

WESTCONNEX NEW M5

Operational Noise and Vibration Review (ONVR)

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Verification Certificate

I, [REDACTED] Director at Renzo Tonin & Associates have practiced as a consulting engineer in the specialist field of acoustics for 30 years. My expertise is with transport infrastructure projects, with a particular focus on road projects. I have a Bachelor of Engineering from the University of Technology Sydney and a Masters in Engineering Science (Acoustics) from UNSW. I am a Member and Chartered Professional Engineer with Engineers Australia and a Member of the Australian Acoustical Society.

I have read the requirements of the Minister’s Condition of Approval No. E37 and in my professional opinion, I find this Operational Noise and Vibration Review (ONVR) report to be thorough, technically sound, and it satisfactorily meets the requirements of Condition E37.

In conclusion, I verify and endorse the use of this ONVR report.

Signed

[REDACTED]

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Date

4 July, 2018

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Executive summary

Renzo Tonin & Associates (NSW) Pty Ltd, on behalf of CPB Dragados Samsung Joint Venture (CDS) has prepared this Operational Noise and Vibration Review (ONVR) to address the requirements of Condition E37 of the Minister's Conditions of Approval (MCoA) issued on 20 April 2016 for the WestConnex New M5 Project (the Project).

The objective of the ONVR is to manage operational noise emission from the Project and ensure appropriate operational noise mitigation measures are designed and installed to minimise noise impacts to the community during operation of the Project. This ONVR presents the operational noise and vibration assessment of road traffic and fixed facilities associated with the WestConnex New M5 Project.

Part A - Operational road traffic

In accordance with MCoA E32, the operational traffic noise mitigation measures contained within Part A of this ONVR have been designed in accordance with the NSW 'Road Noise Policy' (RNP) and Roads and Maritime Services' 'Noise Criteria Guideline' (NCG) and 'Noise Mitigation Guideline' (NMG).

At the western interchange at Kingsgrove, the Project has been assessed as redevelopment of existing freeways/arterial roads since the expansion of the existing road corridors will not result in the roads being substantially realigned, in accordance with the NCG.

At the St Peters interchange, the roads and ramps associated with the interchange have been classified as 'new roads'. In addition, the widening of Campbell Street and Campbell Road has changed the functional class of these two roads and they have therefore also been classified as 'new roads'. All other project roads in the St Peters area have been assessed as 'redeveloped roads'.

Noise from traffic travelling through the tunnels would be contained within the tunnels and would not impact noise sensitive areas on the surface.

To assess traffic noise impacts, L_{Aeq} traffic noise levels for the day and night periods were monitored as part of the EIS noise and vibration assessment and results of the monitoring, together with traffic counting results, were used to validate and calibrate the noise model developed for the Project. Results of the noise model validation indicate that the noise model is giving results that are generally in good agreement with the noise monitoring and there is a reasonable level of confidence that can be placed on the noise model for predicting future traffic noise levels.

Following the validation and calibration of the noise model, traffic noise levels were predicted at all noise sensitive receivers for the 'No build' and 'Build' scenarios for the Opening Year (2021) and the Design Year (2031, 10 years after completion of the Project).

As part of the noise modelling process, a "quieter" pavement surface in the form of open graded asphalt (OGA) was included for the existing M5 and New M5 lanes at the western interchange. Existing noise barriers located along the northern and southern sides of the M5 Motorway were also included.

At the Kingsgrove end of the Project, noise modelling indicates that replacement of the existing noise walls and mounding would satisfy the requirements of the RNP, NCG and NMG.

At the St Peters end of the Project, results of the noise modelling indicate that additional noise mitigation measures in the form of at-property treatment would need to be considered in accordance with the requirements of the NMG. The level of treatment to be provided for the affected receivers would be subject to review following site inspections of individual properties to confirm the current state of the dwellings prior to implementation of any building treatments, such as existing building treatments, or constraints on the implementation of additional property treatments.

Part B - Fixed facilities

In accordance with MCoA E33, the fixed facilities associated with the Project have been designed with the objective of meeting the requirements of the NSW Industrial Noise Policy (EPA, 2000).

The primary fixed facilities that have the most potential to cause noise impacts are the ventilation facilities at Kingsgrove, Bexley Road, Arncliffe and St Peters. There are also other fixed facilities such as substations, fire pump buildings and the Motorway Control Centre at Campbell Road.

Each of the ventilation facilities have been designed with acoustic attenuators on both the environment side and the tunnel side of the fans to mitigate noise from the air path. The ventilation buildings are constructed of either precast concrete or core filled blockwork, with acoustic rated doors to ensure noise is contained within the building.

Substation buildings and fire pump buildings are also constructed of precast concrete, core filled blockwork and acoustic rated doors to contain noise. Rooftop mechanical plant have acoustic screens and attenuators where required.

Jet fans within the tunnel will have silencers to achieve the NR85 in-tunnel noise level requirement.

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1 Introduction

This Operational Noise and Vibration Review (ONVR) seeks to meet the requirements of the conditions stipulated in Schedule 2, Part E of the Minister's Conditions of Approval (MCoA), dated 20 April 2016.

This report outlines the operational noise design criteria, noise modelling results, the location and type of noise mitigation measures, and proposed noise monitoring program to be implemented following the completion and opening of the Project. Sensitive receptors that will be exposed to operational noise from the Project are considered in this report.

Noise sensitive receivers would potentially be impacted by road traffic noise from the Project at two main interchanges between the tunnel and the surface road network:

- Western Interchange – connection of New M5 tunnel with existing M5 Motorway at Kingsgrove
- St Peters Interchange – connection of New M5 to upgraded local roads at St Peters

The road traffic noise criteria for the Project are set by the NSW 'Road Noise Policy' (RNP) in accordance with MCoA E32, and the Roads and Maritime Services' 'Noise Criteria Guideline' (NCG), based on the road's function in the road network and the type of road development.

Noise emissions from fixed facilities such as ventilation buildings and substations are also considered. Noise criteria for fixed facilities are set by the NSW Industrial Noise Policy (INP) in accordance with MCoA E33.

2 Purpose and objectives

2.1 Purpose

The purpose this ONVR is to manage operational noise emissions from the Project and ensure appropriate operational noise mitigation measures are designed and installed by:

- Confirming the operational noise and vibration goals and objectives for adjoining development, being any nearby residences or other noise sensitive receivers
- Confirming the operational noise predictions and impacts for the project based on the final design and a calibrated noise model
- Reviewing the suitability of the operational noise mitigation measures identified in the New M5 Environmental Impact Statement and New M5 Submission's and Preferred Infrastructure Report
- Outlining a consultation strategy for the noise and vibration mitigation measures and a procedure for the management of complaints.

2.2 Objectives

The objectives of this ONVR are to meet the noise assessment criteria and commitments to the community as described in the Minister's Conditions of Approval for the Project and the following environmental documents:

- WestConnex New M5 – Environmental Impact Statement (Volumes 1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 2G and 2H), AECOM Australia Pty Ltd, November 2015
- WestConnex New M5 – Submissions and Preferred Infrastructure Report, March 2016
- WestConnex New M5 – Secretary's Environmental Assessment Report, NSW Department of Planning & Environment, April 2016.

3 Environmental and legal obligations

3.1 Conditions of approval

Table 1 summarises the Minister's Conditions of Approval (MCoA) issued by the Minister for Planning in April 2016 that require consideration as part of this ONVR.

Table 1 Minister's conditions of approval for road traffic noise

MCoA No.	MCoA Details	Reference in Part A of this document
E32	The SSI must be designed and operated with the objective of meeting the requirements of the NSW Road Noise Policy (DECCW, 2011) and must, where feasible and reasonable, include the provision of at-property architectural treatment to all affected sensitive receivers in multi-level dwellings where the project noise criteria are exceeded, unless otherwise agreed to by the owner of the noise-affected residence.	Section 10
E33	The Proponent must design and operate all fixed facilities, including the motorway operations complexes, tunnel portals, ventilation facilities, substations, pumps and water treatment plants, maintenance facility, workshops, car parking and the emergency smoke extraction outlets with the objective of not exceeding the requirements of the NSW Industrial Noise Policy (EPA, 2000) and the Sleep Disturbance Application Note to the NSW Industrial Noise Policy. The Proponent must apply mitigation at existing receivers where the noise requirements cannot be achieved.	Section 14.2 Section 14.3 Section 17 Section 19
E37	The Proponent must prepare an Operational Noise and Vibration Review (ONVR) to confirm noise and vibration control measures that would be implemented for the Project. The ONVR must be prepared in consultation with the Department, relevant councils, other relevant stakeholders and the community and must:	This document
(a)	confirm the appropriate operational noise and vibration objectives and levels for adjoining development, including existing sensitive receivers;	Section 5 Section 7
(b)	confirm the operational noise predictions of the project based on the final design. Confirmation must be based on an appropriately calibrated noise model (which has incorporated additional noise monitoring, and concurrent traffic counting, where necessary for calibration purposes). The assessment must specifically include verification of noise levels at all fixed facilities, based on additional noise monitoring undertaken at appropriately identified noise catchment areas surrounding the facilities;	Section 8.4 Section 9 APPENDIX E Section 4.2.2
(c)	confirm the operational noise and vibration impacts at adjoining development based on the final design of the project, including operational daytime $L_{Aeq(15hr)}$ and night-time $L_{Aeq(9hr)}$ traffic noise contours;	Section 9 APPENDIX F
(d)	review the suitability of the operational noise mitigation measures identified in the documents listed at conditions A2(b) and A2(c) and, where necessary, investigate and identify additional feasible and reasonable noise and vibration mitigation measures required to achieve the noise criteria outlined in the NSW Road Noise Policy (DECCW, 2011) and NSW Industrial Noise Policy (EPA, 2000), including the timing of implementation; and	Section 10 Section 17 Section 19
(e)	include a consultation strategy to seek feedback from directly affected property owners (including educational institutions) on the noise and vibration mitigation measures.	Section 11.1
(f)	procedures for the management of operational noise and vibration complaints	Section 11.2

MCoA No.	MCoA Details	Reference in Part A of this document
	<p>The ONVR is to be verified by a suitable qualified and experienced noise and vibration expert. The ONVR is to be undertaken at the Proponent's expense and submitted to the Secretary for approval prior to the commencement of construction of physical noise mitigation structures, unless otherwise agreed by the Secretary.</p> <p>The Proponent must implement the identified noise and vibration control measures and make the ONVR publicly available.</p>	See verification certificate on page iii of this ONVR
E38	<p>Within 12 months of the commencement of the operation of the SSI, or as otherwise agreed by the Secretary, the Proponent must undertake operational noise and vibration monitoring to compare the actual noise and vibration performance of the SSI against the noise performance predicted in the Operational Noise and Vibration Review required by condition E37 and the documents referred to in conditions A2(b) and A2(c). Development of the monitoring program must be undertaken in consultation with the EPA. The monitoring program must be documented in an Operational Noise and Vibration Compliance Report. The Operational Noise and Vibration Compliance Report must include, but not be limited to:</p> <p>(a) details of the noise and vibration monitoring program including methodology, location and frequency of noise monitoring;</p> <p>(b) results of the monitoring program and an assessment of these against the operational noise criteria specified in the Operational Noise Management Plan required by condition E34 and noise levels predicted in the Operational Noise Review required by condition E37 and the documents referred to in conditions A2(b) and A2(c);</p> <p>(c) details of any complaints received relating to operational noise and vibration impacts;</p> <p>(d) any required calibration of the noise and vibration model taking account considerations such as traffic numbers and land use change (if applicable);</p> <p>(e) an assessment of the performance and effectiveness of the applied noise and vibration mitigation measures with regard to the operational noise criteria specified in the Operational Noise Management Plan required by condition E29; and</p> <p>(f) identification of any further feasible and reasonable noise and vibration mitigation measures required to meet the noise criteria specified in the Operational Noise Management Plan, where the criteria are exceeded, including timing and responsibilities for implementation.</p> <p>The Proponent must provide the Secretary and the EPA with a copy of the Operational Noise and Vibration Compliance Report within 60 days of completing the operational noise monitoring, or as otherwise agreed by the Secretary.</p>	Section 12 Section 20
E39	<p>The Proponent must implement further feasible and reasonable mitigation measures (where required) as identified in the Operational Noise and Vibration Compliance Report in consultation with affected property owners.</p>	Section 12 Section 20

3.2 Revised environmental management measures

Table 2 summarises the revised environmental management measures (REMMs) that would require consideration as part of the detailed design of road traffic noise mitigation. The REMMs listed were presented in the New M5 Submissions and Preferred Infrastructure Report (Volume 1B, March 2016).

Table 2 Revised environmental management measures

REMM No.	REMM Details	Reference in this document
OpNV1	<p>At locations where residual impacts remain after all feasible and reasonable approaches have been exhausted, noise mitigation in the form of acoustic treatment of existing individual dwellings will be considered.</p>	Section 10

REMM No.	REMM Details	Reference in this document
OpNV2	Operational traffic noise will be monitored at sensitive receivers between six months and one year after opening. If the traffic noise levels are above the predicted levels, consideration of additional feasible and reasonable mitigation measures will be undertaken.	Section 12
OpNV3	Operational fixed facilities will be designed to meet project specific noise criteria derived in accordance with the NSW Industrial Noise Policy.	Section 14.2

3.3 Legislation

Key environmental legislation relating to the management of noise and vibration includes:

- Environmental Planning and Assessment Regulation 2000
- Protection of the Environment Operations Act 1997
- Protection of the Environment Administration Act 1991
- Environment Planning and Assessment Act 1979
- Local Government Act 1993

3.4 Guidelines and background documents

The key references relevant to noise and vibration management include:

- Road Noise Policy (RNP), NSW EPA, March 2011
- Noise Criteria Guideline (NCG), NSW Roads and Maritime Services, April 2015
- Noise Mitigation Guideline (NMG), NSW Roads and Maritime Services, April 2015
- Noise Wall Design Guidelines, NSW Roads and Maritime Services, March 2016
- Environmental Noise Management Manual (ENMM), Roads and Traffic Authority, 2001
- NSW Industrial Noise Policy (INP), NSW EPA, 2000
- Assessing Vibration: a technical guideline, Department of Environment and Conservation, 2006

Background studies and assessment of potential noise impacts from operation of the Project include:

- WestConnex New M5 – Environmental Impact Statement (Volumes 1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 2G and 2H), AECOM Australia Pty Ltd, November 2015
- WestConnex New M5 – Submissions Report, March 2016
- WestConnex M4 East – Secretary’s Environmental Assessment Report, NSW Department of Planning & Environment, April 2016

4 Study area and existing noise environment

4.1 Noise Catchment Areas

Sensitive receivers and adjoining development along the route have, for the purposes of this ONVR, been split into several noise catchment areas (NCAs) based on the NCAs established in the EIS noise and vibration assessment. The NCAs established in the EIS have been modified to refine the areas around the construction compounds, as detailed in the Construction Noise and Vibration Management Plan [ref: TH014-05 01F01 WCX_NM5 CNVMP (r19) dated 6 October 2016].

The following table lists the NCAs that have been identified as being potentially impacted by operational noise from the Project.

Table 3 Noise Catchment Areas

NCA	Description
St Peters	
NCA 01	Receivers within NCA 1 are primarily residential, comprising both medium density apartments and single and double storey semi-detached houses. The existing acoustic environment is considered as urban and is dominated by traffic noise from Sydney Park Road and to a lesser extent Mitchell Road, Euston Road and the East Hills, Airport and Inner West railway line.
NCA 02	Receivers within NCA 2 are primarily residential, comprising single and double storey semi-detached and detached houses. The existing acoustic environment is considered as urban and is dominated by traffic noise from King Street and to a lesser extent rail traffic the local road network and the East Hills, Airport and Inner West railway line.
NCA 03	NCA 3 comprises a mix of commercial, industrial and residential receivers. Residential receivers are generally single storey detached buildings and two to three storey apartment buildings. The existing acoustic environment is considered as urban and is dominated by traffic along May Street, the Princes Highway, Campbell Street and the East Hills, Airport and Inner West railway line.
NCA 04	Receivers within NCA 4 are primarily commercial and recreational with a small number of residential receivers comprising single and double storey houses. The existing acoustic environment is considered as urban and is dominated by traffic along the Princes Highway, Campbell Road and Sydney Park Road.
NCA 05	NCA 5 comprises industrial and commercial receivers only; no noise sensitive receivers are located within this NCA. Industrial and commercial receivers typically only operate within the daytime. Commercial and industrial receivers generally have a higher tolerance to noise than residential receivers and other types of sensitive receivers.
NCA 06A	Receivers within NCA06A are primarily residential, comprising single and double storey terrace, semi-detached and detached houses. The existing acoustic environment is considered as urban and is dominated by road traffic travelling along the Princes Highway, Campbell Street and local roads. Aircraft noise also contributes to the noise environment.

NCA	Description
NCA 06B	<p>Receivers within NCA 6B are primarily residential, comprising single and double storey terrace, semi-detached and detached houses.</p> <p>The existing acoustic environment is considered as urban, but residences are shielded from direct road traffic noise by buildings. The background noise environment is contributed to by traffic noise from the Princes Highway and Campbell Street and rail traffic on the East Hills, Airport and Inner West railway line. Aircraft noise also contributes to the noise environment.</p>
NCA 07	<p>Receivers within NCA 7 comprise mostly commercial receivers (including a hotel), industrial receivers, with some residential receivers and a school. Residential receivers include single and double storey, terraced and detached buildings and two to three storey mixed-used buildings.</p> <p>The existing acoustic environment is considered as urban and is dominated by road traffic noise from the Princes Highway and to a lesser extent Campbell Street.</p>
NCA 08	<p>Receivers within NCA 8 are primarily residential single storey semi-detached and terraced houses.</p> <p>The existing acoustic environment is considered as urban and is dominated by road traffic on Princes Highway, Campbell Road, Campbell Street and Barwon Park Road.</p>
NCA 09	<p>Receivers within NCA 9 are predominantly residential single and double storey semi-detached and detached houses.</p> <p>The existing acoustic environment is considered as urban and is dominated by road traffic travelling along the Princes Highway and to a lesser extent Railway Road. Rail traffic on the East Hills, Airport and Inner West railway line also contributes to the ambient noise environment in addition to aircraft noise.</p>
NCA 10	<p>Receivers within NCA 10 are predominantly industrial and commercial, with some single storey detached residential receivers along the Princes Highway.</p> <p>The existing acoustic environment is considered as urban and is dominated by road traffic travelling along the Princes Highway. Air traffic also significantly contributes to the noise environment.</p>
NCA 11	<p>Receivers within NCA 11 are predominantly industrial and commercial, with some medium density apartment buildings at the eastern side of the NCA.</p> <p>The existing acoustic environment is considered as urban and is dominated by road traffic movements along the Gardeners Road and O'Riordan Street.</p>
Arncliffe	
NCA 12	<p>Receivers within NCA 12 are primarily residential, comprising single or double storey detached houses.</p> <p>The existing acoustic environment is considered as urban and is dominated by road traffic travelling along Marsh Street, West Botany Street and the Princes Highway and aircraft noise from Sydney Airport.</p>
NCA 13	<p>Receivers within NCA 13 are primarily residential, comprising mainly single storey detached houses.</p> <p>The existing acoustic environment is considered as urban and is dominated by road traffic travelling along the M5East Motorway, West Botany Street and Wickham Street and aircraft noise from Sydney Airport.</p>
NCA 14	<p>Receivers within NCA 14 are primarily residential, comprising single and double storey detached houses.</p> <p>The existing acoustic environment is considered as urban and is dominated by road traffic travelling along the M5East Motorway and West Botany Street and aircraft noise from Sydney Airport.</p>

NCA	Description
Bexley	
NCA 15	<p>Receivers within NCA 15 are primarily residential, comprising single and double storey detached houses.</p> <p>The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along Bexley Road.</p>
NCA 16A	<p>Receivers within NCA 16A are primarily residential, comprising single and double storey detached houses.</p> <p>The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along Bexley Road and the M5 East Motorway.</p>
NCA 16B NCA 16D	<p>Receivers within NCA 16B and 16D are primarily residential, comprising single and double storey detached houses.</p> <p>The existing acoustic environment is considered as suburban and residences are shielded from noise generated by road traffic travelling along Bexley Road and the M5 East Motorway, although distant traffic still forms part of the background noise environment.</p>
NCA 16C	<p>Receivers within NCA 16C are primarily residential, comprising single and double storey detached houses.</p> <p>The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along Bexley Road.</p>
NCA 17	<p>Receivers within NCA 17 are primarily residential, comprising single and double storey detached houses.</p> <p>The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along the M5 East Motorway, Bexley Road, Homer Street and to a lesser extent the local road network.</p>
NCA 26A	<p>Receivers within NCA 26A are primarily residential, comprising single and double storey stand-alone houses.</p> <p>The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along the M5 East Motorway and Bexley Road and by rail traffic on the East Hills and Airport railway line.</p>
Kingsgrove	
NCA 18	<p>NCA 18 comprises commercial, industrial and residential receivers. The residential receivers are generally single and double storey detached houses.</p> <p>The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along the M5 East Motorway and Kingsgrove Road with some industrial noise contributions.</p>
NCA 19	<p>Receivers within NCA 19 are primarily residential, comprising single and double storey detached houses. Some commercial receivers are located at the eastern side of the NCA.</p> <p>The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along the M5 East Motorway and Moorefields Road.</p>
NCA 20	<p>Receivers within NCA 20 are primarily residential, comprising single and double storey detached houses.</p> <p>The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along the M5 East Motorway and Moorefields Road.</p>
NCA 23	<p>Receivers within NCA 23 are primarily residential, comprising single and double storey detached houses.</p> <p>The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along the M5 East Motorway and rail traffic on the East Hills and Airport railway line.</p>

NCA	Description
NCA 24	NCA 24 comprises residential and industrial receivers. The residential receivers include single and double storey detached houses The existing acoustic environment is considered as suburban and is dominated by road traffic travelling along the M5 East Motorway.
NCA 25	NCA 25 comprises residential and industrial/commercial receivers. The residential receivers are generally single and double storey detached houses The existing acoustic environment is considered as suburban and is dominated by rail traffic travelling along the East Hills and Airport railway line and by road traffic on local roads.

Aerial maps showing the location of the NCAs are presented in APPENDIX B.

4.2 Noise monitoring locations

4.2.1 EIS noise monitoring locations

Long-term noise monitoring was conducted by AECOM to quantify ambient noise levels for the Environmental Impact Statement (EIS). The noise monitoring locations are summarised in Table 4. The aerial maps presented in APPENDIX B show the noise monitoring locations.

Table 4 EIS long term-noise monitoring locations

Logger ID	Address
EIS NL01	400 Sydney Park Road, Alexandria
EIS NL02	108 Campbell Street, St Peters
EIS NL03	18 Campbell Street, St Peters
EIS NL04	506-518 Gardeners Road, Alexandria
EIS NL05	187-211 Princes Highway, St Peters
EIS NL06	7 Bellevue Street, Tempe
EIS NL07	227-231 Bexley Road, Kingsgrove
EIS NL08	10 Beaumont Street, Kingsgrove
EIS NL09	11 Flat Rock Road, Kingsgrove
EIS NL11	59 Aringya Street, Kingsgrove
EIS NL12	South of M5, Kingsgrove
EIS NL13	82 Rosebank Avenue, Kingsgrove
EIS NL14	North of M5, Kingsgrove
EIS NL15	South of M5, Kingsgrove
EIS NL16	36 Allambee Crescent, Beverly Hills
EIS NL17	25 Kirrang Street, Beverly Hills
EIS NL18	19 Elouera Street, Beverly Hills
EIS NL19	24A Railway Road, Sydenham
EIS NL20	20 Marsh Street, Arncliffe
EIS NL21	6 Eve Street, Arncliffe
EIS NL22	25 Firmstone Garden, Arncliffe

Logger ID	Address
EIS NL23	92 Wolli Avenue, Earlwood
EIS NL24	61 Shaw Street, Bexley North
EIS NL25	311 King Georges Road, Beverly Hills
EIS NL26	15 Rosetta Lane, Beverly Hills
EIS NL27	6 Grove Avenue, Narwee

4.2.2 Additional noise monitoring locations

Additional noise monitoring was carried out by Renzo Tonin & Associates to confirm the noise goals for the updated NCAs, particularly in relation to INP criteria for fixed facilities, in accordance with MCoA 37(b). Long-term, unattended noise monitoring was carried out between 16th to 30th June 2016. The noise monitoring locations are summarised in Table 5. Aerial maps presented in APPENDIX B show the noise monitoring locations.

Table 5 Additional long-term noise monitoring locations

Logger ID	Address
DD NL1	13 Mary Street, St Peters
DD NL2	35 Flora Street, Arncliffe
DD NL3	8 Jones Avenue, Kingsgrove
DD NL4	6 Kingsgrove Road, Kingsgrove
DD NL5	20 Karingal Street, Kingsgrove
DD NL6	1 Mashman Avenue, Kingsgrove

4.3 Existing noise levels

A summary of the long-term noise monitoring results from the EIS and additional monitoring is presented in Table 6 below. The noise levels presented are the Rating Background Levels (RBLs) and ambient L_{Aeq} noise levels for the day, evening and night-time periods, which have been determined in accordance with the NSW Industrial Noise Policy (INP).

Table 6 Summary of monitored noise levels

ID	L_{A90} Rating Background Noise Levels, dB(A)			L_{Aeq} Ambient Noise Levels, dB(A)		
	Day	Evening	Night	Day	Evening	Night
EIS NL01	57	51	40	67	63	62
EIS NL02	50	46	39	68	65	63
EIS NL03	54	45	40	68	65	61
EIS NL04	58	52	42	69	67	63
EIS NL05	52	50	44	64	65	57
EIS NL06	58	56	49	71	69	64
EIS NL07	54	54	40	63	63	59
EIS NL08	49	46	41	55	52	51

ID	L _{A90} Rating Background Noise Levels, dB(A)			L _{Aeq} Ambient Noise Levels, dB(A)		
	Day	Evening	Night	Day	Evening	Night
EIS NL09	48	49	43	54	54	51
EIS NL11	68	67	49	73	72	70
EIS NL12	45	47	43	54	53	50
EIS NL13	67	67	51	72	72	69
EIS NL14	50	50	42	56	54	52
EIS NL15	67	64	49	73	71	69
EIS NL16	47	46	40	57	53	52
EIS NL17	49	49	42	54	53	51
EIS NL18	50	49	40	55	54	51
EIS NL19	60	54	43	74	73	69
EIS NL20	55	56	45	61	62	59
EIS NL21	49	48	42	54	55	50
EIS NL22	47	481	39	55	54	50
EIS NL23	51	51	43	57	56	53
EIS NL24	47	491	41	63	62	58
EIS NL25	60	58	46	72	70	69
EIS NL26	53	52	44	58	56	54
EIS NL27	52	51	39	58	56	53
DD NL01	42	41	36	62	61	53
DD NL02	48	47	44	55	52	50
DD NL03	49	48	36	59	55	52
DD NL04	47	47	41	54	53	50
DD NL05	51	50	44	54	53	52
DD NL06	42	42	37	54	52	50

PART A - OPERATIONAL TRAFFIC NOISE ASSESSMENT

5 Operational traffic noise criteria

In accordance with MCoA E32, the operational traffic noise mitigation measures contained within Part A of this ONVR have been designed in accordance with the NSW 'Road Noise Policy' (RNP) and Roads and Maritime Services' 'Noise Criteria Guideline' (NCG) and 'Noise Mitigation Guideline' (NMG).

Other environmental documents for the project (outlined in Section 3.4) have been taken into consideration in the development of the operational traffic noise mitigation measures.

5.1 Roads and Maritime Services' Noise Criteria Guideline

Traffic noise criteria are assigned to sensitive receivers using the Roads and Maritime Services' NCG. The NCG provides guidance on how to apply the requirements of the RNP. The assessment timeframe for the criteria are in the year of opening and 10 years after opening, which for the project is 2021 and 2031, respectively.

The project assessment area extends to where noise levels are dominated by other roads that are not being assessed as part of this project, as defined in the NCG. This is up to a maximum distance of 600 metres from the centreline of the outermost traffic lane on each side of the subject road.

The WestConnex New M5 project comprises of a freeway, arterial roads, sub-arterial roads and new tunnels which carry traffic directly from one locality to another and have characteristically heavy and continuous traffic flows. The upgrade of the Project typically involves the widening of the existing road corridors to accommodate tunnel portals and to increase the traffic carrying capacities of the existing roads. Noise from traffic travelling through the tunnels would be contained within the tunnels and would not impact noise sensitive areas on the surface. Therefore, only operational traffic noise from surface roads and tunnel portals have been assessed as part of this ONVR.

The RNP and the NCG set road noise criteria based on the road's function in the road network and the type of road development.

The roads which form the Project are classified as freeways, arterial roads and sub-arterial roads because they support major regional traffic movement and provide connection to local roads. In accordance with the Environmental Impact Statement (EIS), the Project contains three different noise categories. These are:

New Road

Per the NCG, a road is assessed as a 'new' road for any of the following cases:

- The project proposes road construction in an undeveloped corridor
- The road project changes the functional class of the road

- Widening, curve straightening, or adjustment of the corridor occurs where the upgrade road pavement has been substantially realigned
- Duplication of an existing road where the new lanes have been substantially realigned from the existing corridor
- A bypass road extends beyond the existing road corridor, where substantial realignment of an existing road is defined as a distance beyond a tolerance band that is six (6) times the existing road's total lane width.

Parts of the Project will involve the acquisition and demolition of buildings to allow the road corridor to be widened. Where the Project is substantially realigned outside the existing road corridor, the 'new' road assessment criteria would be applicable to the impacted receivers.

The 'new' road assessment criteria have been adopted for receivers affected by the following roads:

Road name	Reason for 'new' road assessment
Campbell Road / Campbell Street	Significant widening and large increase in traffic carrying capacity means functional class will change to arterial/sub-arterial road
St Peters Interchange	Roads constructed in undeveloped corridor
Alexandra Canal crossing to Gardeners Road	Roads constructed in undeveloped corridor

Redeveloped Road

Per the NCG, for a road to be considered 'redeveloped' rather than 'new', the existing road pavement should not be substantially realigned. Typical examples of road upgrades assessable under the 'redeveloped' noise criteria include:

- Widening/adjustment of the corridor where the road segment (including duplicated carriageway) has not been substantially realigned
- Duplication of a carriageway adjacent and parallel with the existing road corridor where the widened road has not been substantially realigned
- Duplication of a carriageway wholly within an existing corridor
- Introduction of on or off ramps to provide access through an intersection that was previously inaccessible for that direction.

The 'redeveloped' road assessment criteria have been adopted for receivers affected by the following roads:

Road name	Reason for 'redeveloped' road assessment
Euston Road	Road widening occurs within existing corridor
M5 and New M5 lanes at western portal	Road widening and adjustment of corridor occurs without substantial realignment

Transition Zone

The NCG defines a 'transition zone' as the junction between new and redeveloped roads or different functional classes. In these areas, transition zones are established, which provide a gradual change in noise criteria according to the road type (redeveloped or new) which the receivers are most exposed to.

At the St Peters Interchange end of the Project, whilst there are both new and redeveloped project roads, there are no receivers within any transition zones. All receivers have either new or redeveloped road criteria.

At the Kingsgrove end of the project there are no transition zones as all project roads are redeveloped roads. All residential receivers have been assigned with redeveloped road criteria.

The figures in APPENDIX C provide the project road classification type which has been applied to each of the Project roads.

5.2 Noise impacts from existing roads

The NCG provides guidance for assessing traffic noise from existing roads not subject to any redevelopment but predicted to increase traffic noise levels by more than 2dB(A) as a result of the project. An example of this is when traffic from the project uses the existing road as a detour resulting in traffic volumes to significantly increase on the existing road, which in turn increases the traffic noise levels at affected receivers by more than 2dB(A).

At the Kingsgrove western interchange, there are no existing roads identified as potentially having traffic noise levels increasing by more than 2dB(A) due to the project. King Georges Road connects to the existing M5 Motorway and New M5 at the western end of the project, however the King Georges Road Interchange has recently been upgraded as a separate project with assessment of traffic noise levels and mitigation conducted separately.

The construction of the St Peters Interchange is predicted to increase road traffic noise by more than 2dB(A) in the Opening Year (2021) on Kent Road, Mascot. Receivers adjacent to Kent Road have existing road criteria applied.

5.3 Relative Increase Criteria

A large increase in the existing level of noise can cause a major change in the acoustic environment of a location. Under Section 8 of the NCG and Section 2.4 of the RNP, this is assessed using the 'Relative Increase Criterion' (RIC). The purpose of the RIC is to recognise the potential for such a change and provide a means to assess and mitigate for this type of noise impact.

Some receivers may not be currently impacted by traffic noise due to noise shielding provided by buildings located between the receiver and the road. This potentially occurs where the widened road corridor results in houses being demolished, exposing receivers to traffic noise when they were

previously well shielded by the demolished houses. For these receivers, the traffic noise impact from the project would need to also comply with the RIC.

The RIC is to be applied to the external areas of existing residential receivers impacted upon by the project. The RIC, as set out in the NCG and RNP applicable to this project, is reproduced as follows.

Table 7 Relative Increase Criterion

Type of development	Total traffic noise level increase, dB(A)
Redevelopment of existing road	Existing traffic $L_{Aeq(period)} + 12$ dB (external)

Notes: 'Existing traffic' refers to the traffic noise levels for the relevant 'No build' scenario

The RIC should only be applied to receivers where the noise criteria are more stringent than the new or redeveloped road criteria.

5.4 Traffic noise criteria for residential receivers

A summary of the applicable traffic noise criteria in accordance with the NCG for residential receivers is presented in the table below.

Table 8 NCG Criteria for residential receivers

Road category	Type of project/land use	Assessment criteria (dB)	
		Daytime (7am to 10pm)	Night-time (10pm to 7am)
Freeway/ arterial/ sub- arterial roads	1. Existing residences affected by noise from new freeway/arterial/sub-arterial road corridors	$L_{Aeq(15hr)}$ 55 (external)	$L_{Aeq(9hr)}$ 50 (external)
	2. Existing residences affected by noise from redevelopment of existing freeway/arterial/sub-arterial roads	$L_{Aeq(15hr)}$ 60 (external)	$L_{Aeq(9hr)}$ 55 (external)
	3. Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments		
	4. Existing residences affected by both new roads and the redevelopment of existing freeway/arterial/sub-arterial roads in a Transition Zone ¹	Between $L_{Aeq(15hr)}$ 55-60 (external)	Between $L_{Aeq(9hr)}$ 50-55 (external)
	5. Existing residences affected by increases in traffic noise of 12dB(A) or more from new freeway/arterial/sub-arterial roads ²	Between $L_{Aeq(15hr)}$ 42-55 (external)	Between $L_{Aeq(9hr)}$ 42-50 (external)
	6. Existing residences affected by increases in traffic noise of 12dB(A) or more from redevelopment of existing freeway/arterial/sub-arterial roads ²	Between $L_{Aeq(15hr)}$ 42-60 (external)	Between $L_{Aeq(9hr)}$ 42-55 (external)

Notes

1. The criteria assigned to the entire residence depend on the proportion of noise from the new and redeveloped road. See the NCG for further information.
2. The criteria at each facade are determined from the existing traffic noise level plus 12dB(A).

5.5 Sensitive land uses

The NCG and RNP also set criteria for the assessment of traffic noise on non-residential sensitive land uses such as schools, hospitals, places of worship and recreation areas. Given that there are non-residential sensitive land uses that may be potentially impacted by traffic noise from the project, the following criteria are presented in the table below.

Table 9 NCG Criteria for non-residential sensitive land uses

Existing sensitive land use	Assessment criteria, dB(A)		Additional considerations
	Day (7am to 10pm)	Night (10pm to 7am)	
School classrooms	L _{Aeq(1hr)} 40 (internal) when in use	–	In the case of buildings used for education or health care, noise level criteria for spaces other than classrooms and wards may be obtained by interpolation from the 'maximum' levels shown in Australian Standard 2107:2000 (Standards Australia 2000).
Hospital wards	L _{Aeq(1hr)} 35 (internal)	L _{Aeq(1hr)} 35 (internal)	
Places of worship	L _{Aeq(1hr)} 40 (internal)	L _{Aeq(1hr)} 40 (internal)	<p>The criteria are internal, i.e. the inside of a church. Areas outside the place of worship, such as a churchyard or cemetery, may also be a place of worship. Therefore, in determining appropriate criteria for such external areas, it should be established what in these areas may be affected by road traffic noise.</p> <p>For example, if there is a church car park between a church and the road, compliance with the internal criteria inside the church may be sufficient. If, however, there are areas between the church and the road where outdoor services may take place such as weddings and funerals, external criteria for these areas are appropriate. As issues such as speech intelligibility may be a consideration in these cases, the passive recreation criteria (see point 5) may be applied.</p>
Open space (active use)	L _{Aeq(15hr)} 60 (external) when in use		<p>Active recreation is characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion.</p> <p>Passive recreation is characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, e.g. playing chess, reading.</p>
Open space (passive use)	L _{Aeq(15hr)} 55 (external) when in use		<p>In determining whether areas are used for active or passive recreation, the type of activity that occurs in that area and its sensitivity to noise intrusion should be established. For areas where there may be a mix of passive and active recreation, e.g. school playgrounds, the more stringent criteria apply. Open space may also be used as a buffer zone for more sensitive land uses.</p>

Existing sensitive land use	Assessment criteria, dB(A)		Additional considerations
	Day (7am to 10pm)	Night (10pm to 7am)	
Isolated residences in commercial or industrial zones	-	-	For isolated residences in industrial or commercial zones, the external ambient noise levels can be higher than those in residential areas. Internal noise levels in such residences are likely to be more appropriate in assessing any road traffic noise impacts, and the proponent should determine suitable internal noise level targets, taking guidance from Australian Standard 2107:2000 (Standards Australia 2000).
Mixed use development	-	-	Each component of use in a mixed use development should be considered separately. For example, in a mixed use development containing residences and a childcare facility, the residential component should be assessed against the appropriate criteria for residences in Table 3, and the childcare component should be assessed against the childcare criteria below.
Childcare facilities	Sleeping rooms L _{Aeq(1hr)} 35 (internal) Indoor play areas L _{Aeq(1hr)} 40 (internal) Outdoor play areas L _{Aeq(1hr)} 55 (external)	-	Multi-purpose spaces, e.g. shared indoor play/sleeping rooms should meet the lower of the respective criteria. Measurements for sleeping rooms should be taken during designated sleeping times for the facility, or if these are not known, during the highest hourly traffic noise level during the opening hours of the facility.
Aged care facilities	-	-	Residential land use noise assessment criteria should be applied to these facilities

Notes:

Land use developers must meet internal noise goals in the Infrastructure SEPP (Department of Planning NSW 2007) for sensitive developments near busy roads.

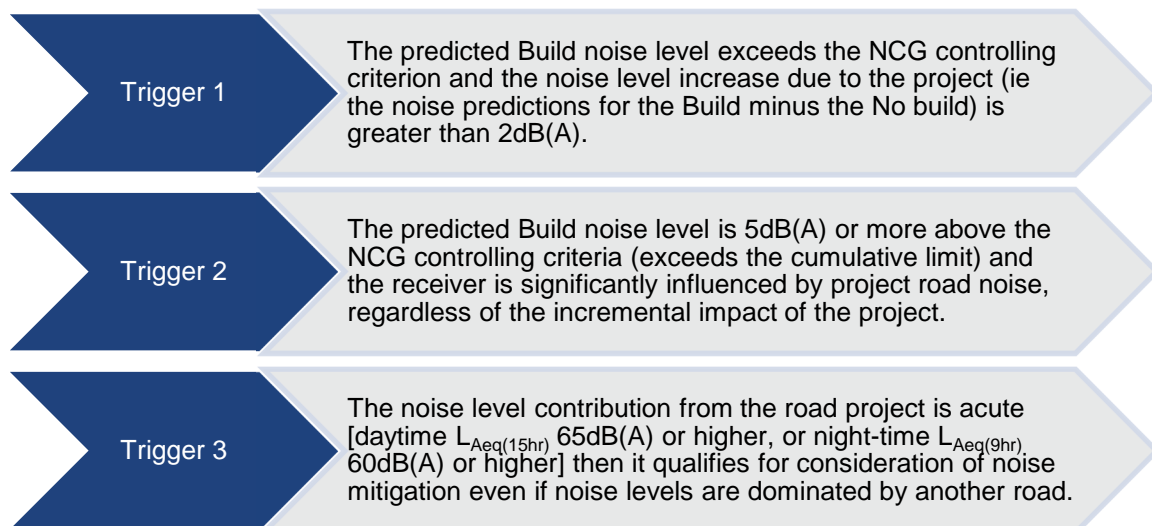
For sensitive land uses such as schools, hospitals, places of worship and childcare centres the criteria are applicable to internal areas. It is generally accepted that most buildings provide a noise reduction of at least 10dB(A) when windows are left 20% open, without providing additional treatment. Therefore, where the noise goals are internal, a 10dB(A) reduction from external noise levels to internal noise levels has been adopted to allow an external assessment. This approach is consistent with the EIS.

6 Guidance on the evaluation of noise mitigation measures

The Roads and Maritime Services' Noise Mitigation Guideline (NMG) provides guidance in managing and controlling road traffic generated noise and describes the principles to be applied when reviewing noise mitigation. The NMG recognises that the criteria recommended by the NCG are not always practicable and that it is not always feasible or reasonable to expect that they should be achieved.

The NMG notes that the most effective way of minimising noise from vehicles and traffic is to control vehicle noise at the source. Where source measures are not practical, or do not provide sufficient noise reduction, additional methods are required to reduce levels to within acceptable margins. Such additional methods may include the use of noise barriers (noise walls or noise mounds) and/or consideration for at-property treatment of residences.

The NMG provides three triggers where a receiver may qualify for consideration of noise mitigation (beyond the adoption of road design and traffic management measures). These triggers are:



The eligibility of receivers for consideration of additional noise mitigation is determined before the benefit of additional noise mitigation (quieter pavement and noise barriers) is included. The requirement for the project is to provide reasonable and feasible additional mitigation for these eligible receivers to meet the relevant NCG controlling criteria. If the NCG criteria cannot reasonably and feasibly be satisfied with quieter pavement and noise barriers, then eligible receivers can be considered for at-property treatment.

7 Operational vibration impacts

7.1 Vibration objectives

In accordance with MCoA E36, the vibration objectives for the operation of the New M5 Project is to not exceed the vibration goals for human exposure for existing receivers, as presented in "Assessing vibration: a technical guideline" (DECC, 2006). The guideline provides criteria based on the type of vibration, defined as either 'continuous', 'impulsive' or 'intermittent'. Table 10 provides definitions and examples of each type of vibration.

Table 10 Types of vibration

Type of vibration	Definition	Examples
Continuous vibration	Continues uninterrupted for a defined period (usually throughout the day-time and/or night-time)	Machinery, steady road traffic, continuous construction activity (such as tunnel boring machinery).
Impulsive vibration	A rapid build-up to a peak followed by a damped decay that may or may not involve several cycles of vibration (depending on frequency and damping). It can also consist of a sudden application of several cycles at approximately the same amplitude, providing that the duration is short, typically less than 2 seconds	Infrequent: Activities that create up to 3 distinct vibration events in an assessment period, e.g. occasional dropping of heavy equipment, occasional loading and unloading.
Intermittent vibration	Can be defined as interrupted periods of continuous or repeated periods of impulsive vibration that varies significantly in magnitude	Trains, nearby intermittent construction activity, passing heavy vehicles, forging machines, impact pile driving, jack hammers. Where the number of vibration events in an assessment period is three or fewer, this would be assessed against impulsive vibration criteria.

Source: Assessing Vibration; a technical guideline, Department of Environment & Climate Change, 2006

The preferred and maximum values for continuous and impulsive vibration are defined in the guideline and are reproduced in Table 11. The three directional axes are referenced to the human body, i.e. x-axis (back to chest), y-axis (right side to left side) or z-axis (foot to head).

Table 11 Continuous and impulsive vibration values

Location	Assessment period ^[1]	Preferred values		Maximum values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Continuous vibration (weighted RMS acceleration, m/s², 1-80Hz)					
Critical areas ²	Day- or night-time	0.005	0.0036	0.010	0.0072
Residences	Daytime	0.010	0.0071	0.020	0.014
	Night-time	0.007	0.005	0.014	0.010
Offices, schools, educational institutions and places of worship	Day- or night-time	0.020	0.014	0.040	0.028
Workshops	Day- or night-time	0.04	0.029	0.080	0.058

Location	Assessment period ^[1]	Preferred values		Maximum values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Impulsive vibration (weighted RMS acceleration, m/s², 1-80Hz)					
Critical areas ²	Day- or night-time	0.005	0.0036	0.010	0.0072
Residences	Daytime	0.30	0.21	0.60	0.42
	Night-time	0.10	0.071	0.20	0.14
Offices, schools, educational institutions and places of worship	Day- or night-time	0.64	0.46	1.28	0.92
Workshops	Day- or night-time	0.64	0.46	1.28	0.92

Notes: 1. Daytime is 7:00am to 10:00pm and night-time is 10:00pm to 7:00am
 2. Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring. There may be cases where sensitive equipment or delicate tasks require more stringent criteria than the human comfort criteria specify above. Stipulation of such criteria is outside the scope of their policy and other guidance documents (e.g. relevant standards) should be referred to. Source: BS 6472-1992

The acceptable vibration dose values (VDV) for intermittent vibration are reproduced in Table 12.

Table 12 Acceptable vibration dose values for intermittent vibration (m/s^{1.75})

Location	Daytime ¹		Night-time ¹	
	Preferred value	Maximum value	Preferred value	Maximum value
Critical areas ²	0.10	0.20	0.10	0.20
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and places of worship	0.40	0.80	0.40	0.80
Workshops	0.80	1.60	0.80	1.60

Notes: 1. Daytime is 7:00am to 10:00pm and night-time is 10:00pm to 7:00am
 2. Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring. These criteria are only indicative, and there may be a need to assess intermittent values against the continuous of impulsive criteria for critical areas.
 Source: BS 6472-1992

7.2 Operational vibration impacts

Previous vibration studies have confirmed that measured ground vibration levels from traffic travelling along busy surface roads are generally very low and any rattling of windows perceived by building occupants are possibly due to airborne acoustic excitation from low frequency noise radiated by large trucks or buses going past rather than from ground vibration. Similarly, vibration levels from traffic in tunnels are also typically very low and inconsequential.

Vibration impact from traffic travelling along the various surface roads and tunnels associated with the project is expected to be insignificant and would produce negligible vibration impacts to sensitive receivers. The following measures have been used on this project to avoid unnecessary vibration generation:

- ensure finished pavement surface is smooth,
- avoid placement of service pits in traffic wheel path,

- select appropriate expansion joints such as finger plate types, which allow for large movements in the structure, and aluminium strip seal systems, which can be installed to provide a flush surface true to the profile of the bridge deck.

Therefore, operational vibration impacts are predicted to not exceed the goals for human comfort and vibration from traffic travelling along the project is not further assessed in this report.

8 Road traffic noise model

8.1 Noise model methodology

Noise modelling was undertaken using the Road Traffic Noise Module in the CadnaA noise modelling software. This noise modelling software is recognised and accepted by NSW Roads and Maritime Service, Environment Protection Authority and the Department of Planning & Environment.

The traffic noise prediction model adopted by CadnaA is based on a method developed by the United Kingdom Department of Environment entitled "Calculation of Road Traffic Noise (1988)" known as the CoRTN88 method. This method has been adapted to Australian conditions and extensively tested by the Australian Road Research Board. The model predicts noise levels for free-flowing traffic and a modified method has been developed which enables an accurate prediction of noise from high truck exhausts to be considered.

The method predicts the $L_{A10(1hr)}$ noise levels, and a correction of -3dB(A) is applied to obtain the $L_{Aeq(1hr)}$ noise levels. The $L_{Aeq(1hr)}$ noise levels for the daytime 15 hour period from 7am to 10pm are then determined to derive the daily $L_{Aeq(15hr)}$ noise level. Similarly, the $L_{Aeq(1hr)}$ noise levels for the night-time nine hour period from 10pm to 7am are then determined to derive the night time $L_{Aeq(9hr)}$ noise level.

The noise prediction model takes account of the following inputs:

Table 13 Summary of modelling inputs

Parameters	Inputs
Model geometry	
Source height	Three source heights: <ul style="list-style-type: none"> • 0.5m for car exhausts/engines and car/truck tyre noise • 1.5m for heavy vehicle engines • 3.6m for heavy vehicle exhausts
Source lines	All lanes of traffic on multi-lane roads have been considered by applying even distribution of traffic across carriageways
Ground topography at receiver and road:	Topographic data provided previously in the Tender Documents (electronic). Land contours presented in 1m intervals.
Road alignment	Existing: Current 2D Cadastral and aerial photo Future: Detailed design road geometry provided by CDS JV.
Noise sensitive receiver locations, building heights, angle of view:	From aerial and terrestrial photography, supplemented by site checks and surveys.
Receiver heights	Buildings receiver heights: <ul style="list-style-type: none"> • 1.5m above ground level to represent 1.5m above ground floor level • 4.5m above ground level to represent 1.5m above first floor level • For multi-storey residences, it has been assumed that all floors are 3m in height with the assessment point for each floor at 1.5m above floor level.

Parameters	Inputs
Road pavement surface:	Western Interchange noise model <ul style="list-style-type: none"> Open graded asphalt (OGA) for the 'No build' and 'Build' M5 Motorway Open graded asphalt (OGA) for the NewM5 surface lanes St Peters Interchange noise model <ul style="list-style-type: none"> Dense Graded Asphalt (typically AC14)
Noise barriers	Western Interchange <ul style="list-style-type: none"> Existing noise wall heights and locations based on data provided by CDS JV Locations, heights and lengths of new noise barriers analysed using NMG methodology and final heights determined through feasibility studies and consultation with RMS and community. St Peters Interchange <ul style="list-style-type: none"> F-type barriers on ramps
Reflections from existing barriers, structures & cuttings on opposite side of road	Determined from review of design drawings and aerial photography of the Project area. Detailed within CoRTN algorithms and their application in CadnaA (v2017).
Traffic parameters	
Traffic volume and mix	Traffic volumes for daytime 15hr and night-time 9hr and corresponding light and heavy vehicle mix as per EIS information, and additional data/clarifications provided by AECOM for surrounding road network where not detailed in the EIS.
Vehicle speed	Western Interchange <ul style="list-style-type: none"> M5 Motorway main carriageway 80km/h M5 Motorway ramps 80km/h St Peters Interchange <ul style="list-style-type: none"> SPI interchange main alignment 80km/h SPI interchange ramps 60km/h SPI local roads 60km/h
Corrections to model	
L_{A10} to L_{Aeq} conversion	$L_{Aeq} = L_{A10} - 3dB(A)$
Heavy vehicle source distribution corrections	-0.6dB at 1.5m source height -8.6dB at 3.6m source height
Road pavement surface	Corrections applied relevant to standard Dense Graded Asphalt (DGA): <ul style="list-style-type: none"> 0dB(A) for DGA -2dB(A) for OGA
Tunnel portal correction:	Portal noise amplification was modelled by adding +4dB on road traffic line sources for a distance of 80m at portal dives.
Ground Absorption	0.5
Facade correction	+2.5dB(A), when modelling to 1m from building facades [RNP Table 7 (p17)].
Australian conditions corrections:	Western Interchange noise model <ul style="list-style-type: none"> -1.7 dB(A) for 'at 1m from facade' conditions ($L_{Aeq(15hr)}$ only) -0.7 dB(A) for 'free field' conditions ($L_{Aeq(15hr)}$ only) St Peters Interchange noise model <ul style="list-style-type: none"> -1.7 dB(A) for 'at 1m from facade' conditions ($L_{Aeq(15hr)}$ and $L_{Aeq(9hr)}$) -0.7 dB(A) for 'free field' conditions ($L_{Aeq(15hr)}$ and $L_{Aeq(9hr)}$) from the Australian Road Research Board (ARRB) Transport Research (Saunders et al 1983) and referred to in Austroads Research Report (ARR), "An Approach to the Validation of Road Traffic Noise Models" (2002).

Parameters	Inputs
Calibration adjustment:	Noise model validated using noise monitoring data collected during EIS phase. No calibration adjustment required.
CadnaA noise model settings	
Calculation method:	Ray-tracing method adopted, as opposed to angle-scan method
Maximal search radius:	3,000m

8.2 Noise modelling scenarios

To conduct the noise assessment, 10 separate traffic scenarios for both the Western Interchange and St Peters Interchange were required to be modelled and compared. The assessment considers both the 'Build' (with the proposal) and 'No build' (without the proposal) scenarios for the year of opening (2021) and 10 years after opening (2031). Table 14 summarises the scenarios that were modelled.

Table 14 Modelled scenarios

Modelled scenario	Label	Description
1a	2016 Existing - day	Daytime, based on existing measured 2016 traffic and road alignment for model validation purposes
1b	2016 Existing - night	Night-time, based on existing measured 2016 traffic and road alignment for model validation purposes
2a	2021 No build - day	Daytime based on 2021 'No build' scenario
2b	2021 No build - night	Night-time based on 2021 'No build' scenario
3a	2031 No build - day	Daytime based on 2031 'No build' scenario
3b	2031 No build - night	Night-time based on 2031 'No build' scenario
4a	2021 Build - day	Daytime based on 2021 with 'Build' scenario
4b	2021 Build - night	Night-time based on 2021 with 'Build' scenario
5a	2031 Build - day	Daytime based on 2031 with 'Build' scenario
5b	2031 Build - night	Night-time based on 2031 with 'Build' scenario

8.3 Traffic volume data

8.3.1 Existing traffic volumes

For validation of the road traffic noise model at the Western Interchange, concurrent road traffic noise monitoring and traffic data from King Georges Road Interchange Upgrade (KGRIU) EIS, and noise monitoring by SLR as presented in "WestConnex Stage 2 Noise Logging Summary December 2014 Survey" have been used. The results of the traffic surveys are summarised in Table 15 below.

Table 15 Kingsgrove existing traffic volumes and compositions

Section of road or ramp	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
		Total vehicles	Heavy vehicles %	Vehicle speed	Total vehicles	Heavy vehicles %	Vehicle speed
M5 - At King Georges Road Interchange	EB	24875	14.7	85	5206	16.6	82
	WB	25302	14.9	93	5348	12.9	95
Off ramp to King Georges Road	EB	5176	14.7	60	930	16.6	60
On ramp from King Georges Road	EB	7234	17.8	60	1475	20.0	60
Off ramp to King Georges Road	WB	10265	14.9	60	1902	12.9	60
On ramp from King Georges Road	WB	3327	15.4	60	720	16.0	60
King Georges Road between M5 and Moorefields Road	NB	30724	10.0	54	6842	10.2	59
	SB	29899	11.5	59	6821	12.2	64
King Georges Road between M5 and Broad Arrow Road	NB	25453	9.8	50	5591	9.9	57
	SB	26390	8.4	58	4949	8.2	63

Note: Vehicle speeds are the 85th percentile speeds

For validation of the road traffic noise model at the St Peters end of the project, the road traffic noise monitoring data by SLR as presented in “WestConnex Stage 2 Noise Logging Summary December 2014 Survey” and concurrent traffic survey was used. The results of the traffic survey are summarised in Table 16.

Table 16 St Peters existing traffic volumes and compositions

Section of road or ramp	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
		Total vehicles	Heavy vehicles %	Vehicle speed	Total vehicles	Heavy vehicles %	Vehicle speed
Sydney Park Rd	EB	15349	7.2	60	2732	8.2	60
	WB	15958	9.6	60	2552	5.6	60
Campbell St	EB	3791	7.0	60	788	5.1	60
	WB	2322	9.3	60	246	6.5	60
Princes Hwy	NB	15042	8.3	60	3722	9.3	60
	SB	13922	9.3	60	3125	5.8	60
Campbell Rd	EB	5382	9.9	60	1210	6.4	60
	WB	2608	13.2	60	357	6.4	60
Princes Hwy	NB	21600	12.8	60	5208	12.5	60
	SB	20363	14.9	60	4096	10.7	60
Gardeners Rd	EB	11279	12.0	60	1607	12.0	60
	WB	12449	10.6	60	1703	8.2	60

Note: Vehicle speeds used for traffic on existing local roads is the posted speed, which is approximately equal to the 85th percentile speed

8.3.2 Project traffic volumes

The traffic volumes and compositions used in the design noise modelling for the year of the project opening (year 2021) and ten years after opening (year 2031) were obtained from the New M5 EIS and are presented in APPENDIX D in terms of daytime 15 hour and night-time 9 hour data.

Traffic noise modelled without the project is the 'No build' scenario and traffic noise modelled with the project is the 'Build' scenario for both the opening year 2021 and the design year 2031, in accordance with the NCG. It is noted that for the 'Build' scenario for the design year 2031, the traffic volumes and compositions are based on the entire WestConnex project (i.e. M4 Widening, M4 East, New M5, King Georges Road Interchange Upgrade and the M4-M5 Link) being fully operational.

8.4 Noise model validation

8.4.1 Western Interchange

The traffic noise model was validated by comparing measured noise levels and predicted noise levels at the same locations, as shown in Table 17. The validation outcomes show a good level of agreement between the noise model and noise measurements. Given that the overall mean difference was found to be within 1dB(A) for both daytime $L_{Aeq(15hr)}$ and night-time $L_{Aeq(9hr)}$ periods and the noise model generally predicts conservatively higher noise levels than what was measured, no calibration factor was applied to the Western Interchange noise model.

The noise measurements and traffic counts for locations L01 to L06 were concurrent. The noise measurements at L11, L13 and L14 were not concurrent with the traffic counts but were included to see if the validation held true for these locations. Traffic flows on motorways such as the M5 are often very consistent from day to day and due to the high volumes, it would take a large change in traffic to see a significant difference in noise levels. Assuming the traffic volumes were generally consistent during both monitoring periods, these three additional locations were included. If these three locations were removed from the analysis and only the first five locations were used, the validation would still be acceptable as the measured versus modelled difference would still be less than 1dB(A).

Table 17 Noise model validation (Western Interchange)

Location	Address	Traffic noise level, dB(A)					
		Measured existing ^{1, 2}		Modelled existing ³		Difference (modelled minus measured)	
		$L_{Aeq(15hr)}$	$L_{Aeq(9hr)}$	$L_{Aeq(15hr)}$	$L_{Aeq(9hr)}$	$L_{Aeq(15hr)}$	$L_{Aeq(9hr)}$
L01	6 Grove Avenue, Narwee	57	53	57.5	53.9	0.5	1.1
L02	15 Rosetta Street, Beverly Hills	57	54	57.7	54.0	0.6	0.0
L03	311 King Georges Road, Beverly Hills	71	69	71.3	69.1	0.3	0.1
L05	6 Allambee Crescent, Beverly Hills	55	52	56.9	53.1	1.8	1.1
L06	19 Elouera Street, Beverly Hills	55	51	56.2	52.4	1.2	1.4

Location	Address	Traffic noise level, dB(A)					
		Measured existing ^{1,2}		Modelled existing ³		Difference (modelled minus measured)	
		L _{Aeq} (15hr)	L _{Aeq} (9hr)	L _{Aeq} (15hr)	L _{Aeq} (9hr)	L _{Aeq} (15hr)	L _{Aeq} (9hr)
L11	Top of noise mound, south of M5, east of heavy vehicle parking bay, Kingsgrove	73	71	75.1	71.2	2.1	0.2
L13	Top of noise mound, north of M5, west of heavy vehicle parking bay, Kingsgrove	71	69	71.6	67.7	0.6	-1.3
L14	97 Tallawalla Street, Beverly Hills	56	52	57.0	53.1	1.0	1.1
Mean difference						1.0	0.4
Standard deviation						0.8	0.9

Notes:

1. Measured noise levels were provided as rounded whole numbers only.
2. Where the noise monitor was in the free field, the measured noise levels have had a +2.5dB facade correction added.
3. Modelled noise levels are facade corrected levels and include ARRB corrections

8.4.2 St Peters Interchange

Noise monitoring data from SLR as presented in "WestConnex Stage 2 Noise Logging Summary December 2014 Survey", and concurrent traffic counting was used for validation at St Peters. Monitoring location L01 was not used because the recorded address and location description was not consistent with the GIS location provided and the speed of vehicles at this location is uncertain. Location L05 was also not used because of uncertainty about the monitoring location and inconsistency with the results at nearby locations L06.

From the four locations that could be confidently used, the validation outcomes show a good level of agreement between the noise model and noise measurements. Given that the overall mean difference was found to be within 1dB(A) for both day and night periods, no calibration factor was applied to the St Peters model for both day and night.

Table 18 Noise model validation (St Peters Interchange)

Location	Address	Traffic noise level, dB(A)					
		Measured existing ^{1,2}		Modelled existing ³		Difference (modelled minus measured)	
		L _{Aeq} (15hr)	L _{Aeq} (9hr)	L _{Aeq} (15hr)	L _{Aeq} (9hr)	L _{Aeq} (15hr)	L _{Aeq} (9hr)
L02	112 Campbell St	62	54	60.9	54.5	-1.1	0.5
L03	4-16 Campbell St	67	62	67.2	60.1	0.2	-1.9
L04	506-518 Gardeners Rd	68	63	69.5	63.1	1.5	0.1
L06	608 Princes Hwy	70	64	69.9	65.2	-0.1	1.2

Location	Address	Traffic noise level, dB(A)					
		Measured existing ^{1,2}		Modelled existing ³		Difference (modelled minus measured)	
		L _{Aeq} (15hr)	L _{Aeq} (9hr)	L _{Aeq} (15hr)	L _{Aeq} (9hr)	L _{Aeq} (15hr)	L _{Aeq} (9hr)
				Mean difference		0.1	0.0
				Standard deviation		1.1	1.3

Notes:

Notes:

1. Measured noise levels were provided as rounded whole numbers only.
2. Where the noise monitor was in the free field, the measured noise levels have had a +2.5dB facade correction added.
3. Modelled noise levels are facade corrected levels and include ARRB corrections

9 Traffic noise impact assessment

9.1 Western Interchange

9.1.1 Existing noise walls and mounding

There are existing noise walls and earth mounding that are located on the northern and southern sides of the M5 Motorway. The existing noise walls and mounding are described in Table 19 and are shown in Figure 1 below.

