

Acoustic Assessment 100 South Creek Road, Cromer, NSW



Client: EG Funds Management



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CONTENTS

Glossary	4
1 Introduction	5
1.1 Summary	5
1.2 Location & Description of Proposed Development	5
1.3 Scope	6
2 Relevant Acoustic Criteria And Standards	6
2.1 Northern Beaches Council Criteria	7
2.2 Protection Of The Environment Operation (POEO) Act	7
2.3 NSW EPA's Environmental Noise Criteria	8
3 Instrumentation & Measurement Standards	
4 Noise Emission Assessment	
4.1 Assessment Results	
5 Recommendations	15
5.1 Recommendations for Forklifts	15
5.2 Recommendations for General Noise Management	
6 Conclusion	
	-
Appendix A – Location Map, Aerial Photo, Zoning Map & Drawings	
Appendix B – Unattended Noise Logger Data	4 pages



GLOSSARY

NOISE

Noise is produced through rapid variations in air pressure at audible frequencies (20 Hz - 20 kHz). Most noise sources vary with time. The measurement of a variable noise source requires the ability to describe the sound over a particular duration of time. A series of industry standard statistical descriptors have been developed to describe variable noise, as outlined in **Section 2** below.

NOISE DESCRIPTORS

 L_{eq} – The sound pressure level averaged over the measurement period. It can be considered as the equivalent continuous steady-state sound pressure level, which would have the same total acoustic energy as the real fluctuating noise over the same time period.

dB – Decibels. The fundamental unit of sound, a Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell. Probably the most common usage of the Decibel in reference to sound loudness is dB sound pressure level (SPL), referenced to the nominal threshold of human hearing. For sound in air and other gases, dB(SPL) is relative to 20 micropascals (μ Pa) = 2×10⁻⁵ Pa, the quietest sound a human can hear.

A-WEIGHTING

"A-weighting" refers to a prescribed amplitude versus frequency curve used to "weight" noise measurements in order to represent the frequency response of the human ear. Simply, the human ear is less sensitive to noise at some frequencies and more sensitive to noise at other frequencies. The A-weighting is a method to present a measurement or calculation result with a number representing how humans subjectively hear different frequencies at different levels.



1 INTRODUCTION

1.1 SUMMARY

Acoustic Dynamics has been engaged by **EG Funds Management** to assess noise emission for the proposed Industrial Development at 4-10 Inman Road, Cromer, NSW.

This document provides a technical assessment, as well as recommendations for remediation works to reduce noise emission with a view to achieving compliance with the relevant acoustic criteria and requirements. It has been prepared in accordance with the requirements of Northern Beaches Council, the EPA and relevant Australian Standards.

1.2 LOCATION & DESCRIPTION OF PROPOSED DEVELOPMENT

The site is located at 4-10 Inman Road, Cromer, in the Northern Beaches Council area of NSW. The subject site is zoned IN1 (General Industrial) with the nearest residential receivers located on land zoned R2 (Low Density Residential).

The subject site has two road frontages with the southern boundary direct to South Creek Road and the western boundary direct to Inman Road. The northern boundary is shared with a small number of commercial premises and residential receivers along Orlando Road, and the eastern boundary is shared with residential receivers along Randall Court and Campbell Avenue.

Acoustic Dynamics advise that for the purpose of the acoustical assessment, the nearest sensitive receivers are:

- Residential receivers located at 30 Orlando Road (NNE);
- Residential receivers located at 28 Orlando Road (NNE);
- Residential receivers located at 26 Orlando Road (NNE);
- Residential receivers located at 24 Orlando Road (NNE);
- Residential receivers located at 22 Orlando Road (NNE);
- Residential receivers located at 20 Orlando Road (NNE);
- Residential receivers located at 20A Orlando Road (NNE);
- Residential receivers located at 18 Orlando Road (NNE);
- Residential receivers located at 10 Orlando Road (NNE);
- Residential receivers located at 13 Randall Court (E);
- Residential receivers located at 15 Randall Court (E); and
- Residential receivers located at 14 Randall Court (E).

For the purposed of the acoustic assessment the residential receivers located at 30 Orlando Road and 15 Randall Court and are considered the most affected. Both of these locations will provide a indicative noise emission impact at the other sensitive receivers detailed above.

