water storage dams and the two augmented water storage dams.

The proposed development would operate on a 62 day production cycle, with approximately six cycles per year. However, to reduce the intensification of these activities at the site, the Applicant is proposing to stagger the commencement of each production cycle for each 'farm' unit over a three week period.

At the commencement of each cycle, nearly 1.8 million birds would be received at the site over a 5 day period, and would be grown within these sheds over a 45 day period. At the conclusion of each cycle, the matured birds would be captured at night over 5 days to be transported to an off-site poultry abattoir/processing facility. Once the birds have been removed, litter would be removed for disposal off-site and the sheds prepared for the next cycle (7 days) with wastewater generated during this stage to be irrigated on-site at several locations. Any dead birds removed during the cycle would be stored in the proposed freezer facility and transported to an off-site rendering plant. Burial and/or incineration on-site would only occur should a mass disease outbreak occur at the facility.

With approximately six cycles per year, it is anticipated that approximately ten million chickens would be grown on site per year.

It is proposed that the poultry farm would operate 24 hours a day, 7 days a week. The majority of heavy vehicle movements would occur Monday to Friday. Feed would be delivered on a 7 day a week basis and bird catching would only occur at night.

The proposed development has a capital investment of \$20 million and would generate 16 new full-time and 6 part-time positions during operation, and approximately 20 jobs during construction.

3.2 Justification for the Proposal

The Applicant states that the proposed development is required to enable it to expand its share of the NSW poultry industry and that the proposed development site provides a unique situation in which the Applicant is able to effectively manage the impacts of a poultry operation as:

- it provides immediate access to the regional and state road network that has the capacity for the heavy vehicle movements associated with the operations and provides flow-on economic efficiencies to the operations;
- the location is relatively isolated from any urban and semi-urban areas to avoid land-use conflicts; and
- the size of the site provides an unique opportunity to contain any potential adverse impacts within the boundaries of the site.

4. STATUTORY PLANNING FRAMEWORK

The Department has reviewed the proposed development with regard to the various State, regional and local statutory planning provisions that apply to the proposal as required by section 79C of the *Environmental Planning and Assessment Act 1979*. The poultry farm is located within the Great Lakes Local Government Area. An overview of the proposal with the various statutory provisions is outlined below, while a more detailed analysis is provided in the Department's Section 79(c) assessment as provided by Appendix A.

4.1 Permissibility

Under the *Great Lakes Local Environmental Plan 1996*, the proposed development is zoned as Rural 1(a). Intensive livestock industries are permissible with consent under the Rural 1(a) zoning.

4.2 State Significant Development

The proposal satisfies the criteria in Schedule 1 of *State Environmental Planning Policy No.34 – Major Employment Generating Industrial Development* because it is for an intensive livestock operation that has a capital investment of at least \$20 million.

Consequently, the proposal is classified as State Significant Development under Section 76(A)(7)(b)(iii) of the Act, and the Minister is the consent authority for the DA.

4.3 Integrated Development

Under Section 91 of the Act, the development proposal is also an 'integrated development', where in addition to requiring development consent, the application requires other approvals or licences from certain other government agencies.

The proposal requires an additional approval from the following agencies:

- Department of Environment and Conservation under the *Protection of the Environment Operations Act 1997*;
- Department of Infrastructure, Planning and Natural Resources under the *Water Act, 1912*;
- Great Lakes Council under Section 138 of the *Roads Act 1993*.

Consequently, the development proposal is classified as Integrated Development under Section 91 of the Act.

4.4 Designated Development

The proposed development is classified as a designated development under Schedule 3 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation) because it is a livestock intensive industry, being a poultry farm for the commercial production of birds, whether as meat birds, layers or breeders and whether as free range or shedded birds that accommodate more than 250,000 birds. Consequently, an Environmental Impact Statement was prepared to accompany the development application

4.5 Relevant Environmental Planning Instruments

The assessment of the proposed development is subject to the following environmental planning instruments:

- *State Environmental Planning Policy No. 1 – Development Standards*;
- *State Environmental Planning Policy No. 14 – Coastal Wetlands*;
- *State Environmental Planning Policy No.33 – Hazardous and Offensive Development*;
- *State Environmental Planning Policy No.44 – Koala Habitat Protection*;
- *State Environmental Planning Policy No. 55 – Remediation of Land*;
- *State Environmental Planning Policy No. 71 – Coastal Protection*
- *Great Lakes Local Environmental Plan 1996*;
- Great Lakes Council – Erosion and Sediment Control Policy;
- Draft Development Control Plan No.33 – Acid Sulphate Soils;
- Great Lakes Council – Broiler Chicken Code.

Consideration of the proposed development in the context of the objectives and provisions of these environmental planning instruments is provided below. A more detailed analysis of the relevant provisions of these instruments is included in Appendix A – Section 79C considerations.

A number of State Environmental Planning Policies (SEPP) are relevant to the poultry farm proposal. These are as follows:

SEPP No. 1 – Development Standards

SEPP No. 1 – Development Standards provides flexibility in the application of planning controls operating by virtue of development standards in circumstances where strict compliance with those standards would, in any particular case, be unreasonable or unnecessary or tend to hinder the attainment of the objectives of the Act.

Clause 19(4) permits one additional dwelling on land where the dwelling is or will be actually occupied by a person employed or engaged by the owner of the land and where the agricultural use of the land can economically support such additional labour. This clause would only permit the maximum of two residences on the proposed development site.

Consequently, the Applicant has made a development application under *SEPP No. 1 – Development Standards* for the construction of additional four residential dwellings to provide on-site accommodation for the poultry farm managers. The Applicant has supported its application with a written objection that compliance with the development standard (clause 19(4) of the Great Lakes LEP 1996) is unreasonable or unnecessary.

The Applicant has stated that the:

- four additional residences are required for persons engaged with the proposed poultry farm development;
- proposed land use (intensive agricultural industry) can economically support the additional labour;
- proposal is consistent with the objectives of the Rural 1(a) zone;
- proposed land use will increase the agricultural production potential of the land; and
- land will not be subdivided into smaller allotments.

The Department is satisfied that the objection is well founded and is also of the opinion that granting of consent to that development application is consistent with the aims of this Policy. The Department recommends that consent be granted to the development application, notwithstanding the development standard clause 19(4) relating to dwelling houses under the Rural 1(a) zone.

SEPP No.14 – Coastal Wetlands

The aims and objectives of *SEPP No.14 – Coast Wetlands* are to ensure that the coastal wetlands are preserved and protected in the environmental and economic interests of the State. The policy applies to land identified on the maps deposited with the Department. Portions of wetland number 730 would be impacted by the construction of dams 2, 3, 4 and 5 in the upper catchment areas.

The Department has assessed the potential impacts of the proposed development on Wetland No. 730 against the aims and objectives of *SEPP No.14 – Coast Wetlands* (refer to section 6 of this report). The Department is satisfied that the proposal would not have any adverse impacts on these wetlands (refer to section 6 of this report). Consequently, the Department concludes that the proposed development is in accordance with the aims and objectives of *SEPP No.14 – Coast Wetlands*.

SEPP No.33 – Hazardous and Offensive Development

SEPP No.33 – Hazardous and Offensive Development has the primary aim of ensuring that a consent authority has sufficient information to assess whether a proposal represents hazardous or offensive development and consequently undertake an appropriate assessment regime to appropriately mitigate hazardous and or offensive environmental impacts.

The proposed development is classified as a “potentially offensive development” as it requires an Environment Protection Licence (EPL) from the DEC. The DEC has indicated that it could issue an EPL, and has accordingly provided its General Terms of Approval (GTA) for the proposed development. Consequently, the proposed development does not constitute an ‘offensive’ development.

The proposed development does not constitute “potentially hazardous development”, and as such a Preliminary Hazard Analysis (PHA) was not required.

SEPP No. 44 – Koala Habitat Protection

SEPP No. 44 – Koala Habitat Protection aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas, ensure permanent free-living populations of koalas over their present range, and reverse the current trend of koala population decline.

Schedule 1 of *SEPP No.44 – Koala Habitat Protection* lists a number of local government areas in which this policy applies. As the Great Lakes local government area is included in the Schedule, the proposed poultry farm constitutes a development to which *SEPP No.44 – Koala Habitat Protection* applies.

The proposed development site is devoid of vegetation that could be considered appropriate to support koalas. None of the appropriate feed tree species listed in Schedule 2 of *SEPP No.44 – Koala Habitat Protection* are located on or in the vicinity of the proposed development site. As such, the site neither constitutes “potential koala habitat” or “core koala habitat”. The requirements of *SEPP No.44 – Koala Habitat Protection* have therefore been met.

SEPP No.55 – Remediation of Land

SEPP No. 55 – Remediation of Land aims to promote the remediation of contaminated lands for the purpose of reducing the risk of harm to human health or any other aspect of the environment. The policy is to be considered by a consent authority prior to determining a Development Application. The EIS indicates that no areas of potential chemical contamination were found during the extensive field investigations carried out for the EIS studies.

SEPP No. 71 – Coastal Protection

SEPP No. 71 – Coastal Protection has been made to ensure that development in the NSW coastal zone is appropriate and suitably located, that there is a consistent and strategic approach to coastal planning and management, and there is a clear development assessment framework for the coastal zone.

SEPP No. 71 – Coastal Protection outlines the matters for consideration relating to development within the NSW Coastal Zone. Section 10.1 of the Applicant’s Response to Submissions dated September 2003 has addressed these matters for consideration.

The Department has reviewed this response and is satisfied that the proposed development is generally consistent with the aims of the policy and its matters for

consideration particularly location criteria, water quality and the avoidance of land use conflict. A further assessment of the proposal against the provisions of SEPP No.71 is provided in the Appendix of this report.

Bushfire Protection Guideline 2001

Section 79BA of the Act requires development on bushfire prone land to conform to the requirements of *Planning for Bushfire Protection 2001*. The bushfire protection requirements under the Act only apply when bushfire-prone land is implicated. The subject site has not been classified as bushfire-prone land.

Great Lakes Local Environmental Plan 1996

The aims of the Great Lakes Local Environmental Plan are, to provide an updated and simplified plan for the area of Great Lakes, to protect and enhance the environmental qualities of the area, to facilitate the orderly and economic development of land within the area, and to promote the well-being of the area's population.

With the exception of clause 19(4) of the Great Lakes LEP 1996 (which is subject to the Applicant's SEPP No.1 application), the Department considers that the proposed development is consistent with the aims and objectives of the *Great Lakes Local Environmental Plan 1996* (refer to Appendix A).

Great Lakes Council – Erosion and Sediment Control Policy

The aim of the Erosion and Sediment Control Policy is to minimise erosion and sedimentation in catchments, resulting from the disturbance of the soil surface associated with building works, changes in land use and urban development, the installation of services and road construction and maintenance.

Erosion and sedimentation issues are addressed in section 6 of this report. The Department considers that potential environmental impacts from erosion and sedimentation can be mitigated and managed with the conditions in the instrument of consent and concludes that the proposed development is in accordance with the aims and objectives of Council's Erosion and Sedimentation Policy.

Draft Development Control Plan No.33 – Acid Sulfate Soils

The aims of *DCP No. 33 – Acid Sulphate Soils* are to ensure that development located within an area of acid sulphate risk is identified, to ensure that adequate preliminary assessment is undertaken to clarify the extent of risk, and to ensure, where necessary, that an adequate acid sulphate soil management plan or plan of management is prepared where the nature of the development poses an acid sulphate soil risk.

Acid sulfate soils (ASS) issues are addressed in section 6 of this report. The Department is satisfied that the issues associated with the risk of ASS at the site have been adequately addressed through the recommended conditions of consent and concludes that the proposed development is in accordance with the aims and objectives of Council's DCP.

Great Lakes Council – Broiler Chicken Code

The Great Lakes Council Broiler Chicken Code 1979 sets out the requirements for these types of development. The Department has considered the proposal against the requirement of this code and is satisfied that the proposal meets all these requirements. In regard to road requirements, Council has indicated that it is satisfied with the proposal and has issued its GTAs.

4.6 Commonwealth Environment Protection Biodiversity Conservation Act, 1999

The *Environment Protection Biodiversity Conservation Act, 1999* (EPBC) commenced on 16 July 2000. One of the key functions of the EPBC Act includes the introduction of a new assessment and approvals system for actions that have a significant impact on matters of national environmental significance (NES). Should an action be determined that it is likely to significantly impact on NES matters (referred to as 'Controlled Actions'), an approval from the Commonwealth, an applicant is required to submit a 'Referral' application to Environment Australia for consideration.

The EIS considers that since the proposal would not impact on any matters of NES, any approval from the Commonwealth Minister for the Environment is not required. The Applicant accordingly did not refer the EIS to the Commonwealth.

5. CONSULTATION AND EXHIBITION

The Applicant lodged a DA and EIS for the proposal with the Department on 14 November 2002. The Department was satisfied that the Director-General's requirements had generally been addressed and the EIS was adequate to be placed on exhibition.

