

Assessment Report

**Proposal by Rangers Valley Cattle Station Pty Ltd
to expand and operate a cattle feedlot at Rangers
Valley, Glen Innes, NSW**

**Department of Infrastructure, Planning
and Natural Resources**

November 2003

EXECUTIVE SUMMARY

The Development Proposal

On 14 August 2002, Rangers Valley Cattle Station Pty Ltd (the Applicant) lodged a Development Application (DA) with the then Department of Planning (now the Department of Infrastructure, Planning and Natural Resources) to expand its existing cattle feedlot at Rangers Valley, near Glen Innes, NSW, in the Severn local government area.

The project involves the expansion of the existing feedlot from its current capacity of 24,000 head to 50,000 head of cattle, with the increase in capacity being achieved by constructing 105 new pen areas located immediately adjacent and north of the existing feedlot, and increasing the output of the existing feed mill.

The proposed development involves a capital investment of approximately \$20.4 million. Presently, the feedlot employs 40 people. Upon completion, it is estimated that the feedlot will employ 65 to 70 people on a full-time basis, an increase of 25 to 30 people. This employment base will be drawn from areas surrounding Rangers Valley, particularly, Glen Innes, Emmaville and Deepwater.

Under the *Environmental Planning and Assessment Act 1979*, (the Act), the proposed development is classified as State significant, integrated and designated development. The Minister for Infrastructure, Planning and Natural Resources is the consent authority for the DA.

In accordance with the *Environmental Planning and Assessment Regulation 2000* (the Regulation), the DA and supporting Environmental Impact Statement (EIS) were publicly exhibited from Thursday 22 August 2002 until Monday 23 September 2002. The Department received 11 submissions in response to the public exhibition of the DA, six of which were from private individuals, one from a special interest groups, one from a business, two from other government agencies and a submission from Severn Shire Council. Submissions from NSW Agriculture, NSW Fisheries, the Roads and Traffic Authority and the National Parks and Wildlife Service were also received after the conclusion of the exhibition period. Of the submissions received from private individuals, special interest group and business, seven objected to and one submission supported the proposal. Severn Shire Council stated it supported the proposal.

The key issues raised in the submissions were:

- Odour impacts;
- Water quality impacts, particularly on the Severn River;
- Traffic impacts, particularly with regards to safety; and
- Manure spreading, particularly due to odour and potential water quality impacts from runoff and seepage.

These issues have been addressed in section 6 of this assessment report.

The Department has assessed the DA, the EIS and the submissions received on the proposed development. Through this assessment, the Department is satisfied that the proposal could be adequately managed, subject to the imposition of a number of strict conditions. It is considered that the conditions of the recommended instrument of consent impose appropriate measures to manage the future environmental performance of the proposed development, and set in place on-going environmental management, monitoring and reporting mechanisms.

This includes recommending that the development consent be issued as a 'Staged Development' to ensure that the project can demonstrate it will be able to operate at full capacity (ie 50,000 head) and meet the relevant DEC odour criteria. As part of this consent, the Company is required to obtain further approval from the Minister to expand from 40,000 to 50,000. As part of seeking this further approval, the Company is required to undertake further detailed odour assessment work to the satisfaction of the Director-General and the Department of Environment and Conservation. The Department considers that the recommended consent conditions will provide for a greater level of odour management from the site.

The Department therefore recommends that the Minister approve the DA, subject to the imposition of the recommended conditions of consent.

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1 INTRODUCTION

On 14 August 2002, the Department received a Development Application (DA) from Rangers Valley Cattle Station Pty Ltd (the Applicant) for the proposed expansion of its existing cattle feedlot operation at Rangers Valley. The development site is located in Rangers Valley, approximately 28 kilometres north of Glen Innes, within the Severn local government area (see Figure 1).

This report represents the Department's assessment of the proposed development, in accordance with the *Environmental Planning and Assessment Act 1979* (the Act). The Department has assessed the DA and the submissions received during the exhibition period, and determined that the development can be expanded and operated within appropriate environmental limits. Therefore the proposed development could be approved on a technical basis. If the Minister agrees, the Department recommends the imposition of a number of conditions as set out in the draft instrument of consent.

This includes issuing the consent as a 'Staged Development' under Section 80(5) of the *Environmental Planning and Assessment Act 1979*. The recommended development consent approves the expansion of the cattle feedlot from the existing 24,000 head of cattle to 40,000. In order to expand from 40,000 to 50,000, the Applicant is required to undertake further detailed odour assessment work to demonstrate it will be able to operate at full capacity (ie 50,000 head) and meet the relevant DEC odour criteria, to the satisfaction of the Director-General and the DEC.

It is considered that the conditions of the recommended instrument of consent impose appropriate measures to ensure the environmental impacts associated with the proposed expansion are managed, mitigated and monitored.

2 SITE CONTEXT

2.1 Site Location

The existing feedlot is located in an area known as Rangers Valley on the New England Tablelands, approximately 28km north of Glen Innes within the Severn local government area. Figure 1 below shows the location of the existing Rangers Valley feedlot. The site is owned by the Applicant which consists of two properties 'Rangers Valley' and 'Broadwater', the total land area of these being approximately 4,631 hectares.

Figure 1. Location of Rangers Valley Cattle Feedlot.

2.2 Site Description

The existing feedlot and feed mill are located in the north-west portion of the property. The proposed expansion would take place within the site of the existing feedlot which is held under freehold tenure and is zoned as Rural 1(a) under the *Severn Local Environmental Plan 2002*. The existing feedlot with the proposed expansion is shown in Figure 2 below.

Figure 2. Aerial photograph of Property outline and Location of Existing and Proposed Feedlot area.

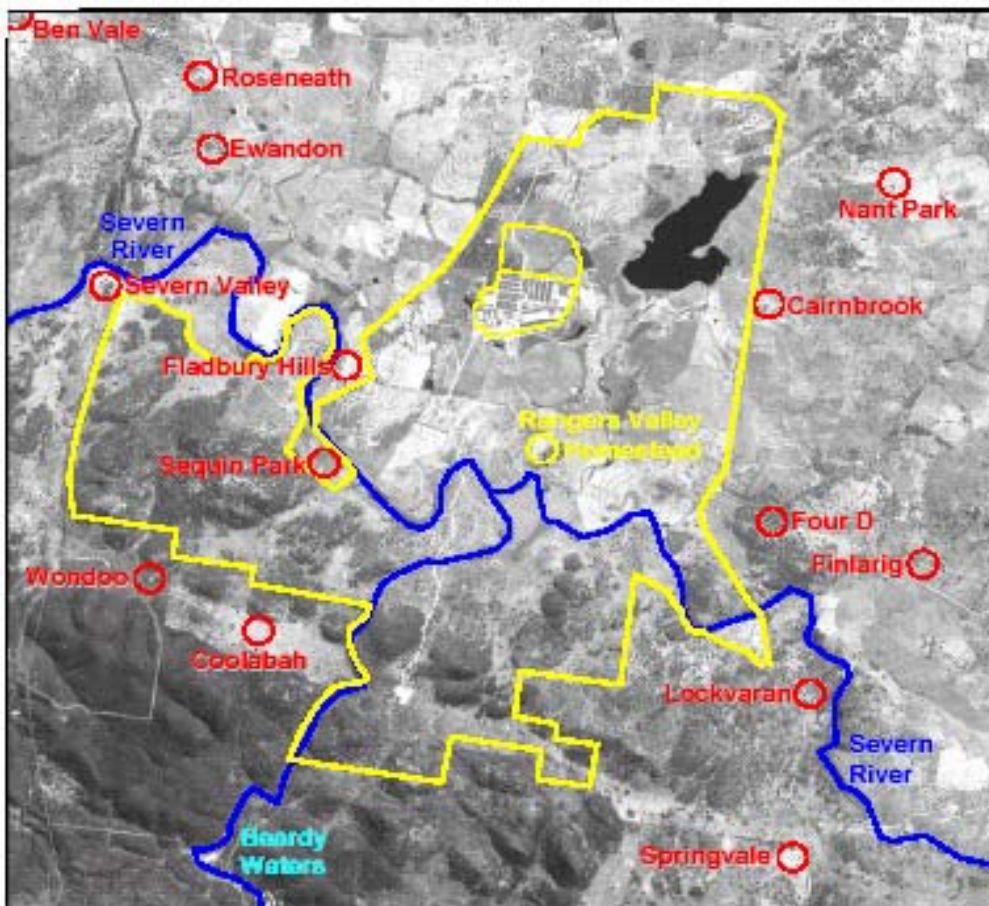
The area of pen expansion straddles a north/south trending spur ridge and slopes overlooking the valleys of Reedy Swamp Creek to the west and Cam Creek to the east. Much of the area has been cleared for grazing, however, there remains an area of grassy woodland which is dominated by box and smooth-barked eucalypts. The Applicant notes that the majority of these trees are between 30-50 years old, indicating that the area was

probably partially cleared for grazing some time ago. This is also evidenced by the prevalence of agricultural grasses in the understorey.

2.3 Surrounding Land Uses

The Rangers Valley property is surrounded on all sides by other rural/agricultural land. There are two rivers that pass through the property, the Severn River and Beardy Waters. The junction of these rivers is approximately 2 kilometres south of the feedlot infrastructure (pens and feedmill). The nearest dwelling not associated with the feedlot is located approximately 2.4 kilometres to the south west of the pen area. Figure 3 identifies the neighbouring homesteads and the location of the rivers.

Figure 3. Location of neighbouring homesteads and the Severn River and Beardy Waters.



3 THE DEVELOPMENT PROPOSAL

3.1 Description of Proposal

The Applicant sought development consent for expanding its existing operations from 24,000 head of cattle to 50,000 head. This included the proposed construction of 105 new pen areas located immediately adjacent and north of the existing feedlot, and increasing the output of the existing feed mill (refer to Figure 1 in the EIS for the proposed layout of the feedlot). Notwithstanding the Department recommending that development consent be issued as a Staged development, the assessment undertaken in the EIS has been based on the proposal being constructed and operated at 50,000 head.

The expansion would be undertaken in a number of stages as summarised in Table 1 below. However due to the proposed staging of the development consent, the timing for the final expansion from 40,000 to 50,000 head is unknown at this stage.

Table 1. Staging of proposed Rangers Valley Cattle Feedlot Expansion

Stage	Capacity (head)	Total feedlot pen area (ha)	Average stocking density (m ² /head)	Action
Current	24,000	34.94	13.6 - 14.55	N/A
1	30,000	46.19	16.4	Construction of pens (including hospital pens) 1 to 30. Modifications to waste management system.
2	30,000	46.19	16.4	Infrastructure changes including increasing the feedmill, changing receivables and dispatch system, removing silage ponds and installing a new drainage system, new office, relocating the manure stockpile, upgrading SW treatment ponds, and upgrading the main haul roads.
3	35,000	55.94	16.76	Construction of pens 31 to 50. Modifications to waste management system.
4	40,000	67.94	16.95	Construction of pens 51 to 80. Modifications to waste management system.
5	45,000	75.71	16.9	Construction of pens 80 to 100. Modifications to waste management system.
6	50,000	82.36	16.5	Modifications to waste management system including reconfiguration of old pen area in the south-west sector from an east-west direction to a north-south direction to improve drainage.

Each stage (with the exception of Stage 2) represents the construction of additional pens within distinct catchments. The staging would enable the construction of separate drainage, settling and treatment systems, as required. It is important to note that this staging represents a slight change from that originally proposed in the EIS. This is due to the potential odour impacts that were likely to have been associated with the proposal under the original program. The impacts of odour from the proposed expansion of the feedlot are discussed in greater detail in section 6 of this report.

The Applicant states that the proposed expansion would take approximately 5 to 10 years to reach the final capacity of 50,000 head. However, the final timing for the expansion is unknown at this stage given the requirement under the recommended development consent to undertake further odour assessment work.

Due to the operational nature of feedlots, the Applicant states that the Rangers Valley feedlot operates seven days a week, 52 weeks a year. The intensity of operations, however, varies throughout the week with most activities occurring Monday through Friday. The Applicant states that the feedmill will generally only be operated from Monday to Saturday, whilst manure spreading and incorporation activities and crop harvesting and processing will generally occur throughout the week.

Site Layout

Upon completion, the proposed feedlot expansion (pens and facilities) would occupy an area of 220 hectares that will include a number of holding ponds with a combined capacity of 630ML. This represents an increase of 140 hectares over the existing feedlot area.

The Applicant notes that the feedlot is located on a ridgeline and has two distinct, but small catchment areas. The entire feedlot is based on the centre of the site straddling a small knoll along the main ridge with distinct NE, SE, SW and NW controlled drainage areas.

Owing to the geographical limitations of the site, the feedlot has been designed to ensure optimal drainage from all feedlot pens and to allow the expansion of the facility with minimal impact of the existing environmental control structure. The Applicant considers that the design will also maximise control of wastewater treatment structures and includes safeguards against environmental or operational anomalies.

The Applicant notes that the pens will occupy 36.9% of the entire feedlot catchment area with grass, pond surfaces, roads and drains making up the remainder of the area.

The pens will have concrete troughs and a feed lane on the top side of the pens. A 2.5 metre wide concrete apron will extend behind all feed troughs. Pen rows will be separated by 20 metres which includes the drains and the next feed lane.

The feedlot will have four distinct catchment areas each containing its own settling pond and treatment pond. Wastewater from these ponds will pass either to irrigation or to a large wet weather storage. Feedlot hydrology is discussed in greater detail in section 6.4 of this report.

The proposed feedlot expansion will require the mill area to increase in capacity and as a result, more storage area for hay, silage and grain will be required as the general throughput of the mill will increase.

3.2 Justification for the Proposal

The Applicant highlights that there is a large and growing demand for Australian beef in countries such as Japan and Korea. This is primarily due to the good health status of Australian cattle and the perception that Australian agriculture is relatively unaffected by chemical pollutants and the low cost of production in this country.

In order to continue to satisfy the needs of beef in Japan and Korea, continuing expansion of the production of feedlot cattle in Australia will be necessary. In this regard, the Rangers Valley feedlot proposes to expand its operations to take advantage of this opportunity. The Applicant highlights that the expansion of its operations has advantages over developing a new feedlot on a 'greenfield' site as it can utilise its existing resources in a more efficient manner and potentially minimise the extent and nature of any environmental impacts relative to a new site.

By not expanding its operations, the Applicant states that it will forego the economic advantages of increasing the site for the export of beef. It would also forego the benefits of the economies of scale and enhanced operational efficiencies that would flow from an expanded operation which may ultimately affect the economic viability of operations at Rangers Valley. Associated social and economic benefits may also be lost at local, regional and federal levels if the feedlot closes.

Notwithstanding the above, the Applicant highlights that by them not expanding, it would not affect the opportunity of others from expanding.

The Applicant states that it could also purchase another feedlot to make up the shortfall. The Applicant does not consider this to be an ideal option as the economies of scale in operating two facilities may not be there and the efficiencies of operating one single site would be lost.