4355R001.MW.191119				Page 5 o	f 16
ACOUSTIC	DYNAMICS	EXCELLENCE	IN	ACOUSTICS	



The proposed industrial development comprises of existing heritage buildings and 2 new buildings, with 10 warehouse units all connected via a hardstand/parking area. A staff carpark will be located in the basement at the south of the site with access via South Creek Road.

Acoustic Dynamics is of the understanding that the site will primarily be used as a light industrial area for various small to medium sized businesses. Furthermore, the operating hours, although unknown at this stage, are likely to be primarily during the daytime period, 7am to 6pm, with limited use during the evening period, 6pm to 10pm. For the purposes of this assessment, Acoustic Dynamics assumes that no operation are to occur during the night-time period, 10pm to 7am.

The development is shown in the Location Map, Aerial Photo, Zoning Map and Drawings presented within **Appendix A**.

1.3 SCOPE

Acoustic Dynamics has been engaged to provide a noise emission assessment suitable for submission to Northern Beaches Council.

The scope of the assessment is to include the following:

- Review of legislation, Council criteria and Australian Standards relevant to the development;
- Travel to site to conduct inspections of the proposed site, and the location of the adjacent receivers;
- Conduct noise monitoring at a representative location to determine existing ambient noise levels;
- Establish relevant project specific noise emission criteria;
- Predict the noise emission level at nearby receiver locations, resulting from the use and operation of the proposed industrial development; and
- Recommendation of remediation works to achieve compliance with the relevant acoustic requirements and criteria.

2 RELEVANT ACOUSTIC CRITERIA AND STANDARDS

Acoustic Dynamics has conducted a review of the local council, state government and federal legislation that is applicable to noise assessment for the development. The relevant sections of the legislation are presented below. The most stringent criteria which have been used in the assessment of the development is summarised below.



2.1 NORTHERN BEACHES COUNCIL CRITERIA

2.1.1 LOCAL ENVIRONMENT PLAN

A review of Warringah *Local Environment Plan* (LEP) 2011 was conducted yet did not yield specific acoustic information or criteria relating to this development.

2.1.2 DEVELOPMENT CONTROL PLANS

A review of Warringah *Development Control Plan (DCP) 2011* was conducted. References to acoustic requirements and relevant noise criteria are reproduced below:

"D3 Noise

Applies to Land

This control applies to land to which Warringah Local Environmental Plan 2011 applies.

Objectives

• To encourage innovative design solutions to improve the urban environment.

• To ensure that noise emission does not unreasonably diminish the amenity of the area or result in noise intrusion which would be unreasonable for occupants, users or visitors.

Requirements

1. Noise from combined operation of all mechanical plant and equipment must not generate noise levels that exceed the ambient background noise by more than 5dB(A) when measured in accordance with the NSW Industrial Noise Policy at the receiving boundary of residential and other noise sensitive land uses.

See also NSW Industrial Noise Policy Appendices

2. Development near existing noise generating activities, such as industry and roads, is to be designed to mitigate the effect of that noise.

3. Waste collection and delivery vehicles are not to operate in the vicinity of residential uses between 10pm and 6am.

4. Where possible, locate noise sensitive rooms such as bedrooms and private open space away from noise sources. For example, locate kitchens or service areas closer to busy road frontages and bedrooms away from road frontages.

5. Where possible, locate noise sources away from the bedroom areas of adjoining dwellings/properties to minimise impact."

2.2 PROTECTION OF THE ENVIRONMENT OPERATION (POEO) ACT

We advise that noise emission from the development must also comply with the requirements of the relevant legislation, being the *Protection of the Environment Operations* (POEO) *Act*

4355R001.MW.191119	Page 7 of 16



1997. The POEO Act 1997 requires that mechanical equipment must not generate "offensive noise". Offensive noise is defined as follows:

""offensive noise" means noise:

- (a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:
 - (i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or
 - (ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or
- (b) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations."

2.3 NSW EPA'S ENVIRONMENTAL NOISE CRITERIA

2.3.1 NOISE POLICY FOR INDUSTRY (NPFI)

Acoustic Dynamics advises that noise emission assessment at nearby and adjacent noise sensitive receivers has been conducted with reference to the NSW EPA's Noise Policy for Industry (NPfI, 2017) and yielded the following information:

Project Noise Trigger Level

The *project noise trigger level* provides a benchmark or objective for assessing a proposal or site. It takes into account (amongst other factors):

- The receiver's background noise environment;
- The time of day of the activity
- The character of the noise; and
- The type of receiver and nature of the area.

