PLANS AND DOCUMENTS
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ACOUSTICS & AIR QUALITY

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Aura Development - Precincts 7, 8, 9 & 10

Caloundra South

Transport Noise Impact Assessment

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Prepared for:

Stockland Development Ptd Ltd

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Contents

Appendices

1. Introduction

ASK Consulting Engineers Pty Ltd (ASK) was commissioned by Stockland Development Pty Ltd to provide acoustic consultancy services for Precincts 7, 8, 9 and 10 of the Aura Development, which is located within the Caloundra South Priority Development Area (PDA).

The scope of this report includes the assessment of transport noise from Bells Creek Arterial (BCA), sub-arterial roads, and the Caboolture to Maroochydore Corridor Study (CAMCOS) rail corridor. This acoustic report is to form part of the Development Application for consideration by Economic Development Queensland (EDQ).

A development application has been lodged with EDQ, and a request for further information (RFI) was provided in response to the application. Item 4 of the RFI requests an acoustic impact report (AIR), and is copied below:

Item 4. Acoustic Report

> An Acoustic Impact Report (AIR) is required to identify residential allotments affected by traffic noise. Proposed mitigation measures and recommended property notes to inform future land owners are required. Following completion of the AIR, the POD's (Plan of Development) in Appendix E of the Caloundra South Town Centre Plan of Development Volume 2 are to be updated to indentify all noise affected lots.

An acoustic assessment of the Town Centre (Precinct 8.1), considering noise impacts from internal noise sources such as loading bays and mechanical plant, has also been undertaken and is presented within ASK report 8342R02V01.

The purpose of this report is as follows:

- Outline the relevant project noise criteria.
- Predict and assess the road and rail traffic noise impacts onto the development.
- Describe noise mitigation requirements.

To aid in the understanding of the terms in this report a glossary is included in **Appendix A**.

2. Study Area Description

Precincts 7, 8, 9 and 10 of the Aura Development are to be located to the east of the Bruce Highway, and to the west of Bells Creek Arterial (future State controlled arterial road). The Aura Development is located within the Caloundra South Priority Development Area. The location of Precincts 7, 8, 9 and 10 within the Caloundra South Masterplan are shown in **Figure 2.1**.

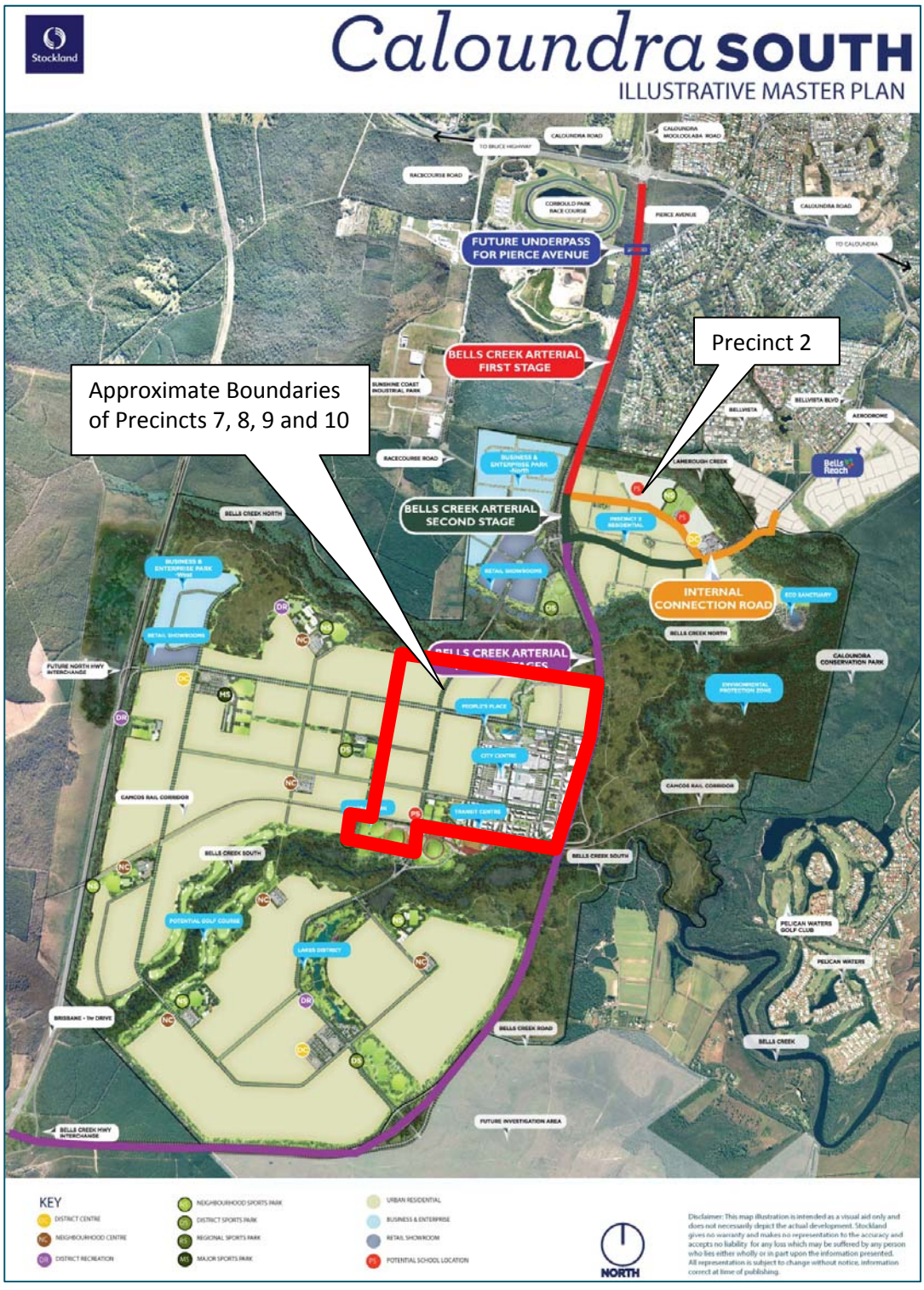


Figure 2.1 Caloundra South Master Plan

3. Proposed Development

The proposed development includes the following land uses:

- Precinct 7:
  - Detached residential lots
  - Multiple dwelling lots
  - Peoples place (community area)
  - Neighbourhood recreation parks
- Precinct 8:
  - Town centre (Precinct 8.1) (medium and high density residential, commercial and retail uses)
  - Multiple dwelling lot
  - Peoples place (community area)
  - Commercial lots
- Precinct 9:
  - Detached residential lots
  - Multiple dwelling lots
  - Mixed use lot
  - Private school lot
  - Neighbourhood recreation parks
- Precinct 10:
  - Detached residential lots
  - Multiple dwelling lots
  - Retirement living lot
  - Neighbourhood recreation parks
  - Regional sports park

The location of Precincts 7, 8, 9 and 10 are shown in **Figure 3.1**. The Precincts will be serviced by numerous roads with the main roadways being Bells Creek Arterial (BCA), which has been designated a future State controlled road, and two sub-arterial roads running east-west and north-south through the precincts. The precincts will also be serviced by the CAMCOS rail network (2 rail lines).

This assessment has considered noise impacts from the CAMCOS rail corridor, BCA and two sub-arterial roads, nominated as the east-west sub-arterial road and the north-south sub-arterial road for the purposes of this assessment. The location of these roads and the CAMCOS corridor is shown in the concept design layout plan presented in **Figure 3.2**. A full size drawing of the layout plan is included in **Appendix B**.

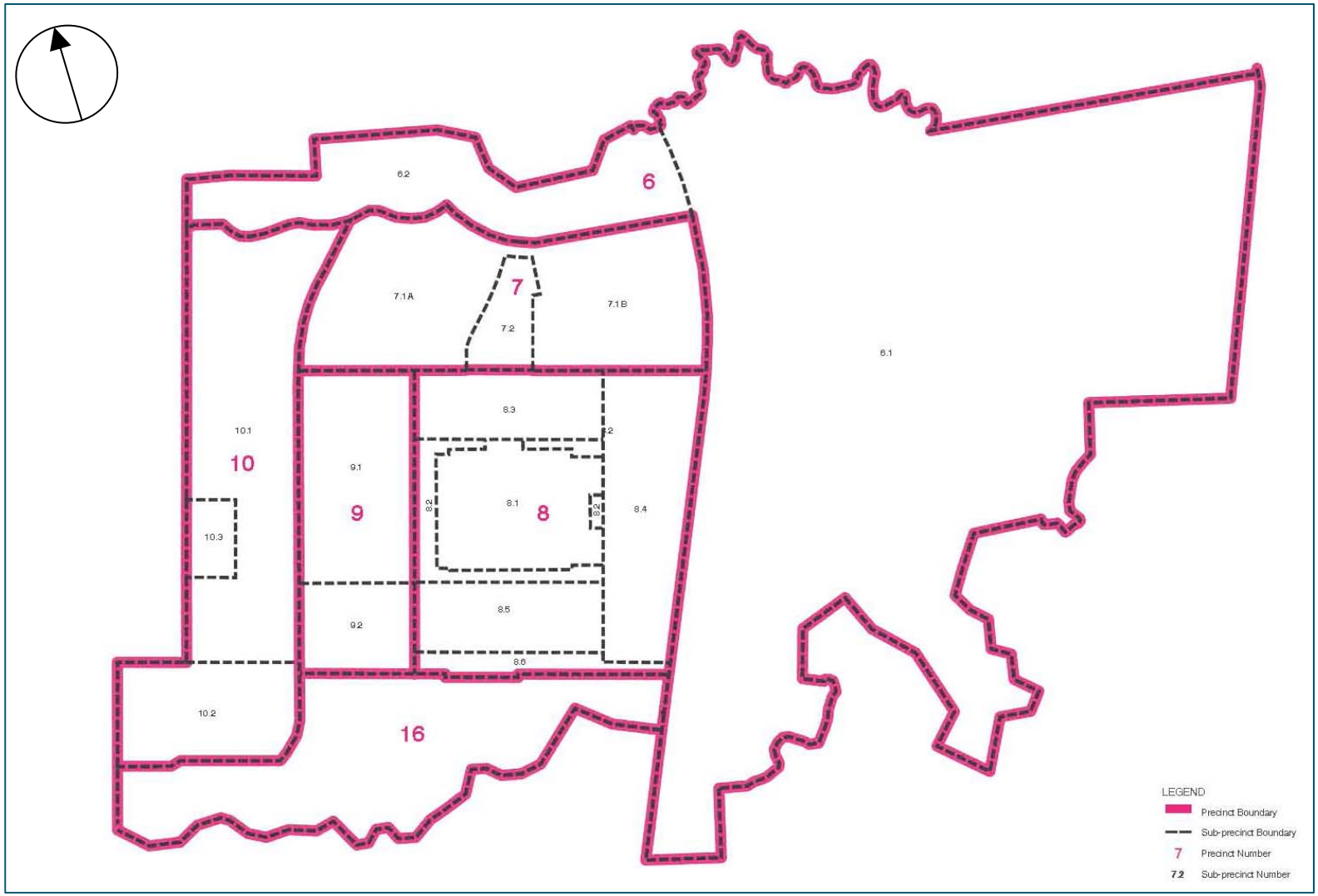


Figure 3.1 Precincts 7, 8, 9 and 10 - Precinct Plan

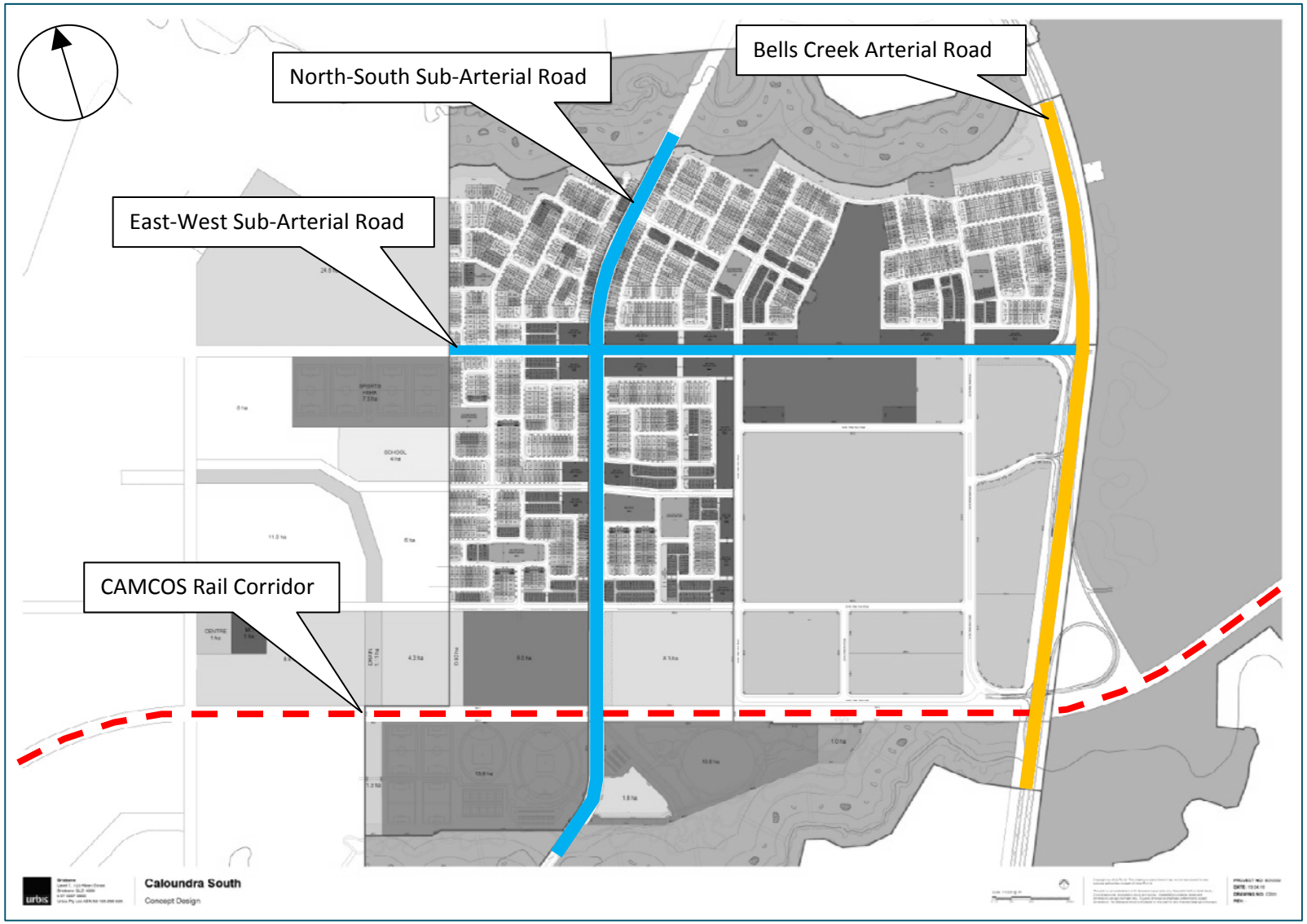


Figure 3.2 Precincts 7, 8, 9 and 10 - Concept Design Plan and Proposed Major Roads and CAMCOS Corridor

4. Acoustic Criteria

4.1 Overview

Acoustic criteria for the project are required to assess the road traffic and rail noise impact onto the various lots of the proposed development.

The acoustic assessment will be undertaken in accordance with the following relevant criteria:

- Department of Transport and Main Roads (TMR) – Policy Position Statement for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure Version 2.0 dated 10/05/13.
- Department of Transport and Main Roads (TMR) – Road Traffic Noise Management: Code of Practice.
- Department of State Development Infrastructure and Planning (DSDIP) State Assessment and Referral Agency (SARA) – State Development Assessment Provisions (SDAP).
- Queensland Rail (QR) – Code of Practice – Railway Noise Management.
- Department of Environment and Heritage Protection (DEHP) – Environmental Protection Policy (Noise) and Environmental Protection Act.
- Sunshine Coast Regional Council Planning Scheme 2014.
- Australian Standard AS/NZS 2107–2000: Acoustics— Recommended design sound levels and reverberation times for building interiors.

4.2 Queensland Department of Transport and Main Roads (TMR)

The Department of Transport and Main Roads (TMR) issued a Policy Position Statement for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure Version 2.0 dated 10/05/13. This document nominates internal and external criteria limits for the assessment of road and rail noise onto new developments adjacent road and rail corridors. The criteria with respect to the proposed development are as per SDAP criteria discussed in the **Section 4.3**.

4.3 Department of State Development Infrastructure and Planning (DSDIP) State Assessment and Referral Agency (SARA) – State Development Assessment Provisions (SDAP) – Road and Rail

4.3.1 Overview

The development is to be referred to SARA based on its proximity to the nearby future State-controlled road (Bells Creek Arterial) and railway line. Acoustic criteria for the project will need to address noise intrusion into the development in accordance with 'Module 1: Community Amenity' section of SDAP. The current version of the SDAP is v1.8, effective 22 April 2016.

The following glossary of terms is provided in SDAP:

- Accommodation Activity
  - Accommodation activity means any of the following: caretaker's accommodation, community residence, dual occupancy, dwelling house, dwelling unit, multiple dwelling, relocatable home park, residential care facility, resort complex, retirement facility, rooming accommodation, short-term accommodation, tourist park, or a development with a combination of these uses.
  - Private open space means an outdoor space for the exclusive use of occupants of a building.

- Passive recreation area means an area used for passive recreation such as a park, playground or walking track. This term does not include drainage reserves or channels, landscape buffer strips, environmental areas or corridors, or conservation areas or corridors.
- Residential building means a class 1, class 2, class 3 or class 4 building as defined in the Building Code of Australia.

- Child Care Centre or Educational
  - Child care centre – see the standard planning scheme provisions. Editor's note: Child care centre means the premises used for minding or care, but not residence, of children.
  - Indoor education area means an enclosed area within a child care centre or educational establishment intended for use for the training or teaching of people including a classroom, lecture hall/theatre and library.
  - Indoor play area means an enclosed area within a child care centre or educational establishment intended for use for children's play. This term excludes functional areas such as bathrooms, food preparation areas, washing facilities and other spaces of a specialised nature.
  - Outdoor education area means outdoor areas intended for use for the training or teaching of persons. This term does not include playgrounds or outdoor sport and recreational areas.
  - Outdoor play area – see the Queensland Development Code. Editor's note: Outdoor play area means an unenclosed area located outside the external walls of the building. This term only includes playgrounds/play areas in a child care centre or educational establishment.
- Type 1 multi-modal corridor means a transport corridor that includes a state-controlled road and at least one of the following – busway, light rail and/or railway with 15 or less passing trains per day.
- Type 2 multi-modal corridor means a transport corridor that includes a railway (with 15 or more passing trains per day) and at least one of the following – state controlled road, busway, and/or light rail.

Noise levels are to be measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise.

4.3.2 Accommodation Activities near State-Controlled Road or Type 1 Multi Modal Corridor

For accommodation activities near a state-controlled road or type 1 multi modal corridor, the relevant Performance Outcome (PO) is PO1 'Development involving an accommodation activity achieves acceptable noise levels for residents and visitors by mitigating adverse impacts on the development from noise generated by a state-controlled road or a type 1 multi-modal corridor'. The Acceptable Outcomes (AO) are as follows:

AO1.1 All facades of an accommodation activity exposed to noise from a state-controlled road or type 1 multi-modal corridor meet the following external noise criteria:

(1) ≤60 dBA L_{10}(18 hour) facade corrected (measured L_{90}(8 hour) free field between 10 pm and 6 am ≤40 dBA)

(2) ≤63 dBA L_{10}(18 hour) facade corrected (measured L_{90}(8 hour) free field between 10 pm and 6 am >40 dBA).

AND

AO1.2 Every private open space in an accommodation activity exposed to noise from a state-controlled road or type 1 multi-modal corridor meet the following external noise criteria:

(1) ≤57 dBA L_{10}(18 hour) free field (measured L_{90}(18 hour) free field between 6 am and 12 midnight ≤45 dBA)

(2) ≤60 dBA L_{10}(18 hour) free field (measured L_{90}(18 hour) free field between 6 am and 12 midnight >45 dBA).

AND

AO1.3 Every passive recreation area in an accommodation activity exposed to noise from a state-controlled road or type 1 multi-modal corridor meets the following external noise criteria:

(1) 63 dBA L_{10}(12 hour) free field (between 6 am and 6 pm).

AND

AO1.4 Every habitable room in an accommodation activity (other than a residential building) exposed to noise from a state-controlled road or type 1 multi-modal corridor meets the following internal noise criteria:

(1) ≤35 dBA L_{eq}(1 hour) (maximum hour over 24 hours).

Editor's note: Habitable rooms of residential buildings located within a transport noise corridor must comply with the Queensland Development Code MP4.4 Buildings in a transport noise corridor, Queensland Government, 2010. Transport noise corridors are mapped on the Department of Infrastructure, Local Government and Planning's State Planning Policy Interactive Mapping System.

4.3.3 Accommodation Activities near a Railway (With 15 or more Passing Trains per Day) or a Type 2 Multi-Modal Corridor

For accommodation activities near a railway (with more than 15 passing trains per day) or a type 2 multi modal corridor, the relevant Performance Outcome (PO) is PO2 'Development involving an accommodation activity achieves acceptable noise levels for residents and visitors by mitigating adverse impacts on the development from noise generated by a railway with more than 15 passing trains per day or a type 2 multi-modal corridor'. The Acceptable Outcomes (AO) are as follows:

AO2.1 All facades of an accommodation activity exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following external noise criteria:

(1) ≤65 dBA L_{eq}(24 hour) facade corrected

(2) ≤87 dBA (single event maximum sound pressure level) facade corrected.

AND

AO2.2 Every private open space and passive recreation area in an accommodation activity exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following external noise criteria:

(1) ≤62 dBA L_{eq}(24 hour) free field.

(2) ≤84 dBA (single event maximum sound pressure level) free-field.

AND

AO2.3 Every habitable room in an accommodation activity (other than a residential building) exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following internal noise criteria:

(1) ≤45 dBA single event maximum sound pressure level (railway).

Editor's note: Habitable rooms of residential buildings located within a transport noise corridor must comply with the Queensland Development Code MP4.4 Buildings in a transport noise corridor, Queensland Government, 2010. Transport noise corridors are mapped on the Department of Infrastructure, Local Government and Planning's State Planning Policy Interactive Mapping System.

Note: The 'single event maximum sound pressure level' is defined by Queensland Rail as the average of the maximum noise levels of the 15 loudest trains in a 24 hour period.

4.3.4 Child Care Centre or Educational Establishment near a Railway (With 15 or more Passing Trains per Day) or Type 2 Multi-Modal Corridor

For child care centres or educational establishments near a railway (with more than 15 passing trains per day) or a type 2 multi modal corridor, the relevant Performance Outcome (PO) is PO6 'Development involving a child care centre or educational establishment achieves acceptable noise levels for workers and patrons by mitigating adverse impacts on the development from noise generated by a railway with more than 15 passing trains per day or a type 2 multi-modal corridor'. The Acceptable Outcomes (AO) are as follows:

AO6.1 All facades of buildings for a child care centre or educational establishment exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following external noise criteria:

(1) ≤65 dBA L_{eq}(1 hour) facade corrected (maximum hour during normal opening hours)

(2) ≤87 dBA (single event maximum sound pressure level) facade corrected.

AND

AO6.2 Outdoor education areas and outdoor play areas exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following external noise criteria:

(1) ≤62 dBA L_{eq}(12 hour) free field (between 6am and 6pm).

(2) ≤84 dBA (single event maximum sound pressure level) free-field.

AND

AO6.3 Sleeping rooms in a child care centre exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following internal noise criteria:

(1) ≤45 dBA single event maximum sound pressure level (railway).

AND

AO6.4 Indoor education areas and indoor play areas exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following internal noise criteria:

(1) ≤50 dBA single event maximum sound pressure level (railway).

Note: The 'single event maximum sound pressure level' is defined by Queensland Rail as the average of the maximum noise levels of the 15 loudest trains in a 24 hour period. In this instance, as the railway line has not been constructed, it is proposed to assess noise impacts based on the methodology presented in **Section 6**.

4.3.5 Noise Barriers or Earth Mounds

Where noise barriers are required, the relevant Performance Outcome (PO) is PO10 'Noise barriers or earth mounds erected to mitigate noise from transport operations and infrastructure are designed, sited and constructed to:

(1) Maintain safe operation and maintenance of state transport infrastructure

(2) Minimise impacts on surrounding properties

(3) Complement the surrounding local environment

(4) Maintain fauna movement corridors where appropriate'

The Acceptable Outcomes (AO) are as follows:

AO10.1 Where adjacent to a state-controlled road or type 1 multi-modal corridor, noise barriers and earth mounds are designed, sited and constructed in accordance with Chapter 7 Integrated Noise Barrier Design

of the Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Department of Transport and Main Roads, 2013.

OR

AO10.2 Where adjacent to a railway or type 2 multi-modal corridor, noise barriers and earth mounds are designed, sited and constructed in accordance with the Civil Engineering Technical Requirement — CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011.

OR

AO10.3 No acceptable outcome is prescribed for noise barriers and earth mounds adjacent to a busway or light rail.

4.4 Department of Housing and Public Works – MP4.4 (Road and Rail)

The Department of Housing and Public Works (HPW) has a number of mandatory Codes that must be complied with at building application stage. These are referred to as Queensland Development Codes (QDC). These codes previously only related to items such as energy efficiency and water efficient fixtures in new residences.

QDC Mandatory Part (MP) 4.4 relates to new buildings in transport noise corridors. This mandatory Code deals with buildings within residential developments close to state-controlled roads and railways. MP 4.4 sets mandatory construction standards for new residential development, or additions to existing residential development, within a Transport Noise Corridor.

The noise level categories extend out to 57 dBA L_{10}(18 hour) for road traffic noise, and out to 69 dBA L_{max} for rail traffic noise. The noise categories and corresponding noise levels from Schedule 3, Table 1 of MP4.4 as follows:

- Road Noise:
  - Category 0: ≤ 57 dBA L_{10}(18 hour)
  - Category 1: 58 – 62 dBA L_{10}(18 hour)
  - Category 2: 63 – 67 dBA L_{10}(18 hour)
  - Category 3: 68 – 72 dBA L_{10}(18 hour)
  - Category 4: ≥ 73 dBA L_{10}(18 hour)
- Rail Noise:
  - Category 0: ≤ 69 dBA L_{max}
  - Category 1: 70 – 74 dBA L_{max}
  - Category 2: 75 – 79 dBA L_{max}
  - Category 3: 80 – 84 dBA L_{max}
  - Category 4: ≥ 85 dBA L_{max}

4.5 Sunshine Coast Regional Council - Sunshine Coast Planning Scheme 2014

On 14 April 2014 Sunshine Coast Regional Council (SCRC) adopted the Sunshine Coast Planning Scheme 2014 and the associated planning scheme policies. The planning scheme and the planning scheme policies were gazetted on 2 May 2014 and commenced on 21 May 2014. The Sunshine Coast Planning Scheme 2014 replaces the Caloundra City Plan 2004 and Maroochy Plan 2000 planning schemes with one plan for the region.