Table 19 Description of existing noise walls and mounding

Noise wall ID	Description
NW N1	<ul style="list-style-type: none"> • Located on the northern side of the project corridor • Joins at the western end of the project extents to the newly constructed noise walls that are part of the King Georges Road Interchange Upgrade • Joins at the eastern end to the existing mounding which is described in Section 9.1.1 • The noise wall is typically between 4m to 5m high
NW N2	<ul style="list-style-type: none"> • Located on the northern side of the project corridor • Joins at the western end to the existing mound which is described in Section 9.1.1 • Joins to the existing M5 noise walls at the eastern end • The noise wall is typically 4m to 5m high
NW S1	<ul style="list-style-type: none"> • Located on the southern side of the existing M5 Motorway • Joins at the western end of the project extents to newly constructed noise walls as part of the King Georges Road Upgrade. The King Georges Road Upgrade noise walls have replaced an existing noise mound in this area • Joins at the eastern end to the existing southern mound which is described in Section 9.1.1 • The noise wall is typically 3m to 4m high
NW S2	<ul style="list-style-type: none"> • Located on the southern side of the existing M5 Motorway • Joins at the western end to the existing southern mound which is described in Section 9.1.1 • Joins to the existing M5 noise walls at the eastern end • The noise wall is typically 3m to 4m high
Mound N1	<ul style="list-style-type: none"> • Located on the northern side of the existing M5 Motorway, adjacent to the eastbound carriageway, between the residences and the M5 Motorway • The mound is typically 9m high above the existing M5 Motorway road level
Mound S1	<ul style="list-style-type: none"> • Located on the southern side of the existing M5 Motorway, adjacent to the westbound carriageway, between the industrial complex and the M5 Motorway • The mound is typically around 5m high above the existing M5 Motorway road level

Figure 1 Existing noise walls and mounding



- Legend**
- NCAs
 - Existing noise walls
 - Existing northern mound
 - Existing southern mound

Client: **WestConnex** New M5

Project: WestConnex Stage 2 M5

CPB DRAGADOS SAMSUNG C&T

Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only, and not for construction. This information is protected by copyright.

Scale: 0 25 50 75 100 m

Description: Kingsgrove noise barriers
Existing noise wall locations

RENZO TONIN & ASSOCIATES
inspired to achieve

1/418A Elizabeth Street SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Created by: THW
Figure No: TH014-05 6 0 001 6 2
Date: 08.02.2018
Scale: 1:3500 @ A3

9.1.2 Replacement of existing noise walls

As part of the project works, the existing noise walls on the northern and southern sides of the M5 Motorway will be demolished between Kirrang Street and Garema Circuit to allow for the widening of the road corridor. These noise walls are being relocated and replaced at the same height as the existing noise walls.

The existing northern mound is being temporarily moved to allow establishment of a construction compound, and then replaced at a similar height once the compound is no longer required.

When noise barriers are being relocated or replaced as part of the projects works, Section 7.2 of the NMG states that:

Where road widening has expanded over the existing noise barrier footprint then the top of barrier height should be moved to an adjacent and suitable new barrier location as part of the no-build scenario.

AND

If four or more closely spaced residences qualify (for consideration of noise mitigation) then noise barrier design identified using Section 8, should be completed assuming that the existing barrier does not exist.

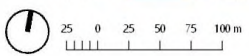
With the replacement of the existing noise walls and mounding, noise modelling has determined that no additional noise mitigation is required and no residences or other sensitive receivers qualify for consideration of additional noise mitigation. This outcome satisfies the requirements of the NMG, and no further assessment of the replacement noise walls is required. The replacement design noise walls are shown in Figure 2 below.

Figure 2 Replacement noise walls



- Legend**
- NCAs
 - Replacement northern mound
 - Existing noise walls
 - Replacement noise walls

Client: **WestConnex** New M5
 Project: WestConnex Stage 2 M5



Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. The information is protected by copyright.

Description:
 Kingsgrove noise barriers
 Replacement noise wall locations

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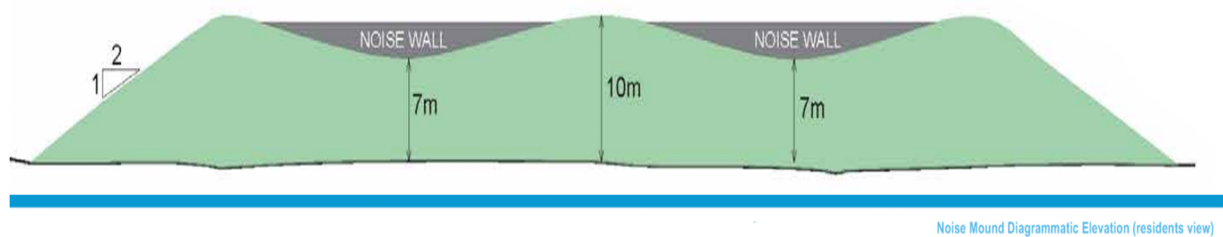
Created by: THW
 Figure No: TH014-05-6-0-002 (v2)
 Date: 08.02.2018
 Scale: 1:3500 @ A3

14/18A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501

9.1.3 Replacement of existing northern mound

9.1.3.1 Mound description and NMG requirements

The northern mound is being replaced in a slightly different location and its final height is limited by space constraints and urban design considerations including its integration with the adjacent park land. The height of the mound is 7 - 10m, augmented with two noise walls to infill where the crest height is low (see sketch below and noise wall sub-plan for further information). The replacement mound is higher than the proposed 6.5 metre high roadside noise wall that was proposed in the EIS. Figure 3 displays the location of the relocated design mounding.



To confirm that the revised mound will maintain a suitable amenity for those residential receivers behind the mound, Section 7.2 of the NMG states that:

Any replacement or augmented barrier must as a minimum provide the same noise reduction for L_{Aeq} and L_{Amax} noise sources as the existing barrier.

9.1.3.2 Noise reduction assessment of mound

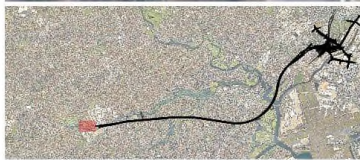
The replacement noise mound was designed to achieve compliance with the NCG noise goals for redeveloped roads at all potentially affected residential receivers in terms of both the $L_{Aeq,15hour}$ 60dB(A) and the $L_{Aeq,9hour}$ 55dB(A). Therefore, the noise reduction of the mound in terms of the L_{Aeq} metric is sufficient.

Given the additional NMG requirements when replacing existing barriers, an assessment of L_{Amax} noise levels was also conducted to compare the noise reductions of the proposed and existing mounding in terms of this L_{Amax} metric.

9.1.3.3 Assessment receivers

To conduct the L_{Amax} noise assessment, three representative receivers were selected behind the mounding as being the potentially most impacted, being 107 Armitree Street, 108 Armitree Street, and 96 Glamis Street, as shown in Figure 3.

Figure 3 Kingsgrove replacement northern mound



- Legend**
- Sensitive receivers
 - NCAs
 - Replacement northern mound
 - Replacement noise walls
 - Existing noise walls

Client: **WestConnex** Now M5

Project: WestConnex Stage 2 M5

CPB **DRAGADOS** **SAMSUNG CAT**

Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. This information is protected by copyright.

Scale: 10 0 10 20 30 40 m

Description: Kingsgrove noise barriers
Replacement earth mound and receivers

RENZO TONIN & ASSOCIATES
inspired to achieve

Created by: THW
Figure No: TH014-05 6 0 003 (v2)
Date: 08.02.2018
Scale: 1:1500 @ A3

1/410A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

9.1.3.4 L_{Amax} assessment methodology

The L_{Amax} noise assessment focusses on the noise reduction of the existing and proposed mounding for a truck pass-by event, which is the event that typically produces the highest L_{Amax} noise level. An instantaneous L_{Amax} pass-by sound power level of 114dB(A) was adopted for the truck exhaust, at a height of 3.6 metres above the road design. This source height is conservatively high given that heavy vehicles have their greatest acoustic energy radiating from their engines (at 1.5 metres) followed by their tyres / road interaction (at 0.5 metres), with their exhausts radiating the least amount of acoustic energy (at 3.6 metres). Considering the above, conservative noise modelling was conducted using the ISO 9613 noise calculation standard, with ground absorption parameters as detailed in Section 8.1.

To model the noise reduction of the existing and proposed mounding, the following steps were undertaken:

1. A series of point sources were modelled along the 'No build' existing eastbound carriageway to represent the event of a single truck pass-by at instantaneous locations along the alignment. The eastbound carriageway was selected as it is nearest to the residences with the greatest potential for sleep disturbance. Each point source was given a sound power level of 114dB(A) at a height of 3.6 metres above the road design.
2. The worst-case L_{Amax} noise level at each receiver identified in Section 9.1.3.3 was determined by calculating the highest ranking individual point source noise level at each given receiver.
3. The existing mound was then removed from the noise model for the 'No build' scenario, leaving direct line of site to the residences. Step 2 was then repeated with no mounding.
4. The L_{Amax} noise reduction for the existing mounding was calculated by subtracting the results from the 'No build' with mounding (from step 2) from the results for the 'No build' no mounding (from step 3).
5. Point sources were then input into the noise model for the 'Build scenario' on both the main alignment eastbound carriageway and the eastbound bypass from Kings Georges Road. Steps 1 to 4 were then repeated for the design mounding.
6. The noise reduction results were then compared for the existing mounding and design mounding.

9.1.3.5 L_{Amax} noise assessment results

The results of the L_{Amax} noise assessment are shown in Table 20 below. The results indicate that the replacement mounding has generally equal performance to the existing mounding when comparing the noise reductions achieved for the eastbound (EB) bypass lanes. When comparing to the EB of the main alignment, the proposed mounding achieves a noise reduction which is within 2-4dB(A) of the existing mound. Considering that the modelling comparisons used worst-case and conservatively high source heights, differences in actual noise reductions would be smaller.

The outcome of the L_{Amax} noise assessment is that replacement mounding provides an acceptable result which satisfies the intents of the NMG, given that:

- the noise reduction of the replacement mounding generally provides a similar result to the existing mounding for the worst-case nearest lanes
- the L_{Amax} noise levels from truck passbys from any lane are predicted to be no more than 51dB(A) (external), which is well below the lower limit of 65dB(A) for potential sleep disturbance, as detailed in the Roads and Maritime Services' 'Environmental Noise Management Manual' (ENMM).

Table 20 L_{Amax} noise assessment results

Scenario	Carriageway*	Residence			
		107 Armitree St	108 Armitree St	108 Armitree St	96 Glamis St
		Ground floor	Ground floor	First floor	Ground floor
Predicted L_{Amax} noise level: without existing mound & proposed mound					
'No build' Without existing mound	EB	61	60	62	62
'Build' Without design mound	EB bypass	66	63	64	65
	EB main	61	61	61	63
Predicted L_{Amax} noise level: with existing mound & proposed mound					
'No build' With existing mound	EB	45	47	49	48
'Build' With design mound	EB bypass	51	50	51	51
	EB main	49	49	51	50
Noise reduction, dB					
'No build' Existing mound	EB	16	13	13	14
'Build' With design mound	EB bypass	15	13	13	14
	EB main	12	12	10	12

Notes:

* EB = Eastbound

9.1.4 Removal of existing southern mound

9.1.4.1 Existing southern mounding

The existing mounding on the southern side of the M5 Motorway is being removed as part of the project works to construct the Kingsgrove Motorway Operations Centre (MOC1). Replacement noise barriers are being installed however there is a break in the barrier to allow vehicular access to MOC1.

9.1.4.2 Identified receivers

There is an industrial complex behind the existing mounding. A site inspection was undertaken and no other noise sensitive receivers were found within the industrial facility.

The nearest residences are approximately 300 metres to the west on Tallawalla Street, Beverly Hills and 300 metres to the south of the Motorway, adjacent to the South Rail Line in Kingsgrove.

9.1.4.3 Assessment outcomes of southern mound removal

A noise assessment was undertaken to determine any potential impacts to noise sensitive receivers related to the removal of the southern mound or the break in the roadside noise barriers. The assessment found that with the removal of the southern noise mounding, all potentially impacted noise sensitive residences complied with the NCG as shown in results tables in APPENDIX E and the noise contour maps in APPENDIX F. There were no receivers that required consideration of additional noise mitigation. The reasons being that:

- the nearby residences are set well back from the M5 Motorway with shielding from the industrial facility such that the removal of the southern mounding does not significantly impact noise levels
- the new buildings within the MOC1 facility, including the maintenance facility, fire water tanks, fire pump building, distribution substation and ventilation shaft provide additional noise shielding.

9.1.5 Traffic noise modelling results

Operational noise modelling has been conducted based on the traffic volumes presented in APPENDIX D for the 'No build' and 'Build' scenarios. Traffic noise predictions were undertaken for the following scenarios:

- Opening Year – where noise levels are predicted for the year 2021 for both the 'No build' and 'Build' scenarios, for the day and night periods.
- Design Year – where noise levels are predicted for the year 2031 (i.e. 10 years after opening of the project) for both the 'No build' and 'Build' scenarios, for the day and night periods.

Operational traffic noise predictions were conducted to residences and other sensitive receivers within each NCA. The detailed assessment results are presented in APPENDIX E which shows the noise levels at 1m from the worst affected facade for each receiver. The predicted operational road noise contour maps for the 'Build' scenario are presented in APPENDIX F. A summary of the operational traffic noise assessment outcomes is below.

With the replacement of existing noise walls as described in Section 9.1.2, replacement of the northern mound as described in Section 9.1.3, and the removal of the southern mound as described in Section 9.1.4, the outcomes of the operational noise assessment are:

- Predicted traffic noise levels in the opening year and design year for the $L_{Aeq(15hr)}$ daytime and $L_{Aeq(9hr)}$ night-time periods do not increase by more than 2dB(A) at any receiver as a result of the

project. There are no receivers that qualify for consideration of additional noise mitigation as a result of Trigger 1 from Section 6.

- Predicted traffic noise levels in the opening year and design year for the $L_{Aeq(15hr)}$ daytime and $L_{Aeq(9hr)}$ night time periods do not exceed the cumulative limit in the 'Build' Scenario. There are no receivers that qualify for consideration of additional noise mitigation as a result of Trigger 2 from Section 6.
- Predicted traffic noise levels in the opening year and design year for the $L_{Aeq(15hr)}$ daytime and $L_{Aeq(9hr)}$ night time periods are not project road 'Acute' in the 'Build' Scenario. There are no receivers that qualify for consideration of additional noise mitigation as a result of Trigger 3 from Section 6.

9.2 St Peters Interchange

9.2.1 Traffic noise modelling results

Operational noise modelling has been conducted based on the traffic volumes presented in APPENDIX D for the 'No build' and 'Build' scenarios. Traffic noise predictions were undertaken for the following scenarios:

- Opening Year – where noise levels are predicted for the year 2021 for both the 'No build' and 'Build' scenarios, for the day and night periods.
- Design Year – where noise levels are predicted for the year 2031 (i.e. 10 years after opening of the project) for both the 'No build' and 'Build' scenarios, for the day and night periods.

The detailed assessment results are presented in APPENDIX E showing predicted traffic noise levels at each assessed receiver and the identified properties triggered for consideration of additional treatment.

In general, receivers are triggered for consideration of additional noise mitigation for the following reasons:

- Receivers exposed to traffic noise from Campbell Street and Campbell Road are predicted to experience an increase in traffic noise by more than 2dB(A) (Trigger 1). This increase is due to widening of the road corridor, removal of buildings on the southside of the corridor causing higher exposure to road traffic noise for residences to the south, and an increase in traffic volume from the construction of the interchange. With the re-classification of Campbell Street and Campbell Road as new roads, affected residences extend back from the road corridor by approximately 100 to 150 metres, depending on the level of exposure.
- Receivers directly adjacent to Campbell Street and Campbell Road are also modelled to exceed the cumulative limit (Trigger 2), with the highest impacted receivers likely to experience acute noise levels (Trigger 3).
- Receivers adjacent to Euston Road between Sydney Park Road and Maddox Street are predicted to experience an increase in traffic noise by more than 2dB(A) (Trigger 1) due to the increase in traffic

volumes. These receivers also exceed the cumulative limit (Trigger 2) and likely to experience acute noise levels (Trigger 3).

- Residences in Mascot are typically exposed to high levels of road traffic noise from the existing road network. There are several multi-storey residential complexes (some currently in construction whilst others with DA approved) in Mascot which have been identified for consideration of additional noise mitigation. These residences have been identified for consideration of additional noise mitigation for exceeding the cumulative limit (Trigger 2), due to exposure to new road traffic noise from the connections to the St Peters Interchange past the Alexandra Canal.

The predicted operational road noise contour maps for the 'Build' scenario are presented in APPENDIX F.

There are two parks adjacent to Campbell Road, being Sydney Park and Simpson Park. The noise criteria for open space (passive use) in the RNP is 55dB(A) during the daytime. The noise contours in APPENDIX F show that the southern and eastern portions of Sydney Park, and most of Simpson Park will be exposed to traffic noise levels of more than 60dB(A) and would therefore exceed the cumulative limit (Trigger 2), plus they would also have an increase in noise of more than 2dB(A) (Trigger 1).

Due to the potential visual impacts and urban design considerations, it was considered unreasonable to provide noise barriers to screen these parks. Quiet pavement on Campbell Road and Euston Road would not provide any significant noise benefit due to the low traffic speed and stop-start nature of the traffic. This is consistent with the EIS which also did not propose any mitigation measures for parks.

9.2.2 Maximum noise level assessment

Noise emanating from the project has been assessed for its potential to disturb sleep. The effect of traffic noise on sleep is discussed in Section 5.4 of the RNP. The following information extracted from that section is pertinent.

The disruption of a person's normal sleep patterns, or sleep disturbance, due to road traffic noise, has been the subject of numerous research studies conducted over the last 30 years. Despite intensive research, the triggers for and effects of sleep disturbance have not yet been conclusively determined. Sleep disturbance occurs through changes in sleep state and awakenings. Awakenings are better correlated to subjective assessments of sleep quality than are changes in sleep state, which generally require objective measurement.

A summary of the current literature concerning sleep disturbance due to noise indicates that the main noise characteristics that influence sleep disturbance are the number of noisy events heard distinctly above the background level, the emergence of these events and the highest noise level.

For continuous traffic flow, LAeq appears to be acceptably correlated with sleep disturbance, since under these conditions there are few emergent noise events above the main hum of the traffic. However, for intermittent traffic flow, which often occurs at night, some other measure that takes into account the emergence, described by measures such as (LAFmax – LAeq) or (LAFmax – LAF90), the highest level of noise and the number of events may be needed to obtain a better correlation with sleep disturbance.

From the research on sleep disturbance to date the RNP concludes that:

- L_{Amax} (the maximum A-weighted noise level) internal noise levels below 50-55 dB(A) are unlikely to awaken people from sleep (corresponding to approximately 60-65 dB(A) externally); and,
- One or two noise events per night, with maximum internal noise levels of 65-70 dB(A) (corresponding to approximately 75-80 dB(A) externally), are not likely to affect health and wellbeing significantly.

According to the RNP, triggers for, and effects of sleep disturbance from exposure to intermittent noise such as noise from road traffic are still being studied, and there appears to be insufficient evidence to set new indicators for potential sleep disturbance due to road traffic noise.

The cause of most L_{Amax} noise emissions from the project would be from heavy vehicles (e.g. during engine compression braking, gear changes etc) travelling along the project during the night time period. The highest L_{Amax} noise levels would typically be during compression braking events where heavy vehicles would reduce speeds when approaching traffic signals or descending down to the tunnel portals.

In the St Peters area of the project, existing L_{Amax} noise emissions at assessed residential receivers are from existing roads on the local road network. The nearest interchange ramps are more than 100m from any residential receiver, therefore construction of the St Peters interchange would not increase the L_{Amax} noise levels at residences, as maximum noise levels are controlled by the local road network.

Where widening of the existing road corridors is occurring, there is potential for L_{Amax} noise level increase for nearby residences. These roads include:

- Campbell Road (Euston Road to Princes Highway)
- Campbell Street (Princes Highway to May Street)
- Euston Road (Sydney Park Road to Maddox Street)

For all other Project roads, there is either minimal widening or no nearby residences.

The table in APPENDIX G identifies all residences adjacent to the roads listed above being considered for additional noise mitigation. As low noise pavement and noise barriers are not being considered for the St Peters end of the project (see Section 10.1), all receivers adjacent to these roads with the potential for maximum noise level increases would receive at-property treatment, as described in Section 10.3. Therefore, whilst the project would increase maximum noise levels for residences adjacent to the upgraded roads on the existing road network, these residences are already being treated under the requirements of the NMG.

10 Noise mitigation measures

The NMG states that priority should first be given to reducing noise during corridor planning and road design where there may be greater opportunity to provide cost effective integrated outcomes with better urban design. Following corridor planning and road design, Section 7 of the NMG indicates the following priority order for noise mitigation:

1. Quieter pavement surfaces
2. Noise mounds
3. Noise walls
4. At-property treatments

For it to be considered reasonable to provide quieter pavement surfaces, noise mounds and noise walls there needs to be four or more closely spaced receivers that benefit. Where there are four or more closely spaced receivers the specific combination of noise mitigation measures is subject to further evaluation.

All reasonable and feasible traffic management and road design options to minimise noise have been considered as part of the design process and are incorporated into the road design. Therefore, the following sections assess the feasibility and reasonableness of the remaining mitigation options in accordance with the order of priority stated above.

10.1 Quieter pavement surfaces

The NMG sets out that a quieter pavement surface is the preferred form of noise mitigation as it reduces source noise levels and provides protection to both external and internal sensitive areas and also has the least visual impact. Quieter pavements should be considered where there are groups of four or more closely spaced receivers (i.e. facades are separated by less than 20 metres) that exceed the NCG criteria.

Open graded asphalt (OGA), which is a "quieter" pavement, has been proposed for the surface roads of the M5 Motorway and New M5 given the vehicle speeds proposed (i.e. posted speed of 80km/h) and free-flowing traffic. For St Peters local roads, quiet pavement is not feasible due to the lower traffic speeds, distance and the stop-start traffic that would occur as a result of signalised intersections.

For St Peters interchange ramps and bridges, quiet pavement is not required due to the distance to the receivers and the relatively low contribution of these roads to the total traffic noise level. The nearest receivers are more than 300m from centre of the interchange and more than 75m from any bridge or ramp. All of the ramps and bridges combined contribute a maximum of 1.2 dB(A) to the total traffic noise level at the most affected receiver, but generally contribute less than 1 dB(A).

10.2 Noise barriers

10.2.1 Western Interchange

All noise barriers and mounding at the Kingsgrove end of the Project have been reinstated as described in Section 9.1.2. In the case of the replacement noise barriers, this outcome is consistent with the EIS. For the replacement mounding, the outcome provides greater noise reduction benefit than the proposed 6.5 metre road side noise wall that was proposed in the EIS.

The reinstated noise walls heights and locations are listed in Table 21 and the locations are shown in Figure 2.

Table 21 Noise wall schedule

Noise wall	Location	Height
MNB1	Eastbound	5.0m / 6.5m
MNN1	Eastbound	1.85m
MNN5	Eastbound	1.5m
MNB5	Eastbound	6.5m / 4.0m
MNFJ	Westbound	4.0m
MNFL	Westbound	4.0m
MNFN	Westbound	4.0m
MNFU	Westbound	4.0m

10.2.2 St Peters Interchange

Other than F-type barriers on the interchange ramps, noise barriers have not been used at the St Peters Interchange and local roads. Road traffic noise is dominated by the local road network and barriers are not feasible along these roads due to urban design issues and driveway access. All receivers that are considered for additional noise mitigation would be offered at-property treatment. This outcome is consistent with the EIS.

10.3 At-property treatment

At-property treatment is considered for dwellings that remain above the NCG criteria after all other noise mitigation measures are exhausted. Property treatment is generally limited to the acoustic treatment of building elements and the installation of acoustic screen walls close to the receiver where they also protect outdoor living spaces. Identified sensitive receivers adjacent to the road corridor that remain above the NCG criteria are assessed against existing development consent conditions when considering property treatments.

The NCG's noise criteria are external noise goals, and building treatment only reduces noise levels inside a dwelling. Therefore, any building treatment would be designed to achieve the internal noise levels that would have been achieved had the project complied with the NCG criteria externally.

According to the Roads and Maritime Services' 'Noise Mitigation Guideline' and 'Environmental Noise Management Manual' (ENMM), building treatments (in no particular order) may comprise of the following:

- The installation of courtyard screen walls or fences that break line of site between the affected facade window and the road, where they are feasible and reasonable and are preferred by the owner
- Fresh air ventilation systems that draw air into a building and meet Building Code of Australia requirements with the windows and doors shut. In line with the NSW Road Noise Policy 2011, air conditioning that includes fresh air intake may be considered where adverse climate conditions prevail. The Sydney Urban climate zone is not considered to experience adverse climate conditions in accordance with the Australian Building Codes Board (ABCB) climate zones maps.
- Upgraded windows and glazing and solid core doors on the exposed facades of masonry or insulated weather board structures (not for light framed structures with no acoustic insulation in the walls)
- Upgrading window and door seals and appropriate treatment of sub-floor ventilation
- Sealing wall vents
- Sealing of the underfloor below the bearers
- Sealing of eaves

The following provides details on the level of treatment required in relation to the exceedance above the NCG external assessment criteria.

Table 22 Residential at-property treatment on applicable facades

Treatment	Predicted exceedance of NCG external criteria, dB(A) ⁴	At-property acoustic treatment
1a	<5	Install fresh air mechanical ventilation to affected rooms (see Notes 1 & 2)
1b	6-10	Treatment 1a + replace weather seals with acoustic seals on windows and doors + seal wall vents
2	11-15	Treatments 1a + 1b + replace existing glazing with thicker laminated glazing + provide solid core doors (see Note 3)
	>15	Treatments 1a + 1b + install supplementary window fitted with acoustic seals to inner side of existing window + provide solid core doors (see Note 3)

Notes

1. If internal noise goals can only be achieved with windows closed, then mechanical ventilation should be considered to ensure fresh airflow inside the dwelling so to meet the requirements of the Building Code of Australia.
2. It is important to ensure that mechanical ventilation does not provide a new noise leakage path into the dwelling and does not create a noise nuisance to neighbouring residential premises.
3. These upgrades are only suitable for masonry type buildings. It is unlikely that this degree of upgrade would provide noticeable benefits to light framed structures with no acoustic insulation in the walls.
4. Refer to exceedance column in Appendix G.
5. The Sydney climate zone is considered to be a warm temperate climate and is not impacted by prevailing adverse climate conditions. Fresh air ventilation when doors and windows are closed is managed by fresh air mechanical ventilation without the need for consideration of air conditioning.

Building treatments that upgrade building elements are generally more effective to apply to masonry structures and lightly clad timber frame structures should be evaluated more closely prior to consideration for treatment. Caution should also be exercised before providing treatments for buildings in a poor state of repair, as they may be less effective in these cases and may not provide any appreciable noise reduction benefit.

In accordance with CoA E32, the provision of at-property treatments for affected sensitive receivers would be implemented where feasible and reasonable. The need for at-property treatment for identified receivers would be subject to a review of existing Development Approval (DA) requirements to determine existing acoustic treatments at the property. Where the appropriate level of treatment is not identified in the DA, site inspections of individual properties would be conducted to confirm floorplans, the current state of dwellings, any existing noise treatments and any constraints on the provision of additional treatment, prior to implementation (if required). Upon inspection, should a property be assessed to already have an equivalent or higher level of acoustic treatment than the treatment level identified as a requirement from the noise modelling as documented in this report, then no further at property treatment would be required.

A summary of the receivers considered for at-property treatment is presented in APPENDIX G. The property addresses provided in APPENDIX G are based on information available on the NSW Lands & Property Information SIX Maps website. These addresses are currently being verified in the field based on individual property inspections.

10.4 Review of EIS mitigation measures

The following table identifies the operational traffic noise mitigation measures proposed in the EIS and Submissions Report and reviews the suitability of those measures.

Table 23 Review of suitability of EIS mitigation measures

EIS/Submissions proposed mitigation measure	Suitability of proposed measure	Final design measure
Western Interchange at Kingsgrove		
Rebuild existing Kingsgrove noise barriers at same height	Noise modelling found that rebuilding the existing noise barriers at the same height was a suitable measure as the noise criteria was achieved at all receivers and the barriers satisfied the requirements of the NMG (see Section 9.1.2)	Same as EIS. Noise modelling confirmed that leaving an opening in the southern barrier to allow vehicular access to MOC1 did not cause any non-compliances (see Section 9.1.4)
Replace existing earth mound with 6.5m roadside barrier, subject to landscaping and visual impact	Based on community consultation, landscaping and visual impact, rebuilding earth mound was preferred over noise barrier	Reinstate 7m - 10m high noise mound with infill wall panels. This was the maximum achievable height based on available space and integration with park land. The mound achieves noise criteria at all receivers and satisfies NMG (see Section 9.1.3)
Reinstate open graded asphalt (OGA) on all surface lanes consistent with existing M5 pavement	Reinstating OGA on surface lanes is suitable and avoids noise increases due to pavement	Same as EIS. OGA pavement for existing M5 and New M5 surface lanes

EIS/Submissions proposed mitigation measure	Suitability of proposed measure	Final design measure
One property on south side of M5 Motorway eligible for consideration of additional treatment for minor exceedance of criteria	Additional treatment not required based on final design noise modelling. No exceedance of criteria.	None
St Peters Interchange and surrounding roads		
Barriers not feasible due to access to properties and existing roads. Barriers not reasonable on Campbell Street due to visual amenity and urban design.	Noise barriers not suitable due to access issues, visual amenity and urban design	Same as EIS. No noise barriers.
Dense graded asphalt (DGA) for St Peters Interchange and surrounding roads. Low noise pavement not proposed due to low speed limits	DGA suitable for St Peters Interchange and surrounding roads due to relatively low traffic speeds and stop start traffic (see Section 10.1)	Same as EIS. DGA for St Peters Interchange and surrounding roads.
144 residential receivers eligible for consideration of additional property treatment	Suitable as this is the remaining mitigation option after barriers and pavements	<p>More than 144 residential receivers eligible for property treatment. In some cases one receiver represents multiple apartments or townhouses within a development.</p> <p>The increase in number of properties over EIS is primarily due to:</p> <ul style="list-style-type: none"> • Final design noise modelling includes ground truthing and more detailed analysis of individual receivers, • EIS incorrectly counting several small, closely located properties as one property, • EIS missing assessment of Bourke Road/Gardeners Road area east of Alexandra Canal.

11 Consultation and feedback on mitigation measures

11.1 Consultation Strategy

The requirement for consultation and feedback under MCoA E37 has already been undertaken, or is still ongoing, through previous consultation / feedback strategies under other overlapping MCoAs. Previous or ongoing consultation includes:

- MCoA D19 consultation with regard to the implementation of operational architectural treatments for sensitive receptors in the Local Roads scope of works (St Peters)
- MCoA B61 and B62(f) consultation undertaken for the Urban Design and Landscape Plan (UDLP) and the Noise Barrier Location and Design Sub-plan (Permanent Noise Barriers and Noise Mound at Kingsgrove)
- Consultation regarding the Noise Mound Reinstatement at Kingsgrove.

Identification of the following key stakeholders under MCoA E37 and those of the overlapping conditions are based on the following:

- Councils – relevant noise control measures being the permanent noise barriers and noise mound at Kingsgrove
- Community - relevant noise control measures being the permanent noise barriers, noise mound at Kingsgrove and the Architectural treatments at St Peters
- DPE - relevant noise control measures being the permanent noise barriers, noise mound at Kingsgrove and the Architectural treatments at St Peters

Consultation undertaken to date, that meets the consultation and feedback requirements of MCoA E37, are as follows:

a) **Noise Mound and Permanent Barriers (Kingsgrove):**

CDSJV adopted a well-coordinated, targeted and personalised approach to consultation with affected stakeholders. These included:

- Surrounding residents and community, including knocks for key affected residents (over 40 residents)
- City of Canterbury-Bankstown Council, including a meeting (29/09/2016) to present noise barrier options to Council
- Kingsgrove North Community Group
- Beverly Hills North Progress Association
- SMC

- RMS
- Urban Design Review Panel

Consultation was based on the principles and processes outlined in the approved Community Communication Strategy (CCS). Consultation was carried out with key stakeholders, which included the local community, and residential receivers directly adjacent to the location of the proposed mound options at Glamis Street, Armitree Street and Rosebank Avenue. The overall aim of the consultation strategy was to ensure that key stakeholder feedback, including highly affected landowner feedback, was incorporated into the desired outcomes for designing a number of noise mound options. It was considered critical that those affected by the noise mound gained an understanding of those options, allowing them to make an informed decision to nominate their preferred option through a formal survey. In summary consultation included:

- Monthly interface and direct meetings with Council
- Individual briefings with community representatives
- Construction updates
- Mailed survey
- Community information session

b) UDLP / Noise Barrier Location and Design Sub-plan (MCoA B61 and B62(f)) (Kingsgrove)

Following Planning Approval of the SSI, the consultation process commenced for the UDLP. Over the 2016 / 2017 period a series of UDRP consultation meetings were held. These were held in accordance with the requirements of condition B60, which provided for a minimum of 4 meetings a year. A summary of the UDRP consultation is provided further under section 2.3 of this Report. In addition to the UDRP, Councils have also been consulted separately through a series of workshops.

Community consultation on the UDLP and the Sub-plan, which also included further Council submissions outside of the UDRP framework, was undertaken during April 2017. The UDL was publicly exhibited from 4 April to 30 April. The exhibition period duration was consistent with the exhibition of other WestConnex projects and was agreed between the Department of Planning and Environment (DPE), Roads and Maritime Services (RMS), Sydney Motorway Corporation (SMC) and CDS JV. The Project also accepted submissions up until one week after the 30 April deadline and also one late submission from Canterbury Bankstown Council received 24 May 2017.

To promote the exhibition and to enhance the communities understanding of the plans a comprehensive program of engagement activities was completed including:

- Plans made available on the WestConnex website
- Hard copy plans available at the New M5 Community Information Centre in St Peters and at the Kingsgrove construction office

- Hard copy plans provided to the core UDRP members for review and comment
- Street meetings
- Community information sessions
- Email blasts to registered stakeholders
- Newspaper advertising
- Flyers letter box dropped to 15,000 residences and businesses along the New M5 corridor
- Media release issued to local papers
- Social media post on the WestConnex Facebook page
- Doorknock and further survey of residents directly adjacent to the noise walls at Kirrang St (June 2017)
- Final presentation to the UDRP and a distribution by mail out to adjacent residences regarding the outcome of the consultation process and final design of noise barriers (in particular locations of opaque and transparent barriers) and noise mound.

c) Architectural Treatment (Local Roads / St Peters) (MCoA D19):

The Consultation Strategy for Architectural Treatments, in addition to those temporary mitigation measures undertaken during construction, focused on the installation of operational treatments (identified by operational noise modelling) as early as possible in order to further assist in the reduction of construction noise impacts. Architectural treatments are identified from the noise model following finalisation of design. The consultation and installation process included a staged process, this being Property Inspection and Verification of treatment and then Installation of Treatments.

The rollout of the inspection, verification and installation process was carried out over a two-stage process. Stage A targeted locations which were decided to be unchanged from modelling from the EIS. In summary the program for installation and timing for each stage can be summarised as follows:

- Stage A – 38 properties Campbell Road / Street – November 2016 onwards
- Stage B – Remaining properties – December 2016 onwards

A well-coordinated, targeted and timely communication approach was developed to support the planning, delivery and monitoring of this program. The approach covered stakeholder identification, key messages, potential issues and mitigation measures. The main communication aims of this were to:

- raise awareness of the New M5 project and an understanding of the purpose of inspection
- encourage uptake of inspection
- explain the process including terms and conditions, obligations and limitations and inspection procedures

- provide stakeholders with a central point of contact with the CDS-JV project team

A range of communication materials will be used to support stakeholder engagement in this strategy. Stakeholders will be given information packs (comprising materials developed by the CDSJV and pre-existing project materials) that will target individual information needs. All communication materials were made available in printed and electronic formats, with electronic formats uploaded onto the WestConnex website where appropriate. These included notification letters, noise reduction treatment for properties fact sheets and the property inspection and treatment acceptance process. The following is a summary of the communication and engagement tools used for consultation with affected residences:

Tool	Purpose	Distribution channel
Inspection offer letters 1 and 2	Advice to property owners of their eligibility for an inspection, encourage registration, provide contacts for follow-up information or enquiries. Follow up letter to remind and encourage registration	Addressed mail, sent to property owners' address. Project email and phone number provided for enquiries and registrations
Noise reduction treatment for properties fact sheet	Answer commonly asked questions, prompt property owners to consider the benefits of the inspection and potential treatment	Distributed with inspection letters. Used by community team and inspection consultant when talking to stakeholders. Available on WestConnex website.
Doorknock and/or phone contact	Targeted contact with property owners who have not responded to previous contact.	CDSJV to make direct contact via door-knock or phone Project email and phone number provided for enquiries and registrations

11.2 Complaints management

The procedure for managing noise and vibration complaints will be addressed in the Operational Environmental Management Plan (OEMP), and more specifically within the Operational Noise Management Plan (ONMP) under conditions E31 and E34 respectively of the Ministers Conditions of Approval (MCoA). These documents will be submitted and approved in accordance with the conditions and prior to operation commencing.

12 Operational noise monitoring and assessment

12.1 Monitoring

Monitoring of operational noise shall be undertaken in accordance with Practice Note viii of Roads and Maritime Services' 'Environmental Noise Management Manual' (ENMM) to meet MCoA E38.

In accordance with MCoA E38, no later than 12 months after commencement of operation of the project, or as otherwise agreed by the Secretary, operational noise monitoring shall be conducted to compare actual noise performance of the project against noise performance predicted in this ONVR. That is, operational noise monitoring shall compare actual traffic noise levels with the predicted mitigated noise levels and determine whether the intended acoustical outcomes as presented in this ONVR are achieved. The operational noise monitoring to be undertaken shall be reported to the Secretary and the EPA.

Where possible, the noise monitoring locations for operational noise should be the same as those locations identified in the EIS or additional locations previously monitored as part of the detailed design presented in this ONVR.

Noise monitoring locations shall be selected to represent the potentially most affected noise-sensitive receptors), and to correlate with noise monitoring locations selected prior to the project's construction, to enable direct comparison where possible. It is noted that operational noise monitoring locations will be subject to alteration (while preserving the intent of the noise monitoring program) based on site specific conditions including access to the site and consideration of localised extraneous noise sources (e.g. air conditioners etc). Furthermore, additional or alternative noise monitoring locations may be selected to monitor noise levels at residences from where complaints may have been received from the community with regard to operational noise.

A minimum of seven days of noise monitoring (excluding adverse weather) is proposed. Classified traffic monitoring shall be conducted simultaneously with the noise monitoring to identify traffic volumes, classifications and vehicle speeds.

Where the monitoring and assessment indicates a difference between the actual traffic noise levels and predicted traffic noise levels, the implementation of additional feasible and reasonable noise mitigation measures shall be investigated, in accordance with Practice Note viii of the ENMM and MCoA E38 (f).

12.2 Assessment

The assessment of the adequacy of the traffic noise mitigation measures presented in this ONVR shall be undertaken, as required by MCoA E38. The adequacy of the traffic noise mitigation measures shall be assessed in accordance with Practice Note viii of the ENMM, which requires the following:

- If the measured noise levels exceed the design noise levels for Year 1 by 2 dB(A) or less, the noise data should be examined, the prediction methodology and suitability of mitigation measures should be reassessed and the reasons for the marginal exceedance(s) be identified and reported.
- If measured noise levels exceed the design noise level for Year 1 by more than 2 dB(A), the adequacy of the noise mitigation needs to be reviewed, and if problems are identified steps need to be taken to rectify the situation. Additional noise treatments may be required to achieve the design noise level, where this is feasible and reasonable.

Therefore, the methodology to be used for the assessment shall be as follows:

- Measure actual traffic noise levels and concurrently measure traffic volumes, classifications and vehicle speeds after the opening of the project.
- Update the noise model prepared during the detailed design stage of the project with the 'as-built' road design.
- Use measured actual traffic noise and volumes, classifications and vehicle speed data to validate the noise model updated with the 'as-built' road design.
- Predict opening year 2021 traffic noise levels at all receiver locations identified in the ONVR using the validated noise model.
- Opening year 2021 traffic noise levels, as predicted with the validated model, will be compared against the opening year 2021 noise levels as predicted as part of this ONVR to determine difference between the detailed design predicted noise levels and the 'as-built' noise levels.
- In accordance with Practice Note viii of the ENMM, should the difference be 2dB(A) or less, then the adequacy of the noise mitigation measures implemented are determined to be adequate.
- Should the differences be greater than 2dB(A), the adequacy of the noise mitigation measures need to be reviewed and if required, additional reasonable and feasible noise mitigation measures will be investigated with the objective of meeting the project noise goals.

Any additional mitigation measures will be determined in consultation with affected property owners including consideration of at-property treatment, consistent with this ONVR.

12.3 Reporting

In accordance with MCoA E38, operational noise monitoring and reporting should be undertaken within 12 months of the Project opening. Furthermore, an Operational Noise and Vibration Compliance Report will be required to be submitted within 60 days upon completion of the noise monitoring, in accordance with MCoA E38. This report will be prepared, in accordance with MCoA E38, to the satisfaction of the Secretary and the EPA and would include the following information:

- Methodology, location and frequency of noise monitoring undertaken.
- Summary of measured traffic noise levels.

- Assessment of the performance and adequacy of applied noise mitigation measures, as determined in this ONVR.
- Where required, reassessment of additional feasible and reasonable noise mitigation measures.
- In accordance with MCoA E38(c), detail any complaints and enquiries received in relation to operational noise generated by the project.

PART B - FIXED FACILITIES

13 Introduction

This Part B addresses environmental noise emission from the tunnel ventilation system and associated fixed facilities onto noise sensitive receivers and adjoining development in accordance with MCoA E33. The fixed facility sites for the project are:

1. Kingsgrove motorway operations complex (MOC1), including ventilation exhaust building, substation, fire pumps and water tanks, maintenance facility and bulky spare parts and equipment storage facility
2. Bexley Road South motorway operations complex (MOC2), including ventilation building and substation
3. Arncliffe motorway operations complex (MOC3), including ventilation exhaust building, ventilation supply building, substation and water treatment plant
4. St Peters motorway operations complex (MOC4), including ventilation exhaust building, ventilation supply building and substation
5. Motorway Control Centre (MOC5) including motorway control centre and substation
6. St Peters Fire Water complex (FWC1), including fire pumps and water tanks

The principle ventilation elements that require consideration for noise and vibration mitigation comprise:

- Tunnel ventilation fans located within ventilation facility
- Jet fans located throughout the tunnels and ramps
- Egress passage ventilation fans
- Mechanical and electrical plant associated with substations, fire pump buildings, and water treatment plant.

14 Design criteria

14.1 Project requirements

MCoA E33 requires that all fixed facilities for the WestConnex New M5 project must comply with the EPA's NSW Industrial Noise Policy (INP) and Sleep Disturbance policy (see Table 1). This is confirmed by REMM OpNV3 (see Table 2).

With regard to in-tunnel noise, according to the project Scope of Work and Technical Criteria (SWTC), operation of the ventilation system including exhaust vents and jet fans is required to meet a noise goal of NR85 measured at 1.5 metres above the centre line of the road inside the tunnel.

14.2 Operational noise criteria

14.2.1 NSW Industrial Noise Policy (INP) Criteria

The EIS noise criteria for ventilation facilities and any modifications to the criteria are presented in Table 24. These criteria have been set in accordance with the INP and confirmed by additional noise monitoring conducted by SLR in October 2015. The goals are for total noise from all noise sources associated with each fixed facility including:

- ventilation exhaust noise
- noise breakout from fan buildings
- jet fan noise from portals
- ancillary equipment such as substation transformers, condensers and fans associated with substation buildings, fire pump buildings, and water treatment plants.

Table 24 Noise criteria for fixed facilities, dB(A)

Period	Kingsgrove MOC1	Bexley Road South MOC2	Arncliffe MOC3	St Peters MOC4 and FWC1	Motorway Control Centre MOC5
Day	50	52	52	47	59
Evening	45	45	50	45	51
Night	38	40	44	41 ¹	45

Notes: 3. The criteria for St Peters is lower than the EIS reported criteria based on additional noise monitoring in accordance with Condition E37(b).

14.2.2 INP modifying factor adjustments

Where the character of the industrial noise is assessed as particularly annoying (i.e. if it has an inherently tonal, low frequency, impulsive or is intermittent at night), then an adjustment is to be added to penalise the noise for its potential increase in annoyance. The INP provides definitive procedures for determining whether a penalty or adjustment should be applied.

Noise from ventilation facilities has been assessed and it has been determined that noise emissions would likely have low-frequency characteristics, and therefore a 5dB penalty has been applied. This penalty has been applied to noise from the main ventilation fans but not to building services equipment.

14.3 EPA's sleep disturbance criteria

The NSW EPA has made the following policy statement with respect to sleep disturbance as part of the INP Application Notes (December 2010):

Peak noise level events, such as reversing beepers, noise from heavy items being dropped or other high noise level events, have the potential to cause sleep disturbance. The potential for high noise level events at night and effects on sleep should be addressed in noise assessments for both the construction and operational phases of a development. The INP does not specifically address sleep disturbance from high noise level events.

Research on sleep disturbance is reviewed in the NSW Road Noise Policy. This review concluded that the range of results is sufficiently diverse that it was not reasonable to issue new noise criteria for sleep disturbance.

From the research, the EPA recognised that the current sleep disturbance criterion of an LA1, (1 minute) not exceeding the LA90, (15 minute) by more than 15 dB(A) is not ideal. Nevertheless, as there is insufficient evidence to determine what should replace it, the EPA will continue to use it as a guide to identify the likelihood of sleep disturbance. This means that where the criterion is met, sleep disturbance is not likely, but where it is not met, a more detailed analysis is required.

The detailed analysis should cover the maximum noise level or LA1, (1 minute), that is, the extent to which the maximum noise level exceeds the background level and the number of times this happens during the night-time period. Some guidance on possible impact is contained in the review of research results in the NSW Road Noise Policy. Other factors that may be important in assessing the extent of impacts on sleep include:

- *how often high noise events will occur*
- *time of day (normally between 10pm and 7am)*
- *whether there are times of day when there is a clear change in the noise environment (such as during early morning shoulder periods).*

The LA1, (1 minute) descriptor is meant to represent a maximum noise level measured under 'fast' time response. The EPA will accept analysis based on either LA1, (1 minute) or LA, (Max).

Source: <http://www.epa.nsw.gov.au/noise/applicnotesindustnoise.htm>

In summary, the sleep disturbance criteria of $L_{A1(1min)} \leq L_{A90(15min)} + 15dB(A)$ is to be used for initial assessment. The L_{Amax} descriptor may be used as an alternative to the $L_{A1(1min)}$. It is noted that the

background L_{A90} noise level used for establishing the sleep disturbance criteria includes all background noise including noise from the project.

Where the background noise level is very low, this may result in a limit which is unnecessarily strict. Therefore, where the screening limit $L_{A90} + 15$ is less than 55dB(A) outside, a value of 55dB(A) would be appropriate to ensure the internal noise level does not exceed 45dB(A), on the assumption that there is a 10dB(A) outside-to-inside noise loss through an open window (see INP, p17). Where windows are likely to remain closed on the basis of adequate ventilation that meets the Building Code of Australia's ventilation requirements, then outside noise levels can be greater than 65dB(A), on the assumption that there is a minimum 20dB(A) outside-to-inside noise loss through a closed window.

The project sleep disturbance criteria are presented in Table 25.

Table 25 Sleep Disturbance Screening Limits, dB(A)

	Kingsgrove MOC1	Bexley Road South MOC2	Arncliffe MOC3	St Peters MOC4 and FWC1	Motorway Control Centre (MOC5)
RBL	41	41	39	36	40
Screening limit	56	56	55 ²	55 ²	55

Notes: 1. The criteria apply for the night time period only
2. Set at 55dB(A) in accordance with EPA lower limit

14.4 Tunnel Cross Passages

The noise level in tunnel cross passages and long egress passages (fire isolated exits) shall not exceed 80dB(A) $L_{eq(1min)}$ (Ref: AS1668.1-2015 Fire and smoke control in buildings).

14.5 Vibration

Operational vibration and its potential impacts on surrounding sensitive development is to be assessed in accordance with the NSW 'Assessing Vibration: A technical guideline' (Department of Environment and Conservation (NSW), 2006).

Based on the proposed operations and large distances to nearby sensitive receiver locations, vibration generated by the operation of the fixed facilities is not significant and has not been considered further in this ONVR.

15 Design inputs for assessment

15.1 Ventilation fan noise levels

The noise assessment of the main ventilation fans for each MOC has been undertaken based on the fan sound power data presented in Table 26. MOC5 is a motorway control centre only and therefore has no ventilation fan noise sources.

Table 26 Fan sound power levels

Building	No of fans operating at 100% capacity	Flow rate m ³ /s per fan	Sound power level, dB re1x10 ⁻¹² W (per fan)								Total dB(A)
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
MOC1											
Exhaust	4	210	113	122	118	116	113	108	104	99	118
MOC2											
Smoke exhaust	3	177	113	123	121	120	117	113	109	104	122
MOC3											
Exhaust EB	3	247	124	122	124	122	118	113	109	104	123
Exhaust SC NB	3	273	119	128	125	123	120	115	111	106	125
Supply EB/WB	4	263	124	122	122	120	116	111	107	102	121
Supply SC SB	2	125	111	121	118	118	115	110	106	101	120
MOC4											
Exhaust	3	243	118	127	123	122	118	114	109	105	124
Supply	4	126	111	120	118	118	115	111	106	101	120

15.2 Ancillary equipment noise sources

Mechanical and Electrical drawing packages were provided by the design team showing the proposed locations of ancillary buildings such as substations and fire pump rooms. As the design progressed, the design team provided equipment selections and noise levels, which were added into the noise model and the total noise level from each fixed facility site was recalculated. Noise attenuation measures such as acoustic attenuators and screens were incorporated into ancillary facilities so that the total noise level from all sources did not exceed the noise criteria.

The key ancillary noise sources that could potentially add to the overall external noise level at receivers are listed below.

Table 27 Ancillary equipment sound levels

Plant Item	No. off	Indicative sound level
MOC1		
Substation		
Rooftop condenser OSA294	6	75dB(A) sound power
Rooftop condenser OSA116	4	75dB(A) sound power
Supply air fan	2	72dB(A) sound pressure @3m
HV room dry type transformer	2	80dB(A) maximum sound power
Fire pump room		
Fire pump (duty)	2	105dB(A) sound pressure @1m
Fire pump exhaust	2	95dB(A) sound power with muffler
Exhaust fan	2	102dB(A) sound power
MOC2		
Substation		
Rooftop condenser OSA294	6	75dB(A) sound power
Rooftop condenser OSA139	2	71dB(A) sound power
Supply air fan	2	70dB(A) sound pressure @3m
HV room dry type transformer	2	80dB(A) maximum sound power
MOC3		
Substation		
Rooftop condenser OSA294	5 duty, 2 standby	75dB(A) sound power
Supply air fan	2	74dB(A) sound pressure @3m
HV room dry type transformer	2	80dB(A) maximum sound power
MOC4		
Substation		
Rooftop condenser OSA324	6	71dB(A) sound power
Rooftop condenser OSA139	6	71dB(A) sound power
Supply air fan	2	77dB(A) sound pressure @3m
HV room dry type transformer	2	80dB(A) maximum sound power
Fire pump room		
Fire pump (duty)	2	105dB(A) sound pressure @1m
Fire pump exhaust	2	95dB(A) sound power with muffler
Exhaust fan	2	104dB(A) sound power
MOC5		
Substation		
Rooftop condenser OSA324	6	71dB(A) sound power

Plant Item	No. off	Indicative sound level
Ground level condenser OSA380	1 duty, 1 standby	80dB(A) sound power
Supply air fan	1 duty, 1 standby	68dB(A) sound pressure @3m
HV room dry type transformer	2	80dB(A) maximum sound power
MCC building		
Air handling unit	1 duty, 1 standby	63dB(A) sound pressure @4m
Air handling unit	2 duty	67dB(A) sound pressure @4m
Rooftop condenser unit	2 duty, 2 standby	61dB(A) sound pressure @3m

15.3 Site and receiver assessment locations

Figures 4 to 8 below show the locations of the Motorway Operation Complexes (MOCs) and the receiver locations that have been considered for the design of noise mitigation. The most affected receiver locations and their distances from the MOC are listed in Table 28.

Table 28 Receiver locations

MOC	Receiver Type	Address	Distance
MOC 1 Kingsgrove	Residential	99 Glamis Street	160m
		113 Tallawalla Street	470m
		14 Sutcliffe Street	270m
MOC2 Bexley	Residential	1 Kingsgrove Avenue	85m
		94 Wolli Avenue	115m
MOC3 Arncliffe	Residential	41 Flora Street	65m
		26 - 32 Marsh St (apartments)	140m
MOC4 St Peters	Residential	311 Princes Highway	115
		1 Edith Street	80m
	Church	187 Princes Highway	180m
MOC5 MCC	Residential	Campbell Road terraces	180m

Figure 4 MOC1 and assessment locations



Legend
 ● Assessment locations
 ■ Fixed facilities locations

Client
WestConnex New M5

Project
 WestConnex Stage 2 M5

CPB DRAGADOS SAMARU SAMSUNG C&T

25 0 25 50 75 m

Description:
 Fixed facilities
 MOC1 and assessment locations

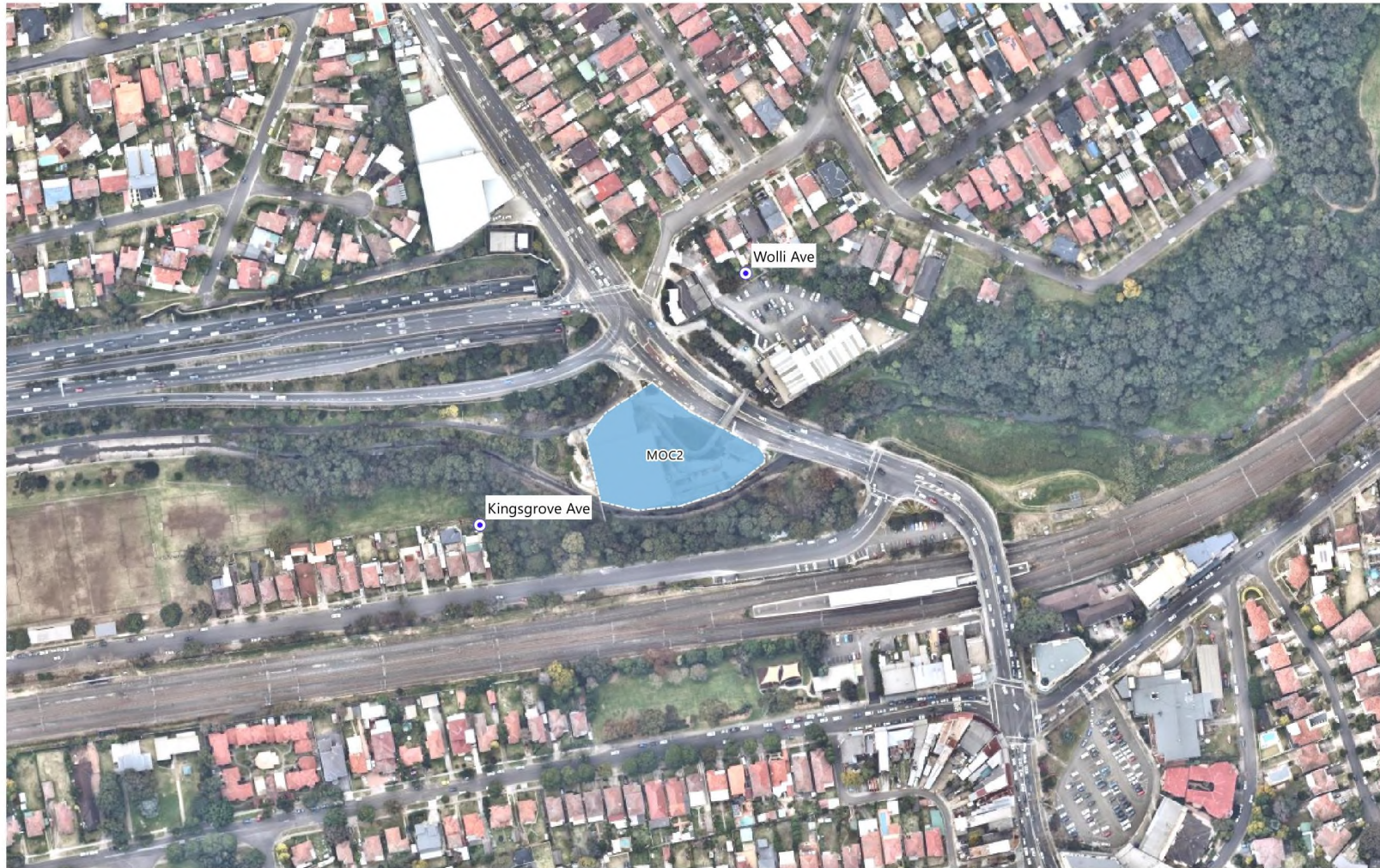
Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. This information is protected by copyright.



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 CONSULTING ENGINEERS

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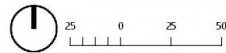
1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501

Figure 5 MOC2 and assessment locations



- Legend
-  Assessment locations
 -  Fixed facilities locations

Client: **WestConnex** New M5
 Project: WestConnex Stage 2 M5



Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. The information is protected by copyright.

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 Scale: 12,000 @ A3

Figure 6 MOC3 and assessment locations



Legend
 ● Assessment locations
 ■ Fixed facilities locations

Client
WestConnex New M5

Project
 WestConnex Stage 2 M5

CPB
 DRAGADOS
 SAMSUNG C&T

Scale: 0 25 50 75 m

Description:
 Fixed facilities
 MOC3 and assessment locations

Notes: Levels are approximate due to interpolation of contours and should be used for reference only. For information only, and not for construction. The information is protected by copyright.

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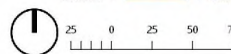
14/18A Elizabeth Street, SUITE 5/115 HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501

Figure 7 MOC4, MOC5, FWC1 and assessment locations



- Legend**
- Assessment locations
 - Fixed facilities locations

Client: **WestConnex** New M5
 Project: WestConnex Stage 2 M5



Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only, and not for construction. This information is protected by copyright.

Description:
 Fixed facilities
 MOC4, MOC5 and assessment locations

RENZO TONIN & ASSOCIATES
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 1/418A Elizabeth Street, SURRY HILLS NSW 2010
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 Date: 08.02.2018
 Scale: 12500 @ A3

16 Assessment methodology

16.1 Methodology

Noise emissions from each fixed facility were assessed as follows:

- The total operating sound power level of the main ventilation fans was calculated based on the number of duty fans.
- Noise losses along the air path such as bend losses and directivity were subtracted, based on bare concrete finishes for fan rooms and exhaust stacks.
- The sound power level was converted to a sound pressure level at the receiver location based on the distance to the nearest or worst affected receiver and directivity, to provide an un-attenuated receiver level.
- The insertion loss of the proposed sound attenuator was subtracted and the expected attenuator regenerated noise component (as estimated by the attenuator supplier) was added, to determine the attenuated receiver noise level.
- A test for low-frequency or tonal noise annoyance was conducted as per the INP procedure and a 5dB(A) correction was added to the resultant noise level if required.
- The receiver noise level was compared to the noise goals and adjustments were made to the attenuator selections until the required noise goals were achieved.

In conjunction with the above assessment of ventilation fans and to allow assessment of total noise from any site, noise from other ancillary equipment associated with ventilation buildings and substation buildings such as condenser units, exhaust fans, supply air fans, relief air fans and transformers were added to ventilation facility noise. Mitigation measures were then determined for the ancillary equipment and buildings (e.g. silencers, acoustic louvres, acoustic doors, etc) so that total noise from any MOC did not increase above the set criterion.

Fire pumps would operate in an emergency situation but could also operate at night for periodic testing and this testing could potentially last for several hours. Therefore noise emissions were designed to comply with the night time noise criteria. Noise mitigation was designed based on the expected noise level of diesel pumps inside the fire pump rooms and includes mitigation measures such as concrete or core filled blockwork for walls, concrete roofs, silencers, grille attenuators and acoustic doors.

16.2 Noise model

Noise emissions were determined by modelling the noise sources, receiver locations, topographical features of the intervening area, and potential noise control treatments using the CadnaA computer noise model. The model calculates the contribution of each noise source at each specified receptor point and allows for the prediction of the total noise from a site.

The noise prediction model takes into account:

- Location of noise sources and receiver locations
- Height of sources and receivers referenced to imported ground contours
- Separation distances between sources and receivers
- Ground type between sources and receivers (ground absorption = 0.5)
- Attenuation from barriers and buildings.

16.3 Sleep disturbance

Mechanical and electrical plant typically operates with fairly constant noise levels and without peak noise level events and therefore limited potential to exceed the L_{Amax} limits (see Section 14.3) or cause sleep disturbance at night. The main ventilation fans change speed gradually on demand and therefore do not have any significant peak noise events. Transformers and building services such as condenser units and fans also operate fairly steadily. Electrical switchgear is wholly contained within substation buildings and any switching noise will be mitigated by the concrete and blockwork construction.

The L_{Amax} sleep disturbance criteria is at least 10dB higher than the L_{Aeq} criteria. Since all equipment have been mitigated to meet the lower L_{Aeq} criteria, and since the L_{Amax} emission of these items is expected to be within 10dB of the L_{Aeq} emission, then sleep disturbance is not expected to be an issue for any noise sources at the fixed facility sites. No special or additional noise mitigation measures are required to mitigate L_{Amax} noise events over and above the measures described in the sections below to mitigate L_{Aeq} noise.

17 Ventilation facility noise mitigation

The noise mitigation items listed in this section have been selected to meet the requirements of the NSW Industrial Noise Policy (INP) and thereby comply with Condition E33.

17.1 Ventilation fan attenuators

The attenuators for the ventilation fans are required to achieve the static insertion losses requirements specified in the tables below.

Table 29 Kingsgrove MOC1 attenuator requirements

Building	Side of fans	Attenuator length (m)	Minimum insertion loss, dB							
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Exhaust Building	Airside	5	22	36	60	60	60	60	46	32
	Tunnel side	5	16	27	50	50	50	50	30	25

Table 30 Bexley MOC2 attenuator requirements

Building	Side of fans	Attenuator length (m)	Minimum insertion loss, dB							
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Exhaust Building	Airside	5	22	43	58	61	62	60	52	38
	Tunnel side	5	12	26	41	50	50	50	33	23

Table 31 Arncliffe MOC3 attenuator requirements

Building	Side of fans	Attenuator length (m)	Minimum insertion loss, dB							
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Exhaust EB	Airside	6	29	48	60	60	60	60	58	43
	Tunnel side	6	18	30	50	50	50	50	30	25
Supply EB/WB	Airside	6	32	49	65	65	65	65	58	44
	Tunnel side	6	18	28	50	50	50	50	30	25

Table 32 St Peters MOC4 attenuator requirements

Building	Side of fans	Attenuator length (m)	Minimum insertion loss, dB							
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Exhaust Building	Airside	6	30	50	65	65	65	65	59	43
	Tunnel side	5	17	28	50	50	50	50	30	25
Supply Building	Airside	6	30	50	65	65	65	65	60	45
	Tunnel side	5	30	50	65	65	65	65	59	43

17.2 Noise mitigation for ventilation buildings

Critical acoustic elements of ventilation buildings such as concrete wall thicknesses and acoustic ratings for doors have been developed with the design team and are marked on the construction drawings.

