



NOISE MONITORING REPORT

ABERCROMBIE PRECINCT REDEVELOPMENT

PREPARED FOR

Joel Cross

John Holland Pty Ltd
Level 2, 65 Pirrama Road
Pyrmont NSW 2009

MONITORED ON:




7th August 2013

CONTRACT NO C13 6219
REPORT NO EMS 13 1845

TABLE OF CONTENT

1.	Introduction	4
1.1	Project Description	4
1.2	Site Location	4
2.	Noise Monitoring	6
2.1	Methodology	6
3.	Noise Criteria	7
3.1	Policy and Guidelines	7
4.	Results	7
5.	Discussion	7
5.1	Noise Analysis	7
5.2	Noise Control	8
6.	Conclusions	8
7.	References	8

PREPARED FOR:	PREPARED BY:
John Holland Pty Ltd	Environmental Monitoring Services Pty Ltd
Level 2, 65 Pirrama Road Pyrmont NSW 2009	Level 1, 4B Lord Street Botany, NSW 2019
Name: Joel Cross	ABN: 13 050 039 177
Phone No.: (02) 8572 3137	Phone No: (02) 9355 3300
E-Mail: Joel.Cross@jhg.com.au	Fax No: (02) 9316 7160

AUTHOR: 	Brian Mendieta	Date: 15.08.2013
CHECKED BY: 	Edward Krasilovsky	Date: 15.08.2013
APPROVED FOR RELEASE BY: 	Mark Wagner	Date: 15.08.2013

DISCLAIMER

This report is valid only in its entire form. Unauthorised reproduction or copying is strictly prohibited. Environmental Monitoring Services have prepared this document and information herein specifically for the purposes of the client in accordance with general professional consulting standards. The findings of this document apply specifically to this project only and are based partially on advice provided by the client. The scope of works was conducted in accordance with the scope of the project brief only. The document may not contain sufficient information other than for the purposes of the client, and no other warranty is made as to the professional advice in this report.

DOCUMENT CONTROL

COPY No: 1

REVISION HISTORY

Revision No	Date Issued	Reason/ Comments
1	15.08.2013	Map revised and additional information extracted from CNVMP

DISTRIBUTION

Copy No	Revision No	Destination
1	1	John Holland Pty Ltd
2	1	Environmental Monitoring Services Pty Ltd

1 Introduction

1.1 Project Description

EMS was commissioned by John Holland Pty Ltd to conduct attended noise monitoring for the construction/earth works held at the University of Sydney Abercrombie Precinct redevelopment area (the site). The purpose of the proposed works is to erect a six storey business school and a four storey student accommodation building with underground car parking.

Noise monitoring conditions for the project are outlined in the Construction Noise and Vibration Management Plan (CNVMP) prepared by Marshall Day Acoustics (reference: JH-B834-PLN-EMP-NVECP-012-A). It outlines 'attended noise monitoring will be conducted for a representative period during each of the four identified construction phases'; this includes Site Establishment works, Bulk works, piling phase and detailed works.

The three phases of work will consist of a 30-35 Tonne excavators, 20 tonne-24 excavator, 12 Tonne Excavator, 2 Tonne Anchor Rig, D9 Dozer, 2 Static concrete line pumps and trucks occupying the site. This assessment will monitor the construction noise from 5 monitoring locations outlined in the CNVMP and compare the noise results against relevant noise criteria.

1.2 Site Location

The project site is bounded by Abercrombie Street (South Side), Codrington Street (East Side) and Rose Street (North Side). It should be noted that the construction/earth works extend farther North and are also found between Rose Street and Darlington Lane which is located on the north side of the site.

The first monitoring location is at 109 Darlington Road, Redfern and is classified as Receiver A in the CNVMP. The receiver's property is a two storey residential dwelling and is approximately 60 meters north from the earth works site between Rose Street and Boundary Lane. There are also earthworks found between Darlington Lane and Rose Street and these are 15 to 20 meters away.

The other four noise monitoring locations are located along the South side of the project site and are found between Boundary Lane and Abercrombie Street. Outlined below are the other noise monitoring locations, their classification according to the CNVMP and a brief site description:

- Receiver B: Darlington Public School located at 415 Abercrombie Street south west of the project site
- Receiver C: Boundary Lane Childcare Centre located at 405 Abercrombie Street, south of the site
- Receiver D: The Shepherd Centre (Education facility for hearing impaired children) located at 391 Abercrombie Street south of the site.
- Receiver E: Mandelbaum House (residential college) located at 385 Abercrombie Street, north east of the main project site.

Below outlines the receivers' location and the project site.