The DA and EIS were publicly exhibited from 5 December 2002 to 14 February 2003 in accordance with the *Environmental Planning and Assessment Act 1979*. The DA and EIS were exhibited at the following locations:

- Department of Infrastructure, Planning and Natural Resources, Planning Centre, 20 Lee Street, Sydney;
- Department of Infrastructure, Planning and Natural Resources, Regional Planning Office, Level 4, 251 Wharf Road, Newcastle;
- Great Lakes Council, Breese Parade, Forster;
- Port Stephens Council, 116 Adelaide St, Raymond Terrace;
- Karuah Post Office, 43 Tarean Street, Karuah;
- Nature Conservation Council, Level 5, 362 Kent Street, Sydney.

The public notification of the proposal was comprehensive, with notices of the proposal placed in the local Port Stephens Examiner, Forster Great Lakes Advocate and on the Department's Website. A number of site signs were also placed on various parts surrounding the proposed DA area, particularly at places near public roads and at the site entrance.

The Department also advised all adjoining and surrounding landowners of the proposed development by letter. The Department consulted the Council concerning the proposed notification area, who advised that they were satisfied.

Submissions were received until the close of the exhibition period. The Department is satisfied that the statutory process for public consultation for the proposal was undertaken in accordance with the *Environmental Planning and Assessment Act 1979*.

In response to the exhibition period, the Department received a total of 188 submissions: 178 objecting to the development (16 of which contain a request for a Commission of Inquiry (Col)), 3 supporting the proposed development, and 6 submissions from government authorities.

The key issues raised in the submissions received from the general public include:

- *Socio-economic impacts* – resulting from uncertainty of Bartter Enterprises (or similar companies) renewing contracts with smaller growers once the proposed development is fully operational. Concern expressed that Bartter enterprises would not be renewing its contracts with some 38 local growers in 2004. Submissions claim that this would result in significant social and economic impacts on the townships of Stroud and Bulahdelah.
- *Water quality impacts* – resulting from contaminated runoff entering the Karuah River and the increased threat to the local oyster and tourism industry. Some submissions associate this risk with the spreading of litter on-site, however, the Applicant has proposed to dispose of this litter off-site;
- *Bio-security risk* – resulting from the proximity of 5 ‘farms’ and the potential spread of poultry diseases and the impacts on native wildlife;
- *Dust impacts* – impacts of airborne dust generated by extraction fans;
- *Odour impacts* – from the poultry sheds and impacts on the township of Karuah;
- *Disposal of dead birds.*

Submissions were received from six government agencies; NSW Fisheries, NSW Agriculture, NSW Roads and Traffic Authority (RTA), NSW National Parks and Wildlife Service (now part of the DEC), Great Lakes Council and Port Stephens Council. Key issues raised by these authorities included: wastewater irrigation, dead bird disposal management, soil and erosion, odour, dust, heritage, socio-economic, traffic management, bio-security and flora and fauna issues. Of these submissions, only Great Lakes Council and Port Stephens Council objected to the proposed development. Other agencies did not state a position, however suggested a number of issues that the Department should consider in its assessment.

REQUEST FOR ADDITIONAL INFORMATION

On 12 December 2002, the DEC stopped the deemed refusal clock on day 24 concerning air quality, noise assessment and wastewater issues. On 23 December 2002, the former Department of Land and Water Conservation (now DIPNR) also requested that the clock be stopped concerning road crossing designs and the groundwater assessment.

As part of its assessment of the proposal, the Department also requested that the Applicant provide some further information, particularly in relation to the following issues:

- statutory assessment of the proposal;
- dust impacts;
- odour impacts;
- noise assessment;
- irrigation and wastewater treatment system;
- groundwater;
- flora and fauna;
- traffic; and
- BCA classification of proposed structures.

The Applicant provided the additional information requested by the Department and the integrated approval bodies in September 2003. The Department and relevant integrated agencies were satisfied with the Applicant’s response to these requests.

ADDITIONAL EXHIBITION PERIOD

Due to the strong public interest in the proposal, the Department publicly exhibited the additional information between 25 September and 13 October 2003 to enable interested parties to provide any further comments on the proposal. This additional information was placed on exhibition with the EIS at the same locations as the original exhibition period. During this period, the Department received a further 27 submissions; 23 from the general

public, and 5 from government agencies (NSW Fisheries, NSW Agriculture, RTA, DEC (formerly National Parks and Wildlife Service), and Port Stephens Council).

All submissions from the general public objected to the proposed development, reiterating their concerns with the proposed development. With the exception of Port Stephens Council, the government agencies stated that its issues had been addressed through the additional information or through the recommended conditions.

PROVISION OF GENERAL TERMS OF APPROVAL

The DEC, Natural Resources Branch of DIPNR and the Great Lakes Council have advised that the proposal meets their respective legislative requirements relating to noise, air, water quality and road works, and have subsequently issued their General Terms of Approval (GTAs), which have been incorporated into the proposed development consent conditions.

6. CONSIDERATION OF ENVIRONMENTAL ISSUES

The Department has reviewed the Environmental Impact Statement for the proposed development, and duly considered issues raised in submissions received in response to the exhibition of the subject development application. As a result, the Department has identified the following environmental issues associated with the proposal. The issues have been classified as being of significance, or high significance, depending upon the magnitude and extent of environmental impacts, and the responses of the submissions with respect to the impacts. A full consideration of each of the issues listed is provided in sections 6.1 to 6.17 this report.

Issues identified as being of **high significance** to environmental planning:

- odour impacts;
- wastewater irrigation impacts; and
- air quality impacts.

Issues identified as being of **significance** to environmental planning:

- solid waste impacts;
- noise impacts;
- traffic and transport impacts;
- flora and fauna impacts; and
- socio-economic impacts.

Other important issues associated with the proposed development are:

- water and soil quality impacts;
- groundwater impacts;
- visual amenity;
- impacts on heritage items;
- bio-security and pest-control; and
- section 94 contributions.

6.1 Odour Impact Assessment

Applicant's Position

The odour impact assessment was undertaken in section 9.11.2 of the EIS. A more detailed assessment is provided in Appendix 3 of Volume 2 of the EIS and was prepared by the consultancy firm Holmes Air Sciences on behalf of the Applicant.

The EIS suggests that odour from the broiler farm may potentially result from shed litter (particularly if wet), stockpiled litter, bird odour, composting of dead birds and odours

generated during bird collection and shed cleaning activities. However, the EIS indicates that the main factor in the generation and emission of odours relates to the age and number of birds, the method of shed ventilation and the state of the shed litter.

To determine the potential odour impacts resulting from the proposal, the Applicant prepared a Level 3 odour assessment in accordance with the DEC's *"Draft Policy: Assessment and Management of Odour from Stationary Sources in NSW, (2001)"*. The assessment undertaken assessed the potential odour levels from the proposed facility with the DEC's odour performance criteria. The DEC's odour performance criteria considers the population of the potentially affected community, cumulative impacts, anticipated odour levels during adverse meteorological conditions and community expectations of amenity and is outlined in Table 1 below.

Table 1: Odour Performance Criteria

Population of Affected Community	Odour Performance Criteria (odour units)
Urban Area (≥ 2000)	2
500-2000	3
125-500	4
30-125	5
10-30	6
Single Residence (≤ 2)	7

The Applicant outlined that the computer based dispersion model AUSPLUME was used to predict the potential dispersion of odour from the proposed farm. To predict the potential odour emissions from the proposed site, the model assessed both at a constant odour emission rate over all hours and a variable odour emission rate. The EIS concluded that the maximum predicted odour emissions under either scenario do not vary greatly, and that the maximum predicted odour level at the closest residence would be 2OU/m³. The EIS stated that this predicted level met the relevant NSW odour performance criteria.

Mitigation Measures

The Applicant advises that a number of mitigation measures will be employed during the planning of the proposal and during the day to day operation of the broiler farm to manage the potential odour impacts. The proposed mitigation measures include:

- The control of ambient air temperature using 'tunnel vented' poultry sheds;
- Use of incineration and burial as the only disposal options for dead or diseased birds;
- Implementation of a maintenance schedule for the poultry shed fans and water foggers to ensure their efficiency during the operation of the proposal; and
- Undertaking regular observations within the operational poultry sheds for wet shed litter and the immediate removal of any identified wet litter.

Issues Raised in Submissions

There were a number of private submissions that raised concerns about the potential odour impacts resulting from the proposal. This included concerns raised about the adequacy of the odour modelling undertaken, particularly the Applicant's use of climatic data from a facility some distance from the proposed site, level of potential impact on properties and the Karuah township, decrease in property values and that the odour assessment did not include all odour sources such as the incinerator.

A detailed submission was provided to the Department from the University of NSW on behalf of the NSW Poultry Farmers Cooperative. The submission raised concerns about the odour impact assessment compared to the Level 3 DEC assessment requirements, the predicted odour emission rates from certain sources associated with the proposal, the modelling undertaken and the conclusions made in the assessment. Due to the issues raised in this submission, a copy was referred to the DEC for a detailed consideration and

advice. The outcomes of the DEC's consideration is outlined in the 'Department's Position' below.

A submission from NSW Agriculture outlined that the proposed use of tunnel ventilated poultry sheds can help reduce potential odour impacts through producing drier litter and keeping the birds quieter which in turn reduces the level of dust generated. The submission also recommends that the proposal adopt the *NSW Meat Chicken Farming Guideline* in order to further mitigate potential odour impacts.

Port Stephens Council raised concerns about the odour assessment not including the predicted emissions from the incinerator, the potential odour impacts such as on the Karuah township, the use of meteorological data not specific to the area and that potential odour emissions may not be adequately controlled.

The DEC raised concerns about the odour impact assessment undertaken in the EIS and subsequently requested that the Applicant provide further information in order to undertake its assessment of the proposal. The DEC requested further information on:

- further details on the gas heating specifications of the heaters that will be provided in the sheds;
- details on the proposed use of the incinerator, including its proposed use on the site;
- use of a more appropriate meteorological data set than the set from Williamstown or provide further justification of its use as part of validating the TAPM generated meteorological data provided in the EIS;
- due to concerns about the modelling of tunnel ventilated sheds as volume sources, request dispersion modelling be undertaken for the proposal;
- concerns about the assumptions made that a mean odour emission rate does not capture peak emissions and therefore peak odour impacts from the site. Requested an odour sampling and measurement program be undertaken to validate the odour emission rate assumptions;
- details on the potential odour impacts generated by the wastewater ponds; and
- an assessment of the potential odour impacts on the Karuah township.

In response to the issues raised by the DEC, the Applicant was requested to provide further details and clarification. These issues were clarified by the Applicant and supporting documentation provided, which was referred to the DEC for advice. The DEC advised the Department that the information and analysis provided, including the further odour impact assessment undertaken, satisfactorily addressed the issues raised. The DEC also advised the Department that the information forwarded by the Applicant provided further certainty on the potential odour levels that may be generated by the proposed development.

As the proposed development represents around 250 hectares of an estimated 1800 hectare property, several submissions, including NSW Agriculture and the DEC, expressed concerns that the proposed development site may be subdivided in the future, and that these new 'lots' would be subject to significant odour and dust impacts. The Department notes that the Applicant does not propose to subdivide the property as part of the development application currently before the Minister. Furthermore, the Minister is unable to impose a condition on the Applicant to prohibit any subdivision of this land. It is the Department's opinion that any future subdivision of the property would be subject to an additional development application. In considering this application, the relevant consent authority would need to assess the application on its merits, including any potential landuse conflicts issues with the broiler farm (ie odour or dust impacts). Consequently, this issue cannot be considered as part of the Department's assessment of the proposal.

Department's Position

The Department acknowledges that a number of submissions received during the public exhibition period raised concerns about the potential odour impacts of the proposed development. In reviewing the EIS, the DEC advised the Department that the odour assessment undertaken in the EIS was inadequate and requested that the Applicant undertake further detailed assessment. The DEC had identified similar issues to those raised in the submissions received, including the adequacy of the modelling undertaken in the EIS.

The detailed submission provided by the University of NSW (on behalf of the NSW Farmers Association) to the Department was referred to the DEC for consideration. The issues raised in this submission were similar to those raised in other submissions received, but included a number of technical issues concerning the modelling and assessment undertaken by the Applicant. The DEC reviewed this submission and advised that their GTA's, which had been issued prior to receiving this submission from the Department, were still appropriate and did not require any amendments.

In providing further information on the potential odour impacts, the Applicant outlined the predicted odour levels at the Karuah township and surrounding residents. The additional information indicated that odour levels would be between 1.88 to 2.34 ou/m³ at the Karuah township and around 1.4 ou/m³ at the closest residences surrounding the site. Both predicted emission rates meet the relevant DEC performance criteria of 3 ou/m³ which applies to the Karuah township and surrounding properties given the current population of the township is approximately 1300 (refer to Table 1 above).

The DEC has advised the Department that it is satisfied with the additional information and analysis provided by the Applicant, particularly as the information provided greater certainty in determining the potential odour impacts from the proposal. The DEC indicated that they considered the proposal would be able to meet the 3 ou/m³ odour performance criteria at the Karuah township and nearby properties. Since the DEC was satisfied with the additional information provided, it issued the Department with its General Terms of Approval (GTA). Notwithstanding the DEC's satisfaction with the additional information, the GTA's stipulate that no offensive odours be emitted from the site under s129 of the *Protection of the Environment Operations Act 1997*, [POEO Act]. This provision of the POEO Act also includes provisions under the Act that provide a mechanism to deal with any potential breaches of the odour criteria and to provide a framework for dealing with the potential odour impacts.