In regards to the assessment of noise impacts, the relevant sections of the planning scheme are the Nuisance Code (Section 9.4.3) and the Planning Scheme Policy for the Nuisance Code (Section SC6.15). The

Nuisance Code presents Performance Outcomes and Acceptable Outcomes for assessable development for acoustic amenity and noise but does not specifically nominate noise limits or assessment criteria. The Planning Scheme Policy for the Nuisance Code provides guidance for the assessment of road and rail noise, live entertainment, amplified music and voices (patrons). The policy does not specify noise limits but references the following guidelines to achieve the nuisance code outcomes:

- Australian Standard AS/NZS2107–2000: Acoustics— Recommended design sound levels and reverberation times for building interiors.
- Department of Housing and Public Works (HPW) – Queensland Development Code (QDC) Mandatory Part 4.4 (MP4.4) 'Buildings in transport noise corridors'.
- Department of Environment and Heritage Protection (EHP) – Environmental Protection Policy (Noise) and Environmental Protection Act.
- Department of Transport and Main Roads (TMR) – Road Traffic Noise Management: Code of Practice.

ASK contacted SCRC on 29th September 2014 to discuss the application of the Sunshine Coast Planning Scheme 2014. ASK was advised by Council that at the present time, road traffic noise intrusion into buildings should still be assessed against the criteria previously applied by Caloundra City Council and Maroochy Shire Council.

Caloundra City Council and Maroochy Shire Council specified an external building facade limit of 63 dBA L_{10}(18 hour) (façade corrected) on residential land. For those instances where this external noise limit was predicted to be exceeded, the internal noise levels within habitable rooms were required to be designed to meet the maximum recommended design sound levels stated in Table 1 of AS/NZS 2107-2000 entitled "Acoustics - Recommended design sound levels and reverberation times for building interiors".

For road traffic noise intrusion into private open spaces, ASK has been advised that the recommended criteria are the Acoustic Quality Objectives outdoor limits presented in Schedule 1 of the Environmental Protection (Noise) Policy (2008) (EPP (Noise)). ASK does not consider the implementation of the Acoustic Quality Objectives limits for private open spaces as realistic because these limits are well below those recommended by TMR and other local council authorities. The Planning Scheme Policy for the Nuisance Code also refers to TMR's Road Traffic Noise Management Code of Practice and therefore the noise limits for formal outdoor space from this code are proposed to be applied. The noise limits as prescribed in the TMR Code of Practice (which are the same as prescribed by SDAP) are presented in **Section 4.3**.

4.6 Australian Standard AS 2107:2000

For road traffic noise, Council recommends the most applicable assessment methodology would be the application of indoor noise levels specified in AS 2107:2000 "Acoustics - Recommended design sound levels and reverberation times for building interiors" (AS 2107). AS 2107 lists recommended internal noise levels for various building and room types, including residential bedrooms and other areas. For development near major and minor roads, the recommended design levels are as listed in **Table 4.1**.

Table 4.1 Recommended Internal Noise Levels from AS 2107

Road Type	Type of Occupancy / Activity	Design Sound Level L_{eq} dBA
Minor Road	Living areas	30 to 40
	Sleeping areas	30 to 35
	Work areas	35 to 40
Major Road	Living areas	35 to 45
	Sleeping areas	30 to 40
	Work areas	35 to 45

Based on the design sound levels presented in **Table 4.1**. The recommended internal design noise limits for the development from AS 2107 are 35 dBA L_{eq}(1 hour) for bedrooms, and 40 dBA L_{eq}(1 hour) for other habitable rooms.

4.7 Summary and Noise Limits

As presented in **Section 4.3**, the external façade criteria and private open space criteria for State controlled roads are dependent on the existing measured background noise level represented by the L_{90}(8 hour) between 10:00pm and 6:00am and the measured L_{90}(18 hour) between 6:00am and 12:00am (midnight). As Precincts 7 to 10 and Bells Creek Arterial have not been developed, representative background noise measurements are unable to be undertaken.

Based on the results of noise logging conducted by ASK for projects located adjacent roads with traffic characteristics similar to Bells Creek Arterial, the measured background noise levels were approximately 41 dBA L_{90}(8 hour) and 55 dBA L_{90}(18 hour).

Based on these background noise levels, and the noise criteria prescribed by Sunshine Coast Regional Council, the noise criteria nominated for the development are as follows:

- Road traffic noise:
  - For residential lots impacted by road traffic noise from Bells Creek Arterial (future State-controlled road):
    - SDAP – At 1m outside buildings L_{10}(18 hour) 63 dBA including façade reflection.
    - SDAP – For outdoor recreation areas L_{10}(18 hour) 60 dBA excluding façade reflection.
    - SDAP – Application of MP4.4 to achieve acceptable internal noise levels, or specific design to L_{eq} 35 dBA internal noise level for habitable rooms, i.e. sleeping, living, dining and kitchen areas.
  - For residential lots impacted by road traffic noise from the internal sub-arterial roads (Council controlled):
    - External facade noise limit: 63 dBA L_{10} (18 hour) (facade corrected)
    - Internal noise limit (if external limit exceeded): internal design noise levels from AS/NZS 2107:2000, specifically 35 dBA L_{eq}(1 hour) for bedrooms, and 40 dBA L_{eq}(1 hour) for other habitable rooms
- Rail noise:
  - Residential lots:
    - SDAP – L_{max} 87 dBA and L_{eq} (24 hour) average 65 dBA external level 1m from the façade.
    - SDAP – L_{max} 84 dBA and L_{eq} (24 hour) average 62 dBA external free field level in private open space and passive recreation areas.
    - SDAP – Application of MP4.4 to achieve acceptable internal noise levels, or specific design to L_{max} 45 dBA internal noise level for noise sensitive spaces, i.e. sleeping, living, dining and kitchen areas.
  - School/Education lots:
    - SDAP – L_{max} 87 dBA and L_{eq} (24 hour) average 65 dBA external level 1m from the façade.
    - SDAP – L_{max} 84 dBA and L_{eq} (24 hour) average 62 dBA external free field level in outdoor education areas and outdoor play areas
    - SDAP – L_{max} 45 dBA in sleeping rooms in child care centres
    - SDAP – L_{max} 50 dBA in indoor education areas and indoor play areas.

5. Road Traffic Noise Assessment

5.1 Overview

Road traffic noise from Bells Creek Arterial and the two sub-arterial roads has been assessed. The relevant assessment criteria are outlined in **Section 4**.

TMR recommends that the prediction of road traffic noise is to be conducted according to the United Kingdom Department of Transport (1988) procedure published as "Calculation of Road Traffic Noise" (CoRTN88). The road traffic noise levels have been predicted using the SoundPlan computer model, based on the CoRTN88 traffic noise prediction method and is approved by TMR.

ASK has been advised by Stockland that Bells Creek Arterial will initially be constructed as a single carriageway two lane road, and therefore the assessment of noise impacts from this road has been undertaken using this configuration. When Bells Creek Arterial is upgraded to a dual carriageway road, mitigation of noise impacts from the dual carriageway road will be the responsibility of the party upgrading the road. The single carriageway uses the two western (northbound) lanes of the ultimate dual carriageway design.

5.2 Data

The following data has been used in the noise calculations:

- Noise source height of 0.5 m.
- Ground contours for the site and Bells Creek Arterial road corridor were provided by Calibre Consulting.
- Receiver heights for the allotments were placed 1.8m and 4.6m above ground contour height for the ground floors and first floors respectively.
- Sub-arterial roads were included in the model based on design drawings provided by Calibre Consulting, which included elevation data.
- Bells Creek Arterial was included in the model based on design drawings provided by Calibre Consulting, for a design originally produced by KBR. The design of Bells Creek Arterial will be revised in the future following progression of the design of the development.
- Road width as per design drawings provided by Calibre Consulting, and traffic lane advice provided by MWH Global.
- Forecast traffic volumes for the year 2031 for the east-west and north-south sub-arterial roads shown in **Table 5.1** have been provided by MWH Global. Traffic volumes for the sub-arterial roads were provided in the form of AM and PM pear hour traffic volumes. These volumes were converted to a 24 hour Annual Average Weekday Traffic (AAWT) volume (sum of the AM/PM peaks, multiplied by 5), and then converted to a Annual Average Daily Traffic (AADT) volume (multiplied by conversion factor of 0.945), based on advice provided by MWH Global.
- Traffic volumes for Bells Creek Arterial (peak capacity of two lane road design) as shown in **Table 5.1** have been provided by Stockland.
- The road segments indicated in **Table 5.1** are presented graphically in **Figure 5.1**.
- The 18-hour traffic flow is taken to be 94% of the ultimate daily traffic flow.
- The road surface for all the roads used in the noise model is dense graded asphalt (DGA).
- The CoRTN road traffic noise model predicts the L_{10}(18 hour).
- A +2.5 dBA facade reflection allowance is included in the road traffic noise level predictions.

- Road traffic noise level predictions include the CoRTN calibration factors for Queensland conditions as detailed in Section 4.3.2.1 in TMR's Transport Noise Management Code of Practice (2013). The corrections are -1.7dBA for facade corrected predictions, and -0.7dBA for free field predictions.
- The location of point receptors for residential lots is based on the most exposed location within the lot. Residential lot setbacks, used to define point receptor locations, were assumed as follows:
  - 1.5m setback at the rear of lots for all storeys
  - 2.4m setback at the frontage of lots for all storeys
  - 1m setback to side boundaries
  - Note: there are a number of different setback distances for different lot types and floors however for the purposes of this assessment the setbacks nominated are considered acceptable.

Table 5.1 Traffic Data for BCA and Sub-Arterial Roads

Road	Segment	Direction	AADT	18 Hour Traffic Volume	Heavy Vehicle % (CV%)	Speed
Bells Creek Arterial	n/a	Both Directions	30,000	28,200	4	100
East-West Sub-Arterial Road	A1	Eastbound	9535	8963	3	60
		Westbound	619	582		
	A2	Eastbound	1205	1133		
		Westbound	392	369		
	A3	Eastbound	5656	5316		
		Westbound	884	831		
	A4	Eastbound	9162	8612		
		Westbound	8359	7857		
North-South Sub-Arterial Road	B1	Southbound	14132	13285	3	60
		Northbound	11132	10464		
	B2	Southbound	2679	2518		
		Northbound	3662	3442		
	B3	Southbound	2396	2252		
		Northbound	3175	2985		
	B4	Southbound	3270	3074		
		Northbound	3341	3140		

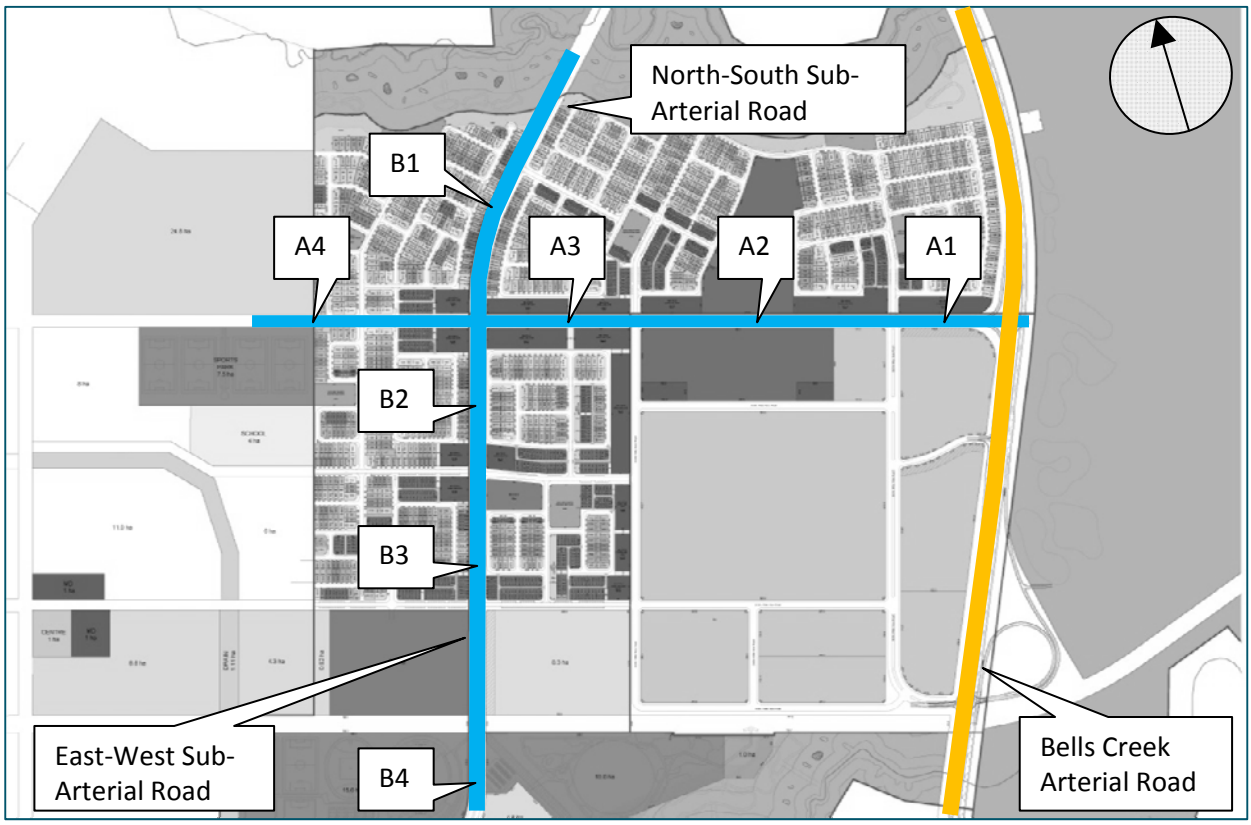


Figure 5.1 Road Segments

5.3 Limitations & Assumptions

The assessment of road traffic noise impacts has been undertaken with the most up-to-date design information available for the project. Overall, the level of design information is considered appropriate for the current stage of assessment, however the following limitations are noted:

1. Detailed design for Bells Creek Arterial has not yet been undertaken for the section located to the east of Precincts 7 to 10. For the purposes of this assessment, the input of Bells Creek Arterial into the model has been based on previous design work conducted by KBR (provided by Calibre Consulting). As limited design information is available for Bells Creek Arterial the results and recommendations regarding Bells Creek Arterial are considered preliminary only. Further assessment of noise impacts will be required when detailed design has progressed.
2. Noise predictions do not include the influence of on-ramps or off-ramps associated with Bells Creek Arterial, as these elements have not yet been designed. Road traffic noise predictions have used the most up-to-date design information available for the development. The assessment of noise emissions from on-ramps and off-ramps can be conducted following progression of detailed design.

Overall, the modelling output is considered accurate based on the information available, and can be further refined following progression of the design of the development.

5.4 Verification

As Precincts 7, 8, 9 and 10, Bells Creek Arterial and the internal road network have not been developed, road traffic noise measurements are unable to be undertaken, and therefore the road traffic noise model for the site is unable to be validated. The accuracy of the noise modelling undertaken is considered acceptable for the purposes of the assessment.

5.5 Calculations & Assessment

Road traffic noise levels have been predicted across the development. The predicted L_{10}(18 hour) noise levels are presented in **Appendix C** in **Table C.1.** The results are presented graphically in **Figures D.2A to Figure D.7B**. A figure key is included as **Figure D.1**. For each figure key area there is an A figure (i.e. Figure D.2A) and B figure (i.e. D.2B), with the A figure showing the contours for the ground floor, with the B figure showing the contours for the upper floor.

It is evident from review of the noise levels presented in **Table C.1** and in **Appendix D** that road traffic noise levels exceed the external noise limit of 63 dBA L_{10}(18 hour) (facade corrected) (shown in the figures as a pink contour line) at several lots.

Additional noise modelling was undertaken considering the construction of noise barriers, with the goal of achieving the external noise limit of 63 dBA L_{10}(18 hour) (facade corrected) at the ground floor of the nominated building envelope. Calculations indicated that several noise barriers were required in order to achieve the 63 dBA L_{10}(18 hour) (facade corrected) noise limit at the ground floor.

ASK has been advised that active frontages are proposed for several terrace lots throughout the development to improve the streetscape at key residential neighbourhood entry points. It is understood that it is preferred for these terrace lots to incorporate noise attenuation measures within the built form rather than through the construction of noise barriers, and therefore noise barriers have not been considered for these lots. It has been advised that the following lots (located near assessable roads) are proposed to have active frontages:

- Lots 1662 to 1668
- Lots 1111 to 1120
- Lots 1364 to 1373

As the external façade noise limit (63 dBA L_{10} (18 hour) (façade corrected)) is equivalent to the private open space noise limit (60 dBA L_{10} (18 hour) (freefield)) with consideration of façade correction, the private open space noise limit may be achieved for lots which are predicted to the achieve the external façade noise limit for the ground floor.

The nominated noise barrier locations and relative heights are presented in **Appendix E**. **Figure E.1** includes a figure key for the barrier figures, with **Figure E.2** to **Figure E.5** presenting the proposed barriers.

The predicted noise levels including the noise barriers presented in **Figure E.2** to **Figure E.5** are also presented in **Appendix C** in **Table C.1**.

The predicted noise levels with the inclusion of the proposed barriers (**Figure E.2** to **Figure E.5**) are presented graphically in **Figure F.2A** to **Figure F.7B.** A figure key is included as **Figure F.1**. For each figure key area there is an A figure (i.e. Figure F.2A) and B figure (i.e. F.2B), with the A figure showing the contours for the ground floor, with the B figure showing the contours for the upper floor.

The noise contours presented in **Figure F.2A** to **Figure F.7B** have been separated for those lots affected by Bells Creek Arterial (TMR criteria, **Figure F.2A** to **Figure F.3B**), and for those lots affected by internal sub-arterial roads (Council criteria, **Figure F.4A** to **Figure F.7B**).

Noise barriers have not been proposed to protect non-standard residential lots, including the commercial, mixed use, multiple dwelling and community lots. Noise mitigation including barriers or facade upgrades can be determined at a later time if necessary, when the design plans for these buildings are further developed.

The proposed noise barriers may be constructed using a number of different materials including timber, brick, concrete block, sheet metal or earth mound. A solid timber barrier with overlapping palings is usually the most economic. The minimum acoustic requirement of a noise barrier is that it be solid and continuous

with negligible holes and gaps between palings or panels or near the ground. The minimum required surface densities are as follows:

- Bells Creek Arterial: 15 kg/m^2 (TMR requirements).
- Internal Roads: 12.5 kg/m^2 (Expected Council requirements).

The acoustic barrier may comprise a combination of an earth mound or crib lock wall and a timber fence on top.

As the barrier adjacent Bells Creek Arterial is mitigating noise from a TMR road it should comply with Main Roads Technical Standard MRTS15 'Noise Fences' dated April 2014. This standard includes requirements for the barrier construction.

5.6 Residential Lots

As discussed in **Section 4**, where the external noise criterion of 63 dBA L_{10}(18 hour) (facade corrected) is predicted to be exceeded, facade upgrade treatments are required in order to achieve reasonable internal noise levels.

The method for determining the required facade treatments varies depending on the type of the road (either Council or State controlled) which the lot is affected by. The requirements for addressing noise from Bells Creek Arterial (future State controlled road) and the sub-arterial roads (Council controlled) are discussed in the following sections.

As the external façade noise limit (63 dBA L_{10} (18 hour) (façade corrected)) is equal to the private open space noise limit (60 dBA L_{10} (18 hour) (freefield)) with consideration of façade correction, the private open space noise limit may be exceeded for lots which are predicted to the exceed the external façade noise limit for the ground floor. Therefore, for the lots which are indicated in **Table C.1** in **Appendix C** to require a covenant for the ground floor (active frontage lots), development on these lots should ensure that private open space areas are located away from the impacting road or designed so as to shield the open area with the dwelling. It is noted that numerous neighbourhood recreation parks are predicted to be compliant with the private open space noise limit and therefore all residents will have access to an outdoor area compliant with the nominated private open space noise limits.

5.6.1 Lots Impacted by Bells Creek Arterial

Residential lots located adjacent Bells Creek Arterial are located within Precinct 7.1B. As shown in **Table C.1**, the predicted noise levels with the proposed noise barriers (see **Appendix E**) comply with the 63 dBA L_{10}(18 hour) (facade corrected) noise limit for the ground floor of all lots located adjacent Bells Creek Arterial. The predicted noise levels for the upper floor exceed the L_{10}(18 hour) (facade corrected) noise limit for numerous lots (see **Table C.1**).

For lots/floors where the predicted noise level exceeds the 63 dBA L_{10}(18 hour) (facade corrected) noise limit, these lots have been identified in **Table C.1** as a "Noise Affected Lot". For lots affected by traffic noise from Bells Creek Arterial, the "Applicable Criteria" within **Table C.1** is nominated to be "SDAP - MP4.4", and an MP4.4 Noise Category is presented for each floor of each lot. For these lots, the applicable method for determining the required facade treatments is as per the requirements of Queensland Development Code (QDC) Mandatory Part 4.4 (MP4.4) "Buildings in transport noise corridors". The application of MP4.4 is discussed in **Section 0**. The construction requirements specified by MP4.4, based on the nominated noise categories, are presented in **Appendix G** in **Table G.1**.

5.6.2 Lots Impacted by Sub-Arterial Roads

Residential lots affected by road noise from sub-arterial roads are located within numerous precincts. As shown in **Table C.1**, the predicted noise levels with the proposed noise barriers (see **Appendix E**) comply with the 63 dBA L_{10}(18 hour) (facade corrected) noise limit for the ground floor of all lots, with the

exception of those lots which require active frontages as discussed in **Section 5.5** (Lots 1662 to 1668, 1111 to 1120, and 1364 to 1373). The predicted noise levels for the upper floor exceed the 63 dBA L_{10}(18 hour) (facade corrected) noise limit for numerous lots (see **Table C.1**).

For lots/floors where the predicted noise level exceeds the 63 dBA L_{10}(18 hour) (facade corrected) noise limit, these lots have been identified in **Table C.1** as a "Noise Affected Lot". For lots affected by traffic noise from sub-arterial roads, the design and construction of dwellings on these lots is required to achieve the internal noise limits prescribed by Sunshine Coast Regional Council, as summarised in **Section 4.7**.

Specific building designs are not available at this stage of the development process, and therefore specific upgrades to facade treatments cannot evaluated. For the nominated noise affected lots, a design certificate for the specific building design is required to be prepared by an acoustic consultant, and must be prepared in accordance with Australian Standards AS 3671 and AS 2107.

5.7 Multiple Dwelling & Mixed Use Lots

There are numerous multiple dwelling and mixed use lots proposed to be included within Precincts 7 to 10. As the footprint for development on these lots is currently unknown, noise barriers have not been proposed for these lots.

The applicable noise criteria for residential development within these lots (i.e. apartments, etc) are the same as those discussed in **Section 5.6.1** and **Section 5.6.2**.

Therefore for multiple dwelling and mixed use lots impacted by sub-arterial roads (Council controlled), further acoustic assessment will be required if the building footprint is predicted to be subject to noise levels in excess of 63 dBA L_{10}(18 hour) (facade corrected) (refer to noise contours in **Appendix F**).

For multiple dwelling and mixed use lots affected by traffic noise from Bells Creek Arterial, development is to comply with the requirements of QDC MP4.4 and the nominated construction requirements as presented in **Appendix G** in **Table G.1**. Further acoustic assessment can be conducted for these lots to refine the applicable noise categories with the inclusion of shielding provided by the building itself. This additional assessment typically results in a reduction in noise category for facades not facing the road, and a resulting reduction in construction cost.

5.8 Private School

A private school is proposed to be located on Lot 80021 within Precinct 8.5, to the east of the north-south sub-arterial road. The location of these lots is shown in the development plans in **Appendix B**.

The predicted noise levels from road traffic at Lot 80021 are presented in **Appendix F** in **Figure F.7A** an **Figure F.7B**. Based on the predicted noise contours, if school buildings are proposed to be located near the western boundary of the lot near the sub-arterial road, further assessment may be required to ensure internal noise levels within classrooms or staff offices are acceptable. Suitable criteria may be the internal design noise levels noted within AS 2107

5.9 Commercial Development

There are no strictly applicable internal or external noise limits for the assessment of road traffic noise impact onto commercial development. For commercial development on lots located near the sub-arterial roads or Bells Creek Arterial, further assessment may be required to ensure internal noise levels within offices, meeting rooms or other sensitive spaces are acceptable. Suitable criteria may be the internal design noise levels noted within AS 2107.

5.10 Peoples Place Lots

There are two Peoples Place Lots (Lots 90040 and 90039) located to the north and south of the east-west sub-arterial road. Noise contours for these lots are presented in **Figure F.4A** and **Figure F.4B**. Further assessment of road traffic noise could be undertaken for these lots following design development however the traffic noise exposure for these lots is considered to be relatively minor based on the traffic volumes anticipated for this road segment.

6. Rail Noise Assessment

6.1 Overview

Rail noise from the CAMCOS corridor has been assessed onto the proposed development. The relevant assessment criteria are presented in **Section 4**.

At present, there is limited information available in relation to the CAMCOS corridor, and it is understood that there is some doubt about the ultimate timing of the service.

To assess the potential noise levels from rail traffic, indicative information has been drawn from the following documents:

- ARUP, Caboolture to Maroochydore Corridor Study Stage 3 Caloundra Options Assessment Report, date: March 1999.
- ARUP, Caboolture to Maroochydore Corridor Study Final Impact Assessment and Land Use Transport Strategy, Chapter 5 Environmental Setting, date: February 2001.

Rail traffic noise levels across the site have been predicted using the SoundPlan computer model, based on the Kilde rail noise prediction method, which is approved by Queensland Rail.

6.2 Data

The following data has been used in the noise calculations:

- Due to the location of the corridor, it is assumed that only electric passenger trains will utilise the CAMCOS rail line. A noise source height of 0.5m has been applied for electric passenger trains.
- Ground contours for the site and the area of the CAMCOS corridor were provided by Calibre Consulting. The ground contours for the CAMCOS corridor do not included detailed consideration of the rail lines or required civil works.
- Receiver heights for the allotments were placed 1.8m and 4.6m above ground contour height for the ground floors and first floors respectively.
- A +2.5 dBA facade reflection allowance is included in the road traffic noise level predictions.
- ASK has been advised by Stockland that the corridor has been design to support train travel speeds up to 100 km/h. Modelling of rail noise has applied this speed.
- ASK has been advised by Stockland that frequency of train travel for the corridor is unknown, however rail traffic is forecast to be running at a 30 minute headway by 2050. It is therefore assumed that there will be at least 15 train movements per day.
- Based on ASK's experience with similar rail noise assessments, L_{max} noise predictions typically determine the required mitigation measures (i.e. not set by L_{eq} noise predictions), and therefore due to absence of information regarding train frequencies, the assessment has been undertaken using L_{max} noise predictions only.
- Noise predictions have been undertaken using the eastbound rail line only, which is closest to the development. The setback distance from eastbound rail line to the boundary of Precincts 8 and 9 (closest boundary) is approximately 17 metres.
- The CAMCOS corridor centreline has been provided by Calibre Consulting. The centreline of the eastbound rail was derived based on the corridor centreline and CAMCOS corridor plans also provided by Calibre Consulting. The height of the rail line is based on the finished earthworks level of the corridor (between the rail lines) as it is the only data available. The application of this height is considered acceptable for the purposes of this assessment.

