

MANAGING DIRECTORS
MATTHEW PALAVIDIS
VICTOR FATTORETTO

GENERAL MANAGER
MATTHEW SHIELDS



2010596/2608A/R3/GW

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Australand Holdings Limited
Level 3, 1C Homebush Bay Drive
Rhodes NSW 2138

Email: psolomon@australand.com.au

ATTN: MR. PAUL SOLOMON

Eastern Creek Estate Stage 3 - Kmart Building - DA Noise Assessment-To Commercial Receivers

1 INTRODUCTION

This letter presents the assessment for the noise emission from the proposed Distribution centre of K Mart Eastern Creek into the nearest commercial receivers. The assessment is based on the requirements of Blacktown City Council letter dated 23 August 2010.

2 GENERAL DESCRIPTION

The distribution facility will be an ambient chamber providing Pick n Pick and Crossing Docking operations, processing over 8 million general merchandise cartons to 43 retail outlets within NSW. Merchandise is received on pallets from local Australian suppliers and overseas supplies via shipping containers. Dependant on future business growth there is potential for operating hours to be 24/7.

Approximately 50% of the floor space will be racked and the remaining 50% will comprise a large mechanised sortation system and bulk floor stacking. Dangerous goods will not be warehouse on site.

The proposed site is located off Wallgrove Road and will be used as a distribution centre for K-Mart. The nearest commercial noise receivers are as below:

- Commercial Noise receiver 1– Existing commercial building located approximately 400m distance eastern to the site. Detailed site map and noise receiver location refers to Figure below.

SYDNEY
A: 9 Sarah St Mascot NSW 2020
T: (02) 8338 9888
F: (02) 8338 8399

SYDNEY MELBOURNE BRISBANE CANBERRA
LONDON DUBAI SINGAPORE GREECE

www.acousticlogic.com.au
11 068 954 343

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- Commercial Noise receiver 2- Possible future commercial or industrial development adjacent to the site.



Figure 1 Site Map and Commercial Noise Receiver Location

3 CRITERIA

3.1 PRECINCT PLAN

Given the nature of the development within the Precinct, noise generation from the site is to be restricted to a reasonable level, Noise is to be contained where possible and not unreasonably impact on the operation or amenity of adjoining or surrounding sites.

Detailed noise goals of the precinct have been setup by Environmental Management Section 7.8 which has been repeated as below.

The optimised noise level goals for the precinct are outlined in Table below. These goals will provide adequate protection to the noise amenity of residential areas surrounding the Precinct without unduly restricting the operation of development.

Table 1 –Noise Goals by Precinct Plan

Period	Zone 5
Day	49 dB(A)
Evening	39 dB(A)
Night	34 dB(A)

Note: The precinct Plan is applicable to residential noise receivers only.

3.2 DECCW INP

The noise emission to the commercial areas shall comply with the requirements of amenity criteria recommended by DECCW Industrial Noise Policy which has been repeated as below.

Table 2 – Noise Objective to Commercial/ Industrial Areas

Noise Receiver	Recommended Acceptable Noise Levels dB(A) $L_{eq, 1hour}$
Commercial Receiver	65 dB(A)
Industrial Receiver	70 dB(A)

4 NOISE EMISSION ASSESSMENT

This section identifies the potential sources of noise and assesses the potential noise impact from each source. Meteorological conditions potentially affecting the predicted noise levels are also considered.

The noise sources in the proposed development have been divided into two categories, as noise sources with different characteristics require different assessment methods and objectives. Noise sources with similar characteristics have been grouped and the combined noise impact from that grouping of noise sources will be assessed.

The categories of noise sources that have been defined are:

Category 1 - Steady and Quasi-Steady Noise Sources

- Vehicle loading/unloading.
- Vehicle movements around the site.
- Air conditioning/ventilation plant.

Category 2 - Transient Noise Sources

- Vehicle doors opening/closing.
- Truck parking brakes.
- Impacts occurring during loading/unloading.

4.1 NOISE SOURCES

The potentially significant noise sources are listed in Table 3 along with the noise emissions levels. The emission levels have been obtained from noise monitoring carried out at similar warehouse loading dock facilities.

Noise measurements were obtained using a Norsonics SA 110 sound level meter or CEL 993 sound analyser, set to fast response. The sound level meters were calibrated before and after the measurements using a Rion NC-73 calibrator. No significant drift was recorded.

Table 3 -- Noise Source Emission Levels

Noise Source	Sound Emission Level dB(A) at 7m	Type of Noise Source
Outside loading docks during peak morning loading period	78* L _{eq} 89 L ₁	Quasi-Steady with intermittent impacts
Trucks Manoeuvring/Reversing	75 L ₁	Quasi-Steady
Fork Lift Truck	75* L ₁	Quasi-Steady
Truck Air Brakes	89 L ₁	Transient
Truck Door Closing	75 L ₁	Transient
Truck Starting	72 L ₁	Transient
Semi-trailer Starting	89 L ₁	Transient
Car engine starting	72 L ₁	Transient
Car door closing	68 L ₁	Transient

* include s 5 dB(A) tonality penalty for reversing alarms

4.2 NOISE LEVEL PREDICTIONS

Noise emission from the project site has been predicted based on the source noise data above and the proposed layouts.

The following information has been taken into the noise prediction:

- Approximate 100 various types truck movements income to the site every day.
- Approximate 100 various types truck movements outgoing off the site every day.
- 250 car park spaces.
- 4 class 9 truck park on site.
- Trucks most frequently deliver and distribute on site are: Class 3- Two Axle Truck, Class4, Three Axle Truck, Class 7 Four Axle Articulated Vehicle, Class 8 Five Axle Articulated Vehicle, Class 9 Six Axle Articulated Vehicle, Class 10 B Double, Class 11 Double Road Train, Class 12 Triple Road Train.

Noise predictions for operational noise emission levels for the worst case scenarios for the L_{eq} noise level. The L_{eq} noise level was calculated by including all quasi-steady or steady noise sources in the calculations which then calculated the cumulative effect of all noise sources.

Predicted noise levels have been presented as below for the most affected receiver – the commercial/industrial property.

Table 4 – Predicted Noise Levels

Noise Receiver	Predicted Noise Level dB(A)	Criteria	Compliance
Most Impacted Existing Commercial / Industrial Noise Receiver	45 dB(A) L_{eq}	65 dB(A) for Commercial / 70 dB(A) L_{eq} for Industrial	Yes
Possible Future Commercial /Industrial Development adjacent to the Site	65 dB(A) L_{eq}	65 dB(A) for Commercial / 70 dB(A) L_{eq} for Industrial	Yes

5 CONCLUSION

The environmental impact onto the nearest commercial site from the proposed Distribution centre of K Mart Eastern Creek has been assessed. The noise emissions were found fully complies with the requirements of Blacktown Council, Precinct Plan and DECCW Industrial Noise Policy.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,



Acoustic Logic Consultancy Pty Ltd
George Wei