In addition to the DEC's GTA's, the Department has also recommended that the Applicant prepare a detailed odour management plan prior to the commencement of any operations, to the satisfaction of the Director-General. The odour plan requires the Applicant to outline measures to minimise potential odour impacts from the entire facility, such as a detailed description of the odour mitigation measures and practices that will be implemented, implementation of industry best practices, methods for monitoring the effectiveness of odour mitigation measures, contingency measures should odour impacts occur and a procedure for handling and acting on any complaints received.

To also ensure that the environmental performance of the broiler farm is maintained at a high standard, the Department has recommended that, should the Minister approve the development, conditions of consent require the Applicant to submit to the Director-General an Annual Environmental Management Report and an independent Environmental Audit of the facility. As part of these reports, the management of odour and the performance of the odour mitigation controls would be addressed. The Department is confident that these

measures would provide an adequate framework for the reporting and, if necessary, implementation of additional odour mitigations controls at the proposed facility.

6.2 Wastewater Irrigation

The proposed development site is bordered by the Karuah River, The Branch River, Little Branch Creek, with several drainage lines located at the site which feed into these waterways. Both the Karuah and Branch Rivers contain working oyster leases on both sides of the river banks, with the majority of these leases used for growing oyster spat for harvesting elsewhere within Port Stephens.

The Applicant states that an assessment of water quality within the site drainage lines and neighbouring waterways indicated that the existing water quality at the site was relatively poor with high levels of nutrients present. The Applicant states that the detected coliform levels at some locations were above the permitted harvesting levels for oysters in the Port Stephens region. The Applicant argued that the existing high levels of nutrients detected in proximity of the site is attributed to unrestricted cattle movement into wetland and salt marsh areas at the site, and past land management practices (i.e. heavy fertiliser application practices).

The Applicant has identified the proposed irrigation of wastewater at the site as the key potential threat to water quality at the proposed site. In particular, the Applicant recognised the importance of the neighbouring river systems in the Port Stephens oyster industry and the need to minimise the risk to this industry by the proposed development.

The Applicant states that wastewater would be generated during the cleaning stage of the growing cycle, with approximately 130m³ of water generated during each cleaning stage at each farm unit or 3.7ML of water per year for the total development. This cleaning stage would occur following the removal of poultry litter from the poultry sheds for off-site disposal. This removal of litter would eliminate a significant source of contamination to the wastewater generated by the proposed development.

Prior to irrigation, the Applicant is proposing to store and treat the wastewater in an aerobic storage pond, with separate storage ponds provided for each 'farm' unit. These storage ponds would have a minimum capacity of 600m³ with wastewater held within these ponds for a minimum 14 days prior to irrigation on a dedicated area provided for each 'farm' unit. The proposed treatment of the wastewater would be limited to solar sterilisation, however the Applicant argues that this would be sufficient and would not result in any soil or water quality impacts as:

- the removal of all litter prior to the cleaning cycle and the use of Virucidal Extra (a disinfectant) in the cleaning cycle would ensure that the nutrient content and coliform levels of the wastewater would be significantly low; and
- the levels of nutrients, coliform and residual disinfectant would be further reduced due to the solar sterilisation of the wastewater during the minimum 14 day storage period.

The location of the proposed storage ponds and irrigation areas are identified in Figure 3.

Based on the soil characteristics of the site, the Applicant has identified 9,000m² of the site to be used for irrigation purposes. Wastewater would be applied to these areas for 41 days of each production cycle (62 days), with an additional 10 days included to account for wet weather contingency. Although the nature of the wastewater and soil characteristics would only require approximately 7,400m² of area to sufficiently manage wastewater at the site, the Applicant states that the additional capacity has been provided to ensure that these practices would not have any significant impacts on the environment. Specifically, the Applicant argues that the additional area would ensure the minimisation of surface water

runoff and would improve the long-term sustainability of the area by reducing the work load of this area. The Applicant states that these measures would be further complemented by:

- a 21-day rest period for each irrigation area in each growing cycle in which no irrigation would occur;
- the provision of 150 hectares of buffer vegetation areas in which would assist in minimising any runoff into neighbouring waterways and drainage lines. These buffer areas would be fenced off to restrict cattle entering these areas and would lead a significant improvements to water quality discharges from the site; and
- the grading of the wastewater irrigation areas and the provision of drainage lines to avoid the pooling of irrigated wastewater and surface runoff flowing onto the irrigation areas.

The Applicant subsequently concluded that the proposed development would not generate any significant impacts on the water or soil quality of the surrounding environment. Specifically, the Applicant argues that the proposed water quality management controls and the distance of these components to the Karuah River would ensure that there would be no impact on the water quality of the Karuah River, and therefore on the oyster leases located in proximity to the proposed site.

Issues Raised in Submissions

The majority of submissions from the general public objecting to the proposal raised concerns with the potential for contaminated runoff to enter Karuah River and the potential associated flow-on effects to aquatic flora and fauna. Specifically, these public submissions expressed concerns with the potential threat to the oyster leases in Karuah River and the greater Port Stephens region resulting from contaminated wastewater entering the Karuah River from the proposed development. Other submissions stated that the proposed development would counteract the recent improvements to the water quality of the Karuah River resulting from the commissioning of a sewage treatment plant.

NSW Fisheries stated in its submission that the proposed mitigation measures appear to have addressed concerns relating to the transportation or discharge of contaminated runoff into neighbouring waterways (and consequently minimised potential impacts on the oyster leases). However, NSW Fisheries have recommended a condition be imposed on the Applicant to undertake monitoring to confirm the suitability of the proposed measures in minimising the potential threat to Karuah River and neighbouring oyster leases. To achieve this, NSW Fisheries has stated its support for a water monitoring program within the Karuah River to be conducted in association with the Port Stephens Shellfish Program Committee.

The DEC has requested additional information with respect to the proposed wastewater treatment and irrigation practices. The DEC has reviewed the additional information provided by the Applicant in response to these issues, and is satisfied that it addressed their concerns. Consequently, the DEC has provided its General Terms of Approval for the proposal and has recommended a number of conditions relating to the management of the irrigation areas and monitoring of surface runoff and storage pond discharges. These have been incorporated in the recommended conditions of consent.

Department's Position

The Department has reviewed the proposed wastewater treatment and irrigation system and is generally satisfied that the proposed development would not generate any significant impacts on the surrounding environment. The Department is in the opinion that the measures proposed by the Applicant with respect to wastewater treatment and irrigation system combined with proposed solid waste management procedures would ensure that the potential for elevated nutrients to enter the environment is significantly reduced. In particular, the removal of the poultry litter from the site eliminates a significant

potential source for surface water contamination and the threat to groundwater and soil contamination. The Department also believes that the proposed establishment of 'buffer' areas provides for an improvement to current water quality levels at the site and within the neighbouring waterways due to the elimination of cattle from these areas and through the increased environmental performance of the wetland and riparian zones.

This is supported by advice received by the Department from Dr Daryl McPhee of the University of Queensland, who indicated that the proposed wastewater treatment and irrigation system would ensure that impacts from the proposed development would be minimal, and that the proposed development would not pose a significant threat to the oyster leases within Karuah River. Specifically, this advice concludes that:

- the exclusion of cattle from the wetland and saltmarsh areas and the removal of litter from the site would likely result in a reduction in nutrient inflow into the Karuah River;
- nutrient impacts from wind borne dust are unlikely to be of a scale which would lead to the eutrophication of Karuah River;
- wastewater treatment system and siting of the ponds are suitable for the proposal with respect to the removal of nutrients and bacterial content in wastewater and the low risk to Karuah River should these ponds be inundated during an extreme flood event; and
- that the scale of impact expressed in submissions does not reflect the range of mitigation measures proposed by the Applicant with respect to wastewater management or scale of the scale of operations proposed.

Nevertheless, the Department and the DEC recommends the Applicant undertake the following to ensure that the proposal does not result in any adverse impacts on water quality and ensure the on-going performance of the proposed mitigation measures:

- undertake regular monitoring of groundwater quality, including the installation of groundwater monitoring bores at the site;
- undertake regular monitoring of soil quality, surface water runoff and storage pond discharges;
- undertake appropriate management procedures at the irrigation areas to ensure long-term sustainability of these practices. This would include the preparation and implementation of an Irrigation Management Plan to manage the soil, surface water and the aerobic ponds; and
- preparation of a Vegetation Rehabilitation Strategy to ensure the establishment of vegetation within these areas and consequently ensure the performance of the water quality 'buffer' areas as proposed by the Applicant.

The Department also believes that should the Minister determine to approve the proposal, that the Applicant be required to prepare and implement a Karuah River Water Quality Monitoring Plan. This plan would require long-term monitoring of water quality of the Karuah River along the frontage of the site to verify the environmental performance of the proposed development. The Department considers that this program would provide a level of certainty and on-going assurance to the oyster growers in the vicinity of the site as well as the local community concerning the minimisation of impacts of the proposed development on the water quality of this river.

The Applicant has agreed to conduct this monitoring program in association with the Port Stephens Local Shellfish Quality Assurance Program Committee to provide a level of independence and would require annual reporting to the Director-General on the monitoring results. This report would also need to identify additional measures that would be implemented should the set water quality criteria be exceeded as a result of the proposed development. The Department is confident that these recommended conditions would ensure that potential water quality impacts on the surrounding environment as a result of the proposal are minimised and that there is a suitable framework for the on-going monitoring and review of the proposed development's environmental performance.

6.3 Air Quality Impacts

Applicant's Position

A detailed dust impact assessment was not undertaken in the EIS, however an overview of the potential dust generating measures and the measures proposed to manage any potential impacts was provided in section 9.11.1 of Volume 1 of the EIS.

The EIS indicated that a dust management plan would be implemented during the construction phase of the proposed development to manage any possible dust impacts. The Applicant suggests that the main source of potential dust emissions during construction activities will be the result of roadway activities, excavation on open areas and from stockpiled materials. While during the sites operational phase, it is suggested that roadway activities and unvegetated areas would be the main sources with some generation resulting from dust from the shed exhaust system dispelling dust generated by the movement of poultry and workers inside the sheds.

The Applicant outlines that dust management plans will be prepared and implemented for the construction and operational phases of the proposed development to manage potential dust impacts resulting from these periods. This includes measures to stabilise and cover exposed areas, restricting traffic to sealed areas and specific speeds, planting of vegetation buffers to reduce wind velocity, possible use of wind fences to reduce wind velocities and covering stockpiled areas when not operational. In addition to these measures, the Applicant also indicated that special control measures will also be implemented during adverse weather conditions, such as the use of water trucks, possible sealing of internal roads and modifying or ceasing certain activities on site until weather conditions improve.

As no detailed dust impact assessment was provided in the EIS, the DEC requested that the Applicant undertake an assessment of the potential dust impacts from the operation of the farm in accordance with the DEC's *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*. In addition, the DEC also requested further clarification of the use of cowlings, associated wash down areas and vegetation screens as mitigation measures and establish representative dust emission rates for impact assessment modelling of tunnel ventilated sheds.

In response to the issues raised by the DEC, the Applicant undertook a more vigorous dust impact assessment of the proposal and submitted this information with the 'Response to Submissions' document dated September 2003. The additional assessment was undertaken by the consultants Holmes Air Sciences and included an analysis of potential Total Suspended Particulate (TSP) and PM₁₀ impacts resulting from the proposal.

As part of undertaking the further assessment work, particulate emissions were sampled from an existing poultry facility under various operational growth cycles (ie days 7, 14, 21, 28 and 42). The sampling of an established poultry operation had been suggested by the DEC as a means of obtaining greater certainty in determining potential dust related impacts. The information obtained by the sampling was used to model the potential dust related impacts from the Karuah proposal. The Applicant presented the results as contour plots and as maximum predicted concentration levels at specific receptor locations. The results indicate that the maximum predicted concentrations at the closest residences and at the Karuah township are all below the PM₁₀ 24 hour average goal of 50 µg/m³, the PM₁₀ annual average goal of 30 µg/m³ and the TSP annual average goal of 90 µg/m³ set by the DEC.

In relation to the issues raised by the DEC on the use of cowlings and vegetation screens as dust mitigation measures, the Applicant indicated that the modelling undertaken did not consider vegetation screening and the effect of cowlings had not been quantified.

However, the Applicant does indicate that vegetation screening is likely to reduce predicted dust levels by approximately 30%.

In relation to potential greenhouse gas emissions resulting from the proposal, the Applicant states that the amount of greenhouse emissions generated will be offset by the revegetation of 160 hectares of the property.

The Applicant indicated that measures to manage potential dust related impacts will be implemented through construction and operational dust management plans. These measures include the stabilisation and cover exposed areas, restricting traffic to sealed areas, and planting of vegetation buffers to reduce wind velocity. In addition to these measures, the Applicant also indicated that special control measures will also be implemented during adverse weather conditions, such as the use of water trucks, possible sealing of internal roads and modifying or ceasing certain activities on site until weather conditions improve.