Table 33 contains a summary of the general approach for noise treatment of ventilation buildings.

Table 33 Ventilation facility building construction

Building element	Ventilation facility			
	MOC1 Kingsgrove	MOC2 Bexley	MOC3 Arncliffe	MOC4 St Peters
Exhaust building walls	300mm precast concrete	300mm precast concrete	300mm precast concrete	300mm precast concrete
Exhaust building roof/floor	n/a	No acoustic requirement	300mm precast concrete	300mm precast concrete
Exhaust building fan access doors	300mm precast concrete with 20mm steel plate over perimeter gaps	n/a	n/a	n/a
Exhaust building personnel doors	Solid core doors with acoustic seals for doors exposed to fan chamber	Solid core doors with acoustic seals for doors exposed to fan chamber	Solid core doors with acoustic seals for doors exposed to fan chamber	Solid core doors with acoustic seals for doors exposed to fan chamber
Fan service hatches over lifting void	n/a	Rebated concrete hatch to match floor slab thickness	Rebated concrete hatch to match floor slab thickness	No acoustic requirement
Supply building walls and roof	n/a	n/a	150mm precast concrete for lower section	n/a
Supply building internal lining	n/a	n/a	Acoustic lining on underside of soffit	n/a

18 Jet fan noise assessment

18.1 Jet fan noise levels

Jet fans are to be installed at intervals along the length of the tunnel, suspended from the roof as part of the ventilation system. The preferred supplier of jet fans has conducted factory acceptance testing of noise levels from their fan and silencer combination, in accordance with ISO 13350:2015. The measured sound levels are shown in Table 34 and have been used for noise modelling.

Table 34 Jet fan sound power levels

Jet fan model	Direction	Sound Power Level, dB re1x10 ⁻¹² W								Overall dB(A)
		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
1250mm diameter with 2300mm silencer	Forward	89	91	95	92	91	91	87	82	97
	Reverse	92	97	101	93	93	91	88	83	99

18.2 In-tunnel noise modelling

Noise modelling of sound propagation inside the road tunnel was conducted using the Cadna-R noise model. Cadna-R uses a particle model to assess reverberation effects and noise losses along the tunnel.

The geometry of the tunnel and location of jet fans and was modelled in accordance with the typical cross section drawing and 3 fans in parallel. The following model input parameters were used.

Table 35 Noise model inputs

Parameter	Input data
Noise sources	Sound power data as per Table 34. Bank of 3 jet fans suspended from the roof of the mainline tunnel
Tunnel road surface	Concrete NRC 0.05
Tunnel walls and ceiling surface	Shotcrete/rock NRC 0.05
Order of reflections	20
Receiver	1.5m above centre line of road pavement
Temperature	20 deg C
Humidity	60%

18.3 Noise model outputs

The noise model was used to predict sound pressure levels at a receiver point 1.5 metres above road surface and directly below the set of jet fans, as well as at distances along the tunnel to determine how noise reduces with distance. These sound pressure levels are then converted to NR values and compared against the project criteria of NR85. Results are presented in Table 36.

Noise from jet fans is directional meaning that noise does not radiate uniformly in all directions from the fan. More sound energy propagates horizontally from the fan in the direction of airflow rather than

in a downward direction. Therefore, a location approximately 10m from (rather than directly below) a set of 3 fans in the two lane mainline tunnel is the worst-case assessment point. At this assessment location the result meets NR85 as shown in Table 36.

The ramp tunnels will have sets of two jet fans and noise levels in the ramp tunnels are predicted to be approximately 1 dB(A) less than in the main line tunnel. If the mainline tunnel complies with three fans, the ramp tunnel will comply with only two fans.

Noise modelling was also conducted for the main line tunnel at distances of 20 metres, 40 metres, 60 metres, 80 metres and 100 metres from the jet fans. These results show that at 100 metres distance, the noise level is reduced by 12 dB(A) compared to the result directly below the fans. Based on a typical distance of 100 metres between set of fans in the mainline tunnel, noise from adjacent sets of fans will not significantly add to the noise level directly below a fan set.

Table 36 Predicted in-tunnel noise from jet fans

Scenario	Sound Pressure Level, dB								Overall	
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	dB(A)	NR
Mainline tunnel (set of 3 jet fans)										
Worst-case location (approx. 10m from fans), at 1.5m above centre line of road	87	90	91	82	83	82	79	77	89	85
NR85 reference curve	103	96	91	88	85	83	81	80	-	85

18.4 Jet fan noise from portals

Jet fan noise breakout from portals has been considered for receivers near to portals. Table 37 shows the predicted jet fan noise level at the nearest receivers for the western and eastern portals assuming a set of three jet fans with silencers located inside the mainline tunnel. The distance from the portal opening to the first jet fan bank inside the tunnel is 120 metres for the St Peters portal and 300 metres for the Western Interchange portal.

Noise levels at all residential receiver locations nearest to portals are predicted to comply with the set criteria.

Table 37 Predicted environmental noise from jet fans

Portal	Receiver location	Noise Criteria, dB(A)	Predicted jet fan noise level, dB(A)
Western Portal	Glamis Street, Kingsgrove	38	29
Eastern Portal	Edith Street, St Peters	41	36

19 Other M&E plant noise mitigation

The noise mitigation items listed in this section have been selected to meet the requirements of the NSW Industrial Noise Policy (INP) and thereby comply with Condition E33.

19.1 Surface buildings noise mitigation

In addition to the main ventilation exhaust and supply buildings, there are various surface buildings located within each ventilation facility or nearby to it. The surface buildings are listed below:

- MOC1 Kingsgrove - Substation building, Fire Pump building, Maintenance Facility and Workshop
- MOC2 Bexley - Substation building
- MOC3 Arncliffe - Substation building and water treatment plant
- St Peters Fire Water Complex (FWC) at Albert Street, St Peters
- MOC 5 - Motorway Control Centre (MCC) at corner of Campbell Road and Burrows Road, St Peters

These buildings can contain noisy equipment and include mechanical services equipment for ventilation and cooling. The noise mitigation measures for these buildings are summarised in Table 38.

Table 38 Surface buildings acoustic treatments summary

Facility	Building	Noise mitigation
Kingsgrove	Substation	Walls: precast concrete / core filled blockwork Roof: concrete slab Acoustic screen around rooftop plant
	Fire pump room	Walls: precast concrete Roof: concrete slab Acoustic attenuators behind wall discharge louvres Acoustically rated service doors and personnel doors Acoustic attenuators on supply air ducts Mufflers on exhaust of diesel pumps and discharged to wall
Bexley	Substation	Walls: precast concrete / core filled blockwork Roof: concrete slab Acoustic screen around rooftop plant
Arncliffe	Substation	Walls: precast concrete / core filled blockwork Roof: concrete slab Acoustic screen around rooftop plant
St Peters	Fire pump rooms	Walls: precast concrete Roof: concrete slab Acoustic attenuators behind wall discharge louvres Acoustically rated service doors and personnel doors Acoustic attenuators on supply air ducts Mufflers on exhaust of diesel pumps and discharged to wall

Facility	Building	Noise mitigation
Campbell Road	MCC	Acoustic screen around rooftop plant Walls around substation transformers

19.2 Transformers within Substation Buildings

Transformers within substation buildings will be required to meet AS60076.10 noise levels which are very stringent, and the sound power level of each transformer is expected to be in the range of 69dB(A) to 76dB(A) depending on the rated power. Noise modelling has conservatively assumed up to 80dB(A) sound power. The transformers are contained within rooms that have blockwork walls and concrete slab rooves, so transformer noise is well contained.

All substations are located at least 60m from the nearest receivers. Allowing for noise reductions from the substation building envelope, distance losses, ground absorption, directivity and shielding from buildings and structures, predicted noise levels at the nearest receivers to each substation are below 30dB(A). This is well below the total noise limit for each MOC and ensures that cumulative noise from the MOC as a whole does not exceed the night time noise limits specified in Table 24.

20 Fixed facilities noise compliance

20.1 Plant and equipment

Based on the design inputs in Section 15, the assessment methodology in Section 16, and the noise mitigation measures in Section 17 and Section 19, the following L_{Aeq} noise levels are predicted at the nearest and most affected residential receivers. The predicted noise levels are for the night time period which is the controlling period, and in each case the predicted noise level complies with the criteria. All other surrounding receivers not mentioned in Table 39 have noise levels less than those shown.

Table 39 Noise compliance for fixed facilities

Facility	Receiver location	L_{Aeq} noise level contribution, dB(A)				Total predicted noise level, dB(A)	Noise Criteria (Night)
		Exhaust building	Supply building	Substation	Fire pumps		
MOC1	Glamis Street, Kingsgrove	28	-	33	33	37	38
MOC2	Kingsgrove Avenue, Bexley North	30	-	34	-	36	40
MOC3	Flora Street, Arncliffe	28	37	37	-	40	44
MOC4	Edith Street, St Peters	24	28	33	33	37	41
MOC5	Campbell Road, St Peters	-	-	<35	-	<35	45

20.2 On site vehicles and car parks

Noise compliance for car parks and vehicle noise at MOCs is achieved as described below:

- MOC1:** Site vehicles enter and exit the MOC1 facility at Kingsgrove directly from the M5 Motorway. There are several small car parks on the site however the nearest residences are located more than 150m from any residence, with buildings and motorway noise walls providing screening. At this distance, noise impacts from car parks, including night time sleep impacts from vehicle door slams, engine starts and people talking are predicted to be well below the night time L_{Aeq} operational criteria and the sleep disturbance criteria.
- MOC2:** Site vehicles enter and exit the MOC2 facility from Bexley Road. There are two allocated parking spaces on site, reflecting the minimal traffic that is expected to access the site during operation. The parking spaces are located on the southern side of the site, well screened by the substation building and ventilation building for residential receivers to the north, and approximately 85m from receivers on Kingsgrove Road to the south. If vehicles were to access the site at night, L_{Amax} noise levels at the nearest receivers would be less than 55dB(A), which complies with the sleep disturbance screening limit. The small number of vehicles at the site means that vehicle noise would not add to the L_{Aeq} operational noise from the substation and ventilation buildings.
- MOC3:** Site vehicles enter and exit the MOC3 facility from Marsh Street. There are 12 allocated parking spaces on site. The car park is located on the southern side of the site between the

exhaust building and supply building, and approximately 85m from receivers on the opposite side of Marsh Street. If vehicles were to access the site at night, L_{Amax} noise levels at the nearest receivers would be less than 55dB(A), which complies with the sleep disturbance screening limit. The small number of vehicles at the site means that vehicle noise would not add to the L_{Aeq} operational noise from the substation and ventilation buildings and would very likely be inaudible above existing traffic noise on Marsh Street.

- **MOC4:** The car park is located on the southern part of the site and site vehicles enter and exit from Canal Road. Directly across Canal Road are commercial and industrial receivers. The nearest residences are more than 150m away across Princes Hwy, with buildings in between providing screening. Noise impact from the car park, including night time sleep impacts are predicted to be well below the night time L_{Aeq} operational criteria and the sleep disturbance criteria.
- **MOC5:** The MCC has a car park at ground level underneath the habitable control centre. Vehicle entry and exit is from Burrows Road and Campbell Road are industrial facilities. The nearest residences are 180m to the north across Campbell Road. At this distance, noise impacts from car parks, including night time sleep impacts, are predicted to be well below the night time L_{Aeq} operational criteria and the sleep disturbance criteria.

APPENDIX A Glossary of Acoustic Terms

The following is a brief description of the technical terms used to describe noise to assist in understanding the technical issues presented.

Adverse weather	Weather effects that enhance noise (particularly wind and temperature inversions) occurring at a site for a significant period of time. In the NSW INP this occurs when wind occurs for more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of nights in winter.
Air-borne noise	Noise which is fundamentally transmitted by way of the air and can be attenuated by the use of barriers and walls placed physically between the noise source and receiver.
Ambient noise	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
Amenity	A desirable or useful feature or facility of a building or place.
AS	Australian Standard
Assessment period	The time period in which an assessment is made. e.g. Day 7am to 10pm & Night 10pm to 7am.
Assessment Point	A location at which a noise or vibration measurement is taken or estimated.
Attenuation	The reduction in the level of sound or vibration.
Audible Range	The limits of frequency which are audible or heard as sound. The normal hearing in young adults detects ranges from 20 Hz to 20 kHz, although some people can detect sound with frequencies outside these limits.
A-weighting	A filter applied to the sound recording made by a microphone to approximate the response of the human ear.
Background noise	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample period. This is represented as the L_{A90} noise level if measured as an overall level or an L_{90} noise level when measured in octave or third-octave bands.
Barrier (Noise)	A natural or constructed physical barrier which impedes the propagation of sound and includes fences, walls, earth mounds or berms and buildings.
Berm	Earth or overburden mound.
Buffer	An area of land between a source and a noise-sensitive receiver and may be an open space or a noise-tolerant land use.
Bund	A bund is an embankment or wall of brick, stone, concrete or other impervious material, which may form part or all of the perimeter of a compound.
BS	British Standard
CoRTN	United Kingdom Department of Environment entitled "Calculation of Road Traffic Noise (1988)"

Decibel [dB]	<p>The units of sound measurement. The following are examples of the decibel readings of every day sounds:</p> <p>0dB The faintest sound we can hear, defined as 20 micro Pascal</p> <p>30dB A quiet library or in a quiet location in the country</p> <p>45dB Typical office space. Ambience in the city at night</p> <p>60dB CBD mall at lunch time</p> <p>70dB The sound of a car passing on the street</p> <p>80dB Loud music played at home</p> <p>90dB The sound of a truck passing on the street</p> <p>100dB The sound of a rock band</p> <p>115dB Limit of sound permitted in industry</p> <p>120dB Deafening</p>
dB(A)	A-weighted decibel. The A- weighting noise filter simulates the response of the human ear at relatively low levels, where the ear is not as effective in hearing low frequency sounds as it is in hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter is denoted as dB(A). Practically all noise is measured using the A filter.
dB(C)	C-weighted decibels. The C-weighting noise filter simulates the response of the human ear at relatively high levels, where the human ear is nearly equally effective at hearing from mid-low frequency (63Hz) to mid-high frequency (4kHz), but is less effective outside these frequencies. The dB(C) level is not widely used but has some applications.
Diffraction	The distortion of sound waves caused when passing tangentially around solid objects.
DIN	German Standard
ECRTN	Environmental Criteria for Road Traffic Noise, NSW, 1999
EPA	Environment Protection Authority
Field Test	<p>A test of the sound insulation performance in-situ. See also 'Laboratory Test'</p> <p>The sound insulation performance between building spaces can be measured by conducting a field test, for example, early during the construction stage or on completion.</p> <p>A field test is conducted in a non-ideal acoustic environment. It is generally not possible to measure the performance of an individual building element accurately as the results can be affected by numerous field conditions.</p>
Fluctuating Noise	Noise that varies continuously to an appreciable extent over the period of observation.
Free-field	An environment in which there are no acoustic reflective surfaces. Free field noise measurements are carried out outdoors at least 3.5m from any acoustic reflecting structures other than the ground.
Frequency	Frequency is synonymous to pitch. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.
Ground-borne noise	Vibration propagated through the ground and then radiated as noise by vibrating building elements such as wall and floor surfaces. This noise is more noticeable in rooms that are well insulated from other airborne noise. An example would be vibration transmitted from an underground rail line radiating as sound in a bedroom of a building located above.
Habitable Area	<p>Includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom.</p> <p>Excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.</p>
Heavy Vehicle	A truck, transporter or other vehicle with a gross weight above a specified level (for example: over 8 tonnes).
Impulsive noise	Having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.

INP	NSW Industrial Noise Policy, EPA 1999
Intermittent noise	The level suddenly drops to that of the background noise several times during the period of observation. The time during which the noise remains at levels different from that of the ambient is one second or more.
Intrusive noise	Refers to noise that intrudes above the background level by more than 5 dB(A).
ISEPP	State Environmental Planning Policy (Infrastructure), NSW, 2007
ISEPP Guideline	Development Near Rail Corridors and Busy Roads - Interim Guideline, NSW Department of Planning, December 2008
L ₁	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L ₁₀	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L _{10(1hr)}	The L ₁₀ level measured over a 1 hour period.
L _{10(18hr)}	The arithmetic average of the L _{10(1hr)} levels for the 18 hour period between 6am and 12 midnight on a normal working day.
L ₉₀	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L ₉₀ noise level expressed in units of dB(A).
L _{Aeq} or L _{eq}	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time, which would produce the same energy as a fluctuating sound level. When A-weighted, this is written as the L _{Aeq} .
L _{Aeq(1hr)}	The L _{Aeq} noise level for a one-hour period. In the context of the NSW EPA's Road Noise Policy it represents the highest tenth percentile hourly A-weighted L _{eq} during the period 7am to 10pm, or 10pm to 7am (whichever is relevant).
L _{Aeq(8hr)}	The L _{Aeq} noise level for the period 10pm to 6am.
L _{Aeq(9hr)}	The L _{Aeq} noise level for the period 10pm to 7am.
L _{Aeq(15hr)}	The L _{Aeq} noise level for the period 7am to 10pm.
L _{Aeq(24hr)}	The L _{Aeq} noise level during a 24 hour period, usually from midnight to midnight.
L _{max}	The maximum sound pressure level measured over a given period. When A-weighted, this is usually written as the L _{Amax} .
L _{min}	The minimum sound pressure level measured over a given period. When A-weighted, this is usually written as the L _{Amin} .
Loudness	A rise of 10dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85dB is twice as loud as a sound of 75dB which is twice as loud as a sound of 65dB and so on. That is, the sound of 85dB is four times or 400% the loudness of a sound of 65dB.
Microphone	An electro-acoustic transducer which receives an acoustic signal and delivers a corresponding electric signal.
NCA	Noise Catchment Area. An area of study within which the noise environment is substantially constant.
NCG	Roads and Maritime Services' 'Noise Criteria Guideline'
NMG	Roads and Maritime Services' 'Noise Mitigation Guideline'
Noise	Unwanted sound
Pre-construction	Work in respect of the proposed project that includes design, survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, minor clearing (except where threatened species, populations or ecological communities would be affected), establishing ancillary facilities such as site compounds, or other relevant activities determined to have minimal environmental impact (e.g. minor access roads).
Reflection	Sound wave reflected from a solid object obscuring its path.
RMS	Root Mean Square value representing the average value of a signal.

Rw	<p>Weighted Sound Reduction Index</p> <p>A measure of the sound insulation performance of a building element. It is measured in very controlled conditions in a laboratory.</p> <p>The term supersedes the value STC which was used in older versions of the Building Code of Australia. Rw is measured and calculated using the procedure in ISO 717-1. The related field measurement is the DnT,w.</p> <p>The higher the value the better the acoustic performance of the building element.</p>
R'w	<p>Weighted Apparent Sound Reduction Index.</p> <p>As for Rw but measured in-situ and therefore subject to the inherent accuracies involved in such a measurement.</p> <p>The higher the value the better the acoustic performance of the building element.</p>
RNP	Road Noise Policy, NSW, March 2011
Sabine	<p>A measure of the total acoustic absorption provided by a material.</p> <p>It is the product of the Absorption Coefficient (alpha) and the surface area of the material (m²). For example, a material with alpha = 0.65 and a surface area of 8.2m² would have 0.65 x 8.2 = 5.33 Sabine.</p> <p>Sabine is usually calculated for each individual octave band (or third-octave).</p>
SEL	<p>Sound Exposure Level (SEL) is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.</p>
Sound	A fluctuation of air pressure which is propagated as a wave through air.
Sound absorption	The ability of a material to absorb sound energy by conversion to thermal energy.
Sound Insulation	<p>Sound insulation refers to the ability of a construction or building element to limit noise transmission through the building element. The sound insulation of a material can be described by the Rw and the sound insulation between two rooms can be described by the DnT,w.</p>
Sound level meter	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound power level	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 pico watt.
Sound pressure level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone referenced to 20 micro Pascal.
Spoil	Soil or materials arising from excavation activities.
STC	<p>Sound Transmission Class</p> <p>A measure of the sound insulation performance of a building element. It is measured in controlled conditions in a laboratory.</p> <p>The term has been superseded by Rw.</p>
Structure-borne Noise	<p>Audible noise generated by vibration induced in the ground and/or a structure. Vibration can be generated by impact or by solid contact with a vibrating machine.</p> <p>Structure-borne noise cannot be attenuated by barriers or walls but requires the isolation of the vibration source itself. This can be achieved using a resilient element placed between the vibration source and its support such as rubber, neoprene or springs or by physical separation (using an air gap for example).</p> <p>Examples of structure-borne noise include the noise of trains in underground tunnels heard to a listener above the ground, the sound of footsteps on the floor above a listener and the sound of a lift car passing in a shaft. See also 'Impact Noise'.</p>
Tonal Noise	Sound containing a prominent frequency and characterised by a definite pitch.

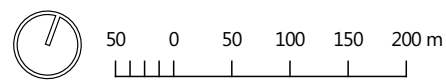
Transmission Loss	<p>The sound level difference between one room or area and another, usually of sound transmitted through an intervening partition or wall. Also the vibration level difference between one point and another.</p> <p>For example, if the sound level on one side of a wall is 100dB and 65dB on the other side, it is said that the transmission loss of the wall is 35dB. If the transmission loss is normalised or standardised, it then becomes the R_w or $R'w$ or DnT,w.</p>
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APPENDIX B **NCA**s and noise monitoring locations



- Legend**
- AECOM EIS Noise Monitoring Locations
 - Additional monitoring locations (RTA)
 - Fixed Facilities
 - Compound sites
 - Noise catchment area

Client: **WestConnex New M5**



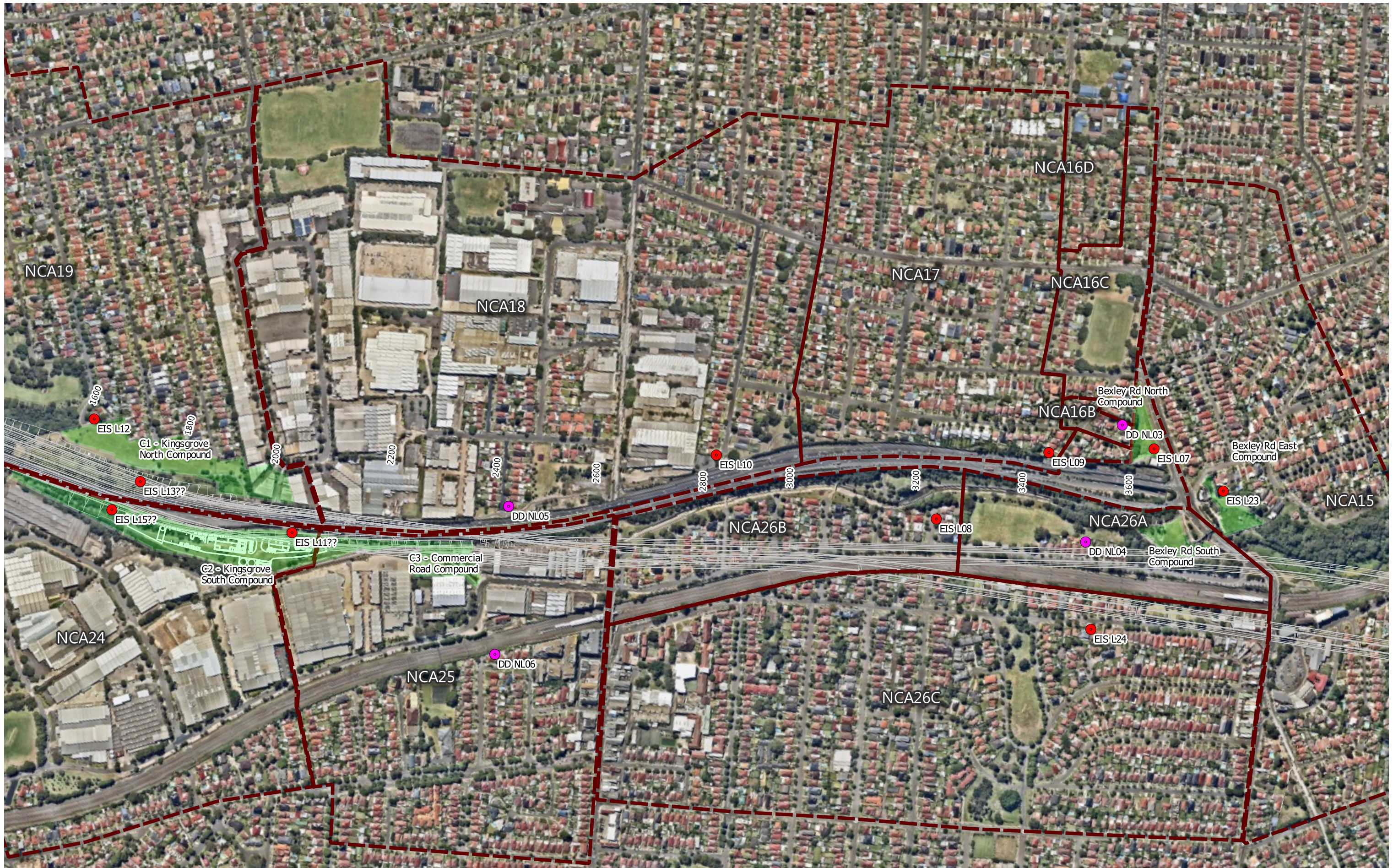
Project: **WestConnex Stage 2 M5**

Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. This information is protected by copyright.

Description: **Noise monitoring locations**

RENZO TONIN & ASSOCIATES
Inspired to achieve
 1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501

Created by: THW
 Figure No: TH014-05 6 0 1 009 (r1)
 Date: 29.07.2016
 Scale: 1:6,500 @ A3



Legend

- AECOM EIS Noise Monitoring Locations
- Additional monitoring locations (RTA)
- Fixed Facilities
- Compound sites
- Noise catchment area

Client:

WestConnex New M5

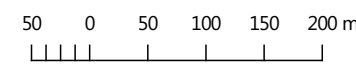


Project:

WestConnex Stage 2 M5

Description:

Noise monitoring locations



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 Figure No: TH014-05 6 0 1 009 (r1)
 Date: 29.07.2016
 Scale: 1:6,500 @ A3



Legend

- AECOM EIS Noise Monitoring Locations
- Additional monitoring locations (RTA)
- Fixed Facilities
- Compound sites
- Noise catchment area

Client:

WestConnex New M5

Project:

WestConnex Stage 2 M5

Description:

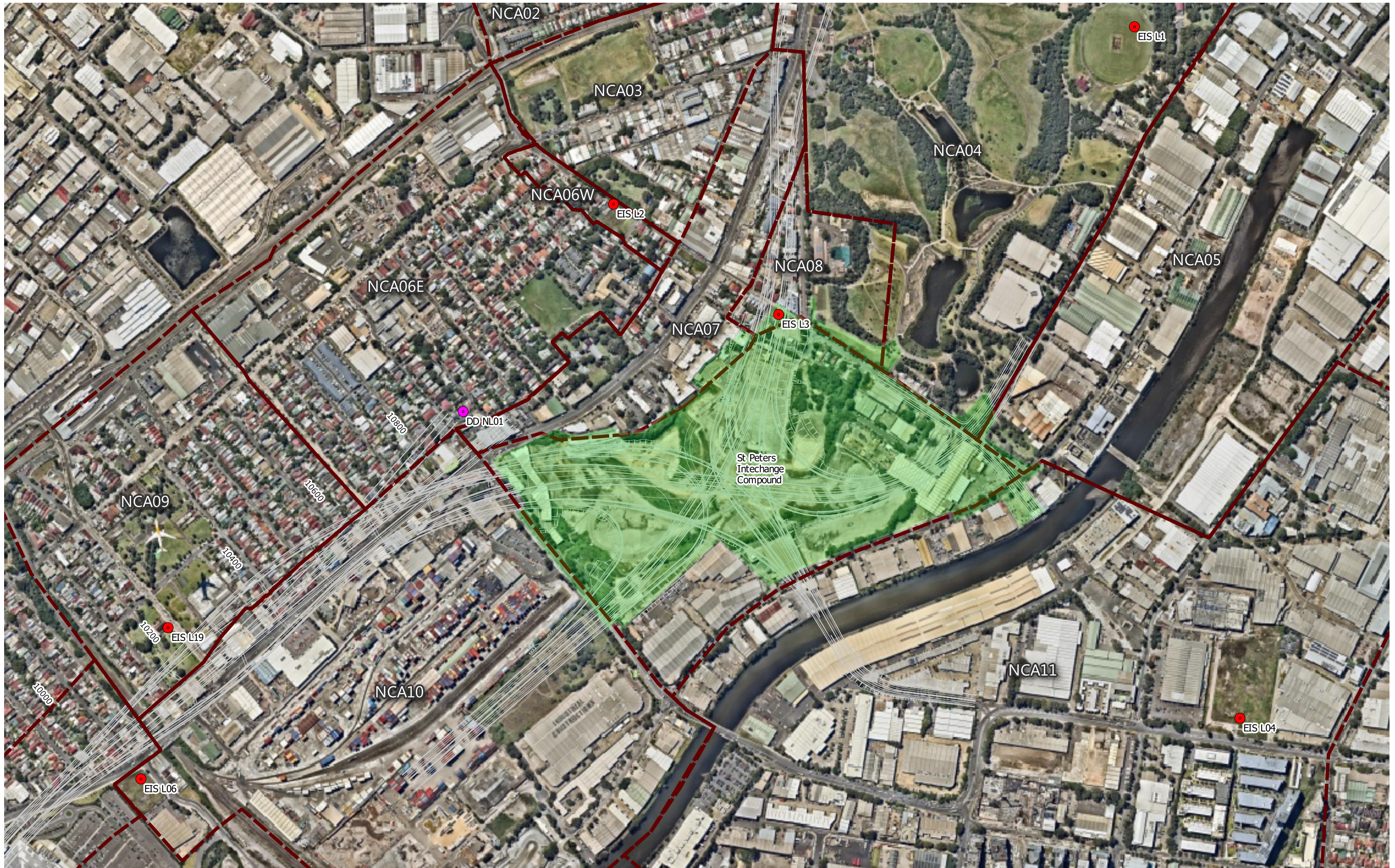
Noise monitoring locations



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Inspired to achieve
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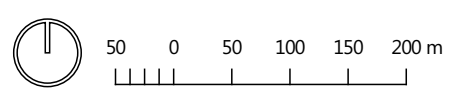
- Legend**
- AECOM EIS Noise Monitoring Locations
 - Additional monitoring locations (RTA)
 - Fixed Facilities
 - Compound sites
 - Noise catchment area

Client: **WestConnex New M5**



Project: **WestConnex Stage 2 M5**

Description: **Noise monitoring locations**

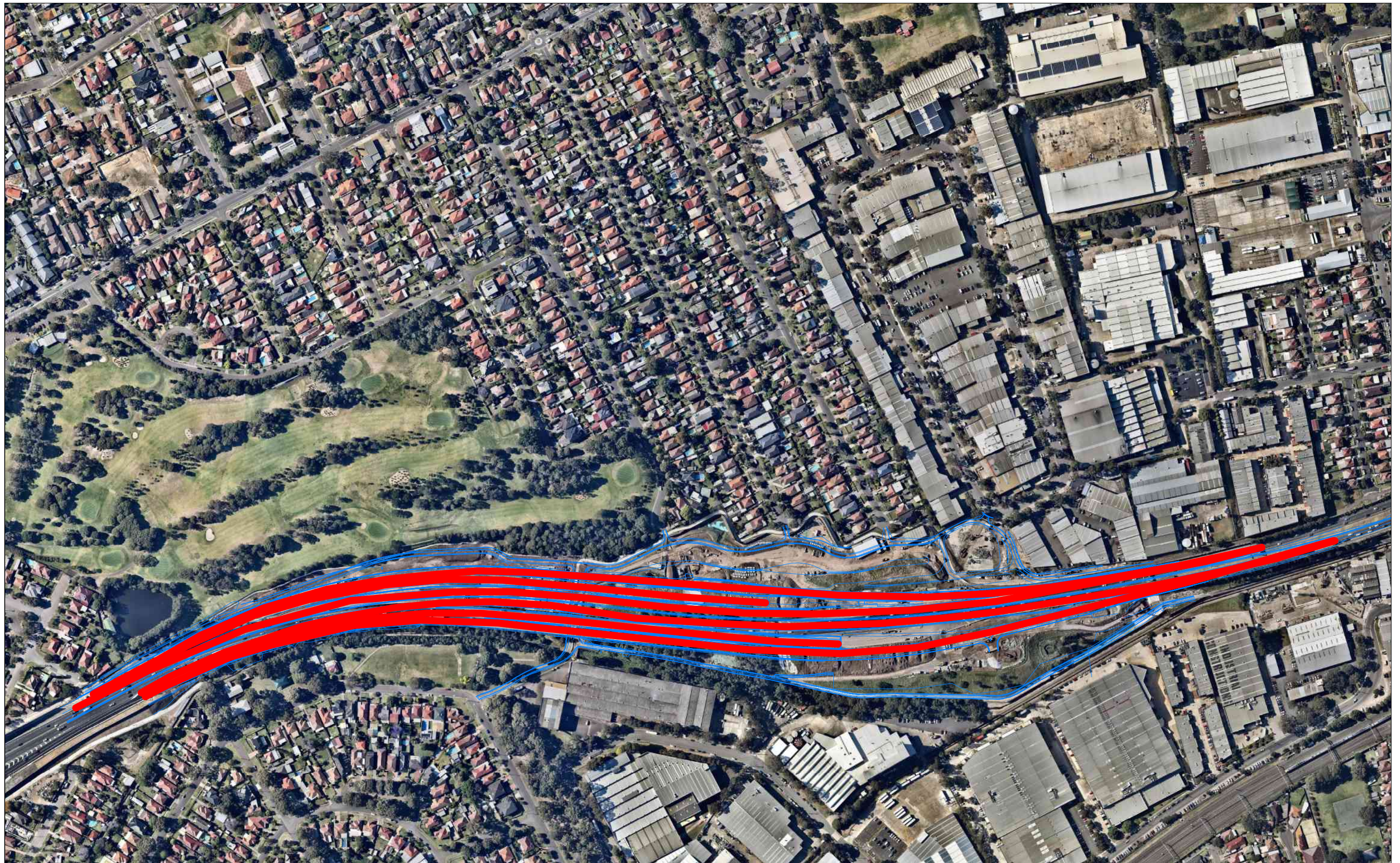


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 P. 02 8218 0500 F. 02 8218 0501

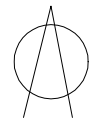
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 Figure No: TH014-05 6 0 1 009 (r1)
 Date: 29.07.2016
 Scale: 1:6,500 @ A3

APPENDIX C Project road clasification



Legend:

 Project road: Redeveloped



Consultant:

RENZO TONIN & ASSOCIATES
inspired to achieve

Acoustics, Vibration & Structural Dynamics
 Sydney Melbourne Brisbane Gold Coast Kuwait
 1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501

Client:

WestConnex New M5



Project:

WESTCONNEX STAGE 2 M5
 WESTERN CONNECTION

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Description:

KINGSGROVE
 PROJECT ROADS

Project No.: TH014-05

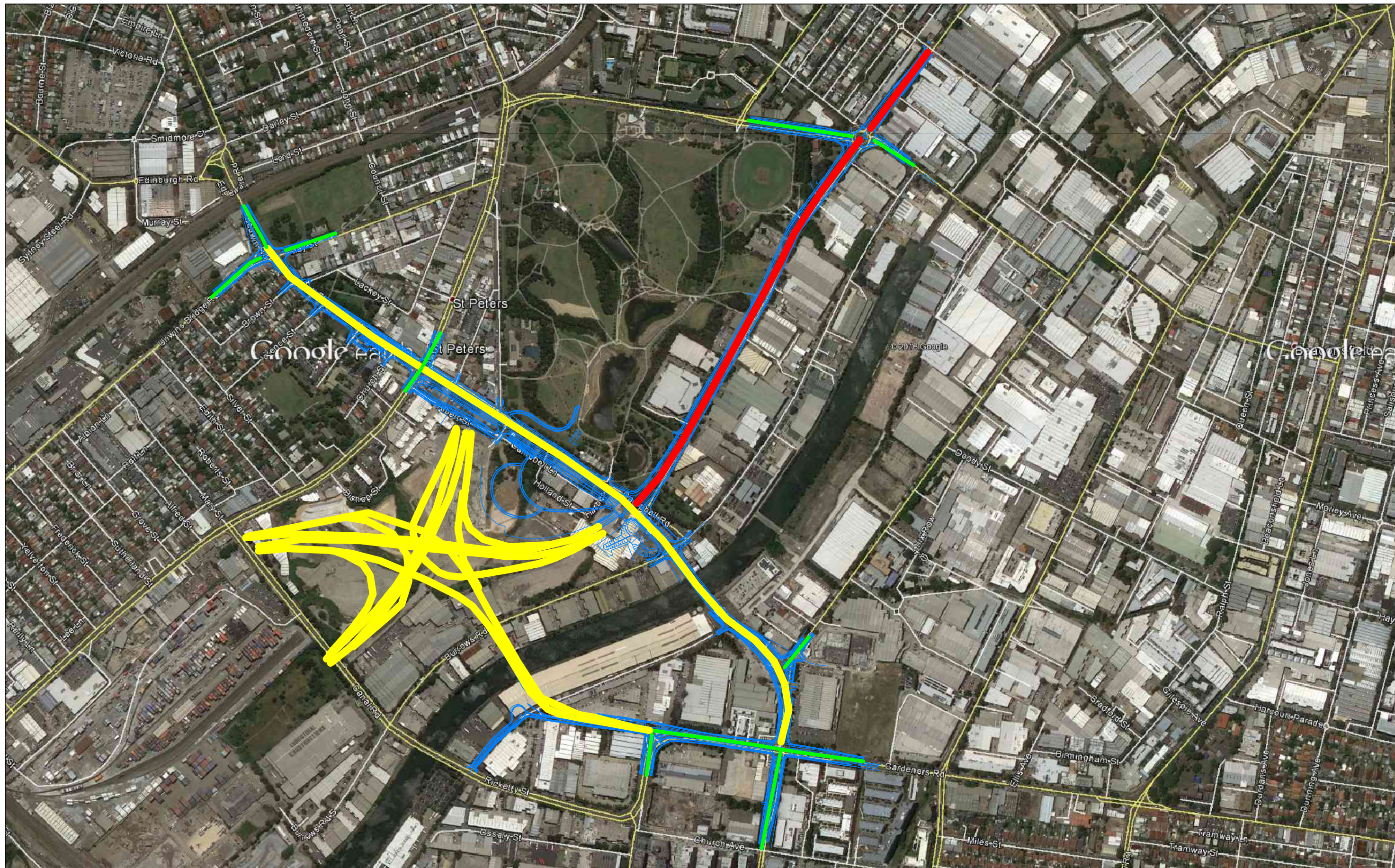
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Fig Ref: TH014-05.5.1.2.01 (R0)

Grid: -

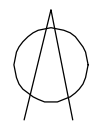
Date: 2017.07.20

Scale: 1: 4000 A3



Legend:

- Project road: New
- Project road: Redeveloped
- Non-project road: Tie in



Consultant:



Acoustics, Vibration & Structural Dynamics
 Sydney Melbourne Brisbane Gold Coast Kuwait
 1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501

Client:



Project:

WESTCONNEX - STAGE 2 (M5 EAST)

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Description:

ST PETERS
 PROJECT ROADS

Project No.: TH014-05

Fig Ref: -

Date: 2016.08.30

Created by: rp

Grid: -

Scale: 1: 8000 A3

APPENDIX D Traffic volumes

Appendix E Traffic figures

Locations	Direction	Year 2021 – No Build							Year 2021 – Build						
		Daytime 7am - 10 pm		Night-time 10pm - 7am		AADT			Daytime 7am - 10 pm		Night-time 10pm - 7am		AADT		
		Light	Heavy	Light	Heavy	Light	Heavy	Total	Light	Heavy	Light	Heavy	Light	Heavy	Total
St Peters Interchange															
Campbell Road	WB	6748	196	841	36	7589	232	7821	4296	85	1101	78	5397	163	5560
	EB	3948	322	1978	11	5926	333	6259	7946	524	117	8	8063	532	8595
Campbell Road W of Euston Road	EB	1709	170	438	9	2147	179	2326	23451	906	6316	278	29767	1184	30951
	WB	2627	256	154	15	2781	271	3052	29695	1242	5644	195	35339	1437	36776
Campbell Street	EB	1372	324	205	10	1577	334	1911	9282	1141	2494	271	11776	1412	13188
	WB	1346	185	198	33	1544	218	1762	9356	207	2202	167	11558	374	11932
Euston Road	NB	4260	318	1713	9	5973	327	6300	26152	1556	6588	424	32740	1980	34720
	SB	4140	108	861	28	5001	136	5137	28760	1358	5724	246	34484	1604	36088
Princes Highway South of Campbell	NB	14476	235	3568	8	18044	243	18287	15975	286	4088	12	20063	298	20361
	SB	23101	439	4002	64	27103	503	27606	22836	627	4285	44	27121	671	27792
Princes Highway North of Campbell	NB	11917	228	1794	8	13711	236	13947	5099	1060	221	1	5320	1061	6381
	SB	19696	428	3360	61	23056	489	23545	5791	130	797	12	6588	142	6730
Sydney Park Road	EB	24255	610	5045	120	29300	730	30030	12059	346	2567	33	14626	379	15005
	WB	22261	850	4160	86	26421	936	27357	5351	405	854	56	6205	461	6666
Euston Road N of Sydney Park Rd	NB	12090	865	1775	111	13865	976	14841	20474	1088	3270	249	23744	1337	25081
	SB	10467	755	2941	103	13408	858	14266	18809	1194	5251	180	24060	1374	25434
Gardeners W of Kent Road	EB	-	-	-	-	-	-	-	3047	1316	605	176	3652	1492	5144
	WB	-	-	-	-	-	-	-	3224	923	232	57	3456	980	4436
Gardeners E of Kent Road	EB	14419	1183	1615	129	16034	1312	17346	10840	1295	528	42	11368	1337	12705
	WB	14185	1650	4324	282	18509	1932	20441	8782	1980	2338	345	11120	2325	13445

Locations	Year 2021 – No Build							Year 2021 – Build						
	Daytime 7 am - 10 pm		Night-time 10 pm – 7 am		AADT			Daytime 7 am – 10 pm		Night-time 10 pm – 7 am		AADT		
	Light	Heavy	Light	Heavy	Light	Heavy	Total	Light	Heavy	Light	Heavy	Light	Heavy	Total
St Peters Interchange														
1 NB from Gardeners Road	-	-	-	-	-	-	-	3047	1316	605	176	3652	1492	5144
2 WB to NB on-ramp from Euston Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 WB through from Euston	-	-	-	-	-	-	-	7725	695	1506	103	9231	798	10029
4 NB from 1 to 7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 EB from 1 to WB Tunnel	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 NB through	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 NB from 4 and 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8 EB through to Euston	-	-	-	-	-	-	-	7740	763	1073	150	8813	913	9726
9 From 8 to 13 and 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10 From SB through to Euston Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 From SB to Gardeners Rd	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 SB through	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13 EB to Gardeners Rd from 9	-	-	-	-	-	-	-	3224	923	232	57	3456	980	4436
14 From 9 to SB Tunnel	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Locations	Direction	Year 2021 – No Build							Year 2021 – Build						
		Daytime 7 am - 10 pm		Night-time 10 pm – 7 am		AADT			Daytime 7 am - 10 pm		Night-time 10 pm – 7 am		AADT		
		Light	Heavy	Light	Heavy	Light	Heavy	Total	Light	Heavy	Light	Heavy	Light	Heavy	Total
Kingsgrove															
Existing M5	EB	37683	9946	7582	2553	45265	12499	57764	25154	6233	3056	971	28210	7204	35414
	WB	35427	10884	9625	2185	45052	13069	58121	21676	5911	3705	833	25381	6744	32125
New M5 Tunnel	EB	-	-	-	-	-	-	-	10472	1587	1245	193	11717	1780	13497
	WB	-	-	-	-	-	-	-	10242	1901	2019	255	12261	2156	14417

Locations	Direction	Year 2031 – No Build							Year 2031 – Build						
		Daytime 7am - 10 pm		Night-time 10pm - 7am		AADT			Daytime 7am - 10 pm		Night-time 10pm - 7am		AADT		
		Light	Heavy	Light	Heavy	Light	Heavy	Total	Light	Heavy	Light	Heavy	Light	Heavy	Total
St Peters Interchange															
Campbell Road	WB	4430	324	2102	6	6532	330	6862	8819	193	1962	34	10781	227	11008
	EB	5341	195	735	37	6076	232	6308	3685	273	1104	104	4789	377	5166
Campbell Road W of Euston Road	EB	2289	150	968	12	3257	162	3419	17756	849	5347	206	23103	1055	24158
	WB	3011	303	651	14	3662	317	3979	26407	987	5671	171	32078	1158	33236
Campbell Street	EB	1984	350	195	6	2179	356	2535	9332	897	2487	197	11819	1094	12913
	WB	1496	187	263	35	1759	222	1981	9314	176	2192	143	11506	319	11825
Euston Road	NB	4357	357	1885	6	6242	363	6605	26101	1225	3997	248	30098	1473	31571
	SB	4544	74	836	34	5380	108	5488	23346	1229	6328	223	29674	1452	31126
Princes Highway South of Campbell	NB	16251	305	3744	8	19995	313	20308	15581	216	4012	27	19593	243	19836
	SB	26696	576	4985	79	31681	655	32336	24070	444	4563	51	28633	495	29128
Princes Highway North of Campbell	NB	13805	329	1838	8	15643	337	15980	9014	720	1010	2	10024	722	10746
	SB	22852	569	4513	77	27365	646	28011	8833	90	947	6	9780	96	9876
Sydney Park Road	EB	13852	569	3221	133	17073	702	17775	12803	243	2967	43	15770	286	16056
	WB	16316	1155	3478	107	19794	1262	21056	5699	274	869	22	6568	296	6864
Euston Road N of Sydney Park Rd	NB	13062	881	1916	117	14978	998	15976	24475	1030	4096	195	28571	1225	29796
	SB	11950	844	3468	135	15418	979	16397	21123	1059	6231	180	27354	1239	28593
Gardeners W of Kent Road	EB	-	-	-	-	-	-	-	6114	1292	473	151	6587	1443	8030
	WB	-	-	-	-	-	-	-	6016	1696	945	246	6961	1942	8903
Gardeners E of Kent Road	EB	16450	1531	1978	172	18428	1703	20131	16426	1788	755	167	17181	1955	19136
	WB	16683	1992	4928	337	21611	2329	23940	13247	2014	2574	288	15821	2302	18123

Locations	Direction	Year 2031 – No Build							Year 2031 – Build						
		Daytime 7am - 10 pm		Night-time 10pm - 7am		AADT			Daytime 7am - 10 pm		Night-time 10pm - 7am		AADT		
		Light	Heavy	Light	Heavy	Light	Heavy	Total	Light	Heavy	Light	Heavy	Light	Heavy	Total
St Peters Interchange															
Campbell Road	WB	4430	324	2102	6	6532	330	6862	26427	929	5666	171	32093	1100	33193
	EB	5341	195	735	37	6076	232	6308	19108	863	5470	219	24578	1082	25660
Campbell Road W of Euston Road	EB	2289	150	968	12	3257	162	3419	6213	282	1476	133	7689	415	8104
	WB	3011	303	651	14	3662	317	3979	5169	183	1531	26	6700	209	6909
Campbell Street	EB	1984	350	195	6	2179	356	2535	9441	889	2508	200	11949	1089	13038
	WB	1496	187	263	35	1759	222	1981	9188	296	2195	143	11383	439	11822
Euston Road	NB	4357	357	1885	6	6242	363	6605	27121	1175	4260	250	31381	1425	32806
	SB	4544	74	836	34	5380	108	5488	23308	1197	6332	220	29640	1417	31057
Princes Highway South of Campbell	NB	16251	305	3744	8	19995	313	20308	15217	203	3951	29	19168	232	19400
	SB	26696	576	4985	79	31681	655	32336	23656	408	4623	49	28279	457	28736
Princes Highway North of Campbell	NB	13805	329	1838	8	15643	337	15980	7020	534	854	3	7874	537	8411
	SB	22852	569	4513	77	27365	646	28011	7883	81	1017	13	8900	94	8994
Sydney Park Road	EB	13852	569	3221	133	17073	702	17775	8167	117	1403	26	9570	143	9713
	WB	16316	1155	3478	107	19794	1262	21056	9200	288	1571	22	10771	310	11081
Euston Road N of Sydney Park Rd	NB	13062	881	1916	117	14978	998	15976	24946	967	4229	194	29175	1161	30336
	SB	11950	844	3468	135	15418	979	16397	21078	1063	6239	185	27317	1248	28565
Gardeners W of Kent Road	EB	-	-	-	-	-	-	-	6242	1312	472	165	6714	1477	8191
	WB	-	-	-	-	-	-	-	6020	1697	945	247	6965	1944	8909
Gardeners E of Kent Road	EB	16450	1531	1978	172	18428	1703	20131	16758	1807	803	182	17561	1989	19550
	WB	16683	1992	4928	337	21611	2329	23940	13287	2027	2562	289	15849	2316	18165

Locations	Year 2031 – No Build							Year 2031 – Build						
	Daytime 7 am - 10 pm		Night-time 10 pm – 7 am		AADT			Daytime 7 am - 10 pm		Night-time 10 pm – 7 am		AADT		
	Light	Heavy	Light	Heavy	Light	Heavy	Total	Light	Heavy	Light	Heavy	Light	Heavy	Total
St Peters Interchange														
1 NB from Gardeners Road	-	-	-	-	-	-	-	6016	1696	945	246	6961	1942	8903
2 WB to NB on-ramp from Euston Road	-	-	-	-	-	-	-	1672	443	386	75	2058	518	2576
3 WB through from Euston	-	-	-	-	-	-	-	17139	542	2529	68	19668	610	20278
4 NB from 1 to 7	-	-	-	-	-	-	-	2895	727	445	106	3340	833	4173
5 EB from 1 to WB Tunnel	-	-	-	-	-	-	-	3123	970	500	140	3623	1110	4733
6 NB through	-	-	-	-	-	-	-	25224	5463	4662	957	29886	6420	36306
7 NB from 4 and 2	-	-	-	-	-	-	-	4568	1170	831	182	5399	1352	6751
8 EB through to Euston	-	-	-	-	-	-	-	22920	1405	3915	187	26835	1592	28427
9 From 8 to 13 and 14	-	-	-	-	-	-	-	5017	833	525	89	5542	922	6464
10 From SB through to Euston Road	-	-	-	-	-	-	-	3866	670	520	74	4386	744	5130
11 From SB to Gardeners Rd	-	-	-	-	-	-	-	3746	709	296	84	4042	793	4835
12 SB through	-	-	-	-	-	-	-	27894	5252	4761	1041	32655	6293	38948
13 EB to Gardeners Rd from 9	-	-	-	-	-	-	-	2366	583	178	66	2544	649	3193
14 From 9 to SB Tunnel	-	-	-	-	-	-	-	2651	249	348	23	2999	272	3271

Locations	Direction	Year 2031 – No Build							Year 2031 – Build						
		Daytime 7 am - 10 pm		Night-time 10 pm – 7 am		AADT			Daytime 7 am - 10 pm		Night-time 10 pm – 7 am		AADT		
		Light	Heavy	Light	Heavy	Light	Heavy	Total	Light	Heavy	Light	Heavy	Light	Heavy	Total
Kingsgrove															
Existing M5	EB	37577	11084	7420	3392	44997	14476	59473	25323	5842	2633	969	27956	6811	34767
	WB	34717	12249	9374	2833	44091	15082	59173	17151	4954	2905	730	20056	5684	25740
New M5 Tunnel	EB	-	-	-	-	-	-	-	8549	1385	982	226	9631	1611	11242
	WB	-	-	-	-	-	-	-	13173	2439	2472	282	15645	2721	18366

APPENDIX E Traffic noise model results

Table E.1
 Predicted LAeq traffic noise levels
 Kingsgrove

NCA	NCA ID	Receiver Address	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG project road noise criteria		Do noise levels exceed the cumulative limit with project roads adding ≥2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening Year		Design Year		Day	Night			Day	Night	
						Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			Day	Night			
				Floor	Orientation	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	
NCA19	NCA19_189	101 ARMITREE STREET KINGSGROVE	Residential	G	SW	55	52	54	50	55	53	54	49	-0.9	-2.8	-1.5	-4	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_190	103 ARMITREE STREET KINGSGROVE	Residential	G	SW	55	53	54	50	56	54	54	50	-1.2	-3.2	-2	-4.3	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_191	105 ARMITREE STREET KINGSGROVE	Residential	G	SW	56	53	54	50	56	54	54	49	-1.6	-3.6	-2.3	-4.7	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_192	107 ARMITREE STREET KINGSGROVE	Residential	G	SW	56	53	54	49	56	54	54	49	-1.9	-3.8	-2.5	-5	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_193	108 ARMITREE STREET KINGSGROVE	Residential	G	SE	55	53	54	49	56	54	53	49	-1.6	-3.5	-2.4	-4.7	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_193	108 ARMITREE STREET KINGSGROVE	Residential	1	SE	56	54	55	51	57	55	55	50	-1.1	-3	-1.9	-4.3	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_194	106 ARMITREE STREET KINGSGROVE	Residential	G	SW	55	52	54	49	55	53	53	49	-1	-3.1	-1.8	-4.2	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_195	104 ARMITREE STREET KINGSGROVE	Residential	G	SW	55	52	54	49	55	53	53	49	-1	-3	-1.8	-4.1	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_284	84 GLAMIS STREET KINGSGROVE	Residential	G	SW	55	52	53	49	55	53	53	49	-1.4	-3.3	-2.2	-4.6	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_284	84 GLAMIS STREET KINGSGROVE	Residential	1	SW	56	54	55	50	57	55	54	50	-1.5	-3.4	-2.3	-4.6	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_285	86 GLAMIS STREET KINGSGROVE	Residential	G	SW	55	52	53	49	55	53	53	49	-1.2	-3.1	-2	-4.4	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_285	86 GLAMIS STREET KINGSGROVE	Residential	1	SW	56	54	55	50	57	55	54	50	-1.4	-3.3	-2.1	-4.6	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_286	88 GLAMIS STREET KINGSGROVE	Residential	G	SW	54	52	53	49	55	53	53	48	-1.3	-3.2	-2	-4.4	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_287	90 GLAMIS STREET KINGSGROVE	Residential	G	SW	55	52	54	49	55	53	53	49	-1.3	-3.3	-2.1	-4.4	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_287	90 GLAMIS STREET KINGSGROVE	Residential	1	SW	56	54	55	51	57	55	55	50	-1	-2.9	-1.8	-4.2	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_288	92 GLAMIS STREET KINGSGROVE	Residential	G	SW	56	53	54	50	56	54	54	49	-1.8	-3.7	-2.5	-4.9	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_288	92 GLAMIS STREET KINGSGROVE	Residential	1	SE	57	55	56	51	58	56	55	51	-1.5	-3.4	-2.3	-4.7	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_289	94 GLAMIS STREET KINGSGROVE	Residential	G	SW	56	54	54	50	56	54	54	49	-1.8	-3.8	-2.6	-5	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_290	96 GLAMIS STREET KINGSGROVE	Residential	G	SE	56	54	54	50	57	55	54	49	-2.1	-4.1	-2.9	-5.3	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_291	99 GLAMIS STREET KINGSGROVE	Residential	G	SE	58	55	55	50	58	56	54	50	-2.8	-4.8	-3.7	-6	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_291	99 GLAMIS STREET KINGSGROVE	Residential	1	SE	59	57	56	52	59	57	56	51	-2.8	-4.7	-3.7	-6	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_292	97 GLAMIS STREET KINGSGROVE	Residential	G	SW	56	53	54	50	56	54	54	49	-2	-3.9	-2.7	-5	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_293	95 GLAMIS STREET KINGSGROVE	Residential	G	SW	56	53	54	50	56	54	54	49	-1.8	-3.7	-2.7	-5	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_294	93 GLAMIS STREET KINGSGROVE	Residential	G	SW	55	53	54	49	56	54	53	49	-1.6	-3.6	-2.4	-4.8	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_295	91 GLAMIS STREET KINGSGROVE	Residential	G	SW	56	53	54	50	56	54	54	49	-1.6	-3.5	-2.5	-4.8	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_296	89 GLAMIS STREET KINGSGROVE	Residential	G	SW	55	53	54	49	56	54	53	49	-1.4	-3.4	-2.2	-4.6	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_296	89 GLAMIS STREET KINGSGROVE	Residential	1	SW	57	55	55	51	57	55	55	51	-1.6	-3.4	-2.4	-4.7	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_297	87 GLAMIS STREET KINGSGROVE	Residential	G	SW	55	52	54	49	55	53	53	49	-1.3	-3.2	-2.1	-4.4	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_298	85 GLAMIS STREET KINGSGROVE	Residential	G	SW	55	53	54	49	55	53	53	49	-1.4	-3.3	-2.1	-4.4	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_488	82 ROSEBANK AVENUE KINGSGROVE	Residential	G	SE	57	55	56	51	58	56	55	51	-1.5	-3.4	-2.1	-4.6	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_489	80 ROSEBANK AVENUE KINGSGROVE	Residential	G	SE	55	52	55	50	55	53	54	50	-0.3	-2.3	-1	-3.3	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_490	78 ROSEBANK AVENUE KINGSGROVE	Residential	G	SE	54	52	54	50	54	52	54	49	-0.1	-2.1	-0.8	-3.2	60	55	NO	NO	NO	NO	NO
NCA19	NCA19_490	78 ROSEBANK AVENUE KINGSGROVE	Residential	1	SW	58	55	57	52	58	56	56	52	-1.2	-3.1	-1.9	-4.3	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_308	35 COOLOONGATTA ROAD BEVERLY HILLS	Residential	G	S	62	59	63	58	62	60	63	58	0.9	-1	0.3	-2.1	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_309	37 COOLOONGATTA ROAD BEVERLY HILLS	Residential	G	W	58	56	59	54	58	56	58	54	0.6	-1.4	-0.1	-2.5	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_309	37 COOLOONGATTA ROAD BEVERLY HILLS	Residential	1	W	61	59	63	58	62	60	62	58	1.2	-0.6	0.6	-1.8	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_362	19 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	59	57	58	54	59	57	58	54	-0.7	-2.8	-1.4	-3.8	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_362	19 ELOUERA STREET BEVERLY HILLS	Residential	1	SE	63	60	62	58	63	61	62	57	-0.4	-2.4	-1	-3.5	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_368	21 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	59	57	59	55	60	58	59	54	-0.3	-2.3	-0.9	-3.3	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_368	21 ELOUERA STREET BEVERLY HILLS	Residential	1	SE	62	60	62	58	63	61	62	58	0.1	-1.8	-0.6	-2.9	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_373	23 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	59	57	59	55	60	58	59	54	-0.1	-2	-0.7	-3.1	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_373	23 ELOUERA STREET BEVERLY HILLS	Residential	1	SE	61	59	62	57	62	60	62	57	0.4	-1.5	-0.2	-2.6	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_377	25 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	59	57	59	55	59	58	59	54	-0.2	-2.1	-0.8	-3.3	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_381	27 ELOUERA STREET BEVERLY HILLS	Residential	G	E	59	56	59	54	59	57	58	54	-0.2	-2.1	-0.9	-3.2	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_381	27 ELOUERA STREET BEVERLY HILLS	Residential	1	E	61	58	61	57	61	59	61	56	0.5	-1.4	-0.2	-2.6	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_385	29 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	59	56	58	54	59	57	58	54	-0.3	-2.2	-0.8	-3.3	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_385	29 ELOUERA STREET BEVERLY HILLS	Residential	1	SE	60	58	61	56	61	59	60	56	0.2	-1.7	-0.5	-2.9	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_390	31 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	58	56	58	53	58	56	57	53	-0.5	-2.4	-1	-3.5	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_390	31 ELOUERA STREET BEVERLY HILLS	Residential	1	SE	60	57	60	55	60	58	59	55	-0.2	-2.2	-0.9	-3.3	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_395	33 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	58	56	58	53	59	57	57	53	-0.6	-2.5	-1.2	-3.6	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_402	35 ELOUERA STREET BEVERLY HILLS	Residential	G	E	58	55	57	53	58	56	57	52	-0.9	-2.8	-1.6	-4	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_402	35 ELOUERA STREET BEVERLY HILLS	Residential	1	E	59	57	59	54	60	58	59	54	-0.7	-2.6	-1.3	-3.7	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_420	40 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	61	58	60	56	61	59	60	55	-0.6	-2.6	-1.3	-3.6	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_420	40 ELOUERA STREET BEVERLY HILLS	Residential	1	SE	63	61	64	59	64	62	63	59	0.2	-1.7	-0.5	-2.9	60	55	NO	NO	NO	NO	NO
NCA20	NCA20_423	42 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	59	57	59	54	60	58	59	54	-0.4	-2.4	-1.1	-3.5	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver Address	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG project road noise criteria		Do noise levels exceed the cumulative limit with project roads adding ≥2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?		
						No Build		Build		No Build		Build		Opening Year		Design Year		Day	Night			Day	Night		Day	Night
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		Day	Night
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)		dB(A)	dB(A)
NCA20	NCA20_432	44 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	58	55	57	53	58	56	57	53	-0.3	-2.3	-1	-3.4	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_432	44 ELOUERA STREET BEVERLY HILLS	Residential	1	SE	60	57	59	55	60	58	59	54	-0.8	-2.7	-1.5	-3.8	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_433	1 KIRRANG STREET BEVERLY HILLS	Residential	G	SE	61	59	61	56	62	60	61	56	-0.6	-2.6	-1.3	-3.6	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_437	46 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	58	55	57	52	58	56	56	52	-1.1	-3	-1.7	-4.1	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_439	2 KIRRANG STREET BEVERLY HILLS	Residential	G	SW	58	55	58	53	58	56	57	53	-0.3	-2.2	-1	-3.3	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_439	2 KIRRANG STREET BEVERLY HILLS	Residential	1	SE	60	58	60	55	61	59	60	55	-0.6	-2.5	-1.1	-3.6	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_441	48 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	57	55	56	52	58	56	56	52	-1	-2.9	-1.7	-4.1	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_441	48 ELOUERA STREET BEVERLY HILLS	Residential	1	SE	59	57	58	53	59	57	57	53	-1.5	-3.4	-2.2	-4.5	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_443	50 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	56	54	55	50	57	55	55	50	-1.5	-3.4	-2.2	-4.5	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_443	50 ELOUERA STREET BEVERLY HILLS	Residential	1	SE	58	56	56	52	59	57	56	52	-2.1	-4	-2.8	-5.1	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_447	52 ELOUERA STREET BEVERLY HILLS	Residential	G	SE	56	54	55	50	57	55	54	50	-1.6	-3.6	-2.3	-4.6	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_449	4 KIRRANG STREET BEVERLY HILLS	Residential	G	SE	59	57	59	54	60	58	58	54	-0.5	-2.5	-1.2	-3.5	60	55	NO	NO	NO	NO	NO		
NCA20	NCA20_455	6 KIRRANG STREET BEVERLY HILLS	Residential	G	SE	60	58	59	55	60	59	59	55	-0.9	-2.8	-1.5	-3.9	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_325	2 ELOUERA STREET BEVERLY HILLS	Residential	G	NW	56	54	55	51	56	55	55	51	-0.7	-2.7	-1.3	-3.8	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_325	2 ELOUERA STREET BEVERLY HILLS	Residential	1	NW	58	55	57	53	58	56	57	52	-0.7	-2.7	-1.3	-3.8	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_327	2A ELOUERA STREET BEVERLY HILLS	Residential	G	NW	57	55	57	52	58	56	56	52	-0.7	-2.8	-1.4	-3.8	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_327	2A ELOUERA STREET BEVERLY HILLS	Residential	1	NW	59	57	59	54	60	58	58	54	-0.6	-2.7	-1.3	-3.8	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_331	4 ELOUERA STREET BEVERLY HILLS	Residential	G	NW	58	56	57	53	58	56	57	53	-0.8	-2.8	-1.4	-3.9	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_344	8 ELOUERA STREET BEVERLY HILLS	Residential	G	NW	59	57	58	54	59	57	58	53	-0.9	-2.9	-1.5	-4	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_344	8 ELOUERA STREET BEVERLY HILLS	Residential	1	NW	62	59	61	57	62	60	61	56	-0.6	-2.7	-1.3	-3.8	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_346	10 ELOUERA STREET BEVERLY HILLS	Residential	G	NW	59	57	58	54	60	58	58	53	-1.1	-3.1	-1.7	-4.1	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_348	12 ELOUERA STREET BEVERLY HILLS	Residential	G	NW	60	57	58	54	60	58	58	54	-1.4	-3.3	-1.9	-4.5	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_360	35 KIRRANG STREET BEVERLY HILLS	Residential	G	N	57	54	55	51	57	55	55	50	-1.9	-3.9	-2.6	-5	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_360	35 KIRRANG STREET BEVERLY HILLS	Residential	1	N	59	57	57	53	59	58	57	53	-1.9	-3.8	-2.5	-5	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_361	35A KIRRANG STREET BEVERLY HILLS	Residential	G	E	54	52	53	49	55	53	53	49	-1.2	-3.2	-1.9	-4.3	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_361	35A KIRRANG STREET BEVERLY HILLS	Residential	1	E	57	55	56	51	57	55	56	51	-1.1	-3.1	-1.7	-4.2	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_371	33 KIRRANG STREET BEVERLY HILLS	Residential	G	N	56	54	55	50	57	55	54	50	-1.8	-3.9	-2.5	-4.9	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_371	33 KIRRANG STREET BEVERLY HILLS	Residential	1	N	59	57	57	53	59	58	57	52	-2.1	-4.1	-2.7	-5.2	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_374	31 KIRRANG STREET BEVERLY HILLS	Residential	G	N	58	55	56	51	58	56	55	51	-1.9	-4	-2.6	-5	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_374	31 KIRRANG STREET BEVERLY HILLS	Residential	1	N	60	58	59	54	61	59	58	54	-1.9	-3.9	-2.5	-5	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_382	29 KIRRANG STREET BEVERLY HILLS	Residential	G	W	58	56	56	52	59	57	56	52	-2.1	-4.2	-2.8	-5.2	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_382	29 KIRRANG STREET BEVERLY HILLS	Residential	1	W	61	59	59	55	62	60	59	55	-2	-4	-2.6	-5.1	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_387	27 KIRRANG STREET BEVERLY HILLS	Residential	G	NW	59	57	57	52	60	58	57	52	-2.2	-4.2	-2.9	-5.4	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_387	27 KIRRANG STREET BEVERLY HILLS	Residential	1	NW	62	59	60	55	62	60	60	55	-2	-4	-2.6	-5.1	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_394	25 KIRRANG STREET BEVERLY HILLS	Residential	G	NE	61	58	58	54	61	59	58	54	-2.5	-4.5	-3.1	-5.6	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_411	46 KIRRANG STREET BEVERLY HILLS	Residential	G	N	57	55	55	50	58	56	55	50	-2.4	-4.3	-3	-5.5	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_421	44 KIRRANG STREET BEVERLY HILLS	Residential	G	W	58	55	55	51	58	56	55	51	-2.5	-4.5	-3.1	-5.6	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_431	40 KIRRANG STREET BEVERLY HILLS	Residential	G	NW	59	56	56	52	59	57	56	52	-2.7	-4.7	-3.3	-5.8	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_431	40 KIRRANG STREET BEVERLY HILLS	Residential	1	NE	61	58	59	54	61	59	58	54	-1.9	-3.9	-2.5	-5	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_434	38 KIRRANG STREET BEVERLY HILLS	Residential	G	NW	59	57	56	52	60	58	56	52	-2.8	-4.8	-3.5	-5.9	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_441	36 KIRRANG STREET BEVERLY HILLS	Residential	G	NW	60	57	57	52	60	58	57	52	-3	-5	-3.7	-6.1	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_447	34 KIRRANG STREET BEVERLY HILLS	Residential	G	NW	60	58	57	53	61	59	57	53	-3	-5.1	-3.7	-6.2	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_455	32 KIRRANG STREET BEVERLY HILLS	Residential	G	NW	61	59	58	53	61	59	57	53	-3.4	-5.4	-4.1	-6.5	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_455	32 KIRRANG STREET BEVERLY HILLS	Residential	1	SE	62	59	60	55	62	60	60	55	-2	-4	-2.6	-5.1	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_465	30 KIRRANG STREET BEVERLY HILLS	Residential	G	NW	61	59	58	53	62	60	57	53	-3.6	-5.6	-4.3	-6.7	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_465	30 KIRRANG STREET BEVERLY HILLS	Residential	1	SE	61	59	60	55	62	60	59	55	-1.6	-3.6	-2.2	-4.7	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_469	28 KIRRANG STREET BEVERLY HILLS	Residential	G	NE	62	60	59	55	62	60	59	54	-2.9	-4.8	-3.5	-6	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_469	28 KIRRANG STREET BEVERLY HILLS	Residential	1	NE	64	61	61	56	64	62	61	56	-2.8	-4.8	-3.5	-5.9	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_552	60 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NW	61	59	59	54	61	59	59	54	-2.1	-4.1	-2.8	-5.3	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_561	62 TALLAWALLA STREET BEVERLY HILLS	Residential	G	W	61	59	59	55	62	60	59	55	-2.1	-4.1	-2.8	-5.2	60	55	NO	NO	NO	NO	NO		
NCA23	NCA23_563	27 KOEEMBA ROAD BEVERLY HILLS	Residential	G	N	63	61	61	57	63	61	61	57	-1.9	-3.8	-2.4	-4.9	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_097	64 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NW	62	60	61	57	63	61	61	56	-1.3	-3.3	-2	-4.4	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_098	67 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NW	62	59	61	56	62	60	61	56	-0.9	-2.9	-1.6	-4.1	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_098	67 TALLAWALLA STREET BEVERLY HILLS	Residential	1	NW	63	60	62	58	63	61	62	58	-0.5	-2.5	-1.2	-3.7	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_099	28 KOEEMBA ROAD BEVERLY HILLS	Residential	G	NW	60	57	59	54	60	58	58	54	-1	-3	-1.7	-4.1	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_100	69 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NW	62	59	61	56	62	60	60	56	-0.9	-2.9	-1.6	-4.1	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_103	71 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	62	60	61	57	63	61	61	57	-0.8	-2.8	-1.5	-3.9	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_105	73 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NW	62	60	61	57	63	61	61	57	-0.8	-2.8	-1.4	-3.9	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_108	74 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NW	65	62	63	58	65	63	62	58	-2.5	-4.4	-3.1	-5.5	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_109	75 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NW	62	60	61	57	63	61	61	57	-0.8	-2.8	-1.5	-4	60	55	NO	NO	NO	NO	NO		
NCA24	NCA24_111	77 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NW	62	60	62	57	63	61	61	57	-0.8	-2.8	-1.5	-4	60	55	NO	NO	NO	NO	NO		

