

# Assessment of cattle feedlots

Updated September 2017

*EPA 674/17: This guideline will assist a relevant authority (as defined by the Development Act 1993) to undertake an environmental assessment of proposals for cattle feedlots.*

## Introduction

The information contained in this guideline is in lieu of the advice given by the Environment Protection Authority (EPA) in responses to referred development applications prior to removal of the activity from Schedule 21 of the *Development Regulations 2008*.

For the purposes of this guide, a cattle feedlot is defined as an area where cattle are held in a confined area and fed mechanically or by hand, and where the average number of cattle per day over 12 months does not exceed 200 in a Water Protection Area as declared under Part 8 of the *Environment Protection Act 1993*, or 500 elsewhere in the state. When a proposal exceeds this scale it must be referred to the EPA under Schedule 8 Item 11 Schedule 22 (5)(1) of the *Development Regulations 2008*.

## Assessing environmental issues

### Air quality and noise

Odour may be produced by the biological decomposition of manure, spilt feed and other organic matter. There are a number of odour sources including feedlot pens, handling yards, effluent treatment systems, and composting or manure stockpile pads. Dust sources include the movement of cattle or vehicles (light and heavy vehicles), and dust from stockpiled material or on pen/yard surfaces which gets blown around by the wind particularly during the drier months.

Noise may arise from stock handling activities, vehicle movements including feed trucks and stock transports, feed milling and handling, and other plant or equipment used at the site. As any proposed cattle feedlot is normally located on the edge of a town or in a rural area noise may not be a significant issue. However, there is still the potential for noise and it should be assessed.

The EPA guideline [Evaluation distances for effective air quality and noise management](#) recommends evaluation distances between sensitive land uses<sup>1</sup> and activities that may result in noise, odour, or polluting air emissions.

The evaluation distance for cattle feedlots is determined in accordance with the [National guidelines for beef cattle feedlots in Australia](#).

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<sup>1</sup> Sensitive land uses include, but are not limited to, residential housing, child care centres, educational establishments, hospitals, nursing homes, parklands and recreation areas. Industrial and commercial premises can also be affected by noise and air emissions.

If the proposed development is located within the recommended evaluation distance the applicant should demonstrate that a lesser distance would be appropriate. The Evaluation distances guideline explains the type of information to be provided to facilitate smooth processing and assessment of applications/submissions, avoiding unnecessary delays and costs to proponents.

Odour and dust from a cattle feedlot can be minimised by good design, construction and management. To reduce odour potential the feedlot pen surface should be kept as dry as possible. A compacted pen surface that has a consistent uniform slope of between 2% and 6%, and a similar surface to council-made roads will help to do this. Stockpiled solids should be maintained at a height of less than 2 m. Water carts can be used to minimise dust from the cattle feedlot and vehicle movement.

## Landfill sites

When considering a site for a cattle feedlot, consideration needs to be given to the presence of any closed or operational landfills.

There are a range of inherent risks associated with landfills including adverse impact on the environment and human health due to landfill gas, odour, litter, vermin, dust and leachate.

The EPA guideline, [Environmental management of landfill facilities \(municipal solid waste and commercial and industrial general waste\)](#), recommends a minimum separation distance of 500 m between development and a landfill boundary, historic, currently operational and future designated landfill areas, and active tipping face. The buffer should be maintained for the life of the landfill<sup>2</sup>. Maintaining a 500-m separation distance will reduce the likelihood of impacts from the landfill, including the accumulation of landfill gas in structures.

A proposed cattle feedlot in which landfill gas could accumulate and that is within 500 m of a landfill should proceed only on the basis of a landfill risk assessment undertaken by a site contamination consultant or a site contamination auditor. Any development within the buffer should be assessed and determined as suitable and compatible. The [Landfill gas and development near landfills – advice for planning authorities and developers](#) contains further information.

## Waste and wastewater management

Waste from cattle feedlots may include solid and liquid waste generated by cattle, spilt feed and water leakage from troughs, and dead animals.