6.3 Limitations & Assumptions

The assessment of rail noise impacts has been undertaken with the most up-to-date design information available for the project. Although detailed design for the CAMCOS corridor has not yet been undertaken, the level of design information is considered appropriate for the current stage of assessment. Further assessment of rail noise impacts could be undertaken following progression of the design of the development and the CAMCOS corridor.

6.4 Verification

As the CAMCOS rail corridor has not been constructed, noise measurements of rail pass-bys are not able to be undertaken.

Verification of the rail noise model has been undertaken using the generic passenger train sound exposure level (SEL) data provided by QR, and the corrections included in the SoundPlan model under the Kilde method, as required by QR . This method is considered suitable for the assessment and therefore the resulting noise predictions are considered accurate.

6.5 Calculations and Assessment

Rail traffic noise levels have been predicted across Precincts 8, 9 and 10 which are located adjacent the CAMCOS corridor. As there are no detached residential lots located adjacent the CAMCOS corridor, the predicted L_{max} noise levels are presented as noise contours in **Appendix H** in **Figure H.1A** (ground floor) and **Figure H.1B** (upper floor). As discussed in **Section 4.7**, QDC MP4.4 is applicable for the mitigation of rail noise intrusion and therefore the noise contours presented in **Appendix H** include the MP4.4 noise category bands.

The noise limits for rail noise as presented in **Section 4.7** are only applicable for residential and educational developments, and therefore predicted rail noise levels across the parkland areas to the south of the corridor (i.e. Lots 90027, 90032, etc) are not required to be considered as there is no assessment criteria.

It is evident from review of the noise contours presented in **Figure H.1A** and **Figure H.1B** that the predicted L_{max} noise levels exceed the external noise limit of 87 dBA L_{max} (facade corrected) over portions of Lots 80020 (retirement living) and 80021 (private school). It is noted that the external facade noise limit of 87 dBA L_{max} (facade corrected) is equivalent to the private open space and outdoor area noise limit (84 dBA L_{max} (freefield)) with consideration of façade correction.

Additional noise modelling was undertaken considering the construction of noise barriers along the southern boundary of Lots 80020 and 80021. Based on the noise model developed for the site it was determined that the external facade noise limit of 87 dBA L_{max} (facade corrected) could be achieved at the ground floor of Lots 80020 and 80021, at 4 metres inside the southern boundary of these lots, with a 2 metre high noise barrier.

Alternatively, the design of development on these lots could ensure that sensitive buildings (i.e. residences, classrooms, etc) are located outside the 87 dBA L_{max} (facade corrected) contour line, which extends approximately 18 metres into Lots 80020 and 80021 for the ground floor.

Due to uncertainty regarding the development of the CAMCOS corridor, noise barriers for the mitigation of rail noise are not presented within this report. However, based on the noise modelling undertaken, it is evident that the external noise limit can be achieved with an acceptable height barrier. It is noted that construction requirements, i.e. MP4.4 noise categories, will be reduced with an increased height barrier, however the requirement for construction upgrades is also dependent of the certainty of the CAMCOS corridor development.

It is noted that noise barriers adjacent to railways must be designed, sited and constructed in accordance with the Civil Engineering Technical Requirement — CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011.

ASK has been advised that the construction of noise barriers adjacent to the CAMCOS corridor is the responsibility of State Government.

7. Recommendations & Conclusion

A transport noise assessment has been conducted for Precincts 7, 8, 9 and 10 of the Aura development to be located within Caloundra South Priority Development Area. The results and recommendations of the assessment are as follows:

Road Noise Assessment

- Traffic noise from Bells Creek Arterial, and two sub-arterial roads, and the CAMCOS corridor has been assessed within this report.
- Noise barriers are recommended to be located within numerous precincts as presented in **Appendix E** in **Figure E.1** to **Figure E.5**.
- Predicted noise levels at detached residential lots with and without the noise barriers presented in **Appendix E** are presented in **Appendix C** in **Table C.1**.
- Noise contours without the inclusion of the recommended noise barriers are included in **Appendix D.** Noise contours with the recommended barriers are presented in **Appendix F**.
- The predicted noise levels with the proposed noise barriers (see **Appendix E**) comply with the 63 dBA L_{10}(18 hour) (facade corrected) noise limit for the ground floor of all lots, with the exception of those lots which require active frontages as discussed in **Section 5.5** (Lots 1662 to 1668, 1111 to 1120, and 1364 to 1373). The predicted noise levels for the upper floor exceed the 63 dBA L_{10}(18 hour) (facade corrected) noise limit for numerous lots (see **Table C.1**).
- For lots/floors where the predicted noise level exceeds the 63 dBA L_{10}(18 hour) (facade corrected) noise limit, these lots have been identified in **Table C.1** as a "Noise Affected Lot". The requirements for further acoustic assessment or mitigation are discussed in **Section 5.6.1** (Bells Creek Arterial) and **Section 5.6.2** (sub-arterial roads).
- For the lots which are indicated in **Table C.1** in **Appendix C** to require a covenant for the ground floor (active frontage lots), development on these lots should ensure that private open space areas are located away from the impacting road or designed so as to shield the open area with the dwelling.
- Limitations to methodology of the road noise assessment are discussed in **Section 5.3**.
- The requirements for the construction of the proposed noise barriers are discussed in **Section 5.5**.
- To achieve the internal noise levels specified by Council (AS 2107) and targeted by QDC MP4.4 will require the construction details are of an appropriate acoustic standard, and that all external openings are to be closed when these habitable rooms are occupied. Therefore, an air-conditioning/mechanical ventilation system that does not degrade the internal acoustic environment or the sound isolation of the building envelope, and also meets the ventilation requirements of the Building Code of Australia may need to be installed for development on lots which are nominated in **Table C.1** to be noise affected (with noise barriers).

Rail Noise Assessment

- The assessment of rail noise is presented in **Section 6**. Limitations to methodology of the rail noise assessment are discussed in **Section 6.3**.
- Based on the available information, noise modelling has determined that the external noise limit of 87 dBA L_{max} is predicted to be exceeded across southern portions of Lots 80020 and 80021. The predicted rail noise contours are presented in **Appendix H**.
- The external facade noise limit of 87 dBA L_{max} (facade corrected) could be achieved at the ground floor of Lots 80020 and 80021, at 4 metres inside the southern boundary of these lots, with a 2 metre high noise barrier along the southern boundary of Lots 80020 and 80021. Alternatively, development could be located outside the 87 dBA L_{max} (facade corrected) contour line shown in **Figure H.1A** and **Figure H1.B** in **Appendix H**.

- Due to uncertainty regarding the development of the CAMCOS corridor, this report does not recommend noise barriers for the mitigation of rail noise. However, if the CAMCOS corridor is to proceed, noise mitigation measures in the form of noise barriers and construction upgrades (facade treatments) will be required to ensure acceptable noise levels at sensitive uses.

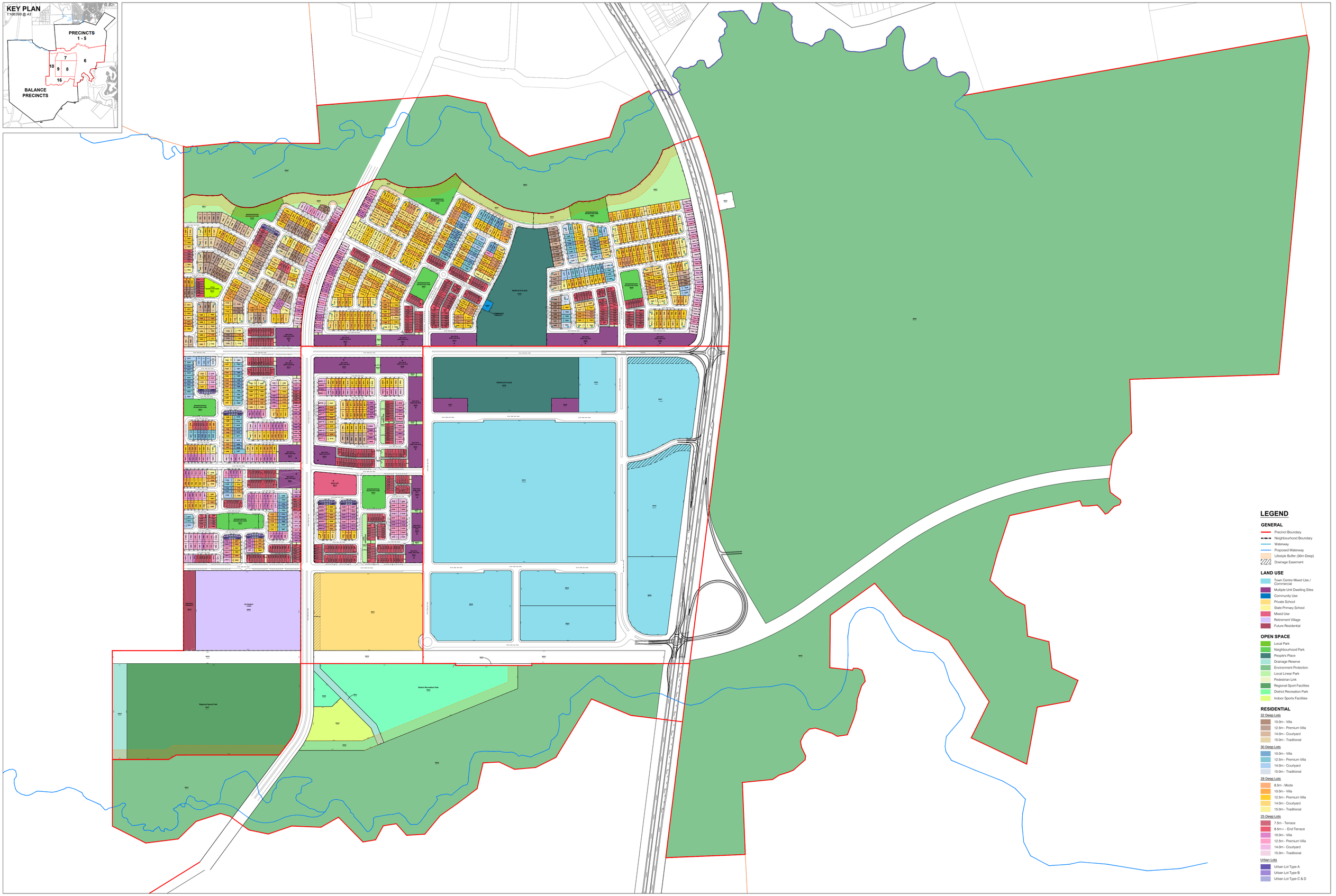
Future Assessment Recommendations

- It is recommended that the assessment of road traffic noise impacts from Bells Creek Arterial is revised when detailed design of this road, for the segment adjacent Precincts 7 to 10, is completed.
- It is recommended that the assessment of road traffic noise impacts from Bells Creek Arterial and the two sub-arterial roads is revised if alterations are made to the design of Precincts 7 to 10, with regards to lot layout, civil design, etc.
- It is recommended that the requirements for addressing noise impacts from the CAMCOS corridor are determined prior to the development of lots and precincts located adjacent to the rail corridor.

Appendix A Glossary

Parameter or Term	Description
dB	The decibel (dB) is the unit measure of sound. Most noises occur in a range of 20 dB (quiet rural area at night) to 120 dB (nightclub dance floor or concert).
dBA	Noise levels are most commonly expressed in terms of the 'A' weighted decibel scale, dBA. This scale closely approximates the response of the human ear, thus providing a measure of the subjective loudness of noise and enabling the intensity of noises with different frequency characteristics (e.g. pitch and tone) to be compared.
Day	The period between 7am and 6pm.
Evening	The period between 6pm and 10pm.
Night	The period between 10pm and 7am.
Free-field	The description of a noise receiver or source location which is away from any significantly reflective objects (e.g. buildings, walls).
L_1	The noise level exceeded for 1% of the measurement period.
L_{10}	The noise level exceeded for 10% of the measurement period. It is sometimes referred to as the average maximum noise level.
L_{90}	The noise level exceeded for 90% of the measurement period. This is commonly referred to as the background noise level.
L_{eq}	The equivalent continuous sound level, which is the constant sound level over a given time period, which is equivalent in total sound energy to the time-varying sound level, measured over the same time period.
L_{eq},1hour	As for L_{eq} except the measurement intervals are defined as 1 hour duration.
L_{max}	Maximum A-weighted sound pressure level.
L_{eq}(24 hour)	The average L_{eq} noise level over the 24-hour period from midnight to midnight.
L_{10}(18 hour)	The arithmetic average of the one-hour L_{10} values between 6am and midnight. This parameter is used in the assessment of road traffic noise.
R_w	Weighted Sound Reduction Index – is a single number evaluation of the property of a partition to attenuate sounds. For the majority of partitions, the value of Rw will be similar to the value for STC. Partitions with particularly poor performance at 100 Hz may have lower values for Rw than for STC. Conversely, partitions with poor performance at 4000 Hz may have higher Rw than for STC. (As per AS1276.1-1999).
BCA	Bells Creek Arterial
CAMCOS	Caboolture to Maroochydore Corridor Study

Appendix B Project Drawings



LEGEND

GENERAL
- Precinct Boundary
- Neighbourhood Boundary
- Waterway
- Proposed Waterway
- Lifestyle Buffer (80m Deep)
- Drainage Easement

LAND USE
- Town Centre Mixed Use / Commercial
- Multiple Unit Dwelling Sites
- Community Use
- Private School
- State Primary School
- Mixed Use
- Retirement Village
- Future Residential

OPEN SPACE
- Local Park
- Neighbourhood Park
- People's Place
- Drainage Reserve
- Environment Protection
- Local Linear Park
- Pedestrian Link
- Regional Sport Facilities
- District Recreation Park
- Indoor Sports Facilities

RESIDENTIAL
32 Deep Lots
- 10.0m - Villa
- 12.5m - Premium Villa
- 14.0m - Courtyard
- 15.0m - Traditional

30 Deep Lots
- 10.0m - Villa
- 12.5m - Premium Villa
- 14.0m - Courtyard
- 15.0m - Traditional

28 Deep Lots
- 8.5m - Mode
- 10.0m - Villa
- 12.5m - Premium Villa
- 14.0m - Courtyard
- 15.0m - Traditional

25 Deep Lots
- 7.5m - Terrace
- 8.5m + - End Terrace
- 10.0m - Villa
- 12.5m - Premium Villa
- 14.0m - Courtyard
- 15.0m - Traditional

Urban Lots
- Urban Lot Type A
- Urban Lot Type B
- Urban Lot Type C & D

Brisbane
Level 7, 123 Albert Street
Brisbane QLD 4000
t 07 3007 3800
Urbis Pty Ltd ABN 50 105 256 228

Caloundra South

Concept Design

Scale 1:5,000 @ A1

0 50 100 250m

PROJECT NO: BD0332
DATE: 27.04.16
DRAWING NO: CD01
REV: -

Appendix C Predicted Road Noise Levels (With and Without Barriers)

Table C.1 Predicted Road Traffic Noise Levels (With and Without Barriers)

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7516	GF	55	0	55	No	SDAP - MP4.4	0
7516	F 1	57	0	56	No	SDAP - MP4.4	0
7517	GF	55	0	55	No	SDAP - MP4.4	0
7517	F 1	57	0	57	No	SDAP - MP4.4	0
7518	GF	56	0	55	No	SDAP - MP4.4	0
7518	F 1	57	0	57	No	SDAP - MP4.4	0
7519	GF	56	0	56	No	SDAP - MP4.4	0
7519	F 1	57	0	57	No	SDAP - MP4.4	0
7520	GF	56	0	56	No	SDAP - MP4.4	0
7520	F 1	58	1	57	No	SDAP - MP4.4	0
7521	GF	56	0	56	No	SDAP - MP4.4	0
7521	F 1	58	1	58	No	SDAP - MP4.4	1
7522	GF	57	0	56	No	SDAP - MP4.4	0
7522	F 1	58	1	58	No	SDAP - MP4.4	1
7523	GF	56	0	56	No	SDAP - MP4.4	0
7523	F 1	58	1	57	No	SDAP - MP4.4	0
7524	GF	56	0	56	No	SDAP - MP4.4	0
7524	F 1	58	1	57	No	SDAP - MP4.4	0
7525	GF	56	0	56	No	SDAP - MP4.4	0
7525	F 1	57	0	57	No	SDAP - MP4.4	0
7526	GF	56	0	55	No	SDAP - MP4.4	0
7526	F 1	57	0	57	No	SDAP - MP4.4	0
7527	GF	56	0	55	No	SDAP - MP4.4	0
7527	F 1	57	0	57	No	SDAP - MP4.4	0
7528	GF	55	0	55	No	SDAP - MP4.4	0
7528	F 1	57	0	56	No	SDAP - MP4.4	0
7529	GF	57	0	57	No	SDAP - MP4.4	0
7529	F 1	59	1	58	No	SDAP - MP4.4	1
7530	GF	57	0	57	No	SDAP - MP4.4	0
7530	F 1	59	1	58	No	SDAP - MP4.4	1
7531	GF	57	0	56	No	SDAP - MP4.4	0
7531	F 1	59	1	58	No	SDAP - MP4.4	1
7532	GF	57	0	56	No	SDAP - MP4.4	0
7532	F 1	58	1	58	No	SDAP - MP4.4	1
7533	GF	56	0	56	No	SDAP - MP4.4	0

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7533	F 1	58	1	58	No	SDAP - MP4.4	1
7534	GF	57	0	56	No	SDAP - MP4.4	0
7534	F 1	58	1	57	No	SDAP - MP4.4	0
7535	GF	56	0	56	No	SDAP - MP4.4	0
7535	F 1	58	1	57	No	SDAP - MP4.4	0
7536	GF	56	0	56	No	SDAP - MP4.4	0
7536	F 1	58	1	57	No	SDAP - MP4.4	0
7537	GF	56	0	56	No	SDAP - MP4.4	0
7537	F 1	58	1	57	No	SDAP - MP4.4	0
7541	GF	56	0	56	No	SDAP - MP4.4	0
7541	F 1	58	1	57	No	SDAP - MP4.4	0
7542	GF	56	0	56	No	SDAP - MP4.4	0
7542	F 1	58	1	57	No	SDAP - MP4.4	0
7543	GF	56	0	56	No	SDAP - MP4.4	0
7543	F 1	58	1	57	No	SDAP - MP4.4	0
7544	GF	57	0	56	No	SDAP - MP4.4	0
7544	F 1	58	1	57	No	SDAP - MP4.4	0
7545	GF	57	0	56	No	SDAP - MP4.4	0
7545	F 1	59	1	58	No	SDAP - MP4.4	1
7546	GF	57	0	56	No	SDAP - MP4.4	0
7546	F 1	58	1	58	No	SDAP - MP4.4	1
7547	GF	57	0	57	No	SDAP - MP4.4	0
7547	F 1	59	1	58	No	SDAP - MP4.4	1
7548	GF	58	1	57	No	SDAP - MP4.4	0
7548	F 1	59	1	58	No	SDAP - MP4.4	1
7549	GF	58	1	57	No	SDAP - MP4.4	0
7549	F 1	60	1	58	No	SDAP - MP4.4	1
7550	GF	58	1	57	No	SDAP - MP4.4	0
7550	F 1	60	1	58	No	SDAP - MP4.4	1
7551	GF	58	1	57	No	SDAP - MP4.4	0
7551	F 1	60	1	59	No	SDAP - MP4.4	1
7552	GF	58	1	57	No	SDAP - MP4.4	0
7552	F 1	60	1	59	No	SDAP - MP4.4	1
7553	GF	58	1	58	No	SDAP - MP4.4	1
7553	F 1	60	1	59	No	SDAP - MP4.4	1
7554	GF	59	1	58	No	SDAP - MP4.4	1
7554	F 1	60	1	59	No	SDAP - MP4.4	1
7555	GF	60	1	59	No	SDAP - MP4.4	1
7555	F 1	61	1	61	No	SDAP - MP4.4	1
7556	GF	60	1	59	No	SDAP - MP4.4	1
7556	F 1	61	1	60	No	SDAP - MP4.4	1

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7557	GF	59	1	59	No	SDAP - MP4.4	1
7557	F 1	61	1	60	No	SDAP - MP4.4	1
7558	GF	59	1	58	No	SDAP - MP4.4	1
7558	F 1	61	1	60	No	SDAP - MP4.4	1
7559	GF	59	1	58	No	SDAP - MP4.4	1
7559	F 1	61	1	60	No	SDAP - MP4.4	1
7560	GF	59	1	58	No	SDAP - MP4.4	1
7560	F 1	60	1	59	No	SDAP - MP4.4	1
7561	GF	59	1	57	No	SDAP - MP4.4	0
7561	F 1	60	1	59	No	SDAP - MP4.4	1
7562	GF	59	1	57	No	SDAP - MP4.4	0
7562	F 1	60	1	59	No	SDAP - MP4.4	1
7563	GF	59	1	58	No	SDAP - MP4.4	1
7563	F 1	60	1	59	No	SDAP - MP4.4	1
7564	GF	59	1	58	No	SDAP - MP4.4	1
7564	F 1	60	1	59	No	SDAP - MP4.4	1
7565	GF	59	1	58	No	SDAP - MP4.4	1
7565	F 1	61	1	59	No	SDAP - MP4.4	1
7566	GF	59	1	58	No	SDAP - MP4.4	1
7566	F 1	61	1	59	No	SDAP - MP4.4	1
7567	GF	60	1	58	No	SDAP - MP4.4	1
7567	F 1	61	1	60	No	SDAP - MP4.4	1
7568	GF	60	1	59	No	SDAP - MP4.4	1
7568	F 1	61	1	60	No	SDAP - MP4.4	1
7569	GF	60	1	59	No	SDAP - MP4.4	1
7569	F 1	61	1	60	No	SDAP - MP4.4	1
7570	GF	60	1	59	No	SDAP - MP4.4	1
7570	F 1	61	1	60	No	SDAP - MP4.4	1
7571	GF	60	1	59	No	SDAP - MP4.4	1
7571	F 1	62	1	60	No	SDAP - MP4.4	1
7572	GF	60	1	59	No	SDAP - MP4.4	1
7572	F 1	62	1	61	No	SDAP - MP4.4	1
7573	GF	60	1	60	No	SDAP - MP4.4	1
7573	F 1	62	1	61	No	SDAP - MP4.4	1
7574	GF	61	1	60	No	SDAP - MP4.4	1
7574	F 1	62	1	61	No	SDAP - MP4.4	1
7575	GF	62	1	61	No	SDAP - MP4.4	1
7575	F 1	63	2	62	No	SDAP - MP4.4	1
7576	GF	62	1	61	No	SDAP - MP4.4	1
7576	F 1	63	2	62	No	SDAP - MP4.4	1
7577	GF	62	1	61	No	SDAP - MP4.4	1

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7577	F 1	64	2	63	No	SDAP - MP4.4	2
7578	GF	63	2	61	No	SDAP - MP4.4	1
7578	F 1	64	2	63	No	SDAP - MP4.4	2
7579	GF	63	2	62	No	SDAP - MP4.4	1
7579	F 1	65	2	63	No	SDAP - MP4.4	2
7580	GF	64	2	62	No	SDAP - MP4.4	1
7580	F 1	65	2	64	Yes	SDAP - MP4.4	2
7581	GF	64	2	62	No	SDAP - MP4.4	1
7581	F 1	66	2	65	Yes	SDAP - MP4.4	2
7582	GF	65	2	62	No	SDAP - MP4.4	1
7582	F 1	67	2	65	Yes	SDAP - MP4.4	2
7583	GF	65	2	62	No	SDAP - MP4.4	1
7583	F 1	67	2	65	Yes	SDAP - MP4.4	2
7584	GF	64	2	62	No	SDAP - MP4.4	1
7584	F 1	66	2	64	Yes	SDAP - MP4.4	2
7585	GF	64	2	61	No	SDAP - MP4.4	1
7585	F 1	65	2	64	Yes	SDAP - MP4.4	2
7586	GF	63	2	61	No	SDAP - MP4.4	1
7586	F 1	64	2	63	No	SDAP - MP4.4	2
7587	GF	62	1	61	No	SDAP - MP4.4	1
7587	F 1	64	2	62	No	SDAP - MP4.4	1
7588	GF	62	1	60	No	SDAP - MP4.4	1
7588	F 1	63	2	62	No	SDAP - MP4.4	1
7589	GF	62	1	60	No	SDAP - MP4.4	1
7589	F 1	63	2	62	No	SDAP - MP4.4	1
7590	GF	61	1	60	No	SDAP - MP4.4	1
7590	F 1	63	2	61	No	SDAP - MP4.4	1
7591	GF	61	1	60	No	SDAP - MP4.4	1
7591	F 1	62	1	61	No	SDAP - MP4.4	1
7592	GF	61	1	59	No	SDAP - MP4.4	1
7592	F 1	62	1	60	No	SDAP - MP4.4	1
7593	GF	60	1	59	No	SDAP - MP4.4	1
7593	F 1	62	1	60	No	SDAP - MP4.4	1
7594	GF	60	1	58	No	SDAP - MP4.4	1
7594	F 1	62	1	60	No	SDAP - MP4.4	1
7595	GF	60	1	58	No	SDAP - MP4.4	1
7595	F 1	61	1	60	No	SDAP - MP4.4	1
7596	GF	60	1	58	No	SDAP - MP4.4	1
7596	F 1	61	1	60	No	SDAP - MP4.4	1
7597	GF	60	1	58	No	SDAP - MP4.4	1
7597	F 1	61	1	59	No	SDAP - MP4.4	1