NCA	NCA ID	Receiver Address	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG project road noise criteria		Do noise levels exceed the cumulative limit with project roads adding ≥2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening Year		Design Year		Day	Night			Day	Night	
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
				dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h		
NCA24	NCA24_113	76 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NW	64	62	62	58	65	63	62	58	-2	-4	-2.6	-5.1	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_115	79 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	63	60	62	57	63	61	62	57	-0.8	-2.9	-1.5	-4	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_115	79 TALLAWALLA STREET BEVERLY HILLS	Residential	1	N	64	61	63	59	64	62	63	59	-0.3	-2.3	-1	-3.5	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_119	81 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	62	60	62	57	63	61	61	57	-0.8	-2.9	-1.6	-4	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_123	83 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	62	60	61	57	63	61	61	57	-0.8	-2.9	-1.5	-4	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_127	85 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	62	60	61	57	63	61	61	57	-0.8	-2.8	-1.5	-3.9	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_129	87 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	62	59	61	57	62	60	61	56	-0.8	-2.8	-1.5	-3.9	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_129	87 TALLAWALLA STREET BEVERLY HILLS	Residential	1	N	63	60	63	58	63	61	62	58	-0.1	-2.2	-0.8	-3.3	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_136	89 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	62	60	61	57	62	60	61	57	-0.6	-2.7	-1.3	-3.8	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_136	89 TALLAWALLA STREET BEVERLY HILLS	Residential	1	N	63	60	63	58	63	61	62	58	0.1	-2.1	-0.7	-3.2	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_139	91 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	62	59	61	56	62	60	61	56	-0.8	-2.8	-1.5	-3.9	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_143	93 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	62	59	61	56	62	60	61	56	-0.7	-2.9	-1.4	-3.9	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_148	95 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	62	59	61	56	62	60	61	56	-0.8	-2.8	-1.5	-4	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_148	95 TALLAWALLA STREET BEVERLY HILLS	Residential	1	N	62	60	62	58	63	61	62	58	-0.2	-2.2	-0.9	-3.4	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_157	97 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	61	59	61	56	62	60	60	56	-0.7	-2.8	-1.4	-3.9	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_157	97 TALLAWALLA STREET BEVERLY HILLS	Residential	1	N	62	60	62	57	62	61	62	57	-0.1	-2.2	-0.9	-3.3	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_165	99 TALLAWALLA STREET BEVERLY HILLS	Residential	G	N	61	59	60	56	62	60	60	56	-0.7	-2.9	-1.4	-3.9	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_167	101 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NE	58	56	58	53	59	57	57	53	-0.7	-2.7	-1.4	-3.9	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_167	101 TALLAWALLA STREET BEVERLY HILLS	Residential	1	NW	61	58	60	56	61	59	60	56	-0.2	-2.4	-0.9	-3.4	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_170	103 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NE	58	55	57	53	58	56	57	53	-0.5	-2.5	-1.2	-3.7	60	55	NO	NO	NO	NO	NO
NCA24	NCA24_175	105 TALLAWALLA STREET BEVERLY HILLS	Residential	G	NE	58	56	58	53	58	56	57	53	-0.5	-2.5	-1.1	-3.6	60	55	NO	NO	NO	NO	NO
OSR	OSR_483	30 KOEMBA ROAD BEVERLY HILLS	Non Assess Building	G	NW	64	62	62	58	64	62	62	57	-2	-4	-2.6	-5	-	-	-	-	-	-	NO
OSR	OSR_483	30 KOEMBA ROAD BEVERLY HILLS	Non Assess Building	1	NW	66	64	65	60	67	65	65	60	-1.4	-3.4	-2.1	-4.5	-	-	-	-	-	-	NO

Table E.2
Predicted LAeq traffic noise levels
St Peters
2018.06.05

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding >2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year		Day	Night	Day	Night	Day	Night	
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night							
					Floor	Orientation	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	≥ 65dB LAeq,15h	
NCA01	NCA01_001	298-300 BELMONT STREET ALEXANDRIA	Residential	0	NE	46	40	48	43	46	41	48	43	1.9	2.6	1.9	2.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_001	298-300 BELMONT STREET ALEXANDRIA	Residential	1	NE	47	42	49	45	48	42	50	45	2	2.6	2	2.4	60	54	NO	NO	NO	NO	NO	
NCA01	NCA01_002	301-303 BELMONT STREET ALEXANDRIA	Residential	0	NE	44	39	46	41	44	39	46	41	1.9	2.5	1.8	2.3	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_002	301-303 BELMONT STREET ALEXANDRIA	Residential	1	NE	46	40	47	43	46	41	48	43	1.9	2.5	2	2.3	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_003	305-307 BELMONT STREET ALEXANDRIA	Residential	0	SE	44	39	45	41	44	39	46	41	1.1	1.4	1.6	1.6	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_004	311-313 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	39	46	41	44	39	46	41	1.1	1.4	1.6	1.6	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_005	302 BELMONT STREET ALEXANDRIA	Residential	0	SE	42	37	44	39	42	37	44	39	1.2	1.5	1.6	1.7	54	49	NO	NO	NO	NO	NO	
NCA01	NCA01_006	304 BELMONT STREET ALEXANDRIA	Residential	0	SE	44	39	45	40	44	39	46	41	1.3	1.6	1.7	1.8	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_007	306 BELMONT STREET ALEXANDRIA	Residential	0	SE	43	38	45	40	43	38	45	40	1.2	1.6	1.6	1.7	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_008	308 BELMONT STREET ALEXANDRIA	Residential	0	SE	43	38	44	39	43	38	44	40	1.3	1.7	1.6	1.9	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_009	309 BELMONT STREET ALEXANDRIA	Residential	0	SE	43	38	44	39	43	38	44	40	1.4	1.7	1.7	1.8	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_010	310 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	39	46	41	44	39	46	41	1.2	1.5	1.7	1.8	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_011	312 BELMONT STREET ALEXANDRIA	Residential	0	SE	44	39	46	41	44	39	46	41	1.4	1.7	1.7	1.9	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_012	314 BELMONT STREET ALEXANDRIA	Residential	0	SE	44	39	46	41	44	39	46	41	1.3	1.8	1.8	1.8	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_013	315 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	41	44	39	46	41	1	1.4	1.5	1.6	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_014	316 BELMONT STREET ALEXANDRIA	Residential	0	SE	43	38	45	40	43	38	45	40	1.2	1.5	1.5	1.7	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_014	316 BELMONT STREET ALEXANDRIA	Residential	1	SE	46	40	47	42	45	40	47	42	1.3	1.6	1.7	1.8	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_015	317 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	41	45	40	46	41	1	1.4	1.5	1.6	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_016	318 BELMONT STREET ALEXANDRIA	Residential	0	SE	44	39	45	40	44	39	45	40	1.4	1.7	1.6	1.7	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_017	319 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	41	45	40	46	41	1.1	1.4	1.6	1.6	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_018	320 BELMONT STREET ALEXANDRIA	Residential	0	SE	43	38	45	40	43	38	45	40	1.4	1.7	1.6	1.7	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_019	321 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	41	45	40	46	41	1.2	1.5	1.6	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_020	322 BELMONT STREET ALEXANDRIA	Residential	0	SE	43	37	44	39	43	38	44	39	1.4	1.8	1.6	1.8	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_020	322 BELMONT STREET ALEXANDRIA	Residential	1	SE	45	40	46	41	45	40	46	41	1.3	1.6	1.6	1.8	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_021	323 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	42	45	40	46	41	1.2	1.5	1.7	1.6	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_022	324 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	41	45	40	47	42	1	1.3	1.7	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_022	324 BELMONT STREET ALEXANDRIA	Residential	1	SE	47	41	48	43	46	41	48	43	1.3	1.7	1.9	2	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_023	325 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	47	42	45	40	47	42	1.3	1.7	1.6	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_023	325 BELMONT STREET ALEXANDRIA	Residential	1	SE	47	42	48	44	46	41	48	43	1.7	2.1	2	2.1	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_024	326 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	41	45	40	46	42	1.2	1.5	1.7	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_024	326 BELMONT STREET ALEXANDRIA	Residential	1	SE	46	41	48	43	46	41	48	43	1.5	1.8	2	2	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_025	327 BELMONT STREET ALEXANDRIA	Residential	0	SW	45	40	47	42	45	40	47	42	1.4	1.7	1.7	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_026	328 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	42	45	40	47	42	1.2	1.5	1.7	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_026	328 BELMONT STREET ALEXANDRIA	Residential	1	SE	47	41	48	43	46	41	48	43	1.5	1.8	1.9	2	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_027	329 BELMONT STREET ALEXANDRIA	Residential	0	SE	46	40	47	42	45	40	47	42	1.3	1.7	1.7	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_027	329 BELMONT STREET ALEXANDRIA	Residential	1	SE	47	42	49	44	47	42	49	44	1.7	2.1	2	2	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_028	330 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	41	45	40	46	41	1.3	1.7	1.7	1.8	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_028	330 BELMONT STREET ALEXANDRIA	Residential	1	SE	46	41	48	43	46	41	48	43	1.6	1.9	2	2	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_029	331 BELMONT STREET ALEXANDRIA	Residential	0	SE	46	41	47	42	45	40	47	42	1.4	1.6	1.7	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_030	332 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	40	46	41	45	40	46	41	1.3	1.7	1.8	1.8	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_030	332 BELMONT STREET ALEXANDRIA	Residential	1	SE	46	41	48	43	46	41	48	43	1.6	2	2	2	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_031	333 BELMONT STREET ALEXANDRIA	Residential	0	SE	46	41	47	43	45	41	47	42	1.3	1.7	1.7	1.7	57	53	NO	NO	NO	NO	NO	
NCA01	NCA01_031	333 BELMONT STREET ALEXANDRIA	Residential	1	SE	47	42	49	44	47	42	49	44	1.7	2.1	2	2.1	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_032	334 BELMONT STREET ALEXANDRIA	Residential	0	SE	45	39	46	41	44	39	46	41	1.5	1.9	1.8	1.9	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_032	334 BELMONT STREET ALEXANDRIA	Residential	1	SE	46	41	48	43	46	41	48	43	1.7	2.1	2.1	2.2	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_033	335 BELMONT STREET ALEXANDRIA	Residential	0	SE	46	41	47	43	46	41	47	43	1.2	1.6	1.7	1.7	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_033	335 BELMONT STREET ALEXANDRIA	Residential	1	SE	47	42	49	44	47	42	49	44	1.6	2.1	1.9	2	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_034	336 BELMONT STREET ALEXANDRIA	Residential	0	SE	44	39	46	41	44	39	46	41	1.5	1.9	1.7	1.8	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_034	336 BELMONT STREET ALEXANDRIA	Residential	1	SE	46	41	48	43	46	41	48	43	1.6	2.1	1.8	2	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_035	337 BELMONT STREET ALEXANDRIA	Residential	0	SE	46	41	48	43	46	41	48	43	1.2	1.6	1.7	1.7	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_035	337 BELMONT STREET ALEXANDRIA	Residential	1	SE	48	43	49	45	47	42	49	44	1.6	2	2	2	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_036	337A BELMONT STREET ALEXANDRIA	Residential	0	SE	46	41	48	43	46	41	48	43	1.5	1.8	1.8	1.8	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_036	337A BELMONT STREET ALEXANDRIA	Residential	1	SE	48	43	49	45	47	43	49	44	1.6	1.9	1.8	1.8	59	55	NO	NO	NO	NO	NO	
NCA01	NCA01_037	338 BELMONT STREET ALEXANDRIA	Residential	0	SE	46	41	47	42	46	41	47	42	0.8	1.2	1.6	1.6	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_037	338 BELMONT STREET ALEXANDRIA	Residential	1	SE	47	42	49	44	47	42	49	44	1.2	1.6	1.9	1.9	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_038	339 BELMONT STREET ALEXANDRIA	Residential	0	SE	44	39	45	40	44	39	45	40	1.2	1.5	1.5	1.6	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_039	340 BELMONT STREET ALEXANDRIA	Residential	0	SE	46	41	47	42	46	41	47	42	1	1.3	1.6	1.7	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_039	340 BELMONT STREET ALEXANDRIA	Residential	1	SE	47	42	49	44	47	42	49	44	1.4	1.7	1.9	2	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_040	342 BELMONT STREET ALEXANDRIA	Residential	0	SE	46	41	47	42	46	41	47	42	1.1	1.5	1.7	1.7	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_040	342 BELMONT STREET ALEXANDRIA	Residential	1	SE	48	43	49	44	47	42	49	44	1.4	1.8	2	2	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_041	343 BELMONT STREET ALEXANDRIA	Residential	0	SE	47	42	48	43	46	42	48	43	1	1.4	1.4	1.4	58	54	NO					

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA01	NCA01_056	357 BELMONT STREET ALEXANDRIA	Residential	1	SE	51	45	51	46	50	45	51	46	0.5	1	1	1.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_057	358 BELMONT STREET ALEXANDRIA	Residential	0	SE	46	41	47	42	46	41	47	42	1	1.4	1.5	1.5	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_058	359 BELMONT STREET ALEXANDRIA	Residential	0	SE	49	44	49	45	48	44	49	44	0.1	0.5	0.6	0.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_058	359 BELMONT STREET ALEXANDRIA	Residential	1	SE	51	46	51	47	50	45	51	46	0.5	1	1	1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_059	360 BELMONT STREET ALEXANDRIA	Residential	0	SE	48	42	48	44	47	42	48	44	0.8	1.2	1.4	1.5	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_060	361 BELMONT STREET ALEXANDRIA	Residential	0	SE	49	44	50	45	49	44	49	44	0.2	0.5	0.6	0.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_060	361 BELMONT STREET ALEXANDRIA	Residential	1	SE	51	46	52	47	50	45	51	46	0.5	1	1	1.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_061	362 BELMONT STREET ALEXANDRIA	Residential	0	SE	47	42	47	43	46	41	47	43	0.8	1.2	1.4	1.5	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_062	363 BELMONT STREET ALEXANDRIA	Residential	0	SE	49	44	50	45	49	44	49	45	0.3	0.7	0.7	0.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_062	363 BELMONT STREET ALEXANDRIA	Residential	1	SE	51	46	52	47	51	46	52	47	0.7	1.2	1.1	1.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_063	364 BELMONT STREET ALEXANDRIA	Residential	0	SE	48	43	49	44	47	43	49	44	0.7	1.1	1.4	1.4	59	55	NO	NO	NO	NO	NO	
NCA01	NCA01_064	365 BELMONT STREET ALEXANDRIA	Residential	0	SE	50	45	50	45	49	44	50	45	0.3	0.7	0.8	0.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_064	365 BELMONT STREET ALEXANDRIA	Residential	1	SE	52	46	52	48	51	46	52	47	0.7	1.2	1.1	1.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_065	366 BELMONT STREET ALEXANDRIA	Residential	0	SE	48	43	49	44	47	42	49	44	0.9	1.3	1.4	1.4	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_066	367 BELMONT STREET ALEXANDRIA	Residential	0	SE	50	45	50	46	49	44	50	45	0.4	0.9	0.8	0.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_066	367 BELMONT STREET ALEXANDRIA	Residential	1	SE	52	47	53	48	51	46	52	48	0.9	1.3	1.2	1.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_067	368 BELMONT STREET ALEXANDRIA	Residential	0	SE	48	43	49	44	48	43	49	44	0.9	1.2	1.3	1.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_068	369 BELMONT STREET ALEXANDRIA	Residential	0	SE	50	45	50	46	49	44	50	45	0.4	0.9	0.8	0.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_069	369A BELMONT STREET ALEXANDRIA	Residential	0	SE	50	45	50	46	49	44	50	45	0.6	1.1	1	1.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_070	370 BELMONT STREET ALEXANDRIA	Residential	0	NE	47	42	48	43	46	41	47	43	0.9	1.3	1.4	1.5	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_071	371 BELMONT STREET ALEXANDRIA	Residential	0	SE	49	44	50	46	49	44	50	45	0.9	1.3	1.3	1.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_071	371 BELMONT STREET ALEXANDRIA	Residential	1	SE	52	47	53	48	51	46	53	48	1.3	1.7	1.6	1.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_072	372 BELMONT STREET ALEXANDRIA	Residential	0	SW	50	45	51	46	49	45	50	45	0.4	0.9	1	0.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_073	373-375 BELMONT STREET ALEXANDRIA	Residential	0	SE	48	43	49	44	47	43	49	44	1	1.5	1.3	1.4	59	55	NO	NO	NO	NO	NO	
NCA01	NCA01_073	373-375 BELMONT STREET ALEXANDRIA	Residential	1	SW	51	46	52	48	50	46	52	47	1.1	1.6	1.5	1.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_074	374 BELMONT STREET ALEXANDRIA	Residential	0	SE	47	42	48	43	47	42	48	43	0.5	1	1.1	1.2	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_075	376 BELMONT STREET ALEXANDRIA	Residential	0	SW	57	52	56	51	56	51	56	51	-0.7	-0.3	0	0	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_076	377 BELMONT STREET ALEXANDRIA	Residential	0	SE	52	46	52	48	51	46	52	47	0.6	1.1	1	1.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_077	378 BELMONT STREET ALEXANDRIA	Residential	0	SE	58	53	57	52	57	52	56	52	-0.9	-0.5	-0.4	-0.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_077	378 BELMONT STREET ALEXANDRIA	Residential	1	SE	59	54	58	54	58	53	58	53	-0.6	-0.3	-0.1	0	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_078	1 COULSON STREET ERSKINEVILLE	Residential	0	N	38	33	38	33	38	33	38	33	-0.2	0.1	0.3	0.4	50	45	NO	NO	NO	NO	NO	
NCA01	NCA01_079	2 COULSON STREET ERSKINEVILLE	Residential	0	E	49	44	46	40	48	43	45	40	-3.2	-3.4	-2.4	-2.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_079	2 COULSON STREET ERSKINEVILLE	Residential	1	E	50	44	46	41	49	44	46	41	-3.2	-3.4	-2.2	-2.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_079	2 COULSON STREET ERSKINEVILLE	Residential	2	E	51	45	47	42	50	45	47	42	-3.3	-3.4	-2.2	-2.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_079	2 COULSON STREET ERSKINEVILLE	Residential	3	E	51	46	48	43	50	45	48	43	-3.1	-3.3	-1.9	-2.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_079	2 COULSON STREET ERSKINEVILLE	Residential	4	E	51	46	49	43	50	45	49	44	-2.9	-3	-1.7	-1.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_079	2 COULSON STREET ERSKINEVILLE	Residential	5	E	52	47	50	44	51	46	50	45	-2.6	-2.7	-1.4	-1.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_080	3 COULSON STREET ERSKINEVILLE	Residential	0	N	38	33	38	33	38	33	39	34	-0.2	0.1	0.6	0.7	50	45	NO	NO	NO	NO	NO	
NCA01	NCA01_081	5 COULSON STREET ERSKINEVILLE	Residential	0	N	38	33	38	33	38	33	39	33	-0.3	0	0.6	0.6	50	45	NO	NO	NO	NO	NO	
NCA01	NCA01_082	18 COULSON STREET ERSKINEVILLE	Residential	0	E	45	40	46	42	45	40	45	41	1.4	1.6	0.8	1.1	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_082	18 COULSON STREET ERSKINEVILLE	Residential	1	E	47	42	48	44	47	42	48	43	1.6	1.8	1	1.2	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_082	18 COULSON STREET ERSKINEVILLE	Residential	2	E	47	43	49	45	47	43	49	44	1.7	1.8	1.2	1.2	59	55	NO	NO	NO	NO	NO	
NCA01	NCA01_082	18 COULSON STREET ERSKINEVILLE	Residential	3	E	48	44	50	46	48	44	49	45	1.7	1.7	1.2	1.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_083	21-25 COULSON STREET ERSKINEVILLE	Residential	0	SE	39	34	40	35	39	34	40	35	0.6	0.9	1.3	1.2	51	46	NO	NO	NO	NO	NO	
NCA01	NCA01_083	21-25 COULSON STREET ERSKINEVILLE	Residential	1	SE	40	35	41	36	40	35	41	36	0.6	0.9	1.2	1.2	52	47	NO	NO	NO	NO	NO	
NCA01	NCA01_083	21-25 COULSON STREET ERSKINEVILLE	Residential	2	SW	45	40	44	39	45	40	44	39	-1	-1	-0.6	-0.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_083	21-25 COULSON STREET ERSKINEVILLE	Residential	3	SW	47	42	46	41	47	42	46	41	-0.8	-0.7	-0.7	-0.5	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_084	21-25 COULSON STREET ERSKINEVILLE	Residential	0	NW	42	37	40	35	41	37	40	35	-2.2	-2.3	-1.6	-1.6	53	49	NO	NO	NO	NO	NO	
NCA01	NCA01_084	21-25 COULSON STREET ERSKINEVILLE	Residential	1	NW	44	39	42	36	43	38	42	37	-2	-2.3	-1.6	-1.7	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_084	21-25 COULSON STREET ERSKINEVILLE	Residential	2	NW	45	40	44	38	45	40	44	39	-1.6	-1.7	-1.1	-1.2	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_085	41 EUSTON LANE ALEXANDRIA	Residential	0	SE	44	39	44	39	44	39	45	40	-0.1	0.2	0.8	0.8	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_085	41 EUSTON LANE ALEXANDRIA	Residential	1	SE	46	41	46	41	45	41	46	42	0	0.4	1	1.1	57	53	NO	NO	NO	NO	NO	
NCA01	NCA01_086	43 EUSTON LANE ALEXANDRIA	Residential	0	SE	44	39	44	39	44	39	45	40	-0.2	0.1	0.6	0.8	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_086	43 EUSTON LANE ALEXANDRIA	Residential	1	SE	46	41	46	41	46	41	46	42	0	0.3	0.9	1.1	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA	Residential	0	SE	71	65	75	70	71	65	76	71	4.6	5.5	4.7	5.2	60	55	YES	YES	YES	YES	YES	
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA	Residential	1	SE	71	65	75	70	71	66	75	71	4.3	5	4.2	4.8	60	55	YES	YES	YES	YES	YES	
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA	Residential	2	SE	71	65	75	70	71	66	75	70	3.8	4.4	3.7	4.2	60	55	YES	YES	YES	YES	YES	
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA	Residential	0	SE	72	66	76	71	72	66	76	71	3.8	4.4	4	4.4	60	55	YES	YES	YES	YES	YES	
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA	Residential	1	SE	72	67	76	71	73	67	76	71	3.1	3.7	3.2	3.7	60	55	YES	YES	YES	YES	YES	
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA	Residential	2	SE	72	67	75	70	72	67	75	70	2.8	3.4	3	3.3	60	55	YES	YES	YES	YES	YES	
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA	Residential	3	SE	72	67	74	70	72	67	75	70	2.6	3.3	2.8	3.2	60	55	YES	YES	YES	YES	YES	
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA	Residential	0	SE	7																			

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA01	NCA01_095	8 EVE STREET ERSKINEVILLE	Residential	3	S	42	36	43	38	42	36	43	38	1.2	1.5	1.6	1.6	54	48	NO	NO	NO	NO	NO	
NCA01	NCA01_095	8 EVE STREET ERSKINEVILLE	Residential	4	E	43	38	45	40	43	38	45	40	1.6	1.9	2	1.9	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_096	11 EVE STREET ERSKINEVILLE	Residential	0	W	39	34	39	34	39	34	40	35	0	0.3	0.8	0.8	51	46	NO	NO	NO	NO	NO	
NCA01	NCA01_097	13 EVE STREET ERSKINEVILLE	Residential	0	W	39	34	39	34	39	34	39	34	0.1	0.4	0.8	0.8	51	46	NO	NO	NO	NO	NO	
NCA01	NCA01_098	15 EVE STREET ERSKINEVILLE	Residential	0	W	38	33	39	34	38	33	39	34	0.1	0.3	0.8	0.8	50	45	NO	NO	NO	NO	NO	
NCA01	NCA01_099	17 EVE STREET ERSKINEVILLE	Residential	0	E	37	32	38	33	37	32	38	33	0.5	0.8	0.9	1	49	44	NO	NO	NO	NO	NO	
NCA01	NCA01_100	20 EVE STREET ERSKINEVILLE	Residential	0	W	44	39	41	36	43	38	41	36	-2.8	-2.8	-1.7	-1.9	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_100	20 EVE STREET ERSKINEVILLE	Residential	1	W	45	40	42	37	44	39	42	37	-2.8	-2.9	-1.7	-1.8	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_100	20 EVE STREET ERSKINEVILLE	Residential	2	W	45	40	43	38	45	40	43	38	-2.5	-2.6	-1.5	-1.6	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_100	20 EVE STREET ERSKINEVILLE	Residential	3	W	46	41	44	39	45	40	44	39	-2	-2	-1	-1.2	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_101	20 EVE STREET ERSKINEVILLE	Residential	0	E	38	33	39	34	38	33	39	34	1.2	1.5	1.7	1.7	50	45	NO	NO	NO	NO	NO	
NCA01	NCA01_101	20 EVE STREET ERSKINEVILLE	Residential	1	E	40	35	41	36	40	35	41	36	1.3	1.7	1.7	1.7	52	47	NO	NO	NO	NO	NO	
NCA01	NCA01_101	20 EVE STREET ERSKINEVILLE	Residential	2	E	42	37	43	39	42	37	43	39	1.3	1.6	1.7	1.8	54	49	NO	NO	NO	NO	NO	
NCA01	NCA01_101	20 EVE STREET ERSKINEVILLE	Residential	3	E	45	40	46	41	45	40	46	41	1.1	1.4	1.5	1.6	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_101	20 EVE STREET ERSKINEVILLE	Residential	4	S	48	43	49	44	48	43	49	44	1.3	1.5	1.1	1.6	60	54	NO	NO	NO	NO	NO	
NCA01	NCA01_102	23 EVE STREET ERSKINEVILLE	Residential	0	W	39	34	39	34	39	34	39	34	-0.3	-0.1	0.2	0.2	51	46	NO	NO	NO	NO	NO	
NCA01	NCA01_103	27 EVE STREET ERSKINEVILLE	Residential	0	W	39	34	38	33	38	33	39	33	-0.4	-0.2	0.2	0.2	50	45	NO	NO	NO	NO	NO	
NCA01	NCA01_104	29 EVE STREET ERSKINEVILLE	Residential	0	W	39	33	38	33	38	33	38	33	-0.3	-0.1	0.2	0.2	50	45	NO	NO	NO	NO	NO	
NCA01	NCA01_105	31 EVE STREET ERSKINEVILLE	Residential	0	E	38	32	38	33	37	32	38	33	0.2	0.4	0.9	0.8	49	44	NO	NO	NO	NO	NO	
NCA01	NCA01_106	33 EVE STREET ERSKINEVILLE	Residential	0	E	37	32	38	33	37	32	38	33	0.3	0.5	0.8	0.8	49	44	NO	NO	NO	NO	NO	
NCA01	NCA01_107	35 EVE STREET ERSKINEVILLE	Residential	0	E	37	32	38	33	37	32	38	33	0.4	0.5	0.9	0.8	49	44	NO	NO	NO	NO	NO	
NCA01	NCA01_108	37 EVE STREET ERSKINEVILLE	Residential	0	E	37	32	38	33	37	32	38	33	0.3	0.5	0.8	0.9	49	44	NO	NO	NO	NO	NO	
NCA01	NCA01_109	39 EVE STREET ERSKINEVILLE	Residential	0	E	37	32	37	33	37	32	38	33	0.3	0.5	0.8	0.8	49	44	NO	NO	NO	NO	NO	
NCA01	NCA01_110	41 EVE STREET ERSKINEVILLE	Residential	0	E	37	32	37	32	37	32	38	33	0.3	0.5	0.8	0.9	49	44	NO	NO	NO	NO	NO	
NCA01	NCA01_111	1A GODDARD STREET ERSKINEVILLE	Residential	0	W	39	34	38	33	39	34	38	33	-1.1	-1	-0.4	-0.6	51	46	NO	NO	NO	NO	NO	
NCA01	NCA01_111	1A GODDARD STREET ERSKINEVILLE	Residential	1	W	41	36	40	35	41	36	40	35	-1.3	-1.4	-0.7	-0.8	53	48	NO	NO	NO	NO	NO	
NCA01	NCA01_111	1A GODDARD STREET ERSKINEVILLE	Residential	2	W	43	38	42	36	42	37	42	37	-1.1	-1.1	-0.5	-0.7	54	49	NO	NO	NO	NO	NO	
NCA01	NCA01_112	1B GODDARD STREET ERSKINEVILLE	Residential	0	W	37	32	37	32	37	32	37	32	-0.5	-0.2	0.1	0.2	49	44	NO	NO	NO	NO	NO	
NCA01	NCA01_112	1B GODDARD STREET ERSKINEVILLE	Residential	1	W	39	34	39	34	39	34	39	34	-0.5	-0.3	0.1	0.1	51	46	NO	NO	NO	NO	NO	
NCA01	NCA01_112	1B GODDARD STREET ERSKINEVILLE	Residential	2	W	42	36	41	36	41	36	41	36	-0.6	-0.5	0	-0.1	53	48	NO	NO	NO	NO	NO	
NCA01	NCA01_113	1C GODDARD STREET ERSKINEVILLE	Residential	0	W	37	31	36	31	36	31	37	32	-0.3	-0.2	0.3	0.2	48	43	NO	NO	NO	NO	NO	
NCA01	NCA01_113	1C GODDARD STREET ERSKINEVILLE	Residential	1	W	39	34	38	33	39	33	39	34	-0.4	-0.2	0.1	0.2	51	45	NO	NO	NO	NO	NO	
NCA01	NCA01_113	1C GODDARD STREET ERSKINEVILLE	Residential	2	W	41	36	41	36	41	36	41	36	-0.5	-0.3	0	0	53	48	NO	NO	NO	NO	NO	
NCA01	NCA01_114	1D GODDARD STREET ERSKINEVILLE	Residential	0	W	36	31	36	31	36	31	36	31	-0.3	-0.1	0.4	0.3	48	43	NO	NO	NO	NO	NO	
NCA01	NCA01_114	1D GODDARD STREET ERSKINEVILLE	Residential	1	W	38	33	38	33	38	33	38	33	-0.3	-0.1	0.3	0.2	50	45	NO	NO	NO	NO	NO	
NCA01	NCA01_114	1D GODDARD STREET ERSKINEVILLE	Residential	2	W	41	36	41	36	41	36	41	36	-0.4	-0.3	0.1	0.1	53	48	NO	NO	NO	NO	NO	
NCA01	NCA01_115	1E GODDARD STREET ERSKINEVILLE	Residential	0	W	35	30	35	30	35	30	35	30	-0.2	0	0.5	0.1	47	42	NO	NO	NO	NO	NO	
NCA01	NCA01_115	1E GODDARD STREET ERSKINEVILLE	Residential	1	W	37	32	37	32	37	32	38	32	-0.2	0	0.4	0.3	49	44	NO	NO	NO	NO	NO	
NCA01	NCA01_115	1E GODDARD STREET ERSKINEVILLE	Residential	2	W	41	35	40	35	40	35	41	35	-0.3	0	0.3	0.3	52	47	NO	NO	NO	NO	NO	
NCA01	NCA01_116	1F GODDARD STREET ERSKINEVILLE	Residential	0	W	34	30	34	30	33	30	34	30	-0.2	0	0.7	0	45	42	NO	NO	NO	NO	NO	
NCA01	NCA01_116	1F GODDARD STREET ERSKINEVILLE	Residential	1	W	36	31	36	31	36	31	36	31	0	0.1	0.6	0.5	48	43	NO	NO	NO	NO	NO	
NCA01	NCA01_116	1F GODDARD STREET ERSKINEVILLE	Residential	2	W	39	34	39	34	39	34	40	34	0	0.1	0.5	0.4	51	46	NO	NO	NO	NO	NO	
NCA01	NCA01_117	5 GODDARD STREET ERSKINEVILLE	Residential	0	S	40	35	40	35	40	34	40	35	-0.3	-0.1	0.3	0.3	52	46	NO	NO	NO	NO	NO	
NCA01	NCA01_118	201 LAWRENCE STREET ALEXANDRIA	Residential	0	NE	50	45	52	47	50	45	52	48	2.1	2.7	1.9	2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_118	201 LAWRENCE STREET ALEXANDRIA	Residential	1	NE	51	46	53	49	52	46	54	49	2	2.7	2	2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_119	203 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	44	39	45	41	44	39	46	41	1.2	1.6	1.6	1.9	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_119	203 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	46	41	47	42	46	41	47	43	1.2	1.6	1.7	1.8	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_120	203A LAWRENCE STREET ALEXANDRIA	Residential	0	SE	44	39	45	41	44	39	46	41	1.2	1.5	1.6	1.7	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_120	203A LAWRENCE STREET ALEXANDRIA	Residential	1	SE	46	41	47	42	46	41	47	42	1.2	1.6	1.7	1.8	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_121	205 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	44	39	45	40	44	39	46	41	1.2	1.5	1.6	1.8	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_122	209 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	44	39	45	40	44	39	46	41	1.2	1.4	1.5	1.7	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_122	209 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	45	40	47	42	45	40	47	42	1.2	1.5	1.6	1.8	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_123	211 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	44	39	45	40	44	39	45	41	1.1	1.4	1.5	1.7	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_124	213 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	44	39	45	40	44	39	46	41	1	1.3	1.5	1.6	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_124	213 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	45	40	47	42	45	40	47	42	1.2	1.4	1.7	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_124	213 LAWRENCE STREET ALEXANDRIA	Residential	2	SE	47	42	48	43	47	42	49	44	1.3	1.5	1.9	2	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_125	215 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	44	39	45	40	44	39	46	41	0.9	1.2	1.4	1.6	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_125	215 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	46	41	47	42	46	41	47	42	0.9	1.2	1.7	1.8	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_125	215 LAWRENCE STREET ALEXANDRIA	Residential	2	SE	47	42	48	43	47	42	49	44	1	1.3	1.8	1.9	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_126	217 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	45	39	45	41	44	39	46	41	0.8	1.1	1.4	1.5	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_126	217 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	46	41	47	42	46	41	47	43	0.8	1.1	1.5	1.6	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_127	219 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	45	40	46	41	45	40	46	41	0.8	1.1	1.4	1.5	57							

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA01	NCA01_143	239 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	46	41	46	42	46	41	47	42	0.5	0.8	1.1	1.2	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_143	239 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	47	42	48	43	47	42	48	43	0.6	1	1.4	1.5	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_143	239 LAWRENCE STREET ALEXANDRIA	Residential	2	SE	49	44	50	45	48	43	50	45	0.8	1.2	1.7	1.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_144	240-272 LAWRENCE STREET ALEXANDRIA	Residential	0	SW	45	40	46	42	45	40	46	42	0.8	1.2	1.1	1.5	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_144	240-272 LAWRENCE STREET ALEXANDRIA	Residential	1	SW	47	42	48	43	47	42	48	44	0.8	1.2	1.2	1.4	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_144	240-272 LAWRENCE STREET ALEXANDRIA	Residential	2	SW	49	44	50	45	49	44	50	46	0.8	1.2	1.2	1.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_145	241 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	46	41	47	42	46	41	47	42	0.8	1.3	1.5	1.6	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_145	241 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	48	43	49	44	47	42	49	44	0.9	1.5	1.7	1.7	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_145	241 LAWRENCE STREET ALEXANDRIA	Residential	2	SW	50	45	53	48	49	44	53	48	3.3	3.8	3.5	3.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_146	243 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	47	42	48	43	46	41	48	43	1.1	1.5	1.7	1.8	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_146	243 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	48	43	50	45	48	43	50	45	1.2	1.8	1.9	1.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_147	245 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	47	42	49	44	47	42	49	44	1.7	2.4	2.2	2.3	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_148	247 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	47	42	50	45	47	42	50	45	2.3	3	2.7	2.7	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_149	251 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	48	43	51	46	48	43	51	46	2.6	3.2	2.9	2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_149	251 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	50	45	54	49	49	44	53	48	3.9	4.6	4.1	4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_150	253 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	49	44	51	47	48	43	51	46	2.7	3.2	3	3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_150	253 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	50	46	54	50	50	45	54	49	3.9	4.5	4.1	3.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_151	255 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	49	44	52	47	48	44	51	47	2.6	3.3	3	3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_151	255 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	51	46	55	50	50	46	54	50	3.8	4.4	4	3.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_152	257 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	49	44	52	47	49	44	51	47	2.5	3	2.7	2.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_152	257 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	51	46	55	51	51	46	55	50	3.7	4.2	3.9	3.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_153	259 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	50	45	52	47	49	44	52	47	2.3	2.8	2.6	2.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_153	259 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	52	47	55	51	51	46	55	50	3.5	4	3.7	3.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_154	259A LAWRENCE STREET ALEXANDRIA	Residential	0	SE	44	39	45	40	43	39	45	40	1	1.4	1.3	1.6	55	51	NO	NO	NO	NO	NO	
NCA01	NCA01_154	259A LAWRENCE STREET ALEXANDRIA	Residential	1	NW	48	43	47	43	47	42	48	43	-0.3	0	0.7	0.8	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_155	261 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	51	46	53	48	50	45	53	48	2.1	2.7	2.5	2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_155	261 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	52	48	56	51	52	47	55	50	3.2	3.7	3.4	3.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_156	263 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	51	46	53	49	51	46	53	48	1.9	2.5	2.3	2.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_156	263 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	53	48	56	52	52	48	56	51	2.8	3.3	3.1	3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_157	265 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	52	47	54	50	52	47	54	49	1.8	2.3	2.1	2.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_157	265 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	54	49	56	52	53	48	56	51	2.5	3	2.8	2.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_158	269 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	53	48	54	50	52	47	54	49	1.2	1.7	1.7	1.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_158	269 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	55	50	56	52	54	49	56	51	1.7	2.2	2.2	2.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_159	273 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	56	51	56	52	55	50	56	51	0.6	1.1	1.2	1.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_159	273 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	57	52	58	53	56	51	57	53	0.9	1.4	1.4	1.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_160	274 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	46	41	47	42	46	41	47	42	1	1.4	1.2	1.5	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_161	275-277 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	57	52	58	53	56	52	57	52	0.3	0.9	0.8	0.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_161	275-277 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	59	54	59	55	58	53	59	54	0.4	0.9	1	0.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_162	276 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	46	41	47	42	46	41	47	42	1	1.5	1.2	1.6	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_163	278 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	46	40	47	42	46	41	47	42	1	1.6	1.2	1.6	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_164	280 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	45	40	46	42	45	40	47	42	1.2	1.7	1.3	1.7	57	52	NO	NO	NO	NO	NO	
NCA01	NCA01_165	281 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	59	54	59	54	58	53	58	54	0.2	0.7	0.6	0.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_165	281 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	60	55	60	56	59	54	60	55	0.4	1	1	0.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_166	282 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	44	39	45	41	44	39	45	41	1.4	2	1.5	2	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_167	283 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	59	54	60	55	59	54	59	54	0.2	0.7	0.7	0.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_167	283 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	61	56	61	57	60	55	61	56	0.5	1	1	1.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_168	284-286 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	52	47	54	49	51	46	53	48	1.5	2.4	2.2	1.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_168	284-286 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	54	49	55	51	53	48	55	50	1.3	2.2	2	1.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_168	284-286 LAWRENCE STREET ALEXANDRIA	Residential	2	SE	55	50	57	52	55	50	56	51	1.1	1.9	1.8	1.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_169	285 LAWRENCE STREET ALEXANDRIA	Residential	0	SE	60	55	60	56	60	55	60	55	-0.2	0.3	0.3	0.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_169	285 LAWRENCE STREET ALEXANDRIA	Residential	1	SE	62	57	62	57	61	56	62	57	0.1	0.6	0.7	0.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA	Residential	0	SW	65	60	65	60	64	59	64	60	-0.3	0.1	0.3	0.3	60	55	YES	YES	NO	NO	YES	
NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA	Residential	1	SW	66	61	66	62	65	61	66	61	-0.1	0.3	0.5	0.5	60	55	YES	YES	NO	NO	YES	
NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA	Residential	2	SW	67	62	67	62	66	61	67	62	0	0.5	0.7	0.7	60	55	YES	YES	YES	YES	YES	
NCA01	NCA01_171	69 MACDONALD STREET ERSKINEVILLE	Residential	0	W	40	34	38	33	39	34	39	34	-1.3	-1.3	-0.7	-0.7	51	46	NO	NO	NO	NO	NO	
NCA01	NCA01_171	69 MACDONALD STREET ERSKINEVILLE	Residential	1	W	42	37	40	35	41	36	41	35	-1.5	-1.5	-0.8	-1	53	48	NO	NO	NO	NO	NO	
NCA01	NCA01_171	69 MACDONALD STREET ERSKINEVILLE	Residential	2	W	43	38	42	37	43	38	42	37	-1.3	-1.3	-0.6	-0.8	55	50	NO	NO	NO	NO	NO	
NCA01	NCA01_172	75-91 MACDONALD STREET ERSKINEVILLE	Residential	0	W	38	33	37	32	38	32	38	32	-0.8	-0.7	0.1	0	50	44	NO	NO	NO	NO	NO	
NCA01	NCA01_172	75-91 MACDONALD STREET ERSKINEVILLE	Residential	1	W	39	34	38	33	39	34	39	34	-1	-0.9	0.1	0	51	46	NO	NO	NO	NO	NO	
NCA01	NCA01_172	75-91 MACDONALD STREET ERSKINEVILLE	Residential	2	W	41	36	40	34	40	35	40	35	-1	-1.1	0	-0.2	52	47	NO	NO	NO	NO	NO	
NCA01	NCA01_172	75-91 MACDONALD STREET ERSKINEVILLE	Residential	3	W	43	37	41	36	42	37	42	37	-1.3	-1.3	-0.3	-0.4	54	49	NO	NO	NO	NO	NO	
NCA01	NCA01_172	75-91 MACDONALD STREET ERSKINEVILLE																							

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA01	NCA01_177	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	5	S	73	67	69	64	71	66	69	64	-3.7	-3.8	-2.7	-2.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_178	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	0	S	65	60	62	57	64	59	62	57	-3.5	-3.7	-2.5	-2.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_178	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	1	S	66	61	63	57	65	60	62	57	-3.4	-3.5	-2.5	-2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_178	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	2	S	66	61	63	58	65	60	63	58	-3.4	-3.5	-2.5	-2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_178	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	3	S	66	61	63	58	65	60	63	58	-3.4	-3.5	-2.5	-2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_178	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	4	S	66	61	63	58	65	60	63	58	-3.3	-3.4	-2.4	-2.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_178	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	5	S	66	61	63	58	65	60	63	58	-3.3	-3.3	-2.3	-2.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_179	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	0	SW	54	48	50	44	52	48	50	45	-3.8	-4	-2.8	-3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_179	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	1	SW	54	49	50	45	53	48	50	45	-3.8	-3.9	-2.8	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_179	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	2	SW	54	49	51	45	53	48	51	46	-3.7	-3.9	-2.8	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_179	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	3	SW	55	50	51	46	54	49	51	46	-3.7	-3.8	-2.7	-2.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_179	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	4	SW	55	50	52	46	54	49	52	46	-3.6	-3.7	-2.5	-2.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_179	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	5	SW	55	50	52	47	54	49	52	47	-3.3	-3.4	-2.2	-2.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_179	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	6	SW	56	51	53	48	55	50	53	48	-2.8	-3.1	-1.7	-1.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_179	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	7	SW	57	51	54	49	56	51	55	50	-2.3	-2.5	-0.8	-1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_180	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	0	SW	51	45	47	42	50	45	47	42	-3.6	-3.8	-2.9	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_180	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	1	SW	54	49	51	45	53	48	50	45	-3.7	-4	-2.8	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_180	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	2	SW	55	50	51	46	54	49	51	46	-3.8	-3.9	-2.8	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_180	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	3	SW	55	50	51	46	54	49	51	46	-3.7	-3.9	-2.7	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_180	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	4	SW	55	50	52	46	54	49	52	47	-3.6	-3.8	-2.7	-2.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_180	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	5	SW	56	50	52	47	55	50	52	47	-3.4	-3.6	-2.5	-2.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_180	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	6	SW	56	51	53	47	55	50	53	48	-3.2	-3.4	-2.1	-2.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_181	177-219 MITCHELL ROAD ERSKINEVILLE	child care on ground floor	Residential	0	SE	46	40	46	41	45	40	45	40	0	0.4	0.5	0.6	57	52	NO	NO	NO	NO	NO
NCA01	NCA01_181	177-219 MITCHELL ROAD ERSKINEVILLE	child care on ground floor	Residential	1	NE	46	42	47	43	46	42	46	42	1.6	1.6	0.9	0.7	58	54	NO	NO	NO	NO	NO
NCA01	NCA01_181	177-219 MITCHELL ROAD ERSKINEVILLE	child care on ground floor	Residential	2	NE	47	43	49	45	47	43	48	44	1.8	1.7	1.1	0.8	59	55	NO	NO	NO	NO	NO
NCA01	NCA01_181	177-219 MITCHELL ROAD ERSKINEVILLE	child care on ground floor	Residential	3	NE	48	44	49	45	48	44	49	44	1.7	1.5	1	0.8	60	55	NO	NO	NO	NO	NO
NCA01	NCA01_181	177-219 MITCHELL ROAD ERSKINEVILLE	child care on ground floor	Residential	4	NE	48	44	50	46	48	44	49	45	1.6	1.5	1	0.8	60	55	NO	NO	NO	NO	NO
NCA01	NCA01_181	177-219 MITCHELL ROAD ERSKINEVILLE	child care on ground floor	Residential	5	NE	49	45	51	46	49	45	50	46	1.7	1.6	1.1	0.9	60	55	NO	NO	NO	NO	NO
NCA01	NCA01_181	177-219 MITCHELL ROAD ERSKINEVILLE	child care on ground floor	Residential	6	SE	51	46	52	47	50	46	52	47	1	1.3	1.4	1.3	60	55	NO	NO	NO	NO	NO
NCA01	NCA01_181	177-219 MITCHELL ROAD ERSKINEVILLE	child care on ground floor	Residential	7	SE	52	47	53	49	52	47	53	48	1.4	1.6	1.6	1.4	60	55	NO	NO	NO	NO	NO
NCA01	NCA01_182	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	0	SE	55	50	51	46	54	49	51	46	-3.4	-3.6	-2.4	-2.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_182	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	1	SE	56	51	52	47	55	50	52	47	-3.4	-3.5	-2.4	-2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_182	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	2	SE	56	51	53	48	55	50	53	48	-3.2	-3.3	-2.1	-2.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_182	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	3	SE	57	52	54	49	56	51	54	49	-2.8	-2.8	-1.9	-1.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_182	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	4	SE	57	52	55	50	56	51	55	50	-2.4	-2.2	-1.5	-1.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_182	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	5	SE	58	53	56	51	57	52	56	51	-2	-1.9	-1.2	-1.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_183	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	0	S	46	41	44	39	46	41	44	39	-2.4	-2.4	-1.5	-1.6	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_183	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	1	S	49	43	46	40	48	43	46	41	-3	-3.1	-2.1	-2.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_183	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	2	S	49	44	46	41	48	43	46	41	-2.9	-3	-2	-2.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_183	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	3	S	50	44	47	42	49	44	47	42	-2.7	-2.8	-1.8	-1.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_183	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	4	S	50	45	48	42	49	44	48	43	-2.4	-2.5	-1.4	-1.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_183	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	5	S	51	45	49	43	50	45	49	44	-2	-2.1	-1	-1.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_183	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	6	S	51	46	50	44	50	45	50	45	-1.5	-1.7	-0.3	-0.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_184	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	0	S	48	43	45	40	47	42	45	40	-2.7	-2.7	-1.9	-2	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_184	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	1	S	49	44	47	41	48	43	47	41	-2.8	-2.9	-1.9	-2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_184	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	2	S	50	45	47	42	49	44	47	42	-2.8	-2.8	-1.8	-2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_184	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	3	S	51	45	48	43	50	45	48	43	-2.6	-2.6	-1.5	-1.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_184	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	4	S	51	46	49	43	50	45	49	44	-2.3	-2.3	-1.2	-1.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_184	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	5	S	51	46	49	44	50	45	50	44	-2	-1.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_184	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	6	S	52	46	50	45	51	46	51	45	-1.5	-1.6	-0.2	-0.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_185	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	0	S	73	68	69	64	71	67	69	64	-3.6	-3.7	-2.5	-2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_185	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	1	S	73	68	70	64	72	67	69	65	-3.6	-3.8	-2.5	-2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_185	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	2	S	73	68	69	64	72	67	69	64	-3.6	-3.9	-2.6	-2.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_185	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	3	S	73	68	69	64	71	67	69	64	-3.6	-3.9	-2.6	-2.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_185	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	4	S	72	67	69	63	71	66	69	64	-3.6	-3.8	-2.6	-2.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_185	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	5	S	72	67	68	63	71	66	68	63	-3.5	-3.7	-2.6	-2.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_185	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	6	S	72	67	68	63	70	66	68	63	-3.5	-3.7	-2.5	-2.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_185	177-219 MITCHELL ROAD ERSKINEVILLE	Residential	7	S	71	66	68	62	70	65	68	63	-3.4	-3.6	-2.5	-2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_186	183-219 MITCHELL ROAD ERSKINEVILLE	Residential	0	NW	45	40	42	36	44	39	42	37	-3.1	-3.3	-2.4	-2.6	56	51	NO	NO	NO	NO	NO	
NCA01	NCA01_186	183-219 MITCHELL ROAD ERSKINEVILLE	Residential	1	NW	47	42	44	38	46	41	44	38												

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA01	NCA01_202	358A MITCHELL ROAD ALEXANDRIA	Residential	1	NW	50	45	48	43	49	44	48	43	-2.3	-2.3	-1.3	-1.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_203	358B MITCHELL ROAD ALEXANDRIA	Residential	0	NW	49	44	46	41	48	43	46	41	-3.1	-3.1	-2	-2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_203	358B MITCHELL ROAD ALEXANDRIA	Residential	1	NW	50	45	47	42	49	44	47	42	-2.7	-2.6	-1.6	-1.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_204	358C MITCHELL ROAD ALEXANDRIA	Residential	0	NW	49	44	46	41	48	43	46	41	-3.1	-3.1	-2	-2.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_204	358C MITCHELL ROAD ALEXANDRIA	Residential	1	NW	50	45	47	42	49	44	48	43	-2.8	-2.7	-1.7	-1.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_205	360 MITCHELL ROAD ALEXANDRIA	Residential	0	NW	49	44	46	41	48	43	46	41	-3.1	-3.3	-2.1	-2.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_205	360 MITCHELL ROAD ALEXANDRIA	Residential	1	SE	46	41	48	43	46	41	48	43	1.3	1.8	1.6	1.7	58	53	NO	NO	NO	NO	NO	
NCA01	NCA01_206	360A MITCHELL ROAD ALEXANDRIA	Residential	0	NW	50	44	46	41	49	44	46	41	-3.2	-3.3	-2.2	-2.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_206	360A MITCHELL ROAD ALEXANDRIA	Residential	1	SE	48	43	49	45	47	42	49	44	1.4	1.8	1.6	1.7	59	54	NO	NO	NO	NO	NO	
NCA01	NCA01_207	360B MITCHELL ROAD ALEXANDRIA	Residential	0	NW	50	44	46	41	49	44	46	41	-3.3	-3.3	-2.2	-2.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_207	360B MITCHELL ROAD ALEXANDRIA	Residential	1	SE	48	43	50	45	48	43	49	45	1.5	1.8	1.8	1.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_208	360C MITCHELL ROAD ALEXANDRIA	Residential	0	SE	49	44	50	45	48	44	49	45	0.7	1	1	1.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_208	360C MITCHELL ROAD ALEXANDRIA	Residential	1	SW	51	45	51	47	50	45	51	46	0.8	1.2	0.7	1.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_208	360C MITCHELL ROAD ALEXANDRIA	Residential	2	SW	52	47	53	48	51	46	52	48	1	1.3	1	1.4	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209	362 MITCHELL ROAD ALEXANDRIA	Residential	0	S	73	68	70	64	72	67	69	65	-3.6	-3.8	-2.4	-2.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209	362 MITCHELL ROAD ALEXANDRIA	Residential	1	S	73	68	70	65	72	67	70	65	-3.4	-3.6	-2.1	-2.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209	362 MITCHELL ROAD ALEXANDRIA	Residential	2	S	73	68	70	65	72	67	70	65	-3.3	-3.5	-2.3	-2.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209	362 MITCHELL ROAD ALEXANDRIA	Residential	3	S	73	68	69	64	72	67	69	64	-3.5	-3.6	-2.5	-2.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209.5	362 MITCHELL ROAD ALEXANDRIA	Residential	0	S	72	67	69	64	71	66	69	64	-3.1	-3.4	-2	-2.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209.5	362 MITCHELL ROAD ALEXANDRIA	Residential	1	S	73	68	70	65	72	67	70	65	-3.2	-3.4	-2	-2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209.5	362 MITCHELL ROAD ALEXANDRIA	Residential	2	S	73	68	70	65	72	67	70	65	-3.2	-3.5	-2.1	-2.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209.5	362 MITCHELL ROAD ALEXANDRIA	Residential	3	S	73	68	70	64	72	67	69	65	-3.3	-3.5	-2.3	-2.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209.5	362 MITCHELL ROAD ALEXANDRIA	Residential	4	S	73	68	69	64	71	67	69	64	-3.3	-3.5	-2.2	-2.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_209.5	362 MITCHELL ROAD ALEXANDRIA	Residential	5	S	72	67	69	64	71	66	69	64	-3.3	-3.4	-2.3	-2.3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_210	362 MITCHELL ROAD ALEXANDRIA	Residential	0	NW	58	53	55	49	57	52	55	50	-3.7	-4	-2.8	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_210	362 MITCHELL ROAD ALEXANDRIA	Residential	1	NW	59	54	56	50	58	53	55	50	-3.7	-4	-2.8	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_210	362 MITCHELL ROAD ALEXANDRIA	Residential	2	NW	60	55	56	51	59	54	56	51	-3.7	-4	-2.7	-2.7	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_211	362 MITCHELL ROAD ALEXANDRIA	Residential	0	SW	59	54	57	53	58	53	57	52	-1.8	-1.5	-1.1	-1.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_211	362 MITCHELL ROAD ALEXANDRIA	Residential	1	SE	60	55	59	54	59	55	58	53	-1.8	-1.6	-1.1	-1.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_211	362 MITCHELL ROAD ALEXANDRIA	Residential	2	SE	62	57	60	56	61	56	60	55	-1.2	-0.9	-0.5	-0.5	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_211	362 MITCHELL ROAD ALEXANDRIA	Residential	3	SE	63	58	62	57	62	57	62	57	-0.7	-0.4	-0.1	-0.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_211	362 MITCHELL ROAD ALEXANDRIA	Residential	4	SE	63	58	63	58	62	58	62	58	-0.4	-0.1	0.1	0.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_212	362 MITCHELL ROAD ALEXANDRIA	Residential	0	SW	51	46	50	45	50	45	49	44	-1.1	-0.9	-0.6	-0.6	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_212	362 MITCHELL ROAD ALEXANDRIA	Residential	1	NE	50	46	52	47	50	46	51	47	1.3	1.5	0.8	1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_212	362 MITCHELL ROAD ALEXANDRIA	Residential	2	NE	51	47	53	49	51	47	52	48	1.4	1.5	0.9	1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_212	362 MITCHELL ROAD ALEXANDRIA	Residential	3	NE	52	48	54	49	52	48	53	49	1.4	1.4	1.1	1.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_213	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	0	W	43	37	40	35	42	37	41	36	-2.1	-2.2	-1.1	-1.3	54	49	NO	NO	NO	NO	NO	
NCA01	NCA01_213	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	1	W	49	44	46	40	48	43	46	41	-2.9	-3.1	-2.1	-2.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_213	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	2	W	54	49	51	45	53	48	51	46	-3.5	-3.6	-2.8	-2.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_214	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	0	S	69	64	66	60	68	63	65	60	-3.5	-4	-2.8	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_214	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	1	S	74	69	70	65	73	68	70	65	-3.8	-4.1	-2.7	-2.8	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_214	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	2	S	74	69	70	65	73	68	70	65	-3.8	-4.1	-2.8	-2.9	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	0	SW	64	58	60	54	63	58	60	55	-3.5	-3.9	-3	-3.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	1	SW	68	63	65	59	67	62	64	59	-3.8	-4.1	-2.9	-3.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	2	SW	69	64	66	60	68	63	65	60	-3.8	-4.1	-2.9	-3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	3	SW	70	64	66	60	68	63	66	60	-3.9	-4.1	-2.9	-3	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	4	SW	69	64	66	60	68	63	65	60	-3.9	-4.1	-2.9	-3.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	5	SW	69	64	65	60	68	63	65	60	-3.9	-4.2	-3	-3.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	6	SW	69	64	65	60	68	63	65	60	-3.9	-4.2	-3.1	-3.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	7	SW	69	64	65	60	68	63	65	60	-3.9	-4.2	-3	-3.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	8	SW	69	64	65	59	68	63	65	60	-3.9	-4.2	-3	-3.2	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	9	SW	69	63	65	59	68	63	65	60	-3.9	-4.2	-3	-3.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	10	SW	68	63	65	59	67	62	65	59	-3.8	-4.1	-2.8	-3.1	60	55	NO	NO	NO	NO	NO	
NCA01	NCA01_215	221-229 SYDNEY PARK ROAD ERSKINEVILLE	Residential	11	SW	68																			

