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Warehouse 2, Stage 3 Facilities - Sydney Business Park

Construction Noise & Vibration Management Plan

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1 INTRODUCTION

Acoustic Logic (AL) has been engaged to prepare a Construction Noise and Vibration Management Plan for the excavation and construction works associated with the development proposed for Warehouse 2, Stage 3 Facilities – Sydney Business Park (Lot 4 DP 1210172 and Part Lots 50 and 51 DP 1265695) to satisfy Condition of Consent SSD-10477 (MOD 2) Condition B18.

The principal objective of this study is to undertake an evaluation of works/activities to be performed during the excavation and construction of the project and forecast the potential impacts of noise and vibration. This assessment will be used to formulate and streamline effective regulation and mitigation measures.

The issues which will be addressed in this report are:

- Identification of the noise and vibration standards which will be applicable to this project.
- Identification of potentially impacted nearby development.
- Identify likely sources of noise and vibration generation and predicted noise levels at nearby development.
- Formulation of a strategy to comply with the standards identified and mitigation treatments in the event that compliance is not achievable.

Provided all measures outlined in this report are fully implemented, noise and vibration impacts associated with the construction of the development site will be strictly controlled, and the impact on the surrounding environment minimised.

2 REFERENCED DOCUMENTS

This document presents an overview of the processes which will be followed in order to appropriately manage noise and vibration from the proposed construction works and will be referenced against the following:

- State Significant Development (SSD-10477 – MOD 2)
- NSW Environmental Protection Authority (EPA) document – *'Interim Construction Noise Guideline' (*ICNG).
- Australian Standard AS2436:2010 *"Guide to Noise Control on Construction, Maintenance and Demolition Sites'*.
- German Standard DIN4150-3:2016-12 *'Vibration in Buildings – Part 3'*
- NSW Environmental Protection Authority (EPA) document – *'Assessing Vibration: A technical guideline'*.

3 SITE DESCRIPTION

The proposed construction works includes detailed excavation on the property, clearing of stockpiles, grading and trimming. Primary noise producing activities (and estimated duration) associated with the site are as follows:

Demolition Stage

- No demolition is expected as part of this construction project.

Excavation Stage

- Short-term detailed excavation (predominantly in clay/gravelly clay) will be undertaken to an approximate depth of 1m. It is expected that the duration of these works will be approximately 4 weeks.

Construction Stage

- Pad footings will be installed
- Use of one (1) mobile crane to be used generally around the site.
- Erection of building structure (powered hand tools for formwork, concrete pump, vibrators).
- Façade installation (powered hand tools).
- Landscaping (front end loaders etc).
- It is expected that the duration of these works will be approximately 36 weeks.

3.1 SENSITIVE RECEIVERS

Sensitive receiver locations as presented in Figure 1 and detailed below. These locations will be used as a basis for this assessment.

- **R1**: Ikea DC Sydney – existing industrial receivers, located north-west of the project site
- **R2**: Blacktown Waste Service – future industrial receiver currently under construction, located north of the project site.
- **R3**: Tigerpak Packaging – existing industrial receiver located north of the project site.
- **R4**: Bucher Municipal – existing industrial receivers, located southeast of the project site.
- **R5**: Ingenia Lifestyle Stoney Creek, retirement community, located east of the project site.
- **R6**: Logos Property – existing industrial receivers, located south east of the project site.
- **R7**: Existing residential receivers located south of the project site.
- **R8:** Existing residential receivers located north west of the project site.

We note that an existing 2.5m high noise barrier has been constructed at the south boundary of Ingenia Lifestyle Stoney Creek (highlighted in red in Figure 1 below_.

An aerial photo of the site, monitoring locations and surrounding receivers is shown in Figure 1.