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7598	GF	60	1	58	No	SDAP - MP4.4	1
7598	F 1	61	1	59	No	SDAP - MP4.4	1
7599	GF	59	1	58	No	SDAP - MP4.4	1
7599	F 1	61	1	59	No	SDAP - MP4.4	1
7600	GF	60	1	58	No	SDAP - MP4.4	1
7600	F 1	61	1	59	No	SDAP - MP4.4	1
7601	GF	60	1	58	No	SDAP - MP4.4	1
7601	F 1	61	1	59	No	SDAP - MP4.4	1
7602	GF	61	1	59	No	SDAP - MP4.4	1
7602	F 1	62	1	60	No	SDAP - MP4.4	1
7603	GF	61	1	59	No	SDAP - MP4.4	1
7603	F 1	62	1	60	No	SDAP - MP4.4	1
7604	GF	61	1	59	No	SDAP - MP4.4	1
7604	F 1	62	1	60	No	SDAP - MP4.4	1
7605	GF	61	1	59	No	SDAP - MP4.4	1
7605	F 1	62	1	60	No	SDAP - MP4.4	1
7606	GF	61	1	59	No	SDAP - MP4.4	1
7606	F 1	63	2	60	No	SDAP - MP4.4	1
7607	GF	61	1	59	No	SDAP - MP4.4	1
7607	F 1	63	2	60	No	SDAP - MP4.4	1
7608	GF	61	1	59	No	SDAP - MP4.4	1
7608	F 1	63	2	61	No	SDAP - MP4.4	1
7609	GF	61	1	59	No	SDAP - MP4.4	1
7609	F 1	63	2	61	No	SDAP - MP4.4	1
7610	GF	61	1	59	No	SDAP - MP4.4	1
7610	F 1	63	2	61	No	SDAP - MP4.4	1
7611	GF	63	2	60	No	SDAP - MP4.4	1
7611	F 1	64	2	62	No	SDAP - MP4.4	1
7612	GF	63	2	61	No	SDAP - MP4.4	1
7612	F 1	65	2	63	No	SDAP - MP4.4	2
7613	GF	64	2	61	No	SDAP - MP4.4	1
7613	F 1	66	2	63	No	SDAP - MP4.4	2
7614	GF	66	2	62	No	SDAP - MP4.4	1
7614	F 1	67	2	64	Yes	SDAP - MP4.4	2
7615	GF	63	2	61	No	SDAP - MP4.4	1
7615	F 1	65	2	63	No	SDAP - MP4.4	2
7616	GF	63	2	60	No	SDAP - MP4.4	1
7616	F 1	65	2	62	No	SDAP - MP4.4	1
7617	GF	63	2	60	No	SDAP - MP4.4	1
7617	F 1	64	2	62	No	SDAP - MP4.4	1
7618	GF	63	2	60	No	SDAP - MP4.4	1

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7618	F 1	64	2	62	No	SDAP - MP4.4	1
7619	GF	63	2	60	No	SDAP - MP4.4	1
7619	F 1	64	2	62	No	SDAP - MP4.4	1
7620	GF	62	1	60	No	SDAP - MP4.4	1
7620	F 1	64	2	61	No	SDAP - MP4.4	1
7621	GF	63	2	60	No	SDAP - MP4.4	1
7621	F 1	64	2	62	No	SDAP - MP4.4	1
7622	GF	63	2	60	No	SDAP - MP4.4	1
7622	F 1	65	2	62	No	SDAP - MP4.4	1
7623	GF	64	2	61	No	SDAP - MP4.4	1
7623	F 1	66	2	63	No	SDAP - MP4.4	2
7624	GF	67	2	61	No	SDAP - MP4.4	1
7624	F 1	68	3	64	Yes	SDAP - MP4.4	2
7625	GF	67	2	61	No	SDAP - MP4.4	1
7625	F 1	68	3	64	Yes	SDAP - MP4.4	2
7626	GF	67	2	61	No	SDAP - MP4.4	1
7626	F 1	68	3	64	Yes	SDAP - MP4.4	2
7627	GF	67	2	61	No	SDAP - MP4.4	1
7627	F 1	68	3	64	Yes	SDAP - MP4.4	2
7628	GF	67	2	62	No	SDAP - MP4.4	1
7628	F 1	68	3	64	Yes	SDAP - MP4.4	2
7629	GF	66	2	62	No	SDAP - MP4.4	1
7629	F 1	67	2	64	Yes	SDAP - MP4.4	2
7630	GF	66	2	62	No	SDAP - MP4.4	1
7630	F 1	67	2	64	Yes	SDAP - MP4.4	2
7631	GF	69	3	63	No	SDAP - MP4.4	2
7631	F 1	70	3	70	Yes	SDAP - MP4.4	3
7632	GF	69	3	63	No	SDAP - MP4.4	2
7632	F 1	70	3	70	Yes	SDAP - MP4.4	3
7633	GF	70	3	63	No	SDAP - MP4.4	2
7633	F 1	71	3	70	Yes	SDAP - MP4.4	3
7634	GF	70	3	63	No	SDAP - MP4.4	2
7634	F 1	71	3	71	Yes	SDAP - MP4.4	3
7635	GF	70	3	63	No	SDAP - MP4.4	2
7635	F 1	71	3	71	Yes	SDAP - MP4.4	3
7636	GF	70	3	63	No	SDAP - MP4.4	2
7636	F 1	71	3	71	Yes	SDAP - MP4.4	3
7637	GF	70	3	63	No	SDAP - MP4.4	2
7637	F 1	71	3	71	Yes	SDAP - MP4.4	3
7638	GF	71	3	63	No	SDAP - MP4.4	2
7638	F 1	72	3	72	Yes	SDAP - MP4.4	3

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7639	GF	71	3	63	No	SDAP - MP4.4	2
7639	F 1	72	3	72	Yes	SDAP - MP4.4	3
7640	GF	72	3	63	No	SDAP - MP4.4	2
7640	F 1	73	4	73	Yes	SDAP - MP4.4	4
7641	GF	72	3	63	No	SDAP - MP4.4	2
7641	F 1	73	4	73	Yes	SDAP - MP4.4	4
7642	GF	72	3	63	No	SDAP - MP4.4	2
7642	F 1	73	4	73	Yes	SDAP - MP4.4	4
7643	GF	72	3	63	No	SDAP - MP4.4	2
7643	F 1	73	4	73	Yes	SDAP - MP4.4	4
7644	GF	72	3	63	No	SDAP - MP4.4	2
7644	F 1	73	4	73	Yes	SDAP - MP4.4	4
7645	GF	72	3	63	No	SDAP - MP4.4	2
7645	F 1	73	4	73	Yes	SDAP - MP4.4	4
7646	GF	72	3	63	No	SDAP - MP4.4	2
7646	F 1	73	4	73	Yes	SDAP - MP4.4	4
7647	GF	72	3	63	No	SDAP - MP4.4	2
7647	F 1	73	4	73	Yes	SDAP - MP4.4	4
7648	GF	72	3	63	No	SDAP - MP4.4	2
7648	F 1	73	4	73	Yes	SDAP - MP4.4	4
7649	GF	72	3	63	No	SDAP - MP4.4	2
7649	F 1	73	4	73	Yes	SDAP - MP4.4	4
7650	GF	72	3	63	No	SDAP - MP4.4	2
7650	F 1	73	4	73	Yes	SDAP - MP4.4	4
7651	GF	72	3	63	No	SDAP - MP4.4	2
7651	F 1	73	4	73	Yes	SDAP - MP4.4	4
7652	GF	72	3	63	No	SDAP - MP4.4	2
7652	F 1	73	4	73	Yes	SDAP - MP4.4	4
7653	GF	72	3	63	No	SDAP - MP4.4	2
7653	F 1	73	4	73	Yes	SDAP - MP4.4	4
7654	GF	72	3	63	No	SDAP - MP4.4	2
7654	F 1	73	4	73	Yes	SDAP - MP4.4	4
7655	GF	72	3	63	No	SDAP - MP4.4	2
7655	F 1	73	4	73	Yes	SDAP - MP4.4	4
7656	GF	72	3	63	No	SDAP - MP4.4	2
7656	F 1	73	4	73	Yes	SDAP - MP4.4	4
7657	GF	72	3	63	No	SDAP - MP4.4	2
7657	F 1	73	4	73	Yes	SDAP - MP4.4	4
7658	GF	72	3	63	No	SDAP - MP4.4	2
7658	F 1	73	4	73	Yes	SDAP - MP4.4	4
7659	GF	72	3	63	No	SDAP - MP4.4	2

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7659	F 1	73	4	73	Yes	SDAP - MP4.4	4
7660	GF	72	3	63	No	SDAP - MP4.4	2
7660	F 1	73	4	73	Yes	SDAP - MP4.4	4
7661	GF	66	2	61	No	SDAP - MP4.4	1
7661	F 1	67	2	64	Yes	SDAP - MP4.4	2
7662	GF	64	2	61	No	SDAP - MP4.4	1
7662	F 1	66	2	62	No	SDAP - MP4.4	1
7663	GF	63	2	60	No	SDAP - MP4.4	1
7663	F 1	65	2	62	No	SDAP - MP4.4	1
7664	GF	63	2	60	No	SDAP - MP4.4	1
7664	F 1	64	2	61	No	SDAP - MP4.4	1
7665	GF	62	1	59	No	SDAP - MP4.4	1
7665	F 1	64	2	61	No	SDAP - MP4.4	1
7666	GF	61	1	59	No	SDAP - MP4.4	1
7666	F 1	63	2	60	No	SDAP - MP4.4	1
7667	GF	61	1	59	No	SDAP - MP4.4	1
7667	F 1	62	1	60	No	SDAP - MP4.4	1
7668	GF	60	1	58	No	SDAP - MP4.4	1
7668	F 1	62	1	60	No	SDAP - MP4.4	1
7669	GF	60	1	58	No	SDAP - MP4.4	1
7669	F 1	61	1	59	No	SDAP - MP4.4	1
7670	GF	60	1	58	No	SDAP - MP4.4	1
7670	F 1	61	1	59	No	SDAP - MP4.4	1
7671	GF	59	1	57	No	SDAP - MP4.4	0
7671	F 1	61	1	59	No	SDAP - MP4.4	1
7672	GF	59	1	57	No	SDAP - MP4.4	0
7672	F 1	60	1	58	No	SDAP - MP4.4	1
7673	GF	58	1	57	No	SDAP - MP4.4	0
7673	F 1	60	1	58	No	SDAP - MP4.4	1
7674	GF	58	1	57	No	SDAP - MP4.4	0
7674	F 1	59	1	58	No	SDAP - MP4.4	1
7675	GF	57	0	56	No	SDAP - MP4.4	0
7675	F 1	59	1	58	No	SDAP - MP4.4	1
7676	GF	57	0	56	No	SDAP - MP4.4	0
7676	F 1	59	1	57	No	SDAP - MP4.4	0
7677	GF	57	0	56	No	SDAP - MP4.4	0
7677	F 1	59	1	57	No	SDAP - MP4.4	0
7678	GF	57	0	56	No	SDAP - MP4.4	0
7678	F 1	58	1	57	No	SDAP - MP4.4	0
7679	GF	57	0	56	No	SDAP - MP4.4	0
7679	F 1	59	1	57	No	SDAP - MP4.4	0

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7680	GF	57	0	56	No	SDAP - MP4.4	0
7680	F 1	59	1	57	No	SDAP - MP4.4	0
7681	GF	57	0	56	No	SDAP - MP4.4	0
7681	F 1	59	1	57	No	SDAP - MP4.4	0
7682	GF	58	1	56	No	SDAP - MP4.4	0
7682	F 1	59	1	58	No	SDAP - MP4.4	1
7683	GF	58	1	57	No	SDAP - MP4.4	0
7683	F 1	60	1	58	No	SDAP - MP4.4	1
7684	GF	58	1	57	No	SDAP - MP4.4	0
7684	F 1	60	1	58	No	SDAP - MP4.4	1
7685	GF	59	1	57	No	SDAP - MP4.4	0
7685	F 1	60	1	59	No	SDAP - MP4.4	1
7686	GF	59	1	58	No	SDAP - MP4.4	1
7686	F 1	61	1	59	No	SDAP - MP4.4	1
7687	GF	60	1	58	No	SDAP - MP4.4	1
7687	F 1	61	1	59	No	SDAP - MP4.4	1
7688	GF	60	1	58	No	SDAP - MP4.4	1
7688	F 1	62	1	60	No	SDAP - MP4.4	1
7689	GF	61	1	59	No	SDAP - MP4.4	1
7689	F 1	62	1	60	No	SDAP - MP4.4	1
7690	GF	61	1	59	No	SDAP - MP4.4	1
7690	F 1	63	2	60	No	SDAP - MP4.4	1
7691	GF	62	1	59	No	SDAP - MP4.4	1
7691	F 1	63	2	61	No	SDAP - MP4.4	1
7692	GF	63	2	60	No	SDAP - MP4.4	1
7692	F 1	64	2	61	No	SDAP - MP4.4	1
7693	GF	63	2	60	No	SDAP - MP4.4	1
7693	F 1	65	2	62	No	SDAP - MP4.4	1
7694	GF	64	2	60	No	SDAP - MP4.4	1
7694	F 1	66	2	62	No	SDAP - MP4.4	1
7695	GF	66	2	61	No	SDAP - MP4.4	1
7695	F 1	67	2	64	Yes	SDAP - MP4.4	2
7696	GF	66	2	61	No	SDAP - MP4.4	1
7696	F 1	68	3	64	Yes	SDAP - MP4.4	2
7697	GF	64	2	61	No	SDAP - MP4.4	1
7697	F 1	66	2	63	No	SDAP - MP4.4	2
7698	GF	63	2	60	No	SDAP - MP4.4	1
7698	F 1	65	2	62	No	SDAP - MP4.4	1
7699	GF	63	2	60	No	SDAP - MP4.4	1
7699	F 1	64	2	62	No	SDAP - MP4.4	1
7700	GF	62	1	60	No	SDAP - MP4.4	1

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7700	F 1	64	2	61	No	SDAP - MP4.4	1
7701	GF	61	1	59	No	SDAP - MP4.4	1
7701	F 1	63	2	61	No	SDAP - MP4.4	1
7702	GF	61	1	59	No	SDAP - MP4.4	1
7702	F 1	62	1	60	No	SDAP - MP4.4	1
7703	GF	60	1	59	No	SDAP - MP4.4	1
7703	F 1	62	1	60	No	SDAP - MP4.4	1
7704	GF	60	1	58	No	SDAP - MP4.4	1
7704	F 1	61	1	60	No	SDAP - MP4.4	1
7705	GF	59	1	58	No	SDAP - MP4.4	1
7705	F 1	61	1	59	No	SDAP - MP4.4	1
7706	GF	59	1	58	No	SDAP - MP4.4	1
7706	F 1	60	1	59	No	SDAP - MP4.4	1
7707	GF	59	1	57	No	SDAP - MP4.4	0
7707	F 1	60	1	59	No	SDAP - MP4.4	1
7708	GF	58	1	57	No	SDAP - MP4.4	0
7708	F 1	60	1	58	No	SDAP - MP4.4	1
7709	GF	58	1	57	No	SDAP - MP4.4	0
7709	F 1	59	1	58	No	SDAP - MP4.4	1
7710	GF	57	0	56	No	SDAP - MP4.4	0
7710	F 1	59	1	58	No	SDAP - MP4.4	1
7711	GF	57	0	56	No	SDAP - MP4.4	0
7711	F 1	59	1	57	No	SDAP - MP4.4	0
7712	GF	57	0	56	No	SDAP - MP4.4	0
7712	F 1	58	1	57	No	SDAP - MP4.4	0
7713	GF	57	0	56	No	SDAP - MP4.4	0
7713	F 1	58	1	57	No	SDAP - MP4.4	0
7714	GF	57	0	56	No	SDAP - MP4.4	0
7714	F 1	59	1	57	No	SDAP - MP4.4	0
7715	GF	58	1	57	No	SDAP - MP4.4	0
7715	F 1	59	1	58	No	SDAP - MP4.4	1
7716	GF	58	1	57	No	SDAP - MP4.4	0
7716	F 1	59	1	58	No	SDAP - MP4.4	1
7717	GF	58	1	57	No	SDAP - MP4.4	0
7717	F 1	60	1	58	No	SDAP - MP4.4	1
7718	GF	59	1	58	No	SDAP - MP4.4	1
7718	F 1	60	1	59	No	SDAP - MP4.4	1
7719	GF	59	1	58	No	SDAP - MP4.4	1
7719	F 1	61	1	59	No	SDAP - MP4.4	1
7720	GF	60	1	58	No	SDAP - MP4.4	1
7720	F 1	61	1	60	No	SDAP - MP4.4	1

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7721	GF	60	1	59	No	SDAP - MP4.4	1
7721	F 1	62	1	60	No	SDAP - MP4.4	1
7722	GF	61	1	59	No	SDAP - MP4.4	1
7722	F 1	62	1	60	No	SDAP - MP4.4	1
7723	GF	61	1	59	No	SDAP - MP4.4	1
7723	F 1	62	1	61	No	SDAP - MP4.4	1
7724	GF	62	1	60	No	SDAP - MP4.4	1
7724	F 1	63	2	61	No	SDAP - MP4.4	1
7725	GF	62	1	60	No	SDAP - MP4.4	1
7725	F 1	64	2	62	No	SDAP - MP4.4	1
7726	GF	63	2	60	No	SDAP - MP4.4	1
7726	F 1	64	2	62	No	SDAP - MP4.4	1
7727	GF	64	2	61	No	SDAP - MP4.4	1
7727	F 1	65	2	63	No	SDAP - MP4.4	2
7728	GF	64	2	61	No	SDAP - MP4.4	1
7728	F 1	66	2	63	No	SDAP - MP4.4	2
7729	GF	66	2	62	No	SDAP - MP4.4	1
7729	F 1	67	2	64	Yes	SDAP - MP4.4	2
7730	GF	67	2	63	No	SDAP - MP4.4	2
7730	F 1	68	3	67	Yes	SDAP - MP4.4	2
7731	GF	65	2	62	No	SDAP - MP4.4	1
7731	F 1	66	2	65	Yes	SDAP - MP4.4	2
7732	GF	64	2	61	No	SDAP - MP4.4	1
7732	F 1	65	2	64	Yes	SDAP - MP4.4	2
7733	GF	63	2	61	No	SDAP - MP4.4	1
7733	F 1	64	2	63	No	SDAP - MP4.4	2
7734	GF	63	2	61	No	SDAP - MP4.4	1
7734	F 1	64	2	62	No	SDAP - MP4.4	1
7735	GF	62	1	61	No	SDAP - MP4.4	1
7735	F 1	63	2	62	No	SDAP - MP4.4	1
7736	GF	61	1	60	No	SDAP - MP4.4	1
7736	F 1	63	2	61	No	SDAP - MP4.4	1
7737	GF	61	1	60	No	SDAP - MP4.4	1
7737	F 1	62	1	61	No	SDAP - MP4.4	1
7738	GF	60	1	59	No	SDAP - MP4.4	1
7738	F 1	61	1	60	No	SDAP - MP4.4	1
7739	GF	60	1	59	No	SDAP - MP4.4	1
7739	F 1	61	1	60	No	SDAP - MP4.4	1
7740	GF	59	1	58	No	SDAP - MP4.4	1
7740	F 1	60	1	59	No	SDAP - MP4.4	1
7741	GF	59	1	58	No	SDAP - MP4.4	1

