

59137 Odour assessment King Rd Rev B

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Odour assessment – Lot 1 King Road , Oldbury

1. Introduction

Exit Waste conducts a liquid waste recovery and disposal business, with its tanker fleet based at Lot 1 (No. 543) King Road, Oldbury (the Site). Exit Waste has requested Strategen-JBS&G conduct an odour assessment to support an updated planning approval to operate a transport depot from the Site (proposed development).

The Site, approximately 4.23 ha, is located on the south-eastern corner of King Road and Boomerang Road intersection in Oldbury. Currently the Site includes a residential dwelling, workshop, office and truck laydown/parking area (Figure 1.1).

Assessment of the odour impacts of the proposed development has been requested by the Shire's assessing officer. To that end, a site visit, to observe the operations, and a screening assessment under the odour emission guideline (DWER 2019) documented herein has been conducted.



Figure 1.1: Site layout and nearby sensitive receptors

2. Operations

The Site is used to park, within the truck laydown/parking area, Controlled waste trucks used for vacuum loading of liquid and on road transportation of wastes through the Perth Metropolitan area.

Use of the Site as a transport depot, including for controlled waste trucks, is not a prescribed activity under Schedule 1, Part 2 of the Environmental Protection Regulations 1987 (EP Regulations). The operation of the controlled waste trucks is however licensed through the Department of Water and Environmental Regulation (DWER) in order to transport waste on the public roads. Under the licence the waste may be retained onsite in a controlled waste tank for up to 7 days. Retention of waste on site is not usual practice; usual operation is to pick up and dispose of wastes on the same day with empty tankers returning to the Site. Transfer of liquids is limited to decanting between trucks or the controlled waste tank via closed couplings within the truck laydown area (Figure 2.1). There are no conditions relating to odour on the DWER licence.



Figure 2.1: Truck to truck decanting via closed coupling

Wastes handled are sewage, grease trap, industry wash waters oil/water combinations, storm/groundwater waste. No dangerous goods are handled.

Spill procedures are in place including onsite spill kits to handle minor spills and the use of external contractors as required. Spills are mitigated by closed loop transfers and regular servicing and maintenance of the manual valves. Furthermore, minor spillage from transfer pipes and couplings is contained for appropriate disposal (Figure 2.2). It is understood that to date, no spills requiring remedial actions have occurred.

During the site visit operations appeared well managed with good housekeeping and trucks appeared well maintained, furthermore truck to truck transfer was demonstrated and negligible odours were detected from the rear of the tanks. Weak odour was noted in the vicinity of the tank vents. That odour had dispersed to below threshold within the laydown/parking area.



Figure 2.2: Transfer hose management

3. Odour screening analysis

The objective of the odour screening analysis is to determine the potential for off-site odour impacts and determine the need for a detailed odour analysis to establish the risk of unacceptable odour impacts. The proposed development is evaluated as an existing premises in the context of the odour guidance (DER 2019).

Two sensitive receptors (residences) are located approximately 200 m to the west and to the north east from the truck laydown area (Figure 1.1). There is no separation distance recommended in the DWER Odour Guideline (DWER 2019) for a transport depot. However, EPA Guidance Statement 3 (EPA 2005) presents a generic buffer distance of 200 m for transport vehicle depots. The residences themselves are located at the screening distance recommended in the EPA guidance.

The odour screening analysis, including details of potential odour emissions, duration and contingency actions is presented in Table 3.1.