Put simply, the *project noise trigger level* is the lower (that is, more stringent) value of the *project intrusiveness noise level* and the *project amenity noise level* which are described in detail below.

Project Intrusiveness Noise Level



The intrusiveness noise level is determined as follows:

L _{Aeq, 15min} = rating background noise level + 5 dB					
where:					
LAeq, 15min	represents the equivalent continuous (energy average) A- weighted sound pressure level of the source over 15 minutes.				
and					
Rating background noise level	represents the background level to be used for assessment purposes, as determined by the method outlined in Fact Sheets A and B.				

Project Amenity Noise Level

The recommended amenity noise levels represent the objective for **total** industrial noise at a receiver location, whereas the **project amenity noise level** represents the objective for a noise from a **single** industrial development at a receiver location.

To ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels for an area, a project amenity noise level applies for each new source of industrial noise as follows:

Project amenity noise level for industrial developments = recommended amenity noise level (Table 2.2) minus 5 dB(A)

To establish the acoustic environment at the subject site in accordance with the guidelines of the NSW EPA's NPfI, an unattended noise logger was deployed at the subject development site between Friday 29 June 2018 and Friday 6 July 2018. The logger was deployed within the subject lot at the rear of the residential property located at 15 Randall Court . Acoustic Dynamics advises the selected location is likely to be representative of the existing noise environment of the nearest receivers to the subject development site. Operator-attended background noise measurements were undertaken on site to supplement unattended background noise monitoring data collected.

Following the general procedures outlined in the EPA's NPfI, a summary of the established noise environment, and relevant environmental noise criteria is presented in **Table 2.1**.

Acoustic Dynamics advises that the assessment has been based on the **lowest** background noise levels in the area during typical **maximum** operations of the proposed residential development. Acoustic Dynamics advises that such an assessment is conservative and will ensure no loss of amenity to the nearby residential receivers.

Following the general procedures outlined in the EPA's NPfI, a summary of the established noise environment, and relevant environmental noise criteria is presented in **Table 2.1**.



Location	Time of Day	L _{A90} Rating Background Noise Level (RBL) [dB]	Measured L _{Aeq} [dB]	Project Intrusive Noise Level [dB]	Project Amenity Noise Level ² L _{Aeq} [dB]	Project Noise Trigger Level L _{Aeq} [dB]
	Daytime¹ (7am to 6pm)	40	63	45	53	45
Nearest residential receiver(s)	Evening (6pm to 10pm)	38	45	43	43	43
	Night time (10pm to 7am)	35	43	40	38	38

Table 2.1 Summary of Measured Noise Levels and Noise Emission Criteria – At Residences

Note: 1) 8am to 6pm on Sundays and public holidays.

2) Amenity adjustment based on "Suburban" receiver type (Table 2.3 of the NPfI). The noise emission objective has been modified in accordance with the recommendations detailed within the NPfI Section 2.2, for time period standardising of the intrusiveness and amenity noise levels (L_{Aeq,15min} will be taken to be equal to the L_{Aeq, period} + 3 decibels (dB).

The EPA's NPfI specifies additional noise emission level corrections that should be applied when a noise source is determined to include "modifying factors" that can vary the perceived intrusiveness of a noise source. Such modifying factors include tonal, low frequency, impulsive, or intermittent noise.

2.3.2 THE EPA'S SLEEP DISTURBANCE CRITERION

Acoustic Dynamics advises that sleep disturbance is a complex issue, and the potential for sleep disturbance to occur depends on both the level of noise at a residential receiver, and the number of events that occur.

The EPA has in the past investigated overseas and Australian research on sleep disturbance. The method of assessing noise for sleep disturbance relies on the application of a screening that indicates the potential for this to occur. The EPA's Noise Guide for Local Government, provides the following guidance for such a screening test:

"Currently, there is no definitive guideline to indicate a noise level that causes sleep disturbance and more research is needed to better define this relationship. Where likely disturbance to sleep is being assessed, a screening test can be applied that indicates the potential for this to occur. For example, this could be where the subject noise exceeds the background noise level by more than 15 dB(A). The most appropriate descriptors for a source relating to sleep disturbance would be $L_{A1(1 \text{ minute})}$ (the level



exceeded for 1% of the specified time period of 1 minute) or L_{Amax} (the maximum level during the specified time period) with measurement outside the bedroom window."