The Applicant also investigated the possibility of increasing production at the feedlot by a lesser amount. Whilst there will be corresponding changes in the magnitude of the

economic, social and environmental impacts, the Applicant states that the economies of scale and levels of operational efficiencies would not be as favourable.

Accordingly, the Applicant considers that by expanding to 50,000 head, it would be able to commit to economic and environmental improvements in northern NSW through the sustainable agronomic and environmental management of the feedlot. By expanding to 50,000 head, the Applicant would ensure that the waste management facility was upgraded and modified to the current best practice standards for this type of facility. The expansion would also look at increased efficiencies in animal receiving and handling, which in turn, would improve animal welfare.

4 STATUTORY PLANNING FRAMEWORK

4.1 Permissibility

The proposed development lies on land zoned 1(A) General Rural Zone under the *Severn Local Environmental Plan 2002*. This zoning makes the development permissible with consent.

4.2 Legislative Context

In accordance with the provisions of the *Environmental Planning and Assessment Act 1979* (the Act), the proposed development is classified as designated, integrated and State significant development.

As required for this type of development, an Environmental Impact Statement (EIS) was prepared and, in accordance with Division 4, Part 6 and Schedule 2 of the Regulation, the DA and accompanying EIS were publicly exhibited for at least 30 days. Exhibition of the documents took place between Thursday 22 August 2002 and Monday 23 September 2002 at the following locations:

- Department's Head Office, Planning Centre, Sydney;
- Severn Shire Council, Glen Innes;
- Nature Conservation Council of NSW, Sydney.

Nearby landowners and occupiers were notified in writing about the proposed development. The Department considers that the requirement of the Act to notify landowners adjacent to the development site and potentially adversely affected landowners has been met

Notification of the proposed development was placed in the newspapers listed below:

- the *Glen Innes Examiner* on 22 August 2002 and 5 September 2002; and
- the *Country Leader* on 27 August 2002.

The newspaper notifications provided details of the proposal, exhibition locations and dates, and information on how interested parties could make a submission. A number of site notices providing the same information were also displayed on the proposed development site for the duration of the exhibition.

State Significant Development

The proposal is a State significant development because it is a type of development (intensive livestock operations) listed in Schedule 1 of *State Environmental Planning Policy No. 34 – Major Employment Generating Industrial Development* (SEPP 34) that has an estimated capital investment of approximately \$20.4 million, and once expanded to 50,000 head, the feedlot will employ 65 to 70 people on a full-time basis. The proposal satisfies paragraph (a) of Schedule 1 of the policy, as it is an intensive livestock operation with a capital investment value in excess of \$20 million that will employ 20 or more persons on a

full-time basis. The Minister is the consent authority for State significant development and will therefore determine the application.

Integrated Development

The proposal is classified as integrated development under section 91 of the Act. In addition to development consent, the expanded cattle feedlot requires an Environment Protection Licence from the Department of Environment and Conservation (DEC) under the *Protection of the Environment Operations Act 1997*, and a water licence from the then Department of Land and Water Conservation (now Department of Infrastructure, Planning and Natural Resources, DIPNR) under the *Water Act 1912*.

Both the DEC and DIPNR were consulted during the preparation of the Director-General's requirements for the EIS, and notified of the lodgement of the DA for the proposal. Following the supply of copies of submissions in response to the public exhibition of the DA, both agencies forwarded comments and General Terms of Approval (GTA's) to the Department. The GTA's have been incorporated into this assessment report and the recommended conditions of consent for the proposal.

The provision of the GTAs by the DEC and DIPNR indicates that these agencies would be prepared to issue a licence, should the Minister determine to approve the proposal. The licences would be consistent with the development consent.

Designated Development

Developments listed in Schedule 3 of the Regulation, are classified as designated development as they have the potential, if not managed responsibly, to significantly affect the environment. The proposed development is classified as designated development under Section 21(1), Part 1 of Schedule 3 of the Regulation, as it is a "**livestock intensive industry.**" This is defined as:

(1) Feedlots that accommodate in a confinement area and rear or fatten (wholly or substantially) on prepared or manufactured feed, more than 1,000 head of cattle, 4,000 sheep or 400 horses (excluding facilities for drought or similar emergency relief).

As the proposal will accommodate more than 1,000 head of cattle in a confined area (50,000 head for this expansion), it is classified as designated development under section 77A of the Act.

4.3 Relevant Environmental Planning Instruments and Strategies

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

- *State Environmental Planning Policy No. 34 – Major Employment Generating Industrial Development (SEPP 34);*
- *State Environmental Planning Policy No. 30 – Intensive Agriculture (SEPP 30);*
- *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33);*
- *State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44);* and
- *Severn Local Environmental Plan 2002.*

Consideration of the proposed development in the context of the objectives and provisions of these environmental planning instruments is provided below.

State Environmental Planning Policy No. 34 – Major Employment Generating Industrial Development (SEPP 34)

On 27 September 2001, the Minister for Infrastructure, Planning and Natural Resources agreed that the proposed expansion of the cattle feedlot is a development to which *State Environmental Planning Policy No. 34 – Major Employment-Generating Industrial Development (SEPP 34)* applies. This determination was based on:

- the development having an estimated capital investment of \$20.4 million (excluding land), which exceeds the \$20 million threshold specified under paragraph (a)(ii) of Schedule 1 of the Policy; and
- the development is of a type listed under paragraph (b) of Schedule 1 of the Policy (that is, intensive livestock operations).

In accordance with clause 8 of SEPP 34, the consent authority for this development is the Minister.

State Environmental Planning Policy No. 30 – Intensive Agriculture (SEPP 30)

The aims of *State Environmental Planning Policy No. 30 – Intensive Agriculture (SEPP 30)* are:

- to require development consent for cattle feedlots with the capacity to accommodate 50 or more head of cattle, or piggeries with a capacity of 200 or more pigs;
- to provide for public participation in the consideration of development applications for feedlots or piggeries of this size; and
- to require the consent authority to ensure effective planning controls are in place for these types of development.

The proposed development is for the upgrade of a cattle feedlot from 24,000 head to 50,000 head. The development requires development consent under this policy and the Severn LEP. The Minister is the consent authority for this development. The proposed development has been advertised in accordance with the provisions of the Act (see above). The Department considers that the proposal is consistent with the policy.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development aims to identify proposed developments with the potential for significant off-site impacts, in terms of risk and/ or offence (odour, noise etc). A development is defined as potentially hazardous and/ or potentially offensive if, without mitigating measures in place, the development would have a significant risk and/ or offence impact on off-site receptors.

The proposal is considered "potentially offensive" as it requires an Environment Protection Licence (EPL) from the DEC. The DEC has issued General Terms of Approval for the proposed development, thereby indicating that it is prepared to issue the EPL. As such, the proposal does not constitute "offensive" development.

The proposed cattle feedlot may also be considered to be "potentially hazardous" as it stores and uses dangerous goods on site. Whilst the Applicant did not specifically assess the proposal against the provisions of SEPP 33, the Department's assessment concluded that the proposal is not considered to be "potentially hazardous." Hazards and risk is assessed in greater detail in section 6.11 of this report.

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44)

State Environmental Planning Policy No. 44 - Koala Habitat Protection was gazetted on 6 January 1995 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.

To this end, a number of local government areas in which populations of koalas are known to reside is provided in Schedule 1 of SEPP 44. As the Severn local government area is included in the Schedule, the proposed upgrade to the cattle feedlot constitutes a development to which SEPP 44 applies.

Potential koala habitat is defined as having a vegetation community with a minimum of 15% of the total number of trees in the upper or lower strata of the tree component which consists of species listed in Schedule 2 of the Policy. The Department sought clarification from the Applicant in regard to this, to which the Applicant responded. Details of this are discussed in section 6.5 of the report. In general, it was determined that whilst the proposed development site has a number of trees on the site, none of these species are listed in Schedule 2. Hence, the proposed development site is not considered to be potential koala habitat, or core koala habitat.

Having identified that the subject site is neither "potential koala habitat" nor "core koala habitat", all requirements of SEPP 44 have been fulfilled. Further consideration of impacts on flora and fauna is provided in section 6.5.

The Department considers that the development proposal is generally consistent with the aims and objectives of the above planning instruments.

Severn Local Environmental Plan 1991 (2002)

Under *Severn Local Environmental Plan 2002* the proposed cattle feedlot expansion is located on land zoned 1(a) General Rural Zone and is permissible with consent. Development of land within zone 1(a) must promote the proper management and utilisation of agricultural land and natural resources through protecting, enhancing and conserving, for example, water resources and native vegetation.

Development in this zone must also minimise the cost to community of fragmented and isolated development of rural land for living purposes and providing and maintaining public amenities and services, as well as providing land for future development such as urban and hobby farms, in accordance with the need for sustainable economic and social development.

The Department is satisfied that the proposed cattle feedlot can manage agricultural land and natural resources in an environmentally responsible manner. The Department considers that the proposed development would not affect the provision of land for future development such as urban development. The Department is satisfied that the proposal is consistent with the objectives of this zone.

5 CONSIDERATION OF ISSUES RAISED IN SUBMISSIONS

The Department received a total of 11 submissions in response to the exhibition of the DA and accompanying EIS for the proposed expansion of the cattle feedlot.

A submission was received from Severn Shire Council which stated they supported the proposal. The NPWS, NSW Fisheries, the RTA and NSW Agriculture also made

submissions on the proposal, however, these were received after the conclusion of the exhibition period. None of these agencies stated their support or otherwise on the proposal, however, each agency identified issues requiring clarification and made recommendations for conditions that could be included if the Minister granted consent to the proposal.

Six of which were from private individuals, one from a special interest group, one from a business. Of these submissions, one supported the proposal, seven objected to the proposal and one raised concern with the proposal.

The DEC and DIPNR requested additional information from the Applicant, to which the Applicant provided an adequate response. The DEC and DIPNR have provided their general terms of approval (GTAs) indicating the terms under which they would be prepared to issue an Environment Protection Licence and Water Licence, respectively.

The key issues raised in submissions were:

- odour impacts;
- water quality impacts, particularly on the Severn River;
- traffic impacts, particularly with regards to safety;
- effluent irrigation impacts;
- manure spreading, particularly due to odour and potential water quality impacts from runoff and seepage; and
- impacts relating to the disposal of cattle carcasses.

A summary of the major issues raised by each of these parties is presented in section 6 of this report, with full details of each submission provided in Appendix C. The Department considers that it has met the requirements of the Act in relation to receipt and consideration of submissions. There is no basis for the belief that any party has not been afforded every opportunity to comment on the proposal, or disadvantaged in any manner during assessment of the proposal.

6 CONSIDERATION OF ENVIRONMENTAL ISSUES

The Department has reviewed the Environmental Impact Statement for the proposed development, and duly considered all submissions from government authorities, Council and members of the public. As a result, the Department has identified a number of environmental issues associated with the proposal. A full consideration of each of the issues listed is provided from section 6.1 to section 6.13 of this report.

Issues identified as being of **key importance** to environmental planning and assessment:

- odour impacts;
- water quality impacts;
- waste management;
- flora and fauna impacts;

Issues identified as being of **importance** to environmental planning and assessment:

- traffic impacts;
- noise impacts;
- dust impacts;
- socio-economic impacts;

Other issues associated with the proposed development are:

- heritage impacts;
- hazards;
- insects and vermin; and
- animal welfare.

6.1 Odour Impacts

Applicant's Position

The odour impact assessment was undertaken in section 6.10 of the EIS. A more detailed assessment is provided in Appendix J of the EIS and was prepared by the consultancy firm Holmes Air Sciences on behalf of the Applicant.

Odour is considered to be the key issue for cattle feedlot operations and therefore is the subject of an extensive amount of research. The EIS indicates that most residents around the feedlot had a relatively positive attitude towards the feedlot, with those residents located closest to the feedlot or those down wind of the site frequently experienced noticeable odours. Manure spreading on the Rangers Valley site and on neighbouring properties was identified as the key source of odour annoyance.

The EIS suggests that the main odour sources from feedlot operations originates from manure pad in the feedlot pens (ie the surface of the pens), the cattle stocking density of the pens, effluent irrigation and manure spreading operations and the feedmill and silage storage areas. It is widely considered that the manure pad on the surface of the feedlot pens is the main source of odour emissions.

The potential impact of odour emissions was undertaken by comparing estimated odour concentrations with relevant odour criteria and through a detailed community survey. Odour concentrations from the proposal were estimated through an odour dispersion model. The EIS indicated that the odour dispersion modelling predicted that off-site odour levels would be close to the existing odour levels or slightly lower as a result of the proposed expansion. This had primarily been due to the overall reduction in the odour emission rate through the proposed reduction in pen stocking density and maintenance of the pad depth to 75mm.

The odour impact assessment undertaken in the EIS compared the predicted odour impacts determined through the dispersion model with the 20 Odour Unit (at the 99th percentile) goal under the Queensland Cattle Feedlot Guidelines. However in its assessment of the proposal, the DEC raised concerns with the odour modelling methods undertaken and its uncertainties as it was not directly comparable to the DEC's odour performance criteria outlined in the DEC's publication "Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW". As a result, the Applicant undertook a further odour assessment in accordance with the DEC's requirements and relevant odour criteria.

The predicted odour impacts at residential receivers compared to the DEC criteria over the proposed stages of the expansion of the cattle feedlot is provided in Table 2 below. Further analysis of the DEC's assessment of the proposal is provided in the latter part of this odour impact section of the Report.

Table 2. Predicted Odour Levels at Receivers Compared to the DEC 7 Odour Unit Criteria

Residence No.	Predicted odour levels at receivers (Odour levels)			
	Scenario			
	24,000 head	30,000 head	40,000 head	50,000 head
R1	6	4	4	6
R2	8	5	5	8
R3	4	3	3	5
R4	1	1	1	1
R5	6	3	4	6
R6	9	6	6	9
R7	<4	<3	<3	<4
R8	1	1	1	1
R9	5	3	3	5
R10	3	2	2	4
R11	1	1	1	1

R12	3	2	2	3
R13	2	1	1	2
R14a	3	2	1	2
R14b	1	1	1	1

Note: Figures in bold and shaded represent predicted levels in excess of the DEC criteria of 7 Odour Units / m3.

As illustrated by the above table, the revised odour impact assessment indicates that the 7 OU criteria is currently exceeded at two residential receivers (both located to the northwest of the site), then falling below the criteria for all receivers during the 30,000 and 40,000 head stage, and then to rise above the criteria at the two receivers again at the 50,000 head stage. The Table also indicates that the greatest predicted increase in odour levels for most receivers would be during the expansion of the feedlot from 40,000 to 50,000 head of cattle. The Applicant indicates that these results are consistent with the nuisance odour currently reported as part of the existing feedlots operations.

The Applicant has indicated that a number of mitigation measures currently utilised on the site will continue to be undertaken and additional measures will also be implemented.