Issues Raised in Submissions

There were a number of submissions from private residents and community groups that raised concerns about the potential dust impacts from the operation of the poultry sheds, particularly on health.

A submission from Port Stephens Council suggested that the proposal will result in an increase in dust impacts and will also have potential health issues. While a submission from NSW Agriculture indicated that the use of tunnel ventilated sheds can assist in less dust generated as it contributes to a calmer environment inside the shed which makes the birds quieter and therefore generate less dust.

A number of private submissions and a submission from Great Lakes Council also raised concerns about the implications of the proposal in relation to greenhouse emissions. The submissions suggest that ventilated sheds have considerable electricity requirements which in turn will lead to major greenhouse emissions.

As the proposed development represents around 250 hectares of an estimated 1800 hectare property, several submissions, including NSW Agriculture and the DEC, expressed concerns that the proposed development site may be subdivided in the future, and that these new 'lots' would be subject to significant odour and dust impacts. The Department notes that the Applicant does not propose to subdivide the property as part of the development application currently before the Minister. Furthermore, the Minister is unable to impose a condition on the Applicant to prohibit any subdivision of this land. It is the Department's opinion that any future subdivision of the property would be subject to an additional development application. In considering this application, the relevant consent authority would need to assess the application on its merits, including any potential landuse conflicts issues with the broiler farm (ie odour or dust impacts). Consequently, this issue cannot be considered as part of the Department's assessment of the proposal.

Department's Position

The Department considers that the additional information provided by the Applicant in response to the issues raised by the DEC has provided an adequate level of assessment of the potential dust impacts from the proposal. This position is supported by the DEC who reviewed the information provided and has indicated that the issues they had raised in the assessment of the EIS had been adequately addressed. As a result, the DEC has provided its General Terms of Approval (GTA) for the proposal.

The Department is satisfied that the information provided demonstrates that the proposal will meet the relevant dust criteria set by the DEC of 50 µg/m³ PM₁₀ 24 hour average goal,

the 30 µg/m³ PM₁₀ annual average goal and the 90 µg/m³ TSP annual average goal at the Karuah township and at the closest residence to the proposed site. The Department is also satisfied that since the proposal will meet the relevant PM₁₀ criteria, that the proposal is unlikely to impact on the health of any private residence or any person in the Karuah township. This is due to the PM₁₀ criteria being a health related criteria. The issue of the proposal resulting in potential health impacts had been raised in a number of submissions received by the Department during the exhibition period. PM₁₀

In relation to greenhouse gas issues, the EIS provided an outline of the potential energy demand when the farm is at full operation. The EIS indicated that approximately 500 kW of energy will be required at full production. The Department assessed this energy demand on the basis of the farm operating 24 hours a day, 7 days per week as a worst case scenario, giving a total of 4.38 Giga Watt hours (GWh) per annum. Compared to the total NSW energy output of around 70,000 GWh per annum and the estimated annual NSW increase of some 1500 GWh, the Department concludes that the proposal will only represent some 0.0063% of the total energy output in the State, or around 0.3% of the anticipated growth in energy usage over the next year. Therefore the Department is satisfied that the proposal will not significantly impact on greenhouse issues.

Should the Minister decide to grant development consent, the Department recommends a number of development consent conditions be implemented to ensure that dust from the site is effectively managed and monitored and include the GTA of the DEC. The recommended conditions include requirements for the Applicant to design, construct and operate the farm in a manner that minimises dust emissions from the site, maintaining all trafficable and vehicle manoeuvring areas in a condition that will minimise the generation of dust and a requirement for the preparation of an operational dust management plan. The plan is required to be prepared to the satisfaction of the Director-General prior to the commencement of the farms operation and include measures to minimise the generation of dust and potential impacts on surrounding land uses, include contingency measures should dust impacts occur and a protocol for handling dust complaints that include recording, reporting and acting on complaints. The conditions also include a requirement for detailed air quality monitoring (including for dust) on the site and at sensitive receptor locations around the site.

As a result, the Department considers that dust from the proposal should be adequately managed through the recommended conditions of consent.

6.4 Solid Waste Management

Applicant's Position

The disposal of dead poultry birds and poultry shed floor litter has been identified by the Applicant as the two key waste issues associated with the proposed operations. These two waste products have been considered separately below.

DEAD BIRD DISPOSAL

Based on average mortality rate for tunnel ventilated sheds for each stage of the growing cycle, each 'farm' of the proposed development is expected to generate approximately seven tonnes of dead birds at the conclusion of each cycle (refer to Table 2). These rates are based on the Applicant's previous experience at its farms in NSW and New Zealand.

Table 2: Quantity of Dead Birds Generated per Batch per Farm (kg)

Stage of Cycle	Weight (kg)
Week 1	51
Week 2	450
Week 3	990
Week 4	1960
Week 5	1960
Week 6	1826

The Applicant is proposing to implement three management options for the disposal of dead birds during the proposed operations: on-site incineration, freezer storage for eventual rendering off-site and/or on-site burial.

The Applicant states that under normal circumstances, the dead birds generated during the proposed operations would be stored within the proposed two 20-tonne freezer containers with the proposed incinerator operating concurrently. Portions of birds stored within the proposed freezers would be routinely transported to two possible locations: the Bedminster Composter at Raymond Terrace (max 3 tonnes per day) and the Steggles rendering plant at Beresfield.

The Applicant states that on-site burial would only occur in the event of exceptional circumstances in which the freezer containers and incinerator were unable to handle of volume of dead birds generated on site. However, the size of the on-site burial ground would be limited to 250,000 birds due to environmental restrictions of the proposed site, specifically the depth of bedrock at the site. Mortality rates greater than this would require the Applicant to transport the birds off-site for landfill disposal. However, this would be dependant on quarantine requirements, should death be the result of a disease. Should burial be undertaken at the site, the Applicant states that preventative measures such as the use of a geomembrane liner and capping would be undertaken to minimise potential odour and leachate impacts.

In respect to the proposed incinerator, the Applicant has removed this component from the proposal in response to odour and air quality issues.

POULTRY SHED FLOOR LITTER

Poultry shed floor litter, referred to as poultry litter, generated during the proposed operations consists of a mix of manure, waste feed, feathers, and floor carrier materials (such as saw dust or wood shavings). Due to the high levels of nutrients (namely phosphorous and nitrogen) present in the litter and the environmental limitations of the proposed site, the Applicant is not proposing to stockpile this waste product or use the litter as fertiliser at the site.

Consequently, the Applicant is proposing to remove this litter at the end of each cycle, transporting this waste into sealed 25-tonne semi-tipper trucks for immediate removal from the site. Residual litter removed from the sheds during the dry cleaning stage of the farm cycle (vacuuming) would also be removed from the site via these trucks.

Issues Raised in Submissions

Numerous submissions from the general public objecting to the proposal raised concerns regarding the disposal of dead poultry birds and shed litter. These submissions were particularly concerned with the potential impacts on water quality and air quality associated with the use of litter as fertiliser at the site and the measures proposed by the Applicant for the disposal of dead birds (eg on-site burial).

NSW Fisheries recommended that the on-site burial of dead birds be excluded from the proposed development due to the potential for seepage into the neighbouring Karuah and Branch Rivers. The agency also suggested that any consent should include conditions to control the removal of litter from the site and the management of litter at its final destination.

NSW Agriculture recommended that the proposed burial ground only be utilised during declared bio-security emergencies at the site, which should be managed in accordance with an Emergency Response plan.

Port Stephens Council recommended in its submission a number of conditions relating to the management practices involved during the removal of poultry litter. In addition, Port Stephens Council objected to the proposed on-site disposal of birds in any circumstances due to the potential soil and groundwater contamination issues at the site.

Great Lakes Council requested that the Department consider the adequacy of the proposed waste management procedures relating to dead bird disposal and litter management in its assessment.

The DEC has issued its GTAs for the proposal, which includes conditions to prohibit the use of litter at the site and management procedures relating to landfill activities. These GTAs have been incorporated in the Department's recommended conditions of consent.

Department's Position

DEAD BIRD DISPOSAL

The Department has considered the management procedures proposed by the Applicant for the disposal of dead birds and is satisfied that the proposed freezer storage and off-site disposal would provide the best environmental outcome for the proposed development site. This would be further complemented by the Applicant's agreement to remove the on-site incinerator component from the proposed development. The two 20-tonne container freezers would have sufficient capacity to cope with the normal mortality rate of birds during the growing cycle and a range of mortality scenarios. However, to ensure that these freezers alone are able to sufficiently cope with the amount of dead birds generated during the proposed operations, the Department recommends that the Applicant:

- prepare and implement a Waste Operational Environmental Management Plan for the site, which includes management protocols for the regular removal of dead birds; and
- demonstration that the Applicant has made suitable arrangements for the off-site disposal of dead birds at an off-site processor prior to the commencement of construction works.

With respect to the burial of dead poultry birds at the site, the Department believes that this activity should only occur at the site should a bio-security emergency arise at the site. Although, the Applicant has proposed a number of controls to limit the potential environmental impacts of this activity, the Department believes that this only be used during exceptional circumstances as directed by relevant authorities in order to minimise the risk and repetitive disturbance to the environment and neighbouring residential receptors. Furthermore, should this area be required, the Department and the DEC recommend that the Applicant prepare an Emergency Disposal Plan in accordance with relevant DEC landfill guidelines prior to operations to ensure appropriate measures are in place to manage any unforeseeable bio-security emergency.

POULTRY SHED FLOOR LITTER

The Department has considered the proposed management procedures for the removal of poultry litter and supports the Applicant's proposal to not dispose or store poultry litter at the site. However, the Department recognises concerns of the general public and other government agencies with respect to the final destination of this litter. The Applicant has indicated that it has arranged for this litter to be removed by a contractor operating in the Hunter Valley who supplies poultry litter to a large composting company and several mushroom compost manufacturers operating in the Hunter Region. However, as requested by several submissions, the Department is unable to condition the management of this waste once it has been removed by a third-party. Practices on these sites would be subject to relevant approvals or licences for these operations granted by relevant consent authorities and/or regulatory authorities. However, the Department and the DEC has recommended a number of conditions of consent to strengthen the commitments made by the Applicant in the EIS. This includes:

- prohibition of stockpiling or disposing of poultry litter on-site;
- management procedures to be followed during poultry litter removal activities in order to minimise potential environmental impacts (particularly air quality impacts); and
- demonstration to the Director-General that appropriate arrangements for the removal of all litter are in place prior to the commencement of construction activities.

The Department is satisfied that these measures would ensure the appropriate handling and removal of all poultry litter generated at the site during the proposed operations, should the Minister determine to approve the proposal.

6.5 Noise Impacts

The noise impact assessment was undertaken in section 9.12 of the EIS. A more detailed assessment is provided in Appendix 4 of Volume 2 of the EIS and was prepared by the consultancy firm Vipac Engineers and Scientists Ltd on behalf of the Applicant.

Landuse surrounding the proposed development can be characterised as rural-residential, with the closest residences within proximity of the site located:

- to the north approximately 2.5km to the nearest proposed shed (Farm 1) – Receiver 1;
- to the north-west approximately 3.25km from the nearest proposed shed (Farm 4 and Farm 5) – Receiver 2; and
- to the west approximately 2km from the nearest proposed shed (Farm 5) – Receiver 3.

Construction

Applicant's Position

Construction of the proposed development is to be completed over an eighteen month period, with the initial stage involving the construction of eight sheds and the supporting infrastructure for the total proposed development. The remainder of the 40 proposed sheds would be constructed and completed at rate of 2 sheds per month.

The Applicant states that noise generated by the proposed construction activities would largely originate from proposed road works and earth moving activities on site, with the shed assembly and service installation expected to generate lower levels of noise.

To determine the potential impacts of these activities on nearby sensitive receivers, the Applicant assessed the proposed development in accordance with the DEC's *Environmental Noise Control Manual*. This assessment was based on a worst case scenario for the site, with the predicted noise levels based on all equipment to be used over the 18 month period operating simultaneously.

This assessment concluded that the noise levels generated during the proposed construction period would exceed the construction noise site criteria during the worst case scenario (refer to Table 3). However, the Applicant argues that the worst case scenario does not reflect the actual situation, with the proposed construction activities to be conducted intermittently over an eighteen month period. Consequently, the Applicant states that the predicted noise levels would fluctuate between acceptable noise emissions and those presented in Table 3.

Table 3: Predicted Construction Noise Levels

Location	Construction Noise Criteria, dB(A)L ₁₀	Predicted Noise Level dB(A)L ₁₀
Receiver 1	35	43-46
Receiver 2		40-43
Receiver 3		45-48

In order to reduce the noise levels generated during the worst case scenario, the Applicant has proposed a number of mitigation measures to reduce the predicted noise levels to acceptable levels. This includes:

- Scheduling of noisy work during less sensitive time periods and to provide respite periods with low noise activities;
- Use of noise control kits or mufflers on noisy construction equipment;
- Location of noise plant items away from residential receivers; and
- Implementation of a noise complaints system during construction periods.