Additionally, the guidelines of the NSW EPA's NPfI provide the following additional information:

"Where the subject development/premises night-time noise levels at a residential location exceed:

- L_{Aeq,15min} 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or
- L_{AFmax} 52 dB(A) or the prevailing RBL plus 15 dB, whichever is greater".

Further to the above information, the following summarizes the sleep disturbance criterion:

 L_{Amax} or $L_{A1(1 minute)} < L_{A90} + 15 dB(A)$

In addition to the above, the EPA has previously published the following additional information relating to findings of significant research carried out for sleep disturbance:

"Maximum internal noise levels below 50-55 dBA are unlikely to cause awakening reactions... One or more noise events per night, with maximum internal noise levels of 65-70 dBA, are not likely to affect health and wellbeing significantly."

Conservatively based on the measured minimum external ambient background noise level, the following sleep disturbance screening criterion was determined:

 L_{Amax} or $L_{A1(1 \text{ minute})} = 35 \text{ dB}(A) (L_{A90}) + 15 \text{ dB}(A) = 50 \text{ dB}(A)$

Therefore in accordance with the NPfI guidelines detailed above, the following sleep disturbance screening criterion has been applied for this project:

Sleep Disturbance Criterion = 52<u>dB(A)</u>

2.3.3 THE EPA'S ROAD NOISE POLICY

The NSW Environmental Protection Authority (EPA) presents guidelines for assessment of road traffic noise in its Road Noise Policy (RNP). The document provides road traffic noise criteria for proposed road as well as other developments with the potential to have an impact in relation to traffic noise generation. **Table 2.3** presents the relevant RNP noise criteria for the subject site.



Fable 2.3 Road Traffic Noise Assessment Criteria for Residential Land Uses							
Road		Assessment Criteria [dB]					
category	Type of project / land use	Day (7am – 10pm)	Night (10pm – 7a				
Local roads	6. Existing residences affected by additional traffic on existing local roads generated by land use developments	L _{Aeq, (1 hour)} 55 (external)	L _{Aeq, (1 hour)} 50 (external)				

m)

INSTRUMENTATION & MEASUREMENT STANDARDS 3

All measurements were conducted in general accordance with Australian Standard 1055.1-1997, "Acoustics - Description and Measurement of Environmental Noise Part 1: General Procedures". Acoustic Dynamics' sound measurements were carried out using precision sound level meters conforming to the requirements of IEC 61672-2002 "Electroacoustics: Sound Level Meters - Part 1: Specifications". The survey instrumentation used during the survey is set out in Table 3.1.

Table 3.1 Noise Survey Instrumentation

Туре	Serial Number	Instrument Description
2270	2664115	Brüel & Kjaer Modular Precision Sound Level Meter
4189	2650956	Brüel & Kjaer 12.5 mm Prepolarised Condenser Microphone
4231	909240	Brüel & Kjaer Acoustic Calibrator
XL2	A2A-06816-E0	NTi-XL2 Sound Level Meter

The reference sound pressure level was checked prior to and after the measurements using the acoustic calibrator and remained within acceptable limits.

NOISE EMISSION ASSESSMENT 4

The following section provides an assessment of the maximum noise emission associated with the use of the development, at the residential site boundary, against the various noise criteria and objectives outlined in Section 2 above.

Accordingly, Acoustic Dynamics has undertaken calculations and modelling to assess the maximum noise emission levels associated with the following noise sources/activities:

- The operation of mechanical plant used to service the development, including:
 - Condenser units; and
 - Air Conditioning units. 0

4355R001.MW.191119			Page 12 of 16	
ACOUSTIC	DYNAMICS	- EXCELLENCE IN	ACOUSTICS	



NB: It is assumed that all units are operating during the daytime and evening periods, while only 25% are operating during the night-time period.

• The arrival and departure of trucks (Heavy vehicles) with engines idling in the loading dock areas for the individual warehouse units;

NB: It is assumed that the frequency of truck movements is 8 per hour during the daytime, 4 per hour during the evening periods and no truck movements during the night-time period.

- Use of forklifts in the hardstand area between the warehouse units;
- General loading dock noise, including general tools and noise producing equipment;
- Staff/patron noise from Café area and general outdoor areas;
- Arrival to site and departure from site, of staff throughout the day, evening and night period.

NB: It is assumed that the use of the industrial estate will include staff/patrons utilizing the café and outdoor spaces, light vehicles and the warehouse units have roller doors open during daytime and evening periods. Furthermore, it is assumed that minimal noise sources will be onsite during the night-time period.