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7741	F 1	60	1	59	No	SDAP - MP4.4	1
7742	GF	58	1	58	No	SDAP - MP4.4	1
7742	F 1	60	1	59	No	SDAP - MP4.4	1
7743	GF	58	1	57	No	SDAP - MP4.4	0
7743	F 1	59	1	58	No	SDAP - MP4.4	1
7744	GF	58	1	57	No	SDAP - MP4.4	0
7744	F 1	59	1	58	No	SDAP - MP4.4	1
7745	GF	57	0	57	No	SDAP - MP4.4	0
7745	F 1	59	1	58	No	SDAP - MP4.4	1
7746	GF	57	0	56	No	SDAP - MP4.4	0
7746	F 1	58	1	57	No	SDAP - MP4.4	0
1075	GF	56	n/a	55	No	SCRC - AS2107	n/a
1075	F 1	58	n/a	57	No	SCRC - AS2107	n/a
1076	GF	57	n/a	56	No	SCRC - AS2107	n/a
1076	F 1	59	n/a	58	No	SCRC - AS2107	n/a
1077	GF	58	n/a	57	No	SCRC - AS2107	n/a
1077	F 1	59	n/a	58	No	SCRC - AS2107	n/a
1078	GF	58	n/a	57	No	SCRC - AS2107	n/a
1078	F 1	60	n/a	59	No	SCRC - AS2107	n/a
1079	GF	59	n/a	58	No	SCRC - AS2107	n/a
1079	F 1	61	n/a	60	No	SCRC - AS2107	n/a
1080	GF	61	n/a	59	No	SCRC - AS2107	n/a
1080	F 1	63	n/a	61	No	SCRC - AS2107	n/a
1081	GF	71	n/a	62	No	SCRC - AS2107	n/a
1081	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1082	GF	71	n/a	63	No	SCRC - AS2107	n/a
1082	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1083	GF	72	n/a	63	No	SCRC - AS2107	n/a
1083	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1084	GF	65	n/a	61	No	SCRC - AS2107	n/a
1084	F 1	67	n/a	65	Yes	SCRC - AS2107	n/a
1085	GF	63	n/a	60	No	SCRC - AS2107	n/a
1085	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1086	GF	61	n/a	59	No	SCRC - AS2107	n/a
1086	F 1	63	n/a	61	No	SCRC - AS2107	n/a
1087	GF	60	n/a	58	No	SCRC - AS2107	n/a
1087	F 1	62	n/a	60	No	SCRC - AS2107	n/a
1088	GF	59	n/a	57	No	SCRC - AS2107	n/a
1088	F 1	60	n/a	59	No	SCRC - AS2107	n/a
1089	GF	58	n/a	57	No	SCRC - AS2107	n/a
1089	F 1	60	n/a	58	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1096	GF	58	n/a	57	No	SCRC - AS2107	n/a
1096	F 1	60	n/a	58	No	SCRC - AS2107	n/a
1097	GF	59	n/a	58	No	SCRC - AS2107	n/a
1097	F 1	61	n/a	59	No	SCRC - AS2107	n/a
1098	GF	60	n/a	58	No	SCRC - AS2107	n/a
1098	F 1	62	n/a	60	No	SCRC - AS2107	n/a
1099	GF	61	n/a	59	No	SCRC - AS2107	n/a
1099	F 1	63	n/a	61	No	SCRC - AS2107	n/a
1100	GF	62	n/a	60	No	SCRC - AS2107	n/a
1100	F 1	64	n/a	62	No	SCRC - AS2107	n/a
1101	GF	64	n/a	62	No	SCRC - AS2107	n/a
1101	F 1	66	n/a	65	Yes	SCRC - AS2107	n/a
1102	GF	72	n/a	63	No	SCRC - AS2107	n/a
1102	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1103	GF	70	n/a	61	No	SCRC - AS2107	n/a
1103	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1104	GF	64	n/a	62	No	SCRC - AS2107	n/a
1104	F 1	66	n/a	65	Yes	SCRC - AS2107	n/a
1105	GF	62	n/a	60	No	SCRC - AS2107	n/a
1105	F 1	64	n/a	62	No	SCRC - AS2107	n/a
1107	GF	61	n/a	60	No	SCRC - AS2107	n/a
1107	F 1	63	n/a	62	No	SCRC - AS2107	n/a
1108	GF	62	n/a	61	No	SCRC - AS2107	n/a
1108	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1109	GF	64	n/a	62	No	SCRC - AS2107	n/a
1109	F 1	66	n/a	65	Yes	SCRC - AS2107	n/a
1110	GF	70	n/a	62	No	SCRC - AS2107	n/a
1110	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1111	GF	70	n/a	70	Yes	SCRC - AS2107	n/a
1111	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1112	GF	70	n/a	70	Yes	SCRC - AS2107	n/a
1112	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1113	GF	70	n/a	70	Yes	SCRC - AS2107	n/a
1113	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1114	GF	70	n/a	70	Yes	SCRC - AS2107	n/a
1114	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1115	GF	70	n/a	70	Yes	SCRC - AS2107	n/a
1115	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1116	GF	70	n/a	70	Yes	SCRC - AS2107	n/a
1116	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1117	GF	70	n/a	70	Yes	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1117	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1118	GF	70	n/a	70	Yes	SCRC - AS2107	n/a
1118	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1120	GF	70	n/a	70	Yes	SCRC - AS2107	n/a
1120	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1121	GF	63	n/a	63	No	SCRC - AS2107	n/a
1121	F 1	65	n/a	64	Yes	SCRC - AS2107	n/a
1122	GF	63	n/a	62	No	SCRC - AS2107	n/a
1122	F 1	65	n/a	64	Yes	SCRC - AS2107	n/a
1123	GF	63	n/a	62	No	SCRC - AS2107	n/a
1123	F 1	65	n/a	64	Yes	SCRC - AS2107	n/a
1124	GF	63	n/a	62	No	SCRC - AS2107	n/a
1124	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1125	GF	63	n/a	62	No	SCRC - AS2107	n/a
1125	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1126	GF	63	n/a	62	No	SCRC - AS2107	n/a
1126	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1127	GF	63	n/a	62	No	SCRC - AS2107	n/a
1127	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1128	GF	63	n/a	62	No	SCRC - AS2107	n/a
1128	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1129	GF	63	n/a	62	No	SCRC - AS2107	n/a
1129	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1130	GF	63	n/a	62	No	SCRC - AS2107	n/a
1130	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1131	GF	59	n/a	58	No	SCRC - AS2107	n/a
1131	F 1	60	n/a	59	No	SCRC - AS2107	n/a
1132	GF	59	n/a	58	No	SCRC - AS2107	n/a
1132	F 1	60	n/a	59	No	SCRC - AS2107	n/a
1149	GF	59	n/a	58	No	SCRC - AS2107	n/a
1149	F 1	61	n/a	59	No	SCRC - AS2107	n/a
1150	GF	59	n/a	58	No	SCRC - AS2107	n/a
1150	F 1	61	n/a	60	No	SCRC - AS2107	n/a
1151	GF	59	n/a	59	No	SCRC - AS2107	n/a
1151	F 1	61	n/a	60	No	SCRC - AS2107	n/a
1152	GF	60	n/a	59	No	SCRC - AS2107	n/a
1152	F 1	61	n/a	60	No	SCRC - AS2107	n/a
1153	GF	60	n/a	59	No	SCRC - AS2107	n/a
1153	F 1	61	n/a	61	No	SCRC - AS2107	n/a
1154	GF	60	n/a	59	No	SCRC - AS2107	n/a
1154	F 1	62	n/a	61	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1170	GF	61	n/a	60	No	SCRC - AS2107	n/a
1170	F 1	63	n/a	62	No	SCRC - AS2107	n/a
1171	GF	61	n/a	60	No	SCRC - AS2107	n/a
1171	F 1	63	n/a	62	No	SCRC - AS2107	n/a
1172	GF	62	n/a	60	No	SCRC - AS2107	n/a
1172	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1173	GF	63	n/a	61	No	SCRC - AS2107	n/a
1173	F 1	65	n/a	63	No	SCRC - AS2107	n/a
1174	GF	60	n/a	59	No	SCRC - AS2107	n/a
1174	F 1	62	n/a	61	No	SCRC - AS2107	n/a
1175	GF	60	n/a	58	No	SCRC - AS2107	n/a
1175	F 1	62	n/a	60	No	SCRC - AS2107	n/a
1176	GF	60	n/a	58	No	SCRC - AS2107	n/a
1176	F 1	62	n/a	60	No	SCRC - AS2107	n/a
1177	GF	60	n/a	58	No	SCRC - AS2107	n/a
1177	F 1	62	n/a	60	No	SCRC - AS2107	n/a
1178	GF	60	n/a	58	No	SCRC - AS2107	n/a
1178	F 1	62	n/a	59	No	SCRC - AS2107	n/a
1179	GF	61	n/a	58	No	SCRC - AS2107	n/a
1179	F 1	63	n/a	60	No	SCRC - AS2107	n/a
1180	GF	63	n/a	59	No	SCRC - AS2107	n/a
1180	F 1	64	n/a	62	No	SCRC - AS2107	n/a
1181	GF	63	n/a	60	No	SCRC - AS2107	n/a
1181	F 1	64	n/a	62	No	SCRC - AS2107	n/a
1182	GF	63	n/a	60	No	SCRC - AS2107	n/a
1182	F 1	65	n/a	63	No	SCRC - AS2107	n/a
1183	GF	71	n/a	63	No	SCRC - AS2107	n/a
1183	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1184	GF	71	n/a	63	No	SCRC - AS2107	n/a
1184	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1185	GF	71	n/a	63	No	SCRC - AS2107	n/a
1185	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1186	GF	71	n/a	63	No	SCRC - AS2107	n/a
1186	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1187	GF	71	n/a	63	No	SCRC - AS2107	n/a
1187	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1188	GF	71	n/a	63	No	SCRC - AS2107	n/a
1188	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1189	GF	71	n/a	63	No	SCRC - AS2107	n/a
1189	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1190	GF	71	n/a	63	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1190	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1191	GF	71	n/a	63	No	SCRC - AS2107	n/a
1191	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1192	GF	71	n/a	63	No	SCRC - AS2107	n/a
1192	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1193	GF	71	n/a	63	No	SCRC - AS2107	n/a
1193	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1194	GF	71	n/a	63	No	SCRC - AS2107	n/a
1194	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1195	GF	71	n/a	62	No	SCRC - AS2107	n/a
1195	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1196	GF	71	n/a	62	No	SCRC - AS2107	n/a
1196	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1197	GF	71	n/a	63	No	SCRC - AS2107	n/a
1197	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1198	GF	71	n/a	62	No	SCRC - AS2107	n/a
1198	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1199	GF	71	n/a	62	No	SCRC - AS2107	n/a
1199	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1200	GF	71	n/a	63	No	SCRC - AS2107	n/a
1200	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1201	GF	63	n/a	59	No	SCRC - AS2107	n/a
1201	F 1	65	n/a	62	No	SCRC - AS2107	n/a
1214	GF	63	n/a	59	No	SCRC - AS2107	n/a
1214	F 1	64	n/a	62	No	SCRC - AS2107	n/a
1215	GF	71	n/a	63	No	SCRC - AS2107	n/a
1215	F 1	72	n/a	72	Yes	SCRC - AS2107	n/a
1216	GF	71	n/a	63	No	SCRC - AS2107	n/a
1216	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1217	GF	71	n/a	62	No	SCRC - AS2107	n/a
1217	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1218	GF	71	n/a	63	No	SCRC - AS2107	n/a
1218	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1219	GF	71	n/a	63	No	SCRC - AS2107	n/a
1219	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1220	GF	71	n/a	63	No	SCRC - AS2107	n/a
1220	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1221	GF	71	n/a	63	No	SCRC - AS2107	n/a
1221	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1222	GF	71	n/a	63	No	SCRC - AS2107	n/a
1222	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1223	GF	71	n/a	63	No	SCRC - AS2107	n/a
1223	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1224	GF	71	n/a	63	No	SCRC - AS2107	n/a
1224	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1225	GF	71	n/a	63	No	SCRC - AS2107	n/a
1225	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1226	GF	71	n/a	62	No	SCRC - AS2107	n/a
1226	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1227	GF	71	n/a	63	No	SCRC - AS2107	n/a
1227	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1228	GF	71	n/a	63	No	SCRC - AS2107	n/a
1228	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1229	GF	71	n/a	63	No	SCRC - AS2107	n/a
1229	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1230	GF	71	n/a	63	No	SCRC - AS2107	n/a
1230	F 1	71	n/a	72	Yes	SCRC - AS2107	n/a
1231	GF	63	n/a	59	No	SCRC - AS2107	n/a
1231	F 1	64	n/a	61	No	SCRC - AS2107	n/a
1232	GF	62	n/a	58	No	SCRC - AS2107	n/a
1232	F 1	64	n/a	61	No	SCRC - AS2107	n/a
1233	GF	62	n/a	58	No	SCRC - AS2107	n/a
1233	F 1	64	n/a	61	No	SCRC - AS2107	n/a
1234	GF	62	n/a	58	No	SCRC - AS2107	n/a
1234	F 1	64	n/a	61	No	SCRC - AS2107	n/a
1293	GF	63	n/a	59	No	SCRC - AS2107	n/a
1293	F 1	64	n/a	61	No	SCRC - AS2107	n/a
1294	GF	63	n/a	59	No	SCRC - AS2107	n/a
1294	F 1	64	n/a	61	No	SCRC - AS2107	n/a
1307	GF	63	n/a	59	No	SCRC - AS2107	n/a
1307	F 1	64	n/a	62	No	SCRC - AS2107	n/a
1308	GF	63	n/a	60	No	SCRC - AS2107	n/a
1308	F 1	64	n/a	62	No	SCRC - AS2107	n/a
1309	GF	63	n/a	60	No	SCRC - AS2107	n/a
1309	F 1	64	n/a	62	No	SCRC - AS2107	n/a
1310	GF	70	n/a	62	No	SCRC - AS2107	n/a
1310	F 1	70	n/a	71	Yes	SCRC - AS2107	n/a
1311	GF	70	n/a	62	No	SCRC - AS2107	n/a
1311	F 1	70	n/a	71	Yes	SCRC - AS2107	n/a
1312	GF	70	n/a	62	No	SCRC - AS2107	n/a
1312	F 1	70	n/a	71	Yes	SCRC - AS2107	n/a
1313	GF	70	n/a	62	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1313	F 1	70	n/a	71	Yes	SCRC - AS2107	n/a
1314	GF	70	n/a	62	No	SCRC - AS2107	n/a
1314	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
1315	GF	65	n/a	62	No	SCRC - AS2107	n/a
1315	F 1	67	n/a	66	Yes	SCRC - AS2107	n/a
1316	GF	62	n/a	61	No	SCRC - AS2107	n/a
1316	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1317	GF	61	n/a	60	No	SCRC - AS2107	n/a
1317	F 1	63	n/a	62	No	SCRC - AS2107	n/a
1318	GF	60	n/a	59	No	SCRC - AS2107	n/a
1318	F 1	62	n/a	61	No	SCRC - AS2107	n/a
1319	GF	59	n/a	58	No	SCRC - AS2107	n/a
1319	F 1	61	n/a	60	No	SCRC - AS2107	n/a
1320	GF	58	n/a	57	No	SCRC - AS2107	n/a
1320	F 1	60	n/a	59	No	SCRC - AS2107	n/a
1321	GF	57	n/a	56	No	SCRC - AS2107	n/a
1321	F 1	59	n/a	58	No	SCRC - AS2107	n/a
1332	GF	58	n/a	56	No	SCRC - AS2107	n/a
1332	F 1	59	n/a	58	No	SCRC - AS2107	n/a
1333	GF	58	n/a	57	No	SCRC - AS2107	n/a
1333	F 1	60	n/a	58	No	SCRC - AS2107	n/a
1334	GF	59	n/a	57	No	SCRC - AS2107	n/a
1334	F 1	61	n/a	59	No	SCRC - AS2107	n/a
1335	GF	61	n/a	58	No	SCRC - AS2107	n/a
1335	F 1	62	n/a	60	No	SCRC - AS2107	n/a
1336	GF	61	n/a	59	No	SCRC - AS2107	n/a
1336	F 1	63	n/a	61	No	SCRC - AS2107	n/a
1337	GF	59	n/a	58	No	SCRC - AS2107	n/a
1337	F 1	61	n/a	59	No	SCRC - AS2107	n/a
1338	GF	58	n/a	57	No	SCRC - AS2107	n/a
1338	F 1	60	n/a	59	No	SCRC - AS2107	n/a
1339	GF	58	n/a	56	No	SCRC - AS2107	n/a
1339	F 1	59	n/a	58	No	SCRC - AS2107	n/a
1340	GF	69	n/a	63	No	SCRC - AS2107	n/a
1340	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1341	GF	64	n/a	61	No	SCRC - AS2107	n/a
1341	F 1	66	n/a	65	Yes	SCRC - AS2107	n/a
1342	GF	62	n/a	60	No	SCRC - AS2107	n/a
1342	F 1	64	n/a	62	No	SCRC - AS2107	n/a
1343	GF	61	n/a	59	No	SCRC - AS2107	n/a
1343	F 1	62	n/a	61	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1359	GF	60	n/a	59	No	SCRC - AS2107	n/a
1359	F 1	62	n/a	61	No	SCRC - AS2107	n/a
1360	GF	61	n/a	60	No	SCRC - AS2107	n/a
1360	F 1	63	n/a	62	No	SCRC - AS2107	n/a
1361	GF	62	n/a	61	No	SCRC - AS2107	n/a
1361	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1362	GF	64	n/a	62	No	SCRC - AS2107	n/a
1362	F 1	66	n/a	65	Yes	SCRC - AS2107	n/a
1363	GF	69	n/a	62	No	SCRC - AS2107	n/a
1363	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1364	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1364	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1365	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1365	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1366	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1366	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1367	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1367	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1368	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1368	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1369	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1369	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1370	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1370	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1371	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1371	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1372	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1372	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1373	GF	69	n/a	69	Yes	SCRC - AS2107	n/a
1373	F 1	70	n/a	70	Yes	SCRC - AS2107	n/a
1374	GF	62	n/a	62	No	SCRC - AS2107	n/a
1374	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1375	GF	62	n/a	62	No	SCRC - AS2107	n/a
1375	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1376	GF	62	n/a	62	No	SCRC - AS2107	n/a
1376	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1377	GF	62	n/a	62	No	SCRC - AS2107	n/a
1377	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1378	GF	62	n/a	62	No	SCRC - AS2107	n/a
1378	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
1379	GF	62	n/a	62	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1379	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1380	GF	62	n/a	62	No	SCRC - AS2107	n/a
1380	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1381	GF	62	n/a	62	No	SCRC - AS2107	n/a
1381	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1382	GF	62	n/a	62	No	SCRC - AS2107	n/a
1382	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1383	GF	62	n/a	61	No	SCRC - AS2107	n/a
1383	F 1	64	n/a	63	No	SCRC - AS2107	n/a
1384	GF	59	n/a	58	No	SCRC - AS2107	n/a
1384	F 1	61	n/a	60	No	SCRC - AS2107	n/a
1385	GF	58	n/a	57	No	SCRC - AS2107	n/a
1385	F 1	60	n/a	59	No	SCRC - AS2107	n/a
1401	GF	58	n/a	58	No	SCRC - AS2107	n/a
1401	F 1	60	n/a	59	No	SCRC - AS2107	n/a
1402	GF	59	n/a	58	No	SCRC - AS2107	n/a
1402	F 1	61	n/a	60	No	SCRC - AS2107	n/a
1403	GF	60	n/a	59	No	SCRC - AS2107	n/a
1403	F 1	62	n/a	61	No	SCRC - AS2107	n/a
1404	GF	59	n/a	59	No	SCRC - AS2107	n/a
1404	F 1	61	n/a	60	No	SCRC - AS2107	n/a
1405	GF	59	n/a	58	No	SCRC - AS2107	n/a
1405	F 1	60	n/a	60	No	SCRC - AS2107	n/a
1418	GF	60	n/a	58	No	SCRC - AS2107	n/a
1418	F 1	61	n/a	60	No	SCRC - AS2107	n/a
1419	GF	60	n/a	59	No	SCRC - AS2107	n/a
1419	F 1	62	n/a	61	No	SCRC - AS2107	n/a
1420	GF	61	n/a	60	No	SCRC - AS2107	n/a
1420	F 1	62	n/a	62	No	SCRC - AS2107	n/a
1421	GF	66	n/a	62	No	SCRC - AS2107	n/a
1421	F 1	67	n/a	67	Yes	SCRC - AS2107	n/a
1422	GF	66	n/a	62	No	SCRC - AS2107	n/a
1422	F 1	67	n/a	67	Yes	SCRC - AS2107	n/a
1423	GF	66	n/a	61	No	SCRC - AS2107	n/a
1423	F 1	67	n/a	67	Yes	SCRC - AS2107	n/a
1424	GF	66	n/a	61	No	SCRC - AS2107	n/a
1424	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1425	GF	65	n/a	61	No	SCRC - AS2107	n/a
1425	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1426	GF	65	n/a	61	No	SCRC - AS2107	n/a
1426	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1427	GF	65	n/a	61	No	SCRC - AS2107	n/a
1427	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1428	GF	65	n/a	61	No	SCRC - AS2107	n/a
1428	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1429	GF	65	n/a	61	No	SCRC - AS2107	n/a
1429	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1430	GF	65	n/a	61	No	SCRC - AS2107	n/a
1430	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1431	GF	65	n/a	61	No	SCRC - AS2107	n/a
1431	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1432	GF	65	n/a	61	No	SCRC - AS2107	n/a
1432	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1433	GF	65	n/a	61	No	SCRC - AS2107	n/a
1433	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1434	GF	65	n/a	61	No	SCRC - AS2107	n/a
1434	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1435	GF	65	n/a	60	No	SCRC - AS2107	n/a
1435	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1436	GF	65	n/a	60	No	SCRC - AS2107	n/a
1436	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1437	GF	65	n/a	60	No	SCRC - AS2107	n/a
1437	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1438	GF	65	n/a	60	No	SCRC - AS2107	n/a
1438	F 1	66	n/a	66	Yes	SCRC - AS2107	n/a
1662	GF	65	n/a	65	Yes	SCRC - AS2107	n/a
1662	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1663	GF	64	n/a	64	Yes	SCRC - AS2107	n/a
1663	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1664	GF	64	n/a	64	Yes	SCRC - AS2107	n/a
1664	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1665	GF	64	n/a	64	Yes	SCRC - AS2107	n/a
1665	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1666	GF	64	n/a	64	Yes	SCRC - AS2107	n/a
1666	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1667	GF	64	n/a	64	Yes	SCRC - AS2107	n/a
1667	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1668	GF	64	n/a	64	Yes	SCRC - AS2107	n/a
1668	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1669	GF	64	n/a	60	No	SCRC - AS2107	n/a
1669	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1670	GF	64	n/a	60	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
1670	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1671	GF	64	n/a	60	No	SCRC - AS2107	n/a
1671	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1672	GF	64	n/a	60	No	SCRC - AS2107	n/a
1672	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1673	GF	64	n/a	60	No	SCRC - AS2107	n/a
1673	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1674	GF	64	n/a	60	No	SCRC - AS2107	n/a
1674	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1675	GF	64	n/a	60	No	SCRC - AS2107	n/a
1675	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1676	GF	64	n/a	60	No	SCRC - AS2107	n/a
1676	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1677	GF	64	n/a	60	No	SCRC - AS2107	n/a
1677	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1679	GF	64	n/a	60	No	SCRC - AS2107	n/a
1679	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1679	GF	64	n/a	60	No	SCRC - AS2107	n/a
1679	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1680	GF	64	n/a	60	No	SCRC - AS2107	n/a
1680	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1681	GF	64	n/a	60	No	SCRC - AS2107	n/a
1681	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1682	GF	64	n/a	60	No	SCRC - AS2107	n/a
1682	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
1683	GF	64	n/a	60	No	SCRC - AS2107	n/a
1683	F 1	65	n/a	65	Yes	SCRC - AS2107	n/a
7001	GF	70	n/a	62	No	SCRC - AS2107	n/a
7001	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7002	GF	70	n/a	62	No	SCRC - AS2107	n/a
7002	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7003	GF	70	n/a	62	No	SCRC - AS2107	n/a
7003	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7004	GF	70	n/a	62	No	SCRC - AS2107	n/a
7004	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7005	GF	70	n/a	62	No	SCRC - AS2107	n/a
7005	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7006	GF	70	n/a	62	No	SCRC - AS2107	n/a
7006	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7007	GF	70	n/a	63	No	SCRC - AS2107	n/a
7007	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7008	GF	70	n/a	63	No	SCRC - AS2107	n/a
7008	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7009	GF	70	n/a	63	No	SCRC - AS2107	n/a
7009	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7010	GF	70	n/a	63	No	SCRC - AS2107	n/a
7010	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7011	GF	70	n/a	63	No	SCRC - AS2107	n/a
7011	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7012	GF	70	n/a	63	No	SCRC - AS2107	n/a
7012	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7013	GF	63	n/a	60	No	SCRC - AS2107	n/a
7013	F 1	64	n/a	63	No	SCRC - AS2107	n/a
7014	GF	61	n/a	59	No	SCRC - AS2107	n/a
7014	F 1	63	n/a	61	No	SCRC - AS2107	n/a
7015	GF	60	n/a	59	No	SCRC - AS2107	n/a
7015	F 1	62	n/a	60	No	SCRC - AS2107	n/a
7030	GF	60	n/a	58	No	SCRC - AS2107	n/a
7030	F 1	62	n/a	60	No	SCRC - AS2107	n/a
7031	GF	61	n/a	58	No	SCRC - AS2107	n/a
7031	F 1	63	n/a	60	No	SCRC - AS2107	n/a
7032	GF	62	n/a	59	No	SCRC - AS2107	n/a
7032	F 1	64	n/a	62	No	SCRC - AS2107	n/a
7033	GF	62	n/a	59	No	SCRC - AS2107	n/a
7033	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7034	GF	62	n/a	59	No	SCRC - AS2107	n/a
7034	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7035	GF	62	n/a	59	No	SCRC - AS2107	n/a
7035	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7036	GF	62	n/a	59	No	SCRC - AS2107	n/a
7036	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7037	GF	62	n/a	60	No	SCRC - AS2107	n/a
7037	F 1	64	n/a	62	No	SCRC - AS2107	n/a
7038	GF	62	n/a	60	No	SCRC - AS2107	n/a
7038	F 1	64	n/a	62	No	SCRC - AS2107	n/a
7039	GF	63	n/a	61	No	SCRC - AS2107	n/a
7039	F 1	64	n/a	63	No	SCRC - AS2107	n/a
7040	GF	61	n/a	60	No	SCRC - AS2107	n/a
7040	F 1	63	n/a	62	No	SCRC - AS2107	n/a
7041	GF	60	n/a	59	No	SCRC - AS2107	n/a
7041	F 1	62	n/a	61	No	SCRC - AS2107	n/a
7095	GF	70	n/a	62	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7095	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7096	GF	70	n/a	63	No	SCRC - AS2107	n/a
7096	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7097	GF	70	n/a	63	No	SCRC - AS2107	n/a
7097	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7098	GF	70	n/a	63	No	SCRC - AS2107	n/a
7098	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7099	GF	70	n/a	63	No	SCRC - AS2107	n/a
7099	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7100	GF	70	n/a	63	No	SCRC - AS2107	n/a
7100	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7101	GF	70	n/a	63	No	SCRC - AS2107	n/a
7101	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7102	GF	69	n/a	63	No	SCRC - AS2107	n/a
7102	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7103	GF	70	n/a	63	No	SCRC - AS2107	n/a
7103	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7104	GF	69	n/a	63	No	SCRC - AS2107	n/a
7104	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7105	GF	69	n/a	63	No	SCRC - AS2107	n/a
7105	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7106	GF	69	n/a	63	No	SCRC - AS2107	n/a
7106	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7107	GF	69	n/a	63	No	SCRC - AS2107	n/a
7107	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7108	GF	69	n/a	63	No	SCRC - AS2107	n/a
7108	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7109	GF	69	n/a	63	No	SCRC - AS2107	n/a
7109	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7110	GF	69	n/a	63	No	SCRC - AS2107	n/a
7110	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7111	GF	69	n/a	63	No	SCRC - AS2107	n/a
7111	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7112	GF	70	n/a	63	No	SCRC - AS2107	n/a
7112	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7113	GF	70	n/a	63	No	SCRC - AS2107	n/a
7113	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7114	GF	70	n/a	63	No	SCRC - AS2107	n/a
7114	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7115	GF	70	n/a	63	No	SCRC - AS2107	n/a
7115	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7116	GF	70	n/a	63	No	SCRC - AS2107	n/a
7116	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7117	GF	70	n/a	63	No	SCRC - AS2107	n/a
7117	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7118	GF	70	n/a	63	No	SCRC - AS2107	n/a
7118	F 1	71	n/a	71	Yes	SCRC - AS2107	n/a
7119	GF	63	n/a	61	No	SCRC - AS2107	n/a
7119	F 1	65	n/a	63	No	SCRC - AS2107	n/a
7120	GF	62	n/a	61	No	SCRC - AS2107	n/a
7120	F 1	63	n/a	62	No	SCRC - AS2107	n/a
7121	GF	61	n/a	60	No	SCRC - AS2107	n/a
7121	F 1	62	n/a	62	No	SCRC - AS2107	n/a
7122	GF	60	n/a	60	No	SCRC - AS2107	n/a
7122	F 1	62	n/a	61	No	SCRC - AS2107	n/a
7123	GF	60	n/a	60	No	SCRC - AS2107	n/a
7123	F 1	62	n/a	61	No	SCRC - AS2107	n/a
7124	GF	59	n/a	59	No	SCRC - AS2107	n/a
7124	F 1	61	n/a	61	No	SCRC - AS2107	n/a
7125	GF	59	n/a	59	No	SCRC - AS2107	n/a
7125	F 1	61	n/a	60	No	SCRC - AS2107	n/a
7126	GF	59	n/a	59	No	SCRC - AS2107	n/a
7126	F 1	61	n/a	60	No	SCRC - AS2107	n/a
7127	GF	59	n/a	59	No	SCRC - AS2107	n/a
7127	F 1	60	n/a	60	No	SCRC - AS2107	n/a
7128	GF	58	n/a	58	No	SCRC - AS2107	n/a
7128	F 1	60	n/a	60	No	SCRC - AS2107	n/a
7129	GF	58	n/a	58	No	SCRC - AS2107	n/a
7129	F 1	60	n/a	60	No	SCRC - AS2107	n/a
7130	GF	58	n/a	58	No	SCRC - AS2107	n/a
7130	F 1	60	n/a	60	No	SCRC - AS2107	n/a
7136	GF	58	n/a	58	No	SCRC - AS2107	n/a
7136	F 1	60	n/a	59	No	SCRC - AS2107	n/a
7137	GF	59	n/a	58	No	SCRC - AS2107	n/a
7137	F 1	60	n/a	60	No	SCRC - AS2107	n/a
7138	GF	59	n/a	58	No	SCRC - AS2107	n/a
7138	F 1	61	n/a	60	No	SCRC - AS2107	n/a
7139	GF	60	n/a	59	No	SCRC - AS2107	n/a
7139	F 1	61	n/a	60	No	SCRC - AS2107	n/a
7140	GF	60	n/a	59	No	SCRC - AS2107	n/a
7140	F 1	62	n/a	61	No	SCRC - AS2107	n/a
7141	GF	61	n/a	59	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
7141	F 1	63	n/a	61	No	SCRC - AS2107	n/a
7142	GF	63	n/a	60	No	SCRC - AS2107	n/a
7142	F 1	64	n/a	62	No	SCRC - AS2107	n/a
7143	GF	62	n/a	59	No	SCRC - AS2107	n/a
7143	F 1	64	n/a	62	No	SCRC - AS2107	n/a
7144	GF	61	n/a	58	No	SCRC - AS2107	n/a
7144	F 1	62	n/a	60	No	SCRC - AS2107	n/a
7145	GF	60	n/a	58	No	SCRC - AS2107	n/a
7145	F 1	62	n/a	60	No	SCRC - AS2107	n/a
7148	GF	62	n/a	59	No	SCRC - AS2107	n/a
7148	F 1	64	n/a	62	No	SCRC - AS2107	n/a
7149	GF	62	n/a	59	No	SCRC - AS2107	n/a
7149	F 1	64	n/a	62	No	SCRC - AS2107	n/a
7150	GF	62	n/a	59	No	SCRC - AS2107	n/a
7150	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7151	GF	62	n/a	59	No	SCRC - AS2107	n/a
7151	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7152	GF	62	n/a	59	No	SCRC - AS2107	n/a
7152	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7153	GF	62	n/a	59	No	SCRC - AS2107	n/a
7153	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7154	GF	62	n/a	59	No	SCRC - AS2107	n/a
7154	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7155	GF	62	n/a	59	No	SCRC - AS2107	n/a
7155	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7156	GF	62	n/a	59	No	SCRC - AS2107	n/a
7156	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7157	GF	62	n/a	59	No	SCRC - AS2107	n/a
7157	F 1	64	n/a	61	No	SCRC - AS2107	n/a
7158	GF	62	n/a	60	No	SCRC - AS2107	n/a
7158	F 1	64	n/a	62	No	SCRC - AS2107	n/a
7159	GF	61	n/a	59	No	SCRC - AS2107	n/a
7159	F 1	63	n/a	61	No	SCRC - AS2107	n/a
7160	GF	61	n/a	59	No	SCRC - AS2107	n/a
7160	F 1	62	n/a	61	No	SCRC - AS2107	n/a
7161	GF	60	n/a	58	No	SCRC - AS2107	n/a
7161	F 1	62	n/a	60	No	SCRC - AS2107	n/a
7162	GF	60	n/a	58	No	SCRC - AS2107	n/a
7162	F 1	61	n/a	60	No	SCRC - AS2107	n/a
9001	GF	62	n/a	63	No	SCRC - AS2107	n/a
9001	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
9002	GF	62	n/a	62	No	SCRC - AS2107	n/a
9002	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
9003	GF	62	n/a	62	No	SCRC - AS2107	n/a
9003	F 1	63	n/a	64	Yes	SCRC - AS2107	n/a
9004	GF	62	n/a	62	No	SCRC - AS2107	n/a
9004	F 1	63	n/a	63	No	SCRC - AS2107	n/a
9005	GF	60	n/a	60	No	SCRC - AS2107	n/a
9005	F 1	62	n/a	62	No	SCRC - AS2107	n/a
9006	GF	60	n/a	60	No	SCRC - AS2107	n/a
9006	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9007	GF	59	n/a	59	No	SCRC - AS2107	n/a
9007	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9111	GF	61	n/a	61	No	SCRC - AS2107	n/a
9111	F 1	62	n/a	62	No	SCRC - AS2107	n/a
9112	GF	61	n/a	61	No	SCRC - AS2107	n/a
9112	F 1	62	n/a	62	No	SCRC - AS2107	n/a
9113	GF	61	n/a	61	No	SCRC - AS2107	n/a
9113	F 1	62	n/a	63	No	SCRC - AS2107	n/a
9114	GF	61	n/a	61	No	SCRC - AS2107	n/a
9114	F 1	62	n/a	63	No	SCRC - AS2107	n/a
9115	GF	61	n/a	61	No	SCRC - AS2107	n/a
9115	F 1	62	n/a	63	No	SCRC - AS2107	n/a
9116	GF	61	n/a	62	No	SCRC - AS2107	n/a
9116	F 1	62	n/a	63	No	SCRC - AS2107	n/a
9117	GF	61	n/a	62	No	SCRC - AS2107	n/a
9117	F 1	62	n/a	63	No	SCRC - AS2107	n/a
9118	GF	61	n/a	62	No	SCRC - AS2107	n/a
9118	F 1	63	n/a	63	No	SCRC - AS2107	n/a
9119	GF	61	n/a	62	No	SCRC - AS2107	n/a
9119	F 1	63	n/a	63	No	SCRC - AS2107	n/a
9120	GF	62	n/a	62	No	SCRC - AS2107	n/a
9120	F 1	63	n/a	63	No	SCRC - AS2107	n/a
9277	GF	57	n/a	57	No	SCRC - AS2107	n/a
9277	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9278	GF	57	n/a	57	No	SCRC - AS2107	n/a
9278	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9279	GF	57	n/a	57	No	SCRC - AS2107	n/a
9279	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9280	GF	57	n/a	58	No	SCRC - AS2107	n/a
9280	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9281	GF	57	n/a	58	No	SCRC - AS2107	n/a

