

**ENDORSEMENT
CITY & SOUTHWEST ACOUSTIC ADVISOR**

Review of	Construction Noise and Vibration Impact Statement for Line-Wide works Portion 3 – Blues Point	Document reference:	Construction Noise and Vibration Impact Statement: Portion 3 – Blues Point Prepared by Renzo Tonin Associates for Systems Connect.
Prepared by:	Larry Clark, Alternate Acoustics Advisor		<i>TK685-03-11F01 CNVIS C2S_P3 BP (r5)</i>
Date of issue:	8 March 2021		<i>Dated 22 February 2021</i>

As approved Alternate Acoustics Advisor for the Sydney Metro City & Southwest project, I have reviewed and provided comment on the updated Construction Noise and Vibration Impact Statement (CNVIS) for Line-Wide works Portion 3 – Blues Point, as required under A27 (d) of the project approval conditions (SSI 15-7400).

I reviewed and commented on previous versions of the CNVIS. Revision 5 has been updated since the last endorsed version of the CNVIS (r3) to address EPA Notice of Variation requirements.

I am satisfied that revision 5 of the CNVIS is technically valid, and includes appropriate noise and vibration mitigation and management. On this basis I endorse revision 5 of the Construction Noise and Vibration Impact Statement in respect of Line-Wide works at Blues Point.



Larry Clark, City & Southwest Alternate Acoustics Advisor

SYDNEY METRO CITY AND SOUTH WEST - LINE-WIDE WORKS

Construction Noise and Vibration Impact Statement Portion 3 - Blues Point

22 February 2021

Systems Connect

TK685-03-11F01 CNVIS C2S_P3 BP (r5)

Document details

Detail	Reference
Doc reference:	TK685-03-11F01 CNVIS C2S_P3 BP (r5)
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Document control

Date	Revision history	Non-issued revision	Issued revision	Prepared	Instructed	Reviewed / Authorised
24.09.2020	Initial report	0	1	R. Zhafranata	T. Gowen	T. Gowen
14.10.2020	Report updated to address client's comments	-	2	R. Zhafranata	T. Gowen	T. Gowen
29.10.2020	Address AA/ER comments	-	3	T. Gowen	-	M Tabacchi
02.02.2021	Address EPA's EPL Variation Notice	-	4	T. Gowen	-	M. Tabacchi
04.03.2021	Address AA comments	-	5	T. Gowen	-	M Tabacchi

File Path: R:\AssocSydProjects\TK651-TK700\TK685 PK SMCSW Linewide Works (CPB UGL)\1 Docs\100 CONSTRUCTION\3-11 CNVIS C2S_P3 BP\TK685-03-11F01 CNVIS C2S_P3 BP (r5).docx

Important Disclaimers:

The work presented in this document was carried out in accordance with the Renzo Tonin & Associates Quality Assurance System, which is based on Australian/New Zealand Standard AS/NZS ISO 9001.

This document is issued subject to review and authorisation by the suitably qualified and experienced person named in the last column above. If no name appears, this document shall be considered as preliminary or draft only and no reliance shall be placed upon it other than for information to be verified later.

This document is prepared for the particular requirements of our Client referred to above in the 'Document details' which are based on a specific brief with limitations as agreed to with the Client. It is not intended for and should not be relied upon by a third party and no responsibility is undertaken to any third party without prior consent provided by Renzo Tonin & Associates. The information herein should not be reproduced, presented or reviewed except in full. Prior to passing on to a third party, the Client is to fully inform the third party of the specific brief and limitations associated with the commission.

In preparing this report, we have relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Client and/or from other sources. Except as otherwise stated in the report, we have not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

We have derived data in this report from information sourced from the Client (if any) and/or available in the public domain at the time or times outlined in this report. The passage of time, manifestation of latent conditions or impacts of future events may require further examination and re-evaluation of the data, findings, observations and conclusions expressed in this report.

We have prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

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1 Introduction

This Construction Noise and Vibration Impact Statement (CNVIS) has been prepared on behalf of Systems Connect in accordance with the Construction Noise and Vibration Management Plan (CNVMP) [SMCSWLWC-SYC-1NL-PM-PLN-000032] [1], for the Design and Construction of the Line-Wide Works (LWW) of the Sydney Metro City & Southwest Project (the Project).

1.1 Relevant requirements and purpose of this CNVIS

As defined in the CNVMP, the works covered by this CNVIS are part of the Portion 3 – Chatswood to Sydenham LWW delivered under Critical State Significant Infrastructure Approval CSSI 7400. Condition E33 of CSSI-7400 requires that:

Construction Noise and Vibration Impact Statements must be prepared for each construction site before construction noise and vibration impacts commence and include specific mitigation measures identified through consultation with affected sensitive receivers.

This CNVIS applies to Blues Point (BP) site, and includes works to be undertaken on the site surface and within the shaft and tunnels. Works will be completed during standard construction hours as well as works outside of standard construction hours. The construction hours of work are defined by the Project Planning Approval conditions as outlined in the CNVMP.

This CNVIS forms part of the CNVMP for the Project.

1.2 Structure of this CNVIS

This CNVIS is structured as follows:

- **Section 2** - Description of construction works and hours
- **Section 3** - Nearest sensitive receivers
- **Section 4** - Construction noise and vibration objectives
- **Section 5** - Construction noise assessment
- **Section 6** - Construction vibration impacts
- **Section 7** - Ground-borne noise assessment
- **Section 8** – Traffic noise assessment
- **Section 9** – Cumulative impacts.

1.3 Quality assurance

The work documented in this report was carried out in accordance with the Renzo Tonin & Associates Quality Assurance System, which is based on Australian Standard / NZS ISO 9001. Appendix A contains a glossary of acoustic terms used in this report.

2 Description of construction works and hours

2.1 Summary of works addressed in this CNVIS

2.1.1 Construction activities

This CNVIS provides an assessment of noise and vibration impacts from activities associated with the C2S Blues Point site. These activities include:

- Surface works
 - Site establishment (including construction of an acoustic shed and erection of a gantry crane)
 - Materials delivery and handling (unloading and handling within the acoustic shed)
 - Removal of the acoustic shed and gantry crane
 - Backfill of the shaft and reinstatement of the site
- Track works (underground, within tunnels)
 - Track Level Access – distribute rail through Blues Point
 - Tunnel Track Activities – track construction
- Tunnel fitout works (underground, within tunnels)
 - Tunnel support systems – ventilation and dewatering
 - Rising main installation - Installation of pipes and pressure testing of rising main
 - Tunnel fitout - Anchor drilling works; installation of walkway, handrail, combined services route (CSR), noise attenuation & overhead wiring (OHW).

The site location is identified on an aerial photograph located in APPENDIX B.

The proposed works, likely plant and equipment and indicative Project timing is presented in APPENDIX C.

2.1.2 Construction traffic

The Blues Point construction works will generate additional traffic movements in the form of:

- Light vehicle movements generated by construction personnel travelling to and from work
- Heavy vehicle movements generated by delivery vehicles bringing materials, plant and equipment and shaft backfill material to the worksite.

Construction traffic on-site (i.e. within the Project footprint) is included as part of the construction noise assessment of the works activities identified in Sections 5 and APPENDIX C. When construction related traffic moves onto the public road network, a different noise assessment methodology is appropriate as vehicle movements would be regarded as 'additional road traffic' rather than as part of the construction site's activities. Construction traffic noise is addressed in Section 7.

2.1.3 Cumulative construction impacts

CSSI 7400 Condition of Approval E39 requires Systems Connect to consult with proponents of other construction works in the vicinity of the worksite and take reasonable steps to coordinate works to minimise cumulative impacts of noise and vibration and maximise respite for affected sensitive receivers. Further to this, Condition E40 requires works to be coordinated to provide the required respite periods identified in accordance with the terms of the CSSI 7400 approval.

All concurrent Sydney Metro construction site works have been considered and addressed in Section 9 of this CNVIS. Potentially concurrent construction activities within the vicinity of the Blues Point site have also been considered, as discussed in Section 9.

2.2 Construction hours

The construction hours for the Project are defined by Project Planning Approval (PPA) Conditions E36, E37, E38, E41, E42, E44 and E48. The Environment Protection Licence (EPL 21423), is consistent with these Conditions.

2.2.1 Standard construction hours

The standard construction hours of work are defined by the CSSI-7400 Condition E36. The standard construction hours for the Project are summarised in the table below.

Table 2-1: Standard construction hours

Construction Activity	Monday to Friday	Saturday	Sunday/ Public holiday
Above ground activities: construction sites and construction traffic	7:00 am to 6:00 pm	8:00 am to 1:00 pm	No work

2.2.2 Out of hours work periods

CSSI-7400 Condition E44 and E48 allow standard construction hours to be varied under specific conditions (where justified). Condition E48 allows the following activities to be carried out 24 hours per day, 7 days per week:

- Station and tunnel fit out, and
- Haulage and delivery of spoil and materials.

PPA Condition E44 and Condition E46 allow OOHW where it is permitted or required by an EPL or the Sydney Metro Out of Hours Work Protocol. Systems Connect will not undertake OOHW until approved by an EPL or through the Out of Hours Work Protocol. Oversize deliveries may need to take place outside of standard construction hours in order to comply with RMS requirements for oversize vehicle movements.

The Transport for NSW (TfNSW) Construction Noise and Vibration Strategy (CNVS) [9] provides a hierarchy of Out of Hours (OOH) work periods. The impact of OOH works may be reduced by scheduling work and activities with greater impact during the preferred periods when receivers are likely to be less sensitive to noise and vibration, such as in the day out of hours (OOHD) and evening out of hours (OOHE) periods.

Table 2-2 presents the construction work periods as Standard Hours, Out of Hours Work (OOHW) Period 1 and OOHW Period 2.

Table 2-2: Construction hours

Day	12am	1am	2am	3am	4am	5am	6am	7am	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm
Monday	OOHW Period 2							Standard Hours														OOHW Period 1		
Tuesday	OOHW Period 2							Standard Hours														OOHW Period 1		
Wednesday	OOHW Period 2							Standard Hours														OOHW Period 1		
Thursday	OOHW Period 2							Standard Hours														OOHW Period 1		
Friday	OOHW Period 2							Standard Hours														OOHW Period 1		
Saturday	OOHW Period 2							OOHW Period 1		Standard Hours													OOHW Period 1	
Sunday or Public Holiday	OOHW Period 2						OOHW Period 1		Standard Hours													OOHW Period 2		

- Standard construction hours are defined in CSSI-7400 Condition E36 as: Monday to Friday 7:00am to 6:00pm and Saturdays from 8:00am to 1:00pm.
- Work outside of standard construction hours is defined as Out-of-Hours Work (OOHW) and has been divided by the CNVS into 2 periods of sensitivity:
 - OOHW Period 1** is the least sensitive OOH period and is defined as Monday to Friday 6:00pm to 10:00pm (evenings), Saturday 7:00am to 8:00am and 1:00pm to 10:00pm (day/ OOHD and evening/ OOHE) and Sunday and public holidays 8:00am to 6:00pm (day/ OOHD)
 - OOHW Period 2** is the most sensitive OOH period and is defined as Monday to Saturday 10:00pm to 7:00am (night/ OOHN) and Sundays and public holidays 6:00pm to 8:00am (evening/ OOHE and night/ OOHN).

2.2.3 Justification for OOHW

The track works are an essential component of the Project due to be completed and open to rail traffic in 2024. This completion date has been calculated assuming track work, tunnel systems works and fit out works within the tunnel will be undertaken 24 hours a day, seven days per week. Due to time and space constraints it will not be possible to lift all materials into the tunnels during standard hours, to allow track works to continue 24 hours per day. The process will need to continue during the evening period (6pm to 10 pm) and night period (10 pm and 7am).

OOHW activity on the surface (inside the acoustic shed) and in the tunnels, particularly after 10pm will be managed to minimise impacts on surrounding sensitive receivers. Activities will be completed wholly within the acoustic shed or underground, within the tunnels during the night period (10 pm to 7am) to

reduce potential noise impact and manage noise from site to within the NMLs (except for the vehicles entering and leaving the site).

Allowing track works and tunnel fit out works to occur as OOHW will:

- Ensure key NSW Government program milestones are met.
- Ensure delivery of community and rail commuter user benefits.
- Allow increased project efficiency.
- Reduce the overall duration of the construction phase and in turn reduce the duration of impacts on the surrounding community.

The Project has been identified as Critical State Significant Infrastructure by the NSW Government and will provide an important commuter link connecting the existing Sydney Metro North West with the CBD and South West. There are considerable benefits to the Project, NSW Government and the community from the prompt completion of construction of the Project. For the community particularly, completion of construction works will allow restoration of amenity and, in many respects, an increase in the quality of this amenity.

This, however, will be reviewed once works start and we have a better understanding of the logistics of the work (how efficiently they run and how heavily they are impacted by effects such as supply, traffic impact, etc).

Any work outside standard construction hours must be undertaken in accordance with an EPL or the Out of Hours Works Protocol and the CNVMP [1].

2.2.4 COVID-19 extended construction hours

The Environmental Planning and Assessment (COVID-19 Development – Infrastructure Construction Work Days) Order 2020 commenced on 9 April 2020 and will continue until 25 March 2021. The order permits standard construction hours on this project to be extended as follows:

- Saturday from 1pm to 6pm (no high noise work permitted)
- Sundays from 8am to 6pm (no high noise work permitted)
- Public holidays from 8am to 6pm (no high noise work permitted).

High noise work means activities such as rock breaking, rock hammering, sheet piling, pile driving or similar noisy activities, unless an existing consent or approval already allows these works to occur on any of the extended days.

The works that are the subject of this CNVIS are permitted 24 hours per day, 7 days per week under CSSI 7400 Condition E48 (see Section 2.2.2), with the exception of:

1. Site establishment works

2. Removal of the acoustic shed and gantry crane
3. Shaft backfill and reinstatement of the site.

These activities will be carried out during standard construction hours and if required, during the COVID-19 extended construction hours. Appropriate noise management levels for the extended hours period (i.e. Sundays/ Public Holidays 8am to 6pm) are as outlined for the Day (D/ D(O)) period in Section 4.1.1.

3 Nearest sensitive receivers

3.1 Residential receivers

To assess and manage construction noise and vibration impacts, the residential areas surrounding the site have been divided into Noise Catchment Areas (NCAs) based on each area's similar acoustic environment prior to the start of construction work. The NCAs are based on those established in the EIS for the Project, with some modifications to allow for site specific characteristics.

All relevant residential sensitive receivers near the worksite are identified on an aerial photograph located in APPENDIX B.

3.2 Other sensitive receivers (PPA Condition E34)

Additional to residential receivers above, 'other' noise and vibration sensitive receivers such as passive recreation areas, recording studios and places of worship surrounding the construction area have been identified and are summarised on an aerial photograph located in APPENDIX B.

CSSI-7400 Condition E34 states:

Noise generating works in the vicinity of potentially-affected, religious, educational, community institutions and noise and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) must not be timetabled within sensitive periods, unless other reasonable arrangements to the affected institutions are made at no cost to the affected institution or as otherwise approved by the Secretary.

Sydney Metro and Systems Connect have undertaken consultation with identified sensitive receivers to determine sensitive periods. This has been taken into consideration in finalising respite strategies for high noise impacts.

3.3 Commercial and industrial premises

All commercial and industrial premises near the worksite have been considered in this assessment.

3.4 Heritage receivers

Heritage receivers have been identified in the Land Use Survey in ANNEXURE A.2 of the CNVMP. Table 3-1 identifies the heritage-listed structures close to work areas.

Table 3-1: Assessment heritage receivers

Name	Address/Location	Significance
Former tram turning circle and McMahons Point	Henry Lawson Avenue	Local
Seawall	2a Henry Lawson Avenue	Local
Blues Point Waterfront Group	2 Henry Lawson Avenue	Local

Name	Address/Location	Significance
North Sydney bus shelters	BS061 Henry Lawson Avenue	Item 0407 North Sydney LEP 2013
McMahons Point South	McMahons Point	CA14 North Sydney LEP 2013
Blues Point Waterfront Group	Blues Point Road and Henry	Items 0423–0450 North Sydney
Slipway and site of former Holmes' residence	1 Henry Lawson Avenue	Item 0453 North Sydney LEP 2013

4 Construction noise and vibration objectives

4.1 Noise goals

4.1.1 Noise management levels (NMLs)

Construction noise management levels (NMLs) have been determined using the Construction Environmental Management Framework (CEMF)[10], CSSI-7400 Conditions, in accordance with the Sydney Metro City & Southwest Construction Noise and Vibration Strategy (SMCSNVS) [8] and as set out in the CNVMP.

For the Blues Point site, external NMLs are derived from the Interim Construction Noise Guideline (ICNG)[3], as identified in Section 5.1.1 of the CNVMP[1] and summarised in Table 4-1 below. Internal NMLs are also applicable at residential receiver locations during the 7 am to 8 pm period through CSSI-7400 Conditions E37 and E38; and during the 8 pm to 7 am period per E41 and E42, as summarised in Table 4-1 below.