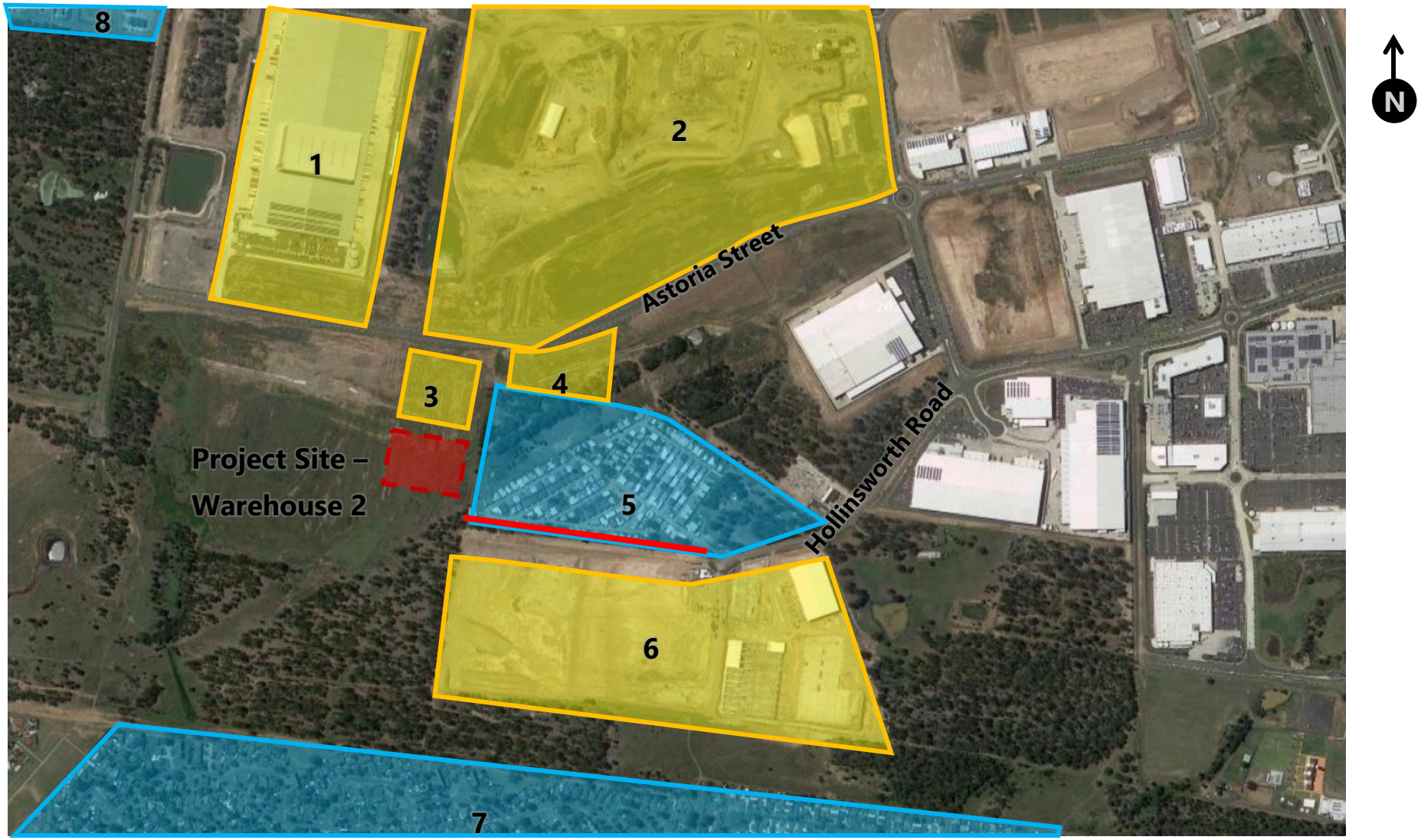


Figure 1 – Aerial View of Site & Receivers
(NSW Six Maps 2021)

4 EXISTING ACOUSTIC ENVIRONMENT

4.1 ENVIRONMENTAL NOISE DESCRIPTORS

Ambient noise constantly varies in level from moment to moment, so it is not possible to accurately determine prevailing noise conditions by measuring a single, instantaneous noise level.

To quantify ambient noise, a 15-minute measurement interval is typically utilised. Noise levels are monitored continuous during this period, and then statistical and integrating techniques are used to characterise the noise being measured.

The principal measurement parameters obtained from the data are:

L_{eq} – represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period. L_{eq} is important in the assessment of noise impact as it closely corresponds with how humans perceive the loudness of time-varying noise sources (such as traffic noise).

L_{90} – This is commonly used as a measure of the background noise level as it represents the noise level heard in the typical, quiet periods during the measurement. The L_{90} parameter is used to set noise emission criteria for potentially intrusive noise sources since the disturbance caused by a noise source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the L_{90} level.

L_{10} – is used in some guidelines to measure noise produced by an intrusive noise source since it represents the average of the loudest noise levels produced at the source. Typically, this is used to assess noise from licensed venues.

L_{max} – is the highest noise level produced during a noise event, and is typically used to assess sleep arousal impacts from short term noise events during the night, It is also used to assess internal noise levels resulting from aircraft and railway ground vibration induced noise.