Lot	Floor	Without Noise Barriers		With Proposed Noise Barriers			
		Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	MP4.4 Construction Category (if applicable)	Predicted L_{10}(18 Hour) Noise Level (Facade Corrected)	Noise Affected?	Applicable Criteria	MP4.4 Construction Category (if applicable)
9281	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9282	GF	57	n/a	58	No	SCRC - AS2107	n/a
9282	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9283	GF	57	n/a	58	No	SCRC - AS2107	n/a
9283	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9284	GF	57	n/a	58	No	SCRC - AS2107	n/a
9284	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9285	GF	57	n/a	58	No	SCRC - AS2107	n/a
9285	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9286	GF	57	n/a	58	No	SCRC - AS2107	n/a
9286	F 1	61	n/a	61	No	SCRC - AS2107	n/a
9311	GF	63	n/a	63	No	SCRC - AS2107	n/a
9311	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
9312	GF	63	n/a	63	No	SCRC - AS2107	n/a
9312	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
9313	GF	63	n/a	63	No	SCRC - AS2107	n/a
9313	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
9314	GF	63	n/a	63	No	SCRC - AS2107	n/a
9314	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
9315	GF	63	n/a	63	No	SCRC - AS2107	n/a
9315	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
9316	GF	63	n/a	63	No	SCRC - AS2107	n/a
9316	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a
9317	GF	63	n/a	63	No	SCRC - AS2107	n/a
9317	F 1	64	n/a	64	Yes	SCRC - AS2107	n/a

Appendix D Predicted Road Noise Contours (No Barriers)

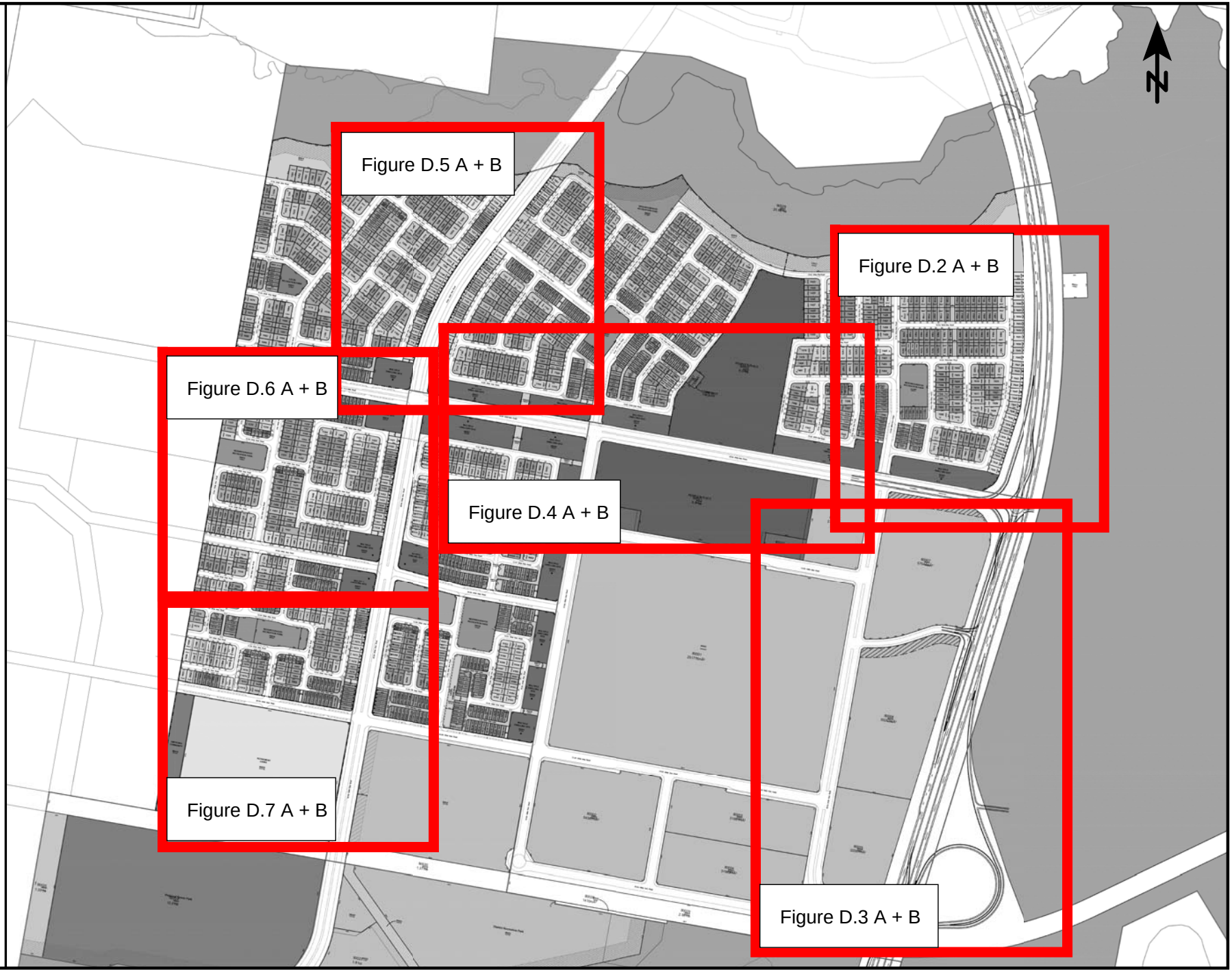
Job No: 8342
Aura - Precincts 7 to 10

Figure D.1

Noise Contour (No Barriers)
Figure Key

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Note: A = Ground Floor, B = Upper Floor



ask ACOUSTICS & AIR QUALITY

Length Scale 1:10610

0 100 200 400 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.2A

BCA Noise Contours and MP4.4 Noise Categories

Ground Floor

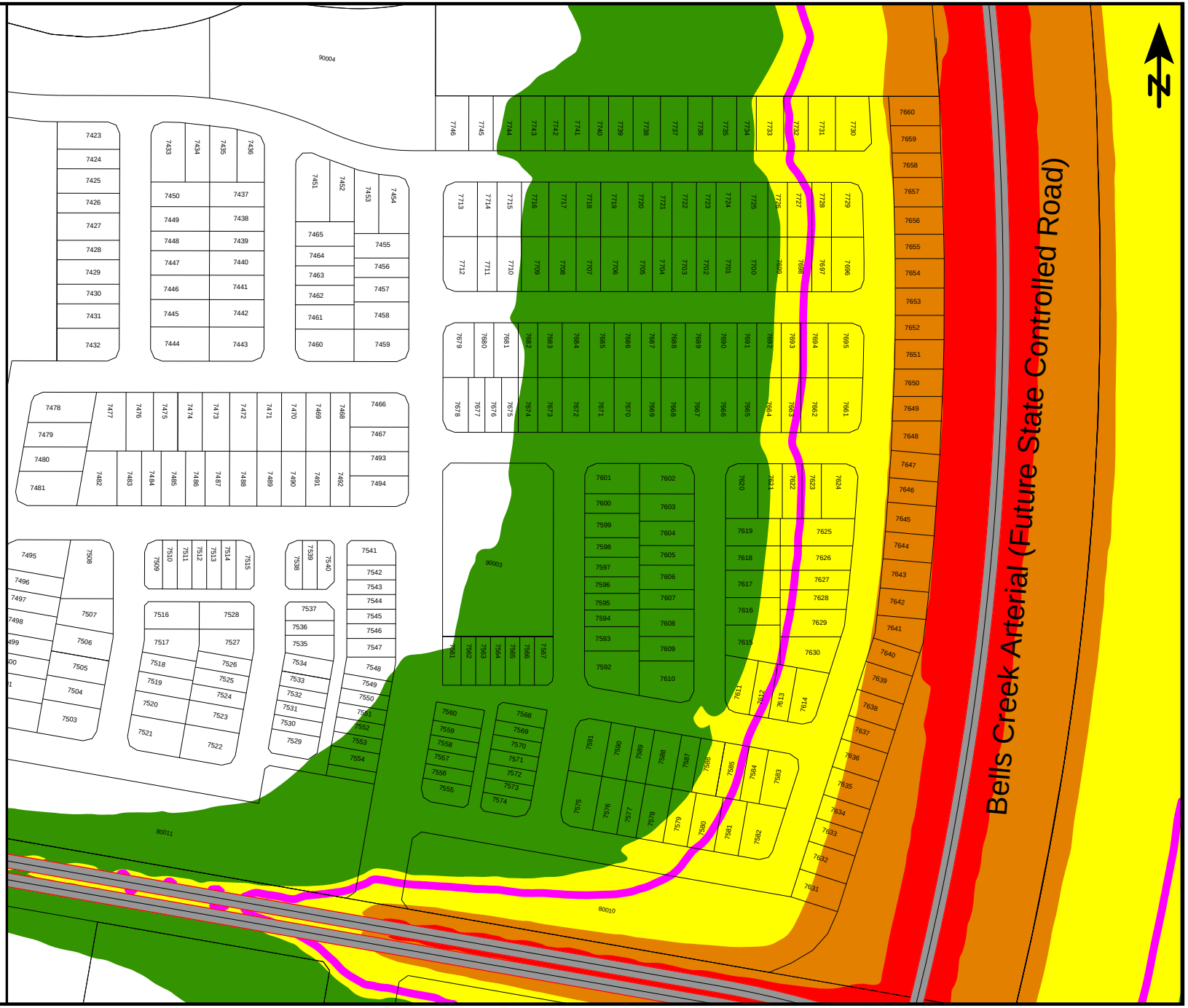
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- > 57.4 MP4.4 Category 1
- > 62.4 MP4.4 Category 2
- > 67.4 MP4.4 Category 3
- > 72.4 MP4.4 Category 4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:2815

0 25 50 100 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.2B

BCA Noise Contours and MP4.4 Noise Categories

Upper Floor

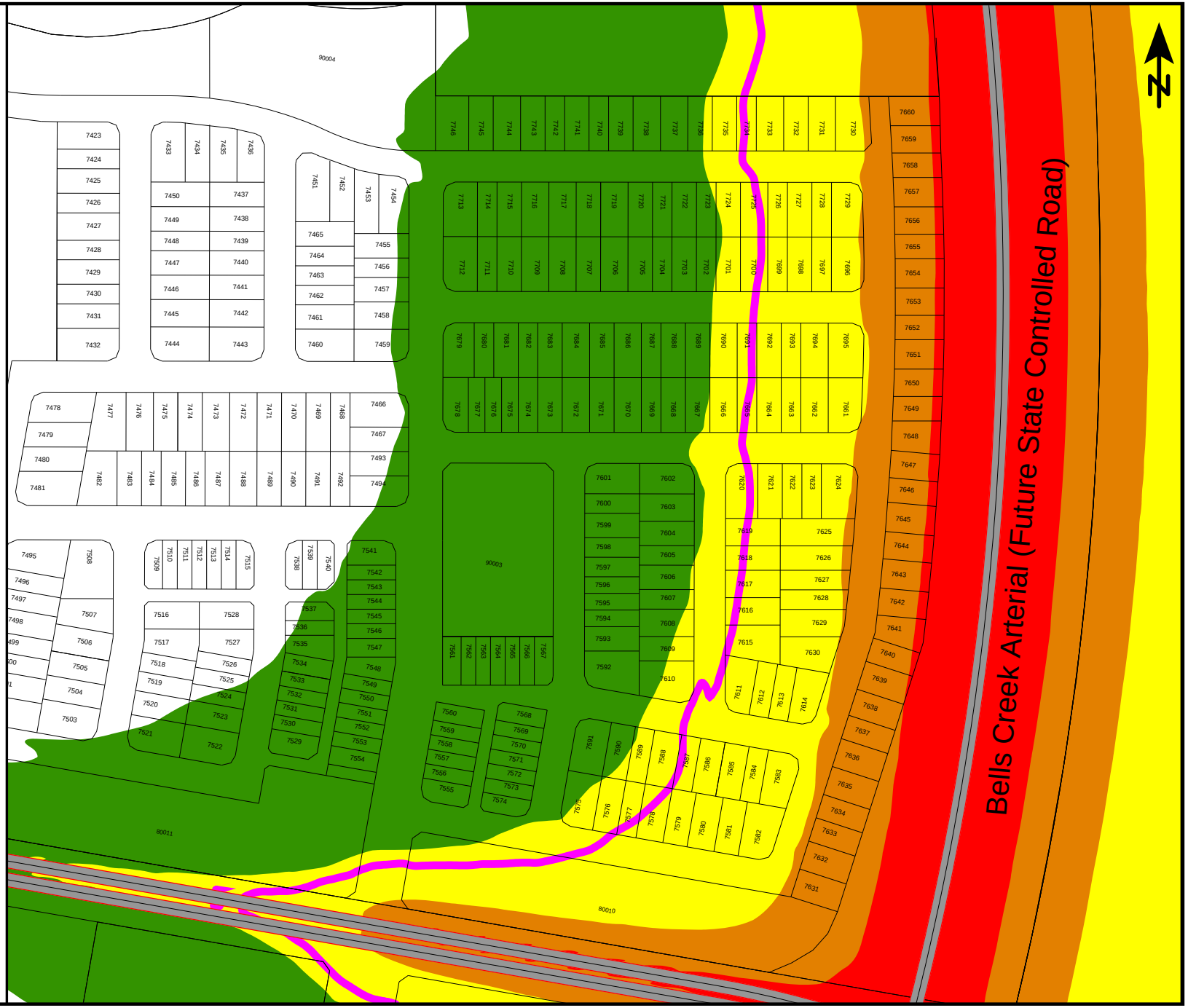
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- > 57.4 MP4.4 Category 1
- > 62.4 MP4.4 Category 2
- > 67.4 MP4.4 Category 3
- > 72.4 MP4.4 Category 4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:2815

0 25 50 100 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.3A

BCA Noise Contours and MP4.4 Noise Categories

Ground Floor

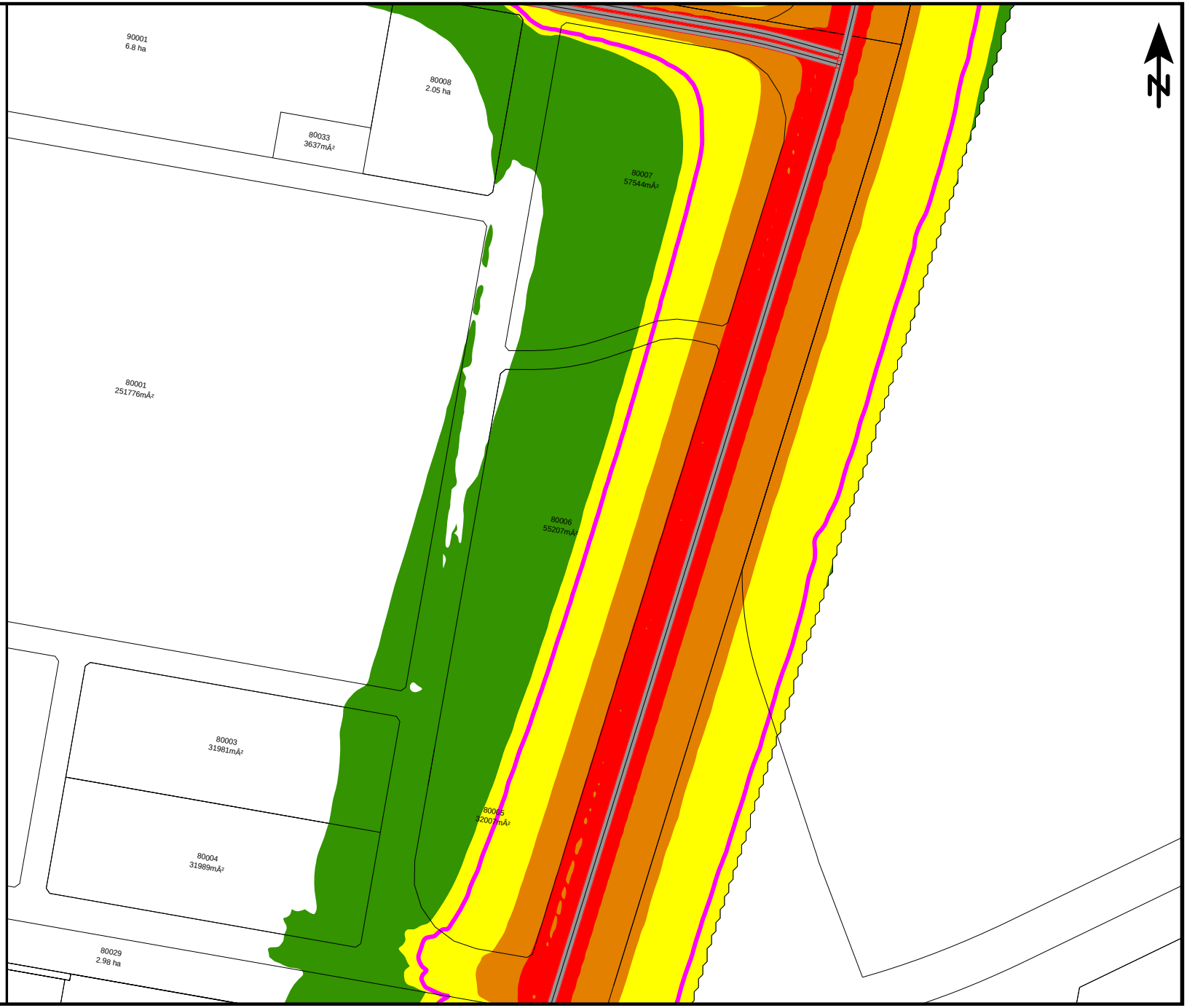
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- > 57.4 MP4.4 Category 1
- > 62.4 MP4.4 Category 2
- > 67.4 MP4.4 Category 3
- > 72.4 MP4.4 Category 4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:5090

0 45 90 180 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.3B

BCA Noise Contours and MP4.4 Noise Categories

Upper Floor

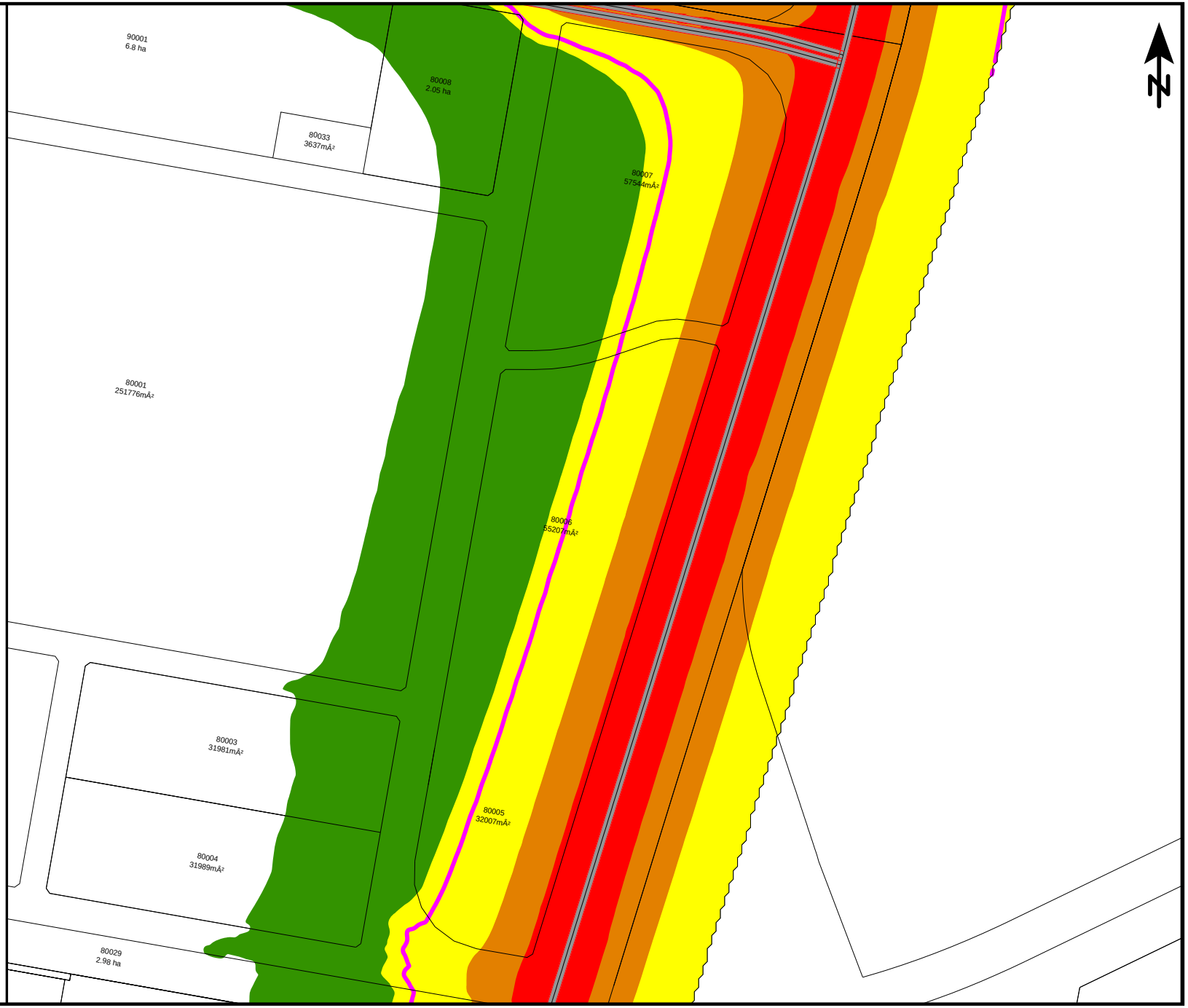
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- > 57.4 MP4.4 Category 1
- > 62.4 MP4.4 Category 2
- > 67.4 MP4.4 Category 3
- > 72.4 MP4.4 Category 4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:5090

0 45 90 180 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.4A

Sub-Arterial Road Noise Contours

Ground Floor

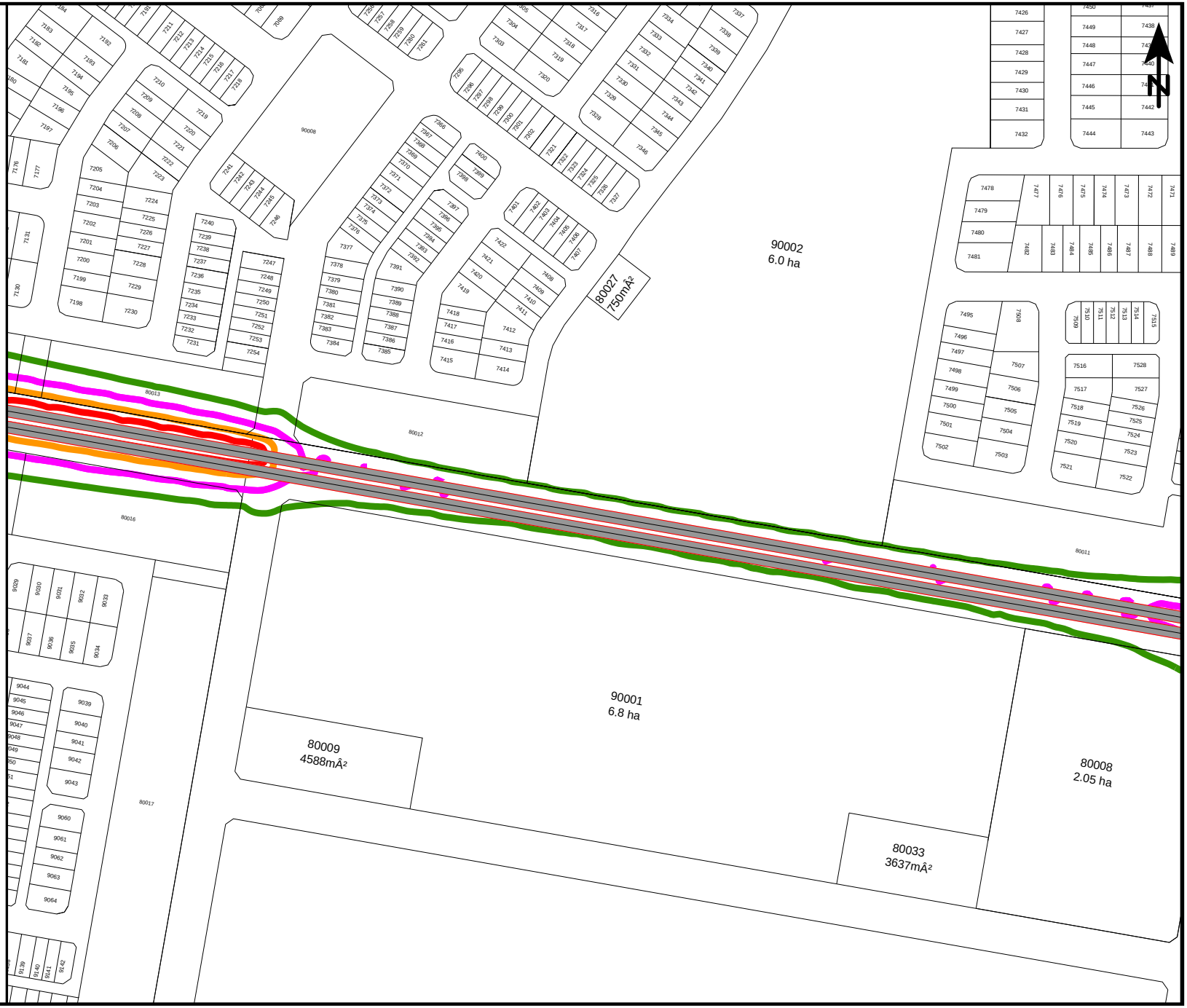
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:3287