Table 4-1: Application of NMLs at CS2 Blues Point (CSSI 7400 Conditions of Approval)

Time Period	Area	Receiver Type	Condition	Noise management level ³
ICNG				
Day ¹	All	All	CNVS ³ Section 5.3	ICNG (see Table B1 in APPENDIX B)
Day ¹ OOHW Period 1	All	All	CNVS ³ Section 5.3	ICNG (see Table B1 in APPENDIX B)
Evening ¹ OOHW Period 1	All	All	CNVS ³ Section 5.3	ICNG (see Table B1 in APPENDIX B)
Night ¹ OOHW Period 2	All	All	CNVS ³ Section 5.3	ICNG (see Table B1 in APPENDIX B)
CSSI-7400				
Day ¹ (D/ D(O)) Evening ¹ 6pm to 8pm (E1)	Identified precincts (including Blues Point)	All	CSSI-7400 E38	Noise levels are required to be less than $L_{Aeq(15\text{ minute})}$ 60 dB(A) for at least 6.5 hours between 7am and 8pm, of which at least 3.25 hours must be below $L_{Aeq(15\text{ minute})}$ 55 dB(A). Noise equal to or above $L_{Aeq(15\text{ minute})}$ 60dB(A) is allowed for the remaining 6.5 hours between 7am and 8pm. ⁴
Evening ¹ 8pm to 9pm (E2)	Non-residential zones ²	Residential	CSSI-7400 E41	$L_{Aeq(15\text{ minute})}$ 60 dB(A) (internal)
Evening ¹ 9pm to 10pm Night ¹ 10pm to 7am (N)				$L_{Aeq(15\text{ minute})}$ 45 dB(A) (internal)
Evening ¹ 8pm to 10pm (E2) Night ¹ 10pm to 7am (N)				$L_{Aeq(15\text{ minute})}$ 45 dB(A) (internal)
All	All	All	CSSI-7400 E43	$L_{Aeq(8\text{ hour})}$ 85 dB(A) (external) near the CSSI

- Day refers to 7am to 6pm Monday to Friday and 8am to 6pm Saturday, Sunday and Public Holidays; Evening refers to Monday to Sunday 6:00pm to 10:00pm; Night refers to Monday to Friday 10:00pm to 7:00am and Saturdays, Sundays and public holidays 10:00pm to 8:00am.
- These are identified by the applicable Local Environmental Plan land zoning of the receiver.
- Sydney Metro City & South West Construction Noise and Vibration Strategy (Sydney Metro 2016)
- Criteria as described in SSI 7400 Condition E38

5. A 5 dB penalty shall be applied if rock breaking or any other annoying activity likely to result in ground-borne noise or a perceptible level of vibration is planned

4.1.2 Sensitive receiver NMLs and respite for high noise impact works (CSSI-7400 Conditions E37 and E38)

Daytime works need to be assessed against the requirements of CSSI-7400 Conditions E37 and E38. Consultation will be undertaken with receivers predicted to experience internal noise levels greater than $L_{Aeq(15minute)} 60 \text{ dB(A)}$, between 7am and 8pm, to determine appropriate hours of respite in accordance with CSSI-7400 Conditions E37 and E38. Receivers have been identified using the following process:

- An NML equivalent to an internal noise level of $L_{Aeq(15minute)} 60 \text{ dB(A)}$ was established for all identified receivers:
 - For residential receivers, the equivalent external NML is based on a 10 dB(A) minimum (conservative) difference between external and internal noise levels (assuming windows open)
 - For non-residential receivers with light weight glazing, the equivalent external NML is based on a 20 dB(A) minimum (conservative) difference between external and internal noise levels (assuming windows closed)
 - For non-residential receivers with heavy glazing, the equivalent external NML is based on a 25 dB(A) minimum (conservative) difference between external and internal noise levels (assuming windows closed)
 - Where additional information is available (e.g. if residential or non-residential properties have been acoustically treated), alternative outdoor to indoor noise difference will be determined to establish the equivalent external noise threshold
- Receivers where noise is predicted to be above the equivalent external NML are identified in APPENDIX E as requiring consultation.

The adopted difference between external and internal noise levels is identified in APPENDIX E.

4.1.3 Residential receiver NMLs – 8pm to 7am (CSSI-7400 Conditions E41 and E42)

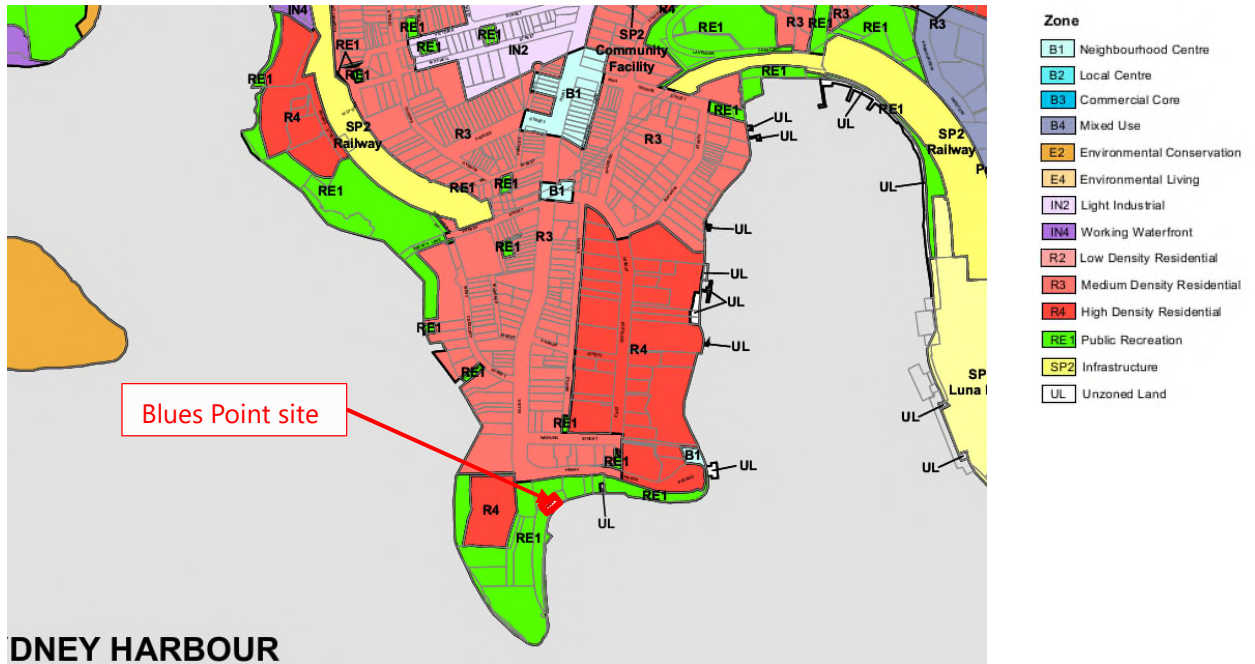
CSSI-7400 Conditions E41 and E42 require that residential receivers within non-residential zones or residential zones (respectively) are not above the internal noise levels identified in Table 4-1. In accordance with CSSI-7400 Conditions E41 and E42, if construction works are particularly annoying (as described in *ICNG NMLs* above) or include ground-borne noise or a perceptible level of vibration at the affected receiver, a 5 dB(A) penalty should be added to the predicted construction noise level.

Where the above internal noise levels cannot be achieved, additional mitigation in accordance with the *Sydney Metro City and South West Noise and Vibration Strategy (SMCSNVS)* [8] is to be offered.

Addendum A of the SMCSNVS notes that the applicable Local Environmental Plan land zoning of the receiver be used to identify if residential receivers are located within residential or non-residential zones. An extract from the North Sydney Local Environmental Plan 2013 land zoning map LZN_002 is provided in Figure 4.1. Red and pink areas (R2, R3 and R4) indicate residential zones. The zoning map indicates

that the nearest residential receivers to the Blues Point site are in residential zones (zone R3 and R4 in Figure 4.1).

Figure 4.1: Extract from the North Sydney Local Environmental Plan 2013 land zoning map LZN_002



For this assessment, all residential receivers are conservatively assumed to be in residential zones, with a corresponding internal noise threshold level of $L_{Aeq(15minute)} 45 \text{ dB(A)}$ between 8pm and 7am. Based on a minimum (conservative) external to internal noise difference of 10 dB(A) (assuming windows open), an equivalent external noise threshold of $L_{Aeq(15minute)} 55 \text{ dB(A)}$ is applicable between 8pm and 7am for all receivers except for those that are receiving at-property treatments from TfNSW due to the operation of the rail corridor. In this case, a conservative external noise threshold of $L_{Aeq(15minute)} 65 \text{ dB(A)}$ is considered. Where these external equivalent levels are above the external noise threshold, additional mitigation may be required in accordance with the SMCSNVS.

The assessment presented in Section 5.2 has assessed all receivers against the approach outlined in the SMCSNVS [8] and the CNVMP [1] which achieves the requirements of PPA Conditions E41 and E42, and is consistent with the ICNG [3] and the EIS [2].

4.1.4 Sleep disturbance

Consistent with Section 5.1.3 of the CNVMP [1], an initial screening level of $L_{Amax} \leq L_{A90(15min)} + 15 \text{ dB(A)}$ is used. In situations where this results in an external screening level of less than 55 dB(A), a minimum screening level of 55 dB(A) is set. Note that this is equivalent to a maximum internal noise level of 45 dB(A) with windows open.

Where noise events are found to be above the screening level, further analysis is made to identify:

- the likely number of events above 45 dB(A) (internal) that might occur during the night assessment period
- whether events are above an 'awakening reaction' level of 55 dB(A) L_{Amax} (internal) that equates to NML of L_{Amax} 65 dB(A) (assuming open windows).

The ICNG recommends that where construction works are planned to extend over more than two consecutive nights, maximum noise levels and the extent and frequency of maximum noise level events above the RBL should be considered.

During construction works at night, attended noise monitoring will be undertaken at representative residences most impacted by the works during night-time periods (see Section 5). The noise monitoring will follow the procedures outlined in APPENDIX E of the CNVMP [1], which includes measurement of L_{Amax} noise metrics. If maximum noise levels are found to be above the sleep NML of 45 dB(A), the responsible noise source(s) will be identified and further analysis undertaken to quantify the extent and frequency of events above the NML. Additional feasible and reasonable mitigation measures may need to be considered to reduce potential impacts.

4.1.5 National Standard for exposure to noise

In accordance with PPA Condition E43, Systems Connect worksites will be managed to ensure that noise generated by construction will not be above the National Standard for exposure to noise in the occupational environment of an eight-hour equivalent continuous A-weighted sound pressure level of $L_{Aeq,8h}$, of 85 dB(A) for any employee working at a location near a Systems Connect worksite.

4.1.6 Construction related road traffic noise objectives

On the roads immediately adjacent to construction sites, the community may associate heavy vehicle movements with the Blues Point site. Construction traffic movements on public roads will aim to limit any increase in existing road traffic noise levels to no more than 2 dB(A). All feasible and reasonable noise mitigation and management measures will be implemented.

4.2 Construction vibration goals

As reported in Section 5.4 and 5.5 of the CNVMP [1], construction vibration goals have been determined using:

- for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006) [4]
- for structural damage, the vibration limits set out in the
 - British Standard BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from ground-borne vibration [5] and

- German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures [6].

4.2.1 Disturbance to building occupants (human annoyance)

For disturbance to human occupants of buildings, we refer to 'Assessing Vibration; a technical guideline' [4]. This document provides criteria which are based on the British Standard BS 6472-1992, 'Evaluation of human exposure to vibration in buildings (1-80Hz)' [7].

Intermittent vibration is assessed using vibration dose values (VDVs). For the assessment of potential vibration at the nearest vibration sensitive receivers preferred and maximum VDV goals for the day period (7:00am to 10:00pm) are presented in Table 4-2.

Table 4-2: Construction vibration disturbance goals

Location	Assessment period ¹	Vibration Dose Value (VDV), m/s ^{1.75}	
		Preferred values	Maximum values
Critical areas ²	Day or Night	0.10	0.20
Residences	Day	0.20	0.40
	Night	0.13	0.26
Offices, schools, educational institutions and places of worship	Day or Night	0.40	0.80
Workshops	Day or Night	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 or impulsive criteria for critical areas. Source: BS 6472-1992

4.2.2 Structural damage to buildings

A conservative vibration damage screening level per receiver type is given below:

- Reinforced or framed structures (Line 1): 25.0 mm/s
- Unreinforced or light framed structures (Line 2): 7.5 mm/s

At locations where the predicted and/or measured vibration levels are greater than shown above (peak component particle velocity), a more detailed analysis of the building structure, vibration source, dominant frequencies and dynamic characteristics of the structure would be required to determine the applicable safe vibration level.

It is noted that vibration levels required to cause minor cosmetic damage are typically 10 x higher than levels that will cause disturbance to building occupants. Many building occupants assume that building damage is occurring when they feel vibration or observe rattling of loose objects, however the level of vibration at which people perceive vibration or at which loose objects may rattle is far lower than vibration levels that can cause damage to structures.

4.2.3 Heritage

Section 4.2.3 of the CNVMP [1] outlines the approach to manage potential vibration impacts on heritage items, where identified. The actions to be taken shall be to:

- 1) Identify heritage items where the 2.5 mm/s peak component particle velocity objective may be exceeded during specific construction activities
- 2) Structural engineering report to be undertaken on identified heritage items, to confirm structural integrity of the building and confirm if item is 'structurally sound'
- 3) If item confirmed as 'structurally sound', the screening criteria in Section 4.2.2 shall be adopted, or
- 4) If item confirmed as 'structurally unsound', the more conservative cosmetic damage objectives of 2.5 mm/s peak component particle velocity would be adopted.

4.2.4 Sensitive scientific and medical equipment

No sensitive scientific or medical equipment are known near the assessed works. If they are identified, relevant vibration criteria should be established for each item in line with Section 5.5.3 of the CNVMP [1], and any corresponding management or mitigation measures determined.

4.2.5 Utilities and other vibration sensitive structures

Where utilities or other vibration sensitive structures are identified, relevant vibration criteria will be established for each item per Section 5.5.4 of the CNVMP [1], and any corresponding management or mitigation measures determined.

5 Construction noise assessment

5.1 Noise prediction methodology

Modelling and assessment of airborne noise impacts from activities associated with the construction works were determined by modelling the noise sources, receiver locations, topographical features, and possible noise mitigation measures using a Cadna-A computer noise model developed for this project. The model calculates the contribution of each noise source at identified sensitive receiver locations and allows for the prediction of the total noise from a site for the various stages of the construction works.

The noise prediction models take into account:

- Location of noise sources and sensitive receiver locations.
- Height of sources and receivers referenced to one metre digital ground contours for the site area and surrounding area.
- Sound Power Levels (L_w) of plant and equipment likely to be used during the various construction activities (see Table C1 in APPENDIX C). Table C1 also identifies the plant and equipment that will operate during each assessment period and the likely timing of each activity/aspect.
- Separation distances between sources and receivers.
- Ground type between sources and receivers.
- Attenuation from barriers (natural and purpose built).

Key details regarding the construction site layout, the likely plant and equipment (including truck movements), and hours of operation were informed by the Design and Construction Teams. This information is presented in APPENDIX C and formed the basis for all modelling assumptions used in this assessment.

5.1.1 Detailed design outcomes

During the site design process, Renzo Tonin & Associates played a key role in assisting Systems Connect to determine the noise mitigation measures required to reduce the site's noise impact, incorporating existing mitigation measures from previous stages of the project. The key noise mitigation measures that have been included in the noise modelling results presented in this CNVIS are the following:

- Acoustic shed (new, smaller shed in the same location as previous shed) for deliveries;
- 2.8 metre high noise barriers around the site;
- Attenuated pumps, compressors, ventilation fans and other plant/equipment.
- Shed doors must be closed at all times, except the minimum time necessary to allow vehicles to enter or exit.
- Heavy vehicle movements restricted to 4 per hour during E2 and night.

The above listed mitigation measures, include but are not limited to, all the existing measures that have previously been implemented for the TSE works which will remain on site and will not be altered from the existing configuration. The exception is that the acoustic shed will be removed towards the end of the works as noted in Table C1 in APPENDIX C.

5.1.2 Construction activities

Table 5-1 presents a summary of the construction activities and aspects that are proposed to take place during the works. The Track Works and the Tunnel Fitout Works will be undertaken underground, completely within the tunnels and are not expected to contribute to the noise emission generated by the Surface Works.

There are Track Works planned to be conducted after the removal of the acoustic shed. During this period, noise impacts are not expected as the Track works will be occurring well within the tunnel away from the shaft opening. Furthermore, given the acoustic shed will be the last thing to be removed, surface deliveries are unlikely to occur without the acoustic shed in place. In the event deliveries occur without the shed, noise levels will be approximately 10-15 dB(A) higher than that predicted for Delivery (DE) scenario and will be restricted to Daytime and E1 period only.