L_1 – is sometimes used in place of L_{max} to represent the typical noise level from a number of high level, short term noise events.

4.2 EXISTING BACKGROUND NOISE LEVELS

Existing background noise levels in the area have been based on previous long-term unattended noise monitoring conducted during the application stage of Stage 3 of Sydney Business Park. The acoustic report entitled '*Stage 3 Facilities – Sydney Business Park (Marsden Park), SSD Noise & Vibration Impact Assessment*', provided by Wilkinson Murray Pty Limited (ref: 20232, version B, dated July 2020), outlined the following background noise levels.

Table 1 – Measured Background Noise Levels (Unattended Noise Monitors)

Location	Time of Day	Rating Background Noise Level dB(A)L_{90}
NL1 – 18 Aubusson Street, Marsden Park	Day (7:00am – 6:00pm)	35
	Evening (6:00pm – 10:00pm)	30
	Night (10:00pm – 7:00am)	30
NL2 – 15 Roche Grove, Shalvey	Day (7:00am – 6:00pm)	35
	Evening (6:00pm – 10:00pm)	33
	Night (10:00pm – 7:00am)	30

5 CONSENT CONDITIONS (SSD-10477 – MOD 2)

5.1 "CONDITION B18 – CONSTRUCTION NOISE MANAGEMENT PLAN

The applicant must prepare a Construction Noise Management Plan for the development to the satisfaction of the Planning Secretary. The plan most form part of the CEMP in accordance with condition C2 and must:

(a) Be prepared by a suitably qualified and experienced noise expert;

(b) Be approved by the Planning Secretary prior to the commencement of construction of the development;

(c) Describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time);

(d) Describe the measures to be implemented to manage high noise generating works such as piling;

(e) Include strategies that have been developed with the community for managing high noise generating works;

(f) Describe the community consultation undertaken to develop the strategies in Condition B18€; and

(g) Include a complaints management system that would be implemented for the duration of the development."

5.2 HOURS OF WORK

The above scope of work is proposed to be undertaken during the construction hours nominated by (SSD-10477) Condition B15 '*Hours of Work*. The following table provides a summary of the hours of work based on the construction activity.

Table 2 – Hours of Work Summary

Construction Activity	Day of the week	Time Period
Earthworks and construction	Monday to Friday	7:00AM to 6:00PM
	Saturday	8:00AM to 1:00PM
Operation	Monday – Sunday	24 hours

It is to be noted that Condition B16 also states the following regarding works outside of the hours identified in B15 above:

"B16. Works outside of the hours identified in condition B15 may be undertaken in the following circumstances:

(a) Works that are inaudible at the nearest sensitive receivers;

(b) Works agreed to in writing by the Planning Secretary;

(c) For the delivery of materials required outside these hours by the NSW Police Force or other authority for safety reasons; or

(d) Where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm."

6 NOISE AND VIBRATION MANAGEMENT LEVELS

Noise and vibration associated with the proposed construction works will be assessed in accordance with the following guidelines:

- State Significant Development (SSD-10477 – MOD 2)
- NSW Environmental Protection Authority (EPA) document – *'Interim Construction Noise Guideline'*
- Australian Standard AS2436-2010 – *'Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites'*

6.1 NOISE

6.1.1 State Significant Development Consent (SSD-10477 – MOD 2)

NOISE

Hours of Work

B15. The Applicant must comply with the hours detailed in Table 1, unless otherwise agreed in writing by the Planning Secretary.

Table 1 *Hours of Work*

Activity	Day	Time
Earthworks and construction	Monday – Friday Saturday	7 am to 6 pm 8 am to 1 pm
Operation	Monday – Sunday	24 hours

B16. Works outside of the hours identified in condition B15 may be undertaken in the following circumstances:

(a) works that are inaudible at the nearest sensitive receivers;

(b) works agreed to in writing by the Planning Secretary;

(c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or

(d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Construction Noise Limits

B17. The development must be constructed to achieve the construction noise management levels detailed in *the Interim Construction Noise Guideline* (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures in the Appendix 3.

6.1.2 NSW EPA Interim Construction Noise Guideline

Establishment of guidelines for construction noise requirements will be in accordance with NSW Environmental Protection Authority (EPA) *'Interim Construction Noise Guideline'* (ICNG).

Given the scale of the proposed works, the "quantitative" assessment procedure, as outlined in the Interim Construction Noise Guideline (ICNG) will be used (as opposed to the simpler "qualitative" assessment method outlined in the guidelines). The quantitative assessment method requires:

- Determination of noise management levels (based on ambient noise monitoring).
- Review and prediction of operational noise levels at nearby development.
- If necessary, recommendation of noise controls strategies in the event that compliance with noise emission management levels is not possible.