Issues Raised in Submissions

The Department did not receive any submissions from the general public relating to construction noise.

The DEC raised a number of issues on the noise assessment undertaken in the EIS, including issues relating to construction noise, and requested that the Applicant provided further information. The information requested included on issues relating to the identification of potentially affected residents, background noise levels measured, road traffic noise and that limited construction noise assessment was provided in the EIS.

In response to the issues raised by the DEC, the Applicant provided further detailed assessment on construction related noise issues. The information was provided in the 'Response to Submissions' document (dated September 2003) and focused upon three private residences located within 2-3 km's from the proposed poultry sheds. The assessment outlined that construction noise levels will fluctuate between 39-48dB(A)L₁₀ which is some 4-13 dB(A)L₁₀ above the relevant construction noise criteria. However, the Applicant states that any potential exceedences of the noise criteria will be irregular as the assessment was based on worst case scenarios and noise generating activities that would be intermittent. The Applicant also indicates that through the implementation of specific noise management measures, including limiting work to daylight hours, scheduling noisy activities during less sensitive periods and installing noise control kits around noisy equipment, construction noise levels will be acceptable.

Department's Position

The Department has reviewed the assessment of construction noise criteria, and is generally satisfied that the potential impacts can be sufficient mitigated through the implementation of appropriate noise controls. This position is supported by the DEC who has provided the Department with its GTA. Furthermore, the Department considers the proposed phasing of construction would assist in minimising the levels of noise levels generated during the 18 month construction period.

However, to formalise the noise mitigation measures, the Department recommends that the Applicant be required to prepare a Construction Noise Management Plan for the proposal to detail measures to minimise noise generated during construction activities associated with the development. In addition, the Department and DEC require the Applicant to comply with a noise criteria of 35 dB(A) due to the simultaneous operational and construction activities that would be conducted on site. Consequently, the Department is satisfied that the proposed construction of the proposal would not generate any significant impacts on surrounding receptors and can be properly managed through the recommended conditions of consent, should the Minister determine to approve the proposal.

Operation

Applicant's Position

The EIS assessed the potential noise impacts associated with the operation of the proposal through modelling of predicted noise levels generated by the farm and from trucks and other vehicles that will be utilising the site. The potential noise levels were determined for each sensitive receiver located near the proposed facility.

The Applicant indicates that fans from the sheds and truck movements would be the main source of noise from the operation of the farm. The predicted noise impacts were determined using the DEC's *Environmental Noise Control Manual*.

However, due to the limited noise assessment provided in the EIS, the DEC requested further information from the Applicant in order for the DEC to complete its noise impact assessment. This included information concerning noise levels on peak vehicle movements, predicted noise levels at non-company owned sensitive receptors and a revised noise assessment considering all potential noise sources.

The Applicant submitted a further detailed noise assessment as part of its 'Response to Submissions' document forwarded to the Department. The additional assessment provided a more detailed prediction of the potential noise impacts from the proposal, including on all noise generating sources. Notwithstanding the assessment outlined that there may be potential exceedences at certain properties by up to 10 dB(A), the Applicant indicated that the noise generated by the operation of the proposal will be able to meet the 35 dB(A) criteria at all non-company owned receiver locations provided specific noise mitigation measures are implemented. The recommended mitigation measures include selecting appropriate fans with specific sound pressure levels and applying noise control measures in the design of the facility.

In relation to the predicted truck movements, the Applicant indicates that there may be an exceedence of the 35dB(A) noise criteria by up to 2dB(A) at one of the private properties. However, the Applicant indicates that this exceedence would be rare, since it would only occur under adverse weather conditions and while truck movements were occurring at farm 5. While the EIS indicates that tractor movements would meet the noise criteria at all receivers.

Issues Raised in Submissions

A number of submissions received from the general public objected to the proposed development due to the following issues:

- Noise from the extraction fans and from trucks servicing the farms seven days and nights per week would generate significant levels of noise;
- Local weather conditions would increase noise levels detected by surrounding residents and residents within the Karuah township;
- Noise levels generated by the proposal would only further contribute to existing high levels of noise pollution generated by military aircraft testing and highway traffic; and
- The Applicant has not considered off site traffic noise impacts in accordance with the DEC's *Environmental Criteria for Road Traffic Noise*.

Department's Position

The Department has reviewed the assessment of operational noise criteria, and is generally satisfied that the potential impacts can be sufficiently mitigated through the implementation of appropriate noise controls and with the recommended consent conditions. This position is supported by the DEC who has provided the Department with its GTA. The issue of potential operational noise impacts was also the subject of detailed discussions between the Department and DEC. The discussions agreed that potential operational noise emissions from the facility would be able to meet the 35dB(A) noise criteria through the implementation of appropriate mitigation measures.

In relation to the predicted exceedence of the 35dB(A) noise criteria of up to 2dB(A) by truck movements at farm 5 at one of the private receptors, the Department considers this exceedence is not significant and is unlikely to regularly occur regularly due to the sporadic nature of the activity and adverse weather conditions required in order for the exceedence to occur. This position is also supported by the DEC.

In order to manage any potential operational noise impacts, the Department has recommended a number of consent conditions which include the GTA provided by the DEC. This includes:

- conditions requiring the Applicant to meet a noise level of 35dB(A);
- a requirement for the Applicant to undertake a noise audit within 90 days of the commencement of operation and during a period in which the development is operating under normal operating conditions to assess whether the facility is complying with the noise criteria and implement any additional measures to ensure compliance if any non-compliance be detected. The results of the audit and details of any measures required to ensure the facility is compliant is to be reported to the Director-General; and
- a requirement for the Applicant to undertake an ongoing noise monitoring program to monitor noise impacts associated with the development and implement any further mitigation measures should any exceedences be detected. The program is required to be prepared to the satisfaction of the Director-General and the result to be reported annually with the AEMR.

As a result, the Department is satisfied that the measures proposed to be implemented by the Applicant and the recommended development consent conditions will adequately manage any potential operational noise impacts.

6.6 Traffic and Transport Assessment

The Branch Lane is classified as a 'local road' and is a two lane gravel road of variable quality along its length. This roadway intersects with the Pacific Highway approximately 700 metres to the east. This intersection is currently under construction, with an interchange to be provided as part of the current Karuah Bypass project.

Construction

Applicant's Position

During the construction stage, the Applicant states that there would be approximately 35 semi-trailer movements per shed constructed. Consequently, based on the predicted rate of construction of two sheds completed per month, the Applicant has predicted that the proposal would generate 70 semi-trailer movements per month or two to three heavy vehicle movements per day. In addition to these movements, construction personnel would also generate daily light vehicle movements, totalling a maximum of 40 movements. All movements would be restricted to normal construction periods with passenger vehicles movements concentrated during AM and PM peaks. As these movements are relatively low, the Applicant states that these movements would not generate any significant impact on the surrounding road network.

Issues Raised in Submissions

Construction traffic impacts were not raised in any submissions received by the Department from the general public.

The RTA submission raised no objection to the proposed development however suggested that measures be incorporated into the consent relating to the management of traffic flows prior to the completion of the future interchange at The Branch Lane and Pacific Highway intersection.

Great Lakes Council did not raise any concerns with the potential impacts on the road network by the proposed construction traffic.

Department's Position

The Department has considered the predicted traffic volumes for the proposed construction activities and although these movements are relatively low, believes that additional measures would need to be implemented to ensure that these movements are adequately catered for prior to the completion of the Pacific Highway/The Branch Lane interchange. Consequently, the Department recommends that should the Minister determine to approve the proposal, that the Applicant prepare and implement a Transport Construction Environmental Plan for the proposed construction works. This plan would need to be prepared in consultation with the RTA to ensure that its requirements are adequately met.

Operational

Applicant's Position

The proposed operations are expected to generate approximately 106 heavy vehicles movements per week, with a maximum 22 heavy vehicles movements per day. The majority of these weekly movements would occur between Monday to Friday, with only feed trucks accessing the site on weekends (refer to Table 4). The Applicant states that the daily maximum of 22 heavy vehicle movements over-estimates the expected heavy vehicle movements associated with the proposed operations, with these movements expected to fluctuate between 10 and 22 movements per day depending on the stage of growing cycle. In addition to these movements, the

proposed development is likely to generate passenger movements associated with operational employees. This is likely to be a maximum 20 vehicles per day, however additional movements are likely due to daily activities of the residences located on the site.

Table 4: Heavy Vehicle Movements during the Proposed Operations for All Five 'Farms'

Vehicle Type	Frequency of Movement (per day)	Time of Movement
Sawdust Delivery Vehicles – Semi-tipper	1	5 days a week
Transport Vehicles (Chick Delivery) – B-Double	2	4 days a week (6:00 – 16:00)
Feed Trucks – B-Double	4-6	7 days a week (6:00 – 16:00)
Fork Lift Truck – 8 tonne truck	2	5 days a week (17:30-9:00)
Transport Vehicle (Bird Despatch) – B-Double	9	5 days a week (17:30-9:00)
Litter Trucks – Semi-tipper	2	5 days a week

The majority of vehicle movements (heavy vehicle and passenger vehicles) would travel to and from the proposed development via the Pacific Highway and The Branch Lane interchange, which is located approximately 300 metres to the east of the site access intersection. However, some limited passenger vehicles generated by staff are expected to access the site from the west along The Branch Lane. Based on this distribution of vehicles, the Applicant states that the proposed development would generate approximately 7 truck movements during any one hour in the worst case scenario.

The Applicant subsequently argues that these movements would be relatively minor in the context of current vehicular traffic generated along the Pacific Highway and from construction traffic associated with the Karuah Bypass. Furthermore, the Applicant states that these vehicles accessing or departing the site would be well serviced by the highway interchange currently under construction as part of the Karuah Bypass project. Consequently, the Applicant has concluded that the proposed development would not have any significant impact on the intersection performance. However, to address safety issues relating to the increase in vehicular traffic at the site access intersection, the Applicant is proposing to:

- relocate the site access point to achieve appropriate sight distances;
- upgrade the site access point to a Type A intersection; and
- upgrade The Branch Lane roadway between the site access point and the Pacific Highway interchange.

The Applicant subsequently concludes that these measures would ensure that the proposed operations would not have any adverse impacts on road safety or performance of the local road network.

Issues Raised in Submissions

Submissions received from the general public objecting to the proposed development raised a number of concerns relating to traffic impacts. These issues related primarily to potential impacts on road safety at The Branch Lane, with the specific issues summarised below:

- concern that some heavy and passenger vehicles would access the site from the north of The Branch Lane, stating that this road is already in a sub-standard condition and would decrease the safety conditions of this road;
- concern that the proposed operations would generate constant heavy vehicle movements and would impact on road performance, safety and road infrastructure;

- concern that heavy vehicles would need to access the burial area via northern sections of The Branch Lane; and
- concern that the proposed upgrade of Branch Lane is insignificant in comparison to contributions levied from other developers located on this road.

Great Lakes Council raised no concerns with the Applicant's assessment of the proposal with respect to road safety and capacity, however requested in its submission that the Applicant pay section 94 contributions under the following section 94 contributions to Council:

- *Great Lakes Section 94 Contributions Plan – The Branch Lane* to contribute funds to Council to provide for the upgrade of Branch Lane based on increased demand by development in the area; and
- *Great Lakes Section 94 Contributions Plan – Road Haulage* to contribute funds to Council for road maintenance of local roads damaged by heavy vehicles.

Great Lakes Council has also issued its General Terms of Approval for the proposal with respect to the site access intersection upgrade and works associated with the upgrade of Branch Lane between the site access point and Pacific Highway interchange. These have been incorporated into the recommended conditions of consent.

The RTA submission raised no objection to the proposed development however suggested a number of conditions relating to the management of traffic flows prior to the completion of the future interchange at The Branch Lane and Pacific Highway intersection, the design of The Branch Lane upgrade works, B-Double access to the site and restricted access at the common site boundary. These suggested requirements have been incorporated into the recommended conditions of consent.

Department's Position

The Department generally concurs with the Applicant that the expected low volumes of vehicles generated by the proposed construction and operational activities would not generate any significant impacts on the road network performance. This position is supported by both Great Lakes Council and the RTA. Road improvements proposed by the Applicant for The Branch Lane and the proposed site access point would further ensure that these movements would be properly catered for. However, as highlighted in the RTA's submission on the proposal, interim arrangements must be in place to ensure the safe movement of traffic from the proposal onto the Pacific Highway prior to the completion of the interchange. Consequently, the Department recommends that the Applicant should prepare and implement a Traffic Construction Environmental Management Plan to implement appropriate measures during construction (and if necessary operation). These measures would be prepared in consultation with the RTA and Council to ensure their requirements are adequately met by the Applicant.

With respect to vehicles travelling west along The Branch Lane, the Department is in the opinion that these would be limited to several staff passenger vehicles and consequently would not generate any significant impacts on road safety. However, as this section of this road is currently inappropriate for frequent heavy vehicle movements, the Department recommends that a condition be imposed on the Applicant, should the Minister determine to approve the application, to ensure heavy vehicle movements accessing the site would be limited to the Pacific Highway/The Branch Lane intersection.