The calculated maximum noise emission levels at the residential boundary (external to the building) resulting from the operation of the facility are presented against the relevant noise emission objectives in **Table 4.1**.

Note should be made that the calculated noise emission levels are based on worst case scenarios for the various operation periods (i.e. maximum number of noise sources operating at maximum capacity). Acoustic Dynamics advises that the actual noise emission generated by the use of the industrial development is generally likely to be well below the conservative noise emission levels presented in **Table 4.1**.

4.1 ASSESSMENT RESULTS

The following section provides an assessment of the maximum noise emission associated with the use of the development, at the nearby residential receiver, against the various noise criteria and objectives outlined in **Section 2** above.

Acoustic Dynamics has performed initial (feasibility) prediction calculations and determined maximum L_{Aeq} noise emission levels at adjacent receiver locations, resulting from the operations within the subject site and the various items of mechanical plant and equipment listed above that are likely to be required to service the individual warehouse units.

4355R001.MW.191119



As stated above, Acoustic Dynamics advises that the specific make and models of the various items of mechanical plant and equipment to be installed within the individual warehouse units, are yet to be determined. However, we advise that that the proposed items of mechanical plant and equipment will be selected and installed to satisfy the various acoustic requirements of the Northern Beaches Council, EPA and other relevant acoustic criteria.

The calculated maximum noise emission levels at the nearest potentially affected receiver location, resulting from the operation of the industrial development, are presented against the relevant noise emission objectives in **Table 4.1** below.

The predicted noise emission levels presented below include allowances for distance, direction and shielding losses, along with the acoustic benefit provided by the noise mitigation measures recommended within **Section 5** below.

Receiver Location	Activity / Noise Source	Relevant Assessment Period	Calculated Maximum L _{Aeq} Noise Level [dB] ¹	L _{Aeq} Noise Emission Objective [dB]	Complies ?
Residential	Mechanical Plant & Equipment, Staff/patron use of the premises and vehicle deliveries/loading	Daytime ¹ (7am to 6pm)	39	45	Yes
receiver at 30 Orlando Road (NNE)	Mechanical Plant & Equipment, Staff/patron use of the premises and vehicle deliveries/loading	Evening (6pm to 10pm)	38	43	Yes
	Essential mechanical plant and the occasional staff member accessing a warehouse unit	Night time (10pm to 7am)	32	38	Yes
Residential	Mechanical Plant & Equipment, Staff/patron use of the premises and vehicle deliveries/loading	Daytime ¹ (7am to 6pm)	34	45	Yes
receiver at 15 Randall Court (E)	Mechanical Plant & Equipment, Staff/patron use of the premises and vehicle deliveries/loading	Evening (6pm to 10pm)	33	43	Yes
	Essential mechanical plant and the occasional staff member accessing a warehouse unit	Night time (10pm to 7am)	28	38	Yes

Table 4.1 – Calculated Maximum External Noise Emission & Objectives – At Residential Receivers

Notes: 1) External noise emission levels calculated at the nearest receiver location to the relevant source.

Acoustic Dynamics has determined the potential maximum $L_{A1(60 \text{ Sec})}$ noise emission from the Industrial Development to be **41 dB** from the activities commonly associated with the use and



operation during the early morning shoulder period i.e. 6.30am to 7.00am. These activities assessed include the closing car/truck doors within the northern carpark area during the morning shoulder period. These activities achieve compliance with the EPA's sleep disturbance screening criterion of $L_{A1(60sec)} \leq 52 \text{ dB}$ during night-time hours.

The calculated maximum noise emission levels due to the truck delivery's via Inman Road and South Creek Road are presented in **Table 4.2** below. It is advised that by achieving compliance with the nearest residential locations, compliance will also be achieved at all other residential and receiver locations further away.

All Residential Receivers	Noise Source	Period	Calculated Maximum L _{Aeq(1 hour)} Noise Level [dB] ¹	Relevant Criterion Daytime L _{Aeq(1 hour)} [dB]	Complies With Criteria?
Residential Receivers along Orlando Road	Vehicles Utilising Inman Road via Orlando	Daytime (7am to 6pm)	40	55	Yes
Residential Receivers along Campbell Avenue	Vehicles Utilising South Creek Road	Daytime (7am to 6pm)	39	55	Yes

Table 4.2 – Maximum LAeq Road Traffic Noise Emission Levels & Criteria for Residential Receivers

Note 1) Based on the assumption that a maximum of 1 truck pass-by will occur during any 15-minute period for the night-time period.