The mitigation measures implemented relate to the minimisation of odour generated and emitted from the site and measures to maximise odour dispersion. The Applicant indicates that the proposed design of the expanded feedlot incorporates a number of design attributes aimed at reducing odour generation and emission. This includes:

- the proposed maintenance of the manure, frequency of the cleaning of the pens and the slope of the pen areas to promote rapid drying of the pen surfaces;
- placement of treatment ponds away from drainage areas and nearby neighbours;
- removal of silage pit holding ponds; and
- the management of stock feed to manage odour generation.

The Applicant indicates that one of the most effective measures for promoting odour dispersion is by planting trees around the boundary of the site to increase the mixing of odour emissions from the feedlot. It is suggested that trees increase the roughness of the terrain resulting in increased turbulence and therefore turbulence across the feedlot and reduce odour intensities.

Issues Raised in Submissions

While Severn Shire Council indicated that it supported the proposal, its submission raised some issues of concern that it indicated would need to be addressed in the assessment of the application. Council recommended the implementation of further odour mitigation measures and tree planting on boundaries to assist in diffusing odour emissions. It suggested that consideration should be given to the design and layout of odoriferous land uses.

NSW Agriculture also raised concerns about the potential odour impacts from the proposed development. The submission recommended that vegetated buffers be greater than minimum standards and suggested that consultation with affected neighbours be undertaken prior to the determination of the proposed development. It also stated that the modelled odour impacts should be presented to these residents and strategies for future conflict minimisation should be negotiated.

The majority of the six submissions received from the general public objected to the proposed development due to the existing and potential odour impacts associated with the feedlot. The public submissions indicated that odour emissions from the existing feedlot operation had caused impacts, particularly during certain wind conditions in summer and autumn. One individual suggested that if the proposal is approved, conditions should be imposed to ensure Rangers Valley maximised its efforts to reduce odour.

Department's Position

The Department acknowledges that the Rangers Valley feedlot has been responsible for the emission of some level of odour impact on some private properties as a result of its existing operations. However, the Department considers that through the proposed development and recommended odour management measures required by the Department and DEC, provides the opportunity to reduce and manage the potential odour emissions experienced by any nearby private residences.

The potential odour impacts from the proposal had been the subject of detailed assessment by the Department and DEC. During the assessment of the proposal, the Department and DEC met with the Applicant and their consultants on a number of occasions to discuss odour issues and the assessment undertaken in the EIS. The DEC had raised concerns with the Department concerning the odour assessment undertaken by the Applicant and had requested further information and analysis be provided. The DEC had been concerned that the EIS:

- used wind tunnel sampling data to validate predicted odour impact units provided in its model which were not comparable to the DEC's performance criteria outlined in its publication "Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW" which are based on measurements made with isolation flux hood methods and odour detection olfactometry;
- had not used any directly measured odour emissions data to validate its odour predictions;
- did not use site-specific meteorological weather data set used as part of the modelling undertaken; and
- proposed some operations that were did not always appear to meet best management practices.

The Applicant was requested to provide further details and clarification of the above issues raised by the DEC. These issues were clarified by the Applicant and supporting documentation provided. The DEC has advised the Department that it is satisfied with the further assessment and analysis provided in the additional information provided by the Applicant. The DEC indicated that it is satisfied that the odour impact assessment was conducted appropriately, and gives the best practical representation of possible impacts.

While the revised assessment indicates that two private residents (receivers R2 and R6) may presently experience odour levels greater than the 7OU criteria, the introduction of best practice measures and the requirements of the development consent conditions is expected to result in odour levels to fall below the 7OU criteria for all receivers during the expansion of the proposal from 24,000 head to 30,000 and likewise from 30,000 to 40,000 head. However, the assessment indicates that the predicted odour levels may again increase for the two receivers when the feedlot undertakes the final expansion from 40,000 to 50,000 head of cattle.

However to manage the potential odour impacts following the expansion of the feedlot from 40,000 to 50,000 head, the Department has recommended a number of strict consent conditions concerning the management and reporting on odour issues. This includes recommending that the development consent be issued as a 'Staged Development' under section 80(4) of the *Environmental Planning and Assessment Act 1979*.

A 'Staged Development' grants consent to the Applicant, except for a specified part or aspect of the development. This part or aspect of the development needs to be satisfied as part of another development consent. Under the recommended consent, the Applicant has development consent to expand the proposal to 40,000 head of cattle. The Applicant is unable to expand from 40,000 to 50,000 until it has obtained further approval from the

Minister. As part of seeking this further approval, the Applicant is required to undertake further detailed odour assessment work to the satisfaction of the Director-General and the DEC. The further work is required in order to demonstrate that the feedlot will be able to operate at full capacity (ie 50,000 head) and meet the relevant DEC odour criteria. The issues required to be satisfied under the recommended consent prior to being permitted to operate includes:

- a detailed Odour Impact Assessment Methodology of the proposed detailed odour assessment that will be undertaken. The Methodology is to include details of the odour dispersion modelling and odour annoyance survey that will be undertaken for all private residents;
- a detailed Odour Impact Assessment in accordance with the Methodology referred to above. The Assessment will include results of the odour sampling, dispersion modelling and annoyance survey undertaken; and
- demonstrating that the development will meet the 7 Odour Unit, or an industry specific odour performance criterion approved by the DEC at all nearby sensitive receptors or details of proposed where the odour criteria cannot be met, provide details of the odour mitigation and management measures that would need to be implemented in order to meet the criteria specified.

In addition to the above, the Applicant is also required to meet the provisions of s129 of the *Protection of the Environment Operations Act 1997*, [POEO Act] which requires the site to not emit any offensive odours. 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.

To also ensure that the environmental performance of the feedlot 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.

The Department considers that the recommended consent conditions, particularly staging the expansion of the proposal from 40,000 to 50,000 until the Applicant can satisfy the Department and DEC that odour emissions can be effectively managed, would provide for a greater level of odour management from the site.

6.2 Soils

Applicant's Position

Construction

A geotechnical investigation of the site was undertaken by the Applicant in order to determine the suitability of the on-site soils for construction purposes. Test pit sites were selected in areas proposed for the holding ponds, settling system, sedimentation basins and feedlot pen construction.

The results of the survey revealed no evidence of groundwater at the test pit locations. The soil was found to be predominantly sandy and/or silty clays with medium and high plasticity. The Applicant considers that such soil types are suitable for wastewater pond and sedimentation basin construction and would also result in suitable lining and no infiltration into any groundwater aquifers.

Operation

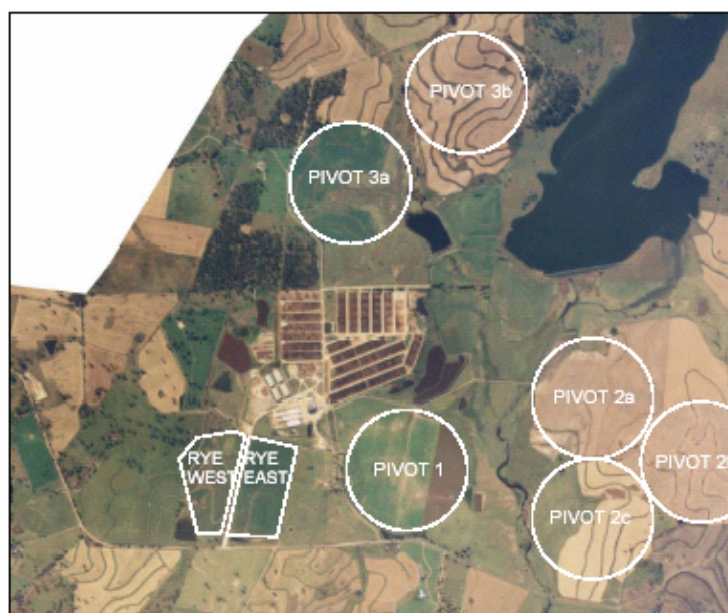
The existing operations at the feedlot incorporates the utilisation of 4,631 hectares of the surrounding farm land. At present, 190 hectares of this land is divided into five paddocks (Pivots 1, 3a, 3b and Rye East and Rye West) used primarily for the irrigation of wastewater generated at the feedlot (refer to Figure 4). However, the Applicant has indicated that these paddocks may also receive clean water, manure, and some inorganic fertilisers. The remainder of the paddocks indicated in Figure 4 (Pivot 2a, 2b and 2c) only receive clean water with the rest of the site managed as a dryland farm.

The Applicant states that poor past land management practices at the site saw a heavy application of manure and inorganic nitrogen fertilisers which led to increases in nitrogen (N) and phosphorus (P) in the soil. In recent times, the Applicant has implemented a planned program of effluent, manure, fertiliser application and crop rotation to address this issue, which has seen a reduction in available levels of N and either a stabilisation or lowering of P in the soils. However, the Applicant has acknowledged that current irrigation sites are experiencing increases in potassium (K) and sodium (Na) in the soils. As the excessive presence of these elements can lead to soil degradation, the Applicant states that it is currently working to remediate these soils through crop removal (to reduce K) and the addition of lime/gypsum (to reduce Na).

In order to determine the suitability of the site for the increased volume and application of waste (liquid and solid) from the proposed feedlot, the Applicant undertook a soil assessment of the site to identify suitable areas based on the physical and chemical characteristics of the soil. This analysis included paddocks currently not used for wastewater irrigation, and were tested for a variety of parameters (pH, total P, landform, flood levels and cation exchange capacity).

From this survey, the Applicant determined that 15 of the 38 paddocks tested were unsuitable of waste application. The remainder were concluded to be suitable for the proposed development given their physical and chemical properties. However, the Applicant stated that several of these paddocks would require remediation before any waste application activities could commence. The long-term management and implementation of the required amelioration measures is discussed in greater detail in section 6.3 of the report.

Figure 4. Location of existing irrigation paddocks at Rangers Valley



Issues Raised in Submissions

A submission received from a member of the public raised concern regarding the practice of polluting the environment through poor management practices (eg sites with elevated phosphorus or nitrogen), then remediating these sites through the application of substances (such as organic fertilisers) not naturally occurring or otherwise required in the existing environment.

Department's Position

The Department is satisfied with the site soil survey undertaken by the Applicant. The Department acknowledges that previous land management practices at the site have resulted in over application of wastewater leading to soil degradation. The Department is supportive of the Applicant's measures to ameliorate these soils and highlights that careful management will be required for the proposed application of effluent in order to ensure such problems do not re-emerge. Details of the amelioration measures are discussed in greater detail in section 6.3 of the report.

The Department is generally satisfied with the parameters used by the Applicant in order to identify areas that are suitable for proposed application of waste (solid and liquid). However, the Department notes that other factors, such as vegetation cover and crop management, had not been considered in determining sites suitable for the proposed use. In addition, the DEC and the Department (former DLWC) expressed concern that wastewater application would only be excluded from areas within the 1 in 50 year flood zone, as opposed to the recommended 1 in 100 year flood zone.

As these factors should be included into determining the suitability of certain paddocks for waste disposal, the Applicant has subsequently revised the areas proposed for wastewater irrigation and manure disposal. The Department has reviewed and is satisfied with this revision. However, the Department recommends a condition be imposed on the Applicant to ensure the proposed operations reflect the revised designated areas, should the Minister determine to approve the proposal. Issues relating to the management of these activities are discussed in greater detail in section 6.3 of this report.

The Department acknowledges the concern raised in a submission regarding the practice of polluting a site, then remediating the site only to potentially pollute the site again with poor management practices. Should the Minister determine to approve the proposed expansion, the Department recommends a number of controls be put in place, including monitoring and management plans to ensure the application of waste is done in an environmentally sustainable manner. This is discussed in greater detail in the following section of the report.

6.3 Waste management – wastewater and solid waste (consumables and manure)

Applicant's Position

Solid Waste Consumables

The Applicant utilises a range of consumable products for daily operations at the feedlot and associated farm. These products include materials for maintenance and construction, products in the feed mill and cattle processing areas, agricultural chemical containers and general refuse from administrative activities and operations. In order to minimise the risk of contamination from these waste products, the Applicant states it will ensure that all waste is identified and classified (where applicable) in accordance with NSW Guidelines. All waste products will be collected, treated and either disposed of or recycled to an appropriate licensed receiver.

Sustainable Waste Reuse

The Applicant currently applies some of its manure and all of its wastewater effluent on site. In order to maintain a sustainable application of effluent (in terms of nutrients etc in the soil), the Applicant states it will need to export a greater proportion of manure produced off-site as there will be more manure produced by the feedlot that can be applied on site.

The EIS outlined a 'mass balance' approach to determine the appropriate application rates of waste to an area that aims to balance the inputs into the system (water, nutrients, salt) with the removal of these (by crops, assimilation to soil and losses by gas, runoff and leaching).

Wastewater Utilisation

In order to determine the minimum irrigation area required at the feedlot to assimilate all of the nutrients in the effluent, the Applicant determined the mass balance of phosphorus, nitrogen and potassium present in various components of the feedlot. Results of modelling determined that under a 'high' intensity cropping regime, at least 260ha of land would be required whereas with a 'low' intensity regime, at least 670ha would be required.

The DEC sought additional information from the Applicant in relation to wastewater utilisation due to the limited margin of error and need for contingency plans in the model used. The Applicant responded by noting that the calculations used in the model were more conservative than those required by the NSW and Queensland feedlot guidelines.

Overall, the Applicant considers that the area of land available for the assimilation of nutrients entrained in the effluent holding ponds does not pose a significant constraint on the proposed development. Nevertheless, the Applicant states it will continue to monitor effluent quality and yield as well as the soil's nutrient status and crop yields and removal rates. On the basis of these results, the area's irrigated and the cropping and fertiliser programs may need to be adjusted to ensure that the applied nutrients are sustainably assimilated.

Proposed Irrigation Areas

Currently, the feedlot uses some 190 hectares for the irrigation of effluent on the site. On the basis of an extensive soil survey undertaken (discussed in section 6.2), the Applicant determined that a further 380 hectares of the property would be suitable for effluent irrigation. With the exception of those soils requiring amelioration prior to receiving wastewater, the Applicant states that around 300 hectares could currently be applied with wastewater without any major limitations. In the event that all of this area was to be irrigated, the Applicant states that this would provide approximately 490 hectares of irrigable land.

If the "high" intensity cropping regime could be sustained, the Applicant states that it would only be necessary to utilise approximately 53% of the available land to assimilate the nutrients estimated to be present in the holding effluent. The figure in Attachment A of this report shows those paddocks that the Applicant proposes to use for wastewater irrigation.

Solid Waste Utilisation

Based on data collected over the last three years at the feedlot, the Applicant states that on average, the current feedlot produces 56,000 tonnes of (wet) manure per year, of which 37,800 tonnes is applied on the property with the remainder being sold off-site. The Applicant projects that for a 50,000 head feedlot, it will produce 117,500 tonnes of (wet) manure per year with 55,400 tonnes applied on site and 62,100 sold off-site.

Clearly, with approximately 1600ha of arable non-irrigable land on the property, the Applicant highlights it would not be able to utilise all of the feedlot manure that will be harvested annually within these areas. Accordingly, it will be necessary to dispose of a major proportion of manure off-site. The Applicant states it has considerable experience and expertise in the marketing of feedlot manure to third party users.