The Department has also considered Council's request for Section 94 contributions to be levied from the Applicant. In considering this request, the Department examined the nexus for the level of contributions requested with respect to the potential traffic impacts of the proposal and the proposed upgrade of The Branch Lane. While the Applicant would be undertaking works to improve the section of the roadway between the site access point and the Pacific Highway, the Department acknowledges that:

- contributions would be required for the long-term maintenance for this road due to damage caused by heavy vehicle movements; and
- contributions would be required for the future upgrade of entire length of The Branch Lane that reflects the amount of passenger vehicles generated by the proposed development that would travel west of the site access point.

Consequently, the Department recommends that Section 94 contributions be levied from the Applicant in accordance with *Great Lakes Section 94 Contributions Plan – The Branch Lane* and *Great Lakes Section 94 Contributions Plan – Road Haulage*. The Applicant has informed the Department that it has reviewed and agrees with the level of contributions requested by Council.

6.7 Flora and Fauna

Applicant's Position

The proposed development site has operated as a cattle farm for over 25 years and consists of open pasture, mostly Kikuyu grass, with small areas of vegetation in the lower creek lines and along the edge of rivers (mostly Melaleuca paperbark trees). There are also areas of salt marsh that exist between mangrove and degraded swamp forest areas. These wetlands form part of several wetlands on the property that are listed under the provisions of *State Environmental Planning Policy No.14 – Coastal Wetlands* (SEPP No.14). Land management practices have resulted in the property being largely cleared or highly disturbed due to grazing. The remaining vegetation is currently subject to physical damage by cattle, erosion, exposure to elevated soil nutrients from past activities and weed invasion.

With the exception of the Grey-crowned Babbler species, the Applicant indicates that no threatened flora and fauna species listed under the *Threatened Species Conservation Act 1995* (TSC Act) were recorded within the proposed areas to be developed at the site.

A population of Grey-crowned Babblers, found in three family groups, totalling about 20 birds was observed in vegetation that bordered areas where the proposed farms and some dams would be constructed. The EIS indicated that the proposal would have potential impacts on this species including:

- disturbance during construction and operation of the proposal;
- introduction on cats, foxes and introduced birds to the area;
- exclusion of cattle in areas that the birds are currently using could result in the development of a shrubby ground cover that would potentially be unsuitable for this species; and
- establishment of improved pasture potentially making the existing open areas unsuitable for foraging.

To mitigate any potential impacts of the proposed development on this species, the Applicant is proposing to establish and manage a Grey-Crowned Babbler Conservation Area (GcBCA) at the site, which would be reserved for the benefit of this species. This includes the fencing, rehabilitation and exclusion of cattle from this conservation area in order to eliminate disturbance to this habitat while providing for improvements surface water management and the conditions of the neighbouring wetlands.

The establishment of this area, combined with the rehabilitation of other buffer areas at the site, is also proposed to mitigate the impacts of clearing and past land management practices while providing for improvements to surface water management at the site. It is estimated that over 150 hectares of land would be set aside for this, in which the Applicant would undertake 'active' planting combined with the natural regrowth of vegetation in order to re-establish native flora communities in areas that are currently open grassland. The Applicant states that the vegetation classification of the site undertaken for the EIS would ensure that the proposed screen planting and revegetation would be consistent with the vegetation communities that originally extended across the property prior to clearing.

SEPP No.14 WETLANDS

The proposed development requires the construction of three dams and the augmentation of two existing dams to provide sufficient water supplies to the proposed operations. Of these dams, four would be positioned on drainage lines that feed into SEPP No.14 wetlands. These wetland areas consist predominately of mangrove and saltmarsh species, whose biological functions are heavily influenced by regular tidal inundation. In addition, the Applicant states that these areas are relatively poor quality due to cattle accessing these areas to for feed and water supplies.

The Applicant states that the volume of runoff captured by the proposed dams would not generate any significant impacts on the viability of these wetland areas as they are either: predominately operate as a marine tidal wetland; the source of freshwater is predominately from subsurface water flows, the surface water flows would return to pre-construction levels once dam capacity is met or the water supply for these dams would sourced predominately by shed roof water.

Issues Raised in Submissions

A number of submissions raised concern about impacts of the proposal on the surrounding native flora and fauna. In particular, submissions expressed concern that the proposal would pose a significant risk to native fauna from disease, disruption to its habitat (particularly the Grey-Crowned Babbler communities) or through the introduction of predatory feral animals. Other submissions expressed concern that migratory birds had not been considered in the EIS and had been observed within the vicinity of the site. Issues relating to potential disease impacts and water quality impacts have been considered in the relevant sections in this report.

The DEC (former National Parks and Wildlife) raised a number of concerns relating to the flora and fauna assessment, however stated that the EIS was largely satisfactory considering the predominantly cleared nature of the subject site. The Applicant subsequently responded to the submission and the DEC indicated in its second submission that its issues had been satisfactorily addressed by the additional information.

Great Lakes Council's submission stated that the threatened species plan lacks sufficient actions, strategies, protocols and regimes to ensure the successful achievement of its stated objective.

Department's Position

The Department has reviewed the Applicant's assessment of the potential impacts on flora and fauna, and is satisfied that with the exception of the Grey-Crowned Babbler, that the proposed development is unlikely to generate any potential impacts on threatened flora and fauna species due to the current condition of the proposed development site. Furthermore, the Department considers the proposed establishment of 150 hectares of 'buffer' areas along waterways and the exclusion of cattle from these areas provides an opportunity to enhance the ecological values of the proposed site.

With respect to the Grey-Crowned Babbler, the Department has reviewed the Section 5A Test undertaken in accordance with the EP&A Act (as amended by the TSC Act) for the Grey-crowned Babbler. The Department notes that this test concluded that the proposal is unlikely to significantly impact on this species provided that the mitigation measures proposed are implemented through the establishment of a Grey-Crowned Babbler Conservation Area (GcBCA).

The incorporation of a GcBCA into the proposed development is an innovative compensation measure that is highly supported by the Department. However, to ensure this area is properly managed, the plan of management for this area is required to be implemented in consultation with DEC and Birds Australia to ensure that these management procedures are appropriate for the effective long-term conservation of this species.

Consequently, the Department is in the opinion that the potential flora and fauna impacts of the proposal would be minimal, particularly given the history of the area as a grazing property. With good management, the ancillary uses of the property for grazing and conservation would benefit the local ecosystem, including prevention of soil erosion and active conservation of the Grey-crowned Babbler. The incorporation of a Grey-crowned Babbler Conservation Area is likely to avoid and offset any negative impacts on this threatened species. This position is supported by the DEC.

However, the planning and effort required to manage a property for multiple uses, especially uses that include conservation, should not be assumed to be an easy task. Substantial commitment will be important in managing the riparian zone and conservation area. Re-vegetation, weed and pest management, and ground cover management will be an on-going exercise. Consequently, the Department recommends that the Applicant be required to prepare and implement a Grey-crowned Babbler Conservation Plan and a Vegetation Rehabilitation Strategy to formalise commitments made by the Applicant. This would include measures to provide for the long-term management of the conservation area and 150 hectares of buffer areas. Consequently, the Department is satisfied that the proposed development would not have a significant impact on flora and fauna, subject to the implementation of the recommended conditions of consent, should the Minister determine to approve the proposal.

SEPP No.14 WETLANDS

The Department has considered the potential impact of the proposed construction of the dams at the site, and is satisfied that there would not be a significant impact on the SEPP No.14 wetlands. Although the proposed dams would capture a portion of freshwater flows feeding into these wetlands, the Department is satisfied that the volume of runoff removed from these catchments would not significantly impact the ecological function of these tidal wetlands, with these species more reliant on marine than freshwater flows to survive. Furthermore, the establishment of the 150 hectares and the exclusion of cattle from these areas will provide the opportunity to enhance the quality and performance of these habitats.

6.8 Socio-Economic Impact Assessment

Applicant's Position

The proposed development involves a capital investment of \$20 million and would create 16 new full-time positions and 6 part-time positions.

The Applicant states that the proposed development would have an overall positive economic impact on the NSW poultry industry due to the indirect and direct flow-on economic benefits associated with the operations of the proposed development. These

benefits are largely the result of increased demand for supplies to the broiler facility and the flow-on benefits to the poultry processing businesses. This impact has been estimated to be at \$149 million, with 1,005 jobs generated from the proposed development operations. This figure includes contributions from the cattle operations that would continue on the remainder of the site.

The Applicant states that the proposed development would not generate any negative socio-economic impacts, as the additional product grown by the proposed development would be absorbed by the NSW poultry industry due to the growing demand of the NSW market and need for replacement capacity resulting from the closure of broiler facilities utilising older technology (i.e. natural-ventilated shedding).

Issues Raised in Submissions

The majority of the submissions received during the exhibition period objected to the proposed development due to the potential socio-economic impacts of the proposal. Specifically, objectors stated that 38 local poultry farms would lose their contracts with the regional poultry processor should the proposed development proceed. These contracts in question are between Bartter Enterprises and the local growers.

Port Stephens Council raised concerns with respect to the pressure the proposal would place on town infrastructure at Karuah and would not generate any benefits to the local community.

Great Lakes Council stated in its submission that the Department consider the potential impacts resulting from the displacement of independent growers in the region.

NSW Agriculture refrained from commenting on the potential socio-economic impacts of the proposal but noted that the industry is currently under pressure to improve efficiency and is committed to the current technology upgrade and rationalisation process.

NSW Farmers Association objected to the proposed development due to the potential socio-economic impacts of the proposed development. In its submission, it identified issues relating to over-supply of shedding in NSW, current trends for the closure of farms in NSW, the economic pressures placed on growers by pseudo-monopolies of regional poultry processors and the subsequent low-rates of return for poultry growers. NSW Farmers also discussed the particular economic pressures placed on growers in the Hunter region, identifying that of the 69 poultry growers in the region, 38 have been notified that their contracts would not be renewed in 2004 due to excess shedding capacity. NSW Farmers subsequently concluded that the proposal would result in the closure of these farms and would result in a net loss of 50 full-time positions and approximately 800 in-direct positions in the Hunter region, and called for a Commission of Inquiry to be held into the proposed development.

Department's Position

The Department is aware that the NSW and Australian poultry industry is currently undergoing substantial structural and technological reforms, and that the proposed development is an example of the growing push for the broiler industry to move towards tunnel ventilated shedding from the traditional natural ventilation (wind). The Department understands that this push for the conversion of shedding within NSW is a direct result of the need to improve the economic, quarantine and environmental performance of the individual operators and the industry as a whole. This, combined with the current over supply of poultry broiler shedding in NSW, has seen the closure of poultry farms which are economically unable to convert to tunnel ventilation or unable to obtain contracts with poultry processors.

The Department acknowledges the concerns expressed in submissions received from the general public with respect to the 38 independent growers in the Hunter region who are unable to renew contracts with Bartters Enterprises, a separate company from ProTen Ltd. The Department understands that these growers were informed by Bartters Enterprises some time ago that their contracts would not be renewed in 2004. This was a result of a modernisation process undertaken by Bartters in 2000 in which contractors were given the opportunity to upgrade their farms to tunnel ventilation. The Department understands that these growers were unable or unwilling to convert their shedding to tunnel ventilation and have been unable to obtain a contract with an alternative processor. Consequently, it is claimed that these growers would have to close down as a direct result of the proposed development as Bartters Enterprises would not renew the contracts with these growers in favour of the proposed development. It concluded in these submissions that it would result in the loss of 70 full-time positions in the Hunter Region.

Although the Department acknowledges the concerns of these growers, it is the Department's opinion that these issues are independent to the proposed development and relate more to competition between individual parties within the poultry industry, which is an issue that the Department is unable to be consider as part of its assessment. Furthermore, the Department considers that this issue is one that is facing the industry as a whole and cannot be isolated to the proposed development, with the Applicant subject to the same competitive market forces and over-shedding issues facing other NSW poultry growers.

This is supported by legal advice obtained by the Department which states that the threat of economic competition from the Applicant's proposal upon other poultry growers is not of itself a planning consideration under section 79C(i)(b). Economic considerations are more appropriately regulated by the provisions of the *Trade Practices Act 1974* (Commonwealth) and the *Fair Trading Act 1987* (NSW).

However, what the Department must consider in its assessment of the proposal are the wider impacts on economic potential of neighbouring properties due to amenity or environmental impacts, and the potential impacts of the proposed development on services provided to the community within the vicinity of the development. The socio-economic impacts resulting from the closure of 38 farms in the region could fall under the latter category, with the former addressed through the environmental impact assessment of the proposal.

In this context, the Department considers that the closure of the 38 farms and the subsequent flow-on effects in the region cannot be attributed exclusively to the proposed development. The potential future socio-economic impacts on this region are the result state-wide trends and market conditions, pre-existing forces that are external to the immediate impacts instigated by the proposal. This state-wide trend is demonstrated by reports by the NSW Farmers Association which suggest that up to one third of NSW poultry growers have been unable to renew contracts for June 2004 with processors due to shedding oversupply¹, and that 70% of Bartter's and 78% of Ingham's producers have been notified that their contracts would not be renewed after June 2004².