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA03	NCA03_014	5 COUNCIL STREET ST PETERS	Residential	0	W	67	62	65	57	68	62	62	55	-2.4	-4.7	-5.7	-7.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_014	5 COUNCIL STREET ST PETERS	Residential	1	W	68	62	65	58	68	63	63	56	-2.3	-4.7	-5.6	-7.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_015	7 COUNCIL STREET ST PETERS	Residential	0	W	66	60	63	56	66	61	61	54	-2.3	-4.6	-5.5	-7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_015	7 COUNCIL STREET ST PETERS	Residential	1	W	66	61	64	57	67	62	62	55	-2.3	-4.6	-5.6	-7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_016	9 COUNCIL STREET ST PETERS	Residential	0	W	65	59	63	55	65	60	60	53	-2.2	-4.6	-5.4	-6.9	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_016	9 COUNCIL STREET ST PETERS	Residential	1	W	66	60	63	56	66	61	61	54	-2.2	-4.6	-5.5	-6.9	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_017	11 COUNCIL STREET ST PETERS	Residential	0	W	64	59	62	54	65	59	59	53	-2.2	-4.6	-5.3	-6.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_017	11 COUNCIL STREET ST PETERS	Residential	1	W	65	59	63	55	65	60	60	53	-2.2	-4.4	-5.3	-6.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_018	13 COUNCIL STREET ST PETERS	Residential	0	W	63	58	61	53	64	58	58	51	-2.2	-4.6	-5.2	-6.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_018	13 COUNCIL STREET ST PETERS	Residential	1	W	64	59	62	54	65	59	59	53	-2.2	-4.4	-5.3	-6.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_019	15 COUNCIL STREET ST PETERS	Residential	0	W	62	57	60	52	63	57	58	51	-2	-4.5	-5.1	-6.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_019	15 COUNCIL STREET ST PETERS	Residential	1	W	63	58	61	54	64	59	59	52	-2.1	-4.4	-5.2	-6.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_020	17 COUNCIL STREET ST PETERS	Residential	0	W	61	56	59	51	62	56	57	50	-2	-4.4	-4.8	-6.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_020	17 COUNCIL STREET ST PETERS	Residential	1	W	63	57	61	53	63	58	58	52	-2.1	-4.3	-5.1	-6.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_021	19 COUNCIL STREET ST PETERS	Residential	0	W	60	55	59	51	61	56	56	49	-1.9	-4.2	-4.7	-6.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_021	19 COUNCIL STREET ST PETERS	Residential	1	W	62	57	60	53	63	57	58	51	-2.1	-4.3	-5	-6.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_022	1 GOODSSELL STREET ST PETERS	Residential	0	S	56	50	52	46	56	51	52	46	-4.1	-4.4	-4	-4.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_022	1 GOODSSELL STREET ST PETERS	Residential	1	S	57	52	53	47	58	52	54	48	-4	-4.3	-4	-4.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_022	1 GOODSSELL STREET ST PETERS	Residential	2	S	58	52	54	48	58	53	55	49	-3.7	-4.1	-3.7	-4.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_022	1 GOODSSELL STREET ST PETERS	Residential	3	E	60	54	56	50	60	54	56	51	-3.7	-4.1	-3.3	-3.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_022	1 GOODSSELL STREET ST PETERS	Residential	4	E	62	57	58	53	62	57	59	53	-3.9	-4.3	-3.5	-4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_023	3 GOODSSELL STREET ST PETERS	Residential	0	N	52	47	49	44	51	47	50	45	-2.7	-3.1	-1.7	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_024	4 GOODSSELL STREET ST PETERS	Residential	0	N	52	47	48	42	52	47	49	43	-3.9	-4.2	-3.8	-4.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_024	4 GOODSSELL STREET ST PETERS	Residential	1	S	53	48	51	44	54	49	50	44	-2.7	-4	-3.6	-4.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_024	4 GOODSSELL STREET ST PETERS	Residential	2	S	56	51	53	47	57	51	53	47	-3	-4	-3.6	-4.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_025	5 GOODSSELL STREET ST PETERS	Residential	0	N	52	47	49	44	51	47	49	45	-2.7	-3.1	-1.7	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_026	6 GOODSSELL STREET ST PETERS	Residential	0	N	51	45	47	42	51	46	48	42	-3.7	-3.9	-3.6	-4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_026	6 GOODSSELL STREET ST PETERS	Residential	1	SE	52	46	49	43	53	47	49	43	-2.8	-3.7	-3.2	-4.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_026	6 GOODSSELL STREET ST PETERS	Residential	2	SE	55	49	52	45	55	50	52	46	-2.9	-3.7	-3.3	-4.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_027	7 GOODSSELL STREET ST PETERS	Residential	0	N	52	47	49	44	51	46	49	45	-2.7	-3.1	-1.7	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_028	9 GOODSSELL STREET ST PETERS	Residential	0	N	52	47	49	44	51	46	49	44	-2.6	-3	-1.6	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_029	10 GOODSSELL STREET ST PETERS	Residential	0	E	50	45	47	41	51	45	47	41	-3	-4	-3.3	-4.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_029	10 GOODSSELL STREET ST PETERS	Residential	1	E	53	47	50	43	53	48	50	44	-3	-3.9	-3.3	-4.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_029	10 GOODSSELL STREET ST PETERS	Residential	2	E	56	50	53	46	56	51	53	47	-2.9	-3.9	-3.2	-3.9	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_030	11 GOODSSELL STREET ST PETERS	Residential	0	N	52	47	49	44	51	46	49	44	-2.6	-3	-1.6	-1.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_031	13 GOODSSELL STREET ST PETERS	Residential	0	N	51	46	49	44	51	46	49	44	-2.6	-2.9	-1.6	-1.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_032	15 GOODSSELL STREET ST PETERS	Residential	0	N	51	46	49	43	50	46	49	44	-2.5	-2.9	-1.6	-1.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_033	16 GOODSSELL STREET ST PETERS	Residential	0	N	48	43	46	40	49	43	46	41	-2.3	-2.5	-2.5	-2.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_034	17 GOODSSELL STREET ST PETERS	Residential	0	N	51	46	49	43	50	46	49	44	-2.5	-2.9	-1.6	-1.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_035	18 GOODSSELL STREET ST PETERS	Residential	0	N	49	43	46	41	49	44	47	41	-2.5	-2.8	-2.6	-2.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_036	19 GOODSSELL STREET ST PETERS	Residential	0	N	51	46	49	43	50	46	49	44	-2.5	-2.9	-1.6	-1.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_037	20 GOODSSELL STREET ST PETERS	Residential	0	N	48	43	46	40	49	43	46	41	-2.3	-2.6	-2.5	-2.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_038	21 GOODSSELL STREET ST PETERS	Residential	0	S	46	41	45	39	47	42	45	39	-1	-1.7	-2	-2.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_038	21 GOODSSELL STREET ST PETERS	Residential	1	S	49	43	48	41	49	44	47	42	-1.2	-1.9	-2.1	-2.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_039	21 GOODSSELL STREET ST PETERS	Residential	0	N	51	46	48	43	50	45	49	44	-2.5	-2.9	-1.6	-1.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_040	22 GOODSSELL STREET ST PETERS	Residential	0	N	48	43	46	40	49	43	46	41	-2.3	-2.7	-2.4	-2.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_041	23 GOODSSELL STREET ST PETERS	Residential	0	N	51	46	48	43	50	45	48	44	-2.5	-2.9	-1.6	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_042	24 GOODSSELL STREET ST PETERS	Residential	0	S	48	42	46	40	48	43	46	40	-1.5	-2	-2.2	-2.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_042	24 GOODSSELL STREET ST PETERS	Residential	1	S	50	44	48	42	50	45	48	42	-1.5	-2.1	-2.2	-2.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_043	25 GOODSSELL STREET ST PETERS	Residential	0	N	51	46	49	44	51	46	49	44	-2.4	-2.7	-1.7	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_044	27 GOODSSELL STREET ST PETERS	Residential	0	S	49	43	48	42	49	44	48	42	-0.9	-1.2	-1.6	-1.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_045	29 GOODSSELL STREET ST PETERS	Residential	0	S	49	43	48	42	49	44	48	42	-0.8	-0.9	-1.5	-1.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_046	30 GOODSSELL STREET ST PETERS	Residential	0	N	48	42	45	40	48	42	45	40	-2.5	-2.6	-2.6	-2.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_046	30 GOODSSELL STREET ST PETERS	Residential	1	N	50	44	47	42	50	45	47	42	-2.3	-2.6	-2.5	-2.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_047	31 GOODSSELL STREET ST PETERS	Residential	0	S	49	43	48	43	49	44	48	43	-0.7	-0.8	-1.6	-1.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_048	33 GOODSSELL STREET ST PETERS	Residential	0	S	49	44	48	43	50	44	48	43	-0.7	-0.6	-1.5	-1.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_049	34 GOODSSELL STREET ST PETERS	Residential	0	N	47	42	45	40	48	42	45	40	-2.4	-2.4	-2.5	-2.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_049	34 GOODSSELL STREET ST PETERS	Residential	1	N	49	44	47	42	50	44	47	42	-2.2	-2.4	-2.4	-2.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_050	35 GOODSSELL STREET ST PETERS	Residential	0	S	49	44	49	44	50	45	49	44	-0.5	-0.4	-1.4	-1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_051	36 GOODSSELL STREET ST PETERS	Residential	0	S	47	41	46	39	47	42	45	39	-1.1	-1.8	-2.2	-2.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_051	36 GOODSSELL STREET ST PETERS	Residential	1	S	49	44	48	42	50	44	47	42	-1.3	-2	-2.2	-2.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_052	37 GOODSSELL STREET ST PETERS	Residential	0	S	50	44	50	44	50	45	49	44	-0.3	-0.1	-1.4	-0.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_053	38 GOODSSELL STREET ST PETERS	Residential	0	N	47	42	45	39	47	42	45	40	-2.3	-2.3	-2.4									

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA03	NCA03_071	56 GOODSSELL STREET ST PETERS	Residential	0	N	47	41	45	40	47	42	45	40	-1.6	-1.6	-1.9	-1.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_071	56 GOODSSELL STREET ST PETERS	Residential	1	N	49	44	48	42	50	44	48	43	-1.3	-1.5	-1.7	-1.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_072	57 GOODSSELL STREET ST PETERS	Residential	0	S	53	47	52	47	53	48	52	47	-0.2	0	-1.6	-0.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_073	58 GOODSSELL STREET ST PETERS	Residential	0	S	48	42	47	40	48	43	46	41	-1.1	-1.9	-2	-2.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_073	58 GOODSSELL STREET ST PETERS	Residential	1	S	50	45	49	43	51	45	49	43	-1	-1.7	-1.8	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_074	59 GOODSSELL STREET ST PETERS	Residential	0	S	53	48	53	48	54	48	52	48	0	0	-1.5	-0.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_075	60 GOODSSELL STREET ST PETERS	Residential	0	N	47	41	45	40	47	42	45	40	-1.4	-1.3	-1.8	-1.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_075	60 GOODSSELL STREET ST PETERS	Residential	1	S	50	44	49	43	50	45	48	43	-0.9	-1.4	-1.8	-1.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_076	61 GOODSSELL STREET ST PETERS	Residential	0	S	51	46	50	44	52	46	49	43	-1.1	-2.1	-2.9	-3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_077	62 GOODSSELL STREET ST PETERS	Residential	0	S	48	43	47	41	49	43	46	41	-1.1	-1.8	-2.1	-2.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_078	63 GOODSSELL STREET ST PETERS	Residential	0	S	55	50	55	49	56	50	54	49	-0.4	-0.5	-2.1	-1.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_078	63 GOODSSELL STREET ST PETERS	Residential	1	W	57	51	56	51	57	52	55	50	-0.4	-0.7	-2.2	-1.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_079	64 GOODSSELL STREET ST PETERS	Residential	0	N	48	42	47	41	48	43	47	41	-1.1	-1.2	-1.7	-1.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_080	66 GOODSSELL STREET ST PETERS	Residential	0	N	48	42	47	41	48	43	47	41	-1.1	-1.2	-1.6	-1.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_081	68 GOODSSELL STREET ST PETERS	Residential	0	N	48	42	47	41	48	43	47	41	-1	-1.2	-1.6	-1.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_082	70 GOODSSELL STREET ST PETERS	Residential	0	N	48	42	47	41	48	43	47	41	-1.1	-1.1	-1.6	-1.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_083	72 GOODSSELL STREET ST PETERS	Residential	0	S	49	43	48	41	49	44	47	41	-0.9	-1.9	-2	-2.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_084	74 GOODSSELL STREET ST PETERS	Residential	0	N	48	42	47	41	48	43	47	41	-1	-1	-1.6	-1.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_085	76 GOODSSELL STREET ST PETERS	Residential	0	S	50	45	49	42	51	46	48	42	-1.2	-2.9	-3	-3.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_086	78 GOODSSELL STREET ST PETERS	Residential	0	S	51	45	49	42	52	46	48	42	-1.4	-3.3	-3.3	-4.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_087	80 GOODSSELL STREET ST PETERS	Residential	0	S	50	45	49	41	51	45	48	41	-1.4	-3.5	-3.2	-4.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_088	82 GOODSSELL STREET ST PETERS	Residential	0	S	51	46	50	43	52	46	49	42	-1.3	-2.8	-3.1	-3.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_089	84 GOODSSELL STREET ST PETERS	Residential	0	S	50	44	49	42	50	45	48	42	-1	-2.3	-2.8	-3.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_090	86 GOODSSELL STREET ST PETERS	Residential	0	S	49	43	48	42	49	44	47	42	-0.9	-1.6	-2.3	-2.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_090	86 GOODSSELL STREET ST PETERS	Residential	1	S	51	45	50	44	52	46	50	44	-0.7	-1.2	-2	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_091	88 GOODSSELL STREET ST PETERS	Residential	0	S	49	43	48	42	49	44	47	42	-0.8	-1.2	-2	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_092	90 GOODSSELL STREET ST PETERS	Residential	0	S	49	43	48	42	49	44	47	42	-0.7	-1.1	-1.9	-1.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_093	92 GOODSSELL STREET ST PETERS	Residential	0	S	49	43	48	42	49	44	47	42	-0.7	-1.1	-2.1	-2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_094	94 GOODSSELL STREET ST PETERS	Residential	0	S	49	44	49	42	50	44	48	42	-0.7	-1.4	-2.3	-2.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_095	96 GOODSSELL STREET ST PETERS	Residential	0	N	48	42	47	42	48	43	47	42	-0.6	-0.4	-1.2	-0.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_096	98 GOODSSELL STREET ST PETERS	Residential	0	S	51	45	50	44	52	46	49	43	-1	-1.9	-2.8	-2.9	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_097	100 GOODSSELL STREET ST PETERS	Residential	0	S	53	47	52	45	53	48	50	44	-1.1	-2.6	-3.2	-3.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_098	102 GOODSSELL STREET ST PETERS	Residential	0	S	53	48	52	45	54	48	50	44	-1.3	-2.9	-3.6	-4.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_099	104 GOODSSELL STREET ST PETERS	Residential	0	N	47	42	47	42	48	42	47	42	-0.4	0.1	-1	-0.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_099	104 GOODSSELL STREET ST PETERS	Residential	1	W	56	51	55	49	57	52	54	48	-1.1	-1.9	-3.2	-3.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_100	106 GOODSSELL STREET ST PETERS	Residential	0	S	55	50	54	47	56	50	52	46	-1.4	-2.9	-3.7	-4.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_101	108 GOODSSELL STREET ST PETERS	Residential	0	W	57	52	56	49	58	52	54	48	-1.3	-2.9	-3.8	-4.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_102	9 HUTCHINSON STREET ST PETERS	Residential	0	S	47	42	48	43	48	42	49	43	0.7	0.9	0.8	1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_103	11 HUTCHINSON STREET ST PETERS	Residential	0	SE	47	42	48	43	48	42	49	44	1	1.6	1	1.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_104	19 HUTCHINSON STREET ST PETERS	Residential	0	N	72	66	70	61	72	67	67	59	-1.8	-5.1	-5.5	-8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_104	19 HUTCHINSON STREET ST PETERS	Residential	1	N	71	66	69	61	72	66	67	59	-1.8	-5.1	-5.4	-7.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_104	19 HUTCHINSON STREET ST PETERS	Residential	2	N	71	65	69	60	72	66	66	58	-1.9	-5	-5.3	-7.7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_104	19 HUTCHINSON STREET ST PETERS	Residential	3	N	70	65	68	60	71	66	66	58	-1.9	-5	-5.2	-7.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_105	43 HUTCHINSON STREET ST PETERS	Residential	0	S	46	40	48	44	46	40	48	44	2.4	4.2	2	3.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_105	43 HUTCHINSON STREET ST PETERS	Residential	1	S	48	43	50	46	49	43	51	46	2	3.4	1.7	3.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_106	48 HUTCHINSON STREET ST PETERS	Residential	0	N	47	42	49	45	48	42	49	45	1.5	2.8	0.9	2.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_107	50 HUTCHINSON STREET ST PETERS	Residential	0	N	48	42	49	45	48	42	49	45	1.6	2.9	0.8	2.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_108	52 HUTCHINSON STREET ST PETERS	Residential	0	N	48	42	49	45	48	43	49	45	1.6	3	0.9	2.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_109	54 HUTCHINSON STREET ST PETERS	Residential	0	N	48	42	50	45	49	43	50	45	1.7	3.3	0.9	2.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_110	55 HUTCHINSON STREET ST PETERS	Residential	0	S	48	42	51	47	49	43	51	47	3	5	2.4	4.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_111	57 HUTCHINSON STREET ST PETERS	Residential	0	S	48	42	52	48	49	43	52	48	3.1	5.4	2.5	4.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_112	58 HUTCHINSON STREET ST PETERS	Residential	0	N	48	42	50	46	49	43	50	46	1.8	3.5	1	2.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_113	59 HUTCHINSON STREET ST PETERS	Residential	0	S	49	42	52	48	49	43	52	48	3.2	5.7	2.6	5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_114	60-68 HUTCHINSON STREET ST PETERS	Residential	0	SW	55	48	60	56	55	48	59	56	4.8	8.5	3.9	7.8	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_114	60-68 HUTCHINSON STREET ST PETERS	Residential	1	SW	56	49	61	57	56	49	60	57	4.7	8.3	3.8	7.6	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_114	60-68 HUTCHINSON STREET ST PETERS	Residential	2	SW	57	50	61	58	57	50	61	57	4.6	7.9	3.7	7.2	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_114	60-68 HUTCHINSON STREET ST PETERS	Residential	3	SW	57	51	62	58	58	51	61	58	4.3	7.4	3.4	6.6	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_115	61 HUTCHINSON STREET ST PETERS	Residential	0	S	49	43	52	48	49	43	52	48	3.4	5.9	2.7	5.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_116	63 HUTCHINSON STREET ST PETERS	Residential	0	S	49	43	53	49	50	43	52	49	3.7	6.4	2.8	5.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_117	65 HUTCHINSON STREET ST PETERS	Residential	0	S	49	43	53	50	50	43	53	49	4	6.9	3	6.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_118	67 HUTCHINSON STREET ST PETERS	Residential	0	S	50	43	54	50	50	43	54	50	4.3	7.4	3.3	6.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_119	69 HUTCHINSON STREET ST PETERS	Residential	0	S	50	43	55	51	51	44	54	51	4.6	8	3.6	7.2	55	50	NO	NO	NO	NO	YES	
NCA03	NCA03_120	71 HUTCHINSON STREET ST PETERS	Residential	0	S	51	44	56	52	52															

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA03	NCA03_138	14 LACKEY STREET ST PETERS	Residential	1	SE	48	42	50	46	48	43	51	47	2.6	4.1	2.8	3.9	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_139	15-17 LACKEY STREET ST PETERS	Residential	0	SW	49	42	53	49	49	43	53	49	4.2	7.1	3.7	6.6	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_139	15-17 LACKEY STREET ST PETERS	Residential	1	SW	51	44	55	51	51	45	55	51	4	6.6	3.5	6	55	50	NO	NO	NO	NO	YES	
NCA03	NCA03_140	16 LACKEY STREET ST PETERS	Residential	0	NW	56	48	60	57	56	48	60	56	4.4	8.4	3.6	7.8	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_140	16 LACKEY STREET ST PETERS	Residential	1	NW	57	49	61	57	57	49	61	57	4.4	8.2	3.6	7.5	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_141	19 LACKEY STREET ST PETERS	Residential	0	SW	51	44	55	51	52	45	55	51	4.1	7.1	3.3	6.4	55	50	NO	NO	NO	NO	YES	
NCA03	NCA03_141	19 LACKEY STREET ST PETERS	Residential	1	SW	52	46	56	53	53	46	56	53	4	6.9	3.4	6.3	55	50	NO	NO	NO	NO	YES	
NCA03	NCA03_142	21 LACKEY STREET ST PETERS	Residential	0	SW	52	45	57	53	53	46	56	53	4.4	7.8	3.6	7.1	55	50	NO	NO	NO	NO	YES	
NCA03	NCA03_142	21 LACKEY STREET ST PETERS	Residential	1	SW	53	47	58	54	54	47	58	54	4.3	7.5	3.6	6.9	55	50	NO	NO	NO	NO	YES	
NCA03	NCA03_143	23 LACKEY STREET ST PETERS	Residential	0	SW	53	46	58	54	54	46	58	54	4.6	8.2	3.8	7.5	55	50	NO	NO	NO	NO	YES	
NCA03	NCA03_143	23 LACKEY STREET ST PETERS	Residential	1	SW	54	47	59	55	55	48	59	55	4.5	7.9	3.7	7.3	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_144	25 LACKEY STREET ST PETERS	Residential	0	SW	53	46	58	55	54	47	58	54	4.7	8.3	3.9	7.6	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_144	25 LACKEY STREET ST PETERS	Residential	1	SW	54	47	59	55	55	48	59	55	4.5	8	3.8	7.4	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_145	27 LACKEY STREET ST PETERS	Residential	0	SW	53	46	58	55	54	47	58	54	4.7	8.3	3.9	7.7	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_145	27 LACKEY STREET ST PETERS	Residential	1	SW	54	48	59	56	55	48	59	55	4.6	8	3.8	7.4	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_146	29 LACKEY STREET ST PETERS	Residential	0	SW	54	47	58	55	54	47	58	54	4.7	8.3	3.8	7.7	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_146	29 LACKEY STREET ST PETERS	Residential	1	SW	55	48	59	56	55	48	59	55	4.6	8.1	3.8	7.5	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_147	31 LACKEY STREET ST PETERS	Residential	0	SW	54	47	59	55	54	47	58	55	4.7	8.4	3.9	7.8	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_147	31 LACKEY STREET ST PETERS	Residential	1	SW	55	48	59	56	55	48	59	55	4.6	8.1	3.8	7.5	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_148	33 LACKEY STREET ST PETERS	Residential	0	SW	54	47	59	55	55	47	58	55	4.7	8.3	3.9	7.7	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_148	33 LACKEY STREET ST PETERS	Residential	1	SW	55	48	59	56	55	48	59	56	4.6	8.1	3.8	7.5	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_149	35 LACKEY STREET ST PETERS	Residential	0	SW	54	47	59	55	55	47	59	55	4.7	8.4	3.9	7.7	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_149	35 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	56	56	48	59	56	4.7	8.2	3.8	7.6	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_150	37 LACKEY STREET ST PETERS	Residential	0	SW	54	47	59	55	55	47	59	55	4.8	8.4	3.9	7.8	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_150	37 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	56	56	48	60	56	4.6	8.2	3.8	7.5	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_151	39 LACKEY STREET ST PETERS	Residential	0	SW	54	47	59	55	55	47	59	55	4.8	8.4	3.9	7.8	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_151	39 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	56	56	48	60	56	4.7	8.2	3.8	7.6	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_152	41 LACKEY STREET ST PETERS	Residential	0	SW	54	47	59	56	55	47	59	55	4.8	8.4	3.9	7.9	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_152	41 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	56	56	48	60	56	4.6	8.3	3.8	7.6	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_153	43 LACKEY STREET ST PETERS	Residential	0	SW	54	47	59	56	55	47	59	55	4.8	8.5	4	7.8	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_153	43 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	57	56	48	60	56	4.7	8.3	3.8	7.7	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_154	45 LACKEY STREET ST PETERS	Residential	0	SW	54	47	59	56	55	47	59	55	4.8	8.5	4	7.8	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_154	45 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	57	56	48	60	56	4.7	8.3	3.8	7.7	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_155	47 LACKEY STREET ST PETERS	Residential	0	SW	54	47	59	56	55	48	59	55	4.8	8.5	4	7.8	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_155	47 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	57	56	49	60	56	4.7	8.3	3.9	7.7	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_156	49 LACKEY STREET ST PETERS	Residential	0	SW	55	47	59	56	55	48	59	55	4.8	8.5	4	7.9	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_156	49 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	57	56	49	60	56	4.7	8.3	3.9	7.7	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_157	51 LACKEY STREET ST PETERS	Residential	0	SW	55	47	59	56	55	48	59	55	4.8	8.6	4	7.9	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_157	51 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	57	56	49	60	56	4.8	8.3	3.9	7.7	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_158	53 LACKEY STREET ST PETERS	Residential	0	SW	55	47	59	56	55	48	59	56	4.9	8.5	4	8	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_158	53 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	57	56	49	60	56	4.8	8.3	3.9	7.7	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_159	55 LACKEY STREET ST PETERS	Residential	0	SW	55	47	59	56	55	47	59	56	4.9	8.8	4.1	8.1	55	50	NO	YES	NO	NO	YES	
NCA03	NCA03_159	55 LACKEY STREET ST PETERS	Residential	1	SW	55	48	60	57	56	48	60	56	4.9	8.5	4	7.9	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_159	55 LACKEY STREET ST PETERS	Residential	2	SW	56	49	61	57	57	49	61	57	4.6	8.1	3.8	7.5	55	50	YES	YES	NO	NO	YES	
NCA03	NCA03_160	9 MAY STREET ST PETERS	Residential	0	S	73	68	71	63	74	68	68	60	-2.4	-4.8	-5.9	-8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_160	9 MAY STREET ST PETERS	Residential	1	S	73	68	71	62	74	68	68	60	-2.3	-5.1	-5.8	-8.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_161	11 MAY STREET ST PETERS	Residential	0	S	73	67	70	63	73	68	67	60	-2.4	-4.8	-6	-8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_161	11 MAY STREET ST PETERS	Residential	1	S	73	67	70	62	73	68	67	60	-2.3	-5	-5.9	-8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_162	20 MAY STREET ST PETERS	Residential	0	N	72	67	71	61	73	67	68	59	-1.5	-5.5	-5.3	-8.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_163	22 MAY STREET ST PETERS	Residential	0	N	72	67	71	61	73	67	68	59	-1.5	-5.4	-5.3	-8.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_164	24 MAY STREET ST PETERS	Residential	0	N	72	66	71	61	73	67	68	59	-1.5	-5.3	-5.3	-8.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_165	26 MAY STREET ST PETERS	Residential	0	N	73	67	71	62	74	68	68	60	-1.7	-4.9	-5.5	-7.9	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_165	26 MAY STREET ST PETERS	Residential	1	N	72	67	71	62	73	68	68	60	-1.7	-5	-5.5	-8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_166	27 MAY STREET ST PETERS	Residential	0	S	73	68	71	63	74	69	68	61	-2.4	-5	-6.1	-8.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_167	29 MAY STREET ST PETERS	Residential	0	S	73	68	71	63	74	69	68	61	-2.4	-4.9	-6.1	-8.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_167	29 MAY STREET ST PETERS	Residential	1	S	73	68	71	63	74	69	68	60	-2.3	-5	-6	-8.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_168	36 MAY STREET ST PETERS	Residential	0	N	73	67	71	62	74	68	68	60	-1.6	-5.2	-5.5	-8.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_169	37 MAY STREET ST PETERS	Residential	0	S	71	66	69	61	72	67	66	59	-2.6	-5.3	-6.2	-8.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_170	39 MAY STREET ST PETERS	Residential	0	S	71	66	69	61	72	67	66	58	-2.6	-5.4	-6.2	-8.4	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_171	40 MAY STREET ST PETERS	Residential	0	N	73	67	71	62	74	68	68	60	-1.6	-5.3	-5.5	-8.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_172	42 MAY STREET ST PETERS	Residential	0	N	72	66	70	61	73	67	67	59	-1.5	-5.2	-5.3	-8.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_172	42 MAY STREET ST PETERS	Residential	1	N	72	66	70	61	73	67	67	59	-1.6	-5.1	-5.3	-8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_173	43 MAY STREET ST PETERS	Residential	0	S	73	68	70																	

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA03	NCA03_189	109 MAY STREET ST PETERS	Residential	0	S	73	68	71	63	74	68	68	61	-2.3	-4.1	-5.9	-7.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_189	109 MAY STREET ST PETERS	Residential	1	S	73	68	71	63	74	68	68	61	-2.4	-4.4	-5.9	-7.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_190	111 MAY STREET ST PETERS	Residential	0	S	73	67	71	63	73	68	68	61	-2.2	-4	-5.8	-7.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_190	111 MAY STREET ST PETERS	Residential	1	S	73	68	71	63	74	68	68	61	-2.3	-4.3	-5.8	-7.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_191	113 MAY STREET ST PETERS	Residential	0	S	73	67	71	64	73	68	68	61	-2.1	-3.9	-5.7	-7	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_191	113 MAY STREET ST PETERS	Residential	1	S	73	68	71	63	74	68	68	61	-2.2	-4.3	-5.9	-7.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_192	115 MAY STREET ST PETERS	Residential	0	S	73	68	71	64	74	68	68	61	-2.1	-4	-5.8	-7.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_192	115 MAY STREET ST PETERS	Residential	1	S	73	68	71	63	74	68	68	61	-2.3	-4.4	-5.8	-7.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_193	117 MAY STREET ST PETERS	Residential	0	S	73	68	71	64	74	68	68	61	-2.2	-4.1	-5.8	-7.2	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_193	117 MAY STREET ST PETERS	Residential	1	S	73	68	71	63	74	68	68	61	-2.3	-4.4	-5.9	-7.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_194	119 MAY STREET ST PETERS	Residential	0	S	73	68	71	64	74	68	68	61	-2.3	-4.1	-5.8	-7.1	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_194	119 MAY STREET ST PETERS	Residential	1	S	73	68	71	63	74	68	68	61	-2.3	-4.4	-5.9	-7.3	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_195	124 MAY STREET ST PETERS	Residential	0	N	72	66	70	61	72	66	68	60	-1.2	-5	-4.5	-6.8	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_195	124 MAY STREET ST PETERS	Residential	0	S	54	47	63	60	55	48	63	59	9.3	12.5	8.2	11.7	55	50	YES	YES	NO	YES	YES	
NCA03	NCA03_196	126 MAY STREET ST PETERS	Residential	0	N	72	66	70	61	72	66	68	60	-1.2	-4.8	-4.5	-6.5	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_196	126 MAY STREET ST PETERS	Residential	0	S	55	48	64	61	55	48	64	60	9.6	13	8.6	12.1	55	50	YES	YES	NO	YES	YES	
NCA03	NCA03_197	128 MAY STREET ST PETERS	Residential	0	N	72	66	70	62	73	67	68	61	-1.3	-4.2	-4.5	-5.9	55	50	NO	NO	NO	NO	NO	
NCA03	NCA03_197	128 MAY STREET ST PETERS	Residential	0	S	56	49	66	63	56	49	66	62	10.7	14.2	9.7	13.3	55	50	YES	YES	YES	YES	YES	
NCA03	NCA03_198	130 MAY STREET ST PETERS	Residential	0	W	66	60	70	66	66	60	69	65	4.2	6	2.9	5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_001	2 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	66	58	72	68	67	62	71	67	5.3	10.2	4.1	5.2	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_001	2 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.7	4.8	5.9	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_001	2 CAMPBELL ROAD ALEXANDRIA	Residential	2	SW	66	58	73	69	67	62	72	68	6.6	10.9	5.4	6.4	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_002	4 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	66	58	72	68	67	62	71	67	5.3	10.2	4	5.2	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_002	4 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.7	4.7	5.9	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_002	4 CAMPBELL ROAD ALEXANDRIA	Residential	2	SW	66	58	73	69	67	62	72	68	6.5	10.9	5.3	6.5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_003	6 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	66	58	72	68	67	62	71	67	5.3	10.3	4.1	5.3	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_003	6 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.7	4.8	5.9	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_004	8 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	66	58	72	68	67	62	71	67	5.3	10.2	4	5.2	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_004	8 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.8	4.7	5.9	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_004	8 CAMPBELL ROAD ALEXANDRIA	Residential	2	SW	66	58	73	69	67	62	72	68	6.5	11	5.4	6.5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_005	10 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	67	62	71	67	5.3	10.2	4.1	5.3	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_005	10 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6.1	10.8	4.8	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_005	10 CAMPBELL ROAD ALEXANDRIA	Residential	2	SW	66	58	73	69	67	62	72	68	6.5	11	5.4	6.5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_006	12 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	67	62	71	67	5.3	10.1	4	5.2	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_006	12 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6.1	10.8	4.8	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_006	12 CAMPBELL ROAD ALEXANDRIA	Residential	2	SW	66	58	73	69	67	62	72	68	6.6	11	5.4	6.5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_007	14 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	67	62	71	67	5.2	10.2	4	5.2	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_007	14 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.8	4.8	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_008	16 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	67	62	71	67	5.2	10.1	3.9	5.1	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_008	16 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.8	4.8	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_009	18 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	67	62	71	67	5.2	10.1	3.9	5.1	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_009	18 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.8	4.9	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_009	18 CAMPBELL ROAD ALEXANDRIA	Residential	2	SW	66	58	73	69	67	62	72	68	6.6	11	5.5	6.6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_010	20 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	67	62	71	67	5.2	10	3.9	5.1	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_010	20 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.8	4.9	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_010	20 CAMPBELL ROAD ALEXANDRIA	Residential	2	SW	66	58	73	69	67	62	72	68	6.6	11	5.5	6.6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_011	22 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	67	62	71	67	5.1	10.1	3.9	5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_011	22 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6.1	10.8	4.9	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_011	22 CAMPBELL ROAD ALEXANDRIA	Residential	2	SW	66	58	73	69	67	62	72	68	6.7	11	5.5	6.5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_012	24 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	68	62	71	68	5.1	10	3.9	5.1	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_012	24 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6.1	10.8	4.8	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_013	26 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	68	63	71	68	5.2	10	3.9	5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_013	26 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6.1	10.8	4.9	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_014	28 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	68	63	71	68	5.2	10	3.9	5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_014	28 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.8	4.9	6	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_015	30 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	68	63	71	67	5.1	10	3.9	4.9	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_015	30 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	68	62	72	68	6	10.7	4.8	5.9	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_016	32 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	67	58	72	68	67	62	71	67	5.2	9.9	4	5	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_016	32 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.6	4.9	5.9	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_017	34 CAMPBELL ROAD ALEXANDRIA	Residential	0	SW	66	58	72	68	67	62	71	67	5.3	9.9	4.1	5.3	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_017	34 CAMPBELL ROAD ALEXANDRIA	Residential	1	SW	67	58	73	69	67	62	72	68	6	10.6	4.9	5.9	55	50	YES	YES	YES	YES	YES	
NCA04	NCA04_018	641 KING STREET ST PETERS	Residential	0	E	74	69	70	64	75	70	71	65	-4.2	-4.6	-3.9	-4.6	55	50	NO	NO	NO	NO	NO	
NCA04	NCA04_018	641 KING STREET ST PETERS																							

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA06A	NCA06A_003	6 BROWN STREET ST PETERS	Residential	0	NE	48	42	68	65	49	43	68	65	20.1	22.8	19.2	21.9	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_003	6 BROWN STREET ST PETERS	Residential	1	NE	56	50	69	66	56	50	69	65	13.3	16.3	12.4	15.5	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_004	7 BROWN STREET ST PETERS	Residential	0	SE	53	46	61	58	54	47	61	58	8.1	11.7	7.3	10.9	55	50	YES	YES	NO	NO	YES	
NCA06A	NCA06A_004	7 BROWN STREET ST PETERS	Residential	1	NE	56	50	62	58	57	50	62	58	6.1	8.6	4.9	7.5	55	50	YES	YES	NO	NO	YES	
NCA06A	NCA06A_005	8 BROWN STREET ST PETERS	Residential	0	SE	47	41	64	61	48	42	64	60	16.7	19.5	15.8	18.6	55	50	YES	YES	NO	YES	YES	
NCA06A	NCA06A_005	8 BROWN STREET ST PETERS	Residential	1	SE	51	45	65	62	52	45	65	61	14	17.1	13.1	16.3	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_006	9 BROWN STREET ST PETERS	Residential	0	SE	52	46	60	56	53	46	59	56	7.2	10.6	6.4	9.9	55	50	YES	YES	NO	NO	YES	
NCA06A	NCA06A_007	10 BROWN STREET ST PETERS	Residential	0	SE	48	42	61	58	49	43	61	58	13.3	16	12.3	15.1	55	50	YES	YES	NO	NO	YES	
NCA06A	NCA06A_008	11 BROWN STREET ST PETERS	Residential	0	SE	52	45	58	55	52	45	58	54	6.6	9.7	5.8	9	55	50	NO	YES	NO	NO	YES	
NCA06A	NCA06A_009	12 BROWN STREET ST PETERS	Residential	0	NE	49	43	61	58	50	44	61	57	11.5	14.4	10.6	13.5	55	50	YES	YES	NO	NO	YES	
NCA06A	NCA06A_010	13 BROWN STREET ST PETERS	Residential	0	SE	51	45	57	54	52	45	57	53	6.1	9.1	5.2	8.3	55	50	NO	NO	NO	NO	YES	
NCA06A	NCA06A_011	75 CHURCH STREET ST PETERS	Residential	0	NE	52	46	68	64	52	47	67	64	16	17.9	15	16.9	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_011	75 CHURCH STREET ST PETERS	Residential	1	NE	54	49	69	65	54	49	68	65	14.9	16.7	13.9	15.8	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_012	77 CHURCH STREET ST PETERS	Residential	0	SE	57	50	64	60	57	51	64	60	7.4	10	6.4	8.8	55	50	YES	YES	NO	YES	YES	
NCA06A	NCA06A_012	77 CHURCH STREET ST PETERS	Residential	1	SE	58	52	65	62	59	53	65	61	7.2	9.6	6.3	8.6	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_013	79 CHURCH STREET ST PETERS	Residential	0	NE	48	42	64	61	49	42	64	60	15.9	19	15.1	18.1	55	50	YES	YES	NO	YES	YES	
NCA06A	NCA06A_013	79 CHURCH STREET ST PETERS	Residential	1	NW	50	44	64	60	51	44	63	60	13.6	16.4	12.6	15.5	55	50	YES	YES	NO	YES	YES	
NCA06A	NCA06A_014	81 CHURCH STREET ST PETERS	Residential	0	NW	48	42	63	60	49	42	63	59	14.4	17.6	13.6	16.7	55	50	YES	YES	NO	NO	YES	
NCA06A	NCA06A_014	81 CHURCH STREET ST PETERS	Residential	1	NW	51	45	64	61	51	45	64	60	13	16	12.2	15.1	55	50	YES	YES	NO	YES	YES	
NCA06A	NCA06A_015	7 FLORENCE STREET ST PETERS	Residential	0	NE	46	40	67	64	46	40	66	63	21.2	23.7	20.3	22.7	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_015	7 FLORENCE STREET ST PETERS	Residential	1	NE	51	45	68	64	52	46	67	64	16.7	19.2	15.8	18.4	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_016	9 FLORENCE STREET ST PETERS	Residential	0	SE	49	42	61	58	50	43	61	58	12.4	15.8	11.5	15	55	50	YES	YES	NO	NO	YES	
NCA06A	NCA06A_016	9 FLORENCE STREET ST PETERS	Residential	1	SE	51	44	63	59	52	45	62	59	11.9	15.1	10.9	14.3	55	50	YES	YES	NO	NO	YES	
NCA06A	NCA06A_017	4 ST PETERS STREET ST PETERS	Residential	0	NE	48	42	66	63	48	43	66	62	18.4	21.1	17.4	19.7	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_017	4 ST PETERS STREET ST PETERS	Residential	1	NE	52	46	67	64	53	46	67	63	15.2	18.1	14.2	16.9	55	50	YES	YES	YES	YES	YES	
NCA06A	NCA06A_018	6 ST PETERS STREET ST PETERS	Residential	0	NW	53	46	63	60	54	46	62	59	9.5	13.4	8.7	12.7	55	50	YES	YES	NO	NO	YES	
NCA06A	NCA06A_018	6 ST PETERS STREET ST PETERS	Residential	1	NW	54	48	64	60	55	48	63	60	9.3	12.9	8.4	12.1	55	50	YES	YES	NO	YES	YES	
NCA06A	NCA06A_019	4 UNWINS BRIDGE ROAD ST PETERS	Residential	0	N	73	67	72	67	74	68	71	67	-0.9	-0.4	-2.5	-1	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_019	4 UNWINS BRIDGE ROAD ST PETERS	Residential	1	N	73	68	72	68	74	68	71	67	-0.6	0	-2.2	-0.8	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_020	6 UNWINS BRIDGE ROAD ST PETERS	Residential	0	N	73	68	72	67	74	68	71	67	-0.8	-0.3	-2.4	-1	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_020	6 UNWINS BRIDGE ROAD ST PETERS	Residential	1	N	73	68	72	68	74	68	71	67	-0.6	0	-2.1	-0.7	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_020	6 UNWINS BRIDGE ROAD ST PETERS	Residential	1	SE	50	45	56	53	51	46	56	52	6	7.6	5	6.8	55	50	NO	NO	NO	NO	YES	
NCA06A	NCA06A_021	8 UNWINS BRIDGE ROAD ST PETERS	Residential	0	N	73	68	72	67	74	68	71	67	-0.6	-0.2	-2.3	-0.8	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_021	8 UNWINS BRIDGE ROAD ST PETERS	Residential	1	N	73	68	73	68	74	68	72	68	-0.4	0	-2.1	-0.6	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_021	8 UNWINS BRIDGE ROAD ST PETERS	Residential	1	SE	51	45	56	52	52	46	56	52	5.1	6.9	4.2	6	55	50	NO	NO	NO	NO	YES	
NCA06A	NCA06A_022	10 UNWINS BRIDGE ROAD ST PETERS	Residential	0	N	73	68	73	68	74	68	72	68	-0.4	0.1	-2.1	-0.6	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_022	10 UNWINS BRIDGE ROAD ST PETERS	Residential	1	N	73	68	73	68	74	68	72	68	-0.3	0.2	-1.9	-0.5	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_022	10 UNWINS BRIDGE ROAD ST PETERS	Residential	1	SE	51	46	55	51	52	46	55	51	3.8	5.3	2.9	4.5	55	50	NO	NO	NO	NO	YES	
NCA06A	NCA06A_023	12 UNWINS BRIDGE ROAD ST PETERS	Residential	0	N	73	68	73	68	74	68	72	68	-0.1	0.4	-1.8	-0.4	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_023	12 UNWINS BRIDGE ROAD ST PETERS	Residential	1	N	73	68	73	68	74	68	72	68	-0.2	0.4	-1.7	-0.4	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_024	14 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	73	68	73	68	74	68	72	68	0.2	0.7	-1.4	0.1	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_024	14 UNWINS BRIDGE ROAD ST PETERS	Residential	1	NW	73	68	73	68	74	68	72	68	0.2	0.6	-1.4	0	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_024	14 UNWINS BRIDGE ROAD ST PETERS	Residential	1	SE	52	46	55	51	52	47	55	51	3.1	4.6	2.2	3.8	55	50	NO	NO	NO	NO	YES	
NCA06A	NCA06A_025	16 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	73	68	73	69	74	68	73	69	0.5	1	-1.1	0.3	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_025	16 UNWINS BRIDGE ROAD ST PETERS	Residential	1	NW	73	68	73	69	74	68	72	69	0.4	0.9	-1.3	0.1	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_026	18 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	73	67	73	69	73	68	72	69	0.8	1.3	-0.8	0.6	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_026	18 UNWINS BRIDGE ROAD ST PETERS	Residential	1	NW	73	67	73	69	73	68	72	69	0.6	1.2	-0.9	0.4	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_026	18 UNWINS BRIDGE ROAD ST PETERS	Residential	1	SE	53	48	55	51	54	48	55	51	2.1	3.2	1	2.4	55	50	NO	NO	NO	NO	YES	
NCA06A	NCA06A_027	20 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	73	67	74	69	73	68	73	69	0.9	1.4	-0.7	0.8	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_028	22 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	73	68	73	68	72	68	0.8	1.4	-0.7	0.8	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_029	24 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	73	67	73	69	73	68	72	69	0.8	1.4	-0.8	0.8	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_030	26 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	73	68	73	67	72	68	0.8	1.3	-0.8	0.7	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_031	28 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	73	68	73	67	72	68	0.8	1.3	-0.8	0.7	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_032	32 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NE	54	49	55	51	55	49	55	51	1.3	2.4	0.3	1.7	55	50	NO	NO	NO	NO	YES	
NCA06A	NCA06A_033	34 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	71	66	72	67	72	67	71	67	0.7	1.3	-0.8	0.7	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_034	36 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	73	67	73	68	73	68	72	68	0.6	1.2	-0.9	0.6	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_035	38 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	73	68	73	67	72	68	0.5	1	-1.2	0.4	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_036	40 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	73	68	73	67	72	68	0.4	0.9	-1.3	0.3	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_037	42 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	73	68	74	69	74	68	73	69	0.8	1.3	-0.8	0.6	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_038	44 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	73	68	74	69	74	68	73	69	0.8	1.2	-0.8	0.7	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_039	46 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	73	68	74	69	74	69	73	69	0.7	1.3	-0.8	0.6	55	50	NO	NO				

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	≥ 65dB LAeq,15h	
NCA06A	NCA06A_065	100 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	72	68	72	67	71	68	0.6	1.2	-0.9	0.3	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_066	102 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	72	68	72	67	71	68	0.6	1.2	-1	0.3	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_067	104 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	72	68	72	67	71	68	0.6	1.1	-1.1	0.3	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_068	106 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	71	66	72	67	72	67	71	67	0.5	1	-1.1	0.1	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_069	108 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	72	68	73	68	71	68	0.3	0.7	-1.3	0	55	50	NO	NO	NO	NO	NO	
NCA06A	NCA06A_070	110 UNWINS BRIDGE ROAD ST PETERS	Residential	0	NW	72	67	71	67	72	67	70	67	-0.5	-0.2	-2	-0.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_041	15 BROWN STREET ST PETERS	Residential	0	SE	50	44	56	52	51	44	56	52	5.6	8.3	4.8	7.6	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_042	16 BROWN STREET ST PETERS	Residential	0	NW	52	46	57	53	53	46	56	53	4.8	7.6	3.8	6.7	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_043	17 BROWN STREET ST PETERS	Residential	0	SE	50	44	55	52	51	44	55	51	5.1	7.8	4.4	7	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_044	19 BROWN STREET ST PETERS	Residential	0	NW	53	47	55	51	54	48	54	51	2.2	3.6	0.9	2.8	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_045	21 BROWN STREET ST PETERS	Residential	0	SE	49	43	54	50	50	44	54	50	4.4	6.6	3.7	6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_046	22 BROWN STREET ST PETERS	Residential	0	SE	48	42	57	53	49	43	56	53	8.2	10.7	7.4	9.9	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_047	23 BROWN STREET ST PETERS	Residential	0	SE	49	43	53	49	50	44	53	49	4	6.1	3.4	5.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_048	24 BROWN STREET ST PETERS	Residential	0	SE	48	42	56	52	49	43	56	52	7.5	9.9	6.7	9.1	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_049	25 BROWN STREET ST PETERS	Residential	0	SE	49	43	53	49	50	44	53	49	3.7	5.8	3.2	5.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_050	26 BROWN STREET ST PETERS	Residential	0	NW	51	45	54	50	51	45	53	50	3.2	5.1	2.2	4.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_051	28 BROWN STREET ST PETERS	Residential	0	NW	50	45	53	50	51	45	53	49	3	4.9	2	4.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_052	30 BROWN STREET ST PETERS	Residential	0	SE	48	42	54	50	49	43	54	50	5.6	7.8	5	7.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_053	32 BROWN STREET ST PETERS	Residential	0	SE	48	42	53	50	48	43	54	50	5.6	7.8	5.1	7.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_054	33 BROWN STREET ST PETERS	Residential	0	SE	49	43	52	48	49	44	52	48	3.5	5.4	3	4.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_055	34-36 BROWN STREET ST PETERS	Residential	0	NW	50	44	52	48	51	45	52	48	2.6	4.1	1.5	3.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_056	35 BROWN STREET ST PETERS	Residential	0	SE	49	43	52	48	49	43	52	48	3.5	5.4	3.1	4.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_057	37 BROWN STREET ST PETERS	Residential	0	NW	52	47	53	48	53	47	52	48	1	1.7	-0.2	1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_058	38 BROWN STREET ST PETERS	Residential	0	NW	50	44	52	48	50	45	52	48	2.5	4.1	1.5	3.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_059	40 BROWN STREET ST PETERS	Residential	0	NW	50	44	52	48	50	45	52	48	2.4	3.9	1.4	3.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_060	41 BROWN STREET ST PETERS	Residential	0	SE	48	42	51	47	49	43	51	47	3.3	5	2.7	4.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_061	42 BROWN STREET ST PETERS	Residential	0	SE	47	41	51	47	47	42	52	47	4.1	5.7	4.1	5.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_061	42 BROWN STREET ST PETERS	Residential	1	NE	51	45	54	50	52	46	54	50	3	4.6	2.3	4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_062	43 BROWN STREET ST PETERS	Residential	0	NW	51	45	52	48	51	46	52	48	1.3	2.3	0.2	1.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_063	44 BROWN STREET ST PETERS	Residential	0	SE	46	41	51	47	47	41	51	47	4.2	5.9	4.4	5.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_063	44 BROWN STREET ST PETERS	Residential	1	SE	48	43	53	49	49	43	53	49	4.3	6	4.2	5.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_064	45 BROWN STREET ST PETERS	Residential	0	NW	51	46	52	48	52	46	52	48	1.2	2	0	1.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_065	46 BROWN STREET ST PETERS	Residential	0	SE	47	41	51	47	47	42	51	47	4.1	5.9	4.1	5.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_065	46 BROWN STREET ST PETERS	Residential	1	SE	48	43	53	49	49	43	53	49	4.2	5.9	4	5.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_066	47 BROWN STREET ST PETERS	Residential	0	NW	52	47	53	49	53	47	52	48	1.1	1.8	-0.2	1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_067	48 BROWN STREET ST PETERS	Residential	0	NW	48	43	50	45	49	44	49	45	1.4	2.3	0.2	1.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_067	48 BROWN STREET ST PETERS	Residential	1	NW	51	45	52	48	51	46	52	48	1.4	2.5	0.7	1.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_068	49 BROWN STREET ST PETERS	Residential	0	NW	51	46	52	48	52	46	52	48	1.2	2	0	1.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_069	50 BROWN STREET ST PETERS	Residential	0	NW	49	43	51	46	50	44	50	46	1.8	2.9	0.9	2.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_070	51 BROWN STREET ST PETERS	Residential	0	NW	51	46	52	48	52	46	52	48	1.1	2	-0.1	1.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_071	53 BROWN STREET ST PETERS	Residential	0	NW	51	46	52	47	52	46	51	47	1	1.7	-0.2	1.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_072	54 BROWN STREET ST PETERS	Residential	0	SE	47	42	51	47	48	42	51	47	3.3	4.8	3.4	4.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_073	55 BROWN STREET ST PETERS	Residential	0	NW	52	46	53	48	52	47	52	48	1.1	1.9	-0.1	1.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_074	56 BROWN STREET ST PETERS	Residential	0	SE	47	42	51	47	48	42	51	47	3.4	5	3.5	4.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_075	57 BROWN STREET ST PETERS	Residential	0	NE	52	46	53	48	52	47	53	48	1.2	1.9	0.3	1.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_076	58 BROWN STREET ST PETERS	Residential	0	SE	47	41	50	46	47	42	51	47	3.5	5	3.7	5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_076	58 BROWN STREET ST PETERS	Residential	1	SE	49	43	52	48	49	44	53	48	3.4	4.8	3.4	4.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_077	59 BROWN STREET ST PETERS	Residential	0	SE	46	41	49	45	47	41	49	45	2.5	3.8	2.6	3.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_077	59 BROWN STREET ST PETERS	Residential	1	NE	52	46	53	49	52	47	53	49	1.8	2.8	1	2.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_078	61 BROWN STREET ST PETERS	Residential	0	NW	49	44	50	45	50	44	49	45	1	1.6	-0.4	0.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_078	61 BROWN STREET ST PETERS	Residential	1	NW	51	46	52	48	52	47	52	48	1	1.8	-0.1	1.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_079	62 BROWN STREET ST PETERS	Residential	0	NW	48	43	49	45	49	43	49	45	1.3	2	0.5	1.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_080	63 BROWN STREET ST PETERS	Residential	0	NW	50	45	51	46	51	45	50	46	0.9	1.6	-0.4	0.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_080	63 BROWN STREET ST PETERS	Residential	1	NW	52	47	53	48	52	47	52	48	1.1	1.9	-0.2	1.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_080	63 BROWN STREET ST PETERS	Residential	2	NE	52	47	54	50	53	48	54	50	2	3.1	1.4	2.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_081	63A BROWN STREET ST PETERS	Residential	0	NW	51	46	52	47	51	46	51	47	0.9	1.6	-0.5	0.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_081	63A BROWN STREET ST PETERS	Residential	1	NW	52	47	53	49	53	48	53	49	1	1.7	-0.4	0.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_081	63A BROWN STREET ST PETERS	Residential	2	NW	54	48	55	50	54	49	54	50	1.1	1.9	0	1.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_082	64 BROWN STREET ST PETERS	Residential	0	SE	47	42	49	44	48	42	50	46	2	2.8	2.8	3.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_083	65 BROWN STREET ST PETERS	Residential	0	NW	48	43	49	45	49	44	49	45	1	1.4	0.1	1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_084	66 BROWN STREET ST PETERS	Residential	0	SE	47	42	49	45	48	42	51	46	2.2	3.2	2.9	3.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_085	67 BROWN STREET ST PETERS	Residential	0	NW	50	45	51	46	50	45	51	46	1	1.7	0.1	1.2								

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA06B	NCA06B_099	97 CHURCH STREET ST PETERS	Residential	1	SE	54	49	55	50	54	49	57	52	1.6	1.5	2.6	2.9	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_100	99 CHURCH STREET ST PETERS	Residential	0	SE	54	49	55	50	55	50	56	52	1.2	1.6	1.5	1.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_101	101 CHURCH STREET ST PETERS	Residential	0	SE	56	51	57	52	56	51	58	53	1	0.7	1.2	1.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_101	101 CHURCH STREET ST PETERS	Residential	1	SE	58	53	59	54	59	53	60	55	0.9	0.9	1.2	1.5	55	50	YES	NO	NO	NO	YES	
NCA06B	NCA06B_102	103 CHURCH STREET ST PETERS	Residential	0	SE	56	51	57	52	57	52	58	53	0.8	1.3	1.3	1.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_102	103 CHURCH STREET ST PETERS	Residential	1	SE	59	54	59	54	59	54	61	56	0.8	0.6	1.2	1.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_103	1A CONWAY PLACE ST PETERS	Residential	0	NE	54	49	55	50	55	49	54	50	0.9	1.4	-0.1	1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_104	3 CONWAY PLACE ST PETERS	Residential	0	SW	50	45	51	46	50	45	50	46	0.8	1.1	-0.6	0.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_104	3 CONWAY PLACE ST PETERS	Residential	1	SW	52	47	53	48	53	48	52	48	0.7	1.4	-0.4	0.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_105	7 CONWAY PLACE ST PETERS	Residential	0	NE	49	44	51	47	50	45	51	47	1.6	2.7	1.3	2.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_105	7 CONWAY PLACE ST PETERS	Residential	1	NE	51	46	53	48	52	47	53	49	1.5	2.5	1.2	2.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_106	9 CONWAY PLACE ST PETERS	Residential	0	NE	48	43	49	45	49	44	50	46	1.2	1.8	1.4	2.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_106	9 CONWAY PLACE ST PETERS	Residential	1	NE	51	46	52	48	51	46	53	48	1.6	1.8	1.5	2.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_107	3 EDITH STREET ST PETERS	Residential	0	SW	61	56	61	56	61	56	61	56	-0.1	-0.2	-0.9	-0.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_108	5 EDITH STREET ST PETERS	Residential	0	SW	58	54	58	53	59	54	58	53	-0.2	-0.7	-0.8	-0.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_109	8 EDITH STREET ST PETERS	Residential	0	SE	55	50	55	50	56	51	57	52	0.2	0.4	0.8	0.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_110	10 EDITH STREET ST PETERS	Residential	0	NE	50	45	51	46	51	46	53	48	0.8	0.9	2.5	2.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_111	11 EDITH STREET ST PETERS	Residential	0	SW	53	48	53	48	54	49	54	49	0.1	0.2	0.4	0.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_111	11 EDITH STREET ST PETERS	Residential	1	SE	54	50	54	49	55	50	55	50	-0.2	-0.6	0.2	0.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_112	12 EDITH STREET ST PETERS	Residential	0	SW	52	47	52	47	53	48	53	48	0.1	0.1	0.5	0.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_113	14 EDITH STREET ST PETERS	Residential	0	NE	49	44	50	45	50	45	53	48	0.7	1.1	2.7	2.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_114	18 EDITH STREET ST PETERS	Residential	0	NE	49	44	50	45	49	44	52	47	0.8	0.7	2.8	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_115	20 EDITH STREET ST PETERS	Residential	0	NE	48	43	49	44	49	44	52	47	0.8	1.2	2.8	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_116	22 EDITH STREET ST PETERS	Residential	0	NE	48	43	49	44	49	44	52	47	0.9	1.3	2.8	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_117	32 EDITH STREET ST PETERS	Residential	0	NE	48	43	49	44	49	44	51	46	0.9	1.1	2.8	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_118	32 EDITH STREET ST PETERS	Residential	0	NE	48	43	49	45	49	44	52	47	1.2	1.7	2.7	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_119	33 EDITH STREET ST PETERS	Residential	0	SW	47	43	47	42	48	43	49	44	-0.3	-0.8	1.3	1.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_119	33 EDITH STREET ST PETERS	Residential	1	SW	49	44	49	44	50	45	51	46	0.1	0.4	1.6	1.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_120	34 EDITH STREET ST PETERS	Residential	0	NE	48	43	49	44	48	43	51	46	0.9	0.9	2.9	3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_121	36 EDITH STREET ST PETERS	Residential	0	NE	47	43	48	44	48	43	51	46	0.9	0.7	2.9	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_122	38 EDITH STREET ST PETERS	Residential	0	NE	47	42	48	43	48	43	51	46	0.9	1.5	2.9	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_123	40 EDITH STREET ST PETERS	Residential	0	NE	47	42	48	43	47	42	50	45	0.9	1.1	2.7	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_124	42 EDITH STREET ST PETERS	Residential	0	NE	47	42	48	43	48	43	50	45	0.7	1.2	2.6	2.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_125	43 EDITH STREET ST PETERS	Residential	0	SW	47	43	47	42	48	43	49	44	-0.6	-0.9	1.1	1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_125	43 EDITH STREET ST PETERS	Residential	1	SW	49	44	48	44	49	45	51	46	-0.3	-0.1	1.3	1.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_126	44 EDITH STREET ST PETERS	Residential	0	NE	46	42	47	43	47	42	50	45	0.9	0.7	2.7	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_127	45 EDITH STREET ST PETERS	Residential	0	SW	47	43	47	42	48	43	49	44	-0.7	-0.7	0.6	0.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_127	45 EDITH STREET ST PETERS	Residential	1	SW	49	45	49	44	50	45	51	46	-0.1	-0.6	1.2	1.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_128	46 EDITH STREET ST PETERS	Residential	0	NE	47	42	47	43	47	42	50	45	0.8	0.7	2.7	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_129	48 EDITH STREET ST PETERS	Residential	0	NE	46	42	47	42	47	42	50	45	0.9	0.5	2.7	2.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_130	50 EDITH STREET ST PETERS	Residential	0	NE	46	41	47	42	46	41	49	44	0.9	1.2	2.4	2.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_131	52 EDITH STREET ST PETERS	Residential	0	NE	46	41	47	42	47	42	49	44	0.9	1.6	2.5	2.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_132	59 EDITH STREET ST PETERS	Residential	0	SW	48	44	49	44	49	44	50	45	0.5	0.4	0.9	1.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_132	59 EDITH STREET ST PETERS	Residential	1	SW	50	46	51	46	51	46	52	47	0.6	0.4	0.9	1.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_133	61 EDITH STREET ST PETERS	Residential	0	SW	48	44	49	44	49	44	49	45	0.5	0.5	0.4	0.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_133	61 EDITH STREET ST PETERS	Residential	1	SW	50	46	51	46	51	46	52	47	0.6	0.6	0.6	1.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_134	63 EDITH STREET ST PETERS	Residential	0	SW	49	44	49	45	49	44	49	45	0.6	0.8	-0.2	0.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_135	65 EDITH STREET ST PETERS	Residential	0	SW	49	45	50	46	50	45	50	46	0.5	0.7	-0.3	0.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_135	65 EDITH STREET ST PETERS	Residential	1	SW	51	47	52	47	52	47	52	48	0.6	0.5	0	0.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_136	75 EDITH STREET ST PETERS	Residential	0	SW	55	50	55	51	56	51	55	51	0.6	1.2	-0.7	0.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_136	75 EDITH STREET ST PETERS	Residential	1	SW	57	52	58	53	58	53	57	53	0.6	1.4	-0.6	0.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_137	78 EDITH STREET ST PETERS	Residential	0	NE	46	41	48	43	47	42	50	45	1.8	2.6	3.2	3.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_137	78 EDITH STREET ST PETERS	Residential	1	NE	48	43	50	45	49	43	52	47	1.7	2.3	2.9	3.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_138	4 FLORENCE STREET ST PETERS	Residential	0	NE	46	41	65	62	47	41	65	61	18.8	20.8	17.8	20.2	55	50	YES	YES	YES	YES	YES	
NCA06B	NCA06B_139	6 FLORENCE STREET ST PETERS	Residential	0	NW	49	43	61	58	50	43	61	57	11.8	15	10.8	14.2	55	50	YES	YES	NO	NO	YES	
NCA06B	NCA06B_139	6 FLORENCE STREET ST PETERS	Residential	1	NE	51	45	64	61	52	45	64	60	12.5	15.7	11.6	14.8	55	50	YES	YES	NO	YES	YES	
NCA06B	NCA06B_140	8 FLORENCE STREET ST PETERS	Residential	0	SE	50	44	59	56	51	44	59	55	8.8	11.8	8	11.3	55	50	NO	YES	NO	NO	YES	
NCA06B	NCA06B_140	8 FLORENCE STREET ST PETERS	Residential	1	SE	52	45	60	57	52	45	60	57	8.9	12.3	8	11.3	55	50	YES	YES	NO	NO	YES	
NCA06B	NCA06B_141	8A FLORENCE STREET ST PETERS	Residential	0	SE	50	43	58	54	50	43	57	54	7.9	11.5	7.1	10.5	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_141	8A FLORENCE STREET ST PETERS	Residential	1	SE	51	45	59	56	52	45	59	55	7.9	10.9	7.1	10.2	55	50	NO	YES	NO	NO	YES	
NCA06B	NCA06B_142	10 FLORENCE STREET ST PETERS	Residential	0	NW	48	42	56	52	49	43	55	52	7.4	10.5	6.5	9.2	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_142	10 FLORENCE STREET ST PETERS	Residential	1	NW	51	45	58	54																

