RAPT CONSULTING

Perception Planning

Odour Assessment – North Gingers Precinct, NSW
April - 2020.

Relationships Attention Professional Trust

Contents

1. Introduction

Background

RAPT Consulting has been engaged to undertake a level 1 desktop odour assessment for Perception Planning to inform a planning proposal to rezone land at the North Gingers Precinct. There are existing poultry sheds to the north-east. There are poultry sheds within the study area however we are instructed these have been de-commissioned.

An image illustrating the approximate site location and the surrounding area including nearest poultry sites to the development is provided in Figure 1 below.

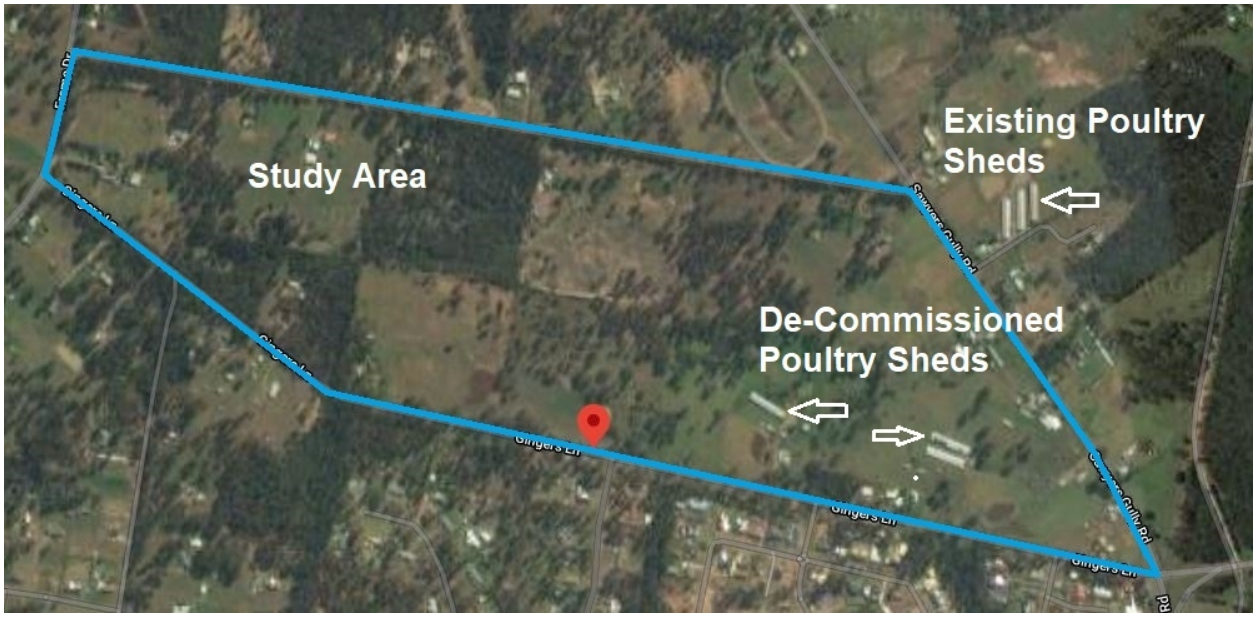


Figure 1 Aerial Photograph of Site and Surrounding Area (Source Google Maps)

1.1 Limitations

The purpose of this report is to provide an independent odour assessment for the proposal.

It is not the intention of the assessment to cover every element of the ambient environment, but rather to conduct the assessment with consideration to the prescribed work scope.

The findings of the odour assessment represent the findings apparent at the date and time of the assessment undertaken. It is the nature of environmental assessments that all variations in environmental conditions cannot be assessed and all uncertainty concerning the conditions of the ambient environment cannot be eliminated. Professional judgement must be exercised in the investigation and interpretation of observations.

In conducting this assessment and preparing the report, current guidelines for air were referred to. This work has been conducted in good faith with RAPT Consulting's understanding of the client's brief and the generally accepted consulting practice.

No other warranty, expressed or implied, is made as to the information and professional advice included in this report. It is not intended for other parties or other uses.

2. Existing Environment

The ambient environment surrounding the development is generally rural in nature with moderate vegetation and fluctuating topography. Generally, the ambient air environment experiences winds from a variety of directions however westerly winds occur more often during morning hours with changes occurring to winds coming from the southeast in the afternoon . Annual Windrose information has been sourced from the Australian Government Bureau of Meteorology (BOM) and is provided in Figure 2 and 3 to give an indication of wind characteristics of the vicinity. Windrose information has been sourced from Williamtown which is the closest BOM weather station with consideration to the proposal.