The proponent should demonstrate that the waste management hierarchy<sup>3</sup> as identified in the *Environment Protection (Waste to Resources) Policy 2010* is applied and that any waste produced during the undertaking of an activity is properly managed. The waste management hierarchy should be used to guide decisions on proposed development to avoid waste generation and ultimately prevent or minimise environmental harm.

The feedlot needs to be designed so that all water, including rainfall runoff, and waste from pens and laneways is directed to a wastewater management system consisting of sedimentation and storage lagoons. The wastewater lagoon should be constructed in accordance with the [Wastewater lagoon construction](#) guideline.

The feedlot should be designed and constructed so that all clean rainfall runoff is directed away from the feedlot and effluent management system.

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<sup>2</sup> The life of the landfill includes the period after closure and capping, and continues for as long as the landfill has the potential to create offsite impacts to the environment (particularly due to landfill gas emissions or leaching to groundwater), which may be decades after the landfill has closed.

<sup>3</sup> Waste management hierarchy, as described in the *Zero Waste SA Act 2004*, refers to an order of priority for the management of waste, being: avoidance of the production of waste, minimisation of the production of waste, reuse of waste, recycling of waste, recovery of energy and other resources from waste, treatment of waste to reduce potentially degrading impacts, and disposal of waste in an environmentally sound manner.

All solid waste (manure) needs to be collected and stockpiled so that any runoff from the stockpile is directed to the effluent management system. Land disposal of effluent and manure waste needs to ensure that all nutrients are effectively taken up by crops, or other vegetation.

The disposal of dead animals on site should be in accordance with best practice methods (refer to [Guidelines for the establishment and operation of cattle feedlots in South Australia](#)) to reduce the risk of contamination. Onsite burial of mortalities is not recommended and onsite composting, or removal from the site, is preferred. Composting should be undertaken in accordance with the [Compost guideline](#). If on-site burial of dead animals is proposed, it should be in accordance with best practice methods to reduce the risk of contamination.

Applicants should consider drawing up an emergency management plan to deal with disposal of mortalities over and above normal mortality rates (e.g. in the event of a major disease outbreak or natural disaster).

Developments proposing the use of land-based irrigation to dispose of wastewater will need to demonstrate that the site is suitable for ongoing irrigation and the practice is sustainable. A wastewater irrigation management plan should be prepared in accordance with the EPA guideline, [Wastewater Irrigation Management Plan \(WIMP\) — a drafting guide for wastewater irrigators](#).

### **Stormwater – Water sensitive urban design**

Water sensitive urban design is an approach to urban planning and design that seeks to integrate the management of the total water cycle to minimise the impacts of development, protect water quality, make more efficient use of water, reduce the cost of water infrastructure, and address flooding.

Further information on water sensitive urban design can be found at:

- [Planning professionals and developers](#)
- [Water Sensitive SA](#)
- [Creating more liveable and water sensitive cities in South Australia](#).

### **Construction management**

Construction activities undertaken as part of a development can detrimentally affect the environment and community health. Air emissions, noise, site contamination, stormwater and waste need to be managed to prevent impacts on nearby land uses and the natural environment.

The relevant authority may require a construction environmental management plan (CEMP) from the proponent. The plan describes how activities undertaken during the construction phase of development will be managed to avoid or mitigate negative environmental impacts on site and how the environmental management requirements will be implemented.

For further information on the impacts of construction activities and preparing a CEMP refer to the EPA guideline, [Construction environmental management plans](#).

## **Disclaimer**

This publication is a guide only and does not necessarily provide adequate information in relation to every situation. This publication seeks to explain your possible obligations in a helpful and accessible way. In doing so, however, some detail may not be captured. It is important, therefore, that you seek information from the EPA itself regarding your possible obligations and, where appropriate, that you seek your own legal advice.

## Further information

### Legislation

[Online legislation](#) is freely available. Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet  
Adelaide Service SA Centre  
108 North Terrace  
Adelaide SA 5000

Telephone: 13 23 24  
Facsimile: (08) 8204 1909  
Website: [shop.service.sa.gov.au](http://shop.service.sa.gov.au)  
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### General information

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