Shaft backfill and reinstatement will involve bringing material to the site on trucks. The material for backfill cannot be barged in due to the unreliability of the tides and the time frames that the Blues Point site is available for works. The material used for the back fill will be crushed sandstone/ tunnel sandstone. There will be a temporary stock pile on site with an excavator working. The material will be loaded into crane skip and craned down via mobile crane as noted in Table C1 of APPENDIX C. The material would be spread by a small excavator and compacted by a small roller. If time permits this activity will be conducted with the acoustic shed still in place, however given that the shed must be removed by Christmas/New Year 2021/2022 this will likely not be possible for the entirety of the shaft backfill and reinstatement.

Table 5-1: Summary of construction activities

Activity	Aspect	Assessment reference	Work period	Duration
Site establishment (surface works)	Maintain site and environment controls, installation of environmental controls, establish laydown areas, hoarding, construct acoustic shed and install gantry crane	SE	Day	December 2020 to February 2021
Deliveries (surface works)	Unloading within acoustic shed	DE	Day, E1, E2 & Night	February 2021 to November 2021
Removal of acoustic shed and gantry crane (surface works)	Remove acoustic shed and gantry crane	RAG	Day	November 2021 to December 2021
Shaft backfill and reinstatement (surface works)	Backfill of the shaft and reinstatement of the site	SBR	Day	December 2021 to July 2022
Track level access (track level works)	Distribute rail through Blues Point	N/A ¹	Day, E1, E2 & Night	December 2020 to February 2021
Tunnel track activities (track level works)	Track construction	N/A ¹	Day, E1, E2 & Night	December 2020 to December 2022
Tunnel support system (inside tunnels)	Ventilation, dewatering	N/A ¹	Day, E1, E2 & Night	January 2021 to December 2022
Rising main installation (inside tunnels)	Installation of pipes	N/A ¹	Day, E1, E2 & Night	June 2021 to December 2022
	Pressure testing of rising main	N/A ¹	Day, E1, E2 & Night	June 2021 to December 2022
Tunnel fitout (inside tunnels)	Anchor drilling works	N/A ¹	Day, E1, E2 & Night	February 2021 to December 2022
	Walkway, handrail, CSR, noise attenuation and OHW installation	N/A ¹	Day, E1, E2 & Night	June 2021 to December 2022

Notes: 1. Work located underground, inside tunnels

5.2 Predicted noise levels

Predicted L_{Aeq} noise levels from the worksite are assessed against the NMLs and summarised in the following sections, with colour coding to denote the highest level of exceedance of the NML. Detailed results for each receiver are given in APPENDIX D.

The noise predictions presented in this CNVIS represent a realistic worst-case scenario when construction occurs at work locations close to residences and other sensitive receivers. At each receiver, noise levels will vary during the construction period based on the position of equipment within the worksite, the distance to the receiver, the construction activities being undertaken and the noise levels of particular plant items and equipment. Actual noise levels will often be less than the predicted levels presented in this CNVIS.

5.2.1 ICNG NMLs

5.2.1.1 ICNG Standard construction hours

Table 5-2 presents the predicted worst-case construction noise levels for each of the construction stages identified in Table 5-1 at the most affected receiver in each NCA. The results are presented in terms of level above the ICNG standard daytime NMLs.

For **Standard Hours** construction noise impacts are presented as follows:

- Below NML
- < 10dB(A) above NML - construction noise clearly audible
- ◆ > 10dB(A) above NML - construction noise moderately intrusive
- > 75dB(A) - highly noise affected (for residential receivers)

Table 5-2: Summary of construction noise impacts at nearby receivers – standard hours

NCA	Construction scenario (see Table 5-1)				
	SE	DE	RAG	SBR-H	SBR-T
BN_02	●	●	●	●	●
BN_04	●	●	●	●	●
BP_01	●	●	●	○	●
BP_02	○	●	○	◆	○
OSR	○	●	○	◆	○

Notes: OSR: this includes all commercial, industrial and other sensitive receivers

During the standard daytime period, works are typically below or within 10 dB(A) of the ICNG NMLs for assessed residential receivers. The exceptions are:

- Two receivers in NCA BP-01 (14-28 and 40 Blues Point Road, McMahons Point) during the shaft backfill and reinstatement of the site, when high impact activities occur (SBR-H)
- Eight receivers in NCA BP-02 (1, 3, 3a, 5, 7 and 9 Warung Street, McMahons Point; 1A Henry Lawson Avenue, McMahons Point and 1 East Crescent Street, McMahons Point) during the shaft backfill and reinstatement of the site, when high impact activities occur (SBR-H).

The exceedance is a worst case scenario when the noisiest plant items are operating closest to the receiver. This would not occur for the full extent of the works.

Noise levels at the Barangaroo Reserve sensitive receiver are predicted to be less than 20dB(A) above the NML during all assessed activities.

All reasonable and feasible noise mitigation measures have been incorporated into the site design, as outlined in Section 5.1.1. Further mitigation measures that would be adopted, where practicable, are identified in Section 5.3. Further, it is necessary to apply Planning Approval Conditions E37 and E38 in order to manage impacts (see Section 5.2.2).

5.2.1.2 ICNG OOHW

Table 5.3 presents the predicted worst-case construction noise levels for each of the construction stages identified in Table 5-1 at the most affected receiver in each NCA. The results are presented in terms of level above the ICNG NMLs for the OOHW period.

- Below NML
- < 5dB(A) above NML - construction noise noticeable
- ◆ 5 to 15dB(A) above NML - construction noise clearly audible
- > 15 to 25dB(A) above NML - construction noise moderately intrusive
- >25dB(A) above NML - construction noise highly intrusive

Table 5.3: Summary of construction noise impacts at nearby receivers - OOHW Period 1 and 2

NCA	Construction scenario (see Table 5-1)	
	Evening	Night
	DE	DE
BN_02	●	●
BN_04	●	●
BP_01	●	○
BP_02	●	○
OSR	●	●

Notes: Evening (E1/E2): Evening period from 6pm to 10pm
Night-time (N) period from 10pm to 7am Sunday to Thursday and 10pm to 8am Fridays, Saturdays and Public Holidays.

During the OOHW evening, predicted noise levels are below the ICNG NMLS for all residential receivers

During the OOHW night-time period, noise levels are predicted to be generally below NMLs at all residential receivers. There are five receivers where predicted noise levels are within 5 dB(A) of the NML (1, 3 and 3a Warung Street, McMahons Point; and 14-28 and 40 Blues Point Road, McMahons Point).

As the ICNG NMLs have not been achieved for all proposed activities on the site, all reasonable and feasible noise mitigation and management measures would be implemented. These mitigation and management measures are discussed in Section 5.1.1 and 5.3 of this report. Further, it is necessary to apply Planning Approval Conditions E41 and E42 in order to manage impacts (see Section 5.2.3).

5.2.2 CSSI-7400 Conditions E37 and E38

The following sections present the predicted worst-case construction noise levels for each of the construction stages identified in Table 5-1 at the most affected residential receiver in each NCA and other sensitive receivers (OSR). The results are compared with the internal NMLs in CSSI-7400 Conditions E37 and E38. Where the measured or predicted noise levels are above the equivalent external NML, consultation will be undertaken with affected receivers to determine appropriate hours of respite in accordance with PPA Conditions E37 and E38.

The impacts presented are as follows:

- ◆ Noise levels predicted to be below internal NMLs in PPA Conditions E37 and E38
- Noise levels predicted to be above internal NMLs in PPA Conditions E37 and E38.

Table 5-4: Summary of construction noise impacts – CSSI-7400 Conditions E37/ E38

NCA	Construction scenario (see Table 5-1)				
	SE	DE	RAG	SBR-H	SBR-T
BN_02	◆	◆	◆	◆	◆
BN_04	◆	◆	◆	◆	◆
BP_01	◆	◆	◆	◆	◆
BP_02	◆	◆	◆	□	◆
OSR	◆	◆	◆	□	◆

Notes: Day: 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays
 E1: Evening period from 6pm to 8pm.
 OSR: this includes all commercial, industrial and other sensitive receivers.
 H: includes construction with high noise impact plant (e.g. Smooth drum roller (13t) - High vibration)
 T: includes construction without high noise impact plant

Based on the results presented in Table 5-4 above, noise levels are predicted to be below the NMLs in PPA Conditions E37/E38 during the 7 am to 8 pm day/evening period at all locations. The exceptions are:

- Three receivers in NCA BP-02 (1, 3 and 3a Warung Street, McMahons Point) during the shaft backfill and reinstatement of the site, when high impact activities occur (SBR-H).

All receivers with predicted internal $L_{Aeq(15\text{minute})}$ noise levels greater than 60 dB(A) (see APPENDIX E) will be consulted to determine appropriate hours of respite in accordance with CSSI-7400 Conditions E37 and E38. Additional mitigation measures will be implemented in accordance with the documented procedure in Addendum A of the SMCSNVS.

For more detailed predictions, see APPENDIX D. For more detailed additional noise measures, refer to Section 5.3.

5.2.3 PPA Conditions E41/42

Table 5-5 summarises the predicted noise impacts for each construction stage in each NCA compared with the internal NMLs in CSSI-7400 Conditions E41 and E42. Where predicted levels are above the E41/42 NMLs at residential receivers, additional mitigation measures will be implemented in accordance with the documented procedure in Addendum A of the SMCSNVS.

The impacts presented are as follow:

- ◆ Noise levels predicted to be below internal NMLs in PPA Conditions E41 and E42;
- Noise levels predicted to be above internal NMLs in PPA Conditions E41 and E42.

Table 5-5: Noise level summary for PPA Conditions E41/42 (residential only)

NCA	Construction scenario (see Table 5-1)	
	E2	N
	DE	DE
BN_02	◆	◆
BN_04	◆	◆
BP_01	◆	◆
BP_02	◆	◆

Notes: E2: Late evening period from 8pm to 10pm.

N: Night-time period from 10pm to 7am.

The results in Table 5-5 indicate that construction noise is predicted to comply with the internal noise threshold of PPA Conditions E41/E42 at the nearest residential receivers within all NCAs.

Proposed measures for managing potential noise impacts are provided in Section 5.3. For more detailed predictions, see APPENDIX D.

Based upon results presented in Section 5.2, additional noise mitigation is not required.

5.2.4 Sleep disturbance

Maximum noise levels associated with on-site heavy vehicle movements may potentially cause sleep disturbance at nearby residential receivers. Heavy vehicle movements are required at night-time to deliver fitout materials and concrete.

Heavy vehicles and metal-on-metal bangs from unloading may cause L_{max} noise levels greater than the sleep disturbance screening criterion. Noise emission from materials unloading are predicted to be lower than those associated with heavy vehicle movements entering and exiting the site, as unloading would only occur within the acoustic shed. Heavy vehicles and unloading are expected to be infrequent and will only occur only up to midnight.

These activities will be managed by limiting deliveries to the Blues Point site, where reasonable and feasible, to not before 7am and not after midnight. The exception would be where circumstances require larger (oversized) vehicle movements to be undertaken outside standards hours (after midnight), at the direction of NSW Police and/or Transport for NSW.

In addition, truck drivers would be instructed to minimise unnecessary acceleration, avoid vigorous slamming of truck doors, installing broadband reversing alarms on heavy vehicles, unloading material only within the acoustic shed and minimising heavy vehicle movements where practicable. Drivers also instructed to turn off engines if required to wait outside the acoustic shed before gaining entry. The potential of loose items or plant/equipment that could generate metal-on-metal bangs will be identified and managed accordingly. Where practical the use of slings rather than chains will be utilised for lifts.

In addition, toolbox talks will be used to advise all personnel of the need to follow quiet work practices during OOHW periods and of the need to respect the residential receivers surrounding the work site. Other management measures are outlined in Section 5.3 to aid in providing additional noise reduction benefits where noise is above the criterion.

Noise monitoring should be undertaken to determine if sleep disturbance is higher than the NML of 65 dB(A) L_{Amax} during the night period. If verification monitoring shows noise levels are consistently above the sleep disturbance NML (i.e. 2 or more consecutive verification monitoring events/ occasions that find the works to be the primary contributor to the L_{Amax} noise level), investigation will be undertaken to understand the cause of the exceedance and additional mitigation and management measures will be implemented in accordance with Sydney Metro City and South West Noise and Vibration Strategy.

5.3 Noise mitigation and management

5.3.1 Consultation with affected receivers (CSSI-7400 Condition E33)

CSSI-7400 Condition E33 requires consultation with affected receivers to assist in determining site-specific mitigation measures to be included in this CNVIS.

Systems Connect will continue consultation with potentially affected stakeholders including business and residential receivers regarding specific mitigation measures applicable to the construction works at the Blues Point site. Consultation is undertaken to understand stakeholders' noise and vibration expectations and preferences for timing of high impact noise respite. This is consistent with the requirements in CSSI-7400 Conditions E34 and E38.

Systems Connect will continue to consult with potentially affected sensitive receivers, both prior to and following commencement of construction. Consultation is informing and will continue to inform the identification of specific mitigation measures for the Blues Point site. These measures may include minimising high noise impact works during night time hours; limiting night time works in individual locations to no more than two consecutive nights; scheduling high noise impact works around sensitive

periods where feasible and reasonable; offers of movie or dinner vouchers; alternative accommodation offers.

5.3.2 Site noise control measures

In addition to the noise mitigation measures identified during detailed design (see Section 5.1.1), the following Table 5-6 presents additional noise control measures recommended to reduce and manage potential noise impacts. Table C1 in APPENDIX C notes specific management measures for the key construction stages to reduce noise impacts.

Table 5-6: Site noise control measures

Control type	Control measure	Typical use
At-source control measures	Limit equipment in use	Only the equipment necessary during each stage of the works will be used.
	Timing of equipment in use	Where practicable, activities and plant will be limited as outlined in Table C1 (APPENDIX C).
	Limit activity duration	Any equipment not in use for extended periods shall be switched off. For example, heavy vehicles should switch engines off when not in use.
	Use and siting of plant	Avoid/ limit simultaneous operation of noisy plant and equipment within discernible range of a sensitive receiver. Direct noise-emitting plant away from sensitive receivers where practicable. Locate fixed location plant items as far from sensitive receivers as practicable.
	Equipment selection	Use quieter and less noise/ vibration emitting construction methods where feasible and reasonable.
	Truck movements	Where practicable, avoid the use of park air brakes at night. Set up relevant traffic management measures to minimise the use of air brakes when leaving site. Air brake silencers are to be correctly installed and fully operational for any heavy vehicles (as per CNVMP). Minimise unnecessary acceleration on site and avoid vigorous slamming of truck doors.
	Limit clangs and bangs at night	Identify potential of loose items or plant/equipment that could generate metal-on-metal bangs and managed accordingly.
	Non-tonal reversing alarms	Alternative reverse alarms, such as 'quackers' will be installed on all vehicles & mobile plant regularly used on site and on all vehicles & mobile plant required for OOHV.
Path mitigation measures	Temporary noise screens	Where practicable, temporary noise screens (e.g. Flexshield, Echo-barrier, or similar) should be used to provide additional noise reduction during works. Temporary noise screens can provide 5 to 10 dB noise reduction, where they can break line of sight.
Noise management measures	Site inductions & Toolbox Talks	All employees, contractors and subcontractors will receive a Project induction. The environmental component may be covered in toolboxes and should include: <ul style="list-style-type: none"> • location of nearest sensitive receivers • relevant project specific and standard noise and vibration mitigation measures; • permitted hours of work; • OOHV Procedure and Form • construction employee parking areas.
	Community consultation	Inform community of construction activity and potential impacts.

Control type	Control measure	Typical use
	Respite periods	Noise levels are required to be less than $L_{Aeq(15\text{ minute})}$ 60 dB(A) for at least 6.5 hours between 7am and 8pm, of which at least 3.25 hours must be below $L_{Aeq(15\text{ minute})}$ 55 dB(A). Noise equal to or above $L_{Aeq(15\text{ minute})}$ 60dB(A) is allowed for the remaining 6.5 hours between 7am and 8pm.
	Sleep disturbance respite	Out of hours heavy vehicle movements to the Blues Point temporary site would not be undertaken between 12am to 7am, except where circumstances require larger (oversized) vehicle movements to be undertaken outside standards hours (after midnight), at the direction of NSW Police and/or Transport for NSW.
	Behavioural practices	No swearing or unnecessary shouting or loud stereos/radios on site. No dropping of materials from height, throwing of metal items and slamming of doors.
	Noise monitoring	Noise monitoring is to be carried out as detailed in Section 5.3.4.

5.3.3 Additional noise mitigation measures

Table 5-7 below should be used to advise the appropriate additional noise mitigation during construction, based on the CNVS [9] and the CNVMP [1].