6.1.3 Residential Receivers

EPA guidelines adopt differing strategies for noise control depending on the predicted noise level at the nearest residences:

- *"Noise affected" level.* Where construction noise is predicted to exceed the "noise effected" level at a nearby residence, the proponent should take reasonable/feasible work practices to ensure compliance with the "noise effected level". For residential properties, the "noise affected" level occurs when construction noise exceeds ambient levels by more than 10dB(A)$L_{eq(15min)}$.
- "*Highly noise affected level*". Where noise emissions are such that nearby properties are "highly noise effected", noise controls such as respite periods should be considered. For residential properties, the "highly noise effected" level occurs when construction noise exceeds 75dB(A)$L_{eq(15min)}$ at nearby residences.

A summary of the recommended residential noise levels from the ICNG is presented below in table 3.

Table 3 – Construction Noise Management Levels - Residential

Location	"Noise Affected" Level - dB(A)$L_{eq(15min)}$	"Highly Noise Affected" Level - dB(A)$L_{eq(15min)}$
All Residents Surrounding Warehouse 2, Stage 3	45	**75**

6.1.4 Non-Residential Receivers

EPA guidelines adopt a different set of management levels for non-residential receivers. The following table outlines the management noise levels for the relevant commercial/non-residential premises nearby.

Table 4 – Construction Noise Management Levels – Non-Residential

Land Use	"*Management*" Noise Level dB(A)$L_{Aeq(15min)}$
Industrial	75 dB(A) (Externally)

If noise levels exceed the management levels identified in the tables above, reasonable and feasible noise management techniques will be reviewed.

6.2 CONSTRUCTION VIBRATION OBJECTIVES

The criteria for vibration caused by any demolition, excavation or construction works to nearby residences or structure outside the project site is governed by the following guidelines/standards:

- For structure damage, German Standard DIN4150, *'Structural Vibration: Effects of Vibration on Structures'*
- For human exposure to vibration, the Department of Environment and Conservation NSW *'Assessing Vibration: A technical guideline'* (Feb 2006) is based on the guidelines contained in BS 6472:1992 *Guide to Evaluate Human Exposure to Vibration in buildings (1Hz to 80Hz)* for low probability of adverse comment.

The criteria and the application of these guidelines/standards are discussed in separate sections below.

7 PROPOSED CONSTRUCTION ACTIVITIES

Typically, the most significant sources of noise generated during a construction project. A summary of sound power levels of major construction processes/equipment is detailed in Table 5.

Section 3 outlines the major works to be undertaken. The highest noise levels are likely to be generated during detailed excavation and ongoing use of the concrete pumps, trucks etc.

With respect to construction noise, the impact on nearby development will be dependent on the activity in question and where on the site the activity is undertaken. The primary construction equipment and sound power levels associated with the works are as follows:

Table 5 - Sound Power Levels of the Proposed Equipment

Equipment / Process	Sound Power Level – dB(A)*
Excavator (bucket attachment)	105
Concrete Pump	105
Crane (Mobile)	105
Materials Handling (Forklifts etc)	105
Trucks	107
Powered Hand Tools	105

***Noise levels take into account correction factors (for tonality, intermittency where necessary).**

The noise levels presented in the above table are derived from the following sources, namely:

- Table A1 of Australian Standard 2436-2010.
- Data held by this office from other similar studies.

Noise levels take into account correction factors (for tonality, intermittency where necessary).

7.1 NOISE IMPACT ASSESMENT

The predicted noise levels during excavation and construction will depend on:

- The activity undertaken; and
- The distance between the work site and the receiver. For many of the work areas, the distance between the noise source and the receiver will vary depending on which end of the site the work is undertaken. For this reason, the predicted noise levels will be presented as a range.

Predicted noise levels are presented below. Predictions consider the noise reduction as a result of distance only. Table 6 to Table 13 present the predicted noise generations to the various receivers surrounding the site at Warehouse 2.