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA06B	NCA06B_164	32 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	50	46	48	42	51	47	2.8	4.3	3.3	4.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_165	33 FLORENCE STREET ST PETERS	Residential	0	SE	47	41	50	46	47	42	51	47	3.5	5.3	3.6	4.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_166	34 FLORENCE STREET ST PETERS	Residential	0	NW	47	41	50	46	47	42	49	45	3	4.9	2.1	3.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_166	34 FLORENCE STREET ST PETERS	Residential	1	NE	50	45	53	49	51	45	53	49	2.9	3.9	2.7	4.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_167	35 FLORENCE STREET ST PETERS	Residential	0	SE	47	41	50	46	47	41	50	46	3.4	5.1	3.4	4.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_168	36 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	50	45	48	42	51	47	2.6	3.6	3.5	4.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_168	36 FLORENCE STREET ST PETERS	Residential	1	SE	48	43	51	47	49	44	53	48	2.8	4.3	3.5	4.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_169	37 FLORENCE STREET ST PETERS	Residential	0	SE	47	41	50	46	47	42	50	46	3.1	4.8	3.2	4.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_170	38 FLORENCE STREET ST PETERS	Residential	0	SE	48	42	50	46	48	43	52	47	2.5	4	3.3	4.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_171	39 FLORENCE STREET ST PETERS	Residential	0	NE	48	42	51	46	48	43	51	46	2.7	4.6	2.1	3.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_172	40 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	49	44	48	43	51	46	1.6	2.2	2.9	3.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_173	41 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	50	45	47	42	51	46	2.7	3.6	3.2	4.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_174	42 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	49	44	48	43	51	46	1.7	2.6	2.8	3.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_175	43 FLORENCE STREET ST PETERS	Residential	0	NE	47	42	50	46	48	42	51	46	2.5	3.8	3	4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_176	44 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	49	44	48	43	51	46	1.6	2.3	2.9	3.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_177	45-47 FLORENCE STREET ST PETERS	Residential	0	NE	48	43	50	45	48	43	51	46	2	2.4	2.5	3.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_178	46 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	49	44	48	43	51	46	1.8	2.5	3	3.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_179	48 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	49	45	48	43	51	46	1.8	2.8	3	3.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_180	49 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	49	45	47	42	50	46	2.2	2.7	3	3.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_181	50 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	49	44	48	43	51	46	1.7	2.5	3.2	3.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_181	50 FLORENCE STREET ST PETERS	Residential	1	NE	49	44	51	47	50	45	52	48	1.9	2.8	2.5	3.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_182	51 FLORENCE STREET ST PETERS	Residential	0	SE	47	42	49	44	47	42	50	45	2	2.6	2.7	3.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_272	5 MARY STREET ST PETERS	Residential	0	SW	71	67	60	57	72	67	62	57	-11.3	-10	-9.6	-10.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_272	5 MARY STREET ST PETERS	Residential	1	SW	71	67	60	57	71	67	62	57	-10.4	-9.9	-9.2	-10.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_273	7 MARY STREET ST PETERS	Residential	0	SW	71	67	57	55	71	67	61	56	-13.5	-11.5	-10.1	-10.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_273	7 MARY STREET ST PETERS	Residential	1	SW	70	67	58	56	71	67	61	56	-12.7	-11.3	-9.8	-10.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_274	9 MARY STREET ST PETERS	Residential	0	SW	70	66	56	54	71	66	61	56	-14.4	-11.4	-10	-10.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_274	9 MARY STREET ST PETERS	Residential	1	SW	70	66	56	55	70	66	61	56	-13.7	-11.3	-9.8	-10.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_275	11 MARY STREET ST PETERS	Residential	0	SW	67	63	50	50	67	63	57	53	-17.2	-12.5	-10.2	-10.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_275	11 MARY STREET ST PETERS	Residential	1	SW	67	63	50	51	67	63	57	53	-16.3	-12.2	-9.9	-10	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_276	13 MARY STREET ST PETERS	Residential	0	SW	70	67	57	55	71	67	61	56	-13.2	-11.5	-10	-10.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_276	13 MARY STREET ST PETERS	Residential	1	SW	70	66	58	56	71	66	61	56	-12.1	-10.3	-9.6	-10.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_277	13A MARY STREET ST PETERS	Residential	0	SW	70	66	57	55	71	66	61	56	-13.4	-10.9	-9.9	-10.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_277	13A MARY STREET ST PETERS	Residential	1	SW	70	66	57	55	70	66	61	56	-12.3	-10.6	-9.6	-10.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_279	19 MARY STREET ST PETERS	Residential	0	SW	71	67	56	55	71	67	61	56	-14.6	-12.2	-10.2	-10.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_280	21 MARY STREET ST PETERS	Residential	0	SW	71	67	55	54	71	67	61	56	-15.5	-12.6	-10.4	-11	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_280	21 MARY STREET ST PETERS	Residential	1	SW	70	67	57	55	71	66	61	56	-13.5	-12.1	-9.9	-10.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_281	23 MARY STREET ST PETERS	Residential	0	SW	71	67	55	54	71	67	61	56	-15.9	-12.9	-10.5	-11.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_281	23 MARY STREET ST PETERS	Residential	1	SW	70	67	57	55	71	67	61	56	-13.4	-12	-9.9	-10.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_285	33 MARY STREET ST PETERS	Residential	0	SW	70	67	54	54	71	67	61	56	-16.2	-13	-10.5	-11.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_287	35 MARY STREET ST PETERS	Residential	0	SW	71	67	54	54	71	67	61	56	-16.4	-13	-10.5	-11.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_289	37 MARY STREET ST PETERS	Residential	0	SW	71	67	54	54	71	67	61	56	-16.7	-13.1	-10.5	-11.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_291	39 MARY STREET ST PETERS	Residential	0	SW	71	67	54	54	71	67	61	56	-17	-13.3	-10.6	-11.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_292	41 MARY STREET ST PETERS	Residential	0	SW	71	67	53	54	71	67	61	56	-17.1	-13.3	-10.6	-11.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_294	43 MARY STREET ST PETERS	Residential	0	SW	71	67	53	54	71	67	61	56	-17.2	-13.3	-10.6	-11.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_295	45 MARY STREET ST PETERS	Residential	0	SW	70	66	52	53	71	66	60	55	-17.5	-12.9	-10.5	-11	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_296	47 MARY STREET ST PETERS	Residential	0	SW	71	67	53	53	71	67	60	56	-17.6	-13.5	-10.7	-11.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_298	49 MARY STREET ST PETERS	Residential	0	SW	69	65	51	52	69	65	59	54	-17.6	-13	-10.3	-10.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_298	49 MARY STREET ST PETERS	Residential	1	SW	68	65	53	52	69	65	59	55	-15.9	-12.5	-10	-10.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_299	51 MARY STREET ST PETERS	Residential	0	SW	69	65	51	52	69	65	59	55	-17.5	-12.6	-10.3	-10.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_299	51 MARY STREET ST PETERS	Residential	1	SW	69	65	53	53	69	65	59	55	-15.8	-12.1	-10.1	-10.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_301	53 MARY STREET ST PETERS	Residential	0	SW	69	65	51	52	70	65	59	55	-17.5	-12.4	-10.3	-10.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_301	53 MARY STREET ST PETERS	Residential	1	SW	69	65	53	53	69	65	59	55	-15.9	-12	-10	-10.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_302	55 MARY STREET ST PETERS	Residential	0	SW	70	66	52	53	70	66	60	56	-17.5	-12.7	-10.4	-10.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_304	57 MARY STREET ST PETERS	Residential	0	SW	70	66	52	53	70	66	60	56	-17.4	-12.7	-10.3	-10.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_306	59 MARY STREET ST PETERS	Residential	0	SW	69	66	52	53	70	66	60	55	-17.3	-13	-10.3	-10.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_307	67 MARY STREET ST PETERS	Residential	0	SW	70	67	53	53	71	67	60	56	-17.3	-13.5	-10.5	-10.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_308	69 MARY STREET ST PETERS	Residential	0	SW	70	66	52	53	71	66	60	56	-17.7	-12.8	-10.6	-10.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_308	69 MARY STREET ST PETERS	Residential	1	SW	70	66	54	53	70	66	60	56	-15.9	-12.4	-10.3	-10.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_309	71 MARY STREET ST PETERS	Residential	0	SW	68	64	50	51	69	64	58	54	-17.7	-12.7	-10.6	-10.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_310	73 MARY STREET ST PETERS	Residential	0	SW	69	65	51	52	70	65	59	55	-17.6	-12.8	-10.7	-10.8	55	50</						

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA06B	NCA06B_338	12 SILVER STREET ST PETERS	Residential	0	NE	50	46	51	46	51	46	53	48	0.9	0.4	1.9	1.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_339	13 SILVER STREET ST PETERS	Residential	0	NE	50	45	52	47	51	46	54	49	1.4	1.7	3.1	3.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_339	13 SILVER STREET ST PETERS	Residential	1	NE	52	47	54	49	53	48	56	51	1.3	1.8	2.8	2.9	55	50	NO	NO	NO	NO	YES	
NCA06B	NCA06B_340	14 SILVER STREET ST PETERS	Residential	0	SW	50	45	50	45	51	46	52	46	0.1	0.2	0.9	0.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_341	21-23 SILVER STREET ST PETERS	Residential	0	NE	49	44	51	46	49	44	53	48	1.8	2	3.4	3.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_341	21-23 SILVER STREET ST PETERS	Residential	1	NE	51	46	52	47	51	46	55	50	1.7	1.6	3.3	3.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_342	24 SILVER STREET ST PETERS	Residential	0	SW	50	45	50	45	51	46	52	46	0.1	0.1	1	0.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_343	26 SILVER STREET ST PETERS	Residential	0	NE	48	44	50	45	49	44	52	47	1.1	0.8	2.7	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_344	28 SILVER STREET ST PETERS	Residential	0	NE	48	44	50	45	49	44	52	47	1.1	0.8	2.7	2.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_345	30 SILVER STREET ST PETERS	Residential	0	NE	48	43	50	45	49	44	52	47	1.2	1.7	2.7	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_346	34 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	44	49	43	51	46	1.3	1.5	2.7	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_347	37 SILVER STREET ST PETERS	Residential	0	SW	49	44	49	44	50	45	51	46	0.3	0.6	1.4	1.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_347	37 SILVER STREET ST PETERS	Residential	1	SW	51	47	52	47	52	47	54	49	0.7	0.4	1.7	1.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_348	38 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	44	49	43	51	46	1.3	1.5	2.7	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_349	39 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	44	48	43	51	46	1.7	1.6	2.9	3.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_350	40 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	44	48	43	51	46	1.3	1.3	2.7	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_351	41 SILVER STREET ST PETERS	Residential	0	NE	48	43	50	45	49	43	52	47	1.7	2.2	3.2	3.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_352	42 SILVER STREET ST PETERS	Residential	0	NE	46	41	48	43	47	42	50	45	1.4	2.1	2.9	3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_353	43 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	42	50	46	1.7	2.3	2.7	3.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_354	44 SILVER STREET ST PETERS	Residential	0	NE	47	43	49	44	48	43	51	46	1.3	1.1	2.7	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_355	45 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	43	51	46	1.8	2.4	3	3.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_356	46 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	43	51	46	1.3	2	2.7	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_357	47 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	45	48	43	52	47	1.7	1.9	3.2	3.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_358	49 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	45	48	43	51	46	1.8	1.9	3.1	3.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_359	51 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	45	48	43	51	46	1.8	1.9	3.1	3.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_360	53 SILVER STREET ST PETERS	Residential	0	SW	47	43	48	43	48	43	50	45	0.6	0.2	1.9	1.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_361	55 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	45	48	43	51	46	2	2.8	3.2	3.6	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_362	61 SILVER STREET ST PETERS	Residential	0	NE	47	42	48	44	47	42	50	45	1.8	1.9	2.7	3.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_363	63 SILVER STREET ST PETERS	Residential	0	NE	46	41	48	43	47	42	49	44	1.5	2.4	2.2	2.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_364	66 SILVER STREET ST PETERS	Residential	0	SE	48	43	48	43	49	44	51	46	0.5	0.6	2	2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_364	66 SILVER STREET ST PETERS	Residential	1	SE	50	45	50	45	50	45	52	47	0.6	0.4	1.9	1.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_365	66 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	43	51	46	1.3	2	2.7	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_366	68 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	43	51	46	1.3	2	2.7	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_367	70 SILVER STREET ST PETERS	Residential	0	NE	47	42	48	44	48	42	50	45	1.4	1.8	2.7	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_368	70 SILVER STREET ST PETERS	Residential	0	NE	46	42	48	43	47	42	50	45	1.5	1.4	2.7	3.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_369	72 SILVER STREET ST PETERS	Residential	0	NE	47	42	48	44	47	42	50	45	1.4	1.7	2.7	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_370	73 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	43	50	46	1.6	2.4	2.6	3.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_371	75 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	43	51	46	1.6	2.6	2.6	3.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_372	76 SILVER STREET ST PETERS	Residential	0	NE	47	42	48	43	47	42	50	45	1.4	1.6	2.7	3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_373	77 SILVER STREET ST PETERS	Residential	0	NE	48	43	50	45	48	43	51	46	2	2.3	2.7	3.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_374	79 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	45	48	43	50	46	2	3	2.4	3.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_375	80 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	44	48	43	51	46	1.5	1.6	2.5	3.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_375	80 SILVER STREET ST PETERS	Residential	1	NE	49	44	50	46	49	44	52	47	1.7	2	2.4	3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_376	81 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	45	48	43	50	46	1.8	2.8	2.4	2.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_377	82 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	43	50	46	1.6	2.6	2.2	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_377	82 SILVER STREET ST PETERS	Residential	1	NE	49	44	50	46	49	44	52	47	1.7	2	2.2	2.8	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_378	82A SILVER STREET ST PETERS	Residential	0	NE	47	42	48	44	47	42	49	44	1.5	1.9	1.6	2.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_379	84 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	43	50	45	1.4	2.3	1.9	2.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_380	85 SILVER STREET ST PETERS	Residential	0	NE	47	42	49	44	48	43	50	46	1.7	2.5	2.5	3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_381	86 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	44	48	43	50	46	1.4	1.5	2	2.5	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_382	88 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	44	48	43	50	45	1.4	1.5	1.9	2.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_383	89 SILVER STREET ST PETERS	Residential	0	SW	50	45	51	46	51	46	51	47	0.8	1.4	0.5	1.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_384	90 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	45	48	43	50	46	1.3	1.7	1.8	2.4	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_385	91 SILVER STREET ST PETERS	Residential	0	NE	47	42	48	43	48	43	50	45	1	1.6	1.9	2.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_386	92 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	45	49	43	50	46	1.3	1.8	1.7	2.3	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_387	93 SILVER STREET ST PETERS	Residential	0	SW	49	44	50	45	50	45	50	46	0.7	1.4	0.1	0.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_387	93 SILVER STREET ST PETERS	Residential	1	SW	52	47	52	48	52	47	53	48	0.7	1.1	0.3	1.1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_388	93A SILVER STREET ST PETERS	Residential	0	NE	47	42	48	43	47	42	49	44	1	1.2	1.3	1.9	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_388	93A SILVER STREET ST PETERS	Residential	1	SW	51	46	52	48	52	47	52	48	0.7	1.7	0.3	1	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_389	94 SILVER STREET ST PETERS	Residential	0	NE	48	43	49	45	49	44	50	46	1.2	1.9	1.6	2.2	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_390	95 SILVER STREET ST PETERS	Residential	0	NE	51	46	52	47	52	47	51	47	0.8	1.6	-0.5	0.7	55	50	NO	NO	NO	NO	NO	
NCA06B	NCA06B_391	96 SILVER STREET ST PETERS	Residential	0	NE	48	43	50	45	49	44	50	46	1.2	2.1	1.4	2.								

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA068	NCA068_412	18 ST PETERS STREET ST PETERS	Residential	0	NE	49	43	59	55	49	43	58	55	10.1	12.4	9.2	11.8	55	50	NO	YES	NO	NO	YES	
NCA068	NCA068_412	18 ST PETERS STREET ST PETERS	Residential	1	NE	51	46	61	57	52	46	60	57	9.4	11.3	8.6	11	55	50	YES	YES	NO	NO	YES	
NCA068	NCA068_413	19 ST PETERS STREET ST PETERS	Residential	0	NW	47	41	52	49	47	42	52	48	5.5	7.7	4.8	6.8	55	50	NO	NO	NO	NO	NO	
NCA068	NCA068_414	21 ST PETERS STREET ST PETERS	Residential	0	NW	47	42	53	49	48	42	53	49	6	7.5	5.3	7.3	55	50	NO	NO	NO	NO	NO	
NCA068	NCA068_415	23 ST PETERS STREET ST PETERS	Residential	0	SE	47	41	52	48	47	41	52	48	4.8	7	4.5	6.4	55	50	NO	NO	NO	NO	NO	
NCA068	NCA068_416	25 ST PETERS STREET ST PETERS	Residential	0	SE	47	41	51	47	47	41	51	47	4.4	6.4	4.2	5.9	55	50	NO	NO	NO	NO	NO	
NCA068	NCA068_417	27-31 ST PETERS STREET ST PETERS	Residential	0	NE	46	40	51	47	46	40	51	47	4.9	6.9	4.6	6.4	55	50	NO	NO	NO	NO	NO	
NCA068	NCA068_417	27-31 ST PETERS STREET ST PETERS	Residential	1	NE	48	42	52	48	48	43	53	49	4.4	6.6	4.3	5.9	55	50	NO	NO	NO	NO	NO	
NCA068	NCA068_418	27-31 ST PETERS STREET ST PETERS	Residential	0	NE	49	43	55	52	50	43	55	51	5.8	8.8	5	7.8	55	50	NO	NO	NO	NO	YES	
NCA068	NCA068_418	27-31 ST PETERS STREET ST PETERS	Residential	1	NE	51	45	56	53	51	45	56	53	5.8	8.1	5.1	7.7	55	50	NO	NO	NO	NO	YES	
NCA068	NCA068_419	27-31 ST PETERS STREET ST PETERS	Residential	0	NW	46	41	51	48	47	41	51	47	5.5	6.9	4.7	6.6	55	50	NO	NO	NO	NO	NO	
NCA068	NCA068_419	27-31 ST PETERS STREET ST PETERS	Residential	1	NE	49	44	54	50	50	44	54	50	4.7	6.3	4.3	6.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_001	2 APPLEBEE STREET ST PETERS	Residential	0	NW	71	66	70	60	72	66	67	58	-1.5	-5.9	-5.2	-8.6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_001	2 APPLEBEE STREET ST PETERS	Residential	1	NW	71	66	69	60	72	66	67	58	-1.6	-6.1	-5.2	-8.3	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_001	2 APPLEBEE STREET ST PETERS	Residential	2	NW	70	65	69	59	71	66	66	58	-1.6	-5.5	-5.1	-8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_001	2 APPLEBEE STREET ST PETERS	Residential	3	NW	70	65	68	59	71	65	66	57	-1.8	-5.9	-5.1	-7.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_001	2 APPLEBEE STREET ST PETERS	Residential	4	NW	69	64	68	59	70	65	65	57	-1.9	-5.2	-5	-7.6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_002	4 APPLEBEE STREET ST PETERS	Residential	0	N	63	58	62	52	64	58	59	51	-1.7	-5.5	-5.1	-7.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_002	4 APPLEBEE STREET ST PETERS	Residential	1	N	64	59	62	53	65	59	60	51	-1.8	-5.8	-5.1	-7.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_002	4 APPLEBEE STREET ST PETERS	Residential	2	N	64	59	62	53	65	59	60	52	-1.8	-5.4	-5.1	-7.7	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_002	4 APPLEBEE STREET ST PETERS	Residential	3	N	64	59	62	54	65	59	60	52	-1.9	-5.3	-5.2	-7.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_002	4 APPLEBEE STREET ST PETERS	Residential	4	N	64	59	62	54	65	60	60	52	-1.8	-4.9	-5	-7.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_003	6 APPLEBEE STREET ST PETERS	Residential	0	NW	59	54	58	49	60	55	55	47	-1.8	-5.1	-5	-7.6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_003	6 APPLEBEE STREET ST PETERS	Residential	1	NW	60	55	58	50	61	55	56	48	-1.8	-5.2	-5	-7.4	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_003	6 APPLEBEE STREET ST PETERS	Residential	2	NW	61	55	59	50	61	56	56	49	-1.8	-4.6	-4.9	-7.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_003	6 APPLEBEE STREET ST PETERS	Residential	3	NW	61	56	59	51	62	56	57	49	-1.8	-5	-4.9	-7	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_003	6 APPLEBEE STREET ST PETERS	Residential	4	NW	62	56	60	52	62	57	58	50	-1.8	-4.3	-4.7	-6.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_004	8 APPLEBEE STREET ST PETERS	Residential	0	NW	55	50	54	45	56	51	51	44	-1.7	-4.6	-4.8	-7	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_004	8 APPLEBEE STREET ST PETERS	Residential	1	NW	56	51	55	46	57	52	52	45	-1.7	-4.4	-4.8	-6.7	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_004	8 APPLEBEE STREET ST PETERS	Residential	2	NW	57	52	55	47	58	52	53	46	-1.6	-4.5	-4.7	-6.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_004	8 APPLEBEE STREET ST PETERS	Residential	3	NW	58	53	56	48	59	53	54	47	-1.7	-4.6	-4.5	-6.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_004	8 APPLEBEE STREET ST PETERS	Residential	4	NW	59	54	57	50	60	54	55	49	-1.7	-4.3	-4.2	-5.6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_005	62 APPLEBEE STREET ST PETERS	Residential	0	NW	47	41	49	44	48	42	49	44	1.6	3	1.4	2.3	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_006	64 APPLEBEE STREET ST PETERS	Residential	0	S	52	47	52	45	53	47	53	46	-0.2	-1.7	-0.2	-0.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_007	66 APPLEBEE STREET ST PETERS	Residential	0	E	53	47	52	44	54	48	53	46	-0.7	-2.7	-0.7	-2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_008	68 APPLEBEE STREET ST PETERS	Residential	0	E	52	46	51	43	52	47	52	45	-0.6	-2.5	-0.7	-1.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_009	70 APPLEBEE STREET ST PETERS	Residential	0	SE	53	47	52	44	53	47	53	45	-0.7	-3	-0.8	-2.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_010	72 APPLEBEE STREET ST PETERS	Residential	0	E	51	45	51	44	51	46	51	45	-0.1	-1	0	-0.4	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_011	112 CHURCH STREET ST PETERS	Residential	0	NW	51	44	61	58	51	44	61	57	10	13.8	9.2	12.8	55	50	YES	YES	NO	NO	YES	
NCA07	NCA07_011	112 CHURCH STREET ST PETERS	Residential	1	NW	53	46	62	58	53	47	62	58	9	12.6	8.2	11.5	55	50	YES	YES	NO	NO	YES	
NCA07	NCA07_012	134 CHURCH STREET ST PETERS	Residential	0	SE	56	51	56	51	56	51	57	52	0.6	0.3	0.6	0.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_012	134 CHURCH STREET ST PETERS	Residential	1	SE	57	52	58	53	58	52	58	53	0.7	0.8	0.8	1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_013	136 CHURCH STREET ST PETERS	Residential	0	SE	54	50	55	50	55	50	56	51	0.7	0.3	0.7	1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_013	136 CHURCH STREET ST PETERS	Residential	1	SE	56	51	57	52	57	51	58	53	0.9	0.9	1	1.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_014	138 CHURCH STREET ST PETERS	Residential	0	SE	52	47	53	48	53	48	54	49	1	1.4	1.3	1.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_014	138 CHURCH STREET ST PETERS	Residential	1	SE	54	49	55	50	55	49	56	51	1.2	1.3	1.6	1.9	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_015	140 CHURCH STREET ST PETERS	Residential	0	SE	51	46	52	47	51	46	53	48	1.2	1.2	1.8	2.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_015	140 CHURCH STREET ST PETERS	Residential	1	SE	53	48	54	49	54	48	56	51	1.4	1.4	2.1	2.4	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_016	142 CHURCH STREET ST PETERS	Residential	0	SE	50	45	51	46	50	45	53	48	1.5	1.3	2.3	2.6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_016	142 CHURCH STREET ST PETERS	Residential	1	SE	52	47	54	49	53	48	55	50	1.6	1.9	2.6	2.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_017	144 CHURCH STREET ST PETERS	Residential	0	SE	50	45	51	46	50	45	53	48	1.4	1.4	2.3	2.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_017	144 CHURCH STREET ST PETERS	Residential	1	SE	52	47	54	49	53	48	56	51	1.5	2	2.6	2.8	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_018	146 CHURCH STREET ST PETERS	Residential	0	SE	50	45	52	47	51	46	53	48	1.4	1.7	2.2	2.4	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_018	146 CHURCH STREET ST PETERS	Residential	1	SE	53	48	54	49	54	48	56	51	1.4	1.4	2.4	2.6	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_019	146A CHURCH STREET ST PETERS	Residential	0	SE	50	45	52	47	51	46	53	48	1.4	1.9	2.4	2.6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_019	146A CHURCH STREET ST PETERS	Residential	1	SE	53	48	55	50	54	49	56	51	1.4	1.7	2.5	2.7	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_020	148 CHURCH STREET ST PETERS	Residential	0	SE	51	46	52	47	51	46	54	49	1.3	1.3	2.6	2.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_021	150 CHURCH STREET ST PETERS	Residential	0	SE	52	47	53	48	53	48	55	50	1.1	1.3	2.3	2.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_022	152 CHURCH STREET ST PETERS	Residential	0	SE	54	49	55	50	55	50	56	51	0.9	1.1	1.7	1.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_023	154 CHURCH STREET ST PETERS	Residential	0	SE	53	48	54	49	54	49	56	51	1.2	1.4	2.1	2.3	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_024	156 CHURCH STREET ST PETERS	Residential	0	SE	56	51	57	52	57	52	58	53	0.8	1.2	0.9	1.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_025	19-23 CROWN STREET, ST PETERS	Residential	0	E	46	41	51	46	46	41	52	47	5.3	5.6	6.1	6	55	50	NO					

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA07	NCA07_036	49 CROWN STREET ST PETERS	Residential	0	E	46	40	50	45	46	41	51	46	4.2	5.1	5.1	5.3	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_036	49 CROWN STREET ST PETERS	Residential	1	E	48	43	52	47	48	43	53	48	3.9	4.1	4.8	5.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_037	51 CROWN STREET ST PETERS	Residential	0	E	46	40	50	45	46	41	51	46	4.2	5.2	5.2	5.4	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_037	51 CROWN STREET ST PETERS	Residential	1	E	48	43	52	47	48	43	53	48	3.8	4.2	4.9	5.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_038	53 CROWN STREET ST PETERS	Residential	0	E	46	40	50	45	46	41	51	46	4.3	5.3	5.2	5.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_038	53 CROWN STREET ST PETERS	Residential	1	E	48	43	52	47	48	43	53	48	3.9	4.3	5	5.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_039	55 CROWN STREET ST PETERS	Residential	0	E	46	40	50	45	46	41	51	46	4.3	5.5	5.2	5.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_039	55 CROWN STREET ST PETERS	Residential	1	E	48	43	52	47	49	43	54	48	3.8	4.3	5	5.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_040	57 CROWN STREET ST PETERS	Residential	0	E	46	40	50	46	46	41	52	47	4.4	5.7	5.3	5.7	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_040	57 CROWN STREET ST PETERS	Residential	1	E	48	43	52	47	49	43	54	49	3.9	4.5	5.1	5.4	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_041	61 CROWN STREET ST PETERS	Residential	0	W	61	55	58	49	61	56	59	50	-2.6	-6.3	-2.8	-5.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_041	61 CROWN STREET ST PETERS	Residential	1	W	62	56	59	50	63	57	60	52	-2.6	-5.7	-2.6	-5.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_042	63 CROWN STREET ST PETERS	Residential	0	E	47	41	50	45	47	42	51	46	3.1	3.9	4	4.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_043	65 CROWN STREET ST PETERS	Residential	0	E	47	41	52	48	48	42	54	49	5.1	6.9	6	6.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_043	65 CROWN STREET ST PETERS	Residential	1	E	49	43	54	49	50	44	56	51	4.9	6.6	6.2	6.6	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_044	67 CROWN STREET ST PETERS	Residential	0	E	47	41	53	48	48	43	54	49	5.2	7.3	6	6.6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_044	67 CROWN STREET ST PETERS	Residential	1	E	49	44	55	50	50	45	56	51	5.1	6	6.5	6.8	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_045	69 CROWN STREET ST PETERS	Residential	0	E	49	43	53	49	49	44	55	50	4.9	6	5.6	6.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_046	71 CROWN STREET ST PETERS	Residential	0	E	49	43	54	49	49	44	55	51	5.1	6.6	5.9	6.4	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_047	73 CROWN STREET ST PETERS	Residential	0	E	50	44	55	51	50	45	57	52	5.4	6.9	6.8	7.2	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_048	75 CROWN STREET ST PETERS	Residential	0	SE	51	44	56	52	51	46	58	54	5.6	8	7.3	7.7	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_049	77 CROWN STREET ST PETERS	Residential	0	SE	51	44	57	53	51	46	59	55	6.1	8.8	7.8	8.2	55	50	NO	YES	NO	NO	YES	
NCA07	NCA07_049	77 CROWN STREET ST PETERS	Residential	1	SE	52	46	59	55	53	48	62	57	6.6	8.9	8.7	9.1	55	50	YES	YES	NO	NO	YES	
NCA07	NCA07_050	1 EDITH STREET ST PETERS	Residential	0	SW	63	59	63	58	64	59	63	58	0	-0.5	-1.1	-0.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_050	1 EDITH STREET ST PETERS	Residential	1	SW	64	59	64	59	65	60	64	59	0	0.2	-0.9	-0.7	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_051	1-11 PRINCES HIGHWAY ST PETERS	Residential	0	E	73	67	72	58	73	67	72	62	-1.1	-8.5	-1.5	-4.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_051	1-11 PRINCES HIGHWAY ST PETERS	Residential	1	E	73	67	71	59	73	67	72	62	-1.5	-7.9	-1.8	-4.9	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_051	1-11 PRINCES HIGHWAY ST PETERS	Residential	2	E	72	66	71	59	73	67	71	62	-1.7	-7.1	-1.9	-5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_051	1-11 PRINCES HIGHWAY ST PETERS	Residential	3	E	72	66	70	59	72	67	70	61	-1.8	-7.3	-2.1	-5.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_051	1-11 PRINCES HIGHWAY ST PETERS	Residential	4	E	71	65	69	58	72	66	70	61	-2	-6.5	-2.3	-5.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_051	1-11 PRINCES HIGHWAY ST PETERS	Residential	5	E	71	65	69	58	71	66	69	61	-2.1	-6.7	-2.3	-5.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_052	13-19 PRINCES HIGHWAY ST PETERS	Residential	0	E	72	66	71	57	73	66	71	62	-0.9	-8.6	-1.4	-4.6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_052	13-19 PRINCES HIGHWAY ST PETERS	Residential	1	E	72	66	71	58	73	67	71	62	-1.3	-7.7	-1.6	-4.9	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_052	13-19 PRINCES HIGHWAY ST PETERS	Residential	2	E	72	66	70	58	73	67	71	62	-1.5	-7.6	-1.9	-5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_052	13-19 PRINCES HIGHWAY ST PETERS	Residential	3	E	71	65	70	58	72	66	70	61	-1.7	-6.8	-1.9	-5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_052	13-19 PRINCES HIGHWAY ST PETERS	Residential	4	E	71	65	69	58	72	66	69	61	-1.7	-7.1	-2.1	-5.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_052	13-19 PRINCES HIGHWAY ST PETERS	Residential	5	E	70	65	68	58	71	65	69	60	-1.8	-7.3	-2.1	-5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_053	21-27 PRINCES HIGHWAY ST PETERS	Residential	0	E	71	65	71	57	72	66	71	61	-0.8	-8.1	-1.4	-4.7	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_053	21-27 PRINCES HIGHWAY ST PETERS	Residential	1	E	72	66	71	58	73	66	71	62	-1.2	-8.1	-1.6	-4.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_053	21-27 PRINCES HIGHWAY ST PETERS	Residential	2	E	72	66	70	58	72	66	71	61	-1.4	-8	-1.8	-4.9	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_053	21-27 PRINCES HIGHWAY ST PETERS	Residential	3	E	71	65	70	58	72	66	70	61	-1.6	-7.1	-1.9	-4.9	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_053	21-27 PRINCES HIGHWAY ST PETERS	Residential	4	E	71	65	69	58	71	65	69	61	-1.6	-7.2	-2	-4.9	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_053	21-27 PRINCES HIGHWAY ST PETERS	Residential	5	E	70	64	68	57	71	65	69	60	-1.8	-6.4	-2	-4.9	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_054	31 PRINCES HIGHWAY ST PETERS	Residential	0	SE	73	67	72	58	74	68	73	63	-1	-8.7	-1.4	-4.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_054	31 PRINCES HIGHWAY ST PETERS	Residential	1	SE	73	67	72	59	74	68	72	63	-1.3	-7.9	-1.7	-5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_055	60-82 PRINCES HIGHWAY ST PETERS	Residential	0	W	74	68	71	61	74	69	71	63	-3	-7.1	-3	-6.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_055	60-82 PRINCES HIGHWAY ST PETERS	Residential	1	W	74	68	71	60	74	69	71	63	-3	-7.5	-2.9	-6.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_055	60-82 PRINCES HIGHWAY ST PETERS	Residential	2	W	73	67	70	60	74	68	71	62	-2.8	-7	-2.8	-6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_055	60-82 PRINCES HIGHWAY ST PETERS	Residential	3	W	72	67	70	59	73	67	70	62	-2.6	-7.5	-2.7	-5.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_055	60-82 PRINCES HIGHWAY ST PETERS	Residential	3	E	50	44	54	49	50	45	57	52	4.7	5.4	7.5	7.5	55	50	NO	NO	NO	NO	YES	
NCA07	NCA07_055	60-82 PRINCES HIGHWAY ST PETERS	Residential	4	W	72	66	69	59	72	67	70	61	-2.4	-6.9	-2.6	-5.5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_055	60-82 PRINCES HIGHWAY ST PETERS	Residential	4	E	52	46	56	51	52	47	60	54	4.2	5	7.7	7.7	55	50	YES	NO	NO	NO	YES	
NCA07	NCA07_056	83-85 PRINCES HIGHWAY ST PETERS	Residential	0	E	74	68	73	59	75	68	73	63	-1.2	-9.2	-1.6	-5.1	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_056	83-85 PRINCES HIGHWAY ST PETERS	Residential	1	E	74	68	72	59	75	68	73	63	-1.4	-8.4	-1.8	-5.2	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_057	89 PRINCES HIGHWAY ST PETERS	Residential	0	E	73	67	72	58	74	67	72	63	-1.1	-8.8	-1.4	-4.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_057	89 PRINCES HIGHWAY ST PETERS	Residential	1	E	73	67	72	59	74	68	72	63	-1.3	-7.9	-1.7	-5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_058	91 PRINCES HIGHWAY ST PETERS	Residential	0	E	73	67	72	58	74	67	72	63	-1.1	-8.6	-1.5	-4.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_058	91 PRINCES HIGHWAY ST PETERS	Residential	1	E	73	67	72	59	74	68	72	63	-1.4	-7.7	-1.7	-5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_059	93 PRINCES HIGHWAY ST PETERS	Residential	0	E	73	67	72	58	74	67	72	63	-1.2	-8.5	-1.5	-4.9	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_059	93 PRINCES HIGHWAY ST PETERS	Residential	1	E	73	67	72	59	74	68	72	63	-1.4	-7.6	-1.8	-5	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_060	95 PRINCES HIGHWAY ST PETERS	Residential	0	E	73	67	72	58	74	67	72	63	-1.2	-8.5	-1.6	-4.9	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_060	95 PRINCES HIGHWAY ST PETERS	Residential	1	E	73	67	72	59	74	68	72	63	-1.5	-7.5	-1.8	-5.1	55	50	NO	NO	NO	NO	NO	

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA07	NCA07_074	3 SILVER STREET ST PETERS	Residential	0	SW	57	52	57	52	58	53	58	53	0.4	0.6	0	0.3	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_074	3 SILVER STREET ST PETERS	Residential	1	SW	58	53	58	53	59	54	59	54	0.4	0.5	0.1	0.4	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_075	5 SILVER STREET ST PETERS	Residential	0	SW	56	51	56	51	56	51	56	52	0.4	0.3	0	0.4	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_076	5A SILVER STREET ST PETERS	Residential	0	SW	55	50	55	50	56	51	56	51	0.4	0.5	0.1	0.4	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_076	5A SILVER STREET ST PETERS	Residential	1	NE	56	51	57	52	56	51	58	53	0.8	0.9	1.1	1.3	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_076	5A SILVER STREET ST PETERS	Residential	2	NE	58	53	59	54	59	54	60	55	0.8	0.9	1.1	1.3	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_077	7 SILVER STREET ST PETERS	Residential	0	SW	54	50	55	50	55	50	55	50	0.4	0	0.1	0.3	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_078	7A SILVER STREET ST PETERS	Residential	0	SW	54	50	55	50	55	50	55	50	0.4	-0.2	0.2	0.4	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_079	9 SILVER STREET ST PETERS	Residential	0	NE	51	46	52	47	52	47	53	49	1.1	1.5	1.5	1.8	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_080	9A SILVER STREET ST PETERS	Residential	0	SW	53	49	54	49	54	49	55	50	0.3	0	0.5	0.6	55	50	NO	NO	NO	NO	NO	
NCA07	NCA07_081	22 VICTORIA STREET ST PETERS	Residential	0	NE	58	53	59	54	59	54	60	55	1.1	1.1	1.7	1.8	55	50	YES	YES	NO	NO	YES	
NCA08	NCA08_001	13 BARWON PARK ROAD ST PETERS	Residential	0	E	47	42	51	47	47	42	52	47	4.1	4.7	4.3	4.5	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_001	13 BARWON PARK ROAD ST PETERS	Residential	1	E	49	44	53	48	49	44	53	48	4.1	4.4	4.2	4.4	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_002	13A BARWON PARK ROAD ST PETERS	Residential	0	E	46	41	51	46	46	41	51	46	4.5	5	4.9	5	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_002	13A BARWON PARK ROAD ST PETERS	Residential	1	E	48	43	52	48	48	43	53	48	4.6	4.9	4.9	5.1	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_003	31 BARWON PARK ROAD ST PETERS	Residential	0	E	47	42	53	49	48	42	54	49	6.1	6.9	6.1	6.6	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_003	31 BARWON PARK ROAD ST PETERS	Residential	1	E	49	43	56	51	50	44	56	51	6.4	8.1	6.2	6.7	55	50	NO	NO	NO	NO	YES	
NCA08	NCA08_003	31 BARWON PARK ROAD ST PETERS	Residential	2	E	51	46	58	53	52	47	58	53	6.2	7.1	5.9	6.4	55	50	NO	NO	NO	NO	YES	
NCA08	NCA08_004	35 BARWON PARK ROAD ST PETERS	Residential	0	E	47	41	53	48	47	42	53	48	5.7	7.1	6	6.1	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_004	35 BARWON PARK ROAD ST PETERS	Residential	1	E	49	44	55	51	49	44	55	51	6.2	6.7	6.1	6.5	55	50	NO	NO	NO	NO	YES	
NCA08	NCA08_004	35 BARWON PARK ROAD ST PETERS	Residential	2	E	52	46	59	54	52	47	59	54	6.8	8.1	6.4	7	55	50	NO	NO	NO	NO	YES	
NCA08	NCA08_005	47 BARWON PARK ROAD ST PETERS	Residential	0	E	52	45	60	56	53	47	60	55	7.7	10.7	7	8	55	50	YES	YES	NO	NO	YES	
NCA08	NCA08_006	49 BARWON PARK ROAD ST PETERS	Residential	0	E	52	46	60	56	53	48	60	55	7.7	9.8	6.9	7.9	55	50	YES	YES	NO	NO	YES	
NCA08	NCA08_007	51 BARWON PARK ROAD ST PETERS	Residential	0	E	55	48	63	58	56	50	62	58	7.4	10.3	6.4	7.4	55	50	YES	YES	NO	NO	YES	
NCA08	NCA08_007	51 BARWON PARK ROAD ST PETERS	Residential	1	E	56	49	63	59	57	52	63	59	7.1	10.3	6.2	7	55	50	YES	YES	NO	NO	YES	
NCA08	NCA08_008	53 BARWON PARK ROAD ST PETERS	Residential	0	SW	69	58	73	69	70	64	73	69	3.8	11.1	3.1	5.3	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_008	53 BARWON PARK ROAD ST PETERS	Residential	1	SW	68	58	73	69	69	63	73	69	4.9	11.4	4.3	6.2	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_008	53 BARWON PARK ROAD ST PETERS	Residential	2	SW	68	58	73	69	68	62	74	69	5.7	11.3	5.3	7	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_008	53 BARWON PARK ROAD ST PETERS	Residential	3	SW	67	58	73	69	68	62	74	69	6	11.2	5.9	7.4	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_009	19 CAMPBELL STREET ST PETERS	Residential	0	SW	69	58	72	68	70	63	72	68	3.4	10.3	2.5	4.7	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_009	19 CAMPBELL STREET ST PETERS	Residential	1	SW	68	58	73	69	69	63	73	69	4.9	11.5	4.2	6.1	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_010	21 CAMPBELL STREET ST PETERS	Residential	0	SW	69	58	72	68	70	63	72	68	3.4	10.3	2.5	4.6	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_010	21 CAMPBELL STREET ST PETERS	Residential	1	SW	68	58	73	69	69	63	73	69	4.9	11.5	4.2	6.1	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_0105	1/23 CAMPBELL STREET ST PETERS	Residential	0	SW	69	58	72	68	69	63	72	68	3.2	10.2	2.4	4.4	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_0106	2/23 CAMPBELL STREET ST PETERS	Residential	1	SW	68	58	73	69	69	63	73	69	4.7	11.2	4	6.1	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_011	25 CAMPBELL STREET ST PETERS	Residential	0	SW	69	58	72	68	69	63	72	68	3.5	10.3	2.5	4.7	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_011	25 CAMPBELL STREET ST PETERS	Residential	1	SW	68	58	73	69	69	63	73	69	4.9	11.4	4.1	6.2	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_012	27 CAMPBELL STREET ST PETERS	Residential	0	SW	69	57	72	68	69	63	72	68	3.6	11.5	2.8	5	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_012	27 CAMPBELL STREET ST PETERS	Residential	1	SW	68	58	73	69	69	63	73	69	5.1	11.5	4.4	6.3	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_013	29 CAMPBELL STREET ST PETERS	Residential	0	SW	68	57	72	68	69	63	72	68	3.8	11.5	2.8	5	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_013	29 CAMPBELL STREET ST PETERS	Residential	1	SW	68	58	73	69	69	63	73	69	5.1	11.5	4.3	6.3	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_014	31 CAMPBELL STREET ST PETERS	Residential	0	S	67	57	71	67	68	62	71	67	3.5	9.9	2.6	4.4	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_015	33 CAMPBELL STREET ST PETERS	Residential	0	S	68	58	71	67	69	63	71	67	3.4	9.5	2.4	4.2	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_016	35 CAMPBELL STREET ST PETERS	Residential	0	S	68	58	72	68	69	63	71	67	3.5	9.8	2.5	4.3	55	50	YES	YES	YES	YES	YES	
NCA08	NCA08_017	2 CROWN STREET ST PETERS	Residential	0	E	48	42	52	47	48	43	52	47	3.9	4.9	4.2	4.3	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_018	4 CROWN STREET ST PETERS	Residential	0	E	48	42	52	47	48	43	52	47	4	5	4.1	4.2	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_019	6 CROWN STREET ST PETERS	Residential	0	E	48	42	51	47	48	43	52	47	3.9	4.8	4	4.2	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_020	22 CROWN STREET ST PETERS	Residential	0	W	46	40	49	44	46	41	50	45	3.2	4.4	3.5	4	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_021	24 CROWN STREET ST PETERS	Residential	0	W	46	40	49	45	47	41	50	45	3.3	4.7	3.4	4	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_022	26 CROWN STREET ST PETERS	Residential	0	W	46	41	50	45	47	41	50	45	3.3	4.1	3.4	4	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_023	28 CROWN STREET ST PETERS	Residential	0	S	47	41	50	46	47	42	51	46	3.8	4.8	3.7	4.3	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_024	30 CROWN STREET ST PETERS	Residential	0	W	47	41	51	46	48	42	51	46	3.8	5.4	3.6	4.3	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_025	32 CROWN STREET ST PETERS	Residential	0	W	47	41	51	46	47	42	51	46	3.7	4.9	3.4	4.1	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_026	34 CROWN STREET ST PETERS	Residential	0	W	48	42	52	47	48	43	52	48	4.4	5.5	4.3	5.1	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_027	36 CROWN STREET ST PETERS	Residential	0	W	48	42	52	48	49	43	53	48	4.4	6	4.2	5.1	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_028	38 CROWN STREET ST PETERS	Residential	0	W	49	43	53	49	49	44	54	49	4.6	6	4.3	5.2	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_029	40 CROWN STREET ST PETERS	Currently construction site office	Residential	0	W	50	43	54	50	50	45	55	50	4.8	7.2	4.5	5.4	55	50	NO	NO	NO	NO	NO
NCA08	NCA08_030	42 CROWN STREET ST PETERS	Residential	0	W	51	44	56	52	51	46	56	52	5.3	8.1	4.7	5.6	55	50	NO	NO	NO	NO	YES	
NCA08	NCA08_030	42 CROWN STREET ST PETERS	Residential	1	W	52	46	59	54	53	48	59	55	6.1	8.6	6.2	7	55	50	NO	YES	NO	NO	YES	
NCA08	NCA08_031	42 CROWN STREET ST PETERS	Residential	0	S	47	40	53	48	47	42	53	48	5.9	8.1	5.6	6.4	55	50	NO	NO	NO	NO	NO	
NCA08	NCA08_031	42 CROWN STREET ST PETERS	Residential	1	S	49	43	55	51	50	45	56	51	6	7.8	5.9	6.4	55	50	NO	NO	NO	NO	YES	
NCA10	NCA10_001	1 BELLEVUE STREET TEMPE	Residential	0	NE	44	39	45	39	44	39	47	41	1	0.7	2.5	2.1	55	50	NO	NO	NO	NO	NO	
NCA10	NCA10_002	2 BELLEVUE STREET TEMPE																							

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA11	NCA11_003	7 BOURKE STREET MASCOT	Residential	3	W	68	62	68	62	68	63	67	62	0.2	0	-1.1	-1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_003	7 BOURKE STREET MASCOT	Residential	4	W	67	62	68	62	68	63	67	61	0.2	-0.1	-1.1	-1.1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_003	7 BOURKE STREET MASCOT	Residential	5	W	67	62	67	62	68	62	67	61	0.2	0	-1.1	-1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_003	7 BOURKE STREET MASCOT	Residential	6	W	67	61	67	61	68	62	66	61	0.2	0	-1.1	-1.1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_003	7 BOURKE STREET MASCOT	Residential	7	W	67	61	67	61	67	62	66	61	0.2	-0.1	-1.1	-1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_003	7 BOURKE STREET MASCOT	Residential	8	W	66	61	66	61	67	61	66	60	0.2	-0.1	-1.1	-1.1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_003	7 BOURKE STREET MASCOT	Residential	9	W	66	61	66	60	67	61	65	60	0.2	-0.1	-1.2	-1.1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	0	E	70	65	71	64	71	66	70	64	0.1	-0.6	-1.5	-1.9	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	1	E	71	65	71	65	72	66	70	64	0.1	-0.5	-1.5	-1.8	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	2	E	71	65	71	65	71	66	70	64	0	-0.5	-1.4	-1.6	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	3	E	70	65	70	64	71	65	69	64	0.1	-0.4	-1.4	-1.6	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	4	E	69	64	70	64	70	65	69	63	0.1	-0.3	-1.4	-1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	5	E	69	64	69	63	70	64	68	63	0.1	-0.3	-1.3	-1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	6	E	68	63	68	63	69	64	68	62	0.1	-0.3	-1.2	-1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	7	E	68	63	68	62	69	63	67	62	0.1	-0.3	-1.2	-1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	8	E	67	62	67	62	68	63	67	61	0.1	-0.2	-1.2	-1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	9	E	67	62	67	61	68	62	66	61	0.2	-0.3	-1.2	-1.2	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	10	E	66	61	67	61	67	62	66	60	0.1	-0.2	-1.2	-1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	11	E	66	61	66	61	67	61	66	60	0.1	-0.2	-1.2	-1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_004	8 BOURKE STREET MASCOT	Residential	12	E	66	60	66	60	66	61	65	60	0.1	-0.3	-1.2	-1.2	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	0	E	71	66	71	65	72	66	70	65	0.1	-0.5	-1.5	-1.9	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	1	E	71	66	71	65	72	67	71	65	0.1	-0.5	-1.4	-1.8	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	2	E	71	65	71	65	72	66	70	64	0.1	-0.4	-1.4	-1.7	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	3	E	70	65	70	64	71	66	70	64	0.1	-0.4	-1.4	-1.6	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	4	E	70	64	70	64	70	65	69	63	0.1	-0.4	-1.3	-1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	5	E	69	64	69	63	70	64	68	63	0.2	-0.3	-1.3	-1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	6	E	68	63	69	63	69	64	68	62	0.1	-0.3	-1.3	-1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	7	E	68	63	68	62	69	63	67	62	0.1	-0.3	-1.3	-1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	8	E	67	62	67	62	68	63	67	61	0.1	-0.3	-1.3	-1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	9	E	67	62	67	61	68	62	66	61	0	-0.4	-1.2	-1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	10	E	66	61	67	61	67	62	66	61	0.1	-0.4	-1.3	-1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	11	E	66	61	66	61	67	61	66	60	0.1	-0.4	-1.3	-1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_005	8 BOURKE STREET MASCOT	Residential	12	E	66	61	66	60	66	61	65	60	0	-0.4	-1.2	-1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	0	N	58	52	59	53	58	51	57	53	0.7	1	-0.7	1.2	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	1	N	59	53	60	54	59	52	59	54	0.6	1	-0.5	1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	2	N	59	53	60	54	60	53	59	54	0.6	1.1	-0.6	1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	3	N	60	54	60	55	60	53	59	54	0.6	1	-0.6	1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	4	N	60	53	60	54	60	53	59	54	0.5	1	-0.6	1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	5	N	59	53	60	54	60	53	59	54	0.6	1	-0.6	1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	6	N	59	53	60	54	59	53	59	54	0.5	1	-0.5	1.2	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	7	N	59	53	60	54	59	52	59	54	0.5	1	-0.5	1.3	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	8	N	59	53	59	54	59	52	59	54	0.6	1	-0.5	1.2	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	9	N	59	53	59	54	59	52	59	53	0.6	1	-0.4	1.1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	10	N	59	53	59	54	59	52	58	53	0.6	1	-0.4	1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_006	1 CHURCH AVENUE MASCOT	Residential	11	N	58	53	59	54	59	52	58	53	0.7	1	-0.2	1.1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_007	3-9 CHURCH AVENUE MASCOT	Residential	0	SE	44	38	45	39	44	38	44	39	0.5	0.6	-0.2	0.6	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_007	3-9 CHURCH AVENUE MASCOT	Residential	1	SE	45	39	45	40	45	39	45	39	0.6	0.7	-0.2	0.7	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_007	3-9 CHURCH AVENUE MASCOT	Residential	2	SE	45	39	46	40	46	39	46	40	0.5	0.7	-0.1	0.7	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_007	3-9 CHURCH AVENUE MASCOT	Residential	3	SE	46	40	46	40	46	40	46	40	0.5	0.7	-0.2	0.7	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_007	3-9 CHURCH AVENUE MASCOT	Residential	4	W	45	40	46	40	46	40	46	41	0.9	0.6	0.5	1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_007	3-9 CHURCH AVENUE MASCOT	Residential	5	W	47	41	47	42	47	41	47	42	0.9	0.7	0.4	0.9	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_007	3-9 CHURCH AVENUE MASCOT	Residential	6	W	48	42	48	43	48	42	48	43	0.9	0.7	0.4	1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_007	3-9 CHURCH AVENUE MASCOT	Residential	7	W	48	43	49	44	49	43	49	44	0.9	0.6	0.5	1	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_008	3-9 CHURCH AVENUE MASCOT	Residential	0	N	60	54	60	55	60	53	59	54	0.7	1	-0.6	1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_008	3-9 CHURCH AVENUE MASCOT	Residential	1	N	60	54	61	55	61	54	60	55	0.6	1.1	-0.5	1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_008	3-9 CHURCH AVENUE MASCOT	Residential	2	N	61	55	61	56	61	54	60	55	0.6	1	-0.4	1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_008	3-9 CHURCH AVENUE MASCOT	Residential	3	N	61	54	61	56	61	54	60	55	0.6	1.1	-0.5	1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_008	3-9 CHURCH AVENUE MASCOT	Residential	4	N	60	54	61	55	61	54	60	55	0.7	1.1	-0.5	1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_008	3-9 CHURCH AVENUE MASCOT	Residential	5	N	60	54	61	55	60	54	60	55	0.7	1.1	-0.4	1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_008	3-9 CHURCH AVENUE MASCOT	Residential	6	N	60	54	61	55	60	54	60	55	0.7	1.2	-0.3	1.5	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_008	3-9 CHURCH AVENUE MASCOT	Residential	7	N	60	54	61	55	60	53	60	55	0.7	1.1	-0.4	1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_009	3-9 CHURCH AVENUE MASCOT	Residential	0	N	60	54	60	55	60	53	60	54	0.6	1	-0.5	1.4	55	50	NO	NO	NO	NO	NO	
NCA11	NCA11_009	3-9 CHURCH AVENUE MASCOT																							

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA11	NCA11_012	19-21 CHURCH AVENUE MASCOT		Residential	5	N	62	56	62	57	62	56	62	57	0.6	0.9	-0.4	1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	0	E	67	63	68	62	68	64	68	62	0.4	-0.9	-0.3	-1.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	1	E	68	64	68	63	69	65	68	63	-0.1	-1.5	-0.8	-2.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	2	E	68	64	68	63	69	65	68	62	-0.3	-1.5	-1.1	-2.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	3	E	68	64	67	62	69	65	68	62	-0.4	-1.5	-1.1	-2.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	4	E	67	63	67	62	68	64	67	62	-0.4	-1.4	-1.3	-2.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	5	E	67	63	67	62	68	64	67	61	-0.5	-1.4	-1.3	-2.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	6	E	67	63	66	61	68	63	66	61	-0.5	-1.4	-1.3	-2.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	7	E	66	62	66	61	67	63	66	61	-0.4	-1.3	-1.3	-2.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	8	E	66	62	66	61	67	63	66	60	-0.4	-1.2	-1.4	-2.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	9	E	66	61	65	60	67	62	65	60	-0.4	-1.2	-1.3	-2.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	10	E	65	61	65	60	66	62	65	60	-0.4	-1.2	-1.3	-2.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_013	42 CHURCH STREET, MASCOT	Current industrial site has been bought	Residential	11	E	65	61	65	60	66	61	65	59	-0.4	-1.1	-1.3	-2.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	0	N	65	62	66	62	65	63	66	60	1.1	0.4	0.3	-2.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	1	N	65	62	66	62	65	63	66	61	1.1	0.4	0.3	-2.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	2	N	65	62	66	62	65	63	66	60	1.1	0.4	0.2	-2.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	3	N	65	61	66	62	65	62	65	60	1	0.4	0.1	-2.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	4	N	64	61	65	61	65	62	65	60	1	0.4	0.1	-2.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	5	N	64	61	65	61	64	61	64	59	1	0.3	0	-2.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	6	N	64	60	65	61	64	61	64	59	0.9	0.3	-0.2	-2.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	7	N	63	60	64	60	64	61	64	58	0.8	0.3	-0.3	-2.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	8	N	63	60	64	60	64	60	63	58	0.8	0.3	-0.3	-2.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	9	N	63	59	64	59	63	60	63	58	0.8	0.2	-0.4	-2.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_014	55 CHURCH AVENUE MASCOT		Residential	10	N	63	59	63	59	63	60	63	57	0.7	0.2	-0.5	-2.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	0	W	70	64	72	67	71	65	69	60	1.8	3.6	-2.5	-5	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	1	W	70	64	72	67	71	65	69	61	1.6	3.1	-2.6	-4.7	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	2	W	70	64	71	67	71	65	68	60	1.5	3.1	-2.5	-4.5	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	3	W	69	63	71	66	71	65	68	60	1.4	2.9	-2.6	-4.3	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	4	W	69	63	70	66	70	64	68	60	1.3	2.7	-2.6	-4.1	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	5	W	69	63	70	65	70	64	67	60	1.1	2.4	-2.6	-4.1	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	6	W	69	63	70	65	70	64	67	60	1	2.2	-2.7	-4	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	7	W	68	63	69	65	69	64	67	60	0.9	2	-2.6	-4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	7	W	67	61	69	64	68	62	66	59	1.4	2.9	-2.5	-3.6	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	8	W	68	63	69	64	69	64	66	60	0.8	1.8	-2.7	-4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	8	W	67	61	68	64	68	62	66	59	1.3	2.7	-2.4	-3.5	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	9	W	68	62	69	64	69	63	66	59	0.7	1.6	-2.7	-4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	9	W	67	61	68	64	68	62	65	59	1.1	2.5	-2.5	-3.6	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	10	W	68	62	68	64	69	63	66	59	0.7	1.5	-2.7	-4.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_015	61 CHURCH AVENUE MASCOT		Residential	10	W	67	61	68	63	68	62	65	58	1.1	2.3	-2.5	-3.6	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	0	N	44	39	45	39	45	39	44	39	0.4	0.2	-0.7	-0.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	1	N	45	40	45	40	46	40	45	40	0.4	0.2	-0.6	-0.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	2	N	46	40	46	41	46	41	46	40	0.4	0.3	-0.4	-0.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	3	N	46	41	47	41	47	41	46	41	0.4	0.3	-0.4	-0.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	4	N	47	41	47	42	47	42	47	42	0.4	0.3	-0.3	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	5	N	47	42	48	42	48	42	48	42	0.4	0.3	-0.2	-0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	6	N	48	42	48	43	48	43	48	43	0.4	0.3	-0.2	0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	7	N	48	43	49	43	49	43	49	43	0.5	0.2	0	0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	8	N	49	43	49	44	49	44	49	44	0.5	0.2	0	0.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	9	N	50	44	50	44	50	45	50	45	0.5	0	0.1	0.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	10	N	50	45	51	45	51	45	51	45	0.5	-0.1	0.1	0.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	11	N	50	45	51	45	51	45	51	46	0.5	-0.1	0.1	0.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT		Residential	12	N	51	46	51	45	51	46	51	46	0.4	-0.2	0.2	0.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_016	208-210 COWARD STREET MASCOT																							