Table 5-7: Additional airborne noise mitigation measures

When is the work being undertaken?	Predicted $L_{Aeq,15min}$ noise level above		Identify additional management measures to be implemented	
	Background (RBL)	Noise Management Level (NML)		
Standard Hours M-F 7am to 6pm Sat 8am to 1pm	0 to 10 dB(A)	-	-	-
	> 10 to 20 dB(A)	≤ 10 dB(A)	-	-
	> 20 to 30 dB(A)	> 10 to 20 dB(A)	LB, M	[MM2]
	> 30 dB(A)	> 20 dB(A)	LB, M	[MM2]
OOHW Period 1 M-F 6pm to 10pm Sat 1pm to 10pm Sun/ PH 8am to 10pm	0 to 10 dB(A)	≤ 5 dB(A)	-	-
	> 10 to 20 dB(A)	> 5 to 15 dB(A)	LB	[MM1]
	> 20 to 30 dB(A)	> 15 to 25 dB(A)	LB, M	[MM2]
	> 30 dB(A)	> 25 dB(A)	LB, M, IB, PC, RO, SN	[MM4]
OOHW Period 2 M-F 10pm to 7am Sat 10pm to 8am Sun/ PH 6pm to 8am	0 to 10 dB(A)	≤ 5 dB(A)	-	-
	> 10 to 20 dB(A)	> 5 to 15 dB(A)	LB, M	[MM2]
	> 20 to 30 dB(A)	> 15 to 25 dB(A)	LB, M, IB, PC, RO, SN	[MM4]
	> 30 dB(A)	> 25 dB(A)	LB, M, IB, PC, RO, SN, AA	[MM5]

Notes: Use the abbreviation codes in the table above to confirm management measures required
 Code in square brackets [] refers to noise management code for affected receivers identified in each CNVIS
 LB = Letter box drops SN = Specific notifications RO = Project specific respite offer
 M = Monitoring PC = Phone calls and emails AA = Alternative accommodation
 IB = Individual briefings

Predicted noise levels in Section 5.2 indicate some receivers may experience construction noise above E37/E38 NMLs, but below E41/E42 NMLs. Additional mitigation measures to be applied in accordance with Table 5-7 are presented in Table D.3 in APPENDIX D. Consultation requirements to satisfy Condition of Approval E37/E38 are provided in Table E.1.

Note that all potentially impacted receivers will be kept informed of the nature of works to be carried out, the expected noise levels and duration, as well as be given the project enquiries and complaints 1800 numbers (see Section 5.3.5).

5.3.4 Attended noise monitoring

Real time noise monitoring in accordance with CSSI-7400 Condition C11 is not proposed to be undertaken for the Blues Point site. Attended noise monitoring will be undertaken as required by this CNVIS. Noise monitoring is subject to obtaining the property owner/occupier's consent to access the property (where required). If consent to access property is denied, monitoring will be done on public land on the property boundary, provided it is safe to do so.

Attended noise monitoring will be undertaken during works at one of the representative residential receivers identified in the table below. Nominated attended measurement locations have been selected with the best opportunity to validate the predicted noise levels.

Table 5-8: Nominated verification monitoring locations

NCA	Nominated receiver address	Monitoring location at 1 m from
BP_01	14-28 BLUES POINT ROAD MCMAHONS POINT	Eastern façade
BP_02	1A HENRY LAWSON AVENUE MCMAHONS POINT	Western façade
	1 WARUNG STREET MCMAHONS POINT	Southern façade

Notes: Monitoring on private property is subject to owner consent and where relevant, occupier consent. If consent to access property is denied, monitoring will be done on public land on the property boundary, provided it is safe to do so.

Noise monitoring will be undertaken to determine if the construction noise levels are higher than the external equivalent NML specified in CSSI-7400 Conditions E37/38 and E41/E42. If verification monitoring shows that the external noise levels are consistently above the predicted (or required) noise levels (i.e. 2 or more consecutive verification monitoring events/ occasions that find the works to be the primary contributor noise above the E37/E38 and E41/E42 NML) presented in Section 5.2, investigation will be undertaken to understand the cause of the exceedance and additional mitigation and management measures will be implemented in accordance with Sydney Metro City and South West Noise and Vibration Strategy.

5.3.5 Complaints Handling

Noise complaints received and responded to will be managed in accordance with the CNVMP and the Community Consultation Strategy.

Transport for NSW operate a 24-hour construction complaints line (1800 171 386).

Enquiries/ complaints may also be received through the Sydney Metro project email (LinewideMetro@transport.nsw.gov.au).

6 Construction vibration impacts

6.1 Minimum working distances for vibration intensive plant

From the plant and equipment listed in APPENDIX C, the dominant vibration generating plant and equipment include:

- Smooth drum roller (13t) - High vibration

Potential vibration generated to receivers is dependent on separation distances, the intervening soil and rock strata, dominant frequencies of vibration, and the receiver structure.

The recommended minimum working distances for vibration intensive plant are presented in Table 6-1 and Table 6.2. Site specific minimum working distances for vibration intensive plant items must be measured on site where plant and equipment are likely to operate close to or within the minimum working distances for cosmetic damage (Table 6-1).

Unlike noise, vibration cannot be readily predicted. There are many variables from site to site, such as soil type and conditions, sub surface rock, building types and foundations, and actual plant on site.

The data relied upon in this assessment (tabulated below) is taken from a database of vibration levels measured at various sites or obtained from other sources (such as BS5228-2:2009). They are not specific to this project as final vibration levels are dependent on many factors including the actual plant used, its operation and the intervening geology between the activity and the receiver.

Table 6-1: Minimum working distances (m) for cosmetic damage (continuous vibration)

Plant item	Minimum working distance (m) ³		
	Reinforced or framed structures (e.g. commercial buildings) ¹	Unreinforced or light framed structures (e.g. residential buildings) ¹	Sensitive structures (e.g. heritage structures) ²
Smooth drum roller (13T) – High Vibration	5	5	15

- Notes
- 1) Initial screening test criteria reduced by 50% due to potential dynamic magnification in accordance with BS7385.
 - 2) In accordance with Section 5.8.1 of CNVMP, a site inspection should determine whether a heritage structure is structurally unsound.
 - 3) Minimum working distances are in 5m increments only to account for the intrinsic uncertainty of this screening method.

Table 6-2: Minimum working distances (m) for human annoyance (continuous vibration)

Plant item	Minimum working distances, m				
	Critical areas ^{1,4}	Residences		Offices ^{3,4}	Workshops ⁴
		Day ²	Night ²		
Smooth drum roller (13T) – High Vibration	105	55	75	30	15

- Notes
- 1: Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.
 - 2: Daytime is 7 am to 10 pm; Night-time is 10 pm to 7am.
 - 3: Examples include offices, schools, educational institutions and place of worship.
 - 4: Applicable when in use.

6.2 Vibration assessment

6.2.1 Structural damage

The numbers of buildings which are close to or within the minimum working distances for cosmetic damage are shown in Table 6-3.

Table 6-3: Number of buildings within minimum working distances for cosmetic damage

Plant item	Number of buildings	
	Screening criteria for non-heritage structures	Screening criteria for heritage structures
Smooth drum roller (13T) – High Vibration	0	0

There are no buildings within the minimum working distances established for cosmetic damage during use of the equipment.

6.2.2 Human annoyance

The assessing vibration guideline [4] notes that inside dwellings, adverse comments often arise when occupants can perceive (feel) vibration, particularly when the vibration arises from a source located outside their home (or outside their control), and assume that the vibration has the potential to damage their building or contents.

However, it is noted that vibration levels required to cause minor cosmetic damage are typically 10 x higher than levels that will cause disturbance to building occupants. Many building occupants assume that building damage is occurring when they feel vibration or observe rattling of loose objects, however the level of vibration at which people perceive vibration or at which loose objects may rattle is far lower than vibration levels that can cause damage to structures.

Properties where vibration levels may be above the vibration disturbance goals in Table 4-2 and there is a probability of adverse comment are shown in Table 6-4.

Table 6-4: Number of buildings within minimum working distances for human annoyance

Plant item	Critical areas ^{1,4}	Residences ⁵		Offices ^{3,4}	Workshops ⁴
		Day ²	Night ^{2,6}		
Smooth drum roller (13T) – High Vibration	0	7	-	0	0

- Notes:
1. Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.
 2. Daytime is 7 am to 10 pm; Night-time is 10 pm to 7am.
 3. Examples include offices, schools, educational institutions and place of worship.
 4. Applicable when in use.
 5. Hotels and childcare centres are included in the residence category.
 6. Smooth drum roller is to be operated only during daytime.

There are 7 buildings that may experience vibration which can cause adverse comment when vibration-generating plant is operated nearby. The table below presents the 7 properties within the minimum distances for human annoyance.

Table 6-5: Properties within minimum distances for human annoyance

Plant item	Activity	Properties	Land use
Smooth drum roller (13T) – High Vibration	Shaft backfill and reinstatement	1 Warung Street	Residential
		3 Warung Street	Residential
		3a Warung Street	Residential
		5 Warung Street	Residential
		14 - 28 Blues Point Road	Residential
		30 Blues Point Road	Residential
		1 Henry Lawson Avenue	Residential

The above assessment is based on vibration-generating equipment operating at the closest location to a receiver. When vibration-generating equipment operates further from the closest point, vibration levels will reduce along with the probability of adverse comment. Due to the limited time the above plant will be operating close to each receiver, the risk of annoyance is low. It is therefore recommended that attended vibration measurement only be carried out in the event of complaint from the nearest receiver to confirm that vibration is within the acceptable range for human annoyance.

Attended vibration measurements are proposed to be carried out proactively and in response to vibration complaints. If measurement results indicate exceedances of the vibration objectives for human annoyance at these locations, vibration control and management measures will be provided to reduce vibration impact (see Section 6.3.1).

After applying all feasible and reasonable vibration mitigation measures, if vibration monitoring still identifies that measured vibration levels are above the relevant vibration criteria for human annoyance, and/or critical areas, appropriate additional mitigation measures will be considered (see Section 6.3.2).

6.3 Vibration mitigation measures

6.3.1 Vibration control and management measures

In addition to the vibration control measures presented in the CNVMP, the following vibration management measures are provided to minimise vibration impact from construction activities to the nearest affected receivers and to meet the relevant human comfort vibration and structural damage limits identified in Section 4.2.

Table 6-6: Site vibration control measures

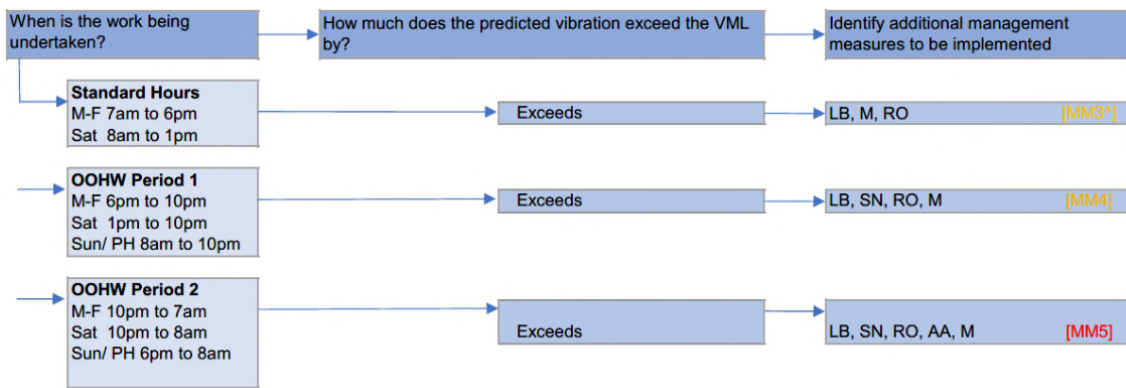
Control type	Control measure	Typical use
Construction planning	Building condition surveys	Undertake building dilapidation surveys on all buildings located within the buffer zones established for cosmetic damage prior to commencement of activities with the potential to cause property damage (see Section 6.1).

Control type	Control measure	Typical use
	Community consultation	Implement community consultation measures – inform community of construction activity & potential impacts – inform community that the level of vibration at which people perceive it, or at which loose objects may rattle, is far lower than the level at which minor cosmetic damage is expected to occur
	Equipment selection/ construction method	Use less vibration emitting construction methods where feasible & reasonable, for example drill rigs can, where practicable, be operated with the pneumatic mode switched off to reduce vibration impact.
	Plan work activities to minimise vibration.	Plan traffic flow, parking & loading/unloading areas to maximise distances between truck routes and sensitive receivers.
Complaints management	Construction Complaints Management System	Complaints will be managed in accordance with the Construction Complaints Management System (see Section 0). Each complaint shall be investigated and where vibration levels are established as exceeding the set limits, appropriate amelioration measures shall be put in place to mitigate future occurrences. Management measures may include modification of construction methods such as using smaller equipment and establishment of minimum working distances as mentioned above.

6.3.2 Additional vibration mitigation measures

After applying all feasible and reasonable mitigation measures identified in Table 6-6, if vibration monitoring at representative locations are still above relevant vibration objectives for human annoyance, the appropriate additional vibration mitigations measures, based on the CNVS [9] and the CNVMP [1].

Table 6-7: Additional vibration mitigation measures



Notes: Use the abbreviation codes in the table above to confirm management measures required
 Code in square brackets [] refers to vibration management code for affected receivers identified in each CNVIS
 ^MM3 slightly modified to include respite offer (RO) in place of specific notification (SN)
 LB = Letter box drops
 M = Monitoring of predicted noise levels
 SN = Specific notifications (personalised letter, phone call, email, individual briefing)
 RO = Project specific respite offer
 AA = Alternative accommodation

6.3.3 Vibration monitoring

Attended vibration monitoring is to be undertaken to determine and verify site specific minimum working distances for cosmetic damage and human annoyance. Attended vibration monitoring will be undertaken during works whenever vibration significant plant items are operating close to or within the determined minimum working distances.

6.3.4 Management of complaints

Vibration complaints received and responded to will be managed in accordance with the CNVMP and the Community Consultation Strategy.

Transport for NSW operate a 24-hour construction complaints line (1800 171 386).

Enquiries/ complaints may also be received through the Sydney Metro project email (LinewideMetro@transport.nsw.gov.au).

7 Ground-borne noise assessment

7.1 Ground-borne noise prediction methodology

Due to the nature of the works at the Blues Point site, which are surface works, airborne noise is expected to be higher than ground-borne noise levels at the nearest sensitive receivers.

The risk of annoyance due to ground-borne noise is therefore considered low and has not been addressed further in this CNVIS.

8 Traffic noise assessment

8.1 Traffic sources

All heavy vehicles, including rail, concrete and shaft backfill material deliveries, will access the Blues Point worksite via Blues Point Road, which is a sub-arterial road with moderate daytime and night-time flows.

Details of heavy vehicle movements associated with the construction works were provided by construction team and described in APPENDIX C Table C1. It is noted that, as a result of feedback from the community and stakeholders, out of hours heavy vehicle movements to the Blues Point temporary site will not be undertaken between 12am to 7am, except where circumstances require larger (oversized) vehicle movements to be undertaken outside standards hours (after midnight), at the direction of NSW Police and/or Transport for NSW.

To predict road traffic noise levels on the existing road network, the most recent available traffic count data prior to commencement of construction works were reviewed for Blues Point Road¹. Existing traffic and project volumes are detailed in Table 8-1 for the day-time and night-time assessment periods.

Table 8-1: Traffic noise modelling data - existing road network

Site	Road	Road category (RNP)	15-hour day period (7am-10pm)				9-hour night period (10pm-7am)			
			Existing		Project		Existing		Project	
			TOTAL	HV	TOTAL	HV	TOTAL	HV	TOTAL	HV
Blues Point	Blues Point Road	Sub-arterial	2844	329	262	142	452	40	78	6 ¹

Note: 1) Heavy vehicles movements from 10pm to 12am only (two ways).

8.2 Predicted construction traffic noise

The potential impact of construction road traffic noise to nearby residential receivers has been estimated using the United Kingdom Department of Environment's 'Calculation of Road Traffic Noise' (1988) method. The method uses the average 1-hour traffic volume for the 'assessment period' (i.e. day or night) to predict the $L_{10, 1\text{hour}}$ noise levels. A correction of -3dB(A) is applied to obtain the $L_{\text{eq}, 1\text{hour}}$ noise levels which equate to the L_{Aeq} noise levels for the 'assessment period'.

For this assessment, the model has taken into account:

- traffic volume and heavy vehicle forecasts;
- posted vehicle speed;
- road gradient;

¹ AusTraffic, 2.16 Blues Point Road between Henry Lawson Ave and Pacific Hwy, site no 8090_2.16, start Saturday 09/12/2017, end Friday 15/12/2020

- ground reference levels of the road and receivers;
- separation distances of the road to receivers;
- ground type between the road and receivers; and
- angles of view of the road from the receiver's position.

For assessment purposes, residential receivers along Blues Point Road are assumed to be a typical worst-case distance of 5m from the road.

Table 8.2 summarises the predicted construction traffic noise levels during day and night periods.