Proposed Manure Utilisation Areas

The EIS did not provide a map identifying the locations where manure would be applied on site. Rather, the Applicant stated where it would not be applied. In particular, the Applicant stated it would not apply manure within 100 metres of a defined watercourse or 50 metres of any public road. The Department was not satisfied with this and sought clarification by way of a map to identify where manure would be spread. The Applicant subsequently provided this and is provided as Attachment B in this report.

The Applicant states that manure piles will be built down the slope so that the drainage of runoff is not impeded. To minimise the wetting of manure in the stockpile, the Applicant states that care will be taken with the shaping of the pile. Any rainfall runoff will drain directly into the sedimentation system and holding pond within the catchment drainage area of the pile. The Applicant advised that it will adhere to a manure spreading protocol to ensure that impacts are managed. This includes notifying nearby neighbours, checking the 4-day weather forecast to determine wind direction and ploughing manure within 24 hours (weather permitting) to reduce potential odour impacts.

Proposed Land Management Practices

As discussed in section 6.2, the Applicant identified that a number of paddocks on the site would require amelioration prior to the receipt of any wastewater from the expanded feedlot.

Whilst the DEC and DIPNR were satisfied with the broad methods used for amelioration, they considered the information provided lacked detail. Specifically, the agencies suggested that the Applicant develop a system which groups like paddocks (in terms of physical and chemical properties) with appropriate amelioration and/or management techniques. The Applicant provided details on this management approach which satisfied the issues raised by the DEC and DIPNR.

Issues Raised in Submissions

A number of private submissions raised concern about the potential impact of wastewater disposal and manure spreading. This included potential impacts from odours and on nearby waterways, local soils and that the Applicant has given no assurances that the existing operation is being managed properly.

The DIPNR stated it supported the principle of wastewater utilisation whereby the application of waste onto cropping lands is equalled by the subsequent removal of the crops. The GTAs from the Department make recommendations as to the proximity of irrigation areas to watercourses or the 1 in 100 year flood zone.

NSW Agriculture raised concern regarding the disposal of effluent as irrigation in those areas close to the Severn River citing that the map provided in the EIS appeared to show that irrigation could occur right down to the riparian zone of the river.

As part of the DEC's GTAs, the DEC recommended that the Applicant undertake extensive monitoring of soil and water and restrict the placement of effluent and solids to specific areas on the property to manage any potential impacts.

Department's Position

While the proposed expansion of the cattle feedlot will result in increased volumes of wastewater and solid waste to collect, treat, dispose and manage, the Department considers that the measures outlined by the Applicant and the recommended conditions of consent, provide appropriate measures for managing any potential impacts.

The Department is supportive of the measures proposed by the Applicant, such as the Applicant's management of wastewater application, particularly noting that it will focus on applying waste at a rate that will equate to its removal by crops rather than relying on the soil to act as a sink for nutrients. The Department also notes that the Applicant has made significant efforts to improve its waste management practices through soil testing and water quality monitoring to enable changes to be made to its application rates. The Applicant also proposes to establish additional liquid and solid waste utilisation areas on the property to deal with the additional nutrient load that will result from the expansion.

In addition to the measures proposed by the Applicant, the Department has recommended a number of additional measures to ensure the appropriate long term management of wastewater and solid waste generated by the proposal. This includes the incorporation of the GTA provided by the DIPNR and DEC and the measures outlined in the existing consent for the site issued by Severn Council. These measures include:

- Restricting the spreading of manure on paddocks to the areas identified in a figure provided by the Applicant (refer to Attachment B) in order to manage any potential impacts;
- Restricting the spreading of manure on any site that may lead to the contamination of groundwater, not permitting any manure application within 100 metres of any water course or within 50 metres of any public road;
- Measures to ensure that the quantity of wastewater and manure applied to the utilisation areas does not exceed the capacity of that area to effectively utilise the material;
- Soil testing prior to and continuously after application of wastewater/solids;
- Stringent monitoring requirements to determine the quality of water being applied to the site and hence application rates; and
- Restriction on the application of waste on certain paddocks to ensure the land is capable of receiving the additional nutrient load.

Should the Minister approve the development, the Department recommends that conditions require that wastewater application at the site is rigorously monitored to enable informed decisions to be made regarding the application of wastewaters to paddocks, in terms of the rate and the selection of the paddocks to receive wastewater, as well as the type of crops to be planted and the cropping regime. The Department believes that these measures will ensure that potential impacts from the wastewater and manure is minimised.

6.4 Feedlot hydrology - surface water and groundwater

Applicant's Position

Construction Matters

The Applicant states that the staging of the expansion will assist in minimising the impact on surrounding watercourses. During construction of the pens, the Applicant states that all sediment laden rainfall runoff will be contained and treated in a similar manner to that proposed for feedlot wastewater during operation, such as the use of sediment fences and silt traps to minimise the potential for sediment contamination of watercourses.

Surface Water and Water Supply

The Severn River bisects the property from east to west with Beardy Waters joining the Severn River within the property boundary. The Applicant notes that each watercourse has a significant catchment and flooding of alluvial flats from time to time. The Rangers Valley dam is located on Cam Creek and has a capacity of 5,000ML and covers an area of 108 hectares.

Water Supply Requirements

As part of the expansion of the feedlot to 50,000 head, the Applicant states it will require 2,687 ML of clean water (1,277ML for the feedlot stock water and 1,410ML for the wastewater irrigation areas). Under the existing allocation (24,000 head), the Applicant states it has 2,774 ML which is sufficient to allow the feedlot to expand, but only through the use of some river 'irrigation water' for stock consumption in the feedlot. Off stream storage of these waters will be used to mitigate against variations in river flows which may limit water supplies.

Water Quality

The Applicant undertook a voluntary water quality assessment of the Severn River and Beardy Waters which involved a macro-invertebrate study or bio-assessment analysis. A number of submissions raised concern about the robustness of this assessment, including the DIPNR and the DEC, which requested the Applicant provide a chemical analysis of the Severn River and Rangers Valley Dam to assess water quality. The Applicant highlighted that the bio-assessment was undertaken using clearly defined methodologies described in the literature, however, it provided this chemical analysis to the Department and determined that the feedlot does not have a significant effect on the water quality of the Severn River.

Flooding

A detailed flood survey was carried out by the Applicant on both the Severn River and Beardy Waters. Data obtained from the flood survey showed that a major flood event (1 in 100 year event) would have a limited impact on the paddocks adjacent to the river. Following advice received from the DIPNR and the DEC, the Applicant has now excluded the 1 in 100 year flood zones from all proposed irrigable areas in order to protect the groundwater and surface waters from potential pollution impacts.

Groundwater

The Applicant states that the groundwater systems at the site vary in nature from shallow and perched groundwaters through to deeper confined aquifers. Based on the groundwater vulnerability map of NSW prepared by the Department in relation to feedlot site selection, the Rangers Valley feedlot is located in a moderately undesirable area, requiring high level management and ongoing monitoring of groundwater and surface waters.

The DIPNR considered the proposed groundwater monitoring network is inadequate to estimate downward leachate of contaminants. The Applicant acknowledged that the existing monitoring bores on the site do not allow complete monitoring of all the proposed utilisation areas and states it will install 14 new piezometers below the utilisation areas.

The DEC requested additional information from the Applicant on shallow groundwater flow and the likely impacts from wastewater irrigation on soils and the groundwater table. The Applicant responded to the DEC's request by noting that the depth to water in the shallow groundwater systems is highly variable, and that identifying the exact location of localised groundwater is difficult. The DEC was satisfied with this. The DEC also sought additional information from the Applicant on methods to specifically address impacts of nutrient transfer into shallow groundwater aquifers. In order to protect against nutrient transfer, the Applicant states it will ensure that manure and effluent is not applied to sensitive areas (that is, skeletal shallow soils) and is only applied to areas providing the highest degree of protection (that is, deep soil profiles and deep clay layers). In this regard, the Applicant states that it will no longer be applying effluent to Pivot 2B which was used in the past for wastewater application, as its soils are considered too shallow.

The Applicant states it will continue to use spray irrigation so that application rates do not cause prolonged water logging or excess surface water runoff. All wastewater storages will be clay lined and placed mid slope to ensure they do not directly interfere with potential seep

areas or shallow groundwaters. A clay barrier will be used during the construction of all pens, drains, sedimentation basins and treatment ponds. As a further mitigation measure, the Applicant states it will incorporate tree lines below tail-water systems and along watercourses to help capture and contain nutrient and prevent it from moving into watercourses.

Site Drainage

The existing feedlot is divided into 4 sub-catchments each draining into separate holding ponds. The Applicant states the two southern catchments will not be significantly altered by the expansion of the feedlot and therefore the existing drains will be utilised, however, the two northern catchments will require substantial upgrading/ expansion as a result of the changes to the orientation and number of pens. The expanded feedlot will be designed to ensure clean water upslope of the feedlot does not enter the facility or its associated landuses. The site drainage will also be designed in a manner that takes into consideration the water balance of the catchment in order to ensure appropriate management of the site.

Site Water Balance

The FSIM model (Feedlot Simulation Model) was used to simulate the hydrological performance of the expanded feedlot catchment and holding ponds. The modelling results indicate that the minimum storage requirement for holding ponds is 441ML. Therefore, the feedlot will have surplus storage capacity for wastewater.

Issues Raised in Submissions

NSW Agriculture raised concern about the uncertainty associated with surface water availability and the total volume of surface water available for stock consumption. The submission also noted that a contingency plan for a loss or decrease in available water for both cattle consumption, cleaning and other water use activities should be developed.

Some private submission raised concern about potential water quality impacts, particularly on the Severn River and Beardy River catchment.

Severn Shire Council also noted that river water quality is an issue of concern which should be addressed.

In order to minimise the impact of wastewater application on adjacent waterways, the submission from NSW Fisheries recommended a foreshore buffer zone at least 50 m wide with their natural features and vegetation preserved. The submission notes that fencing may be required and that the width may need to be increased to 100m when adjacent to ecologically sensitive areas.

Department's Position

The Department acknowledges that the proposed expansion of the proposed feedlot has the potential to increase potential water quality related impacts. In undertaking an assessment of the proposal, the DEC and Department requested additional information on issues relating to surface and groundwater management. The Department stated that chemical analysis of the Severn River and Rangers Valley Dam should be provided to allow assessment of water quality. Information has been provided by the Applicant on these issues to both the satisfaction of the DEC and DIPNR.

The GTA's of both the DEC and DIPNR have been developed and were incorporated in the recommended development consent conditions. Should the Minister approve the DA, conditions require the Applicant to undertake detailed monitoring. The proposed monitoring regime will enable the Applicant to identify any potential problems associated with nutrient runoff or leaching and adjust its application rates accordingly. Other recommendations include:

- The preparation of a stringent groundwater monitoring program, including the establishment of new bores, to allow early detection of any likely impacts and allows a mechanism to modify management practices to address identified impacts, setting strict monitoring periods and water quality parameters to meet;
- Requirements for managing potential overflows from the holding ponds (and tailwater and wet weather storage ponds);
- Requiring the applicant to design its ponds to a set permeability standard to the satisfaction of the DIPNR, in order to minimise the risk for leaching of wastewaters to the ground;
- Restricting the proposed areas for applying wastewater and manure to minimise any potential water quality related impacts; and
- Detailed reporting requirements to the Department and other government agencies on the performance of the site.

The Department considers that through the proposed measures that will implemented by the Applicant and through the recommended stringent development consent conditions (which includes the GTA of the DEC and DIPNR), potential surface and groundwater impacts will be managed.

6.5 Flora and Fauna Impact Assessment

Applicant's Position

The Applicant has assessed the potential impacts of the proposal on flora and fauna in Section 6.11 of the EIS. Appendix L of the EIS provides a more detailed assessment and was conducted by Arnhem Environmental Impact Assessors Pty Ltd.

The EIS indicates that the proposed expansion of the cattle feedlot will occur over an approximate 40 hectare area. Of this area, the EIS states that some 5 hectares is currently timbered and represents around half of an isolated, disturbed remnant woodland surrounded by cleared paddocks.

The EIS outlines that the western end of the timbered area has been recently thinned and grazed upon while the remaining eastern section consists of dense regrowth and weedy ground cover. The regrowth consisting of mainly Fuzzy Box (*Eucalyptus conica*) and Blakely's Red Gum (*Eucalyptus blakelyi*) saplings and juveniles and sparsely scattered immature and mature trees. There were also some less common tress species, including Rough-barked Apple, Yellow Box and Bulloak. This 5 hectare woodland area, which is proposed to be cleared to allow for the expansion of the cattle pens and adjoining open paddocks which will be cleared of trees for a proposed large pivot irrigation paddock, represents the focus of the flora and fauna assessment.

The Applicant indicates that no threatened flora species listed under the *Threatened Species Conservation Act* 1995 (TSC Act) or any ROTAP species were recorded within the proposed development area. However, the National Parks and Wildlife Service Wildlife Atlas recorded the threatened Narrow-leaved Black Peppermint *Eucalyptus nicholii* and *Thesium australe* within a 10km radius of the site.

The fauna survey identified one (1) threatened bat specie (the Large Bent-wing Bat – *Miniopterus schreibersii*) possibly occurring within the vicinity of the proposal. The EIS suggested that the species is likely to utilise the proposed area as part of its foraging range as no suitable roosting habitat (ie caves) occur within the proposed development area. The EIS also indicates that the Tusk Frog (*Adelotus brevis*), an endangered population under the

TSC Act, is listed as occurring in the Tablelands area, however no species were identified on the subject site and no preferred habitat was located.

In relation to State Environmental Planning Policy No 44 'Koala Habitat Protection" (SEPP 44), the EIS indicates that one of the dominant eucalypt species on the site is a known food tree and is therefore considered to be potential Koala habitat. However, the EIS indicated that there was no confirmation that any core Koala habitat occurred on the site and concluded that there were no further requirements to satisfy under SEPP 44.

A referral was made to Environment Australia requesting consideration of whether approval is required under Chapter 4 of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Environment Australia has advised that the proposed development is not a controlled action and does not require an approval under the EPBC Act.

Issues Raised in Submissions

The submission by NPWS raised a number of issues with regard to the assessment of the potential flora and fauna impacts of the proposal and requested further information be provided by the Applicant. The NPWS requested that the Applicant provide further details on the location, type and extent of vegetation and habitats within the survey area (including illustrations), provide an overlay of the areas likely to be affected by the proposal and identify whether any suitable habitat for threatened species occurred outside the survey area and demonstrate the extent of interconnectedness to other remnants demonstrated.

NPWS also raised concern that the report did not identify whether the habitat proposed for removal comprises part of a larger remnant vegetation and requested further threatened species assessments, such as for the Brown Treecreeper (eastern species), Regent Honeyeater, Painted Honeyeater, Swift Parrot, Square-tailed Kite and the Box-Gum woodland be undertaken. The submission also suggested that a rehabilitation plan be developed to assist in mitigating the impact of vegetation clearing.

There was also one submission from a private individual which raised concern about a lack of detailed assessment of marine ecology, including threatened species.