Table 3.1: Question 1 of DWER screening analysis for existing premises

Q1. Description of odour emissions Use the table below to provide brief information about activities and sources that emit odour.	
Activity / odour source	Description, including proposed controls
Liquid controlled waste tankers parked on site	<p>Tankers are used to pick up and deliver liquid waste, including sewerage, to appropriately licensed third party waste disposal facility; wastes are transported in enclosed vessels and pumped into offsite storage tanks via pipes with closed couplings. Empty tankers are stored on-site within the tanker laydown area.</p> <p>Tankers are equipped with pressure vents that could discharge gases due to expansion from temperature fluctuations. The likelihood of odour outside the Site boundary from a vent discharge, which would comprise a short low volume emission, from an empty tanker is considered rare.</p>
Wash down of liquid controlled waste tankers	<p>The insides of the tanks are washed down and decanted into the next tanker via closed line couplings. A plastic container is placed under couplings to catch any small dribbles that may occur during uncoupling. This activity is restricted to the tanker lay down area. Odours may be detectable by the operator, however, impacts across the Site and beyond the boundary are not likely to eventuate due to the small size of the odour source and the short duration of exposure to atmosphere of odorous liquids. A worst-case scenario for odour impacts at the boundary requires odour emitting activities to be carried out at the same times as poor dispersion conditions (i.e. neutral to stable atmospheric stability) which can occur in the early morning. This is a low probability scenario and presents a low odour risk.</p> <p>The resulting wash down water is stored temporarily in the final tanker for disposal with the next load at a licensed liquid waste disposal facility. The volume in the tanker will be small and contained and thus is unlikely to pose an odour source.</p>
Loaded controlled waste tanker and static controlled waste tank storage	<p>On occasion tankers may not be able to be offloaded (i.e., pickup and delivery cannot be carried out during liquid waste facility opening hours) and the loaded tanker may be temporarily parked up at the depot in the tanker lay down area.</p> <p>The Site includes a static controlled waste tank, available for use as contingency should tankers be returned to the Site containing wastewater and decanting is required to make the tanker available for the next load. Decanting would be via pipelines equipped with closed couplings and therefore a contained process from which any odour would be minimal. Dribbles from uncoupling would be caught via plastic container for appropriate disposal. Minor odour impacts may be detectable by the person handling the container however impacts across the site and beyond the site boundary are not likely to eventuate.</p> <p>The static tanks and the tankers both have pressure vents that could discharge air when filling or during expansion due to temperature fluctuations. Any venting would be small in volume and any associated detectable odour resulting would be local and transient. Impacts at the nearest sensitive receptors are not expected to result due to the separation distance and short range and duration of any vent discharges.</p>
Debris removal	<p>Debris (i.e., rags or similar) in the transported waste can cause clogging in the downstream wastewater treatment process. In the event of debris being detected in a load then this must be recovered prior to delivery to a prescribed facility. This is conducted by decanting the waste (from the tanker) via a screen to recover the offending items. This process has potential for odour emissions to occur. However screening for debris is understood to occur only 2 to 3 times per year. Odour from the liquid waste being screened is likely to be localised due to the low volume exposed to atmosphere at any time. Furthermore, this process is of short duration with an expected completion time of 30 to 60 minutes. Due to the low frequency, short duration, a rare likelihood of detectable odour crossing the boundary and the separation distance, the risk of odour impacts at the nearest sensitive receptors is low.</p>

Responses to Questions 2 to 5 of the DWER odour assessment guidelines are shown in Table 3.2. These all reference the flow chart in Figure 3.1A to finalise the assessment.

Table 3.2: Questions 2 to 5 of DWER screening analysis

Q2. Identification of current odour impacts	
Have odour impacts occurred as a result of the current operational configuration and / or practices? Please tick all applicable boxes: <input type="checkbox"/> Complaints <input type="checkbox"/> Odour diaries <input type="checkbox"/> Field odour assessments <input type="checkbox"/> Community feedback <input type="checkbox"/> Other	Yes or Can't determine: Go to flow chart. No: Go to Question 3.
Q3. Changes to emissions	
Are there proposed changes to the existing premises that are likely to increase the odour emissions or change the configuration of any sources in the facility?	Yes or Can't determine: Go to question 4. No: Go to flow chart
Q4. Screening distance	
Screening distances	
Option 3: There is no entry for this industry category in Appendix 2	<input checked="" type="checkbox"/> Industry category not listed Go to flowchart.
Q5. Special case factors	
Are there special case factors that might increase odour impacts beyond the screening distance shown in Question 2? Please tick all applicable special case factors: <input type="checkbox"/> Odour impacts from nearby sources <input type="checkbox"/> Possible impacts from other waste management facilities in the local area <input type="checkbox"/> Presence of an existing elevated odour background <input type="checkbox"/> Complex terrain <input type="checkbox"/> Unusually large and / or complex facility when compared with other Australian operations <input type="checkbox"/> Unusual configuration of odour sources or technology compared with other Australian operations <input type="checkbox"/> The proposal is located in a Strategic Industrial Area (SIA) <input type="checkbox"/> Multiple industry categories that emit odour are present on the same site	<input type="checkbox"/> YES or Can't determine: Go to flowchart. <p style="text-align: center;">OR</p> <input checked="" type="checkbox"/> NO: Go to flowchart. Justification should be provided to support a 'NO' response.
Special case factors – justification for 'NO' response. The Site does not meet any of the special case factors.	
Additional comments. Nil.	