Table 8.2: Predicted traffic noise levels (with/ without construction)

Site	Road	Predicted noise level, dB(A)					
		Day period (7am to 10pm)			Night period (10pm to 7am)		
		Noise descriptor	No construction	With construction	Noise descriptor	No construction	With construction
Blues Point	Blues Point Road	L _{Aeq(15h)}	64.5	65.6	L _{Aeq(9h)}	58.0	58.7

Note: Bold text indicates more than 2dB(A) increase in traffic noise levels resulting from construction traffic.

The predicted road traffic noise levels indicate a less than 2dB(A) increase in overall day L_{Aeq(15h)} and night L_{Aeq(9h)} noise on Blues Point Road and so construction traffic is predicted to have minimal impact on this road used to access/exit the site.

Predicted noise levels therefore comply with the traffic NMLs identified in Section 4.1.6.

8.3 Sleep disturbance

As presented in APPENDIX C Table C1, there are up to 6 heavy vehicle and 72 light vehicle movements (two ways) during the night. Although maximum noise levels associated with heavy vehicle movements along Blues Point Road are expected to be above the sleep disturbance screening criterion, the predicted L_{Amax} levels would be similar to other heavy vehicles using Blues Point Road. In addition, heavy vehicle movements will be restricted to be undertaken up to midnight.

8.4 Traffic noise mitigation and management

No additional mitigation or management measures are required when construction vehicles are on public roads, provided hourly traffic movements associated with construction are consistent with the assumptions outlined above.

9 Cumulative impacts

Currently, there are no other proposed unrelated construction activities within the vicinity of Blues Point works.

If other non-Sydney Metro construction works are likely to occur simultaneously with the works assessed in this CNVIS, then the cumulative noise and vibration impacts will be reviewed at that point in time on a works by works basis. Any necessary changes to the recommended mitigation and management measures will then be identified and adopted to sufficiently deal with the cumulative noise or vibration impacts.

10 Conclusion

Works associated with the C2S Blues Point works have been identified and described in this report. Potentially affected noise and vibration sensitive receivers and relevant construction noise and vibration objectives have been identified and discussed to allow the assessment of potential construction impacts.

Expected construction noise levels have been predicted and presented in Section 5.2 and APPENDIX D. The expected duration of construction activities is outlined in Table C1 of APPENDIX C.

During the daytime/evening period (from 7am to 8pm), the highest noise impacts are predicted to occur during demobilisation. These impacts will be managed by providing respite and using less noise and vibration intensive plant, where practicable.

Construction noise is predicted to comply with Conditions E41 and E42 at all assessed residential receivers.

Noise mitigation and management measures have been presented in Section 5.3 to aid in providing additional noise reduction benefits where exceedance of the objective occurs.

Vibration impacts and management measures have been presented in Section 6 to aid in minimising any potential vibration impacts. Suitable management measures have been presented in Sections 6.3.

Construction traffic has been assessed, indicating compliance with construction-related road traffic noise objectives at all residential receiver locations.

References

- [1] Sydney Metro City & Southwest – Line Wide Works Contract Construction Noise and Vibration Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000032-A-CNVMP-C2B)
- [2] SLR Consulting Australia Pty Ltd 2016 Sydney Metro Chatswood to Sydenham - Technical Paper 2: Noise and Vibration Report Number 610.14718R1 – 28 April 2016
- [3] Department of Environment and Climate Change 2009 NSW Interim Construction Noise Guideline
- [4] Department of Environment Conservation NSW 2006 Assessing Vibration; a technical guideline
- [5] British Standard BS 7385 Part 2 1993, Evaluation and measurement for vibration in buildings. Guide to damage levels from groundborne vibration
- [6] German Standard DIN 4150-3:2016-12 Vibration in buildings – Part 3: Effects on structures
- [7] British Standard BS 6472-2008, Evaluation of human exposure to vibration in buildings (1-80Hz)
- [8] Transport for NSW Sydney Metro City & Southwest Construction Noise Strategy (ref: 610.14213-R3) 08 August 2016
- [9] Transport for NSW Construction Noise and Vibration Strategy (ref: 7TP-ST-157/4.0) May 2018
- [10] Transport for NSW Sydney Metro Construction Environmental Management Framework August 2016
- [11] Department of Environment, Climate Change and Water 2011 NSW Road Noise Policy
- [12] NSW Department of Planning – Development near rail corridors and busy road – interim guideline 2008
- [13] Eric Schreurs, Lex Browns and Deanna Tomerini – Maximum pass-by noise levels from vehicles in real road traffic streams: comparison to modelled levels and measurement protocol issues. Internoise 2011, Osaka Japan, September 4-7

APPENDIX A Glossary of terminology

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 (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
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.
Assessment period	The period in a day over which assessments are made.
Assessment point	A point at which noise measurements are taken or estimated. A point at which noise measurements are taken or estimated.
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, when extraneous noise is removed. 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 L90 noise level (see below).
Decibel [dB]	The units that sound is measured in. The following are examples of the decibel readings of every day sounds: 0dB The faintest sound we can hear 30dB A quiet library or in a quiet location in the country 45dB Typical office space. Ambience in the city at night 60dB CBD mall at lunch time 70dB The sound of a car passing on the street 80dB Loud music played at home 90dB The sound of a truck passing on the street 100dB The sound of a rock band 115dB Limit of sound permitted in industry 120dB Deafening
dB(A)	A-weighted decibels. 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 switched on 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.
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.
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.
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.
L _{Max}	The maximum sound pressure level measured over a given period.
L _{Min}	The minimum sound pressure level measured over a given period.

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 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 _{eq}	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.
Reflection	Sound wave changed in direction of propagation due to a solid object obscuring its path.
SEL	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 L _{eq} sound levels over any period of time and can be used for predicting noise at various locations.
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 through its conversion into thermal energy.
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 pressure level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone.
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.
Tonal noise	Containing a prominent frequency and characterised by a definite pitch.

APPENDIX B **Nearest sensitive receivers and noise management levels**

Table B1: Noise sensitive receivers and construction noise management levels

Blues Point

NCA	Nearest construction work area	Receiver Type	Reference RBL	Existing Noise Levels, dB(A)			Residential NMLs based on ICNG (external)				Sleep Dist. L _{Amax}		Comments
				RBL Day	RBL Evening	RBL Night	NMLDS	NMLDO	NMLE	NMLN	Screening ¹	Max ¹	
Portion 2 & 3 Chatswood to Sydenham (C2S)													
BP_01	Blues Point	Residential apartments east of Blues Point Rd	C2S EIS B.16	51	49	40	61	56	54	45	55	65	
BP_02	Blues Point	Residential apartments west of Blues Point Rd	C2S EIS B.14	51	49	40	61	56	54	45	55	65	
BN_02	Barangaroo Station	Residential buildings north of Argyle St and Bettington St	C2S EIS B.12	50	45	40	60	55	50	45	55	65	
BN_04	Barangaroo Station	Mixed residential and commercial west of Harbour Bridge	C2S EIS B.13	62	62	52	72	67	67	57	67	65	
Other sensitive receivers													
	Studio building (music recording studio)						45	45	45	45			Source: AS2107 'maximum', assuming a conservative façade loss of 20 dB(A)
	Studio building (film or television studio)						50	50	50	50			Source: AS2107 'maximum', assuming a conservative façade loss of 20 dB(A)
	Cinema space, theatre, auditorium						55	55	55	55			Source: AS2107 'maximum', assuming a conservative façade loss of 20 dB(A)
	Hotel (Sleeping areas: Hotels near major roads)						60	60	60	60			Source: AS2107 'maximum', assuming a conservative façade loss of 20 dB(A)
	Classrooms at schools and other educational institutions						55	55	55	55			Source: ICNG, assuming a conservative façade loss of 10 dB(A)
	Chilcare centre (internal play and sleeping areas)						50	50	50	50			Source: AAC - guideline for Child Care Centre Acoustic Assessment, assuming a conservative façade loss of 10 dB(A)
	Hospital wards and operating theatres						65	65	65	65			Source: ICNG, assuming a conservative façade loss of 20 dB(A)
	Places of worship						55	55	55	55			Source: ICNG, assuming a conservative façade loss of 10 dB(A)
	Library (reading areas)						65	65	65	65			Source: AS2107 'maximum', assuming a conservative façade loss of 20 dB(A)
	Office building (general office areas)						65	65	65	65			Source: AS2107 'maximum', assuming a conservative façade loss of 20 dB(A)
	Hotel (bars and lounges)						70	70	70	70			Source: AS2107 'maximum', assuming a conservative façade loss of 20 dB(A)
	Community centres – Municipal Buildings						60	60	60	60			Source: AS2107 'maximum', assuming a conservative façade loss of 10 dB(A)
	Restaurant, bar (Bars and lounges/ Restaurant)						70	70	70	70			Source: AS2107 'maximum', assuming a conservative façade loss of 20 dB(A)
	Railway platform and concourse areas						75	75	75	75			Source: AS2107 'maximum', assuming a conservative façade loss of 20 dB(A)
	Café/ Restaurant/ Bar (outdoors)						60	60	60	60			Source: AS2107 'maximum1'
	Passive recreation areas (e.g. area used for reading, meditation)						60	60	60	60			Source: ICNG
	Active recreation areas (e.g. sports fields)						65	65	65	65			Source: ICNG
	Commercial premises (including offices and retail outlets)						70	70	70	70			Source: ICNG
	Industrial premises						75	75	75	75			Source: ICNG

Notes:
 1 - Levels are estimated assuming an open windows (i.e. 10dBA façade loss)
 D(S): standard construction hours from 7 am to 6 pm Monday to Friday and from 8 am to 6 pm Saturday
 D(O): out-of-hours day period from 8 am to 6 pm Sunday and Public holidays - OOHW P1
 E: evening period from 6 pm to 10 pm Monday to Sunday - OOHW P1
 NS: night shoulder period from 10 pm to 12 am Monday to Sunday - OOHW P1
 N: night-time period from 10 pm to 7 am Monday to Friday, from 10 pm to 8 am Saturday, Sunday and Public holidays - OOHW P2
 MS: morning shoulder period from 5 am to 7 am Monday to Friday, from 6 am to 8 am Saturday, Sunday and Public holidays - OOHW P1

100 m

50

0



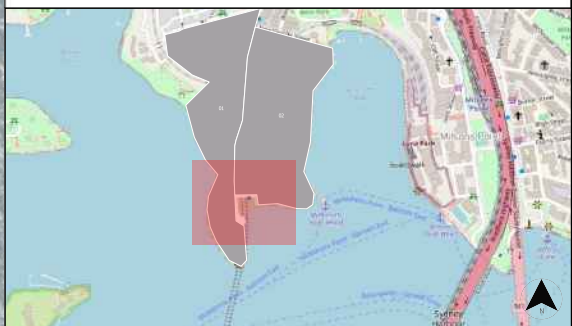
LEGEND

- Noise sensitive receivers
- Childcare
 - Theatre/Auditorium
 - Commercial
 - Mixed use
 - Educational
 - Project acquisition
 - Hotel/Motel/Hostel
 - Film/TV studio
 - Industrial
 - Cinema
 - Medical
 - Community centre
 - Place of Worship
 - Library
 - Recording studio
 - Laboratory
 - Recreational - Active
 - Other
 - Recreational - Passive
 - Heritage
 - Residential

NCA

Work Areas

Work area



REV	BY	DATE	DESCRIPTION	APPD.
r0	RZ	13/10/20	Prepare figures	TG
A3 Original			Co-ordinate System: MGA Zone 56	

SCALES

0 50 m

1:1000

FULL SIZE A3

NOTE: Do not scale from this drawing.

CLIENT

ACOUSTIC CONSULTANT

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SYDNEY METRO - CHATSWOOD TO SYDENHAM

Blues Point
Land Use, NCAs

Status: Sheet 1 of 1

Drawing No. Rev. No.

APPENDIX C Construction details

C.1 Construction timetable/ activities/ management

Table C1: Construction Timetable/ Activities/ Equipment

Blues Point

Work activity	Aspect	Work Area	Indicative timing/ duration	Modelling ID	Plant/ Equipment (as included in assessment model)	Plant/ Equipment (as provided by client)	Day			Evening			Night			Sound Power Level (Lw re: 1pW) in Noise Model, dB(A)			High noise plant (EPL E1)	Vibration intensive plant	Notes	
							7am - 6pm	6pm - 10pm	10pm - 7am	6pm - 10pm	10pm - 7am	6pm - 10pm	10pm - 7am	L _{Aeq}	Penalty	L _{Amax}	L _{Aeq}	Penalty				L _{Amax}
Surface works	Site establishment	Blues Point Site	December 2020 to February 2021	SE	Front end loader	Backhoe	2							110	-	115	-	-				
					Telehandler / Franna crane (20t)	Mobile crane (franna)	2					99	-	103	-	-						
					Hand tools	Hand Tools	1					107	-	111	-	-						
					Mobile crane (20t-250t)	200t Mobile Crane	1					104	-	108	-	-						
					EWP	Elevated Work Platform	2					95	-	98	-	-						
	Deliveries	Construction activities operating within the acoustic shed	February 2021 to November 2021	DE	Road truck (deliveries to site)	Truck deliveries	4-6 per hour								106	-	111	-	-			
					Gantry crane	Gantry crane	1		1			96	-	-	-	-						
					Telehandler / Franna crane (20t)	Fork lift /franna	1		1			99	-	103	-	-						
					Road truck (deliveries to site)	Truck deliveries	6 p.h		5 per evening		3 per night	106	-	111	-	-						
					Concrete pump	Concrete pump	1		1		1	103	-	107	-	-						
	Remove acoustic shed and gantry crane	Blues Point Site	November 2021 to December 2021	RAG	Light vehicles / traffic control utes	Light vehicles	4 per hour		4 per hour		4 per hour				89	-	100	-	-			
					Excavator w bucket (25t)	Excavator w shears	1					103	-	108	-	-						
					Hand tools	Hand tools	2					107	-	111	-	-						
					Mobile crane (20t-250t)	200t Mobile Crane	1					104	-	108	-	-						
					Mobile crane (20t-250t)	60t Mobile Crane	1					104	-	108	-	-						
Shaft Backfill & Reinstatement	Blues Point Site	December 2021 to July 2022	SBR-H, SBR-T	Telehandler / Franna crane (20t)	Franna	2								99	-	103	-	-				
				EWP	Elevated Work Platform	2					95	-	98	-	-							
				Light vehicles / traffic control utes	Light vehicles	4 per hour					89	-	100	-	-							
				Mobile crane (20t-250t)	100t Mobile Crane	1					104	-	108	-	-							
				Road truck (deliveries to site)	Truck deliveries	4-6 per hour					106	-	111	-	-							
TRACK WORKS	Track Level Access	Distribute rail through Blues Point	December 2020 to February 2021	N/A	Grinding	Grinding	1		1		1			N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
					Telehandler	Telehandler	1		1		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
					Rubber tyre Excavator	Rubber tyre Excavator	1		1		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
					Front end loader	Front end loader	1		1		-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
					Rail trolleys	Rail trolleys	1		1		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
	Tunnel Track Activities	Track Construction	Track Level	December 2020 to December 2022	N/A	Hand tools	Hand tools	Various		Various		Various			N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
						hand held saw	hand held saw	2		2		2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS
						Loader 950 Equ = Excavator w bucket	Loader 950 Equ = Excavator w bucket	1		1		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS
						Hi-Ab Truck (Hi-Rail)	Hi-Ab Truck (Hi-Rail)	4 per hour		4 per hour		2 per hour	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS
						Light vehicle	Light vehicle	8 per hour		8 per hour		8 per hour	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TUNNEL FITOUT WORKS	Ventilation	Underground	January 2021 to December 2022	N/A	Vent Fan	Vent Fan	2		2		2			N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
						Sump Pump	Sump Pump	1		1		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS
						Light vehicle	Light vehicle	4 per hour		4 per hour		4 per hour	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS
						50 t Mobile Crane	50 t Mobile Crane	1		1		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS
						VMS 25 (solar)	VMS 25 (solar)	2		2		2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rising Main Installation	Installation of Pipes	Underground	June 2021 to December 2022	N/A	Butt Fusion Welding Rig	Butt Fusion Welding Rig	1		1		1			N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
					Explosive Power Tools	Explosive Power Tools	4		4		4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
					Sump Pump	Sump Pump	2		2		2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
					Lighting Tower	Lighting Tower	4		1		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
					Light vehicle	Light vehicle	4 per hour		4 per hour		4 per hour	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS
Tunnel Fitout	Anchor Drilling Works	Underground	February 2021 to December 2022	N/A	Sump Pump	Sump Pump	2		2		2			N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
					Drills	Drills	1		1		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
					Vacuums	Vacuums	6		6		6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
					Generator	Generator	6		6		6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
					Compressor	Compressor	1		1		1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS	
Walkway, Handrail, CSR, Noise Attenuation & OHW installation	Underground	June 2021 to December 2022	N/A	Light Vehicles	Light Vehicles	1		1		1				N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
				Electric Saw	Electric Saw	12		12		12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
				Hand Tools	Hand Tools	12		12		12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
				Grinder	Grinder	12		12		12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		
				25t Mobile Crane	25t Mobile Crane	6		6		6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This plant activity is underground and not further assessed in this CNVIS		

APPENDIX D Detailed predicted noise levels

The detailed predicted levels have been provided to Systems Connect in a spreadsheet table in order to more adequately mitigate and manage potential noise impacts.