Department's Position

The Department requested further information from the Applicant as part of its assessment of the potential flora and fauna impacts from the proposal. The information requested also included issues raised by the NPWS. The key issue related to the potential impact of the proposal on a scattered remnant (32ha) of White Box Yellow Box Blakely's Red Gum Woodland, an endangered ecological community. While the EIS appeared to describe that around 5 hectares of the woodland would be cleared the Department's assessment determined that the proposal would result in the removal of half (18ha) this remnant.

Other ecological issues raised by the Department for the Applicant to address included:

- the provision of a map to clearly illustrate the vegetation communities and condition of vegetation that occur on the site;
- revised Section 5A Tests for threatened species, in particular the Brown Treecreeper and the endangered ecological community White Box Yellow Box Blakely's Red Gum Woodland;
- the status of the Applicant's Environment Protection Biodiversity Conservation referral; and
- details on the Applicant's commitment to and planning for the conservation areas to offset the impacts of proposed clearing activities.

The Department also requested further clarification concerning the potential impacts of the proposal on the potential requirements of SEPP 44. However, its detailed consideration of the proposal under the provisions of SEPP 44 is provided in Section 4 of this Report.

The Applicant provided additional information to address the issues raised by the Department and NPWS. The Department considered that the additional information provided was adequate for the Department to complete its assessment. The revised Section 5A Tests for threatened species indicated that the proposal would be unlikely to have a significant impact on any threatened species or its habitat, or endangered ecological communities. The Department concurred with this conclusion.

Additional information on the condition of the vegetation in the area indicates that the impacts on the remnant would not be significant. This conclusion is supported as the remnant is highly disturbed and has low floral diversity, particularly lacking native understorey species. Notwithstanding, the Department considers that the loss of 18 ha of the endangered ecological community White Box Yellow Box Blakely's Red Gum Woodland is still an impact. However, as the proposed restoration of a portion of this community is included as part of the proposal, it is considered that the loss of 18 ha of this vegetation community is acceptable.

A referral was made to Environment Australia on 28 September 2001. Environment Australia determined that the loss of 18 ha of the endangered White Box Yellow Box Blakely's Red Gum Woodland community was not a controlled action on 24 October 2001. No further action was required.

The Department considered that the additional information provided sufficient justification for the location of the new pens (topographic constraints) and reasons for not being able to locate the pens on alternative sites which may reduce clearing impacts. As clearing cannot be avoided, the incorporation of 18ha conservation area as part of the proposal is supported.

Appendix 5 of the "Revised Threatened Species Assessment Rangers Valley Feedlot Expansion" (21 November 2002) provides brief, but adequate, information on the planning and management of the proposed conservation areas.

To ensure that flora and fauna impacts are managed, particularly that the proposed 18ha conservation area is adequate and addresses the impacts from clearing activities, the Department has recommended consent conditions for the Applicant to:

- implement a Vegetation Clearing Management Plan to detail measures to manage and minimise the impact of vegetation clearing during construction;
- protect 14ha of existing box-gum woodland;
- revegetate 7ha of box-gum woodland;
- protect the riparian woodland along the along the Severn River and associated drainage lines on Rangers Valley Station;
- undertake rehabilitation and weed control strategies as described in the additional information supplied;
- implement a Conservation Area Management Plan for the box-gum woodland areas (18ha) and riparian woodland as part of the proposal;
- ensure ongoing consultation with the Department, particularly with regards to grazing strategies in the conservation areas;
- undertake annual ecological monitoring over at least five years.

Implementation of the Conservation Area Management Plan would ensure the enhancement/restoration of vegetation to compensate for vegetation that has been permanently lost as a result of the cattle feedlot expansion. The Plan would include strategies described in Appendix 5 of the "Revised Threatened Species Assessment

Rangers Valley Feedlot Expansion” (21 November 2002). The Department is satisfied that the proposed measures will adequately manage the potential impacts of the expansion on flora and fauna.

6.6 Traffic

Applicant's Position

Traffic Volume

The Applicant states that the proposed development will result in an increase in the number of trucks used to transport commodities such as grain and hay to the site as well as an increase in the number of cattle being trucked into and out of the site.

The proposed expansion from 24,000 head to 50,000 head represents a 108% increase in cattle, and therefore the Applicant considered a 108% increase in the demand for commodities. Accordingly, the Applicant used this estimate to calculate the additional volume of commodities required and identified the type of trucks that typically transport these goods (either semi-trailer or B-Double) in order to determine the number of additional trucks that would be required to transport the loads. Similar calculations were done for the trucks required to transport the additional cattle, both at feeder steer (400kg) and finished steer (750kg) weights.

Using these assumptions, the Applicant determined that the number of heavy-vehicles required to transport commodities to the site would increase by 14 trucks per day, which equates to 28 two-way truck movements per day. This figure is based on a 6-day working week. With regards to stock movements, the Applicant states that the proposed expansion would result in an increase of 4 trucks per day (8 two-way movements) based on a 6-day working week. Other truck movements associated with the fuel, gas and molasses will increase by up to approximately 2 trucks per day (4 two-way movements).

Overall, the Applicant states that the number of trucks entering and exiting the site will increase significantly over existing operations from 17 trucks per day (34 two-way) to up to 37 trucks per day (74 two-way). The Applicant notes that this number of truck movements is considered to be a maximum and it is anticipated that there will be a reduction in numbers over time as more B-Doubles are used in preference to semi-trailers to transport commodities and cattle.

Traffic Routes

The Applicant states that truck access to the site is restricted to the Dundee-Emmaville Road. The Applicant notes that both the company and Severn Shire Council would prefer that all transport companies access the site from the township of Dundee and access from the township of Emmaville is strongly discouraged. Figure 5 below shows the preferred access route to the cattle feedlot.

Figure 5. Preferred access routes to Rangers Valley Feedlot (blue line)

The Applicant considers that it successfully manages road surfaces in order to minimise dust generation, and states that it will continue to do so following the expansion, through road surface grading and watering.

Intersections

The Applicant states that as part of the proposed development, the intersection of the Dundee-Emmaville Road with the New England Highway would need to be upgraded. This

is because there is currently no slip lane on the turnoff from the New England Highway to allow vehicles to pass. Preliminary discussions with the RTA suggest that the intersection would need to be upgraded to a Type B intersection. Appendix N of the EIS shows a typical Type B intersection with appropriate turning and deceleration lanes and a slip lane for vehicles to pass turning vehicles. The Applicant states it has approached the Federal Government for funding of this intersection.

Issues Raised in Submissions

The submission from Severn Shire Council stated that traffic management should be addressed, particularly noise and dust impacts from truck and vehicle movements and that access from Emmaville be discouraged. Council's submission also requested additional monetary contributions from the Applicant given that there will be increased stress on the roads as a result of the expanded feedlot.

Another individual raised concern about increased truck traffic on the gravel road which already poses significant danger. The submitter noted its objection to the proposal unless the road is sealed. Another private submission suggested that increased traffic will cause damage to a road which is unsuitable for the proposed use.

A special interest group raised concern about the ability of existing road infrastructure to cater for increased traffic as they are not adequate for present use. The submission also raised concern about the lack of turning lanes on New England Highway and turning intersections with Rangers Valley Road and Dundee Bald Nob Road, and stated that existing intersections are dangerous.

Two submissions raised concern about the lack of detailed assessment of traffic impacts. One of these submission also raised concern about the intersection with the highway and the need for an acceleration lane. The submitter also suggested that the intersection of Dundee-Emmaville Rd and the New England Highway be upgraded to meet the needs of the proposed development. Other concerns raised by the submission were that there was no assessment of the existing public road network servicing the feedlot and that a developer contribution of \$60,000 a year towards road maintenance is inadequate.

Department's Position

The Department notes that the Applicant did not provide details in its traffic report on the construction traffic impacts associated with the proposed expansion. The Applicant did, however, provide information on the volume of construction traffic as part of its road traffic noise assessment. This assessment showed that during peak construction times an additional 27.5 trucks (55 two-way movements) and 55 light vehicles (110 two-way movements) would be required per day. The Department notes that this represents a substantial increase over the existing operations, however, it is considered the movements will be within the available capacity of the road.

As part of its assessment of the impact of the feedlot expansion on operation traffic, it would appear that the Applicant did not take into consideration employee vehicles or customers purchasing manure from the feedlot. As with construction traffic, employee vehicle numbers for peak and typical operation were provided with the noise assessment. This assessment considered that there would be 40 small vehicles (80 two-way movements) per day during typical operations with a peak operation of 80 small vehicles per day. This is approximately double the current employee vehicle traffic at the feedlot. The Department notes that this represents a substantial increase over the existing operations, however, it is considered to be within the available capacity of the road. In addition, the recommended development consent condition require the Applicant to upgrade the intersection of Dundee-Rangers Valley Road and the New England Highway to a Type "B" intersection prior to the commencement of operations, to the satisfaction of the Roads and Traffic Authority.

The Department considers that the proposed upgrade of the intersection will benefit the existing network through increasing safety and improving traffic flows. This position is supported by both Council and the RTA.

The issue of contributions is discussed in greater detail in section 6.9 of this report. In general, the Department recognises that the proposed expansion would result in an increase in road usage, and accordingly, has included Council's request for contributions.

The Department considers that through the recommended condition discussed above, further measures such as restricting vehicle movements to specific routes (particularly the heavy vehicles), will ensure that traffic and transport related issues is adequately managed.

6.7 Noise

Applicant's Position

Background Noise Levels

The Applicant assessed the impact of noise from the proposed development in accordance with the DEC's *Industrial Noise Policy (INP)*, *Environmental Noise Control Manual* and *Environmental Criteria for Road Traffic Noise (ECRTN)*.

The Applicant undertook monitoring at two nearby locations from 14 September 2001 until 21 September 2001 in order to determine the background noise levels and establish the noise assessment criteria. The results of the monitoring are presented in Table 3 below. The first monitoring location was adjacent to the eastern boundary of Rangers Valley, near the Cairnbrook residence, while the second site was on the edge of Emmaville Dundee Road, approximately 3.3 km west of the main feedlot entrance.

Table 3. Background noise level (L_{A90}) at two locations nearby to Rangers Valley.

Logger location	Day (7am – 6pm)	Evening (6pm-10pm)	Night (10pm – 7am)
Cairnbrook	26.3	33.0	27.6
Emmaville Dundee Road	26.1	27.5	25.5

The Applicant notes that the Rating Background Noise Levels determined for each of the time periods is relatively similar and that this is common for rural areas with little industrial activity and noise from insects and frogs etc., at night.

Construction Noise Impacts

The Applicant states that construction will be undertaken in the period between 4 and 26 weeks. For construction periods of this length, the DEC's *Environmental Noise Control Manual* states that the appropriate noise criteria is 10dB above the existing background noise level. The INP states that when the existing background level is below 30dB(A), as is generally the case for this development, the rating background noise level becomes 30dB(A).

Accordingly, the relevant noise criteria during the construction phase of the proposed development is 40dB(A) $L_{A10(15\text{ minute})}$. This criteria is applicable from the hours of 7am to 6pm Monday to Friday and 8am to 1pm on Saturday only. For construction outside this time, the Applicant states that the operation noise criterion would apply. The Applicant states that the shortest distance between the site and the nearest receiver is approximately 2.5 kilometres.

In order to assess the impact of noise associated with the construction of the expanded feedlot, the Applicant identified the machines and processes that would contribute to the noise levels during that period. These machines include an air compressor, air wrenches, compactors, dump truck, grader, backhoe, mobile crane, angle grinder, concrete agitator, concrete pump and circular saw.

Operating the machinery on its own at full power and in exposed locations, the Applicant determined that the air wrench would exceed the criterion at the nearest receptor by 4 dB(A). Cumulative impacts from operating several machines simultaneously could also lead to the received noise being exceeded at the nearest receptor. For example, the Applicant states that operating the air driven wrench and a mobile crane in exposed locations would produce a combined noise level of 45 dB(A) $L_{A10(15\text{ minute})}$ at 2.5 kilometres.

Where a group of 3 machines are preparing a pad for the erection of a building, the Applicant states that the combined acoustic power level of these machines (operating at full power) would be 114 dB(A). At the nearest residential boundary, this equates to a received noise level of 38 dB(A) which complies with the construction noise criterion.

In general, the Applicant notes that minor exceedences of the construction noise criterion could be experienced when several items of earthmoving equipment and plant are utilised. To minimise these impacts, a number of measures are proposed to be undertaken including:

- undertaking louder construction activities such as earthmoving during the late morning/afternoon when most people will be active or at work and background noise levels are higher;
- machines on site should be fitted with effective exhaust silencers and shielding around the motors and must be maintained in good working order; and
- where practicable, machines should be operated at low speeds or power and should be switched off when not in use.

In addition, the Applicant states it would notify residents of the intended construction timetable and keep them up to date as work progresses. In this way, the Applicant considers it will help to maintain a good working relationship with the neighbours. A telephone complaints line would also be made available to enable residents to make complaints and a suitable complaints handling procedure would be developed to effectively handle any issues raised.

Operation Noise Impacts

Under the DEC's INP, the project specific noise criteria for a development are the more stringent of the intrusiveness criteria or amenity criteria. The Applicant notes, however, that for development in an area with little or no industrial development, as is the case with this development, the amenity criterion does not apply. Therefore, the project specific noise levels are determined by applying the intrusiveness criteria. The intrusiveness criteria is defined as the rating background level plus 5 dB(A).

Given the background noise levels in both areas monitored are very similar, the Applicant has used a conservative background noise level of 30 dB(A) to apply at all times, and hence, applied a project-specific noise levels criteria $L_{Aeq(15\text{ minute})}$ of 35 dB(A) for the day, evening and night periods.

In order to assess the impact of the proposed development on received noise levels, the Applicant identified the machines and processes that would contribute to the noise levels experienced during operation of the expanded feedlot. In particular, during the day and evening periods (7am to 10pm), the Applicant expects equipment such as excavators, front end loaders, feed truck, tip truck, straw chopper, vibrating roller, processing yard, water cart/bobcat/tractor, feedmill and front end loader and tractor to be operating. At night, the Applicant states that only the feedmill and a front end loader will be operating.

The results of the computer model for received noise levels as a result of the operation of the expanded feedlot are presented in Table 4 below.

Table 4. Received noise levels during day, evening and night operations. (No noise controls in place).

Residential Receiver	Day and Evening (dB(A),L_{eq}) (Neutral atmospheric conditions)	Night (dB(A),L_{eq}) (Noise enhancing conditions (8°C/100m and 1m/s wind))
Unnamed (NW of feedlot)	< 20	26
Fladbury Hill	27	37
Sequin Park	25	30
Nant Park	< 20	28
Cairnbrook	27	34
Four D	23	29

It should be noted that the Applicant calculated the noise contributions from farm machinery such as tractors and manure spreaders separate to the model used to predict noise levels from the operation of the feedlot. The Applicant considered this justified as the use of tractors on rural properties is commonplace and not unique to the feedlot. Even in the absence of feedlot, the Applicant argues that tractors would be present on the site, and hence, can be considered a normal source of noise during the day in any rural community.