0 30 60 120 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.4B

Sub-Arterial Road Noise Contours

Upper Floor

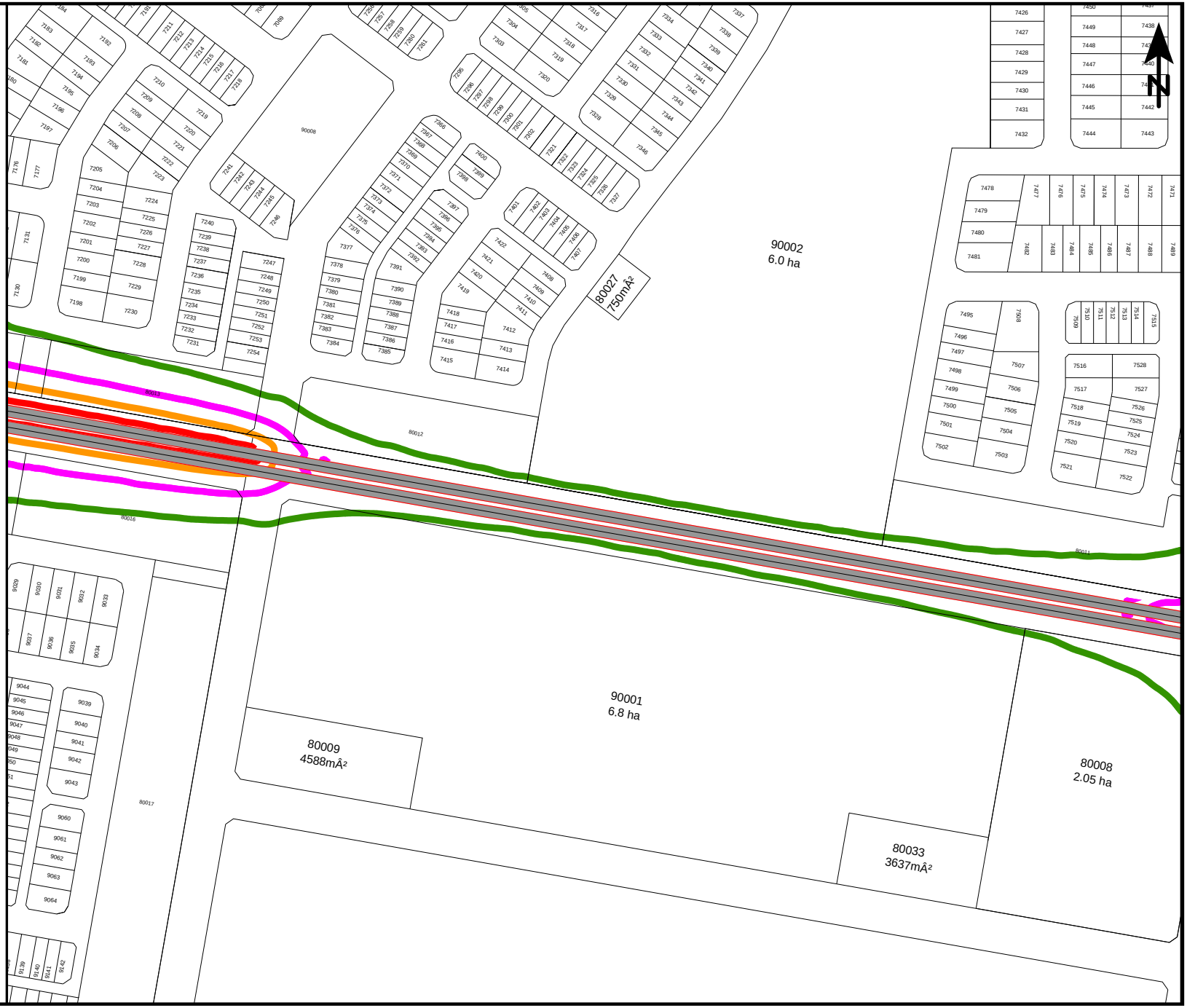
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:3287

0 30 60 120 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.5A

Sub-Arterial Road Noise Contours

Ground Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

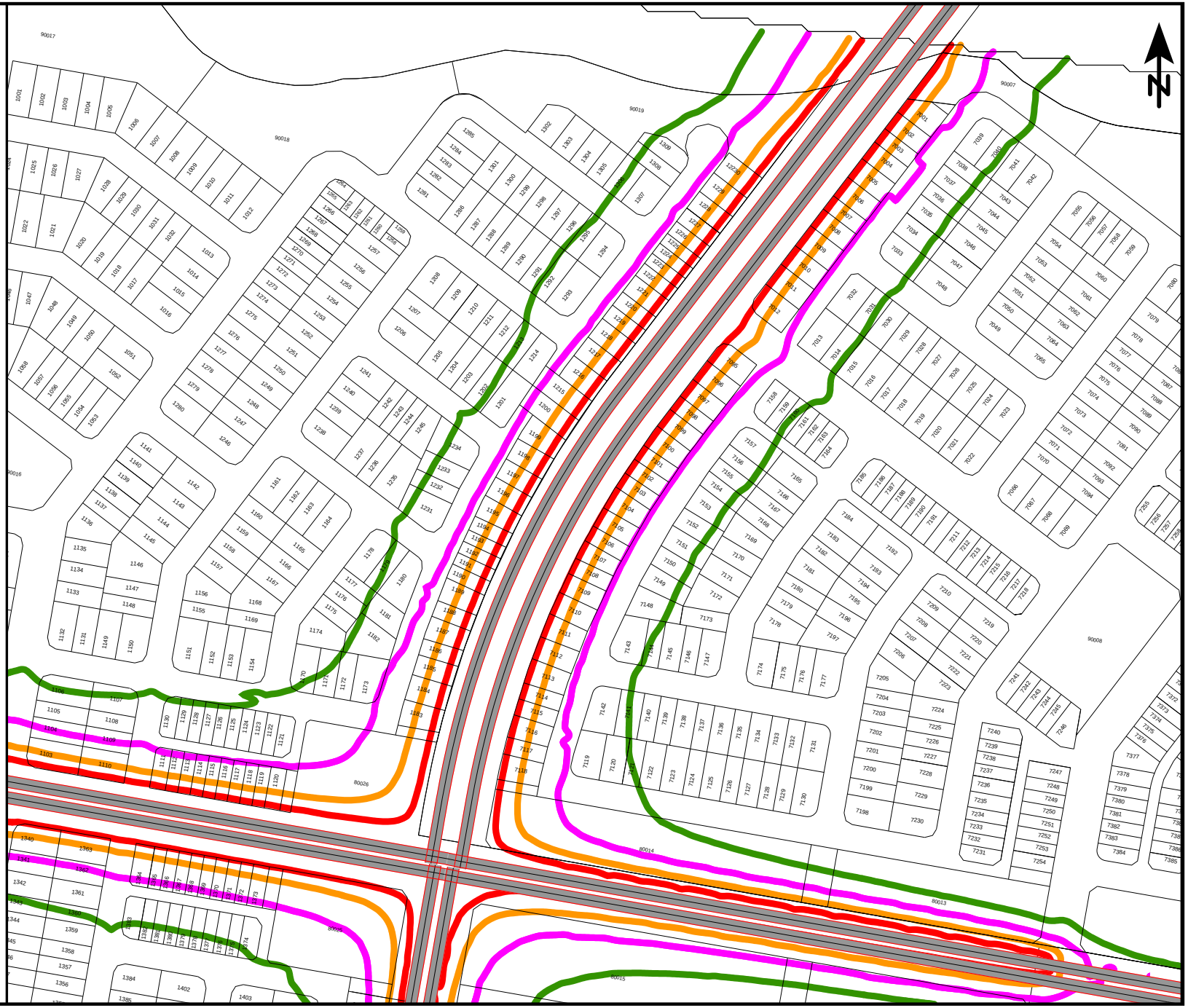
Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:3287

0 30 60 120 m



Job No: 8342
Aura - Precincts 7 to 10

Figure D.5B

Sub-Arterial Road Noise Contours

Upper Floor

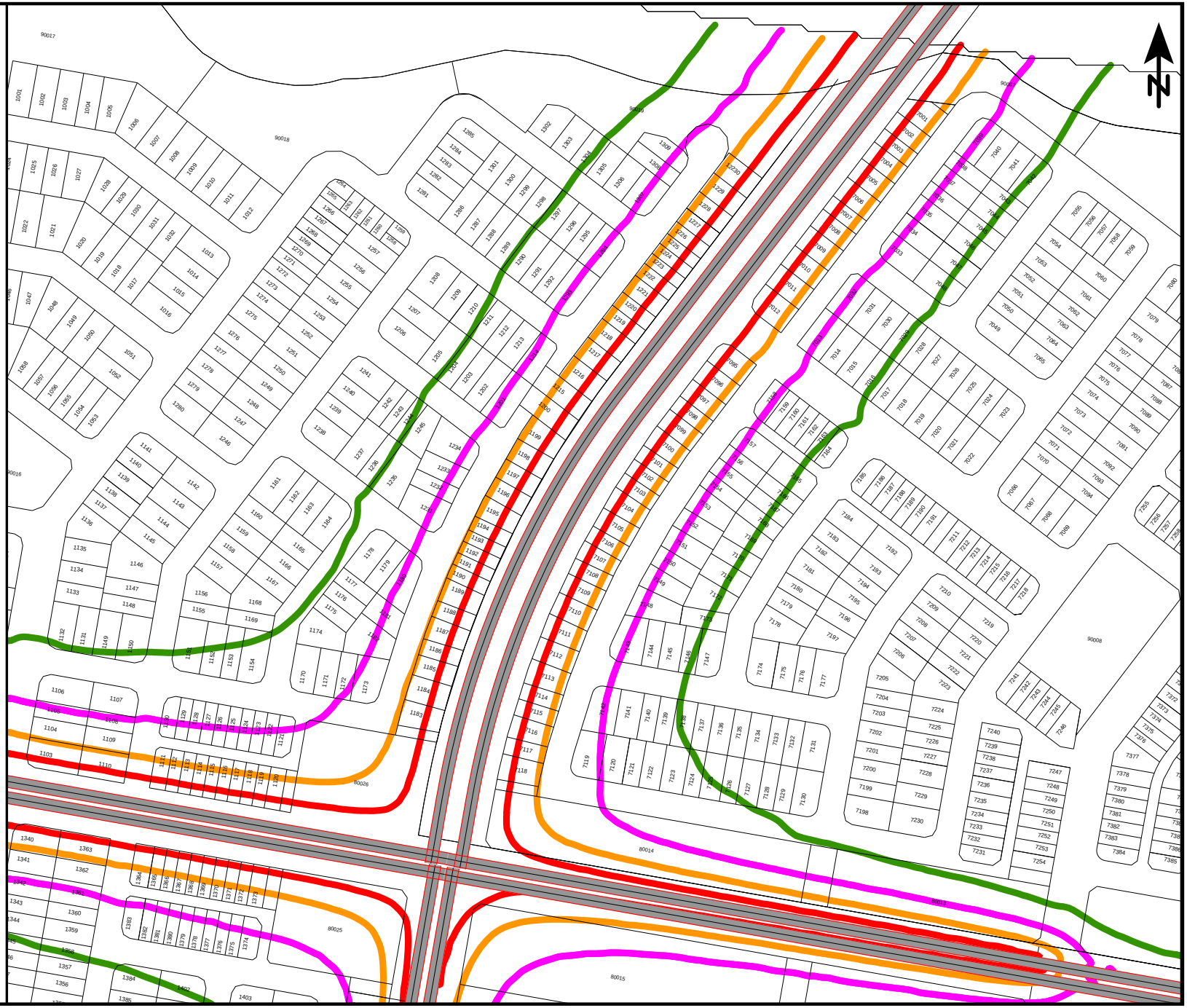
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:3287

0 30 60 120 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.6A

Sub-Arterial Road Noise Contours

Ground Floor

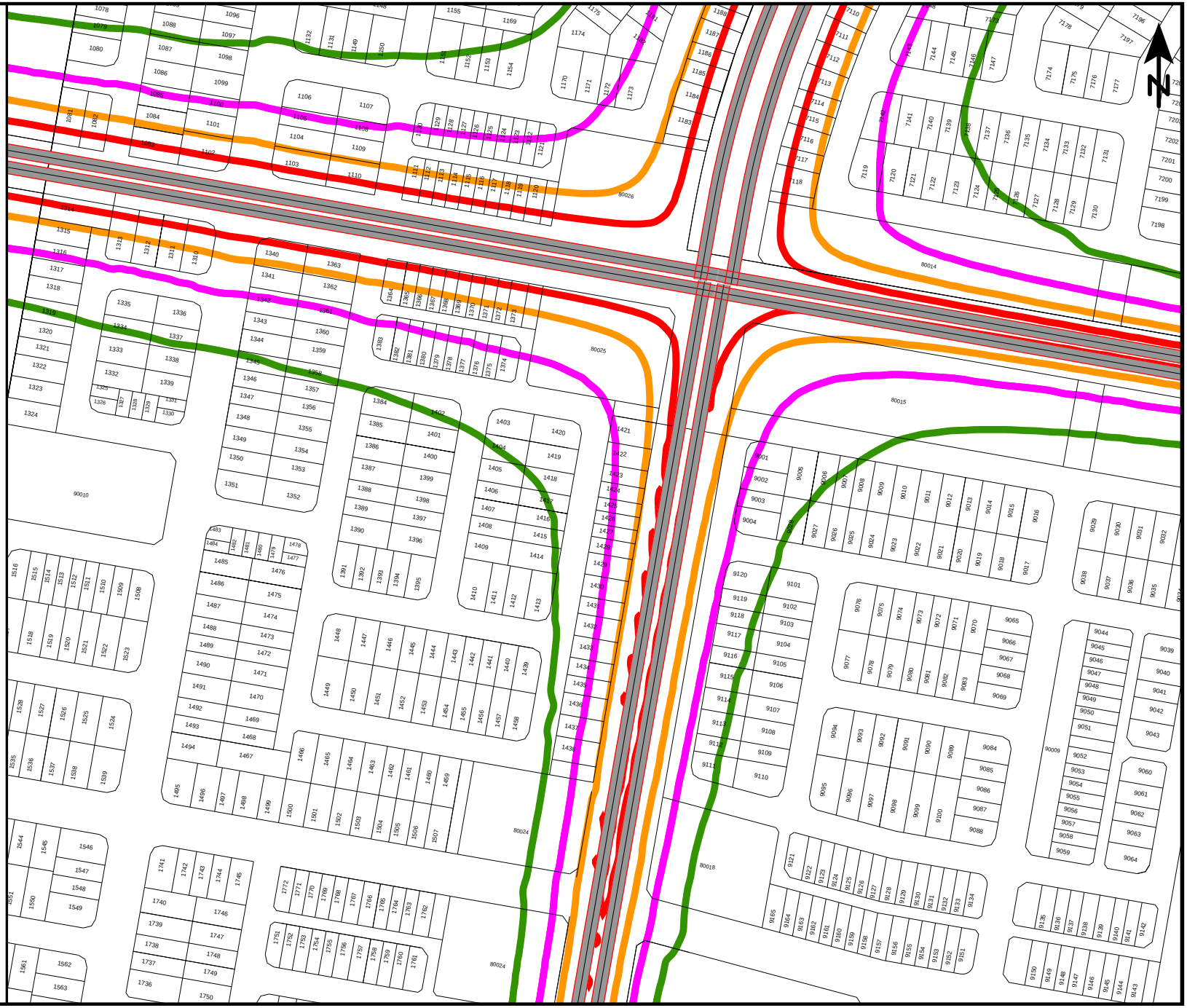
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ACOUSTICS & AIR QUALITY

Length Scale 1:3098

0 25 50 100 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.6B

Sub-Arterial Road Noise Contours

Upper Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

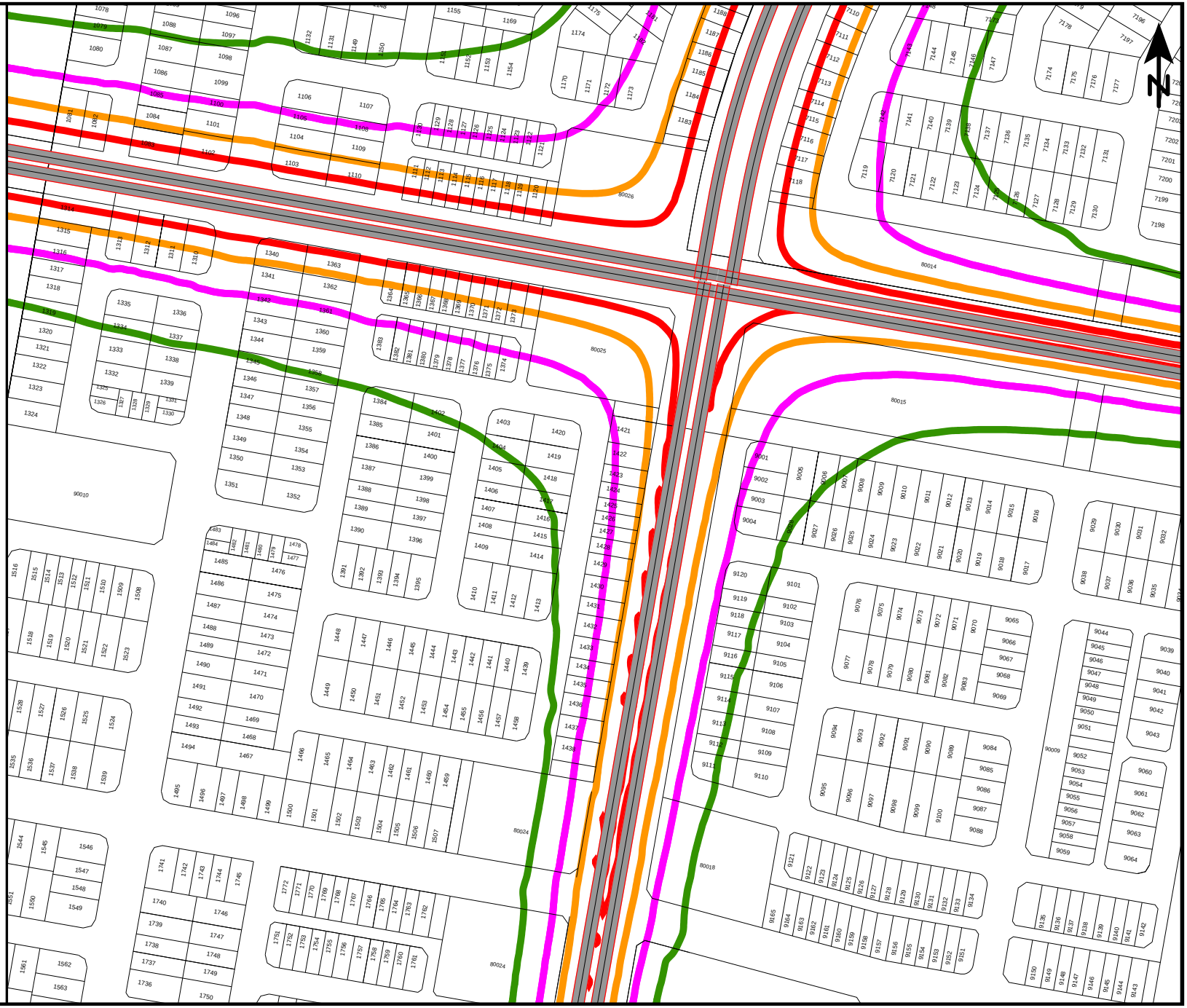
Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

ACOUSTICS & AIR QUALITY

Length Scale 1:3098

0 25 50 100 m



Job No: 8342
Aura - Precincts 7 to 10

Figure D.7A

Sub-Arterial Road Noise Contours

Ground Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:2801

0 25 50 100 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.7B

Sub-Arterial Road Noise Contours

Upper Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:2801

0 25 50 100 m

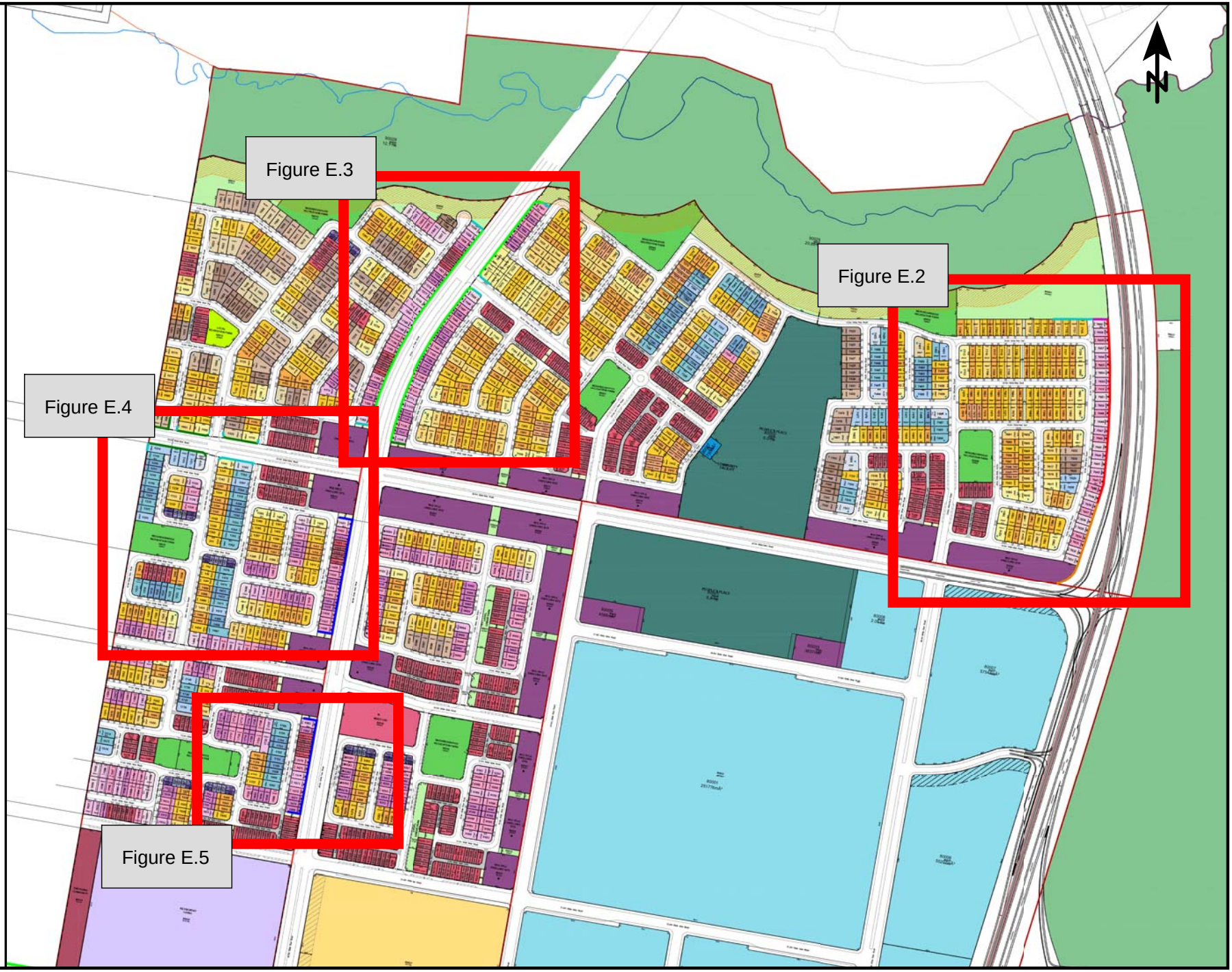
Appendix E Proposed Noise Barriers

Job No: 8342
Aura - Precincts 7 to 10

Figure E.1

Noise Barrier Figure Key

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd



Legend

- 1.8m High Noise Barrier
- 2.0m High Noise Barrier
- 2.2m High Noise Barrier
- 2.3m High Noise Barrier
- 2.4m High Noise Barrier
- 2.6m High Noise Barrier
- 2.8m High Noise Barrier
- Road axis
- Emission line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:8752

0 50 100 200 m

Job No: 8342
Aura - Precincts 7 to 10

Figure E.2

Proposed Noise Barriers
North East Section

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

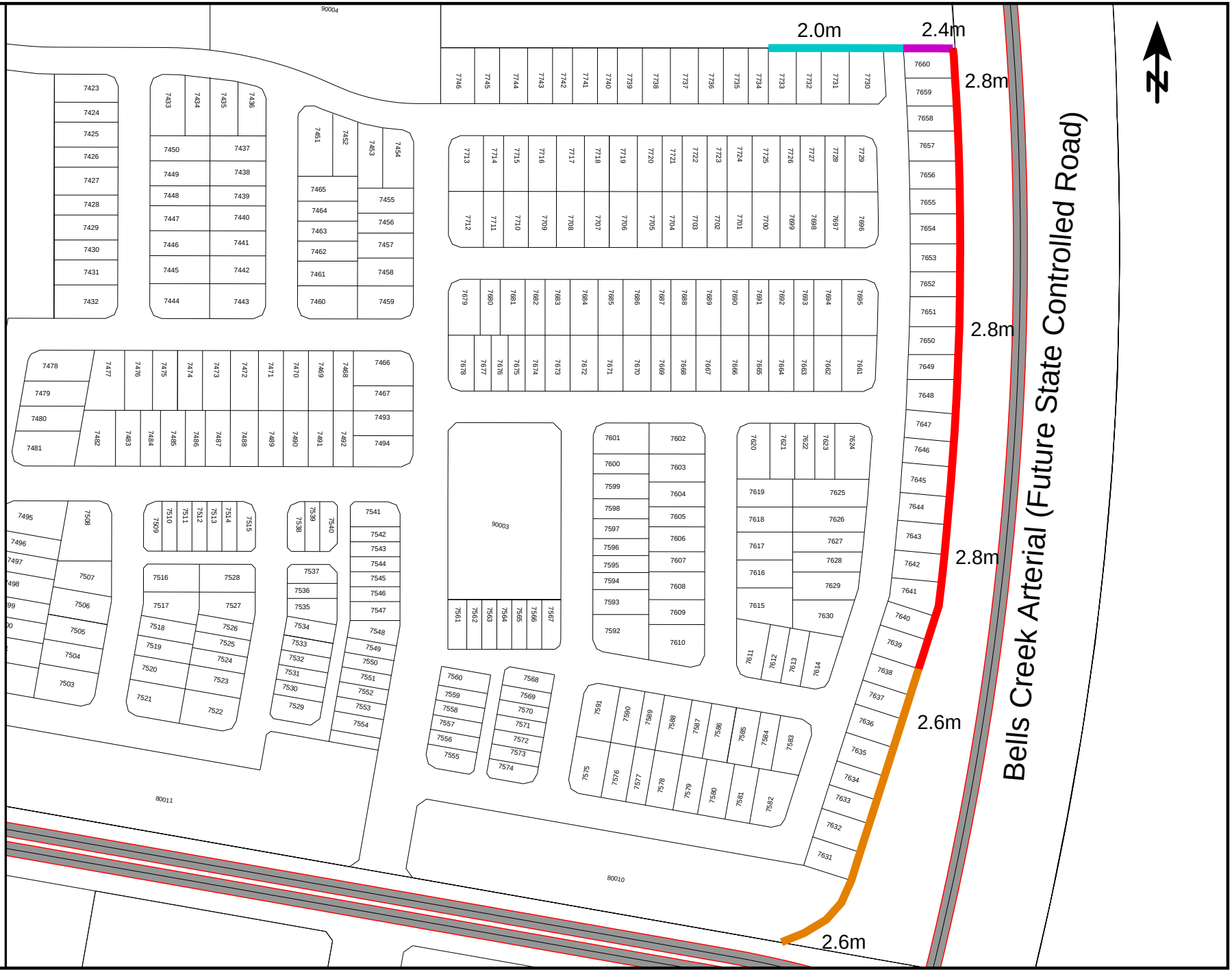
Legend

- 1.8m High Noise Barrier
- 2.0m High Noise Barrier
- 2.2m High Noise Barrier
- 2.3m High Noise Barrier
- 2.4m High Noise Barrier
- 2.6m High Noise Barrier
- 2.8m High Noise Barrier
- Road Axis
- Emission Line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:2592