Consequently, it is the Department's opinion that this situation facing these farmers (and subsequent socio-economic impact on the region) would occur regardless of the proposed development and therefore cannot be held accountable for in the Department's consideration of the development application.

¹ NSW Farmers Association (Sept 2003). *Court Win for Chicken Farmer*. <http://www.nswfarmers.org.au>

² The Allen Consulting Group (2003) *Reform of the New South Wales Poultry Industry – Restructuring for the Future – Report to NSW Farmers Association*. <http://www.nswfarmers.org.au>

The Department believes that the potential socio-economic impacts facing these communities as a result of the current industry restructure can only be adequately addressed through controlled industry reform and is consequently outside the scope of the consent authority's role for the subject development application under the *Environmental Planning and Assessment Act 1979*.

Notwithstanding the above, the Department has considered the potential socio-economic impacts of the proposed development within the vicinity of the site. Due to the proximity of the regional road network (Pacific Highway) and the low levels of employment, the Department considers that the proposed development would not put undue pressure on local services and facilities. Nevertheless, the Department understands that this area is currently undergoing significant change as a result of the Karuah Bypass in which the township is expected to lose significant levels of highway generated trade. The Department considers that the proposal could provide some moderate opportunities to counteract the future loss in the local economy through employment opportunities and increased revenue spending.

6.9 Surface Water Impacts

Construction

Applicant's Position

The proposed construction activities do have the potential to generate erosion and sedimentation impacts if proper management controls are not implemented. The Applicant has considered the level of impact the proposed works could have, and concluded that the risk of erosion and sedimentation during the construction phase can be adequately controlled through the implementation of an Erosion and Sediment Control Plan. The Applicant states that the proposed plan has been prepared in consultation with the Great Lakes Council's *Erosion and Sediment Control Policy* and several other government guidelines relating to soil and erosion control.

Issues Raised in Submissions

Port Stephens Council raised concerns with the implementation of short-term measures and the maintenance of these controls during the construction period.

Department's Position

The Department is satisfied that the proposed development does not pose a significant threat to soil and water quality during construction activities if proper management controls are in place. Furthermore, the proposed staging of the works would minimise the extent of disturbance at the site at any one time, minimising the risk of potential impacts on soil and water quality.

Should the proposed development be approved, the Department recommends that the Applicant should be required to prepare and implement a Soil and Erosion Construction Management Plan for the construction works. The Plan must demonstrate that the erosion and sediment control measures comply with the relevant requirements of the Department of Housing's *Soil and Water Management for Urban Development*. The Department is satisfied that the implementation of this plan would adequately manage any potential short-term impact on soil and water quality.

Operation

Applicant's Position

STORMWATER

To manage stormwater generated at the proposed 'farm' units, the Applicant is proposing to segregate stormwater collected from the shed roof from stormwater generated at 'work' areas and roadways at the 'farms'. Roof water would be directed to water storage dams at the site for use in the growing and cleaning cycle. Stormwater collected at the work areas and roadways would be directed to specific infiltration trenches located strategically at each farm. These trenches would collect act as a 'first flush' system and would enable stormwater to be controlled to minimise erosive capability and enable stormwater to be returned in a controlled fashion.

DOMESTIC EFFLUENT

The proposed development would not be connected to the recently installed sewage system located at Karuah. Instead, the Applicant is proposing to install an aerated waste water treatment system to treat domestic effluent prior to irrigation on-site. This dedicated area would be separate to the proposed wastewater treatment system and irrigation areas, and would be installed/managed in accordance with NSW Health requirements. The Applicant has indicated that the proposed managerial residences and farms would generate nearly 2ML of domestic effluent per year. The irrigation practices would be managed in accordance with the mitigation measures proposed for the wastewater irrigation system.

Issues Raised in Submissions

The majority of submissions from the general public raised concerns with general irrigation practices, however few submissions identified the irrigation of domestic effluent as an issue.

Great Lakes Council indicated that the proposed irrigation of domestic effluent would be subject to an approval and licensing process under section 68 of the *Local Government Act 1993*.

The DEC did not raise this issue, but recommended a GTA to provide for the implementation of a Stormwater management scheme to mitigate the impacts of stormwater runoff generated at the site.

Department's Position

STORMWATER

The Department is generally satisfied with the proposed stormwater system, however believes that a Stormwater Operational Environmental Management Plan be prepared to formalise the design of the system and provide for screening mechanisms to minimise the transportation of contaminants into the surrounding environment. The Department is satisfied that this measure will sufficiently mitigate any potential impacts of the proposed development by surface runoff generated at the proposed development.

DOMESTIC EFFLUENT

The Department is generally satisfied with the proposed arrangement for the management and disposal of domestic effluent at the site. However, the Department recommends that a condition be imposed on the proposal that requires the Applicant to obtain the necessary licence from Great Lakes Council prior to the commencement of construction, should the Minister determine to approve the proposal. The Department is satisfied that this would ensure that the requirements of Council, the regulatory authority for this activity, are adequately met.

6.10 Soil and Groundwater

Construction

Applicant's Position

The Applicant identified certain areas of the site where Acid Sulfate Soils (ASS) may be present. ASS are predominately located along the waterfrontage of the site with the Karuah River, and would be sufficiently distanced from the majority of the proposed works. Based on this identification, the Applicant concluded that the proposed development would not disturb any ASS during construction work and therefore would not generate any risk to the surrounding environment.

Issues Raised in Submissions

Some submissions received from the general public raised the concern that ASS would be disturbed during construction works and would generate significant impacts on the neighbouring wetlands along the Karuah River.

NSW Agriculture and NSW Farmers also raised concerns with the possibility of Acid Sulfate Soils located at the construction site of Dam 5 and Dam 3.

Department's Position

The Department has considered the Applicant's position and the additional information provided in response to the submissions received, and believes that the Applicant should be required to undertake ASS testing of the sites of Dam No.3 and Dam No.5 prior to the commencement of construction of these dams. While the ASS mapping provided in EIS indicate that these dams would be marginally outside the risk contours for ASS, the Department believes that testing should be conducted to ensure no risk is posed to the environment as a result of the construction activities. Should any ASS be conducted, the Department has recommended conditions to ensure appropriate management controls are implemented.

Operation

Applicant's Position

In the EIS, the Applicant states that the groundwater levels at the site would reflect local topography, with seepage from groundwater observed along drainage lines in proximity to the Karuah River. No attempt was made by the Applicant with respect to quantifying the actual depth of groundwater levels.

In response to requests from the Department for additional information with respect to potential groundwater, the Applicant undertook an assessment of groundwater levels at the site. This assessment discovered subsurface rock at an average depth of 1.2m at the site. The Applicant concluded that subsurface water flows across this rock to the drainage lines at the site for ultimate discharge into the Karuah River. The Applicant states that although wastewater would be irrigated on site, the content of this wastewater and proposed wastewater mitigation measures would ensure that these flows would not be significantly affected by the proposed development. Nevertheless, the Applicant has indicated that it would be installing piezometers at the site to monitor the water quality of these subsurface water flows during the proposed operations. This would assist in monitoring the performance of the proposed development and enable the Applicant to undertake additional mitigation measures should monitoring detect any changes in water quality.

With respect to the storage of chemicals (disinfectants and diesel storage), the Applicant is proposing to provide a bunded area for each storage area. The Applicant states that the

provision of these bunded areas would prevent any potential for spills and groundwater impacts.

Issues Raised in Submissions

This issue was not raised in any submissions received by the Department from the general public.

The DEC recommended in its GTAs that the Applicant undertake groundwater monitoring. These requirements have been incorporated into the recommended conditions of consent.

Department's Position

The Department has reviewed the additional information provided by the Applicant and is generally satisfied that the proposed development would not generate any significant impact on groundwater impacts. In particular, with the implementation of proper management controls, the proposed irrigation of wastewater is unlikely to generate a significant threat to soil or groundwater quality. However, to ensure these practices are properly managed over time, the Department and the DEC recommend that the Applicant undertake the following, should the Minister determine to approve the proposal:

- install groundwater monitoring piezometers at the proposed site, with the final number and location of these bores to be determined in consultation with the Department;
- obtain a licence from the Department under the *Water Act 1912* for the installation of the above monitoring bores;
- prepare and implement a Groundwater Monitoring Plan to monitor the performance of the proposal with respect to groundwater quality. This plan would need to take into account the monitoring requirements of the DEC, and would need to set out contingency measures should monitoring detect levels above the set criteria.

With respect to the proposed bunded storage areas, the Department supports the Applicant's proposed mitigation measures. However, the Department and the DEC recommend that a condition of consent be imposed on the Applicant to ensure that these areas be designed in accordance with the DEC's Environmental Protection Manual *Technical Bulletin Bunding and Spill Management* and provide a minimum capacity to contain 110% of the largest volume stored. The Department is satisfied that these measures will ensure that these chemicals are appropriately stored to minimise any threat to water quality in an event of a spill.

6.11 Visual Amenity

Applicant's Position

Due to the topography of the site, the Applicant states that the proposed development would only be visible from the Karuah River. Due to the popularity of the region for water recreational activities, there is potential for the proposed to impact on the visual amenity of the area. No element of the proposed development would be visible from the Karuah Bypass and views from residential receptors would be limited to the emergency burial ground. However, this area, located approximately 1.5km east of the residence would only be utilised under exceptional circumstances.

As stated previously, the proposed development would consist of five farm units with a configuration of eight sheds in each. Each shed would be 144m x 18m and will be 2.95m at its highest point. Other elements, such as the machinery shed, freezers and residential houses, would be smaller in scale comparatively and are likely to not generate as a significant intrusion on the environment as the five farm units.

In order to mitigate the potential visual amenity impacts, the Applicant is proposing to:

- extending the proposed vegetation dust screens at the 'farms', to provide a visual screen between the sheds and the river;
- installation of two levels of lighting at the site to minimise light spill to surrounding areas. This would consist of external security lighting operated by a sensor switch and external work area lighting that would be used when needed. This lighting would not extend more than 20 metres from the sheds.

The Applicant argues light from within the sheds would not be detected due to climate sealing of the site. In addition, the Applicant states that external lighting would be further mitigated by the proposed vegetation screening and would therefore generate minimal impacts on the visual amenity of the area.

Issues Raised in Submissions

This issue was not raised in any submissions received by the Department.

Department's Position

The Department is generally satisfied that the proposed mitigation measures would ensure that the proposed development does not significantly intrude on the visual amenity of the area. However, with the exception of the farm No.2, Farm No.4 and Farm No.5 (located nearest to the river edge), the proposed extended vegetation screens do not appear to assist in the screening of these farms when viewed from river. Consequently, the Department recommends that the Applicant be required to undertake the following (should the Minister determine to approve the proposal):

- design the external treatment of buildings and landscaping works to blend the development into the environment as far as practicable. This includes the provision of detailed plans for the landscaping works and external treatment of the buildings;
- ensure that external lighting is installed in accordance with the relevant Australian Standards, and is suitably mounted, screened and directed to minimise light spill into the surrounding environment; and
- manage and maintain landscaping in accordance with the Vegetation Operational Environmental Management Plan.

Consequently, the Department is satisfied that the measures proposed by the Applicant and the recommended conditions would ensure that the visual amenity of the surrounding environment is adequately minimised and managed over the long-term, should the Minister determine to approve the proposal.

6.12 Heritage Assessment

Applicant's Position

The EIS indicated that two representatives of the Karuah Local Aboriginal Land Council (KLALC) undertook a local Aboriginal Heritage Study on the proposed site. A letter advising on the findings of the investigations undertaken by the KLALC was submitted with the EIS (located in Appendix 6 of Volume 1).

The EIS outlined that the letter from the KLALC stated that there was no evidence of Aboriginal artefacts or cultural sites located within the area proposed to be developed. However, the Land Council requested that they be adequately notified of the proposed construction activities so that a representative be present on the site during these works.

However, the Department received a submission from the DEC (formerly NSW National Parks and Wildlife) and the KLALC which both raised concerns about the archaeological assessment undertaken in the EIS. Due to the number of archaeological items found in the general locality resulting from survey work undertaken as part of the Karuah Bypass (ie

Pacific Highway), both submissions requested that a comprehensive cultural assessment be undertaken. In response to the two submissions, the Department requested that the Applicant engage a suitably qualified and experienced consultant to undertake a detailed archaeological assessment and that the assessment be undertaken in consultation with the KLALC.

In response to the Department's request, the Applicant engaged Insite Heritage to undertake a detailed survey. The results of the assessment undertaken were submitted to the Department as part of the 'Response to Submissions' document (dated September 2003) prepared to address all requests for additional information.

The Applicant advised that the detailed survey was undertaken in March 2003 and was attended by representatives of the KLALC. The archaeological report indicated that a combination of background research, field survey and consultations with the Land Council was undertaken as part of the further archaeological work. The report concluded that proposed area is of moderate to high archaeological potential, however due to the minimal area proposed to be developed compared to the total site area, the archaeological character of the area should be maintained.