It can be seen from the above table that the expanded feedlot could operate within the project specific noise levels during the day and evening under neutral atmospheric conditions. At night under noise enhancing atmospheric conditions, however, it is predicted that Fladbury Hill will experience a noise level approximately 2.5 dB(A) above the project specific noise criteria. The Applicant considers the enhanced noise is due to the front end loader working around the feedmill to supply produce.

In order to reduce received noise levels at Fladbury Hill, the Applicant recommended that the front end loader operate on the eastern side of the feedmill for at least 50% of the night. In doing so, the feedmill will act as an acoustic barrier, shielding Fladbury Hill from direct noise. From this, the model predicts the L_{eq} noise level can be reduced by approximately 3 dB(A), thereby complying with the project specific noise criterion of 35 dB(A).

Alternatively, the EIS suggests the erection of 3.5m high barrier between the front end loader and Fladbury Hill in order to reduce the received noise level. Materials that could be used include the stockpiled manure or gravel.

Road Traffic Noise Impacts

The Applicant states that traffic associated with the proposed development will utilise the Emmaville Dundee Road. From the DEC's ECRTN, this road is classified as a local road (rural). The traffic noise criteria for developments creating additional traffic on this type of road is 55 dB(A) $L_{\text{Aeq},1\text{hr}}$ during the day (7am to 10pm) and 50 dB(A) $L_{\text{Aeq},1\text{hr}}$ during the night (10pm to 7am).

The Applicant anticipates the number of employees will increase to approximately 70 people following the proposed expansion. The majority of vehicle movements will likely occur during the shift changeover period and that most vehicle will access the site via the Emmaville Dundee Road and link with the New England Highway.

The Applicant assumed that the majority of the vehicles would visit the site between 7am and 6pm. All traffic into and out of the site is assumed to come from the Emmaville Dundee Road heading in the direction of the New England Highway.

The Applicant has assessed the impact of road traffic noise from the proposed development using the DEC's intermittent traffic noise calculation method because of the non-continuous and relatively infrequent nature of traffic flow to and from the site.

The traffic noise assessment showed that the proposed development during peak construction and operation could meet all noise criteria at distances greater than 100m from Emmaville Dundee Road, however at distances less than this, there may be some exceedences. Specifically, the noise levels determined were:

- Peak operation – 49.5 dB(A);
- Typical operation – 46.1 dB(A); and
- Peak construction – 52.1 dB(A).

As all residences along Emmaville Dundee Road are greater than 100m from the road, the Applicant states that the road traffic noise criteria of 55 dB(A) $L_{Aeq,1hr}$ during the day and 50 dB(A) $L_{Aeq,1hr}$ during the night, can be met at all times and therefore that the proposed development would not result in a significant road traffic noise impact.

Issues Raised in Submissions

The submission from Severn Shire Council recommended noise control measures including a noise monitoring program to enable subsequent measures to be implemented should the need arise. The Council also stated that noise impacts from truck and vehicle movements should be addressed.

A submission from a private individual indicated concern that plans contained in the EIS did not indicate where gravel and manure stockpiles will be located to provide an effective acoustic barrier.

In its General Terms of Approval, the DEC states that the noise from the site must not exceed 35 dB(A) at any time.

Department's Position

While it would appear that the Applicant did not assess background noise correctly as the monitoring was undertaken whilst the feedlot was operating, the Department considers that this would not have affected the results of the noise modelling undertaken by the Applicant. This position is supported by the DEC who raised no concerns with the methodology used in the EIS to determine the proposals potential noise impacts.

In relation to construction noise, the Department notes that noise modelling undertaken for the construction period revealed that the Applicant may not be able to meet the construction noise criteria at all times. However, the Department is satisfied that the proposed measures that will be implemented by the Company and through the recommended development consent conditions will ensure that construction noise is managed. The Department is also satisfied that the road traffic noise criteria will also be met.

In its GTAs, the DEC has limited the noise from the cattle feedlot to 35 dB(A) at all times at the most affected noise receptor. As discussed above, the Applicant predicted that under noise enhancing conditions at night, Fladbury Hill may receive noise levels of up to 37 dB(A) without mitigating controls in place. The Department is supportive of the measures proposed by the Applicant to reduce noise levels and considers that with these in place, the noise criteria of 35 dB(A) could be met at Fladbury Hill. The Department notes that the noise assessment explicitly excluded tractor operations from the modelling, highlighting that it forms part of any normal farming operations in the area. The Department concurs that tractor noise may be excluded from the assessment as it is common in the area and would generally be an intermittent noise. The DEC is supportive of this position.

The Department recommends if consent is issued for the proposal, a number of noise related conditions be included to ensure that noise from the feedlot is effectively managed. This includes the implementation of specific construction and operational noise criteria and

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

6.8 Dust Impacts

Applicant's Position

The dust impact assessment was undertaken in section 6.10 of the EIS. A more detailed assessment is provided in Appendix I of the EIS and was prepared by EA Systems on behalf of the Applicant.

The EIS indicates that the main dust sources associated with cattle feedlots are the surface of the manure pad and cattle pen areas, surface of internal roads and laneways, manure spreading activities and from the operations of the feedmill. It is suggested that the manure pad surfaces and internal road and laneway areas are the two primary dust sources, particularly under prolonged dry conditions.

The EIS suggests that observations from existing cattle feedlots show that dust generation from the pens is greater during the late afternoon and at dusk. This is due to cattle that have been resting through the heat of the day becoming more active following the drop in temperature. The EIS also indicates that the dust generated during the cooler period also tends to hang in the cooler air.

The EIS advises that the majority of dust generated by the existing Rangers Valley project is generated by traffic on unsealed roads, feed handling activities and from the movement of cattle within the pens. However, dust generated by the operation of the feedlot is dependent on the pen stocking density, wind speed, rainfall and evaporation patterns.

The Applicant suggests that the existing management practices combined with the sites proposed low stocking density of around 16.5m²/head and its location in a relatively high rainfall area, will effectively manage any potential dust issues associated with the feedlots expansion. Water will also be applied to the unsealed internal roads to minimise dust generated from these areas.

The Applicant has indicated that a number of mitigation measures currently utilised on the site will continue to be undertaken to manage potential dust impacts.

The mitigation measures include:

- the daily application of water to unsealed internal roads by water truck;
- the spreading of manure in accordance with the Company's existing Manure Spreading Protocol. This includes considering longterm weather forecast prior to any spreading, considering wind directions when spreading in certain areas that are close to private properties, and chisel ploughing manure within 24 hours of it being spread (weather permitting).

Issues Raised in Submissions

In their submission, Severn Shire Council raised concern about the dust generated by traffic on internal roads and from cattle movement. There was also a submission from a private resident who raised concern about dust associated with truck traffic on an unsealed road.

Department's Position

The Department considers that the EIS has provided a reasonable assessment of the potential dust impacts associated with the proposal and is supportive of the proposed mitigation measures described in the EIS. This position is supported by the DEC who raised

no concerns about the methodology used in the EIS to determine the dust impacts and also raised no concerns about potential dust impacts that may arise from the proposed development. The requirement of the DEC to ensure that feedlot is designed, constructed, operated and maintained in a manner to minimise dust emissions from the site has been incorporated into the recommended consent conditions.

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. The recommendations include requirements for the Applicant to ensure all potential dust generating vehicles entering or leaving the site and carrying a load that may generate air pollution are covered at all times, except during loading and unloading and maintaining all trafficable areas. The conditions also include a requirement for the construction and operation of a meteorological station on the site for the purposes of a detailed air quality monitoring and reporting program required for the site. This includes requirements for monitoring and reporting on dust emissions.

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

6.9 Socio-economic issues

The Applicant considers that the expansion of the Rangers Valley feedlot will produce positive and substantial changes in both the local and regional economies. Quantifiable changes will include;

- direct impacts such as increasing employment rates and additional value adding to the economy; and,
- indirect potential impacts such as shortening the life of local roads due to increased use. (The Applicant notes, however, that it currently, and will continue to, offset this impact through ongoing contributions towards road maintenance and upgrading).

The Applicant considers there will also be non-quantifiable changes such as increased market stability for feed and cattle producers, possible price premiums for grain and cattle, new market opportunities, the maintenance of existing businesses, the maintenance of local services, enhanced employment, and social impacts.

The Applicant states that the construction cost of the expansion is estimated to be \$15-20M with construction continuing over a 2-3 year period. It is also estimated that the construction workforce would utilise approximately 30 full time employees with the majority of labour drawn from local areas (Deepwater, Emmaville and Glen Innes). The salary and wages costs for construction crews is estimated to be about \$1.5-2M/annum.

The Applicant highlights that the Rangers Valley feedlot is currently the largest non-government employer in the area. The feedlot employs 34 permanent full time, four permanent part time and two casual staff. The current salary and wages costs for Rangers Valley are \$2.2M/annum (including on-costs). The expansion of Rangers Valley feedlot from 24,000 head to 50,000 head will create significant direct labour requirements. The Applicant estimates that the employment base will approximately double at the completion of the expansion, creating employment for some 65-70 people. It is anticipated that the employment base will draw from Glen Innes, Emmaville, Deepwater and other areas surrounding Rangers Valley, and salary and wage costs will approximately double to \$4.4M/annum (including on-costs)

The Applicant also anticipates additional indirect employment through other surrounding businesses and an increase in other local people dependent on the feedlot.

The Applicant notes that the feedlot currently utilises many contractors for maintenance and construction work on the feedlot. These contractors are largely based and operate in the local and regional area. The contracted services at Rangers Valley include: cattle transport; feed transport; hay cutting and baling; silage and corn harvesting; cultivation; fencing; plumbing and electrical work; feedlot construction; legal; environmental; medical; IT support; pest and weed control; feed testing; cattle agistment (nine properties throughout NSW) feed supply

The Applicant states that turnover for the feedlot in 2001 was in the order of \$47 million with a feedlot capacity of 24,000 head. The Applicant states that this figure would roughly double for a 50,000 head feedlot to \$100 million. Currently \$20M/annum is spent on feeder cattle, \$15M/annum is spent on feed commodities, and \$6M/annum is spent on abattoir processing. It is indicated by the Applicant that these expenses would roughly double to \$40M/annum, \$30M/annum, and \$12M/annum respectively following expansion.

Issues Raised in Submissions

A submission from a private individual noted concern about a lack of detailed assessment of social impacts.

One submission stated that the projected increase in local wages justifies the application for expansion of the feedlot, and notes that the larger number of employees and other input required from Agriculture will boost Government Taxation and export income. Another individual indicated support for the project from a business perspective and as a significant employer in the community.

The Department received a submission from a member of the public which raised concern in relation to the 'project alternatives' suggested by the Applicant (see section 3.2 of this report). The submission also raised concerns regarding the Applicant's claim that by not expanding, opportunities to upgrade the facility may be lost, thereby questioning whether the existing operations were not adversely affecting the environment.

In its submission, Council stated its full support for the proposal. Council also requested updating the current section 94 contributions agreement to allow for an increase to the current contribution of \$0.03/T/km, by \$0.001/T/km/year over the 5 year expansion to a maximum of \$0.035 with a full review of the contribution to be carried out after this time. Council considers this increase justified as the feedlot expansion will result in increased tonnage and truck movements on the Emmaville-Dundee Road, placing increased stress on the road. This will result in the need for substantially more funds than is currently received in order to keep the road in a manner suitable for the increased use.

Department's Position

The Department acknowledges that should the proposed expansion proceed, the project has the potential to impact on a range of socio-economic factors, particularly in the local area. The Department recognises the significant positive impact of the proposal to the Severn local government area, particularly the employment opportunities through the creation of up to 36 new full time positions and the subsequent flow on effects for the local area.

The Department acknowledges that the Applicant has not provided great detail as to whether remaining at 24,000 head would affect the long-term viability of the feedlot itself. Notwithstanding, the Department highlights that the Applicant did not definitively state it would result in the demise of the company, but pointed out that over the long-term, opportunities for exporting may be lost which could inturn affect economies of scale resulting in a less profitable feedlot.

In relation to the environmental performance of the facility, the Department highlights that the feedlot currently operates under a development consent issued by Severn Shire Council and an Environment Protection Licence (EPL) issued by the DEC. The cattle feedlot is currently classed as a Class 2 feedlot which designates the current management and development standards under which the feedlot operates. This type of feedlot operation is within the environmental limits imposed by the EPL and development consent. The Applicant states that as part of the upgraded facility, it would also seek to increase the standard of operations to a Class 1 feedlot which involves changes to some operational and management practices. The Department highlights that the expansion of the facility could be undertaken without upgrading the facility to a Class 1 standard, however, the Applicant sees this as an opportunity to do both. The Department is supportive of the Applicant upgrading the facility to a Class 1 cattle feedlot facility.

The Department notes that if the proposed development is approved, Rangers Valley should continue with ongoing contributions towards road maintenance and upgrading to offset and prevent reducing the life of local roads due to increased use. In its submission, Severn Shire Council stated that in line with the expansion of the feedlot, the Applicant should also be required to increase its contribution per tonne of product hauled on the roads. The Applicant has agreed with this request.

The Department also considers that the recommended development consent conditions will also ensure that the potential social impacts of the proposal will be adequately managed.

6.10 Impacts on Heritage Items

Applicant's Position

Indigenous Heritage

An archaeological investigation was conducted for the proposed expansion with a survey area of approximately 68 hectares on the Rangers Valley Cattle Station Pty Limited property. This area covers that portion of the site proposed for the expansion of the feedlot pens. A representative of the Glen Innes Local Aboriginal Land Council (LALC) was present during the archaeological survey. The EIS states that due to the location of the proposed pen expansion along the main ridge line and the lack of apparent surface sources for raw stone material, it is highly unlikely that any artefacts of Aboriginal significance would be located within the survey area. It is noted that the area may have had indigenous visitors at some time, however they would have most likely only been in transit, foraging for food resources, seeking box trees for potential resources or trees suitable for bark removal.

The report noted that although the survey area occurs in a region in which there is the potential for sites to occur, there is only a very low potential for the survey area itself to contain any archaeological material for the reasons stated as well as due to the generally disturbed nature of the site. In addition, it was also noted that if any archaeological material is present, it would likely consist of very small isolated artefacts or isolated stone axes, none of which would be observed other than by chance. Indeed, the outcomes of the investigation showed that there were no artefacts or sites of indigenous origin in the survey area. Further, the representative of the Glen Innes LALC confirmed in a letter (see Appendix M of the EIS) that he was unaware of any cultural association with the survey area.

The archaeological investigation report recommended that in the absence of any defined artefactual context or places of indigenous cultural significance within the survey area, that there be restrictions to the expansion of the feedlot proceeding as proposed. The EIS acknowledged that although the investigation did not identify any sites of indigenous or heritage significance that will be impacted upon by the proposed works, in the event that a relic or item is discovered during earthworks, all associated operations should cease and

details of the discovery communicated to the appropriate people. Work should not commence until those officials have investigated the material and permission has been given to proceed.