Table D.1: Predicted construction noise levels assessed to ICNG NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BN_02	63 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	65 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	67 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	69 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	71 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	73 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	75-77 LOWER FORT STREET DAWES POINT	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	79 LOWER FORT STREET DAWES POINT	60	-	-	-	38	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	2 POTTINGER STREET DAWES POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	36-38 POTTINGER STREET DAWES POINT	60	-	-	-	38	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	80 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	82 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	84 WINDMILL STREET DAWES POINT	60	-	-	-	37	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	86 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	88 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	90 WINDMILL STREET DAWES POINT	60	-	-	-	40	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	92 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	5 DALGETY ROAD MILLERS POINT	60	-	-	-	36	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	5B DALGETY ROAD MILLERS POINT	60	-	-	-	37	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	7 POTTINGER STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	24 MUNN STREET BARANGAROO	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	40-48 MERRIMAN STREET MILLERS POINT	60	-	-	-	36	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	38 MERRIMAN STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	36 MERRIMAN STREET MILLERS POINT	60	-	-	-	34	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	28 MERRIMAN STREET MILLERS POINT	60	-	-	-	35	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	24 MERRIMAN STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	20 MERRIMAN STREET MILLERS POINT	60	-	-	-	35	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	18 MERRIMAN STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	14-16 MERRIMAN STREET MILLERS POINT	60	34	-	34	41	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	7 DALGETY ROAD MILLERS POINT	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	11-13A DALGETY ROAD MILLERS POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	15-15A DALGETY ROAD MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	2-18 DALGETY ROAD BARANGAROO	60	38	-	38	45	37	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	25A HICKSON ROAD MILLERS POINT	60	39	-	39	46	38	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	22 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	13 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	13 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	24 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	26 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	68 BETTINGTON STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	66 BETTINGTON STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	35-35A DALGETY ROAD MILLERS POINT	60	-	-	-	35	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	33-33A DALGETY ROAD MILLERS POINT	60	-	-	-	35	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	31-31A DALGETY ROAD MILLERS POINT	60	-	-	-	36	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	29-29A DALGETY ROAD MILLERS POINT	60	-	-	-	38	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	27-27A DALGETY ROAD MILLERS POINT	60	-	-	-	38	-	50	-	-	-	-	-	45	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to ICNG NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BN_02	25-25A DALGETY ROAD MILLERS POINT	60	-	-	-	38	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	23-23A DALGETY ROAD MILLERS POINT	60	-	-	-	40	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	21-21A DALGETY ROAD MILLERS POINT	60	-	-	-	40	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	19-19A DALGETY ROAD MILLERS POINT	60	34	-	34	41	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	17-17A DALGETY ROAD MILLERS POINT	60	34	-	34	41	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	9 DALGETY ROAD MILLERS POINT	60	-	-	-	40	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	18-20 MUNN STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	21 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	23 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	31 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	33 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	61 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	65 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	67 WINDMILL STREET MILLERS POINT	60	-	-	-	37	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	19 HICKSON ROAD DAWES POINT	60	43	-	43	50	42	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	21-21A HICKSON ROAD MILLERS POINT	60	40	-	40	47	39	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	17A HICKSON ROAD DAWES POINT	60	41	-	41	48	40	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	20 HICKSON ROAD MILLERS POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	1 POTTINGER STREET MILLERS POINT	60	35	-	35	42	34	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	1B POTTINGER STREET MILLERS POINT	60	34	-	34	41	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	81-83 LOWER FORT STREET MILLERS POINT	60	-	-	-	38	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	64 Argyle Pl, Millers Point NSW 2000, A	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	28 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	30 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	32 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	34 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	36 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	38 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	40 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	44 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	50 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	60 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	64 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	67 WINDMILL STREET MILLERS POINT	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	48 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	46 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	52 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	54 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	56 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	58 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	80-82 Windmill St, Millers Point NSW 20	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	81-83 LOWER FORT STREET MILLERS POINT	60	-	-	-	39	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_02	8 Argyle Place, Millers Point	60	-	-	-	-	-	50	-	-	-	-	-	45	-	-	-	-	-
BN_04	1 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	3 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	5 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	67	-	-	-	-	-	57	-	-	-	-	-

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Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BN_04	7 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	9 LOWER FORT STREET DAWES POINT	72	38	-	38	45	37	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	11 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	13 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	15 LOWER FORT STREET DAWES POINT	72	38	-	38	45	37	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	17 LOWER FORT STREET DAWES POINT	72	38	-	38	45	37	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	19 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	21 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	23 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	24-26 LOWER FORT STREET DAWES POINT	72	-	-	-	39	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	25-27 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	28 LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	29 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	30-30B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	31 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	32-32B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	33 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	34-34B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	35 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	36-36B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	37 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	38-38B LOWER FORT STREET DAWES POINT	72	35	-	35	42	34	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	39-41 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	40-40B LOWER FORT STREET DAWES POINT	72	35	-	35	42	34	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	42-42B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	43 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	45C LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	45B LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	45A LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	47 LOWER FORT STREET DAWES POINT	72	-	-	-	39	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	49 LOWER FORT STREET DAWES POINT	72	-	-	-	39	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	51 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	53 LOWER FORT STREET DAWES POINT	72	35	-	35	42	34	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	55 LOWER FORT STREET DAWES POINT	72	-	-	-	39	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	57 LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	59 LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	61 LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	2 PARBURY LANE DAWES POINT	72	37	-	37	44	36	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	2 TRINITY AVENUE DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BN_04	4-4B TRINITY AVENUE DAWES POINT	72	-	-	-	38	-	67	-	-	-	-	-	57	-	-	-	-	-
BP_01	60 BLUES POINT ROAD MCMAHONS POINT	61	35	-	35	42	34	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	62 BLUES POINT ROAD MCMAHONS POINT	61	38	-	38	45	37	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	64 BLUES POINT ROAD MCMAHONS POINT	61	38	-	38	45	37	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	66 BLUES POINT ROAD MCMAHONS POINT	61	38	-	38	45	37	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	68 BLUES POINT ROAD MCMAHONS POINT	61	38	-	38	45	37	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	70C BLUES POINT ROAD MCMAHONS POINT	61	36	-	36	43	35	54	-	-	-	-	-	45	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to ICNG NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_01	74 BLUES POINT ROAD MCMAHONS POINT	61	41	-	41	48	40	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	76 BLUES POINT ROAD MCMAHONS POINT	61	37	-	37	44	36	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	78 BLUES POINT ROAD MCMAHONS POINT	61	41	-	41	48	40	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	80 BLUES POINT ROAD MCMAHONS POINT	61	40	-	40	47	39	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	82 BLUES POINT ROAD MCMAHONS POINT	61	35	-	35	42	34	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	86 BLUES POINT ROAD MCMAHONS POINT	61	35	-	35	42	34	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	88 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	90 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	94 BLUES POINT ROAD MCMAHONS POINT	61	34	-	34	41	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	96 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	98A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	100 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	104 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	106 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	108 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	110 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	112 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	114 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	118 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	120 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	124 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	124A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	126 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	128A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	128 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	130A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	130 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	132 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	132A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	136 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	138 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	140 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	142 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	144 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	148 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	150 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	152 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	154 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	156 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	158 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	2 FRENCH STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	3 FRENCH STREET MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	5 FRENCH STREET MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	7 FRENCH STREET MCMAHONS POINT	61	34	-	34	41	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	9 FRENCH STREET MCMAHONS POINT	61	34	-	34	41	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	11 FRENCH STREET MCMAHONS POINT	61	35	-	35	42	34	54	-	-	-	-	-	45	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to ICNG NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_01	13 FRENCH STREET MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	16 FRENCH STREET MCMAHONS POINT	61	34	-	34	41	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	18 FRENCH STREET MCMAHONS POINT	61	34	-	34	41	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	20 FRENCH STREET MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	15 MCMANUS STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	1 MIL MIL STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	2 MIL MIL STREET MCMAHONS POINT	61	36	-	36	43	35	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	3 MIL MIL STREET MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	5 MIL MIL STREET MCMAHONS POINT	61	34	-	34	41	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	1 MITCHELL STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	3 MITCHELL STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	5 MITCHELL STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	7 MITCHELL STREET MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	11 MITCHELL STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	13 MITCHELL STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	15 MITCHELL STREET MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	17 MITCHELL STREET MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	33 MITCHELL STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	4 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	6 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	8 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	9 PRINCES STREET MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	10 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	11 PRINCES STREET MCMAHONS POINT	61	35	-	35	42	34	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	12 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	13 PRINCES STREET MCMAHONS POINT	61	35	-	35	42	34	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	14 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	15 PRINCES STREET MCMAHONS POINT	61	36	-	36	43	35	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	16 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	17 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	18 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	19 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	20 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	21 PRINCES STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	22 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	24 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	26 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	28 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	30 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	32 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	40 PRINCES STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	1 QUEENS AVENUE MCMAHONS POINT	61	36	-	36	43	35	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	2 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	3 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	4 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	5 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-

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Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_01	6 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	7 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	8 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	9 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	10 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	11 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	12 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	13 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	14 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	15 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	16 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	17A QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	17 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	18 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	19 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	20 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	21 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	23 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	25 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	1 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	2 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	5 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	6 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	7 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	8 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	9A WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	9 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	11 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	11A WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	12 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	13 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	14 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	15 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	15A WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	16 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	17 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	17A WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	18-22 WEST CRESCENT STREET MCMAHONS POI	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	14-28 BLUES POINT ROAD MCMAHONS POINT	61	61	48	61	68	60	54	-	48	-	-	-	45	-	48	-	-	-
BP_01	40 BLUES POINT ROAD MCMAHONS POINT	61	60	46	60	67	59	54	-	46	-	-	-	45	-	46	-	-	-
BP_01	42 BLUES POINT ROAD MCMAHONS POINT	61	52	40	52	59	51	54	-	40	-	-	-	45	-	40	-	-	-
BP_01	46 BLUES POINT ROAD MCMAHONS POINT	61	48	38	48	55	47	54	-	38	-	-	-	45	-	38	-	-	-
BP_01	50 BLUES POINT ROAD MCMAHONS POINT	61	49	37	49	56	48	54	-	37	-	-	-	45	-	37	-	-	-
BP_01	52 BLUES POINT ROAD MCMAHONS POINT	61	48	37	48	55	47	54	-	37	-	-	-	45	-	37	-	-	-
BP_01	54-56 BLUES POINT ROAD MCMAHONS POINT	61	43	-	43	50	42	54	-	-	-	-	-	45	-	-	-	-	-
BP_01	58 BLUES POINT ROAD MCMAHONS POINT	61	45	36	45	52	44	54	-	36	-	-	-	45	-	36	-	-	-

Table D.1: Predicted construction noise levels assessed to ICNG NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_02	1 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	2 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	3 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	5 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	7 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	8 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	9 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	10 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	11 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	12A-12B BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	12 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	15 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	16 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	17 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	18 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	19 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	20 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	21 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	23A BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	23B BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	23B BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	25 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	27 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	29 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	31 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	33 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	35 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	37 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	38 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	39A BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	35 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	43 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	45 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	47 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	49 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	51 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	11 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	15 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	17 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	19 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	21 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	23A KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	1A WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	1 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	2 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	3 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to ICNG NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_02	4 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	5 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	6 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	7 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	8 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	9-11 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	10 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	12 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	13 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	14 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	15 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	16 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	17 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	18 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	20 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	22 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	24 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	26 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	28 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	39 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	43 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	38	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	45 BLUES POINT ROAD MCMAHONS POINT	61	36	-	36	43	35	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	47 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	40	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	49 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	51 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	57 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	59 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	61 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	63 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	67 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	69 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	71 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	73 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	75 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	77 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	79 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	81 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	85 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	87 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	89 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	12 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	14 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	15 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	17 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	19 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	21 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-