Table 6 – Predicted Noise Generation to Industrial Receiver R1

Activity	Predicted Level – dB(A) $L_{eq(15min)}$ (External Areas)	Management Noise Level	Comment
Excavator (bucket attachment)	46-48	**NSW EPA *Interim Construction Noise Guideline*** When in Use – 75 dB(A)$L_{eq(15\text{-}minute)}$ **(Assessed Externally)**	Achieves the construction noise emission goals
Concrete Pump	46-48		
Crane (Mobile)	46-48		
Materials Handling (Forklifts etc)	46-48		
Trucks	48-50		
Powered Hand Tools	46-48		

Table 7 – Predicted Noise Generation to Industrial Receiver R2

Activity	Predicted Level – dB(A) $L_{eq(15min)}$ (External Areas)	Management Noise Level	Comment
Excavator (bucket attachment)	46-48	**NSW EPA *Interim Construction Noise Guideline*** When in Use – 75 dB(A)$L_{eq(15\text{-}minute)}$ **(Assessed Externally)**	Achieves the construction noise emission goals
Concrete Pump	46-48		
Crane (Mobile)	46-48		
Materials Handling (Forklifts etc)	46-48		
Trucks	48-50		
Powered Hand Tools	46-48		

Table 8 – Predicted Noise Generation to Industrial Receiver R3 Receivers

Activity	Predicted Level – dB(A) $L_{eq(15min)}$ (External Areas)	Management Noise Level	Comment
Excavator (bucket attachment)	57-72	**NSW EPA *Interim Construction Noise Guideline*** When in Use – 75 dB(A)$L_{eq(15\text{-}minute)}$ **(Assessed Externally)**	Achieves the construction noise emission goals
Concrete Pump	57-72		
Crane (Mobile)	57-72		
Materials Handling (Forklifts etc)	57-72		
Trucks	59-74		
Powered Hand Tools	57-72		

Table 9 – Predicted Noise Generation to Industrial Receiver R4

Activity	Predicted Level – dB(A) $L_{eq(15min)}$ (External Areas)	Management Noise Level	Comment
Excavator (bucket attachment)	52-57	**NSW EPA *Interim Construction Noise Guideline*** When in Use – 75 dB(A)$L_{eq(15\text{-}minute)}$ **(Assessed Externally)**	Achieves the construction noise emission goals
Concrete Pump	52-57		
Crane (Mobile)	52-57		
Materials Handling (Forklifts etc)	52-57		
Trucks	54-59		
Powered Hand Tools	52-57		

Table 10 – Predicted Noise Generation to Residential Receiver R5

Activity	Predicted Level – dB(A) $L_{eq(15min)}$ (External Areas)	Management Noise Level	Comment
Excavator (bucket attachment)	55-67	**NSW EPA *Interim Construction Noise Guideline*** 45 dB(A)$L_{eq(15\text{-}minute)}$ **"*Noise Affected Level*"** **&** 75 dB(A)$L_{eq(15\text{-}minute)}$ **"Highly *Affected Noise Level*"**	Achieves the highly affected noise emission goals, exceeds the noise affected level at all times.
Concrete Pump	55-67		
Crane (Mobile)	55-67		
Materials Handling (Forklifts etc)	55-67		
Trucks	55-67		
Powered Hand Tools	55-67		

Table 11 – Predicted Noise Generation to Industrial Receiver R6

Activity	Predicted Level – dB(A) $L_{eq(15min)}$ (External Areas)	Management Noise Level	Comment
Excavator (bucket attachment)	49-53	**NSW EPA *Interim Construction Noise Guideline*** When in Use – 75 dB(A)$L_{eq(15\text{-}minute)}$ **(Assessed Externally)**	Achieves the construction noise emission goals
Concrete Pump	49-53		
Crane (Mobile)	49-53		
Materials Handling (Forklifts etc)	49-53		
Trucks	51-55		
Powered Hand Tools	49-53		

Table 12 – Predicted Noise Generation to Residential Receivers R7

Activity	Predicted Level – dB(A) $L_{eq(15min)}$ (External Areas)	Management Noise Level	Comment
Excavator (bucket attachment)	41-42	**NSW EPA *Interim Construction Noise Guideline*** 45 dB(A)$L_{eq(15\text{-}minute)}$ **"*Noise Affected Level*"** **&** 75 dB(A)$L_{eq(15\text{-}minute)}$ **"Highly *Affected Noise Level*""**	Achieves the construction noise emission goals
Concrete Pump	41-42		
Crane (Mobile)	41-42		
Materials Handling (Forklifts etc)	41-42		
Trucks	43-44		
Powered Hand Tools	41-42		