Issues Raised in Submissions

No submissions raised issues relating to aboriginal and non-aboriginal heritage.

Department's Position

The Department concurs with the findings of the archaeological investigation that there is a low potential for the survey site to contain artefacts of archaeological or cultural significance. This position is considered justified given the topography of the area, the lack of apparent surface sources for raw stone material and the fact that no items were uncovered during the survey. The Department, therefore, is satisfied that the proposed development would not impact on any items of indigenous or non-indigenous heritage significance.

The Department is satisfied that the Applicant has adequately consulted with the Glen Innes LALC with respect to the proposed expansion, who has indicated that they are unaware of any Aboriginal cultural significance with the area.

The Department is of the opinion that the implementation of the recommendations of the Archaeological Investigation Report, discussed above, would provide adequate protection in the event any item of archaeological significance is uncovered during construction of the expanded feedlot.

6.11 Hazards

Applicant's Position

The Applicant states that although the expanded feedlot will require an increase in the quantities of fuel, veterinary and other commodity usage, the current storage facilities need not be increased. This is because there will also be an increase in the turnover rate for the use of these chemicals as well as an increase in the number of deliveries per week to account for this. With regards to agricultural chemicals (pesticides, herbicides and insecticides), the Applicant states that there is unlikely to be a significant increase, however, as with the other chemicals, should an increase be necessary, the Applicant would increase the number of deliveries per week rather than increase the on-site storage.

The Applicant states that all chemicals and pesticides used at the feedlot will be registered in New South Wales and all chemicals will be used in accordance with the manufacturer's specifications and label instructions.

Agricultural chemicals

The Applicant notes that all agricultural chemicals are brought to site by licensed carrier, and with the exception of the flake surfactant, are stored in a secure chemical shed. The Applicant indicates that the shed is located at the southern part of the facility within the site security fence, which is dry, ventilated and secure with a concrete floor so that spills cannot enter the environment. The Applicant states that the chemicals themselves are generally stored in 20 litre drums on spaced pallets raised above the ground. Quantities stored at any one time are determined by requirements at the time of year, however, there is little storage of significant volumes surplus to seasonal requirements. The Applicant states that any spills are absorbed with sand or absorbent such as vermiculite (stored in the shed) which is then contained within sealed containers for appropriate disposal by a licensed contractor.

Flake surfactant is stored at the feed mill in a 1000L PVC tank which is located on the concrete floor at the mill dosing area. The Applicant notes that all drainage from the area is collected by the contained site drainage system which feeds to the site effluent storage and

treatment ponds. As a result liquid from this area cannot enter the environment. Sand is available to absorb spills from the tank if required.

The Applicant notes that many of the chemicals are used as sprays. Spray preparation occurs by trained personnel in the open air to avoid exposure to vapours generally close to the chemical storage area where spills would be contained within the site drainage system. It is noted that all personnel wear appropriate garments and respirators (when required) in order to handle the chemicals. The Applicant states that all personnel carrying out spraying are trained in appropriate procedures so that excess spray is not applied in the environment.

It is noted that the above containment and spill prevention measures are in place to ensure no chemical enters soils or surface waters and minimal chemical enters the site drainage system.

Fuels

The Applicant states that all fuels are brought to the site by licensed carrier. Fuel types include diesel, unleaded and leaded petrol which are stored in above ground tanks and are located within bunded areas of 110% total tank volume. The Applicant states that in the unlikely event that a fuel spill is not contained within the bunded area, the spill would not enter natural soil or surface waters off site but may affect the downslope effluent irrigation area. This area would be contained and treated for contamination as appropriate.

The Applicant states that the LPG tank is contained in a fenced off, secure area close to the administration office. This tank is owned by the supplier and all appropriate safety equipment and fire fighting equipment is supplied and available.

Veterinary chemicals

The Applicant has indicated that these chemicals are supplied by approved pharmaceutical suppliers and delivered to site by licensed carrier. All of these chemicals are stored in small quantities and are held in a locked fridge in the administration office and are administered to cattle by specifically trained personnel or the veterinary doctor. The Applicant states that any potential spillages would be small and the spill would be absorbed immediately and disposed of appropriately.

Issues Raised in Submissions

The issue of hazards was not referred to in submissions.

Department's Position

Under the Dangerous Goods Code of Australia, pesticides and insecticides are classed as 6.1 – toxic substances, whilst petrol is classed as 3.1 flammable liquids and LPG, class 2.1 – flammable gases. Diesel is not considered to be a dangerous good, but is referred to as a combustible substance. Under *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development*, a development is considered to be “potentially hazardous” if, without mitigating measures in place, the development would have a significant risk on off-site receptors.

Where a development proposes to store dangerous goods on site, as is the case with this development, the Applicant must undertake a preliminary risk screening of dangerous goods to establish whether the proposed development would constitute “potentially hazardous industry” and consequently whether a Preliminary Hazard Analysis (PHA) would be required.

Whilst the Applicant has not specifically addressed this Policy, the Department highlights that the volumes stored on site at any one time are not expected to change nor is the storage location. Despite this, based on consideration of the volumes of stored goods, the quantities

of the goods stored as well as the location of these goods, a Preliminary Hazard Analysis would not be required.

The Department is satisfied that the measures undertaken by the Applicant with regards to the storage and containment of fuels, agricultural products and veterinary products can be effectively managed and implemented. Should the proposed expansion be approved, the Department recommends a condition be imposed to ensure that all dangerous goods and combustible fuels are stored and handled in accordance with the relevant Australian Standards and DEC Guidelines.

6.12 Insects and vermin

Applicant's Position

The Applicant notes that the main pests associated with feedlots are the common house fly, the common blow fly, gnats and in some cases mosquitos, with vermin problems generally related to rodents. It is acknowledged that pests can carry diseases or cause irritation which may affect the cattle. The Applicant highlights that warm conditions (in particular Summer months) and high stocking densities in feedlot pens may be ideal for pest breeding. However, the Applicant states that with simple pen management through moisture control, manure removal and chemical controls, pests can be kept to a minimum.

Flies

The Applicant states that flies are generally not considered to be a significant problem at the feedlot, however, there have been some reports of gnats occurring in swarms. The Applicant considers that the origin of the flies on site is from the clean water storage facility on the site, which will not change as a result of the proposed expansion.

The Applicant states that flies may only become a problem during the summer months at Rangers Valley as the conditions during other times of the year are not favourable. The Applicant does not currently have a fly problem and highlights that following expansion, it will continue with its current management practices, to ensure that this remains the case. In particular, the Applicant states it will ensure that pens are regularly and thoroughly cleaned, including removal of manure from under the fences and in drains and sedimentation devices, and from where drainage is impeded.

The Applicant anticipates that fly numbers will increase in proportion to cattle numbers, but not necessarily double. As the expansion progresses, improvements to general drainage, wastewater and manure storage, and pen management will ensure best management practices are followed to minimise the impact of flies.

The Applicant acknowledges that damp holding pen surfaces produce odours which attract flies and provide suitable fly breeding sites, particularly the depressions in the surface. Water leakages from troughs and piping also create damp areas ideal for breeding. The Applicant states that in order to reduce the impacts associated with excess moisture, it will ensure that:

- hollows in the earthen pen surface are promptly filled in;
- water leaks in the pens are promptly repaired; and
- when earthen pen surfaces are cleaned, special attention is paid to the maintenance of a smooth, uniform slope to promote effective drainage.

The Applicant states that under some circumstances, insecticides may be needed in order to reduce fly numbers, however, chemical control would only be used in accordance with appropriate waste management practices. In some circumstances, the Applicant states it may also control/ kill adult flies using baits.

Rodents

The Applicant notes that rodents are common in areas where feed is plentiful and predators (such as cats, snakes, etc.) are restricted, such as the feed mill, silage pits, hay storage areas and paddocks storing crops. It is noted that rodents are carriers of disease and may pose a significant problem to human health should their numbers escalate.

The Applicant states that it currently, and will continue to use the following measures to control rodents after the expansion including:

- a baiting program using an approved rodenticide that will be varied regularly to avoid resistance developing;
- maintain buildings and grain storage structures so that entry of rodents continues to be difficult; and
- removal of split grain and quick, effective disposal to avoid the attraction of vermin.

Issues Raised in Submissions

Severn Shire Council raised concern in their submission about the number of flies and insects that will emanate from the proposed feedlot and suggested that development consent should address measures to assist in vector control.

A submission from a private individual also raised concern about problems currently experienced as a result of small flying insects which emanate from manure and settling ponds.

Department's Position

The Department considers that the procedures outlined by the Applicant to control both insects and vermin at the facility, including the measures currently implemented which are proposed to continue, will provide adequate protection against outbreaks of pests.

The Department does not recommend any conditions over and above those management measures described in the EIS.

6.13 Animal welfare

Applicant's Position

The Applicant states that it is (and will continue to be), its responsibility to ensure that all animals in its care are properly and responsibly managed in accordance with the *Australian Code of Practice for the Welfare of Cattle in Beef Feedlots* and the *Australian Model Code of Practice for the Welfare of Animals – Cattle*. The Applicant states that compliance with these codes is subject to independent auditing under the National Feedlot Accreditation Scheme.

The Applicant has developed an Animal Care Statement in line with the code and National guidelines which will be modified to accommodate the increase in cattle at the feedlot. This Statement outlines procedures and policies required for disease control and veterinary care as well as describing the means for mass disposal of livestock should a large number of deaths occur at the facility.

Cattle Mortality

The Applicant predicts that approximately 600 head of cattle per year will die of natural causes. This represents less than 1% of the throughput of cattle at the facility. In the event of an isolated death, the Applicant states that the carcass will be removed promptly from the pen and that an autopsy may be required in order to determine the cause of death. The carcass will then be disposed of within an identified composting windrow within the manure composting areas. The Applicant states that the composting of carcasses will be done in accordance with relevant legislation and licencing conditions and that the pile will be clearly

marked and managed on a day to day basis. Fully composted material will be incorporated into the proposed manure application program or sold off-site.

In the event of a mass death of cattle at the site, the Applicant states that it is likely to be as a result of an exotic disease. In this case, the Applicant states that the relevant authority (NSW Agriculture) would control the containment and destruction of livestock. The Applicant highlights that access to the site would be restricted during this time and strict quarantine requirements implemented, in accordance with regulatory guidelines. The Applicant notes that the disposal of large numbers of mortalities by burial is not possible at Rangers Valley. This is because of the proximity of ground waters to the surface and hence, cremation has been identified by the company as the only suitable method of disposal.

In the event of a mass disease outbreak, all carcasses would have to be disposed of within 48 hours of their death. The Applicant states that the pyre would likely be located in the vicinity of Pivot 3a as it is close to the pen area, has relatively deep soil profiles and is contained within a controlled drainage area. The current fuel specification from relevant guidelines requires that carcasses be burnt within 48 hours.

The Applicant notes that there may be a decrease in the air quality, particularly odour and smoke residue, in the immediate vicinity of the pyre for several days. However, the Applicant states that for this site there is no feasible alternative due to the shallow ground waters. The Applicant highlights that the disturbance would occur over as short a time frame as possible, thereby minimising the impact.

All neighbours in the Rangers Valley district would be notified of any disease outbreaks and measures for their mass disposal, where required.

Issues Raised in Submissions

The submission from NSW Agriculture recommended that the Applicant undertake a 'mass death' contingency plan to detail the transport and disposal arrangements for large numbers of cattle in the event of an outbreak of disease.

Another submission received from a member of the public raised concern that the centralising of 50,000 cattle into an area standing in up to 75mm of excrement would be an ideal way to incubate disease. Further, spreading of manure that could harbour disease is also of concern.

Department's Position

The Department notes that the Applicant already has a number of procedures in place with regards to managing the welfare of animals at the feedlot and is supportive of these measures. The Department recommends the Applicant continue in its approach to animal welfare, ensuring that all codes and practices operating at the feedlot are in line with current best-practice standards.

The Department notes the concern from a member of the public regarding the increased likelihood of disease outbreaks owing to the centralisation of cattle. The Department highlights that as part of the expansion, the Applicant intends to reduce the stocking density of cattle from its current rate of 13.7m²/head to 16.5m²/head. This will be in line with best-practice feedlot management.

In the event of a mass outbreak of disease, the Department considers it prudent to contact the regulatory authorities and undertake any directions from those authorities to ensure the outbreak is contained and eradicated. The Department recognises that mass disposal of cattle on-site may result in a temporary decrease in local air quality, however, it is considered that as the carcass disposal would only be for a short duration, any impact would also be

short-term. The Department notes that all neighbours in the Rangers Valley district would be notified of any disease outbreaks and any plans for the mass destruction of animals. The Department concurs with this approach. Further, the Department highlights that a telephone complaints line could also be used to provide the public with an opportunity to inform the feedlot of any concerns or issues that they may have in regard to the disposal of the carcasses.

The Department supports the location of the pyre in an area near to the pens, to minimise the length of time taken to dispose of the carcasses. The Department also supports the pyre being located in an area that is contained within the controlled drainage area to ensure that runoff from the pyre is contained and adequately managed and disposed of.

Should the Minister determine to approve the proposed expansion of the cattle feedlot, the Department recommends that the Applicant be required to update and implement its Animal Welfare Statement, in line with all current best-practice codes. In addition, the Department recommends the Applicant implement an Emergency Disposal Protocol that details measures that will be undertaken to manage and dispose of carcasses in the event of a mass-death event at the feedlot.

7 SECTION 79(C) CONSIDERATIONS

The Department has evaluated the DA in accordance with the matters for consideration listed under Section 79(C) of the *Environmental Planning and Assessment Act 1979*.

The Department has assessed the proposal against these matters, and is satisfied that:

- The proposal is generally consistent with the provisions of the relevant planning instruments;
- The potential impacts of the proposal can either be mitigated or managed; and
- The proposal is generally in the public interest.

Based on this evaluation, it is considered that the merits of the proposal warrant the granting of development consent, subject to the recommended conditions of consent.

8 SUMMARY OF RECOMMENDED CONDITIONS

The 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 and independent organisations. Should the Minister determine to approve the development application, the Department recommends that a number of conditions be included with the aims of controlling and monitoring the future environmental performance of the cattle feedlot.

The Department's key recommendation is to issue the development consent as a Staged Development under Section 80(4) of the *Environmental Planning and Assessment Act 1979* to ensure that the project can demonstrate it will be able to operate at full capacity (ie 50,000 head) and meet the relevant DEC odour criteria. Under the recommended consent, the Applicant has development consent to expand the proposal from the existing 24,000 head of cattle to 40,000 head. As part of this consent, the Company is required to obtain further approval from the Minister to expand from 40,000 to 50,000. As part of seeking this further approval, the Company is required to undertake further detailed odour assessment work to the satisfaction of the Director-General and the Department of Environment and Conservation. The Department considers that the recommended consent conditions will provide for a greater level of odour management from the site.

The conditions of consent also establish 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 and effluent wastewater management.

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

9 CONCLUSION

The Department considers that the proposed development is consistent with local, regional and State planning instruments and provides important economic and social benefits through generating employment and investment as well as increasing Australia's export of beef.