The report also concludes that one isolated stone artefact (referred to as KCF 1) was located in an area proposed to be disturbed by the proposal. The artefact is described as being of low cultural significance. As a result, the report concludes that a s90 approval will be required from the DEC to remove, destroy or disturb the item.

Mitigation Measures

The archaeological report prepared by Insite Heritage recommended a number of mitigation measures to manage potential impacts on the archaeological heritage of the area. This included:

- Advising the KLALC of when the proposal is to proceed so they can monitor topsoil removal so they may record the monitoring results;
- The Applicant should apply for a s90 consent to destroy from the DEC for the KCF 1 item;
- Further archaeological assessments (in consultation with the KLALC) be undertaken should any further construction activities occur on the site or the footprint of the proposal be modified; and
- Immediately contact the DEC and KLALC should any other Aboriginal Heritage items be discovered.

Issues Raised in Submissions

In addition to the submissions from the KLALC and DEC which were described above, there were a number of submissions from private residents and community/environmental groups that raised concerns about Aboriginal heritage issues. The main issue raised related to the inadequacy of the original archaeological assessment presented in the main EIS. While a submission from Port Stephens Council indicated that the potential significance of the Aboriginal heritage issues need to be clarified and a detailed survey be undertaken.

Department's Position

The Department acknowledged that the original archaeological assessment provided in the EIS was limited and therefore supported the position of the DEC and KLALC and requested the Applicant undertake a more detailed assessment. In light of the further assessment, the Department is satisfied that the proposal is unlikely to significantly impact on Aboriginal heritage items in the area and that the KLALC have been adequately consulted as part of the archaeological assessment undertaken.

Should the Minister determine to approve the proposal, the Department recommends that the Applicant obtain a s90 consent from the DEC under the National Parks and Wildlife Act 1974, prior to any disturbance to the artefact identified in the study area (KCF 1). The conditions also require the Applicant to notify and invite representatives of the KLALC onto the site so that they may monitor for any Aboriginal relic during these activities and that should any Aboriginal relics be uncovered during any of the construction activities, all construction work in the vicinity of the relic shall cease and the Applicant contact DEC and the KLALC. The Applicant is then to meet the requirements of the DEC with respect to the treatment, management and/or preservation of any such relic. These recommendations and those made by the Applicant in the additional archaeological report are supported by the DEC.

6.13 Bio-Security and Pest Control

Applicant's Position

With the consequences of disease within a poultry farm severe, the control of vermin and the spread of diseases is a critical factor that must be considered in the design and management of the proposed development.

The Applicant states that the minimisation of this risk is achieved through the use of tunnel ventilated shedding as opposed to conventional natural ventilated shedding. The proposed shedding would be bird and vermin proof due to structural 'sealing' required to maintain environmental conditions, and the ground sealed with concrete to prevent the persistence of biological disease. The Applicant argues that this sealing of the broiler sheds would ensure that contact between wild birds and broiler birds is prohibited, and therefore reduces any existing low risk of disease spreading to either group.

In addition to these structural controls, the Applicant has proposed the following measures to prevent vermin and disease issues:

- provision of 250 metre buffer zones between each 'farm' unit;
- thorough disinfection of sheds in between growing cycles;
- implementation of controls and protocols to prevent cross-contamination between each 'farm' unit and from contractors from other poultry farms;
- movements onto the site would be controlled by the main site office located in proximity to the site access point; and
- implementation of a Pest Control Program to control rodents, pest insects and birds.

In addition, the Applicant states that a National Newcastle Disease Management Plan has been adopted in NSW that requires the compulsory vaccination of all poultry birds against the disease. This would assist in further reducing the risk of the disease occurring at the site.

Issues Raised in Submissions

Numerous submissions from the general public expressed concerns for the proposed use of bird control methods during the proposed operations due to the potential impact on native flora and fauna. In addition, submissions expressed concern about spread of avian diseases, namely Newcastle disease, to other wild native birds and other native fauna.

Other submissions expressed concern that the distance between the proposed 'farm' units did not meet NSW Agriculture requirements with respect to recommended quarantine buffers (2-5 kilometres between poultry operations). It is the Department's opinion that this distance refers to farms that are run independently to each other, and that the proposed development would be considered under this definition as one farm. The proposed development is located approximately 5km from the nearest chicken farm and therefore complies with this requirement. This opinion is supported by NSW Agriculture.

NSW Agriculture stated in its submission that the proposed baiting of farm perimeters would be unnecessary and potentially could affect non-target species. NSW Agriculture also stated that vermin control methods should be incorporated into any Environmental Management Plan. NSW Agriculture expressed no other concerns relating to bio-security measures proposed by the Applicant on the condition that a bio-security plan be prepared for the proposal.

NSW Farmers also raised this issue in its submission on the proposal, stating that the method of native bird control should be specified.

Department's Position

The Department has reviewed the proposed structural bio-security arrangements for the proposed development, and is in the opinion that these measures would assist in managing risk and disease during the proposed operations. In particular, the quarantine procedures for on-site operations and the minimum 250m buffer areas between each 'farm' would assist in the reducing the risk of disease and the containment of any incident.

However, the Department recognises that the key to minimising the occurrence of disease at the site is through the implementation of stringent management controls. The Department is confident that the Applicant's experience in the poultry industry in NSW and New Zealand would ensure that appropriate management controls are in place to adequately reduce this risk to as low as possible. However, to ensure appropriate protocols are in place should the proposal be approved, the Department believes that the Applicant should be required to prepare an Emergency and Bio-security Response Plan for the proposal. This plan would contain procedures and protocols for maintaining bio-security at the site and measures to be implemented should an incident occur. This would include the disposal of dead birds as well as maintaining quarantine isolation at the site. The Department is satisfied that this would ensure that the risk of a bio-security event is maintained as low as reasonably possible, and that the Applicant is able to respond immediately to any occurrence of disease at the site.

With respect to wild bird control, the Department does not support these methods as proposed by the Applicant. Although the Applicant has subsequently informed the Department that this would not apply to native birds in the area, the Department does not believe that the Applicant has provided sufficient detail of these methods to guarantee that these methods would not impact on native fauna. Consequently, should the Minister determine to approve the proposal, the Department recommends that the Applicant be required to submit the details of these methods and how these methods would pose a low risk of death or injury to native fauna at the site prior to the commencement of operations.

6.14 Section 94 Contributions

Great Lakes Council has requested that the Minister levy section 94 contributions on behalf of Council, stating the contributions should be levied under the following plans:

- *Great Lakes Section 94 Contributions Plan for The Branch Lane* to provide contributions towards the upgrade of The Branch Lane;
- *Great Lakes Section 94 Contributions Plan – Levy on Road Haulage* to provide contributions towards road maintenance required as a result of heavy vehicle loads on local roads. This figure has been based on per cubic metre of material hauled on local roads; and
- *Great Lakes Wide Section 94 Contributions Plan* to provide contributions towards Council facilities and rural fire fighting services in the Great Lakes LGA.

The Department accepted the reasoning behind the majority of the contributions, but requested that Great Lakes Council provide justification for the request for Branch Lane contributions given that the Applicant is proposing to upgrade a portion of The Branch

Lane to mitigate the impacts of predicted heavy vehicle movements. Council subsequently indicated that the Section 94 contributions for Branch Lane are required as:

- Council has identified the need to upgrade the entire length of this road as it was never formally constructed by Council and is currently unsuitable and unsafe for future traffic volumes; and
- the Applicant has indicated employees of the development will use this section of the road, and that the calculated contribution is only based on these limited movements.

Following this clarification, the Department is satisfied that there is a reasonable nexus between the requested contributions and the proposed development. Consequently, the Department recommends that the Minister levy these funds on behalf of the Council. The Applicant has reviewed these contributions and has agreed to the level of contributions requested by Council.

6.15 Animal Welfare

At any one time, each shed of the proposed development would house a maximum 45,000 chicken at the commencement of each production cycle, with these numbers reduced during the cycle due to mortality or 'thinning' out (removal of smaller chickens for processing). The Applicant states that the maximum density at any one time would be 36kg/m², with the final density at 27kg/m². These densities comply with the *Model Code of Practice for the Welfare of Animals – Domestic Poultry*, which sets the upper limit of 40kg/m² for tunnel ventilated sheds.

The Department consulted with RSPCA with respect to animal welfare issues associated with the proposal. The RSPCA informed the Department that the proposed technology (tunnel-ventilation) and stocking density addresses animal welfare issues and requirements set in the Code. However, it did state that it was currently reviewing the suitability of the maximum density set in the Code, however the outcome of this review of the Code would apply to the Applicant regardless (should the Minister determine to approve the proposal).

While the Applicant appears to have adequately addressed the issues associated with animal welfare, the Department recommends that the Applicant should:

- implement an Animal Care Statement for the proposal to address all issues associated with the welfare and supervision of the poultry birds in accordance with the *Model Code of Practice for the Welfare of Animals – Domestic Poultry*, particularly in respect to handling, feeding and water supply; and
- comply with the stocking densities at all times as set in the *Model Code of Practice for the Welfare of Animals – Domestic Poultry*.

The Department is satisfied that this would ensure that animal welfare issues are adequately addressed through the life of the proposed development, should the Minister determine to approve the proposal.

6.16 Building Assessment

The Department considers that the proposed development would require a Construction Certificate for the erection of the following buildings/structures:

- Residential houses (Class 1a)
- Poultry sheds, machine shed, lunch rooms and fuel storage (Class 10a); and
- Freezers and silos (Class 10b).

Conditions pertaining to building matters are included in the recommended instrument of consent. Condition 2.3 states that prior to construction and operation of the development, the Applicant shall certify that it has complied with all conditions of consent applicable prior to that event. The condition also refers to the staging of the submission of compliance certification consistent with the staging of activities. In addition, section 80A(11) of the Act

refers to clause 133 of the Environmental Planning and Assessment Regulation (2000) which contains prescribed building conditions that are part of development consent.

6.17 Environmental Management

To ensure that the proposed operations are carried out efficiently and effectively, the Applicant should be required to:

- prepare an Environmental Management Plan for the poultry broiler farm's operations;
- submit on an annual basis an Annual Environmental Management Report reporting the poultry farm's environmental performance;
- commission and pay the full cost of an independent environmental audit of the facility; and
- submit a copy of the audit to the Director-General for review within two months of commissioning the audit.

7. SECTION 79C CONSIDERATION

Section 79C of the Act sets out the matters that a consent authority must take into consideration when it determines a development application.

The Department has assessed the DA against these heads of consideration (see Appendix A), and is satisfied that the:

- the proposal is consistent with the relevant provisions in the *State Environmental Planning Policy No. 1 – Development Standards*; *State Environmental Planning Policy No. 14 – Coastal Wetlands*; *State Environmental Planning Policy No.33 – Hazardous and Offensive Development*; *State Environmental Planning Policy No.44 – Koala Habitat Protection*; *State Environmental Planning Policy No. 55 – Remediation of Land*; *State Environmental Planning Policy No. 71 – Coastal Protection*; *Great Lakes Local Environmental Plan 1996*; *Great Lakes Council – Erosion and Sediment Control Policy*; *Draft Development Control Plan No.33 – Acid Sulphate Soils*; and *Great Lakes Council – Broiler Chicken Code*.
- proposal would not result in any significant environmental or socio-economic impacts;
- site is suitable for the proposal development; and
- development is likely to be in the public interest.

8. RECOMMENDED CONDITIONS OF CONSENT

Should the Minister grant consent to the proposed development, a recommended instrument of consent is attached (tagged "A"). The conditions take into consideration the General Terms of Approval and other issues raised by Government agencies, Council, and all other submitters including land owners, community groups and independent organisations.

The conditions of consent have been drafted with the aims of establishing a framework for implementing rigorous on-going compliance mechanisms, independent reviews and performance audits to mitigate the environmental impacts of the proposal to an appropriate and acceptable level. The recommended conditions of consent provide for appropriate monitoring of odour impacts, noise and dust, surface and groundwater management, water quality monitoring of the Karuah River and waste management.

The Department has undertaken extensive consultations with the Applicant concerning the content and intent of the conditions of consent, and the Applicant accepts the conditions.

9. CONCLUSIONS

The Department considers that the recommended conditions of consent provide a rigorous and strict framework for the management, monitoring and reporting on the operation of the site. This includes requirements for the management of odour, noise and dust impacts, requirements for management of the proposed effluent disposal and for the undertaking of independent environmental auditing.

The Department is satisfied, through its environmental assessment of the proposal, that through the application of the consent conditions, which incorporate the General Terms of Approval of the Department of Environment and Conservation, the Natural Resources section of DIPNR and Great Lakes Council, and recommendations of the DEC (formerly NPWS), NSW Fisheries and NSW Agriculture, the environmental impacts can be adequately managed. The proposal is also consistent with State and regional planning objectives, and with the local planning instruments.

10. RECOMMENDATIONS

It is recommended that the Minister:

- (a) Consider the findings and recommendations of this report (tagged "B");
- (b) Approve the DA subject to conditions, under Section 80 of the Act; and
- (c) Sign the attached Instrument of Consent (tagged "A").

Endorsed:

Caitlin Bennett
Environmental Planning Officer

Sam Haddad
Executive Director