Table 13 – Predicted Noise Generation to Residential Receivers R8

Activity	Predicted Level – dB(A) $L_{eq(15min)}$ (External Areas)	Management Noise Level	Comment
Excavator (bucket attachment)	38-39	**NSW EPA *Interim Construction Noise Guideline*** 45 dB(A)$L_{eq(15\text{-}minute)}$ **"*Noise Affected Level*"** **&** 75 dB(A)$L_{eq(15\text{-}minute)}$ **"Highly *Affected Noise Level*"**	Achieves the construction noise emission goals
Concrete Pump	38-39		
Crane (Mobile)	38-39		
Materials Handling (Forklifts etc)	38-39		
Trucks	40-41		
Powered Hand Tools	38-39		

7.2 DISCUSSION – NOISE

Exceedances to the relevant noise affected management level are predicted only for receiver 5. Given that the general constructions works are expected to generally be of a lower noise level with majority of activities below the ICNG noise management levels. A further reduction would be expected for any internal works once building shell works have been completed.

7.3 DISCUSSION - VIBRATION

In the context of the proposed activities to occur, works are not anticipated to create vibration or be vibration induced. However, should any of the proposed activity be vibration induced, the guidelines outlined in section 11 are recommended to mitigate its impact on surrounding developments.

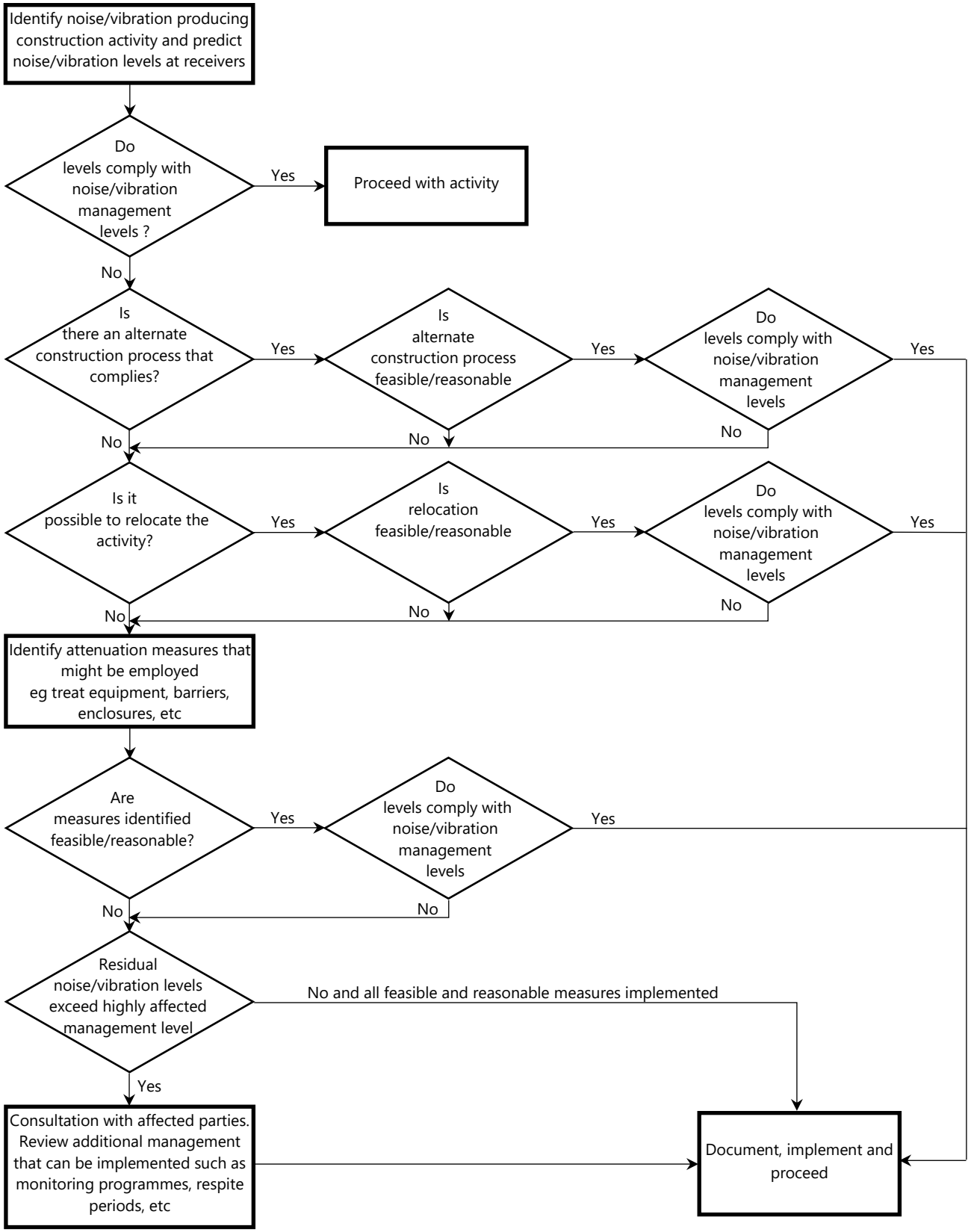
7.4 GENERAL RECOMMENDATIONS

In light of the above assessment, and to mitigate any potential noise impacts from the development of Warehouse 2 – Stage 3 Facilities, Sydney Business Park, we recommend the following management controls be implemented:

- The scheduling of construction activities should be undertaken to reasonably minimise noise impacts to all surrounding residents.
- Community consultation is proposed be undertaken throughout the construction process. In this regard regular letterbox drops detailing site progress and scheduled works is proposed.
- Quiet work methods/technologies:
    - The primary noise generating activity at the site will be the bulk excavation period. As much as practicable, use of quieter excavation methods is adopted.
- Attended noise measurements at surrounding properties can be undertaken at the beginning of each construction stage to quantify the level of construction noise typically emitted from the site. This may be used to inform any mitigation strategies which could be implemented.
- Materials handling/vehicles:
    - Avoid careless dropping of construction materials into empty trucks.
    - Trucks, trailers and delivery vehicles are to turn off engines when idling to reduce noise impacts (unless required for concrete pumping or similar).
- Complaints handling:
    - An after-hours contact number is displayed outside of the building site, so that in the event that surrounding development believes that a noise breach is occurring, they may contact the site.
    - In the event of complaint, the procedures outlined in Section 10 are adopted.
- Site Induction:
    - A copy of the Noise Management Plan is to be available to contractors. The location of the Noise Management Plan should be advised in any site induction.
        - Site induction should also detail the site contact to be notified in the event of noise complaint.

8 ASSESSMENT METHODOLOGY AND MITIGATION METHODS

The flow chart presented below illustrates the process that will be followed in assessing construction activities.



9 ADDITIONAL NOISE AND VIBRATION CONTROL METHODS

In the event of complaints, there are a number of noise mitigation strategies available which can be considered. The determination of appropriate noise control measures will be dependent on the particular activities and construction appliances. This section provides an outline of available methods.

9.1 SELECTION OF ALTERNATE APPLIANCE OR PROCESS

Where a particular activity or construction appliance is found to generate excessive noise levels, it may be possible to select an alternative approach or appliance. For example, the use of a hydraulic hammer on certain areas of the site may potentially generate high levels of noise. Undertaking this activity using bulldozers, ripping and/or milling machines will result in lower noise levels.

9.2 ACOUSTIC BARRIER

Given the position of adjacent development, it is unlikely that noise screens will provide significant acoustic benefit for commercial or residential receivers but will provide noticeable improvement for those on ground level.

The placement of barriers at the source is generally only effective for static plant. Equipment which is on the move or working in rough or undulating terrain cannot be effectively attenuated by placing barriers at the source.

Barriers can also be placed between the source and the receiver.

The degree of noise reduction provided by barriers is dependent on the amount by which line of sight can be blocked by the barrier. If the receiver is totally shielded from the noise source reductions of up to 15dB(A) can be effected. Where only partial obstruction of line of sight occurs, noise reductions of 5 to 8dB(A) may be achieved. Where no line of sight is obstructed by the barrier, generally no noise reduction will occur.

As barriers are used to provide shielding and do not act as an enclosure, the material they are constructed from should have a noise reduction performance that is approximately 10dB(A) greater than the maximum reduction provided by the barrier. In this case the use of a material such as 10mm or 15mm thick plywood (radiata plywood) would be acceptable for the barriers.

9.3 MATERIAL HANDLING

The installation of rubber matting over material handling areas can reduce the sound of impacts due to material being dropped by up to 20dB(A).

9.4 TREATMENT OF SPECIFIC EQUIPMENT

In certain cases it may be possible to specially treat a piece of equipment to dramatically reduce the sound levels emitted.

9.5 ESTABLISHMENT OF SITE PRACTICES

This involves the formulation of work practices to reduce noise generation. A more detailed management plan will be developed for this project in accordance with the construction methodology outlining work procedures and methods for minimising noise.

9.6 COMBINATION OF METHODS

In some cases, it may be necessary that two or more control measures be implemented to minimise noise.