The Department is satisfied that all key environmental concerns have now been adequately addressed. It is recommended that the development application be approved subject to the conditions of the recommended instrument of consent. 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 and the application of the consent conditions, which incorporate the General Term of Approval of the DEC and the Department, that environmental impacts can be adequately managed.

10 RECOMMENDATION

It is RECOMMENDED that the Minister:

- (i). Consider the finding and recommendations of the Department's Assessment Report for DA-261-8-2002-i (this document, tagged "B");
- (ii). Grant consent to Development Application No. DA-261-8-2002-i, as submitted by Rangers Valley Cattle Station Pty Ltd, subject to the conditions set out in the instrument of consent (tagged "A"); and
- (iii). Sign the instrument of consent (tagged "A").

Chris Ritchie
Senior Environmental Planning Officer
Major Development Assessment

ENDORSED

Sam Haddad
Executive Director

APPENDIX A – SUBMISSIONS SUMMARY

GOVERNMENT AUTHORITIES

<p>1. Severn Shire Council <i>R N Langford (GM)</i> PO Box 447 Glen Innes 2370</p>	<ul style="list-style-type: none"> • Support the proposal • Council stress that adequate conditions be put in place to minimise any possible adverse environmental impacts • Issues of concern that should be addressed <ul style="list-style-type: none"> - Odour - Dust - Noise - Traffic management - Section 94 contributions toward road infrastructure - River water quality - River levels - Vector control • Odour – implementation of further odour mitigation measures, tree planting on boundary, design and layout of odoriferous land uses, concern that adjoining residences are less than the recommended separation distances as specified by DEC odour guidelines • Dust – generated by traffic on internal roads and from cattle movement • Noise – noise control measure recommended including noise monitoring program to enable subsequent measures to be implemented • Traffic management – noise and dust impacts from truck and vehicle movements, discourage access from Emmaville • Section 94 contributions – need to increase the current rate, increased tonnage and truck movements will place increased stress on the road • Vector control – concern with the number of flies and insects emanating from the feedlot, development consent should address measures to assist in vector control • The re-imposition of conditions of Council's consent to the original application
<p>2. Department of Land and Water Conservation Barwon Regional Office I.J. Mead Senior Natural Resource Officer PO Box 550 TAMWORTH 2340</p>	<p>Crown Lands</p> <ul style="list-style-type: none"> • More concise plans of the location of Crown lands required • Identify Crown lands affected by proposed development, including areas of effluent and waste disposal <p>Flood</p> <ul style="list-style-type: none"> • Should identify 1:100 year flood level on a plan <p>Water Availability</p> <ul style="list-style-type: none"> • With regard to flush dams below effluent irrigation areas, should capture 50mm of run-off to meet requirements <p>Water Quality</p> <ul style="list-style-type: none"> • Should provide chemical analysis of Severn River and Rangers Valley Dam for assessment of water quality <p>Groundwater Issues</p> <ul style="list-style-type: none"> • Present groundwater monitoring system inadequate – require input from Hydrogeologists to ensure better monitoring <p>Rising Groundwater Levels</p> <ul style="list-style-type: none"> • Issue of rising water table – future irrigation use should not exceed total discharge (consumptive use + groundwater outflow) <p>Contamination of Groundwater and Surface Water Resources</p> <ul style="list-style-type: none"> • Concerned with polluted run-off from a variety of sources. Over applying manure can have serious environmental impacts. • The main potential on/off-site impacts of effluent re-use arise from drainage through the soil with leaching of salt and nutrients, particularly nitrate, to groundwater and effluent run-off to rivers and streams following overflow from irrigated areas and storage ponds. • Rangers Valley has undertaken a voluntary water quality assessment of the Severn River and the Beardy Waters, however no chemical parameters were reported

	<p>Groundwater Monitoring</p> <ul style="list-style-type: none"> Proposed monitoring network is inadequate to estimate downward leachate of contaminants Proposed monitoring bores must be capable of monitoring: <ul style="list-style-type: none"> the groundwater flow (direction and rate) in the shallow and deep aquifer units, aquifers below and around the irrigated and adjacent areas; and the natural groundwater-chemical state upstream and downstream from and below the development area Hydraulic tests should be performed in the screened bores to determine the hydraulic characteristics of the aquifers (transmissivity and storage coefficient). <p>Soil, Nutrient and Water Balances</p> <ul style="list-style-type: none"> DIPNR supports principle of waste application equalling removal from subsequent agronomic cropping activity. <p>Construction Requirements</p> <ul style="list-style-type: none"> Proper engineering plans should be prepared for major structures (Holding Ponds Wet Weather Storage, etc). Such plans allow balancing of material required for construction and specification of earthwork activity eg moisture content (watering) and bulk density (rolling) to achieve desired Hydraulic Conductivity from these structures.
<p>3. NSW National Parks and Wildlife Service Estelle Blair A/Manager, Conservation Planning Unit Locked Bag 914 Coffs Harbour NSW 2450</p>	<p>Vegetation Community and Fauna Habitat Identification</p> <ul style="list-style-type: none"> Concern that the report titled “Flora & Fauna Site Investigation, Rangers Valley Feedlot Expansion”, dated October 2001, does not show composition of vegetation on a map. Maps should be prepared that illustrate the extent of the vegetation and habitats present in the study area. In addition a map should be prepared with an overlay showing areas likely to be affected by the proposal. Report does not identify whether the habitat proposed for removal forms part of a larger remnant vegetation. Need to identify whether suitable habitat for threatened species occurs outside study area and demonstrate the extent of interconnectedness to other remnants. <p>Section 5A Assessment</p> <ul style="list-style-type: none"> The impacts of the proposed development on the Brown Treecreeper (eastern subspecies), Regent Honeyeater, Painted Honeyeater, Swift Parrot, Square-tailed Kite and the Box-Gum woodland need to be determined and a Section 5A assessment applied to determine the significance of the impacts. The eight part test should not only be limited to species recorded on the NPWS Wildlife Atlas. Species referred to on page 19 of the Report should be subject of a Section 5A assessment. Suggested that Section 5A assessment should be applied to the species listed on page 3 of the NPWS submissions. The estimated extent of clearing differs between eight hectares in the EIS and five hectares in the Report. “Clearing of native vegetation” has been listed as a Key Threatening Process on Schedule 1 of the TSC Act and “Land Clearance” is listed as a Key Threatening Process under the Commonwealth’s Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). All Section 5A assessments are to take into consideration this key threatening process. <p>EPBC Act Assessment</p> <p>Recommend that PlanningNSW request the Commonwealth Minister to reconsider whether the proposed feedlot expansion requires approval from Environment Australia.</p> <p>Mitigation Measures</p> <ul style="list-style-type: none"> The report includes very few measures to mitigate the impacts of the proposed development. Recommend a rehabilitation plan be developed to assist in mitigating the impact of

<p>4. NSW Agriculture Bob Bennett Agricultural Environment Officer PO Box 546 Gunnedah NSW 2380</p>	<p>vegetation clearing.</p> <p>Odour</p> <ul style="list-style-type: none"> Concerned with odour impacts from proposed development. Recommend that installation of vegetated buffers be greater than minimum standards. Recommend that consultation with effected neighbours be undertaken prior to the determination of the proposed development. The modelled odour impacts should be presented to these neighbours and strategies for future conflict minimisation should be negotiated. <p>Water Availability</p> <ul style="list-style-type: none"> Concern that there is substantial uncertainty associated with surface water availability to the proposal. Including concern that there is confusion over the total volume of surface water available for stock consumption (para 1, pg 6-41 of the EIS). A contingency plan for a loss or decrease in available water for both consumption by cattle and for cleaning and other water use activities should be developed. <p>Water quality monitoring</p> <ul style="list-style-type: none"> Commends the voluntary water quality monitoring program but would like the monitoring to include indicators such as nutrient levels with the water sources. <p>Effluent irrigation in close proximity to the Severn River</p> <ul style="list-style-type: none"> Should identify where effluent will be applied as irrigation. Concerned with the disposal of effluent as irrigation in areas close to the Severn River. Concerned that the map indicates that effluent irrigation could occur right down to the riparian zone of the river. <p>Mass Mortality</p> <ul style="list-style-type: none"> A “mass death” contingency plan should be developed for the transport and disposal of large numbers of cattle as a result of some catastrophic event.
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PRIVATE INDIVIDUALS

<p>1. WITHHOLD NAME & ADDRESS</p>	<ul style="list-style-type: none"> Object to the proposal Salinity & contamination of the Severn River, especially downstream from the feed lot Water quality from increased nutrient levels Disposal of waste product – excess nutrients in the Severn River after high rainfall events Stockpiling of waste should remain the responsibility of the feed lot, not contract farmers Concerned with water quality of the Severn River due spreading of manure along and across water courses less than 1 km from the river Concerned with water quality due to spreading of manure by contractors in the Beardy River catchment, whose headwaters are often of a sodic nature Threat of disease incubating, especially in summer months – livestock congregating in their own excrement Odour has increased over past 3-4 years and potential to increase further State of the roads and the impact of increased traffic Poor community relations previously experienced with Rangers Valley Increase in commodity price of grain since large long term feedlots have become common place Objects to diesel fuel rebates for foreign owned companies
<p>2. WITHHOLD NAME</p>	<ul style="list-style-type: none"> Object to proposal Was not informed of proposal Objects to absence of forewarning of the proposed development The threat to the Severn River due to doubling the capacity of the feed lot Blue-green algae in the Severn River – has increased over past 10 years Odour noticeable in summer & autumn evenings with certain wind conditions – fears increase in odour

<p>3. H.F. Stevenson "Finlary" Dundee 2370</p>	<ul style="list-style-type: none"> • Object to the proposal • Increased truck traffic on the gravel road that is dangerous at present • School bus has to move off the road when passing trucks – bus hit by gravel • Object to the proposal unless road is sealed – have been told this will be the case
<p>4 WITHHOLD NAME & ADDRESS</p>	<ul style="list-style-type: none"> • Object to proposal • Odour affected when wind from certain directions • If proposal approved conditions should be imposed to ensure Rangers Valley maximise efforts to reduce odour • Damage to unsuitable road from increased traffic
<p>5. WITHHOLD NAME & ADDRESS</p>	<ul style="list-style-type: none"> • Objects to proposal • Not formally advised • Public notification – insufficient details on the notice, layout and placement of notice • Difficulty in obtaining a copy of the EIS • EIS – lack of detailed assessment of: <ul style="list-style-type: none"> - marine ecology – water quality & threatened species - social impacts - traffic impacts • Presentation of figures and tables in EIS – confusing and difficult to identify components • Consultation – should be documentation of community consultation in EIS <ul style="list-style-type: none"> - concerned no advice from RTA in appendix - concern that NSW Fisheries should be formally consulted • Soil suitability – no assurance in EIS of existing operation being managed properly <ul style="list-style-type: none"> - concerned with the continued use of paddocks for effluent and manure spreading that presently have elevated levels of potassium (sodic soils) - placement of manure with concentrations of Na will increase potential for salinity on already sodic soils - pollution of catchment area due to effluent and manure placement - concerned that increased blue-green algal blooms in the Severn River are from elevated levels of nitrogen and phosphorous in the soil - remediation of polluted lands by substances not occurring in existing environment • Groundwater – should be monitoring to detect changes in surface and sub-surface water conditions • Surface water – off stream storage areas and the impact on the flow of the river <ul style="list-style-type: none"> - concerned that Rangers Valley does not agree with water calculations undertaken by DIPNR to determine water demand – (EIS pg 6-41) in reference to capture of tailwaters - capture of "first flush" rainwaters on paddocks shown as suitable for effluent application - concern that flood impact assessment did not include waterlogging and potential for increased surface run-off from proposed effluent application areas near Cams Creek and Severn River • Water quality – critical of the voluntary water quality assessment programme undertaken by Rangers Valley, and that it is not independent <ul style="list-style-type: none"> - concern with location of effluent treatment pond and paddocks identified as suitable for effluent application - proximity to catchment areas • Waste disposal – concern that sale and application of manure to other lands can't be controlled or managed by Rangers Valley <ul style="list-style-type: none"> - no proposal for composting - no details of non-organic/non-putrescible waste generated • Noise – concerned that EIS plans do not show where gravel and manure stockpiles will be to provide an effective acoustic barrier <ul style="list-style-type: none"> - should not be permitted to generate noise levels 5dB(A) above background levels at boundary of neighbouring properties

	<ul style="list-style-type: none"> • Increased odour – critical of odour assessment and conclusions – changes to operational management practises which to date have not been undertaken to address existing odour <ul style="list-style-type: none"> - currently experience odour from the feed lot - planting of trees will not sufficiently mitigate odour • Road impacts – no detailed calculations showing how total number of truck movements have been determined <ul style="list-style-type: none"> - highway intersection and need for acceleration lane - main access road (Dundee-Emmaville Rd) requires an upgraded intersection with the New England Hwy to meet traffic needs of proposed development - Yarrowford to Rangers Valley Rd has a restricted 12T limit – concerned it is difficult to ensure the use of Dundee-Emmaville Rd because of the reduced distance between Glen Innes and the feed lot using the road from Yarrowford - no assessment of existing public road network servicing the feedlot - assessment of traffic impacts and the likely contributions required by Severn Shire Council for road up-grading and maintenance - \$60,000 contribution is not adequate enough • Sustainable waste reuse – proposed waste disposal off-site not sustainable • Environmental Management Plan – critical of environmental monitoring outlined in EIS <p>Further Submission</p> <ul style="list-style-type: none"> • EIS presents no assessment of the environmental suitability and potential impacts of 62,000 tonnes per annum of manure proposed to be sold for application on lands not included in the DA or EIS
<p>6. WITHHOLD NAME & ADDRESS</p>	<ul style="list-style-type: none"> • Object to proposal • Odour – can't open windows in summer • Critical of the timing of environmental departments' visits to assess odour impacts – visit when crops are in full bloom and no manure spreading • Dust associated with truck traffic on unsealed road • Small flying insects from manure or settling ponds – have to turn the lights out in summer and close all windows • Impact of the flow of the Severn River due to pumping by Rangers Valley • Impact of the proposal on the families' health & lifestyle

SPECIAL INTEREST GROUPS

<p>1. Dundee Reserve Trust Liz Chappell Honorary Secretary c/- Devon House Dundee 2370</p>	<ul style="list-style-type: none"> • Welcome proposal from a business viewpoint and significant employer in the community • Concerned with the ability of existing road infrastructure to handle the increased traffic. • Roads are not adequate for present use. • Concerned with lack of turning lanes on New England Hwy turning intersections with Rangers Valley Rd and Dundee Bald Nob Rd • Present intersections are dangerous
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BUSINESS

<p>1. Ridgemount Pastoral Company W.A. James Burridge Ridgemount Pastoral Company Dundee via Glen Innes NSW 2370</p>	<ul style="list-style-type: none"> • Support the proposal • The projected increase in local wages justifies the application for expansion. • The larger number of employees and other input required from Agriculture will boost Government Taxation and export income.
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