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Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
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NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_02	22 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	23 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	24 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	26 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	28 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	29 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	30 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	31 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	32 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	33 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	34 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	36 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	37 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	1 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	3 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	5 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	7 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	9 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	28 MIDDLE STREET MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	30 MIDDLE STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	38 MIDDLE STREET MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	41 MIDDLE STREET MCMAHONS POINT	61	-	-	-	36	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	48 MIDDLE STREET MCMAHONS POINT	61	-	-	-	34	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	50 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	56 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	58 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	74 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	76 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	1 PARKER STREET MCMAHONS POINT	61	-	-	-	37	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	3 PARKER STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	37 BLUES POINT ROAD MCMAHONS POINT	61	44	34	44	51	43	54	-	34	-	-	-	45	-	34	-	-	-
BP_02	35 BLUES POINT ROAD MCMAHONS POINT	61	48	35	48	55	47	54	-	35	-	-	-	45	-	35	-	-	-
BP_02	33 BLUES POINT ROAD MCMAHONS POINT	61	48	36	48	55	47	54	-	36	-	-	-	45	-	36	-	-	-
BP_02	6 WARUNG STREET MCMAHONS POINT	61	53	40	53	60	52	54	-	40	-	-	-	45	-	40	-	-	-
BP_02	2-4 EAST CRESCENT STREET MCMAHONS POINT	61	57	39	57	64	56	54	-	39	-	-	-	45	-	39	-	-	-
BP_02	1 WARUNG STREET MCMAHONS POINT	61	68	47	68	75	67	54	-	47	-	-	-	45	-	47	-	-	-
BP_02	4 WARUNG STREET MCMAHONS POINT	61	49	37	49	56	48	54	-	37	-	-	-	45	-	37	-	-	-
BP_02	2 WARUNG STREET MCMAHONS POINT	61	50	38	50	57	49	54	-	38	-	-	-	45	-	38	-	-	-
BP_02	3 WARUNG STREET MCMAHONS POINT	61	65	47	65	72	64	54	-	47	-	-	-	45	-	47	-	-	-
BP_02	5 WARUNG STREET MCMAHONS POINT	61	60	43	60	67	59	54	-	43	-	-	-	45	-	43	-	-	-
BP_02	3A WARUNG STREET MCMAHONS POINT	61	58	42	58	65	57	54	-	42	-	-	-	45	-	42	-	-	-
BP_02	3A WARUNG STREET MCMAHONS POINT	61	65	48	65	72	64	54	-	48	-	-	-	45	-	48	-	-	-
BP_02	7 WARUNG STREET MCMAHONS POINT	61	58	41	58	65	57	54	-	41	-	-	-	45	-	41	-	-	-
BP_02	6 EAST CRESCENT STREET MCMAHONS POINT	61	46	34	46	53	45	54	-	34	-	-	-	45	-	34	-	-	-
BP_02	8-10 EAST CRESCENT STREET MCMAHONS POIN	61	47	34	47	54	46	54	-	34	-	-	-	45	-	34	-	-	-
BP_02	11 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to ICNG NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_02	7 EAST CRESCENT STREET MCMAHONS POINT	61	43	-	43	50	42	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	5 EAST CRESCENT STREET MCMAHONS POINT	61	34	-	34	41	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	6 HENRY LAWSON AVENUE MCMAHONS POINT	61	-	-	-	39	-	54	-	-	-	-	-	45	-	-	-	-	-
BP_02	8D HENRY LAWSON AVENUE MCMAHONS POINT	61	44	34	44	51	43	54	-	34	-	-	-	45	-	34	-	-	-
BP_02	1A HENRY LAWSON AVENUE MCMAHONS POINT	61	52	38	52	59	51	54	-	38	-	-	-	45	-	38	-	-	-
BP_02	1A HENRY LAWSON AVENUE MCMAHONS POINT	61	60	44	60	67	59	54	-	44	-	-	-	45	-	44	-	-	-
BP_02	1 EAST CRESCENT STREET MCMAHONS POINT	61	56	39	56	63	55	54	-	39	-	-	-	45	-	39	-	-	-
BP_02	9 WARUNG STREET MCMAHONS POINT	61	59	42	59	66	58	54	-	42	-	-	-	45	-	42	-	-	-
OSR	13 HICKSON ROAD DAWES POINT	70	37	-	37	44	36	70	-	-	-	-	-	70	-	-	-	-	-
OSR	13A HICKSON ROAD DAWES POINT	70	42	-	42	49	41	70	-	-	-	-	-	70	-	-	-	-	-
OSR	15 HICKSON ROAD DAWES POINT	70	41	-	41	48	40	70	-	-	-	-	-	70	-	-	-	-	-
OSR	3-5 POTTINGER STREET DAWES POINT	60	36	-	36	43	35	60	-	-	-	-	-	60	-	-	-	-	-
OSR	5020 POTTINGER STREET DAWES POINT	70	37	-	37	44	36	70	-	-	-	-	-	70	-	-	-	-	-
OSR	101 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	113A BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	115 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	116 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	36	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	117 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	119 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	121 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	123 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	125 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	127 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	129 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	131 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	133 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	134 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	34	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	135 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	137 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	139 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	162 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	53 EAST CRESCENT STREET MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	33 MITCHELL STREET MCMAHONS POINT	70	-	-	-	39	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	34 PRINCES STREET MCMAHONS POINT	70	-	-	-	38	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	36 PRINCES STREET MCMAHONS POINT	70	-	-	-	34	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	38 PRINCES STREET MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	1A RHODENS LANE MILLERS POINT	60	-	-	-	38	-	60	-	-	-	-	-	60	-	-	-	-	-
OSR	2 RHODENS LANE MILLERS POINT	60	-	-	-	38	-	60	-	-	-	-	-	60	-	-	-	-	-
OSR	BOB GORDON RESERVE	60	-	-	-	-	-	60	-	-	-	-	-	60	-	-	-	-	-
OSR	MARY FRENCH RESERVE	60	36	-	36	43	35	60	-	-	-	-	-	60	-	-	-	-	-
OSR	HENRY LAWSON RESERVE	60	52	39	52	59	51	60	-	39	-	-	-	60	-	39	-	-	-
OSR	CLYNE RESERVE	60	-	-	-	39	-	60	-	-	-	-	-	60	-	-	-	-	-
OSR	BARANGAROO RESERVE	60	66	49	66	73	65	60	-	49	-	-	-	60	-	49	-	-	-
OSR	25 HICKSON ROAD BARANGAROO	70	-	-	-	34	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	35-37 BETTINGTON STREET MILLERS POINT	60	-	-	-	37	-	60	-	-	-	-	-	60	-	-	-	-	-
OSR	1 KENT STREET MILLERS POINT	70	34	-	34	41	-	70	-	-	-	-	-	70	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to ICNG NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						Evening (OOH)						Night (OOH)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
OSR	26 HICKSON ROAD MILLERS POINT	70	34	-	34	41	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	1 KENT STREET MILLERS POINT	70	-	-	-	37	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	19 KENT STREET MILLERS POINT	60	-	-	-	-	-	60	-	-	-	-	-	60	-	-	-	-	-
OSR	1 KENT STREET MILLERS POINT	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	12 Argyle Place, Millers Point	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	4 TOWNS PLACE BARANGAROO	70	37	-	37	44	36	70	-	-	-	-	-	70	-	-	-	-	-
OSR	23 HICKSON ROAD MILLERS POINT	70	42	-	42	49	41	70	-	-	-	-	-	70	-	-	-	-	-
OSR	6 TOWNS PLACE MILLERS POINT	70	35	-	35	42	34	70	-	-	-	-	-	70	-	-	-	-	-
OSR	22 HICKSON ROAD MILLERS POINT	50	34	-	34	41	-	50	-	-	-	-	-	50	-	-	-	-	-
OSR	24 HICKSON ROAD MILLERS POINT	70	35	-	35	42	34	70	-	-	-	-	-	70	-	-	-	-	-
OSR	6 Argyle Place, Millers Point	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	10 Argyle Place, Millers Point	70	-	-	-	-	-	70	-	-	-	-	-	70	-	-	-	-	-
OSR	2 HENRY LAWSON AVENUE MCMAHONS POINT	70	35	-	35	42	34	70	-	-	-	-	-	70	-	-	-	-	-
OSR	2A HENRY LAWSON AVENUE MCMAHONS POINT	60	49	34	49	56	48	60	-	34	-	-	-	60	-	34	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)				E2/N (E41/42)							
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BN_02	63 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	65 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	67 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	69 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	71 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	73 LOWER FORT STREET DAWES POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	75-77 LOWER FORT STREET DAWES POINT	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	79 LOWER FORT STREET DAWES POINT	60	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_02	2 POTTINGER STREET DAWES POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	36-38 POTTINGER STREET DAWES POINT	60	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_02	80 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	82 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	84 WINDMILL STREET DAWES POINT	60	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BN_02	86 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	88 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	90 WINDMILL STREET DAWES POINT	60	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BN_02	92 WINDMILL STREET DAWES POINT	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	5 DALGETY ROAD MILLERS POINT	60	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BN_02	5B DALGETY ROAD MILLERS POINT	60	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BN_02	7 POTTINGER STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	24 MUNN STREET BARANGAROO	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	40-48 MERRIMAN STREET MILLERS POINT	60	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BN_02	38 MERRIMAN STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	36 MERRIMAN STREET MILLERS POINT	60	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BN_02	28 MERRIMAN STREET MILLERS POINT	60	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BN_02	24 MERRIMAN STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	20 MERRIMAN STREET MILLERS POINT	60	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BN_02	18 MERRIMAN STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	14-16 MERRIMAN STREET MILLERS POINT	60	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BN_02	7 DALGETY ROAD MILLERS POINT	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	11-13A DALGETY ROAD MILLERS POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	15-15A DALGETY ROAD MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	2-18 DALGETY ROAD BARANGAROO	60	38	-	38	45	37	70	38	-	38	45	37	55	-	-	-	-	-
BN_02	25A HICKSON ROAD MILLERS POINT	60	39	-	39	46	38	70	39	-	39	46	38	55	-	-	-	-	-
BN_02	22 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	13 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	13 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	24 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	26 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	68 BETTINGTON STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	66 BETTINGTON STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	35-35A DALGETY ROAD MILLERS POINT	60	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BN_02	33-33A DALGETY ROAD MILLERS POINT	60	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BN_02	31-31A DALGETY ROAD MILLERS POINT	60	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BN_02	29-29A DALGETY ROAD MILLERS POINT	60	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)				E2/N (E41/42)							
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BN_02	27-27A DALGETY ROAD MILLERS POINT	60	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_02	25-25A DALGETY ROAD MILLERS POINT	60	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_02	23-23A DALGETY ROAD MILLERS POINT	60	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BN_02	21-21A DALGETY ROAD MILLERS POINT	60	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BN_02	19-19A DALGETY ROAD MILLERS POINT	60	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BN_02	17-17A DALGETY ROAD MILLERS POINT	60	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BN_02	9 DALGETY ROAD MILLERS POINT	60	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BN_02	18-20 MUNN STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	21 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	23 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	31 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	33 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	61 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	65 WINDMILL STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	67 WINDMILL STREET MILLERS POINT	60	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BN_02	19 HICKSON ROAD DAWES POINT	60	43	-	43	50	42	70	43	-	43	50	42	55	-	-	-	-	-
BN_02	21-21A HICKSON ROAD MILLERS POINT	60	40	-	40	47	39	70	40	-	40	47	39	55	-	-	-	-	-
BN_02	17A HICKSON ROAD DAWES POINT	60	41	-	41	48	40	70	41	-	41	48	40	55	-	-	-	-	-
BN_02	20 HICKSON ROAD MILLERS POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	1 POTTINGER STREET MILLERS POINT	60	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_02	1B POTTINGER STREET MILLERS POINT	60	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BN_02	81-83 LOWER FORT STREET MILLERS POINT	60	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_02	64 Argyle Pl, Millers Point NSW 2000, A	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	28 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	30 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	32 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BN_02	34 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BN_02	36 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	38 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	40 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	44 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	50 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	60 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	64 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BN_02	67 WINDMILL STREET MILLERS POINT	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	48 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	46 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BN_02	52 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	54 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	56 ARGYLE PLACE MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_02	58 ARGYLE PLACE MILLERS POINT	60	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BN_02	80-82 Windmill St, Millers Point NSW 20	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	81-83 LOWER FORT STREET MILLERS POINT	60	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_02	8 Argyle Place, Millers Point	60	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BN_04	1 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	70	39	-	39	46	38	55	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)				E2/N (E41/42)							
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BN_04	3 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	70	39	-	39	46	38	55	-	-	-	-	-
BN_04	5 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	70	39	-	39	46	38	55	-	-	-	-	-
BN_04	7 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	70	39	-	39	46	38	55	-	-	-	-	-
BN_04	9 LOWER FORT STREET DAWES POINT	72	38	-	38	45	37	70	38	-	38	45	37	55	-	-	-	-	-
BN_04	11 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	70	39	-	39	46	38	55	-	-	-	-	-
BN_04	13 LOWER FORT STREET DAWES POINT	72	39	-	39	46	38	70	39	-	39	46	38	55	-	-	-	-	-
BN_04	15 LOWER FORT STREET DAWES POINT	72	38	-	38	45	37	70	38	-	38	45	37	55	-	-	-	-	-
BN_04	17 LOWER FORT STREET DAWES POINT	72	38	-	38	45	37	70	38	-	38	45	37	55	-	-	-	-	-
BN_04	19 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	70	37	-	37	44	36	55	-	-	-	-	-
BN_04	21 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	70	37	-	37	44	36	55	-	-	-	-	-
BN_04	23 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	70	37	-	37	44	36	55	-	-	-	-	-
BN_04	24-26 LOWER FORT STREET DAWES POINT	72	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_04	25-27 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	70	37	-	37	44	36	55	-	-	-	-	-
BN_04	28 LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	29 LOWER FORT STREET DAWES POINT	72	37	-	37	44	36	70	37	-	37	44	36	55	-	-	-	-	-
BN_04	30-30B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	31 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	32-32B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	33 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	34-34B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	35 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	36-36B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	37 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	38-38B LOWER FORT STREET DAWES POINT	72	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_04	39-41 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	40-40B LOWER FORT STREET DAWES POINT	72	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_04	42-42B LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	43 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	45C LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	45B LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	45A LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	47 LOWER FORT STREET DAWES POINT	72	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_04	49 LOWER FORT STREET DAWES POINT	72	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_04	51 LOWER FORT STREET DAWES POINT	72	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BN_04	53 LOWER FORT STREET DAWES POINT	72	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BN_04	55 LOWER FORT STREET DAWES POINT	72	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BN_04	57 LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	59 LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	61 LOWER FORT STREET DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	2 PARBURY LANE DAWES POINT	72	37	-	37	44	36	70	37	-	37	44	36	55	-	-	-	-	-
BN_04	2 TRINITY AVENUE DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BN_04	4-4B TRINITY AVENUE DAWES POINT	72	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	60 BLUES POINT ROAD MCMAHONS POINT	61	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BP_01	62 BLUES POINT ROAD MCMAHONS POINT	61	38	-	38	45	37	70	38	-	38	45	37	55	-	-	-	-	-
BP_01	64 BLUES POINT ROAD MCMAHONS POINT	61	38	-	38	45	37	70	38	-	38	45	37	55	-	-	-	-	-