We advise that noise emission associated with the use and operation of the subject development, following the incorporation of the recommendations in **Section 5** below, will achieve compliance with the relevant noise emission criteria and requirements of the NPfI.

5 **RECOMMENDATIONS**

5.1 RECOMMENDATIONS FOR FORKLIFTS

Acoustic Dynamics understands that the development is likely to be utilised by a variety of vehicles throughout the operating times, including vehicles used for deliveries (trucks etc) however Acoustic Dynamics advises that control of the noise emission from forklifts will greatly reduce the noise emission from the hardstand.

Acoustic Dynamics recommends the incorporation of broadband reversing alarms on the forklifts used on site. The broadband reversing alarm will reduce the tonal aspects of the traditional beeping alarm and will maintain the safety of the workers on site.

4355R001.MW.191119



Additionally, it is recommended that all external forklift activity do not commence before 7am and cease before 10pm.

5.2 RECOMMENDATIONS FOR GENERAL NOISE MANAGEMENT

Acoustic Dynamics recommends the following measures to reduce the overall noise impact from the development. Some of the recommendations below may require a review to ascertain the effectiveness of the mitigation measures:

- For any staff requiring access to the ground floor warehouse units during the hours of 10pm to 7am (night-time period), preference should be given to the use of the southern driveway entry/exit from South Creek Road, and not the western entry/exit from Inman Road, to reduce the traffic noise levels at the adjacent residence on Orlando Rd; and
- Trucks should never use the horn of the vehicle, and during the late evening period (8pm to 10pm) and should enter and exit the premises to the southern from South Creek Road. Signage indicating the above instructions is to be clearly displayed at the entry and exit to the hard stand and significant penalties should be applied to drivers who ignore this requirement.

6 CONCLUSION

Acoustic Dynamics has conducted an assessment of noise emission from the proposed Industrial Development at 4-10 Inman Road, Cromer, NSW. A review of applicable noise standards and local authority noise criteria was conducted. Noise levels were assessed in accordance with the requirements of:

- (a) Northern Beaches Council;
- (b) NSW EPA; and
- (c) Australian Standards.

Acoustic Opinion

Further to the noise monitoring and measurements conducted, our review of the relevant acoustic criteria, requirements and our calculations, the proposed operations of the Industrial Development at Cromer will comply with relevant noise emission criteria of the Northern Beaches Council and the NSW EPA following the incorporation of the recommendations outlined in Section 5.

We trust that the above information meets with your requirements and expectations. Please do not hesitate to contact us on 02 9908 1270 should you require more information.

4355R001.MW.191119



APPENDIX A - LOCATION MAP, AERIAL PHOTO, ZONING MAP & DRAWINGS

A.1 LOCATION MAP



A.2 AERIAL PHOTO



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A.3 ZONING MAP



A.4 DRAWINGS



Ground Floor Plan

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Inman Rd Elevation Southern Corner



Inman Rd Elevation Northern Corner









Northern Elevation



Section A







Page 4 of 5





Section C



Section D



APPENDIX B – NOISE LOGGER DATA

B.1 LOGGER DATA



Statistical Ambient Noise Levels

Time of Day (End of 15 Minute Sample Interval)

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Statistical Ambient Noise Levels 4-10 Inman Rd Cromer - Sunday 1 July 2018

Statistical Ambient Noise Levels 4-10 Inman Rd Cromer - Monday 2 July 2018



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Statistical Ambient Noise Levels 4-10 Inman Rd Cromer - Tuesday 3 July 2018

Statistical Ambient Noise Levels 4-10 Inman Rd Cromer - Wednesday 4 July 2018



-----L1 ------Leq -----Leq

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Statistical Ambient Noise Levels 4-10 Inman Rd Cromer - Thursday 5 July 2018

Statistical Ambient Noise Levels 4-10 Inman Rd Cromer - Friday 6 July 2018

_____L1 ____L10 _____L90 _____Leq 90 85 80 75 Sound Pressure Level (dBA) 20 29 29 20 20 20 20 20 20 20 50 45 40 35 30 } 0:00 2:00 4:00 6:00 8:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 0:00 Time of Day (End of 15 Minute Sample Interval)

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