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA11	NCA11_020	230 COWARD STREET MASCOT		Residential	9	W	66	61	66	60	67	61	65	60	0.2	-0.1	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_020	230 COWARD STREET MASCOT		Residential	10	W	65	60	66	60	66	61	65	59	0.1	-0.1	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_020	230 COWARD STREET MASCOT		Residential	11	W	65	60	65	60	66	60	65	59	0.2	-0.1	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_021	230 COWARD STREET MASCOT		Residential	0	W	68	63	69	63	69	63	68	62	0.2	0	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_021	230 COWARD STREET MASCOT		Residential	1	W	69	63	69	63	70	64	69	63	0.2	0	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_021	230 COWARD STREET MASCOT		Residential	2	W	69	63	69	63	69	64	68	63	0.2	0	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_021	230 COWARD STREET MASCOT		Residential	3	W	68	63	69	63	69	63	68	62	0.3	0	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_021	230 COWARD STREET MASCOT		Residential	4	W	68	63	68	63	69	63	68	62	0.2	-0.1	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_021	230 COWARD STREET MASCOT		Residential	5	W	68	62	68	62	68	63	67	62	0.2	-0.1	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	0	N	57	51	57	51	57	52	56	51	0.1	-0.1	-1.2	-1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	1	E	57	52	58	52	58	53	57	51	0.1	-0.4	-1.4	-1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	2	E	58	53	58	52	59	53	57	52	0.1	-0.3	-1.5	-1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	3	E	58	53	58	52	59	53	57	52	0.1	-0.3	-1.5	-1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	4	E	58	53	58	52	59	53	57	52	0.1	-0.3	-1.5	-1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	5	E	58	52	58	52	58	53	57	52	0.1	-0.3	-1.4	-1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	6	E	58	52	58	52	58	53	57	52	0.1	-0.3	-1.4	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	7	E	57	52	58	52	58	53	57	51	0.1	-0.2	-1.3	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	8	E	58	52	58	52	58	53	57	52	0.1	-0.2	-1.3	-1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	9	E	58	53	58	53	59	53	58	52	0.2	-0.1	-1.2	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	10	E	59	53	59	53	59	54	58	53	0.2	-0.1	-1.2	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	11	E	60	54	60	55	61	55	60	54	0.3	0.2	-0.9	-0.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_022	246-248 COWARD STREET MASCOT	Currently 2 storey office block	Residential	12	E	61	56	62	56	62	56	61	55	0.4	0.1	-0.8	-0.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	0	N	52	47	52	47	53	47	52	46	0.3	0.2	-1.2	-1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	1	N	52	47	53	47	53	47	52	46	0.3	0.2	-1.2	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	2	N	53	47	53	47	53	48	52	47	0.3	0.1	-1.2	-1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	3	N	53	47	53	48	54	48	52	47	0.3	0.1	-1.2	-1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	4	N	53	48	53	48	54	48	53	47	0.3	0.2	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	5	N	53	48	53	48	54	48	53	47	0.3	0.2	-1.2	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	6	N	53	48	53	48	54	48	53	47	0.3	0.2	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	7	N	53	48	53	48	54	48	53	47	0.3	0.3	-1.1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	8	N	53	48	53	48	54	48	53	47	0.4	0.3	-0.9	-0.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	9	N	53	48	54	48	54	48	53	48	0.4	0.3	-0.6	-0.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	10	N	53	48	54	48	54	48	53	48	0.4	0.3	-0.5	-0.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	11	W	52	47	53	48	53	47	54	49	1.1	1.3	1.8	1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	12	N	54	48	55	50	55	49	55	50	1	1.4	0.9	0.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	13	N	54	49	55	50	55	50	56	50	1.1	1.3	1	0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_023	280 COWARD STREET MASCOT	Currently 4 storey office block	Residential	14	N	54	49	56	51	55	50	56	50	1.1	1.2	1	0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_024	629 GARDENERS ROAD MASCOT		Residential	0	N	74	68	74	68	74	69	74	68	0.4	0.2	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_024	629 GARDENERS ROAD MASCOT		Residential	1	N	74	68	74	68	74	69	74	68	0.3	0.2	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_024	629 GARDENERS ROAD MASCOT		Residential	2	N	73	68	74	68	74	68	74	68	0.4	0.1	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_024	629 GARDENERS ROAD MASCOT		Residential	3	N	73	67	73	67	74	68	74	67	0.4	0.2	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_024	629 GARDENERS ROAD MASCOT		Residential	4	N	72	67	73	67	73	67	73	67	0.3	0.2	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_024	629 GARDENERS ROAD MASCOT		Residential	5	N	72	66	72	66	73	67	73	66	0.4	0.2	0.2	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_025	629 GARDENERS ROAD MASCOT		Residential	0	W	56	50	56	50	57	50	57	50	0.5	0.1	0.2	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_025	629 GARDENERS ROAD MASCOT		Residential	1	W	57	51	57	51	57	51	58	51	0.5	0.2	0.3	-0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_025	629 GARDENERS ROAD MASCOT		Residential	2	W	57	51	58	51	58	52	58	52	0.5	0.3	0.3	-0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_025	629 GARDENERS ROAD MASCOT		Residential	3	SE	59	53	59	53	59	53	59	53	0.4	0.2	0.2	-0.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_025	629 GARDENERS ROAD MASCOT		Residential	4	SE	60	54	60	54	60	54	60	54	0.4	0.1	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_025	629 GARDENERS ROAD MASCOT		Residential	5	SE	60	54	61	54	61	55	61	55	0.4	0.2	0.2	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_026	629 GARDENERS ROAD MASCOT		Residential	0	W	51	45	52	45	52	46	52	46	0.3	0.1	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_026	629 GARDENERS ROAD MASCOT		Residential	1	W	53	47	53	47	53	47	54	47	0.6	0.2	0.4	0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_026	629 GARDENERS ROAD MASCOT		Residential	2	W	53	47	54	48	54	48	54	48	0.5	0.3	0.4	0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_026	629 GARDENERS ROAD MASCOT		Residential	3	W	54	48	54	48	54	48	55	49	0.7	0.4	0.6	0.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_026	629 GARDENERS ROAD MASCOT		Residential	4	W	54	48	55	49	55	49	56	50	1	0.8	1.1	1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_026	629 GARDENERS ROAD MASCOT		Residential	5	W	55	49	56	50	55	49	57	51	1.4	1.2	1.5	1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_027	629 GARDENERS ROAD MASCOT		Residential	0	W	50	44	50	44	51	44	51	44	0.4	0.3	0	0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_027	629 GARDENERS ROAD MASCOT		Residential	1	W	51	45	51	45	51	45	52	45	0.5	0.3	0.2	0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_027	629 GARDENERS ROAD MASCOT		Residential	2	W	52	46	52	46	52	46	53	46	0.6	0.5	0.4	0.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_027	629 GARDENERS ROAD MASCOT		Residential	3	W	52	46	53	47	53	47	53	47	0.7	0.6	0.6	0.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA																								

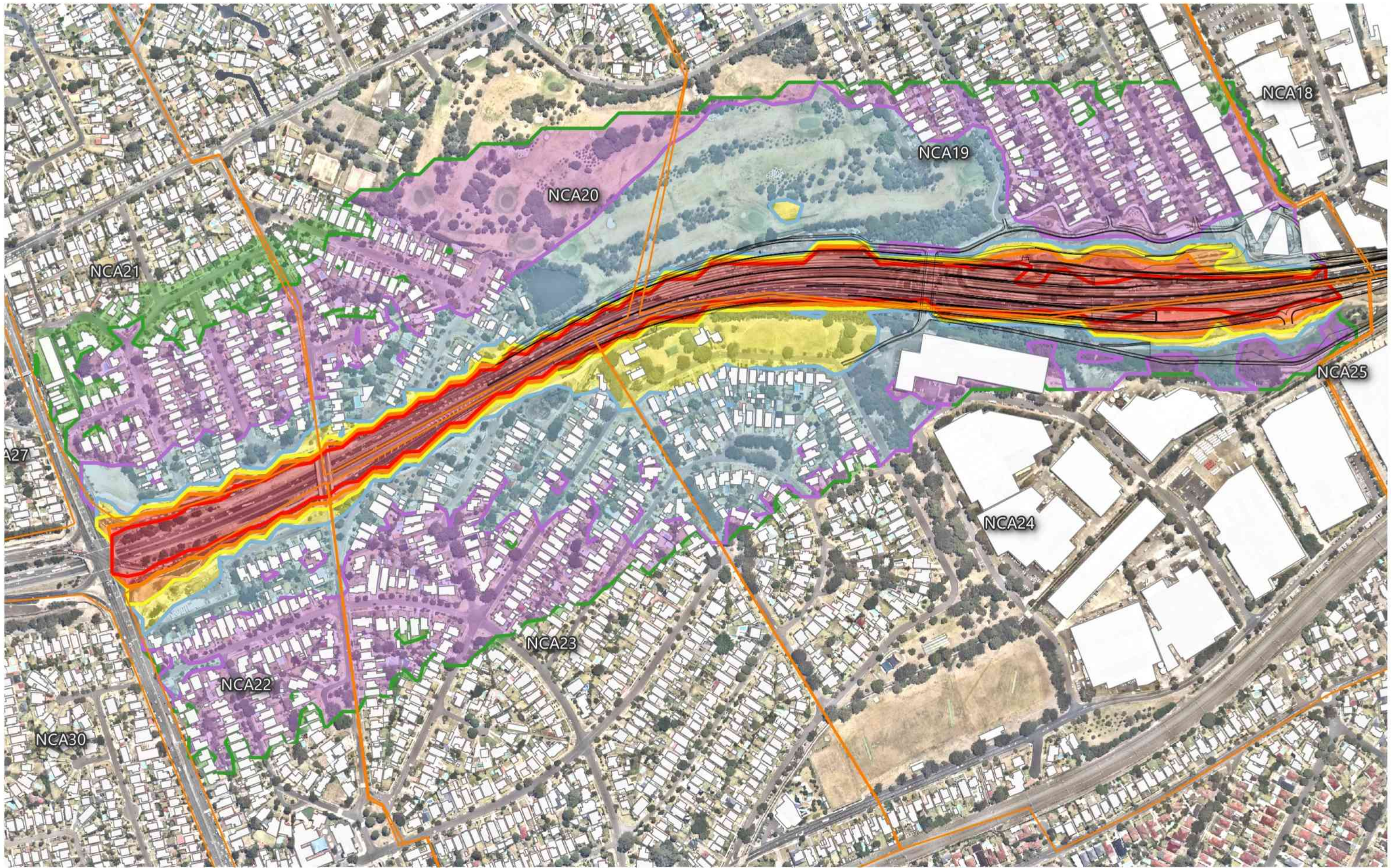
NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA11	NCA11_032	635 GARDENERS ROAD MASCOT		Residential	1	E	51	45	51	45	51	44	51	45	0.5	0.7	-0.3	0.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_032	635 GARDENERS ROAD MASCOT		Residential	2	E	51	45	52	46	52	45	51	46	0.4	0.6	-0.3	0.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_032	635 GARDENERS ROAD MASCOT		Residential	3	E	52	46	52	47	52	46	52	47	0.5	0.7	-0.1	0.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_032	635 GARDENERS ROAD MASCOT		Residential	4	E	52	46	53	47	53	46	53	47	0.6	0.7	-0.1	0.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_033	635 GARDENERS ROAD MASCOT		Residential	0	E	55	49	55	49	55	49	55	49	0.4	0	0.2	-0.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_033	635 GARDENERS ROAD MASCOT		Residential	1	E	56	50	56	50	56	50	56	50	0.5	0.2	0.3	-0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_033	635 GARDENERS ROAD MASCOT		Residential	2	W	56	50	56	50	56	51	57	51	0.6	0.2	0.7	0.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_033	635 GARDENERS ROAD MASCOT		Residential	3	W	57	51	58	52	58	52	58	52	0.7	0.1	0.7	0.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_033	635 GARDENERS ROAD MASCOT		Residential	4	W	58	53	59	53	59	54	60	54	0.4	-0.2	0.5	0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_034	635 GARDENERS ROAD MASCOT		Residential	0	W	54	49	54	48	55	50	55	48	-0.5	-1	-0.6	-1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_034	635 GARDENERS ROAD MASCOT		Residential	1	W	55	50	55	49	56	51	56	50	-0.3	-0.9	-0.5	-1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_034	635 GARDENERS ROAD MASCOT		Residential	2	N	56	50	56	50	56	51	57	51	0.3	-0.1	0.2	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_034	635 GARDENERS ROAD MASCOT		Residential	3	N	57	51	57	51	57	52	58	52	0.5	-0.1	0.4	0	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_034	635 GARDENERS ROAD MASCOT		Residential	4	N	58	53	58	52	59	53	59	53	0.3	-0.4	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_035	635 GARDENERS ROAD MASCOT		Residential	0	W	49	43	49	43	49	43	49	43	0.5	0.4	-0.1	0.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_035	635 GARDENERS ROAD MASCOT		Residential	1	W	50	44	50	45	50	44	50	45	0.5	0.5	0	0.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_035	635 GARDENERS ROAD MASCOT		Residential	2	W	51	45	52	46	52	46	52	46	0.6	0.3	0.1	0.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_035	635 GARDENERS ROAD MASCOT		Residential	3	W	52	47	53	47	53	47	53	48	0.8	0.5	0.4	0.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_035	635 GARDENERS ROAD MASCOT		Residential	4	W	54	48	55	49	54	49	55	49	0.8	0.2	0.4	0.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	0	N	72	67	71	65	73	68	72	66	-0.9	-1.6	-0.9	-2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	1	N	73	68	72	66	73	68	73	66	-0.8	-1.6	-0.9	-2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	2	N	73	68	72	66	73	68	73	66	-0.8	-1.6	-0.8	-1.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	3	N	72	67	72	66	73	68	73	66	-0.7	-1.5	-0.6	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	4	N	72	67	72	66	73	68	72	66	-0.5	-1.5	-0.4	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	5	N	72	67	71	65	73	67	72	66	-0.3	-1.4	-0.3	-1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	6	N	71	66	71	65	72	67	72	65	-0.3	-1.4	-0.2	-1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	7	N	71	66	71	65	72	67	72	65	-0.3	-1.4	-0.2	-1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	8	N	71	66	71	64	72	66	71	65	-0.2	-1.3	-0.2	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	9	N	70	65	70	64	71	66	71	65	-0.2	-1.3	-0.2	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	10	N	70	65	70	64	71	66	71	64	-0.2	-1.3	0	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	11	N	70	65	70	63	71	65	71	64	-0.1	-1.3	0	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	12	N	70	64	69	63	70	65	70	64	-0.1	-1.3	0	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	13	N	69	64	69	63	70	65	70	64	-0.1	-1.2	0	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_036	653 GARDENERS ROAD MASCOT	Apartment development DA approved DA-22	Residential	13	W	58	53	59	53	59	54	61	55	0.9	0.2	1.4	0.8	55	50	YES	YES	NO	NO	YES
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	0	N	71	66	71	65	72	67	72	65	-0.5	-1.3	-0.4	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	1	N	72	67	72	66	73	68	73	66	-0.5	-1.3	-0.3	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	2	N	72	67	72	66	73	68	73	66	-0.4	-1.4	-0.2	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	3	N	72	67	72	66	73	68	73	66	-0.7	-1.6	-0.5	-1.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	4	N	72	67	71	65	73	68	72	66	-0.5	-1.6	-0.4	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	5	N	72	66	71	65	72	67	72	65	-0.4	-1.5	-0.3	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	6	N	71	66	71	65	72	67	72	65	-0.4	-1.5	-0.3	-1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	7	N	71	66	71	64	72	66	71	65	-0.4	-1.4	-0.2	-1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	8	N	71	65	70	64	71	66	71	65	-0.3	-1.4	-0.1	-1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	9	N	70	65	70	64	71	66	71	64	-0.3	-1.4	-0.1	-1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	10	N	70	65	70	63	71	65	71	64	-0.3	-1.3	0	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_037	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	11	N	70	64	69	63	70	65	70	64	-0.2	-1.3	0.1	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	0	W	50	44	49	43	50	45	50	43	-0.5	-1.5	-0.4	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	1	W	51	45	50	44	51	46	51	44	-0.6	-1.5	-0.5	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	2	W	51	46	50	44	52	47	51	45	-0.6	-1.6	-0.5	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	3	W	51	46	51	44	52	47	52	45	-0.6	-1.6	-0.4	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	4	W	52	46	51	45	52	47	52	45	-0.4	-1.5	-0.1	-1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	5	W	52	46	51	45	52	47	52	46	-0.4	-1.5	-0.1	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	6	W	52	47	51	45	53	47	52	46	-0.4	-1.5	-0.1	-1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	7	W	52	47	52	45	53	47	53	46	-0.3	-1.5	-0.1	-1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	8	W	52	47	52	45	53	47	53	46	-0.3	-1.5	-0.1	-1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	9	W	52	47	52	45	53	47	53	46	-0.2	-1.5	0	-1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	10	W	52	47	52	45	53	47	53	46	-0.2	-1.3	0	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_038	659-669 GARDENERS ROAD MASCOT	Avantra apartments under construction	Residential	11	W	52	47	52	45	53	47	53	46	-0.1	-1.1	0.1	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_039	67																							

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA11	NCA11_041	671-683 GARDENERS ROAD MASCOT	Apartments approved DA: DA13/172	Residential	5	N	71	66	71	65	72	67	72	65	-0.2	-1.2	0	-1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_041	671-683 GARDENERS ROAD MASCOT	Apartments approved DA: DA13/172	Residential	6	N	71	66	71	65	72	67	72	65	-0.3	-1.2	0	-1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_041	671-683 GARDENERS ROAD MASCOT	Apartments approved DA: DA13/172	Residential	7	N	71	65	70	64	71	66	72	65	-0.2	-1.3	0.1	-1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_041	671-683 GARDENERS ROAD MASCOT	Apartments approved DA: DA13/172	Residential	8	N	70	65	70	64	71	66	71	64	-0.2	-1.3	0.2	-1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_041	671-683 GARDENERS ROAD MASCOT	Apartments approved DA: DA13/172	Residential	9	N	70	65	70	63	71	65	71	64	-0.1	-1.2	0.1	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_041	671-683 GARDENERS ROAD MASCOT	Apartments approved DA: DA13/172	Residential	10	N	70	64	70	63	70	65	71	64	-0.1	-1.2	0.2	-1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_041	671-683 GARDENERS ROAD MASCOT	Apartments approved DA: DA13/172	Residential	11	N	69	64	69	63	70	65	70	64	-0.1	-1.2	0.2	-1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_041	671-683 GARDENERS ROAD MASCOT	Apartments approved DA: DA13/172	Residential	12	N	69	64	69	63	70	64	70	63	-0.1	-1.2	0.2	-1.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_042	5 HARAN STREET MASCOT		Residential	0	NE	47	41	47	42	47	40	46	41	0.7	1	-0.6	1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_042	5 HARAN STREET MASCOT		Residential	1	NE	48	42	48	43	48	41	47	42	0.6	1.1	-0.5	1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_042	5 HARAN STREET MASCOT		Residential	2	NE	48	42	49	43	48	42	48	43	0.6	1	-0.5	1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_042	5 HARAN STREET MASCOT		Residential	3	NE	49	43	49	44	49	42	48	43	0.7	1.1	-0.4	1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_042	5 HARAN STREET MASCOT		Residential	4	NE	49	43	50	44	49	42	49	44	0.7	1.1	-0.3	1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_042	5 HARAN STREET MASCOT		Residential	5	NE	49	43	50	44	49	43	49	44	0.7	1.1	-0.2	1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_042	5 HARAN STREET MASCOT		Residential	6	NE	49	43	50	44	50	43	49	45	0.7	1.1	-0.1	1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_042	5 HARAN STREET MASCOT		Residential	7	NW	49	43	50	44	50	43	50	45	0.7	0.9	0.3	1.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_043	28 JOHN STREET MASCOT		Residential	0	S	55	50	56	50	56	50	55	49	0.3	0	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_043	28 JOHN STREET MASCOT		Residential	1	S	56	51	56	51	57	51	56	50	0.3	0.1	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_043	28 JOHN STREET MASCOT		Residential	2	S	56	51	57	51	57	52	56	51	0.4	0.1	-0.9	-0.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_043	28 JOHN STREET MASCOT		Residential	3	S	57	51	57	51	57	52	56	51	0.3	0.1	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_043	28 JOHN STREET MASCOT		Residential	4	S	57	52	57	52	58	52	57	51	0.3	0.1	-1	-0.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_043	28 JOHN STREET MASCOT		Residential	5	S	57	52	57	52	58	52	57	51	0.3	0.1	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_043	28 JOHN STREET MASCOT		Residential	6	S	57	52	57	52	58	52	57	51	0.3	0.1	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_043	28 JOHN STREET MASCOT		Residential	7	S	57	52	57	52	58	52	57	51	0.3	0.1	-1	-1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_043	28 JOHN STREET MASCOT		Residential	8	S	57	51	57	52	58	52	57	51	0.3	0.1	-0.9	-0.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	0	W	70	65	69	64	71	66	67	60	-1	-1.7	-3.8	-5.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	1	W	71	66	70	65	72	67	68	61	-1	-1.7	-3.7	-5.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	2	W	71	66	70	65	72	67	69	61	-0.9	-1.7	-3.6	-5.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	3	W	71	66	70	64	72	67	69	61	-1	-1.8	-3.5	-5.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	4	W	71	66	70	64	72	67	68	61	-0.9	-1.7	-3.4	-5.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	5	W	71	66	70	64	71	66	68	61	-0.9	-1.7	-3.3	-5.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	6	W	70	65	69	64	71	66	68	61	-0.8	-1.7	-3.1	-5.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	7	W	70	65	69	63	71	66	68	60	-0.8	-1.6	-3	-5.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	8	W	70	65	69	63	70	65	68	60	-0.8	-1.6	-2.9	-5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	8	N	65	60	65	58	65	60	64	57	-0.1	-1.2	-1.5	-3.4	55	50	NO	NO	YES	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	9	W	69	64	69	63	70	65	67	60	-0.7	-1.4	-2.8	-4.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	9	N	64	59	64	58	65	60	64	57	0	-1.1	-1.2	-3.1	55	50	NO	NO	YES	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	10	W	69	64	68	62	70	65	67	60	-0.7	-1.4	-2.6	-4.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	10	N	64	59	64	58	65	60	64	57	0.1	-0.9	-0.9	-2.8	55	50	YES	YES	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	11	W	69	64	68	62	70	64	67	60	-0.6	-1.3	-2.5	-4.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	11	N	64	59	64	58	65	59	64	57	0.3	-0.8	-0.7	-2.5	55	50	YES	YES	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	12	W	68	63	68	62	69	64	67	60	-0.5	-1.3	-2.3	-4.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	12	N	63	58	64	58	64	59	64	57	0.4	-0.7	-0.4	-2.1	55	50	YES	YES	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	13	W	68	63	68	62	69	64	67	60	-0.5	-1.3	-2.2	-4.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044a	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	13	N	63	58	64	58	64	59	64	57	0.6	-0.4	-0.1	-1.7	55	50	YES	YES	NO	NO	NO
NCA11	NCA11_044b	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	0	N	58	53	57	51	59	54	56	49	-1.1	-2.1	-2.9	-5.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044b	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	1	N	59	54	58	52	60	55	57	50	-1.1	-2.2	-2.8	-5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044b	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	2	N	60	55	59	52	60	55	58	51	-1.1	-2.2	-2.6	-4.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044b	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	3	N	60	55	59	53	61	56	58	51	-1	-2.1	-2.4	-4.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044b	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	4	N	60	55	59	53	61	56	59	52	-0.9	-2	-2.2	-4.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044b	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	5	N	60	55	59	53	61	56	59	52	-0.8	-2	-2	-4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_044b	1-5 KENT ROAD MASCOT	Kiara by Meriton approved DA	Residential	6	N	60	55	60	53	61	56	59	52	-0.7	-1.9	-								

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding 22dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	2	W	74	69	73	67	74	69	71	63	-1	-1.8	-3.9	-6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	3	W	73	68	72	67	74	69	70	63	-1	-1.3	-3.8	-6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	4	W	73	68	72	66	73	68	70	62	-0.9	-1.9	-3.6	-5.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	5	W	72	67	71	65	73	68	69	62	-0.9	-1.4	-3.5	-5.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	6	W	72	67	71	65	72	67	69	62	-0.8	-1.8	-3.5	-5.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	7	W	71	66	70	65	72	67	69	61	-0.8	-1.2	-3.3	-5.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	8	W	71	66	70	64	72	66	68	61	-0.8	-1.6	-3.2	-5.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	9	W	70	65	70	64	71	66	68	61	-0.7	-0.9	-3.1	-5.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	10	W	70	65	69	64	71	66	68	60	-0.7	-1.2	-3.1	-5.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	11	W	70	65	69	63	70	65	68	60	-0.6	-1.5	-2.9	-5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	12	W	69	64	69	63	70	65	67	60	-0.6	-0.8	-2.8	-4.9	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	12	N	62	57	62	56	63	58	62	54	-0.3	-1.2	-1.5	-3.4	55	50	YES	NO	NO	NO	YES
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	13	W	69	64	69	63	70	65	67	60	-0.5	-1	-2.7	-4.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_047	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	13	N	62	57	62	55	63	57	62	54	-0.2	-1.4	-1.2	-3	55	50	YES	NO	NO	NO	YES
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	0	S	66	62	68	63	66	63	67	62	2	1.5	1.3	-1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	1	S	66	63	68	64	66	63	67	62	1.8	0.7	1.2	-1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	2	S	65	62	67	63	66	63	67	61	1.8	1.2	1.1	-1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	3	S	65	62	67	62	65	62	66	61	1.7	0.6	1.1	-1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	4	S	64	61	66	62	64	62	65	60	1.6	1	1	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	5	S	64	61	65	61	64	61	65	60	1.6	0.3	0.9	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	6	S	63	60	65	61	63	61	64	59	1.6	0.8	0.9	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	7	S	63	60	64	60	63	60	64	58	1.5	0.2	0.9	-1.7	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	8	S	62	59	64	60	62	60	63	58	1.5	0.7	0.7	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	9	S	62	59	63	59	62	59	63	57	1.5	0.3	0.8	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	10	S	61	58	63	59	61	59	62	57	1.5	0.8	0.7	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	11	S	61	58	62	58	61	58	62	57	1.5	0.4	0.6	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	12	S	60	57	62	58	61	58	61	56	1.5	1.1	0.7	-1.8	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_048	9 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	13	S	60	57	62	58	61	58	61	56	1.4	0.8	0.6	-1.6	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	0	W	68	61	69	65	69	62	66	58	1.8	4	-2.6	-4.3	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	1	W	68	62	70	65	69	63	67	59	1.8	3.5	-2.6	-4.1	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	2	W	68	61	69	65	69	62	66	59	1.8	4.2	-2.6	-3.9	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	3	W	67	61	69	65	68	62	66	58	1.8	3.8	-2.6	-3.7	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	4	W	67	61	69	64	68	62	65	58	1.8	3.4	-2.5	-3.6	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	5	W	66	60	68	64	67	61	65	58	1.9	3.9	-2.5	-3.4	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	6	W	66	60	68	63	67	61	65	57	1.8	3.5	-2.5	-3.3	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	7	W	65	59	67	63	67	60	64	57	1.8	4	-2.4	-3.1	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	8	W	65	59	67	62	66	60	64	57	1.8	3.6	-2.4	-3	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	9	W	65	58	66	62	66	59	63	57	1.8	4.2	-2.2	-2.9	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	10	W	64	58	66	62	65	59	63	56	1.8	3.8	-2.2	-2.8	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	11	W	64	58	66	61	65	59	63	56	1.8	3.4	-2.1	-2.7	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	12	W	64	57	65	61	65	58	63	56	1.7	4.1	-2.1	-2.6	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_049	39 KENT ROAD MASCOT	Esprit by Bridgehill under construction	Residential	13	W	63	57	65	61	64	58	62	56	1.8	3.8	-2	-2.6	60	55	NO	NO	NO	NO	YES
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	0	N	59	54	60	54	60	54	60	54	0.4	-0.2	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	1	N	61	55	62	55	62	56	62	56	0.3	0.6	0.1	-0.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	2	N	62	56	62	56	63	56	63	56	0.4	0.2	0.1	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	3	N	62	57	63	57	63	57	63	57	0.3	-0.3	0.2	-0.3	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	4	N	63	57	63	57	63	57	63	57	0.4	0	0.2	-0.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	5	N	63	57	63	57	64	57	64	57	0.4	0.2	0.2	-0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	6	N	63	57	64	57	64	58	64	58	0.4	0.6	0.2	-0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	7	N	64	58	64	58	64	58	64	58	0.5	-0.1	0.3	0	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	8	N	64	58	64	58	64	58	65	58	0.5	0	0.4	0	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	9	N	64	58	64	58	65	58	65	58	0.5	0.2	0.3	0	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	10	N	64	58	65	58	65	59	65	59	0.5	0.4	0.3	-0.1	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_050	103-105 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	11	N	64	58	65	58	65	59	65	59	0.5	0.6	0.3	0	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_051	109-123 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	0	S	62	56	62	56	62	55	62	56	0.7	0.6	-0.2	1.2	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_051	109-123 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	1	S	62	56	63	57	63	55	62	57	0.6	1.2	-0.1	1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_051	109-123 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	2	S	62	56	63	57	62	55	62	57	0.6	1	-0.2	1.5	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_051	109-123 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	3	S	62	56	62	57	62	55	62	56	0.6	0.7	-0.2	1.4	55	50	NO	NO	NO	NO	NO
NCA11	NCA11_051	109-123 O'RIORDAN STREET MASCOT	Esprit by Bridgehill under construction	Residential	4																				

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade		Opening Year				Design Year				Increase (Build - No Build)				NCG noise criteria		Do noise levels exceed the cumulative limit with project roads adding ≥2dB to the total noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
							No Build		Build		No Build		Build		Opening Year		Design Year								
							Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
					dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
OSR	OSR_321	90-96 BOURKE ROAD ALEXANDRIA		Childcare Sleeping	0	NW	69	65	69	62	70	65	70	64	-0.3	-2.9	0.5	-1	45	-	NO	NO	NO	NO	NO
OSR	OSR_321	90-96 BOURKE ROAD ALEXANDRIA		Childcare Sleeping	1	NW	69	65	69	62	70	65	70	64	-0.4	-2.7	0.4	-1	45	-	NO	NO	NO	NO	NO
OSR	OSR_321	90-96 BOURKE ROAD ALEXANDRIA		Childcare Sleeping	2	NW	69	65	69	62	69	65	70	64	-0.3	-2.8	0.4	-0.9	45	-	NO	NO	NO	NO	NO
OSR	OSR_323	2/140 BOURKE ROAD ALEXANDRIA	Alexandria Early Education child care c	Childcare Sleeping	0	SW	58	53	57	50	58	53	58	53	-0.6	-2.7	0.5	-0.5	45	-	NO	NO	NO	NO	NO
OSR	OSR_323	2/140 BOURKE ROAD ALEXANDRIA	Alexandria Early Education child care c	Childcare Sleeping	1	SW	59	54	58	51	59	55	59	54	-0.6	-2.7	0.4	-0.7	45	-	NO	NO	NO	NO	NO
OSR	OSR_326	2/160 BOURKE ROAD ALEXANDRIA	Alexandria Montessori Academy child car	Childcare Sleeping	0	NW	46	42	47	41	47	42	49	43	0.7	-0.9	1.9	1.1	45	-	NO	NO	NO	NO	NO
OSR	OSR_326	2/160 BOURKE ROAD ALEXANDRIA	Alexandria Montessori Academy child car	Childcare Sleeping	0	NW	45	40	46	40	45	40	48	42	1.2	0.2	2.5	1.9	45	-	NO	NO	NO	NO	YES
OSR	OSR_326	2/160 BOURKE ROAD ALEXANDRIA	Alexandria Montessori Academy child car	Childcare Sleeping	1	NW	48	43	48	42	48	43	50	45	0.8	-0.5	2.1	1.3	45	-	YES	NO	NO	NO	YES
OSR	OSR_358	65 DOODY STREET ALEXANDRIA	Hillsong Church Alexandria	Places of worship	0	NW	59	55	58	51	59	55	59	54	-0.8	-3.8	0.2	-0.8	50	50	NO	NO	NO	NO	NO
OSR	OSR_358	65 DOODY STREET ALEXANDRIA	Hillsong Church Alexandria	Places of worship	1	NW	59	55	59	52	60	55	60	55	-0.8	-3	0.3	-0.7	50	50	NO	NO	NO	NO	NO
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	0	SE	40	34	40	34	40	35	41	35	0.6	0.6	0.6	0.4	45	-	NO	NO	NO	NO	NO
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	1	NE	42	37	43	37	42	37	43	38	0.8	0.6	1.4	1	45	-	NO	NO	NO	NO	NO
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	2	NW	47	42	48	43	47	42	50	45	1.8	1.1	3.3	3	45	-	YES	NO	NO	NO	YES

APPENDIX F Traffic noise contours



Legend
 Buildings
 NCAs

Noise Contours

50	<= 50
55	50 - 55
60	55 - 60
65	60 - 65
70	65 - 70
75	70 - 75
>= 75	>= 75

Client
WestConnex New M5



Project
 WestConnex Stage 2 M5

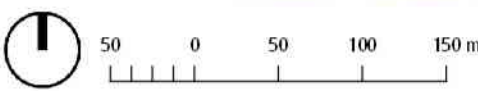
Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. This information is protected by copyright.

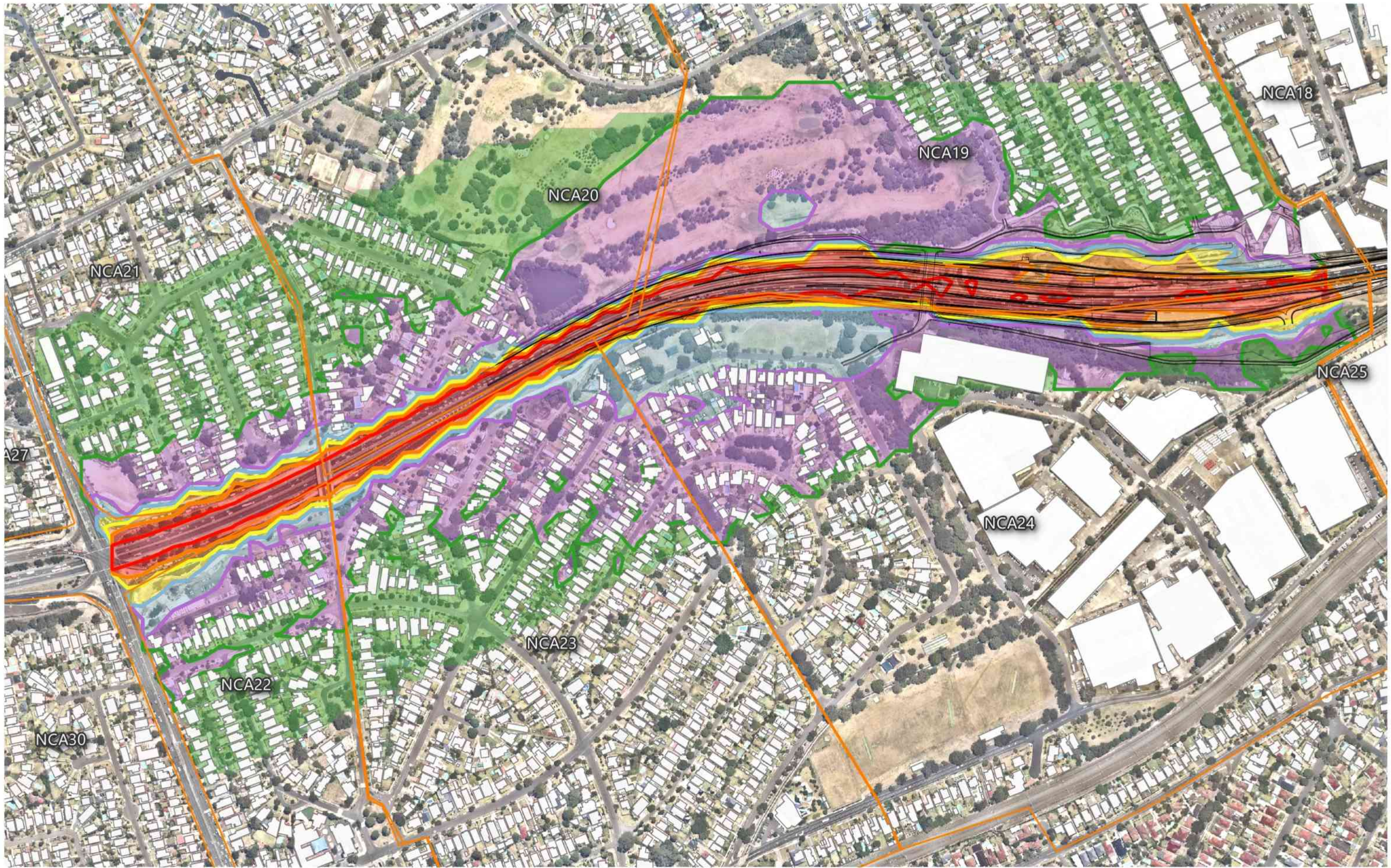
Description:
 Kingsgrove compound
 Operational Noise Contours - Build Scenario
 Opening year LAeq 15Hr



Created by: THW
 Figure No: TH014-05 6 0 008 (r0)
 Date: 20.07.2017
 Scale: 1:4500 @ A3

1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501





Legend

- Buildings
- NCAs

Noise Contours

	50		<= 50
	55		50 - 55
	60		55 - 60
	65		60 - 65
	70		65 - 70
	75		70 - 75
	>= 75		

Client
WestConnex New M5



Project
WestConnex Stage 2 M5

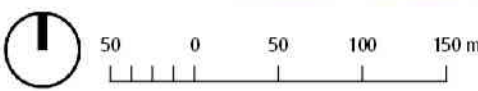
Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. This information is protected by copyright.

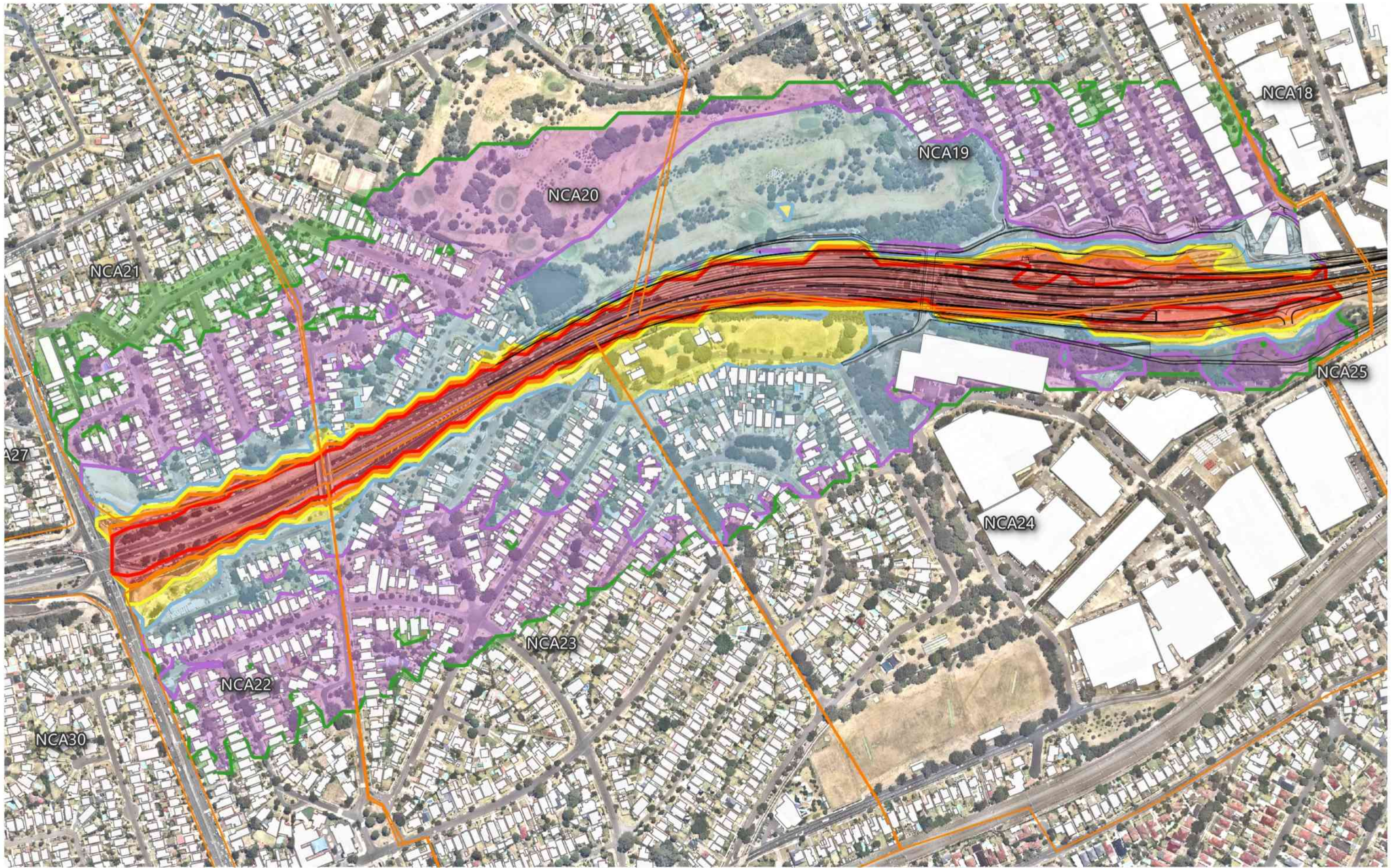
Description:
Kingsgrove compound
 Operational Noise Contours - Build Scenario
 Opening year LAeq 9Hr



Created by: THW
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 Scale: 1:4500 @ A3

1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501





Legend
 Buildings
 NCAs

Noise Contours

50	<= 50
55	50 - 55
60	55 - 60
65	60 - 65
70	65 - 70
75	70 - 75
>= 75	>= 75

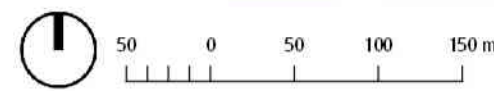
Client
WestConnex New M5

Project
 WestConnex Stage 2 M5

Description:
 Kingsgrove compound
 Operational Noise Contours - Build Scenario
 Design year LAeq 15Hr

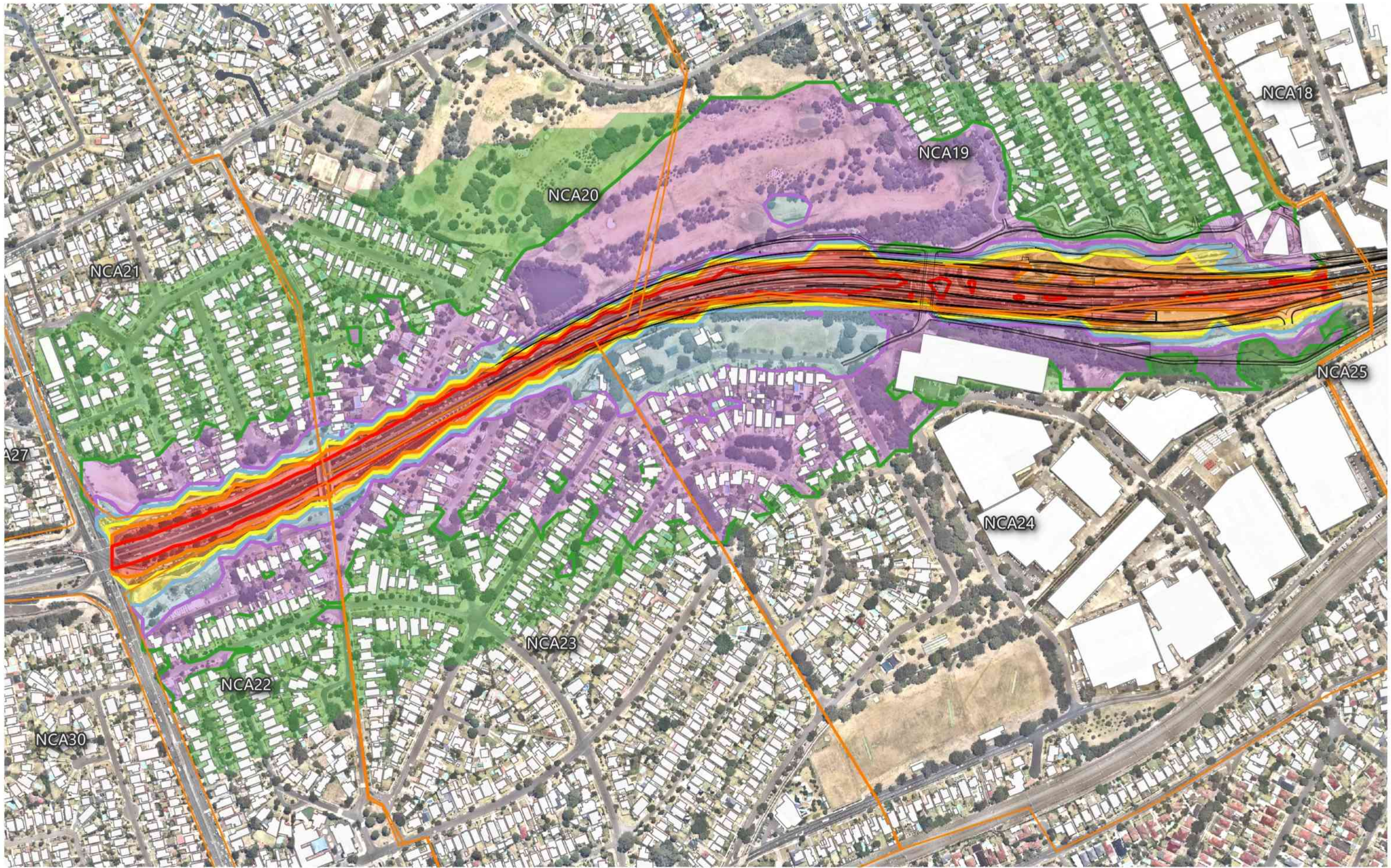


Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. This information is protected by copyright.



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Inspired to achieve
 1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501

Created by: THW
 Figure No: TH014-05 6 0010 (r0)
 Date: 2007 2017
 Scale: 1:500 @ A3



Legend
 Buildings
 NCAs

Noise Contours

50	<= 50
55	50 - 55
60	55 - 60
65	60 - 65
70	65 - 70
75	70 - 75
>= 75	>= 75

Client
WestConnex New M5

CPB CONTRACTORS DRAGADOS SAMSUNG C&T

Project
 WestConnex Stage 2 M5

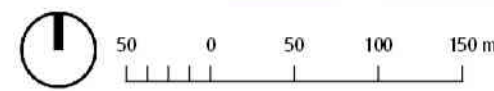
Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. This information is protected by copyright.

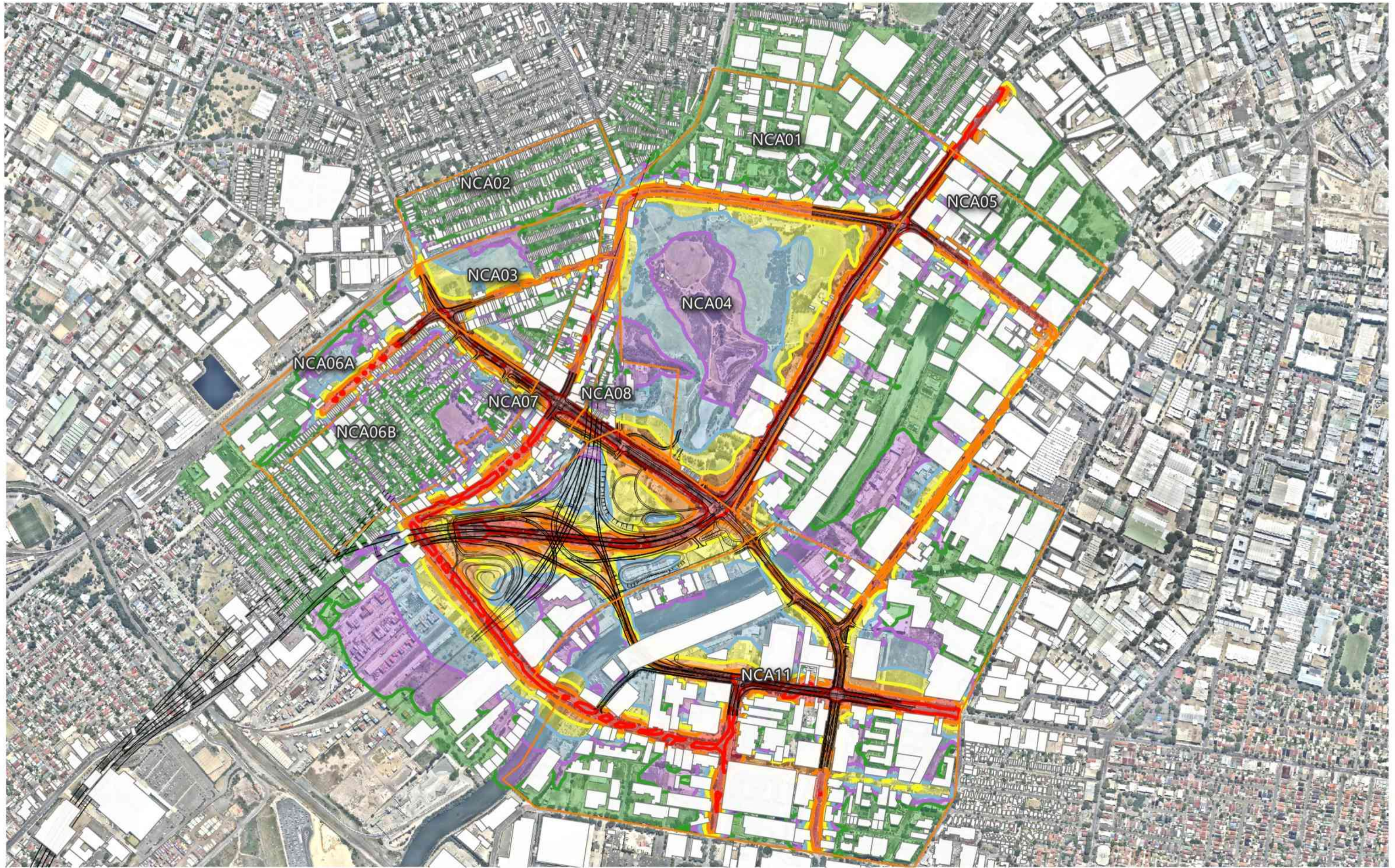
Description:
 Kingsgrove compound
 Operational Noise Contours - Build Scenario
 Design year LAeq 9Hr

RENZO TONIN & ASSOCIATES
Inspired to achieve

1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501

Created by: THW
 Figure No: TH014-05 6 0011 (r0)
 Date: 2007 2017
 Scale: 1:500 @ A3





Legend
 Buildings
 NCAs

Noise Contours

50	<= 50
55	50 - 55
60	55 - 60
65	60 - 65
70	65 - 70
75	70 - 75
>= 75	>= 75

Client
WestConnex New M5

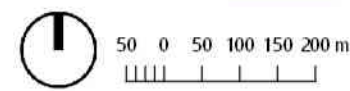


Project
 WestConnex Stage 2 M5

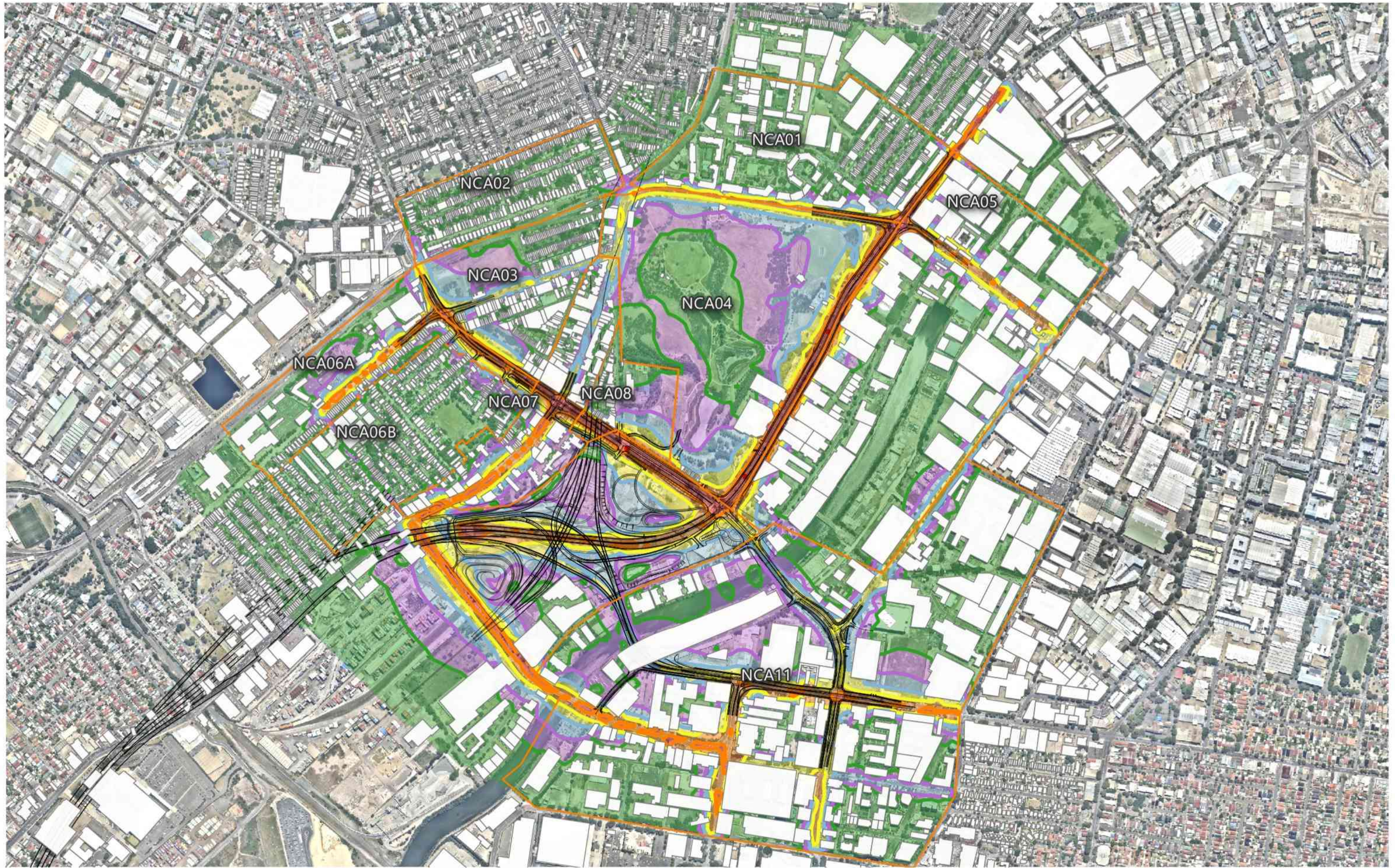
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 St Peter Interchange
 Operational Noise Contours - Build Scenario
 Opening year LAeq 15Hr

RENZO TONIN & ASSOCIATES
Inspired to achieve
 1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501

Created by: THW
 Figure No: TH014-05 6 0 004 (r0)
 Date: 2007 2017
 Scale: 1:10,000@ A3



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Legend

- Buildings
- NCAs

Noise Contours

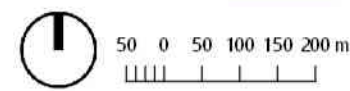
50	55	60	65	70	75	<= 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	>= 75
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Client

WestConnex New M5

Project

WestConnex Stage 2 M5



Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. This information is protected by copyright.

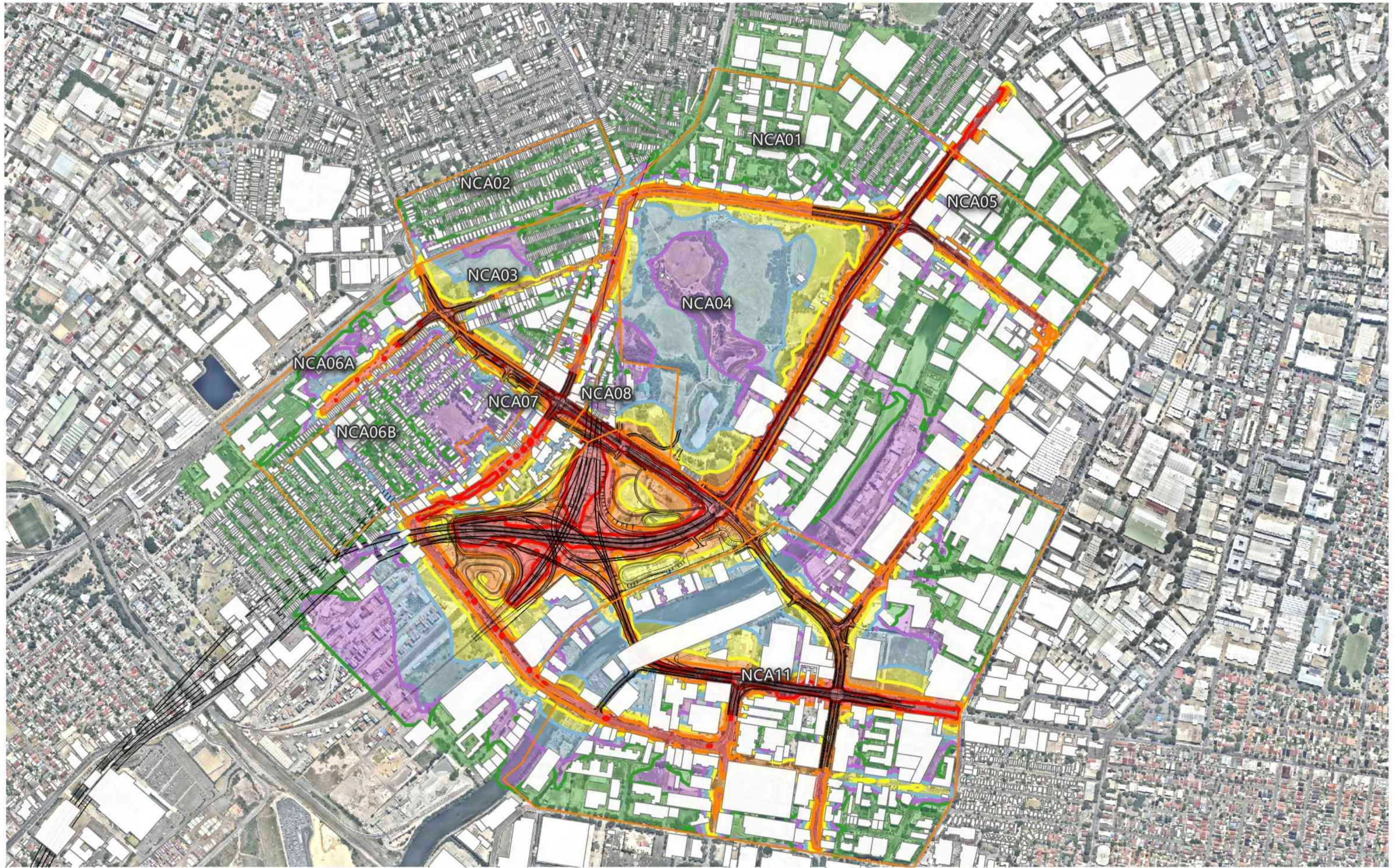
Description:

St Peter Interchange
Operational Noise Contours - Build Scenario
Opening year LAeq 9Hr

RENZO TONIN & ASSOCIATES
Inspired to achieve

1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Created by: THW
Figure No: TH014-05 6 0 005 (r0)
Date: 2007 2017
Scale: 1:10,000@ A3



Legend

- Buildings
- NCAs

Noise Contours

<ul style="list-style-type: none"> 50 55 60 65 70 75 >= 75 	<ul style="list-style-type: none"> <= 50 50 - 55 55 - 60 60 - 65 65 - 70 70 - 75 >= 75
--	---

Client
WestConnex New M5

Project
 WestConnex Stage 2 M5

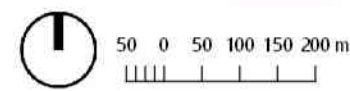
Description:
 St Peter Interchange
 Operational Noise Contours - Build Scenario
 Design year LAeq 15Hr



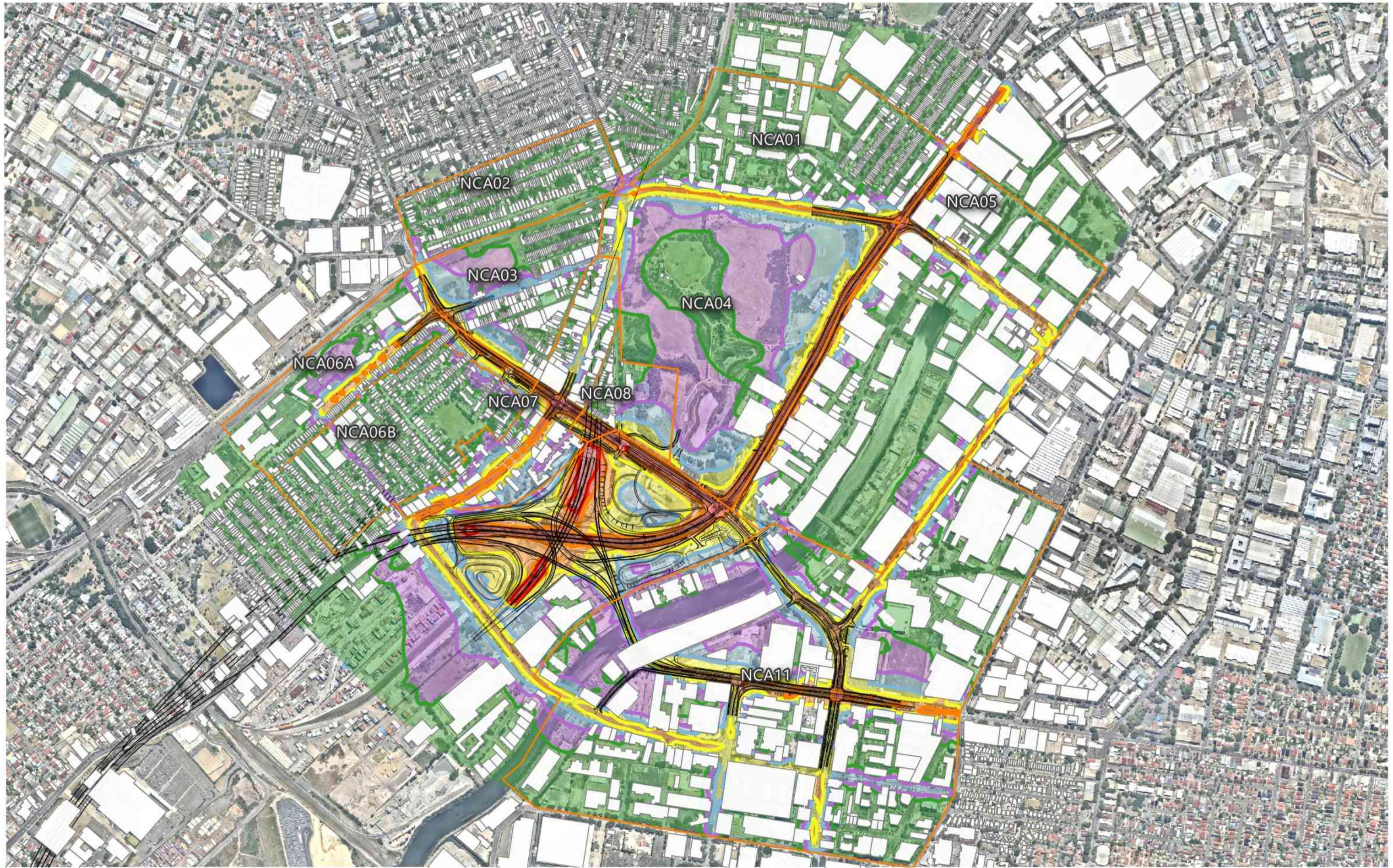
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Inspired to achieve

Created by: THW
 Figure No: TH014-05 6 0 006 (r0)
 Date: 2007 2017
 Scale: 1:10,000 @ A3



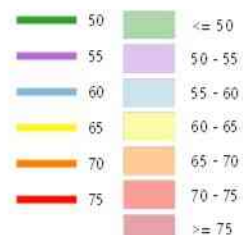
1/418A Elizabeth Street, SURRY HILLS NSW 2010
 P: 02 8218 0500 F: 02 8218 0501



Legend

- Buildings
- NCAs

Noise Contours



Client

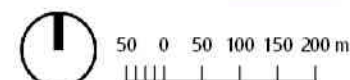
WestConnex New M5

Project

WestConnex Stage 2 M5



Noise Levels are approximate due to interpolation of contours and should be used for reference only. For information only and not for construction. This information is protected by copyright.