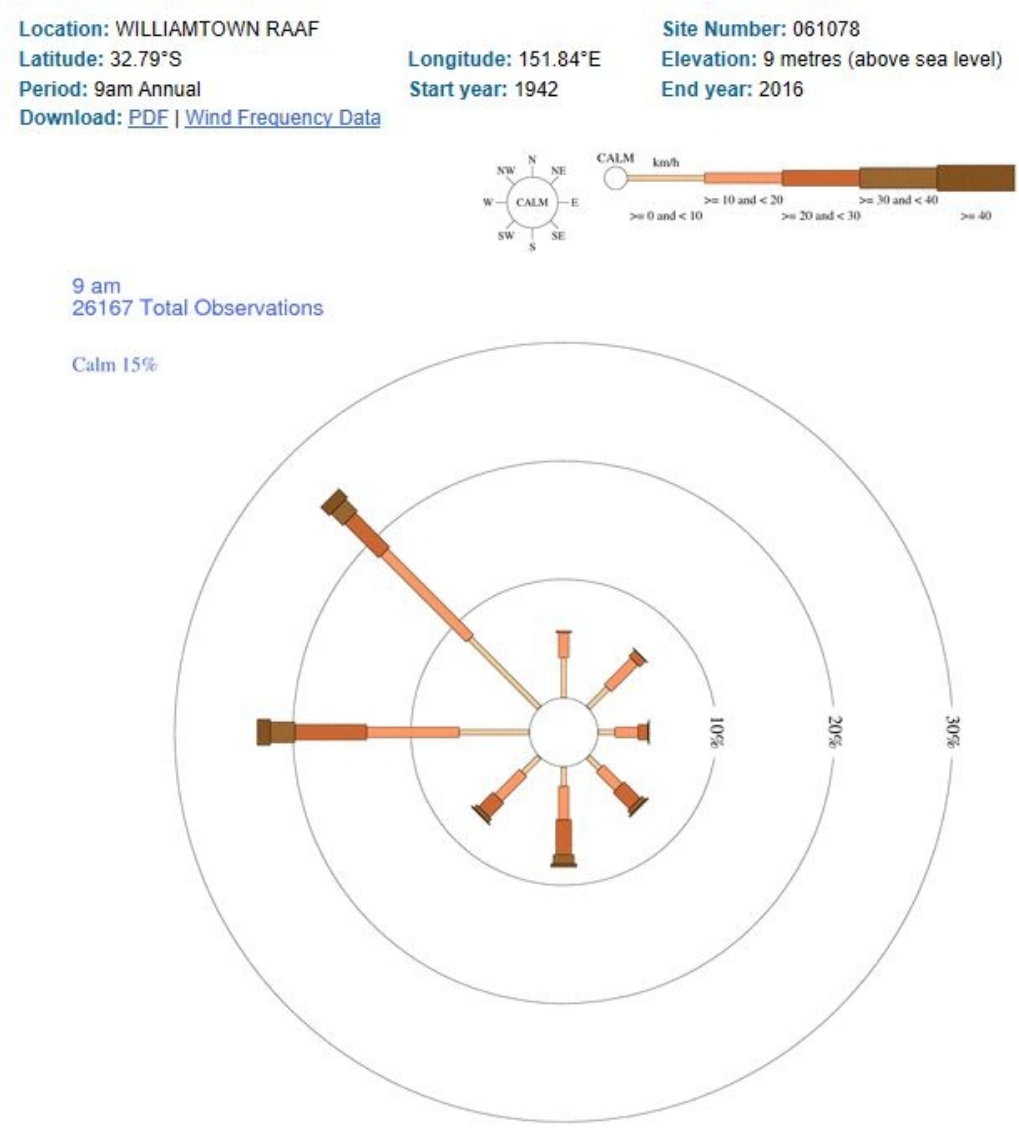
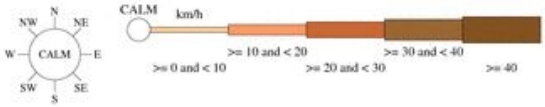


Figure 2 Annual Windrose 9:00am

Location: WILLIAMTOWN RAAF
Latitude: 32.79°S
Longitude: 151.84°E
Site Number: 061078
Elevation: 9 metres (above sea level)
Period: 3pm Annual
Start year: 1942
End year: 2016
Download: PDF | Wind Frequency Data