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Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)						E2/N (E41/42)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_01	66 BLUES POINT ROAD MCMAHONS POINT	61	38	-	38	45	37	70	38	-	38	45	37	55	-	-	-	-	-
BP_01	68 BLUES POINT ROAD MCMAHONS POINT	61	38	-	38	45	37	70	38	-	38	45	37	55	-	-	-	-	-
BP_01	70C BLUES POINT ROAD MCMAHONS POINT	61	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BP_01	74 BLUES POINT ROAD MCMAHONS POINT	61	41	-	41	48	40	70	41	-	41	48	40	55	-	-	-	-	-
BP_01	76 BLUES POINT ROAD MCMAHONS POINT	61	37	-	37	44	36	70	37	-	37	44	36	55	-	-	-	-	-
BP_01	78 BLUES POINT ROAD MCMAHONS POINT	61	41	-	41	48	40	70	41	-	41	48	40	55	-	-	-	-	-
BP_01	80 BLUES POINT ROAD MCMAHONS POINT	61	40	-	40	47	39	70	40	-	40	47	39	55	-	-	-	-	-
BP_01	82 BLUES POINT ROAD MCMAHONS POINT	61	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BP_01	86 BLUES POINT ROAD MCMAHONS POINT	61	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BP_01	88 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	90 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	94 BLUES POINT ROAD MCMAHONS POINT	61	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BP_01	96 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	98A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	100 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	104 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	106 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	108 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	110 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	112 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	114 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	118 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	120 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	124 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	124A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	126 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	128A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_01	128 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	130A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	130 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	132 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	132A BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	136 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	138 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	140 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	142 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	144 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	148 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	150 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	152 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	154 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	156 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	158 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	2 FRENCH STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	3 FRENCH STREET MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)						E2/N (E41/42)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_01	5 FRENCH STREET MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	7 FRENCH STREET MCMAHONS POINT	61	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BP_01	9 FRENCH STREET MCMAHONS POINT	61	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BP_01	11 FRENCH STREET MCMAHONS POINT	61	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BP_01	13 FRENCH STREET MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	16 FRENCH STREET MCMAHONS POINT	61	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BP_01	18 FRENCH STREET MCMAHONS POINT	61	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BP_01	20 FRENCH STREET MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	15 MCMANUS STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	1 MIL MIL STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	2 MIL MIL STREET MCMAHONS POINT	61	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BP_01	3 MIL MIL STREET MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	5 MIL MIL STREET MCMAHONS POINT	61	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BP_01	1 MITCHELL STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	3 MITCHELL STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	5 MITCHELL STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	7 MITCHELL STREET MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_01	11 MITCHELL STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	13 MITCHELL STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	15 MITCHELL STREET MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	17 MITCHELL STREET MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	33 MITCHELL STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	4 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	6 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	8 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	9 PRINCES STREET MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	10 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	11 PRINCES STREET MCMAHONS POINT	61	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BP_01	12 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	13 PRINCES STREET MCMAHONS POINT	61	35	-	35	42	34	70	35	-	35	42	34	55	-	-	-	-	-
BP_01	14 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	15 PRINCES STREET MCMAHONS POINT	61	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BP_01	16 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	17 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	18 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	19 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	20 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	21 PRINCES STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	22 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	24 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	26 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	28 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	30 PRINCES STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	32 PRINCES STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	40 PRINCES STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)						E2/N (E41/42)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_01	1 QUEENS AVENUE MCMAHONS POINT	61	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BP_01	2 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	3 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	4 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	5 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	6 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	7 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	8 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	9 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	10 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_01	11 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	12 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_01	13 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_01	14 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_01	15 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_01	16 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_01	17A QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	17 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	18 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	19 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	20 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	21 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	23 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	25 QUEENS AVENUE MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_01	1 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	2 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	5 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	6 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	7 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_01	8 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_01	9A WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	9 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	11 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	11A WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	12 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	13 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	14 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	15 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	15A WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	16 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_01	17 WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	17A WEST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_01	18-22 WEST CRESCENT STREET MCMAHONS POI	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_01	14-28 BLUES POINT ROAD MCMAHONS POINT	61	61	48	61	68	60	70	61	48	61	68	60	55	-	48	-	-	-
BP_01	40 BLUES POINT ROAD MCMAHONS POINT	61	60	46	60	67	59	70	60	46	60	67	59	55	-	46	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)				E2/N (E41/42)							
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_01	42 BLUES POINT ROAD MCMAHONS POINT	61	52	40	52	59	51	70	52	40	52	59	51	55	-	40	-	-	-
BP_01	46 BLUES POINT ROAD MCMAHONS POINT	61	48	38	48	55	47	70	48	38	48	55	47	55	-	38	-	-	-
BP_01	50 BLUES POINT ROAD MCMAHONS POINT	61	49	37	49	56	48	70	49	37	49	56	48	55	-	37	-	-	-
BP_01	52 BLUES POINT ROAD MCMAHONS POINT	61	48	37	48	55	47	70	48	37	48	55	47	55	-	37	-	-	-
BP_01	54-56 BLUES POINT ROAD MCMAHONS POINT	61	43	-	43	50	42	70	43	-	43	50	42	55	-	-	-	-	-
BP_01	58 BLUES POINT ROAD MCMAHONS POINT	61	45	36	45	52	44	70	45	36	45	52	44	55	-	36	-	-	-
BP_02	1 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	2 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	3 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	5 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	7 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	8 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	9 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	10 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	11 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	12A-12B BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	12 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	15 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	16 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	17 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	18 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	19 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	20 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	21 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	23A BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	23B BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	23B BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	25 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	27 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	29 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	31 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	33 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	35 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	37 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	38 BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	39A BAY VIEW STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	35 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	43 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	45 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	47 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	49 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	51 EAST CRESCENT STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	11 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	15 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	17 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)						E2/N (E41/42)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_02	19 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	21 KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	23A KING GEORGE STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	1A WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	1 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	2 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	3 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	4 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	5 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	6 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	7 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	8 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	9-11 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	10 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	12 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	13 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	14 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	15 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	16 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	17 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	18 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	20 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	22 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	24 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	26 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	28 WAIWERA STREET LAVENDER BAY	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	39 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_02	43 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	38	-	70	-	-	-	38	-	55	-	-	-	-	-
BP_02	45 BLUES POINT ROAD MCMAHONS POINT	61	36	-	36	43	35	70	36	-	36	43	35	55	-	-	-	-	-
BP_02	47 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	40	-	70	-	-	-	40	-	55	-	-	-	-	-
BP_02	49 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_02	51 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_02	57 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_02	59 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_02	61 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_02	63 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	67 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	69 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	71 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	73 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	75 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	77 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	79 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	81 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	85 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)				E2/N (E41/42)							
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_02	87 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	89 BLUES POINT ROAD MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	12 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_02	14 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_02	15 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_02	17 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_02	19 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_02	21 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	22 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_02	23 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	24 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_02	26 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	35	-	70	-	-	-	35	-	55	-	-	-	-	-
BP_02	28 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	29 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	30 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	31 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	32 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	33 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	34 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	36 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	37 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	1 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	3 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	5 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	7 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	9 KING GEORGE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	28 MIDDLE STREET MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_02	30 MIDDLE STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_02	38 MIDDLE STREET MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_02	41 MIDDLE STREET MCMAHONS POINT	61	-	-	-	36	-	70	-	-	-	36	-	55	-	-	-	-	-
BP_02	48 MIDDLE STREET MCMAHONS POINT	61	-	-	-	34	-	70	-	-	-	34	-	55	-	-	-	-	-
BP_02	50 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	56 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	58 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	74 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	76 MIDDLE STREET MCMAHONS POINT	61	-	-	-	-	-	70	-	-	-	-	-	55	-	-	-	-	-
BP_02	1 PARKER STREET MCMAHONS POINT	61	-	-	-	37	-	70	-	-	-	37	-	55	-	-	-	-	-
BP_02	3 PARKER STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_02	37 BLUES POINT ROAD MCMAHONS POINT	61	44	34	44	51	43	70	44	34	44	51	43	55	-	34	-	-	-
BP_02	35 BLUES POINT ROAD MCMAHONS POINT	61	48	35	48	55	47	70	48	35	48	55	47	55	-	35	-	-	-
BP_02	33 BLUES POINT ROAD MCMAHONS POINT	61	48	36	48	55	47	70	48	36	48	55	47	55	-	36	-	-	-
BP_02	6 WARUNG STREET MCMAHONS POINT	61	53	40	53	60	52	70	53	40	53	60	52	55	-	40	-	-	-
BP_02	2-4 EAST CRESCENT STREET MCMAHONS POINT	61	57	39	57	64	56	70	57	39	57	64	56	55	-	39	-	-	-
BP_02	1 WARUNG STREET MCMAHONS POINT	61	68	47	68	75	67	70	68	47	68	75	67	55	-	47	-	-	-
BP_02	4 WARUNG STREET MCMAHONS POINT	61	49	37	49	56	48	70	49	37	49	56	48	55	-	37	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)						E2/N (E41/42)					
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
BP_02	2 WARUNG STREET MCMAHONS POINT	61	50	38	50	57	49	70	50	38	50	57	49	55	-	38	-	-	-
BP_02	3 WARUNG STREET MCMAHONS POINT	61	65	47	65	72	64	70	65	47	65	72	64	55	-	47	-	-	-
BP_02	5 WARUNG STREET MCMAHONS POINT	61	60	43	60	67	59	70	60	43	60	67	59	55	-	43	-	-	-
BP_02	3A WARUNG STREET MCMAHONS POINT	61	58	42	58	65	57	70	58	42	58	65	57	55	-	42	-	-	-
BP_02	3A WARUNG STREET MCMAHONS POINT	61	65	48	65	72	64	70	65	48	65	72	64	55	-	48	-	-	-
BP_02	7 WARUNG STREET MCMAHONS POINT	61	58	41	58	65	57	70	58	41	58	65	57	55	-	41	-	-	-
BP_02	6 EAST CRESCENT STREET MCMAHONS POINT	61	46	34	46	53	45	70	46	34	46	53	45	55	-	34	-	-	-
BP_02	8-10 EAST CRESCENT STREET MCMAHONS POIN	61	47	34	47	54	46	70	47	34	47	54	46	55	-	34	-	-	-
BP_02	11 EAST CRESCENT STREET MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_02	7 EAST CRESCENT STREET MCMAHONS POINT	61	43	-	43	50	42	70	43	-	43	50	42	55	-	-	-	-	-
BP_02	5 EAST CRESCENT STREET MCMAHONS POINT	61	34	-	34	41	-	70	34	-	34	41	-	55	-	-	-	-	-
BP_02	6 HENRY LAWSON AVENUE MCMAHONS POINT	61	-	-	-	39	-	70	-	-	-	39	-	55	-	-	-	-	-
BP_02	8D HENRY LAWSON AVENUE MCMAHONS POINT	61	44	34	44	51	43	70	44	34	44	51	43	55	-	34	-	-	-
BP_02	1A HENRY LAWSON AVENUE MCMAHONS POINT	61	52	38	52	59	51	70	52	38	52	59	51	55	-	38	-	-	-
BP_02	1A HENRY LAWSON AVENUE MCMAHONS POINT	61	60	44	60	67	59	70	60	44	60	67	59	55	-	44	-	-	-
BP_02	1 EAST CRESCENT STREET MCMAHONS POINT	61	56	39	56	63	55	70	56	39	56	63	55	55	-	39	-	-	-
BP_02	9 WARUNG STREET MCMAHONS POINT	61	59	42	59	66	58	70	59	42	59	66	58	55	-	42	-	-	-
OSR	13 HICKSON ROAD DAWES POINT	70	37	-	37	44	36	70	37	-	37	44	36	999	-	-	-	-	-
OSR	13A HICKSON ROAD DAWES POINT	70	42	-	42	49	41	70	42	-	42	49	41	999	-	-	-	-	-
OSR	15 HICKSON ROAD DAWES POINT	70	41	-	41	48	40	70	41	-	41	48	40	999	-	-	-	-	-
OSR	3-5 POTTINGER STREET DAWES POINT	60	36	-	36	43	35	70	36	-	36	43	35	999	-	-	-	-	-
OSR	5020 POTTINGER STREET DAWES POINT	70	37	-	37	44	36	70	37	-	37	44	36	999	-	-	-	-	-
OSR	101 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	113A BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	115 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	116 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	36	-	70	-	-	-	36	-	999	-	-	-	-	-
OSR	117 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	119 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	121 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	123 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	125 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	127 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	129 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	131 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	133 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	134 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	34	-	70	-	-	-	34	-	999	-	-	-	-	-
OSR	135 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	137 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	139 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	162 BLUES POINT ROAD MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	53 EAST CRESCENT STREET MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	33 MITCHELL STREET MCMAHONS POINT	70	-	-	-	39	-	70	-	-	-	39	-	999	-	-	-	-	-
OSR	34 PRINCES STREET MCMAHONS POINT	70	-	-	-	38	-	70	-	-	-	38	-	999	-	-	-	-	-
OSR	36 PRINCES STREET MCMAHONS POINT	70	-	-	-	34	-	70	-	-	-	34	-	999	-	-	-	-	-
OSR	38 PRINCES STREET MCMAHONS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-

Table D.1: Predicted construction noise levels assessed to Planning Approval NMLs

Blues Point Site

Receiver		Predicted noise levels, dB(A)																	
		Day (Standard)						D/E1 (E37/38)				E2/N (E41/42)							
NCA	Address	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T	NML	SE	DE	RAG	SBR-H	SBR-T
OSR	1A RHODENS LANE MILLERS POINT	60	-	-	-	38	-	70	-	-	-	38	-	999	-	-	-	-	-
OSR	2 RHODENS LANE MILLERS POINT	60	-	-	-	38	-	70	-	-	-	38	-	999	-	-	-	-	-
OSR	BOB GORDON RESERVE	60	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	MARY FRENCH RESERVE	60	36	-	36	43	35	70	36	-	36	43	35	999	-	-	-	-	-
OSR	HENRY LAWSON RESERVE	60	52	39	52	59	51	70	52	39	52	59	51	999	-	39	-	-	-
OSR	CLYNE RESERVE	60	-	-	-	39	-	70	-	-	-	39	-	999	-	-	-	-	-
OSR	25 HICKSON ROAD BARANGAROO	70	-	-	-	34	-	70	-	-	-	34	-	999	-	-	-	-	-
OSR	35-37 BETTINGTON STREET MILLERS POINT	60	-	-	-	37	-	70	-	-	-	37	-	999	-	-	-	-	-
OSR	1 KENT STREET MILLERS POINT	70	34	-	34	41	-	70	34	-	34	41	-	999	-	-	-	-	-
OSR	26 HICKSON ROAD MILLERS POINT	70	34	-	34	41	-	70	34	-	34	41	-	999	-	-	-	-	-
OSR	1 KENT STREET MILLERS POINT	70	-	-	-	37	-	70	-	-	-	37	-	999	-	-	-	-	-
OSR	19 KENT STREET MILLERS POINT	60	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	1 KENT STREET MILLERS POINT	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	12 Argyle Place, Millers Point	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	4 TOWNS PLACE BARANGAROO	70	37	-	37	44	36	70	37	-	37	44	36	999	-	-	-	-	-
OSR	23 HICKSON ROAD MILLERS POINT	70	42	-	42	49	41	70	42	-	42	49	41	999	-	-	-	-	-
OSR	6 TOWNS PLACE MILLERS POINT	70	35	-	35	42	34	70	35	-	35	42	34	999	-	-	-	-	-
OSR	22 HICKSON ROAD MILLERS POINT	50	34	-	34	41	-	70	34	-	34	41	-	999	-	-	-	-	-
OSR	24 HICKSON ROAD MILLERS POINT	70	35	-	35	42	34	70	35	-	35	42	34	999	-	-	-	-	-
OSR	6 Argyle Place, Millers Point	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	10 Argyle Place, Millers Point	70	-	-	-	-	-	70	-	-	-	-	-	999	-	-	-	-	-
OSR	2 HENRY LAWSON AVENUE MCMAHONS POINT	70	35	-	35	42	34	70	35	-	35	42	34	999	-	-	-	-	-
OSR	2A HENRY LAWSON AVENUE MCMAHONS POINT	60	49	34	49	56	48	70	49	34	49	56	48	999	-	34	-	-	-

APPENDIX E Consultation required under conditions E37/E38

The detailed predicted levels have been provided to Systems Connect in a spreadsheet table in order to more adequately mitigate and manage potential noise impacts.

Table E1 identifies ('E38 consultation required') the locations where consultation is required to determine appropriate hours of respite from air-borne noise in accordance with PPA Conditions E37 and E38.

Table D.3: Additional noise mitigation and receiver notifications

Blues Point Site

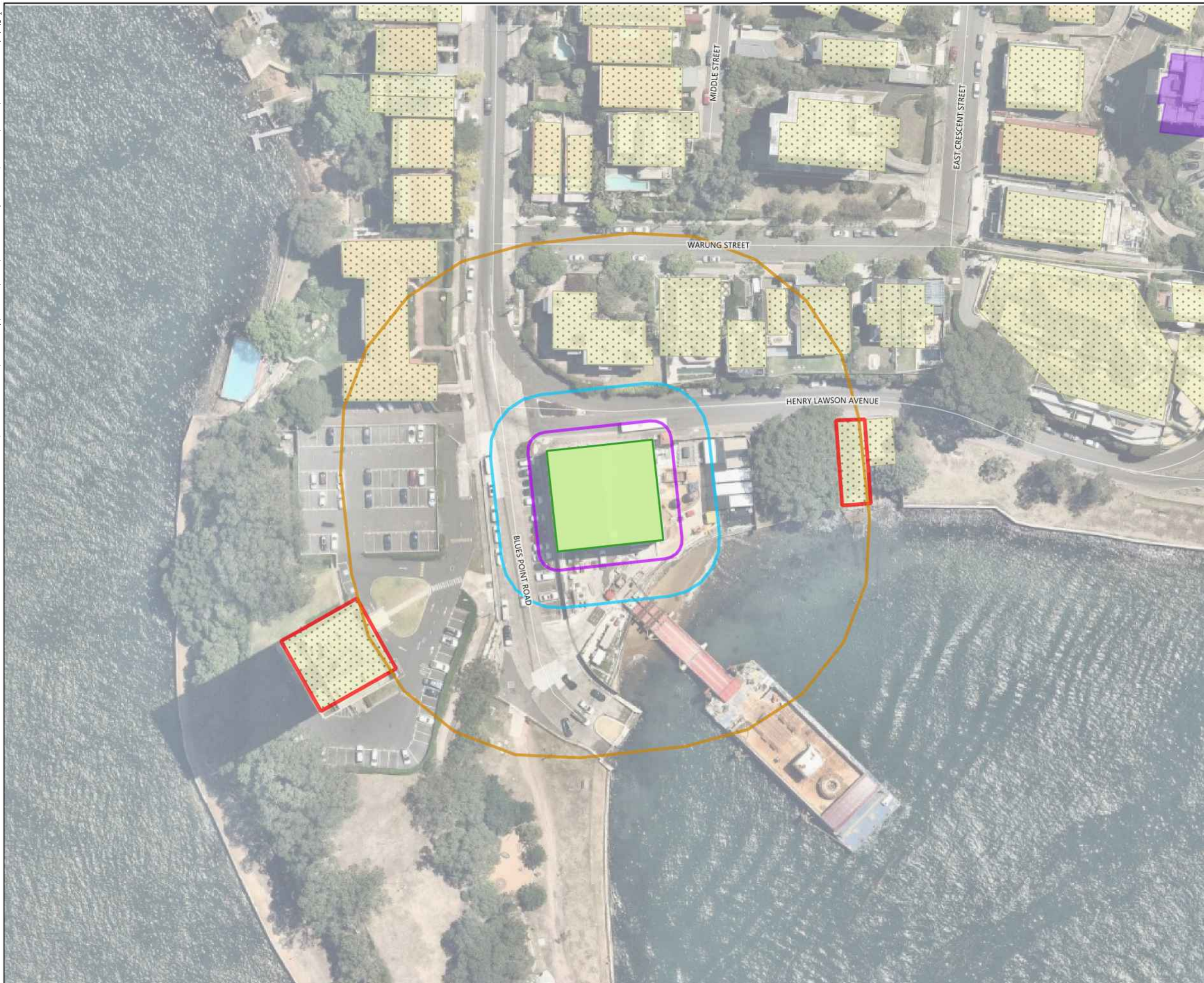
Receiver		Additional noise mitigation and receiver notifications														
		Day (Standard)					D/E1 (E37/38)					E2/N (E41/42)				
NCA	Address	SE	DE	RAG	SBR-H	SBR-T	SE	DE	RAG	SBR-H	SBR-T	SE	DE	RAG	SBR-H	SBR-T
BP_02	1 WARUNG STREET MCMAHONS POINT				MM2											
BP_02	3 WARUNG STREET MCMAHONS POINT				MM2											
BP_02	3A WARUNG STREET MCMAHONS POINT				MM2											

APPENDIX F **Vibration minimum working distances**

100 m

50

0



LEGEND

- Noise sensitive receivers
- Childcare
 - Commercial
 - Educational
 - Hotel/Motel/Hostel
 - Industrial
 - Medical
 - Place of Worship
 - Recording studio
 - Recreational - Active
 - Recreational - Passive
 - Residential
 - Theatre/Auditorium
 - Mixed use
 - Project acquisition
 - Film/TV studio
 - Cinema
 - Community centre
 - Library
 - Laboratory
 - Other
 - Heritage

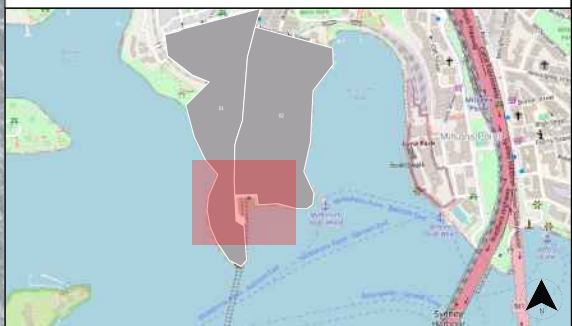
NCA

MWD for cosmetic damage and human annoyance for Smooth drum roller (13T) - High vibration

- Unreinforced structures (7.5mm/s ppv)
- Heritage structures (2.5mm/s ppv)
- Human annoyance - Residential (day)

Work Areas

- Work area



REV	BY	DATE	DESCRIPTION	APPD.
r0	RZ	24/09/20	Prepare figures	TG
A3 Original			Co-ordinate System: MGA Zone 56	

SCALES

0 50 m

1:1000

FULL SIZE A3

NOTE: Do not scale from this drawing.

CLIENT

ACOUSTIC CONSULTANT

SYDNEY OFFICE
1/418A Elizabeth St., SURRY HILLS, NSW 2000
Ph (02) 8218 0500 Fax (02) 8218 0501

SYDNEY METRO - CHATSWOOD TO SYDENHAM

Blues Point
MWD for cosmetic damage and human annoyance
Work activity: Shaft Backfill & Resintatement

Status:	Sheet 1 of 1
Drawing No.	Rev. No.