9.7 NOISE MONITORING TECHNIQUES

Where noise monitoring is undertaken (either by attended short term measurements or long-term unattended noise monitoring), it should be conducted at a practical location representative of the impact to nearby noise sensitive receivers. Where this is not possible, noise measurements of construction processes should be taken such that noise levels can be accurately predicted to receivers. Any reporting of noise measurement results may include the following information:

- The date and time that the measurements were undertaken.
- The location of measurements, noise receivers and construction processes. A site map should be included for clarity.
- A description of the construction processes being undertaken during the measurement period.
- The measured noise construction noise levels, and the noise level at the façade of nearby receivers (if noise levels are predicted).
- A comparison to the NSW EPA Interim Construction Noise Guideline noise management levels.

10 COMMUNITY INTERACTION AND COMPLAINTS HANDLING

10.1 ESTABLISHMENT OF DIRECT COMMUNICATION WITH AFFECTED PARTIES

In order for any construction noise management programme to work effectively, continuous communication is required between, all parties which may be potentially impacted upon, the builder and the regulatory authority. This establishes a dynamic response process which allows for the adjustments of control methods and criteria for the benefit of all parties.

The objectives in undertaking a consultation process is to:

- Information and educate the groups about the project and the noise controls being implemented.
- Increase understanding of all acoustic issues related to the project and options available.
- Identify group concerns generated by the project, so that they can be addressed.
- Ensure that concerned individuals or groups are aware of and have access to the Site Complaints Register which will be used to address and construction noise related problems should they arise.

To ensure that this process is effective, regular scheduled meetings may be required for a finite period, until all issues have been addressed and the evidence of successful implementation is embraced by all parties.

An additional step in this process is to produce a newsletter informing nearby residents of upcoming activities that are likely to generated higher noise/vibration levels.

10.2 DEALING WITH COMPLAINTS

Should ongoing complaints of excessive noise or vibration recommendations occur immediate measures shall be undertaken to investigate the complaint, the cause of the exceedances and identify the required changes to work practices.

If a noise complaint is received the complaint should be recorded. Any complaint form should list:

- The name and address of the complainant (if provided);
- The time and date the complaint was received;
- The nature of the complaint and the time and date the noise was heard;
- The name of the employee who received the complaint;
- Actions taken to investigate the complaint, and a summary of the results of the investigation;
- Required remedial action, if required;
- Validation of the remedial action; and
- Summary of feedback to the complainant.

A permanent register of complaints should be held.

All complaints should be fully investigated and reported to management. The complaint should also be notified of the results and actions arising from the investigation.

The investigation of a complaint shall involve where applicable:

- Noise measurement at the affected receiver.
- An investigation of the activities occurring at the time of the incident.
- Inspection of the activity to determine whether any undue noise is being emitted by equipment; and
- Whether work practices were being carried out either within established guidelines or outside these guidelines.

Where an item of plant is found to be emitting excessive noise, the cause is to be rectified as soon as possible. Where work practices within established guidelines are found to result in excessive noise generated then the guidelines should be modified so as to reduce noise emissions to acceptable levels. Where guidelines are not being followed, the additional training and counselling of employees should be carried out.

Measurement or other methods shall validate the results of any corrective actions arising from a complaint where applicable.

11 CONTINGENCY PLANS

Where non-compliance or noise complaints are raised the following methodology will be implemented.

1. Determine the offending plant/equipment/process.
2. Locate the plant/equipment/process further away from the affected receiver(s) if possible.
3. Implement additional acoustic treatment in the form of localised barriers, silencers etc where practical.
4. Selecting alternative equipment/processes where practical.
5. If necessary, setup noise and vibration monitoring devices at locations representing the nearest noise/vibration affected receivers and provide data or each complaint time period. Analysis is required to determine suitable mitigation measures.

Complaints associated with noise and vibration generated by site activities shall be recorded on a Complaint Form. The person(s) responsible for complaint handling and contact details for receiving of complaints shall be established on site prior to construction works commencing. A sign shall be displayed at the site indicating the Site Manager to the general public and their contact phone number.

12 CONCLUSION

An assessment of noise from construction works associated with Warehouse 2 – Stage 3 Facilities, Sydney Business Park has been presented within this report to satisfy Condition of Consent (SSD-1047 – MOD 2)

The acoustic assessment of the proposed works has been made with reference to the existing consent conditions for the site (SSD-10477 – MOD 2) and relevant policies & guidelines for construction noise – namely the *Interim Construction Noise Guideline*.

Recommendations have been provided to minimise the noise and vibration impacts on surrounding receivers.

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

Yours faithfully,

Acoustic Logic Pty Ltd
James Ting