3 pm
26141 Total Observations

Calm 4%

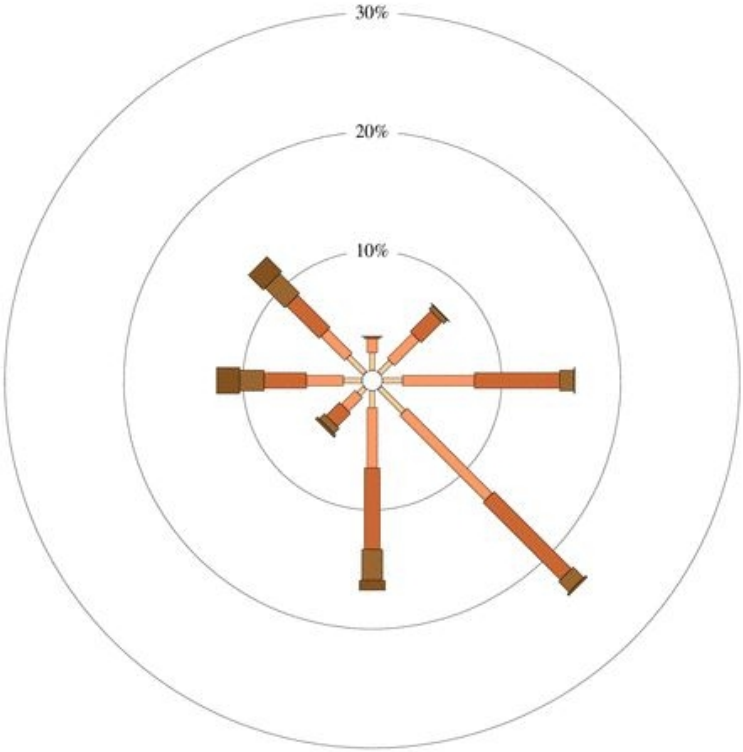


Figure 3 Annual Windrose 3:00pm

3. Odour Criteria

3.1 NSW Best Practice Guidelines and Regulatory Frameworks

The regulatory aspects of odour management and assessment are described in the following documents:

- Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales, Department of Environment and Conservation (DEC), August 2005
- Technical Framework - Assessment and Management of Odour from Stationary Sources in New South Wales, Department of Environment and Conservation (DEC), November 2006
- Technical Notes - Assessment and Management of Odour from Stationary Sources in New South Wales, Department of Environment and Conservation (DEC), November 2006

The current odour performance criteria provided in the 'Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales' by DEC (2005) are based on a sliding scale relating to the population density of an area, as the response to an odour impact can vary significantly over a given population. The criteria assume that within a densely populated area there will be a greater potential for individuals within the community to be 'annoyed' by a given odour event.

Table 1 provides Odour Impact Assessment Criteria.

Table 1 Odour Impact Assessment Criteria

Population of Affected Community	Impact Assessment Criteria (OU)
Urban (>2000 People)	2
~500 People	3
~125 People	4
~30 People	5
~10 People	6
Single Rural Residence (<2 People)	7

4. Assessment of Potential Impacts

4.1 Operations

The site in where the sheds are located in Figure 1 is now free-range layer eggs. Historically the area was more typically broiler however, this type of operation has ceased in the area. There have been no known odour complaints

Total number of birds was not disclosed at the time of this assessment however, the number of hens can be calculated based on legislative requirements for the classification (free range) on the approx 8 acres they farm the livestock upon. Currently there is an allowance of 10,000 hens per hectare which equates to 32,000 hens over 8 acres.

The NSW EPA provides guidance for meat chicken (broiler) farm developments. In consultation with the then Department of Trade and Investment, Regional Infrastructure and Services and the then Department of Planning and Infrastructure, the EPA developed an odour assessment calculator in Excel format to assist poultry farmers and their consultants to plan for chicken broiler farm developments and inform site purchase decisions.

The calculator uses the formulae defined in section 5 of the technical notes to calculate required setback distances for a particular site using level 1 assessment specified in the technical framework. This calculator is being used for the purposes of this assessment. An assumption that the 3 existing sheds are still operating has been used.

4.2 Calculator Modelling Setup

The significant modelling input parameters are provided in Table 2.

Table 2 Modelling Parameters

Parameter	Configuration / Assigned Value	Rationale
Shed Factor	Natural Ventilation	To be similar to free range
Number of Sheds	3	Based on information provided
Number of Birds Per Shed	10,666	Averaged across the 3 sheds
Receptor Factor	Small Town 10 - 30 People	Based on aerial imagery
Terrain Factor	Undulating Country between farm and receptor (continuous rolling low level hills and valleys)	Based on aerial imagery

Parameter	Configuration / Assigned Value	Rationale
Vegetation Factor	Few Trees Long Grass	Based on aerial imagery
Wind Frequency Factor	Normal Wind Conditions	Based on wind roses shown in Figures 2 and 3.

Based on the above-mentioned modelling parameters a separation distance of 255 metres would be required for proposed residences within the development with consideration to the egg laying sheds. The results of the assessment are considered conservative as broiler farms are widely accepted as being more odourous than egg laying farms. As a result, it is considered the development should be acceptable with minimal odour risk to future residences.

5. Conclusion

RAPT Consulting has undertaken a level 1 desktop odour assessment for Perception Planning to inform a planning proposal to rezone land at the North Gingers Precinct.

The assessment has utilised the NSW EPA meat chicken broiler farm level 1 odour assessment calculator to conservatively assess separation distances for future residential receptors. The results of the assessment indicate a separation distance of 255 metres may be required with consideration to a broiler farm. This approach is deemed conservative as egg laying farms are widely regarded as less odourous than broiler farms. Therefore based on the results of the assessment, the proposal should be acceptable from an odour perspective.

Should you have any further questions regarding this report, please do not hesitate to contact Greg Collins on 0488512224 or greg@raptconsulting.com.au.

Thank you,

Greg Collins

Director – RAPT Consulting