Legends

- Construction Site
- Noise Monitoring Location

Site Address:
 University of Sydney
 Abercrombie Precinct
 Redevelopment Site

Contract No.: C13 6219

Report No.: EMS 13 1845

2 Noise Monitoring

2.1 Noise Measurement

An attended noise measurement was conducted on the 7th of August 2013 at approximately 10:00am using the B&K 2260 noise logger to measure the construction/earth work noise level. The logger was set to record the 'A' weighted statistical sound pressure level using a 'fast response.' The unit was calibrated prior to and after each noise measurement and no significant drift was found.

Noise Measurements were taken thirty minutes at each monitoring location and all noise measurements conducted for receivers found on the south side were taken along Boundary Lane, beside each property wall (no less than 3 meters from the wall)

The L_{Aeq} will be used to assess the noise emitted from the construction site in comparison with the criteria established in the Construction Noise and Vibration Management Plan (JH-B834-EMP-NVECP-012-A). The L_{Aeq} represents the equivalent continuous noise level – the level of noise equivalent to the energy average of noise levels occurring over a measurement period.

3 Noise Criteria

3.1 Policy and Guideline

The noise criteria found in the CNVMP are established using 'The Interim Construction Noise Guideline; regulated by the OEH. This Guideline is aimed to manage noise from construction work and provides guidelines for the following:

- To protect the majority of residences and other sensitive land uses from noise pollution most of the time.
- Identify and minimise noise from construction works.
- Applying 'feasible' and 'reasonable' work practices to minimise construction noise.
- Encouraging construction to be undertaken only during least sensitive noise periods.

4 Results

Table 4.1 outlines the construction noise level at each location along with the relevant noise criteria and the description of noise during the noise measurement. The noise level will also be compared against the predicted 'average' and 'worst case' noise emissions from the site establishment works made by Marshal Day Acoustics as outlined in the CNVMP.

Table 4.1 – Construction Noise Level in comparison with the relevant noise criteria

Receiver	Location	SPL (L_{Aeq})	Worst Case	Average Predict	Criteria	Description of Noise
A	109 Darlington Road	63.3 dB(A)	81	69	54	Dominant noise: Wood chipper operating for 12 minutes. Intermittent noise: truck idling, excavator, beep noise from truck and chainsaw noise.
B	415 Abercrombie Street	59.5 dB(A)	80	73	55	Dominant noise: Wood chipper operating approximately for 15 minutes. Intermittent noise: excavator, beeping noise.
C	405 Abercrombie Street	53.3 dB(A)	89	70	55	Intermittent noise: Trucks idling, distant beeps, excavator.
D	391 Abercrombie Street	62.7 dB(A)	68	55	55	Dominant noise: Generator operating for 10 minutes. Intermittent noise: trucks idling and traversing along Boundary Lane, distant beep, chain saw.
E	385 Abercrombie Street	58.3 dB(A)	53	52	55	Intermittent noise: trucks idling and traversing Boundary Lane, distant beep.

Bold value denotes the highest noise level during the assessment.

5 Discussion

5.1 Noise Analysis

Noise measurement on site was conducted between 10am and approximately 1pm. The noise levels vary at different locations due to the different activities on site. Receivers A and D were exposed to the highest noise levels during the measurement due to machines operating continuously near the receiver's location.

During the noise measurement along Boundary Lane it was noted the noise barrier had reduced some noise at the receiver's location. This is shown in comparison with the noise level at Receiver A and B, as they had similar noise sources during the measurement. Section 5.2 provides noise controls steps to help reduce the noise impact to nearby receivers.

5.2 Noise Control

Best Management Practice (BMP) is the adoption of particular operational procedures that minimise noise while retaining productive efficiency. BMP procedures include:

- Limiting noisy activities on Monday to Friday to provide respite to surrounding receivers.
- Keep truck drivers informed of noise control practices such as minimising the use of engine brakes and no extended periods of engine idling.
- Equipment maintenance – Regularly inspect and maintain equipment to ensure it is in good working order and also checking mufflers
- Providing as much distance from static noise sources to the receiver's location

Additional noise control can be found in Section 5 of the Marshal Day Acoustic CNVMP report (JH-B834-PLN-EMP-NVECP-012-A).

6 Conclusions

An attended noise measurement for the construction/earth for the Abercrombie Precinct Redevelopment project was carried out by EMS on the 7th of August 2013. The purpose of this report was to assess the noise level emitted from the project site and compare the results with the established noise criterion.

As shown in Table 4.1, the high noise levels were found at receivers A and D. Section 5.2 provides a noise control steps to reduce the noise impact to nearby receivers.

7 References

Marshall Day Acoustics' Construction Noise and Vibration Management Plan (CNVMP) (reference: JH-B834-PLN-EMP-NVECP-012-A)

OEH's publication Interim Construction Noise Guideline

OEH's NSW Industrial Noise Policy

AS 2659.1 (1988) Guide to the Use of Sound Measuring Equipment – Portable Sound Level Meters
Association of Australia, North Sydney