Description:

St Peter Interchange
Operational Noise Contours - Build Scenario
Design year LAeq 9Hr

RENZO TONIN & ASSOCIATES
Inspired to achieve

Created by: THW
Figure No: TH014-05 6 0 007 (r0)
Date: 2007 2017
Scale: 1:10,000@ A3

1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

APPENDIX G **At-property treatment summary**

Receivers considered for at-property treatment

St Peters

2018.06.05

NCA	NCA ID	Receiver Address	Receiver Description	Receiver Type	Facade			Exceedance	Treatment category
					Floor	Number	Orientation		
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	0	1	NW	-	No treatment
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	0	2	NW	-	No treatment
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	0	3	SE	16	2
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	0	4	SE	16	2
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	1	1	NW	-	No treatment
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	1	2	NW	-	No treatment
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	1	3	SE	16	2
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	1	4	SE	16	2
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	2	1	NW	-	No treatment
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	2	2	NW	-	No treatment
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	2	3	SE	15	2
NCA01	NCA01_087	105-155 EUSTON ROAD ALEXANDRIA		Residential	2	4	SE	15	2
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	0	1	NW	-	No treatment
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	0	3	SE	16	2
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	0	4	SW	11	2
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	1	1	NW	-	No treatment
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	1	3	SE	16	2
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	1	4	SW	12	2
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	2	1	NW	-	No treatment
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	2	3	SE	15	2
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	2	4	SW	12	2
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	3	1	NW	-	No treatment
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	3	2	NE	-	No treatment
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	3	3	SE	15	2
NCA01	NCA01_088	105-155 EUSTON ROAD ALEXANDRIA		Residential	3	4	SW	12	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	0	1	NE	7	1b
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	0	2	SE	14	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	0	3	SE	14	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	0	4	SE	15	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	0	5	SE	16	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	0	7	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	0	8	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	0	9	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	0	10	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	1	1	NE	8	1b
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	1	2	SE	15	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	1	3	SE	15	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	1	4	SE	15	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	1	5	SE	15	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	1	7	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	1	8	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	1	9	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	1	10	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	2	1	NE	8	1b
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	2	2	SE	14	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	2	3	SE	14	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	2	4	SE	15	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	2	5	SE	15	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	2	7	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	2	8	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	2	9	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	2	10	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	1	NE	8	1b
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	2	SE	14	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	3	SE	14	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	4	SE	14	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	5	SE	14	2
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	6	SW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	7	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	8	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	9	NW	-	No treatment
NCA01	NCA01_089	93-103 EUSTON ROAD ALEXANDRIA		Residential	3	10	NW	-	No treatment
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NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA		Residential	0	2	SW	5	1a
NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA		Residential	0	3	NW	-	No treatment
NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA		Residential	1	1	SE	2	1a
NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA		Residential	1	2	SW	7	1b
NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA		Residential	1	3	NW	-	No treatment
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NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA		Residential	2	2	SW	7	1b
NCA01	NCA01_170	288-302 LAWRENCE STREET ALEXANDRIA		Residential	2	3	NW	-	No treatment
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NCA03	NCA03_010	63-65 CAMPBELL STREET ST PETERS		Residential	1	3	SW	17.2	2
NCA03	NCA03_011	67 CAMPBELL STREET ST PETERS		Residential	0	1	SW	16.1	2
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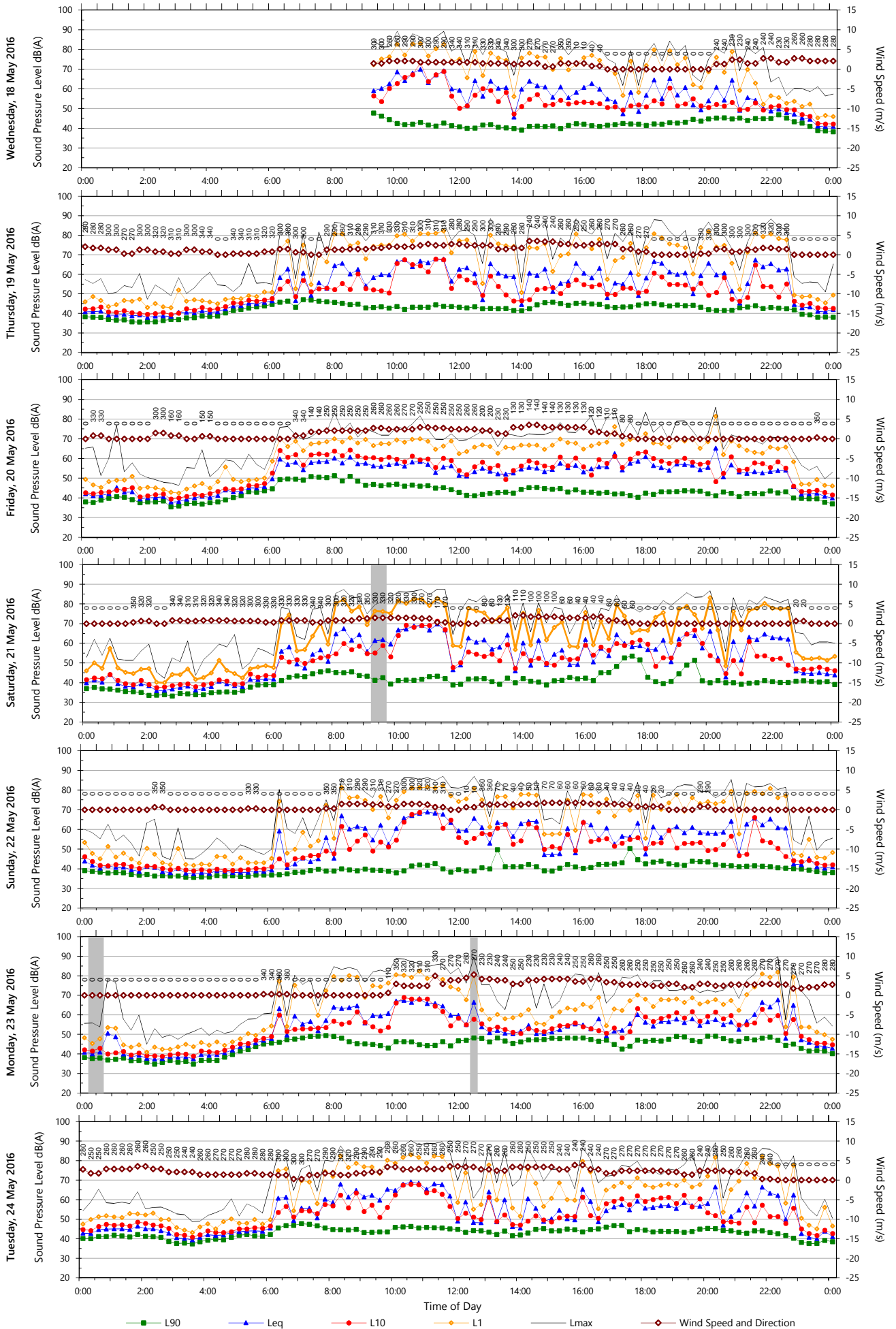
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NCA04	NCA04_017	34 CAMPBELL ROAD ALEXANDRIA	Residential	0	2	SE	14	2
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NCA04	NCA04_017	34 CAMPBELL ROAD ALEXANDRIA	Residential	1	1	NE	8	1b
NCA04	NCA04_017	34 CAMPBELL ROAD ALEXANDRIA	Residential	1	2	SE	15	2
NCA04	NCA04_017	34 CAMPBELL ROAD ALEXANDRIA	Residential	1	3	SW	19	2
NCA06A	NCA06A_001	3 BROWN STREET ST PETERS	Residential	0	1	SE	13.2	2
NCA06A	NCA06A_001	3 BROWN STREET ST PETERS	Residential	0	2	NW	12	2
NCA06A	NCA06A_001	3 BROWN STREET ST PETERS	Residential	0	3	NE	14.3	2
NCA06A	NCA06A_001	3 BROWN STREET ST PETERS	Residential	0	4	NW	14	2
NCA06A	NCA06A_001	3 BROWN STREET ST PETERS	Residential	0	5	NE	16.4	2
NCA06A	NCA06A_002	5 BROWN STREET ST PETERS	Residential	0	1	SE	11.4	2
NCA06A	NCA06A_002	5 BROWN STREET ST PETERS	Residential	0	2	NW	1	1a
NCA06A	NCA06A_002	5 BROWN STREET ST PETERS	Residential	0	3	SW	-	No treatment
NCA06A	NCA06A_002	5 BROWN STREET ST PETERS	Residential	0	4	NW	9.5	1b
NCA06A	NCA06A_003	6 BROWN STREET ST PETERS	Residential	0	1	SE	12.2	2
NCA06A	NCA06A_003	6 BROWN STREET ST PETERS	Residential	0	2	NW	12	2
NCA06A	NCA06A_003	6 BROWN STREET ST PETERS	Residential	0	3	NE	15	2
NCA06A	NCA06A_003	6 BROWN STREET ST PETERS	Residential	1	1	SE	13.2	2
NCA06A	NCA06A_003	6 BROWN STREET ST PETERS	Residential	1	2	NW	13.1	2
NCA06A	NCA06A_003	6 BROWN STREET ST PETERS	Residential	1	3	NE	15.8	2
NCA06A	NCA06A_004	7 BROWN STREET ST PETERS	Residential	0	1	SE	8	1b
NCA06A	NCA06A_004	7 BROWN STREET ST PETERS	Residential	0	2	NW	5	1a
NCA06A	NCA06A_004	7 BROWN STREET ST PETERS	Residential	1	1	SE	6	1b
NCA06A	NCA06A_004	7 BROWN STREET ST PETERS	Residential	1	2	SW	-	No treatment
NCA06A	NCA06A_004	7 BROWN STREET ST PETERS	Residential	1	3	NW	7	1b
NCA06A	NCA06A_004	7 BROWN STREET ST PETERS	Residential	1	4	NE	8	1b
NCA06A	NCA06A_005	8 BROWN STREET ST PETERS	Residential	0	1	SE	11	2
NCA06A	NCA06A_005	8 BROWN STREET ST PETERS	Residential	0	2	SW	-	No treatment
NCA06A	NCA06A_005	8 BROWN STREET ST PETERS	Residential	0	3	NW	10	1b
NCA06A	NCA06A_005	8 BROWN STREET ST PETERS	Residential	1	1	SE	12	2
NCA06A	NCA06A_005	8 BROWN STREET ST PETERS	Residential	1	2	SW	-	No treatment
NCA06A	NCA06A_005	8 BROWN STREET ST PETERS	Residential	1	3	NW	11	2
NCA06A	NCA06A_006	9 BROWN STREET ST PETERS	Residential	0	1	SE	6	1b
NCA06A	NCA06A_006	9 BROWN STREET ST PETERS	Residential	0	2	NW	4	1a
NCA06A	NCA06A_007	10 BROWN STREET ST PETERS	Residential	0	1	SE	8	1b
NCA06A	NCA06A_007	10 BROWN STREET ST PETERS	Residential	0	2	NW	6	1b
NCA06A	NCA06A_007	10 BROWN STREET ST PETERS	Residential	0	3	NE	-	No treatment
NCA06A	NCA06A_008	11 BROWN STREET ST PETERS	Residential	0	1	SE	5	1a
NCA06A	NCA06A_008	11 BROWN STREET ST PETERS	Residential	0	2	NW	3	1a
NCA06A	NCA06A_009	12 BROWN STREET ST PETERS	Residential	0	1	SE	7	1b
NCA06A	NCA06A_009	12 BROWN STREET ST PETERS	Residential	0	2	SW	-	No treatment
NCA06A	NCA06A_009	12 BROWN STREET ST PETERS	Residential	0	3	NW	5	1a
NCA06A	NCA06A_009	12 BROWN STREET ST PETERS	Residential	0	4	NE	-	No treatment
NCA06A	NCA06A_009	12 BROWN STREET ST PETERS	Residential	0	5	NE	8	1b
NCA06A	NCA06A_010	13 BROWN STREET ST PETERS	Residential	0	1	SE	4	1a
NCA06A	NCA06A_010	13 BROWN STREET ST PETERS	Residential	0	2	SW	-	No treatment
NCA06A	NCA06A_010	13 BROWN STREET ST PETERS	Residential	0	3	NW	2	1a
NCA06A	NCA06A_011	75 CHURCH STREET ST PETERS	Residential	0	1	SE	12	2
NCA06A	NCA06A_011	75 CHURCH STREET ST PETERS	Residential	0	2	NW	12	2
NCA06A	NCA06A_011	75 CHURCH STREET ST PETERS	Residential	0	3	NE	14	2
NCA06A	NCA06A_011	75 CHURCH STREET ST PETERS	Residential	1	1	SE	13	2
NCA06A	NCA06A_011	75 CHURCH STREET ST PETERS	Residential	1	2	NW	13	2
NCA06A	NCA06A_011	75 CHURCH STREET ST PETERS	Residential	1	3	NE	15	2
NCA06A	NCA06A_012	77 CHURCH STREET ST PETERS	Residential	0	1	SE	10	1b
NCA06A	NCA06A_012	77 CHURCH STREET ST PETERS	Residential	0	2	NW	10	1b
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NCA06A	NCA06A_012	77 CHURCH STREET ST PETERS	Residential	1	2	NW	11	2
NCA06A	NCA06A_013	79 CHURCH STREET ST PETERS	Residential	0	1	SE	9	1b
NCA06A	NCA06A_013	79 CHURCH STREET ST PETERS	Residential	0	2	SW	5	1a
NCA06A	NCA06A_013	79 CHURCH STREET ST PETERS	Residential	0	3	NW	10	1b
NCA06A	NCA06A_013	79 CHURCH STREET ST PETERS	Residential	0	4	NE	11	2
NCA06A	NCA06A_013	79 CHURCH STREET ST PETERS	Residential	1	1	SE	10	1b
NCA06A	NCA06A_013	79 CHURCH STREET ST PETERS	Residential	1	2	NW	10	1b
NCA06A	NCA06A_014	81 CHURCH STREET ST PETERS	Residential	0	1	SE	7	1b
NCA06A	NCA06A_014	81 CHURCH STREET ST PETERS	Residential	0	2	NW	10	1b
NCA06A	NCA06A_014	81 CHURCH STREET ST PETERS	Residential	1	1	SE	8	1b
NCA06A	NCA06A_014	81 CHURCH STREET ST PETERS	Residential	1	2	NW	11	2
NCA06A	NCA06A_015	7 FLORENCE STREET ST PETERS	Residential	0	1	SE	10	1b
NCA06A	NCA06A_015	7 FLORENCE STREET ST PETERS	Residential	0	2	NW	11	2
NCA06A	NCA06A_015	7 FLORENCE STREET ST PETERS	Residential	0	3	NE	14	2
NCA06A	NCA06A_015	7 FLORENCE STREET ST PETERS	Residential	1	1	SE	11	2
NCA06A	NCA06A_015	7 FLORENCE STREET ST PETERS	Residential	1	2	NW	12	2
NCA06A	NCA06A_015	7 FLORENCE STREET ST PETERS	Residential	1	3	NE	14	2
NCA06A	NCA06A_016	9 FLORENCE STREET ST PETERS	Residential	0	1	SE	8	1b
NCA06A	NCA06A_016	9 FLORENCE STREET ST PETERS	Residential	0	3	NW	4	1a
NCA06A	NCA06A_016	9 FLORENCE STREET ST PETERS	Residential	1	1	SE	9	1b
NCA06A	NCA06A_016	9 FLORENCE STREET ST PETERS	Residential	1	2	SW	-	No treatment
NCA06A	NCA06A_016	9 FLORENCE STREET ST PETERS	Residential	1	3	NW	5	1a
NCA06A	NCA06A_017	4 ST PETERS STREET ST PETERS	Residential	0	1	SE	10	1b
NCA06A	NCA06A_017	4 ST PETERS STREET ST PETERS	Residential	0	2	NW	11	2
NCA06A	NCA06A_017	4 ST PETERS STREET ST PETERS	Residential	0	3	NE	13	2
NCA06A	NCA06A_017	4 ST PETERS STREET ST PETERS	Residential	1	1	SE	11	2
NCA06A	NCA06A_017	4 ST PETERS STREET ST PETERS	Residential	1	2	NW	12	2
NCA06A	NCA06A_017	4 ST PETERS STREET ST PETERS	Residential	1	3	NE	14	2
NCA06A	NCA06A_018	6 ST PETERS STREET ST PETERS	Residential	0	1	SE	5	1a
NCA06A	NCA06A_018	6 ST PETERS STREET ST PETERS	Residential	0	2	SW	-	No treatment

OSR	OSR_326	2/160 BOURKE ROAD ALEXANDRIA	Alexandria Montessori Academy child car	Childcare Sleeping	1	3	NW	4	1a
OSR	OSR_326	2/160 BOURKE ROAD ALEXANDRIA	Alexandria Montessori Academy child car	Childcare Sleeping	1	4	SW	4	1a
OSR	OSR_326	2/160 BOURKE ROAD ALEXANDRIA	Alexandria Montessori Academy child car	Childcare Sleeping	1	5	NW	5	1a
OSR	OSR_326	2/160 BOURKE ROAD ALEXANDRIA	Alexandria Montessori Academy child car	Childcare Sleeping	1	6	NW	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	0	1	SE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	0	2	SE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	0	8	NE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	0	9	NE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	0	10	NE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	1	1	SE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	1	2	SE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	1	8	NE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	1	9	NE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	1	10	NE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	2	1	SE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	2	2	SE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	2	6	NW	5	1a
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	2	7	NW	5	1a
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	2	8	NE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	2	9	NE	-	No treatment
OSR	OSR_389	61-67 O'RIORDAN STREET ALEXANDRIA	Kiddie Academy child care centre	Childcare Sleeping	2	10	NE	-	No treatment

APPENDIX H Additional noise monitoring graphs

Unattended Monitoring Results

Location: 13 Mary St

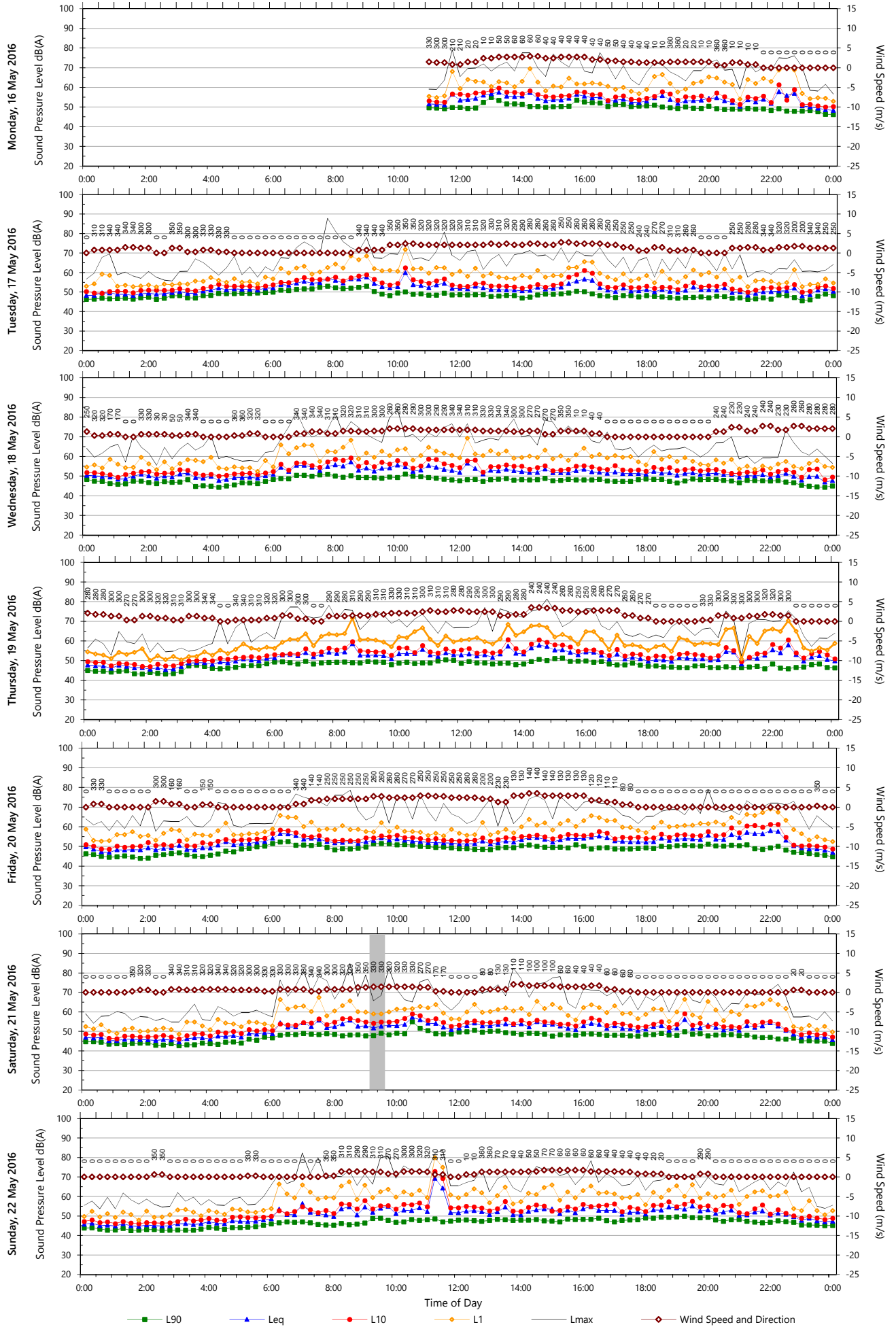


Data File: 2016-05-18_SLM_000_123_Rpt_Report.txt

Template: QTE-26 (rev 9) Logger Graphs Program

Unattended Monitoring Results

Location: 35 Flora St

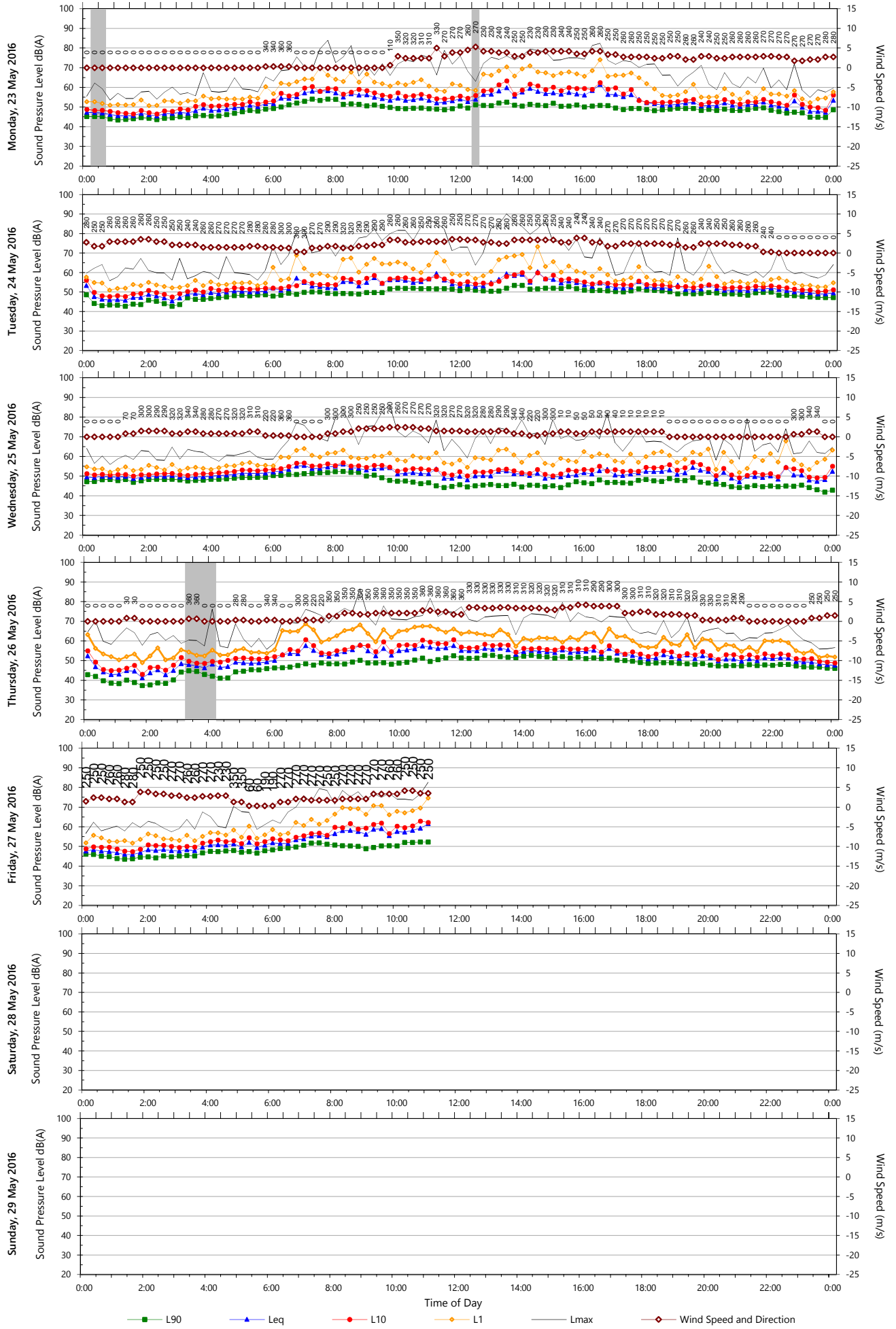


Data File: 2016-05-16_SLM_000_123_Rpt_Report.txt

Template: QTE-26 (rev 9) Logger Graphs Program

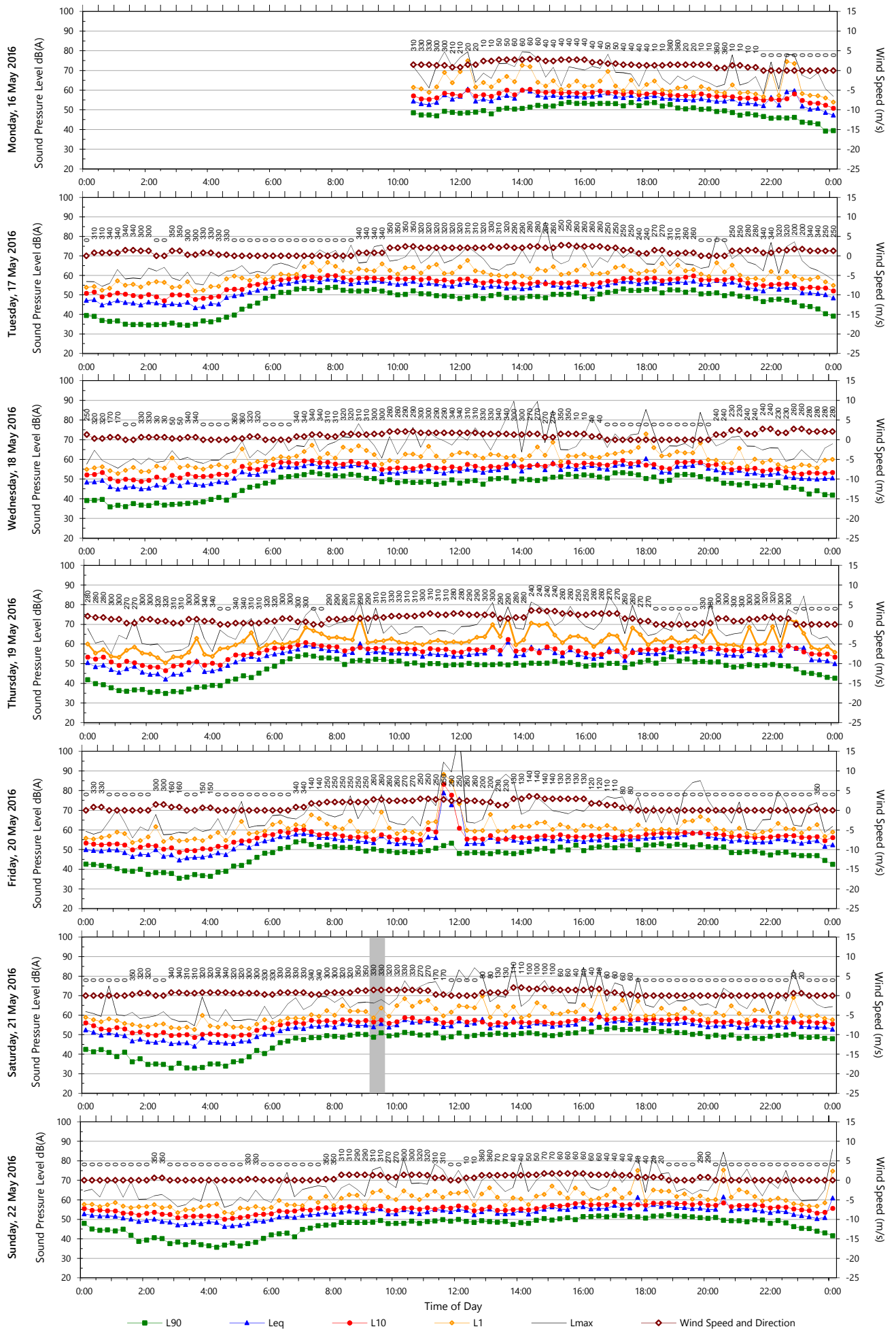
Unattended Monitoring Results

Location: 35 Flora St



Unattended Monitoring Results

Location: 8 Jones Ave

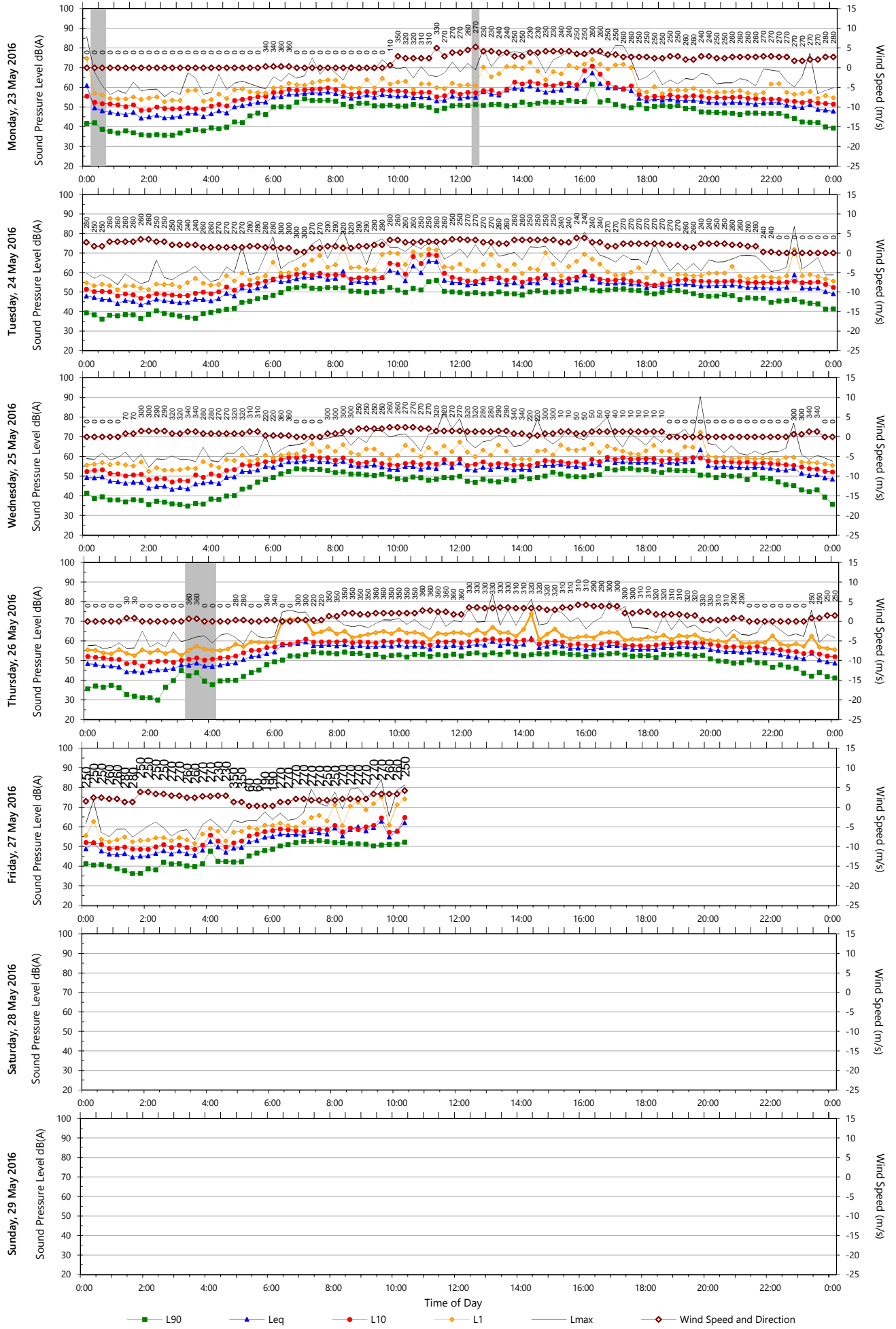


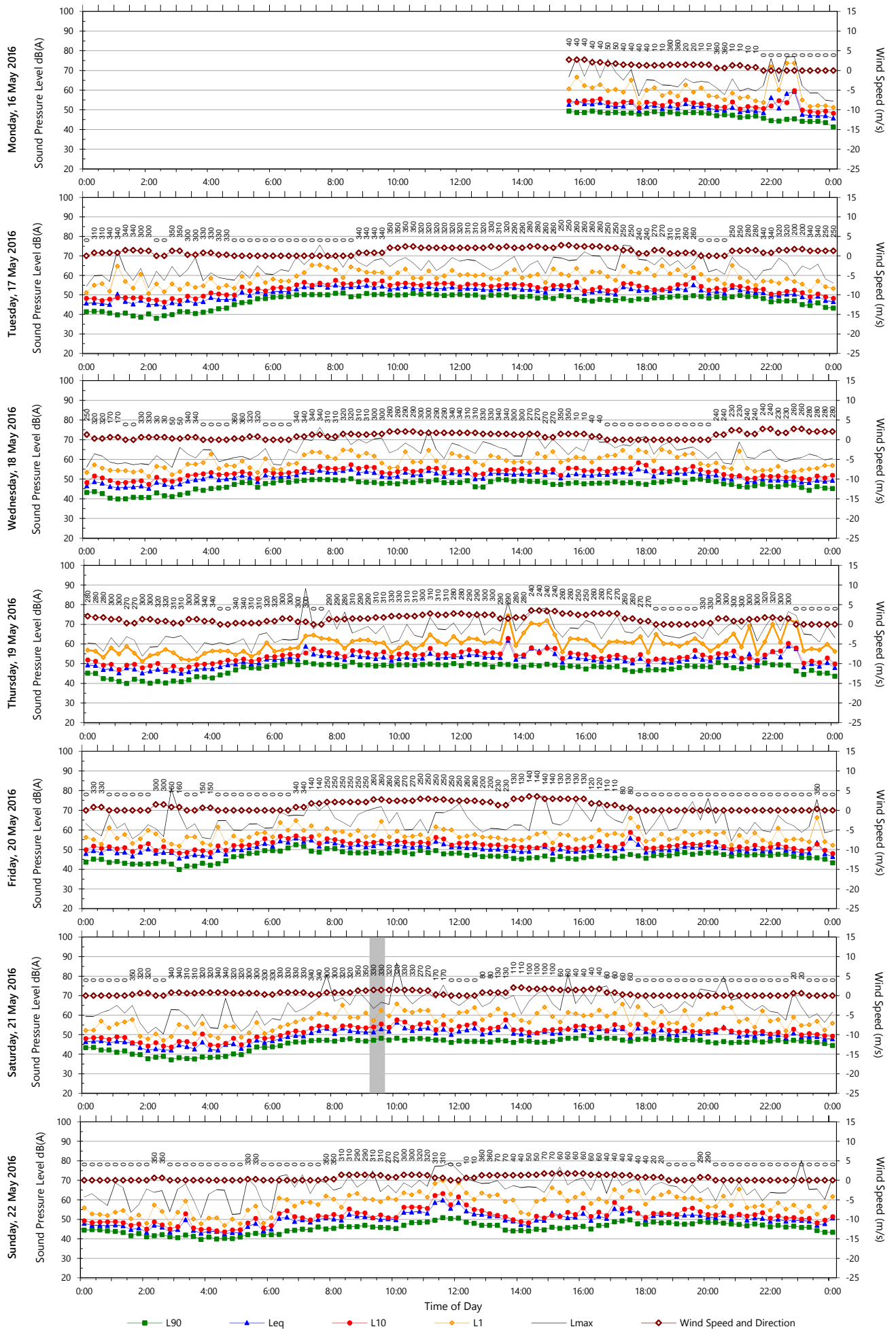
Data File: 2016-05-16_SLM_000_123_Rpt_Report.txt

Template: QTE-26 (rev 9) Logger Graphs Program

Unattended Monitoring Results

Location: 8 Jones Ave



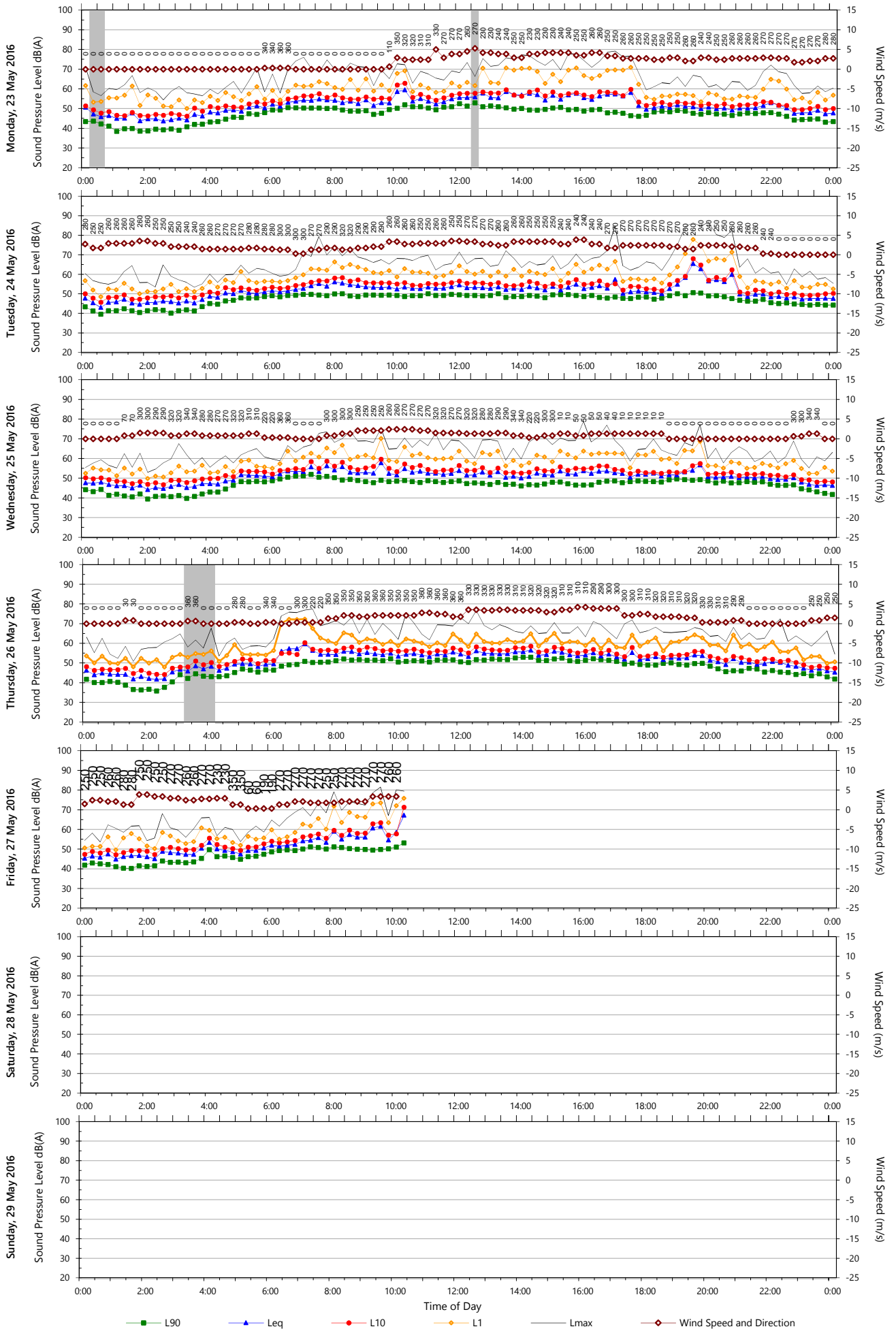


Data File: 2016-05-16_SLM_000_123_Rpt_Report.txt

Template: QTE-26 (rev 9) Logger Graphs Program

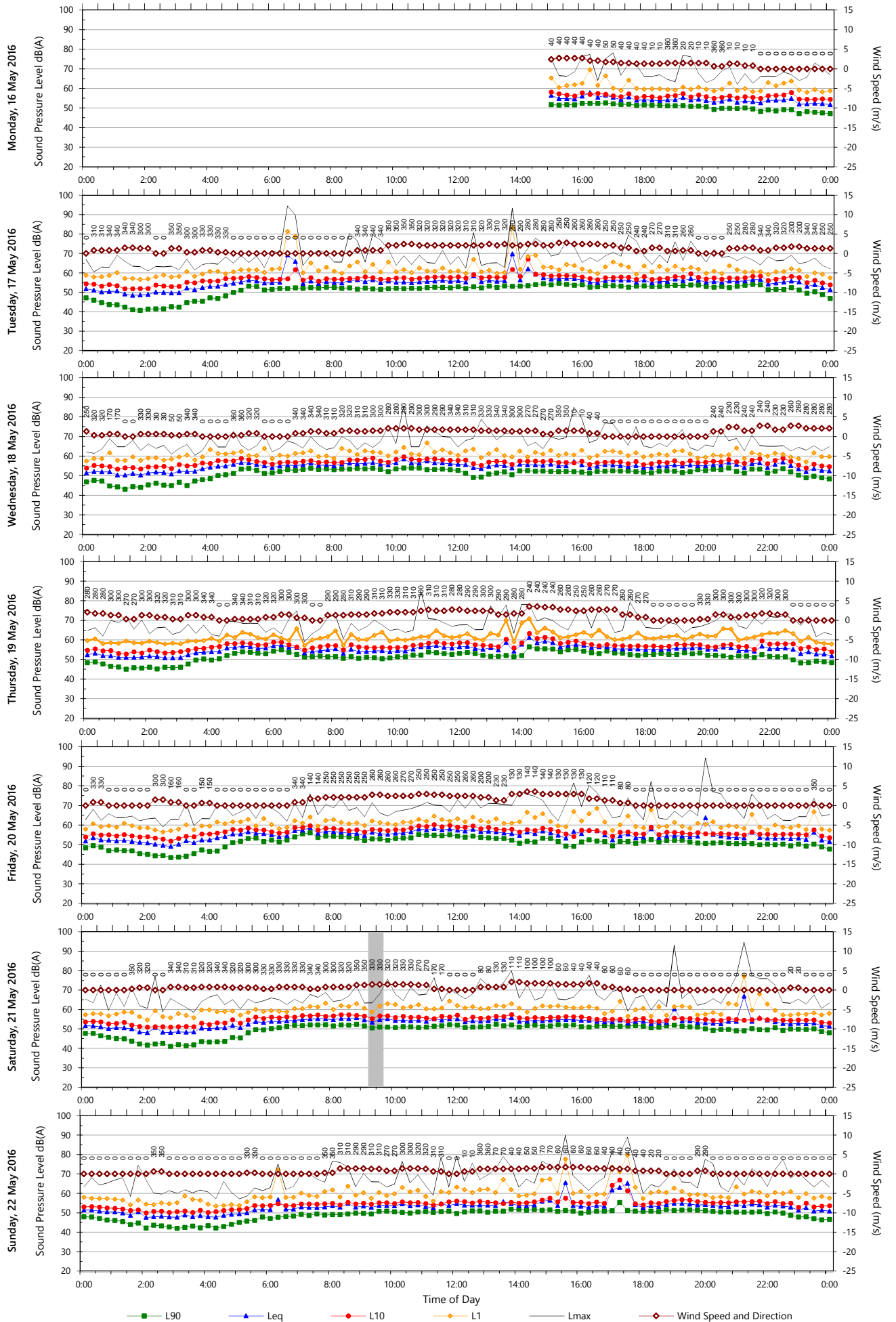
Unattended Monitoring Results

Location: 6 Kingsgrove Rd



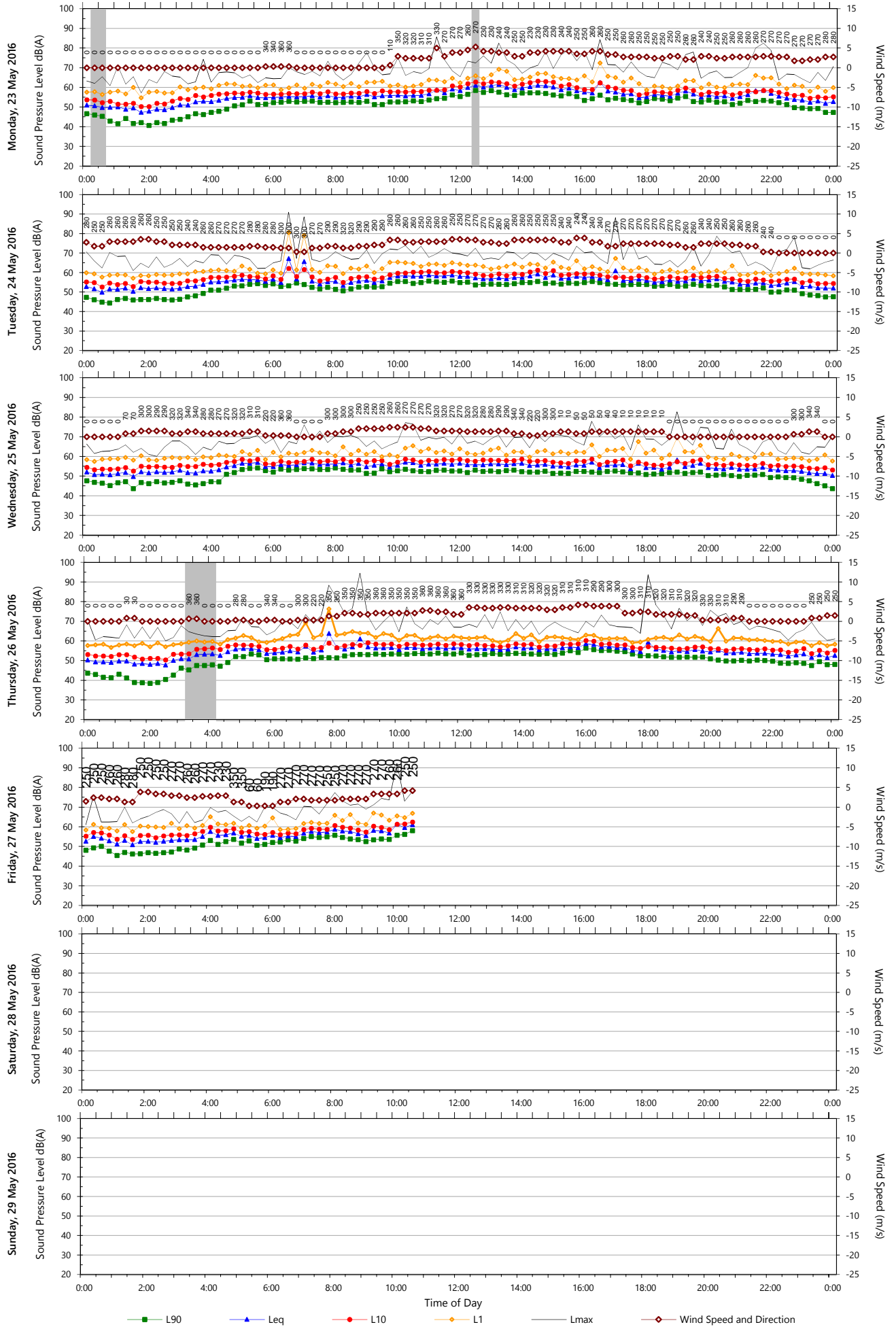
Data File: 2016-05-16_SLM_000_123_Rpt_Report.txt

Template: QTE-26 (rev 9) Logger Graphs Program



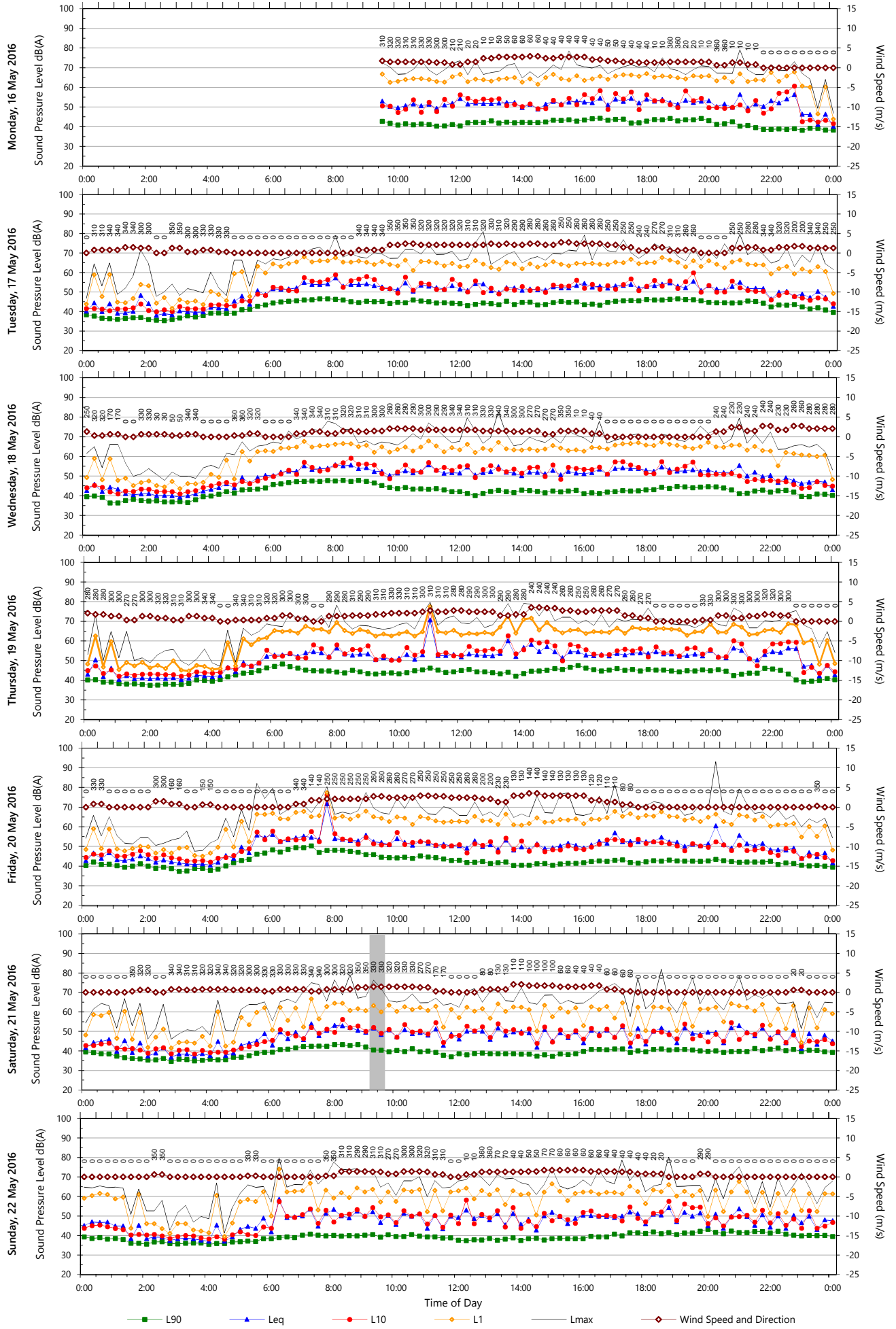
Unattended Monitoring Results

Location: 20 Karingal St



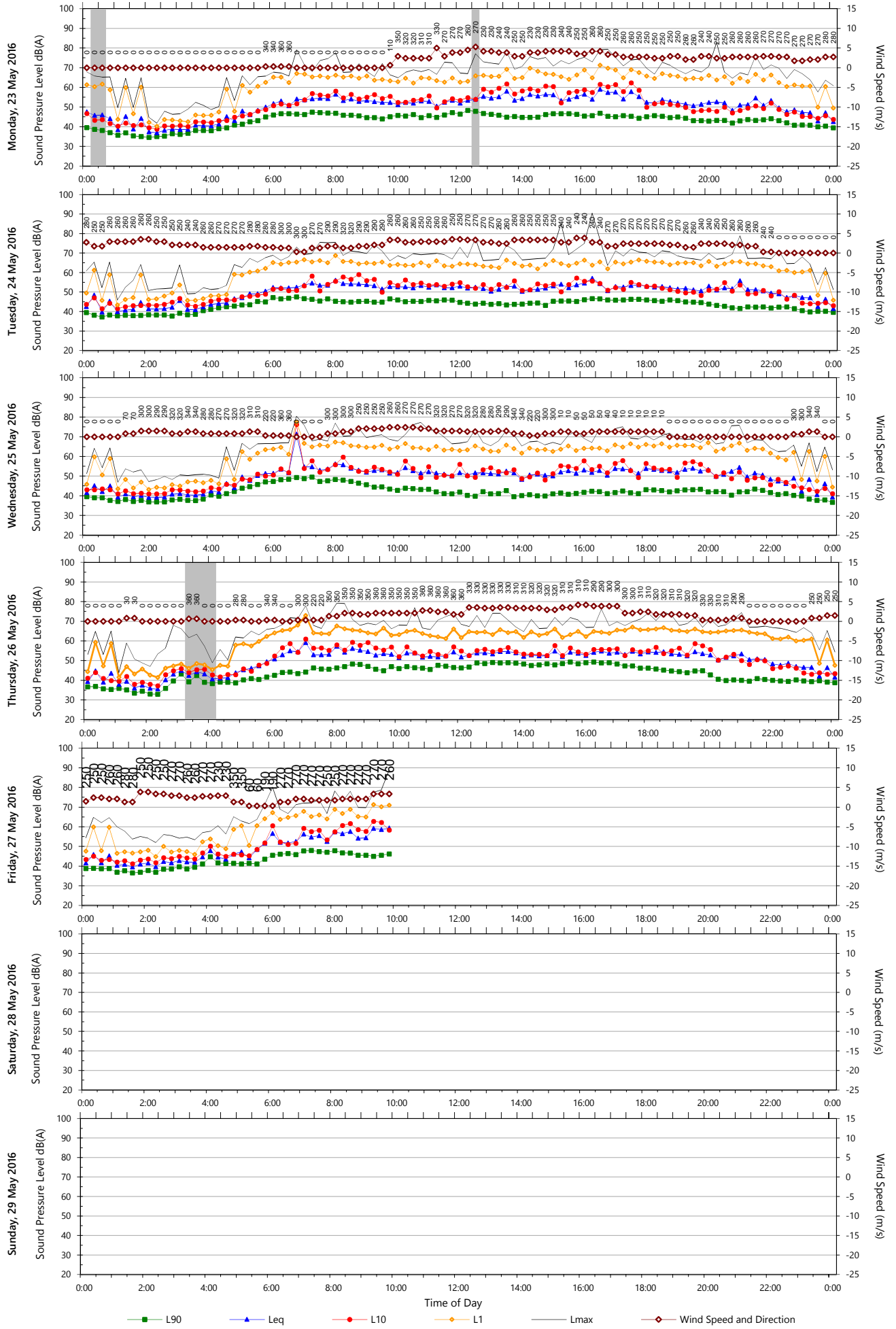
Unattended Monitoring Results

Location: 1 Mashman Ave



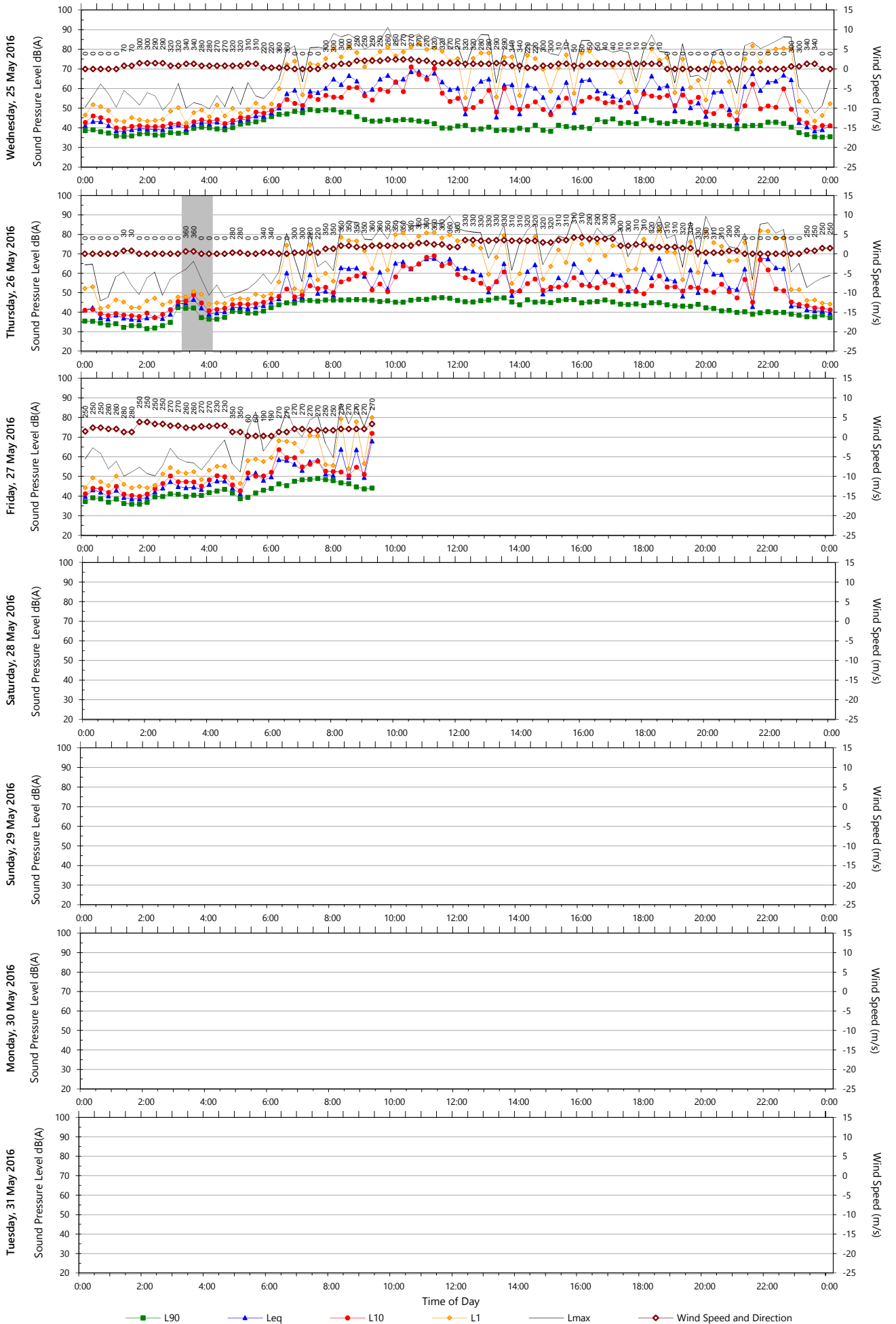
Unattended Monitoring Results

Location: 1 Mashman Ave



Unattended Monitoring Results

Location: 13 Mary St



Data File: 2016-05-18_SLM_000_123_Rpt_Report.txt

Template: QTE-26 (rev 9) Logger Graphs Program