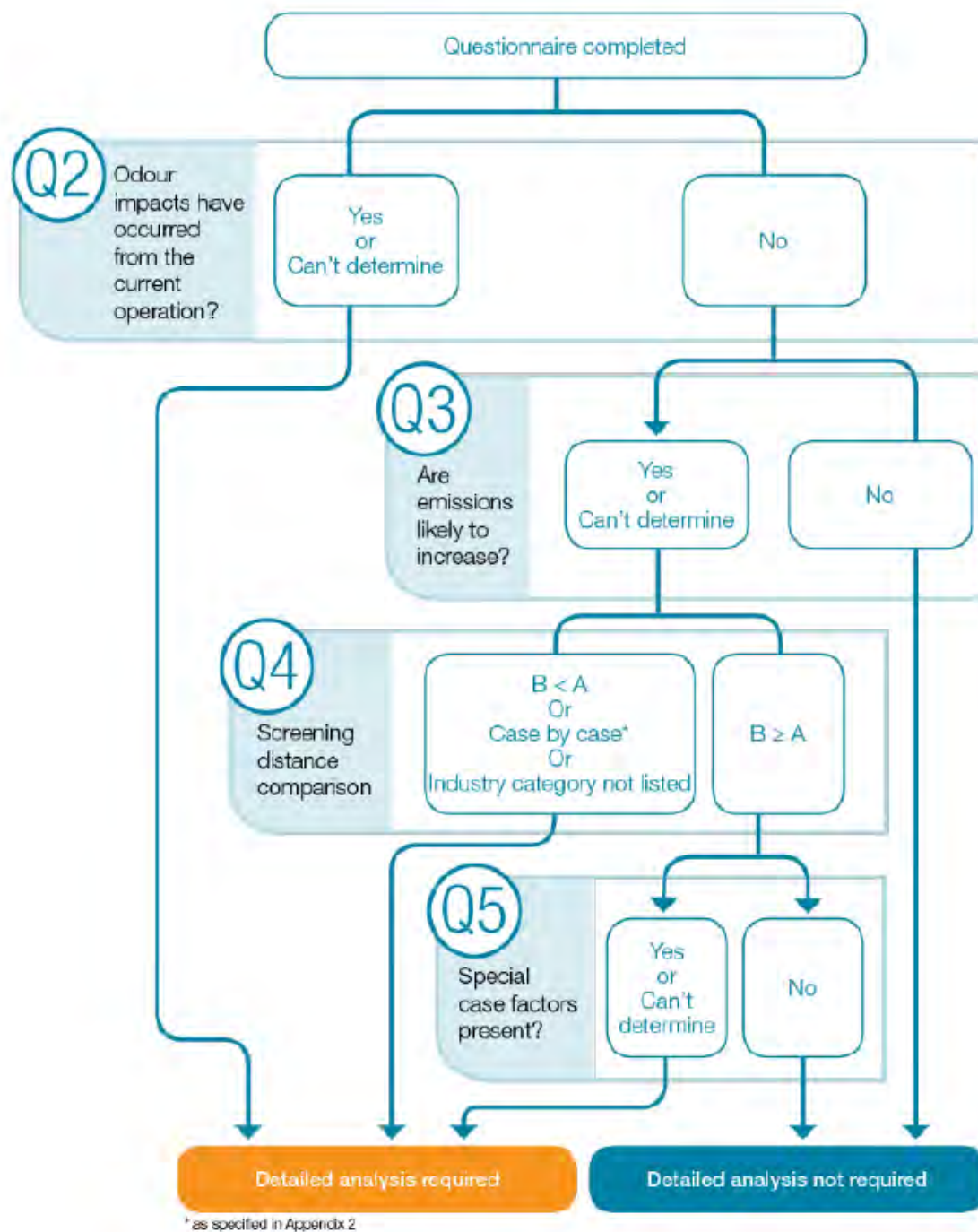


Figure 3.1: Screening analysis for existing premises

From responses to questions, the flowsheet indicates that a detailed odour analysis is not required, based on no history of complaints, insignificant levels of emissions and no change in proposed activities at the Site.

4. Risk of odour impacts

As detailed in Table 3.1 the screening assessment indicates there is a low likelihood of odours escaping the Site. It is understood that no complaints of odour have been received from the existing operations at the site and the operations are not expected to change. Any odours escaping containment are likely to be infrequent, transient, low in volume and will be low intensity at receptors due to dilution across the 200 m separation distance. The consequence is therefore considered slight. A worst-case scenario for odour impacts requires concurrent odour emitting activities being carried out with neutral to stable atmospheric conditions, which is a low probability event and unlikely to occur. A combination of the unlikely likelihood and slight consequence leads to a low risk of impact from odour emission from the site (DER 2017).

5. Conclusion

The low level of odour emissions identified at the Site and the separation distance to nearby residences indicates a low risk of odour impacts to amenity at those residences from parking of liquid waste tankers at the Exit Waste site, Lot 1, 543 King Rd, Oldbury. Furthermore, a low risk is determined from observations of decanting of waste from tanker to tanker, which is required on occasion to facilitate cleaning of the tanks and management of waste volumes prior to off-site disposal. A worst-case scenario for odour impacts requires concurrent occurrence of (significant) odour emitting activities and poor dispersion conditions, which is a low probability scenario and therefore presents a low risk.

The findings from this screening assessment (of a low odour risk at nearby sensitive receptors) do not support a need for a detailed odour impact assessment (as described by DWER in 2019 odour guidelines).

6. References

- DWER (2019). *Guideline Odour emissions*. Department of Water and Environmental Regulation. Western Australia. July 2019.
- EPA (2005). *Guidance for the Assessment of Environmental Factors (in accordance with the Environmental Protection Act 1986) Separation Distance between Industrial and Sensitive Land Uses No. 3*, Environmental Protection Authority Western Australia.
- DER (2017). *Guidance Statement Risk Assessments*. Department of Water and Environmental Regulation. Western Australia. Retrieved from https://www.der.wa.gov.au/images/documents/our-work/licences-and-works-approvals/GS_Risk_Assessments.pdf.

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