0 20 40 80 m



Job No: 8342
Aura - Precincts 7 to 10

Figure E.3

Proposed Noise Barriers North West and North Central Sections

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Legend

- 1.8m High Noise Barrier
- 2.0m High Noise Barrier
- 2.2m High Noise Barrier
- 2.3m High Noise Barrier
- 2.4m High Noise Barrier
- 2.6m High Noise Barrier
- 2.8m High Noise Barrier
- Road Axis
- Emission Line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:2435

0 20 40 80 m

Job No: 8342
Aura - Precincts 7 to 10

Figure E.4

Proposed Noise Barriers
Central West Section

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

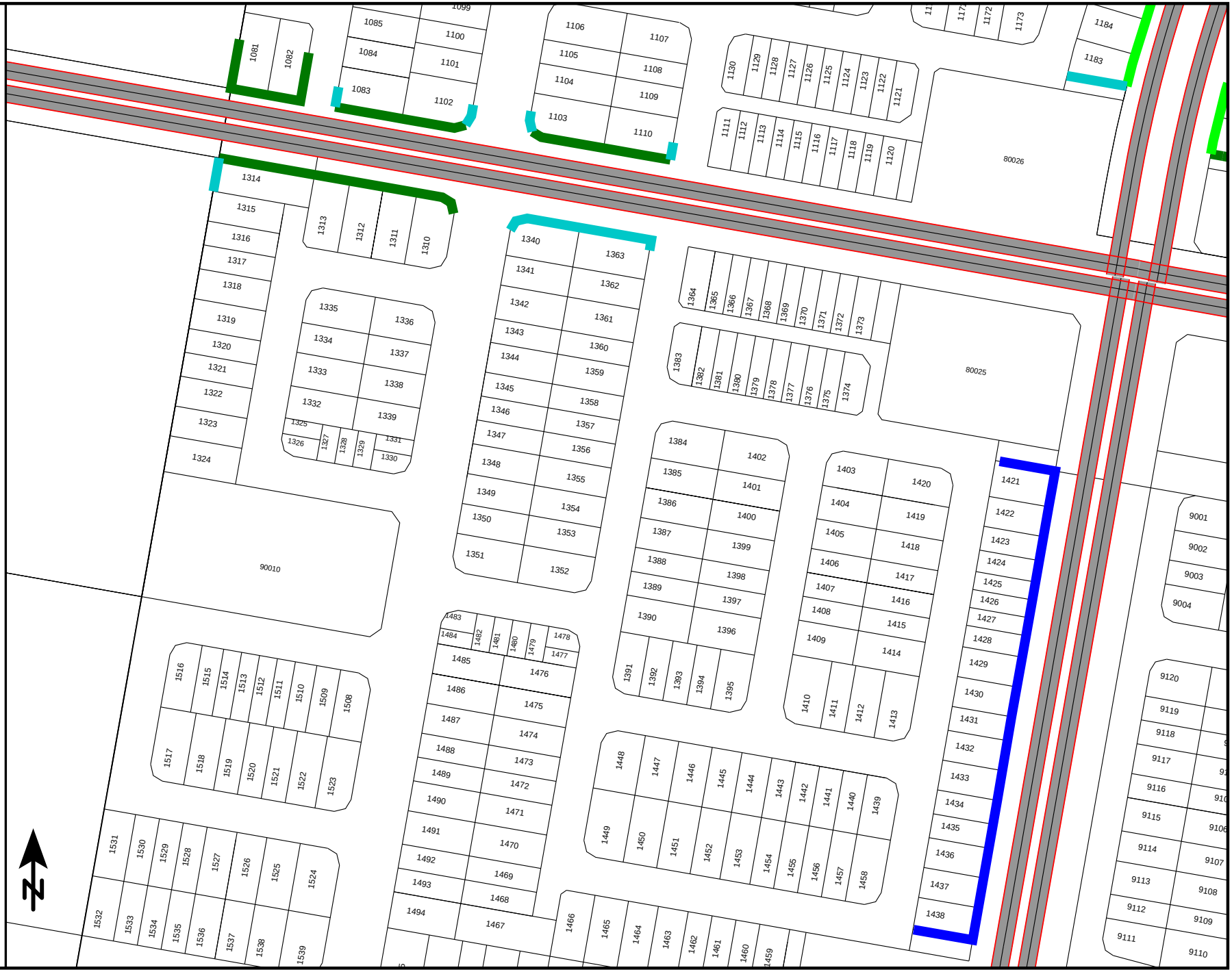
Legend

- 1.8m High Noise Barrier
- 2.0m High Noise Barrier
- 2.2m High Noise Barrier
- 2.3m High Noise Barrier
- 2.4m High Noise Barrier
- 2.6m High Noise Barrier
- 2.8m High Noise Barrier
- Road Axis
- Emission Line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:2135

0 20 40 80 m



Job No: 8342
Aura - Precincts 7 to 10

Figure E.5

Proposed Noise Barriers
South West Section

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

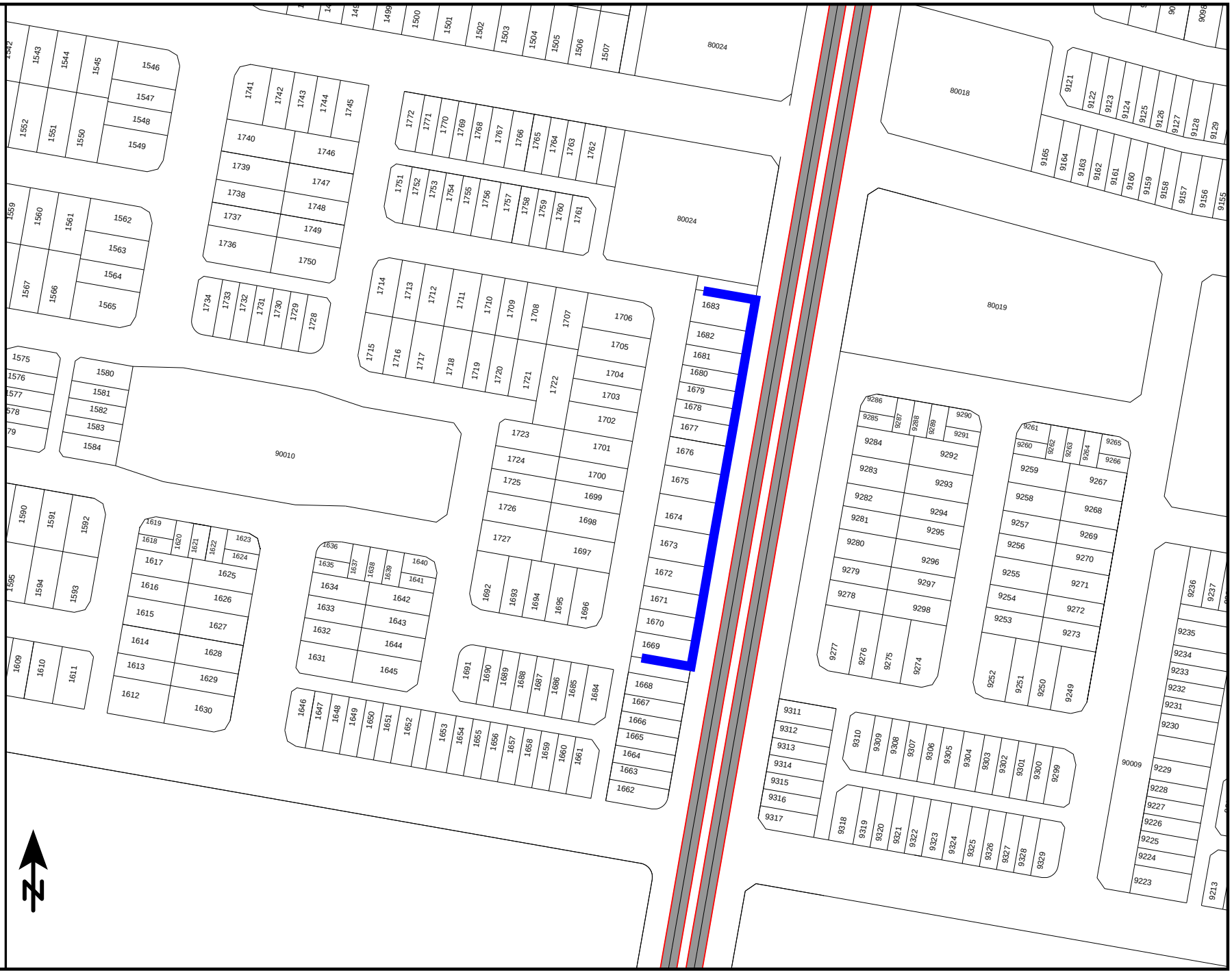
Legend

- 1.8m High Noise Barrier
- 2.0m High Noise Barrier
- 2.2m High Noise Barrier
- 2.3m High Noise Barrier
- 2.4m High Noise Barrier
- 2.6m High Noise Barrier
- 2.8m High Noise Barrier
- Road Axis
- Emission Line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:2237

0 20 40 80 m



Appendix F Predicted Road Noise Contours (With Barriers)

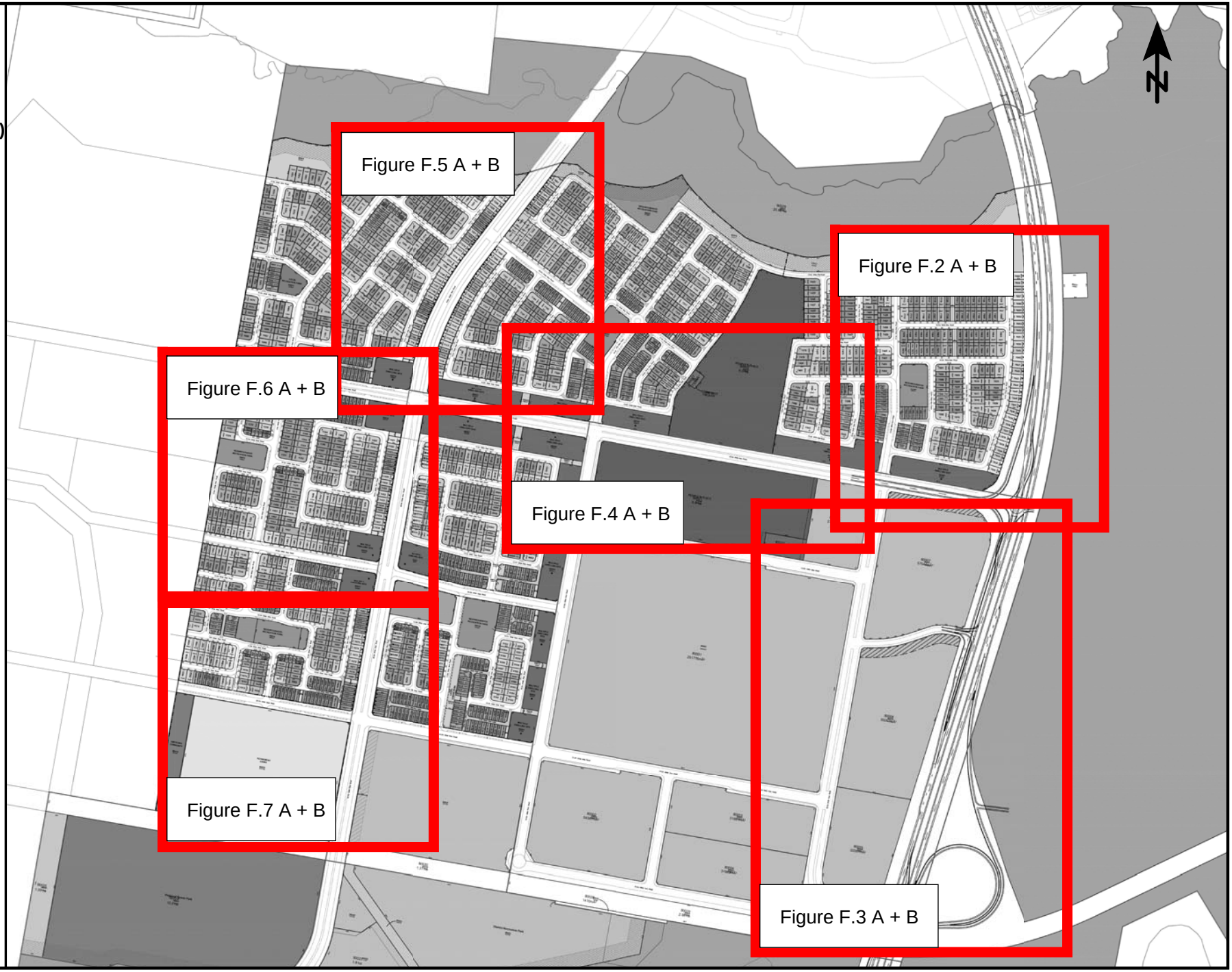
Job No: 8342
Aura - Precincts 7 to 10

Figure F.1

Noise Contour (With Barriers)
Figure Key

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Note: A = Ground Floor, B = Upper Floor



ask ACOUSTICS & AIR QUALITY

Length Scale 1:10610

0 100 200 400 m

Job No: 8342
Aura - Precincts 7 to 10

Figure F.2A

BCA Noise Contours and MP4.4 Noise Categories With Proposed Noise Barriers

Ground Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- > 57.4 MP4.4 Category 1
- > 62.4 MP4.4 Category 2
- > 67.4 MP4.4 Category 3
- > 72.4 MP4.4 Category 4

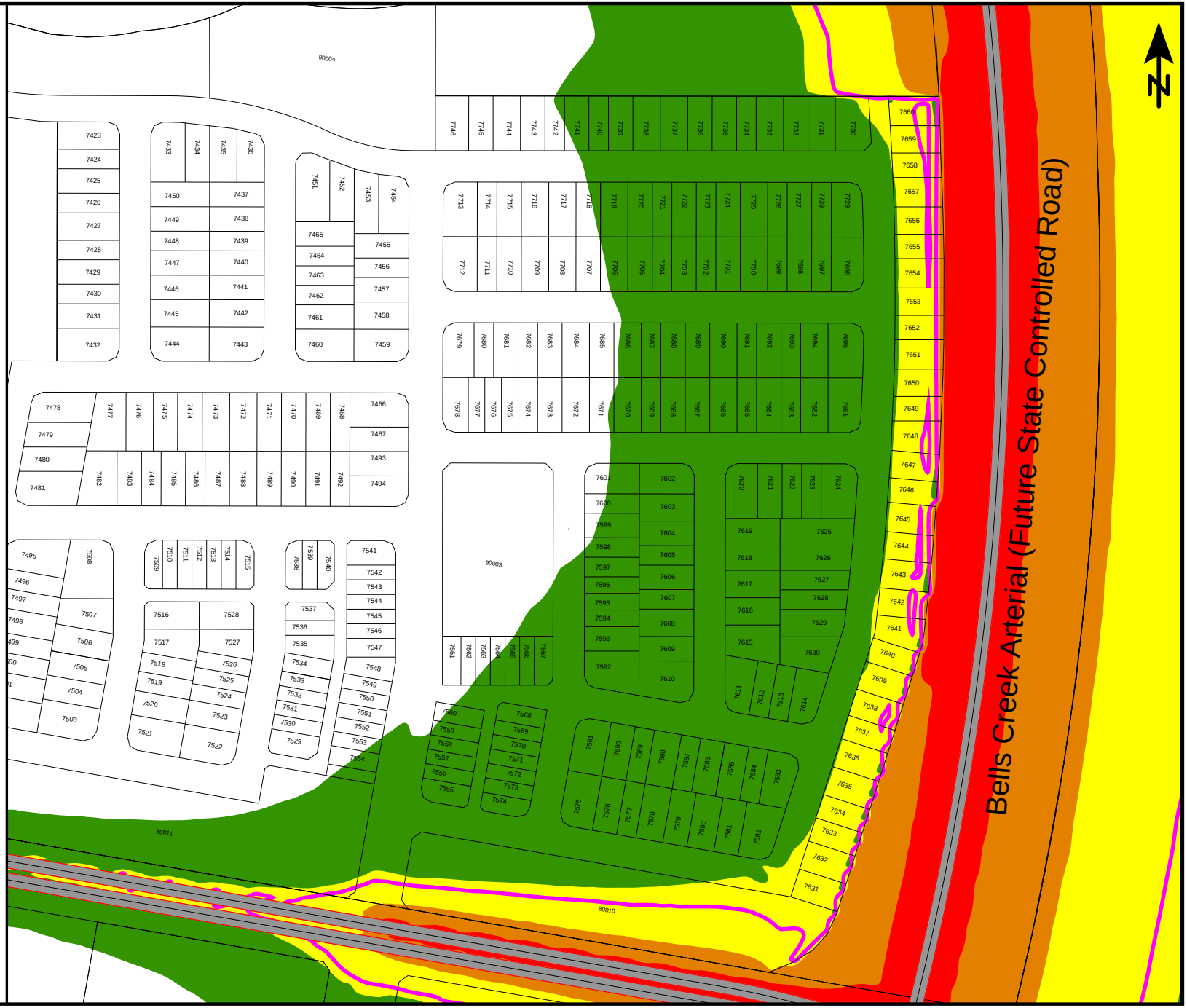
Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:2815

0 25 50 100 m



Job No: 8342
Aura - Precincts 7 to 10

Figure F.2B

BCA Noise Contours and MP4.4 Noise Categories With Proposed Noise Barriers

Upper Floor

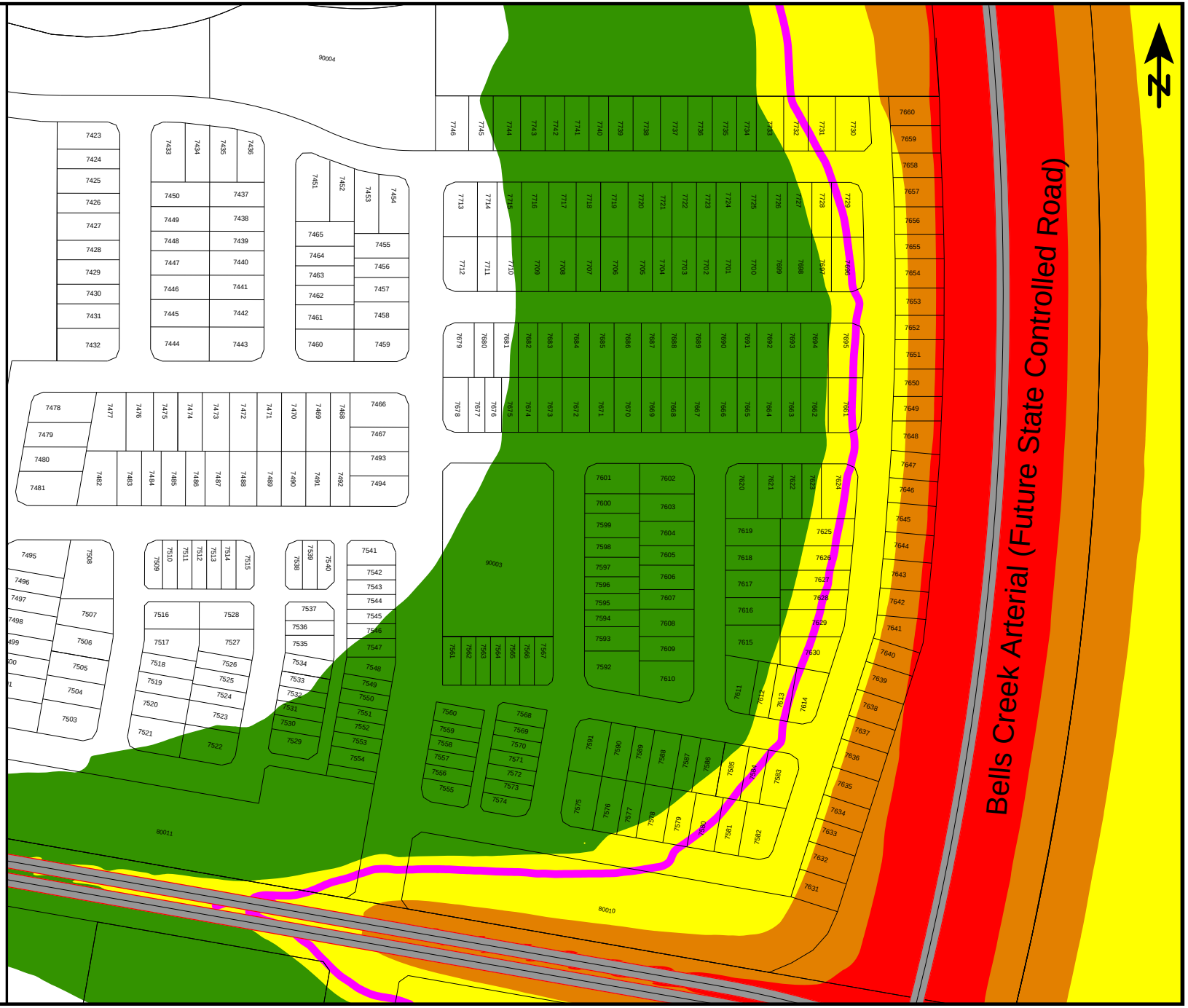
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- > 57.4 MP4.4 Category 1
- > 62.4 MP4.4 Category 2
- > 67.4 MP4.4 Category 3
- > 72.4 MP4.4 Category 4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:2815

0 25 50 100 m

Job No: 8342
Aura - Precincts 7 to 10

Figure F.3A

BCA Noise Contours and MP4.4 Noise Categories With Proposed Noise Barriers

Ground Floor

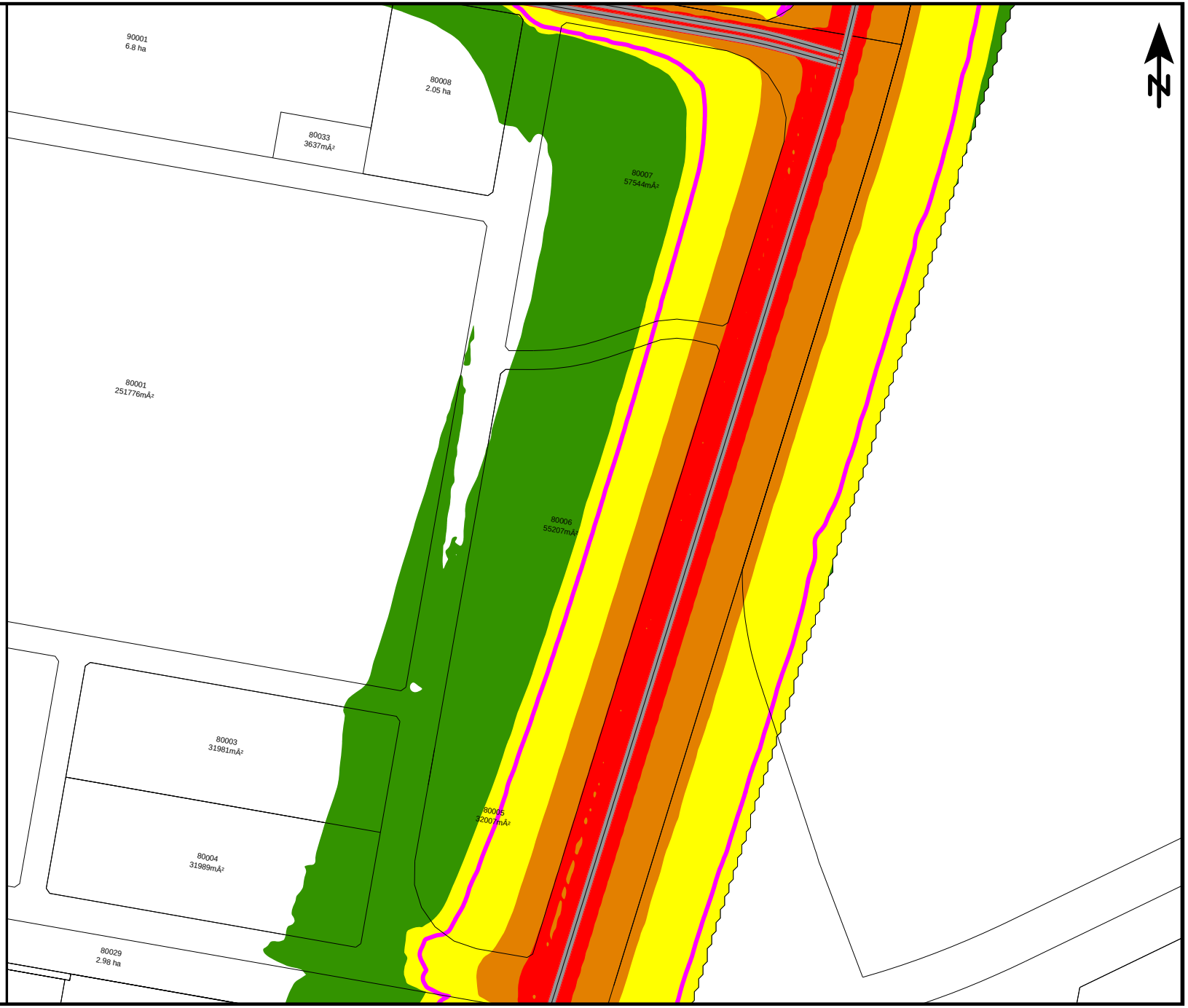
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- > 57.4 MP4.4 Category 1
- > 62.4 MP4.4 Category 2
- > 67.4 MP4.4 Category 3
- > 72.4 MP4.4 Category 4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:5090

0 45 90 180 m

Job No: 8342
Aura - Precincts 7 to 10

Figure F.3B

BCA Noise Contours and MP4.4 Noise Categories With Proposed Noise Barriers

Upper Floor

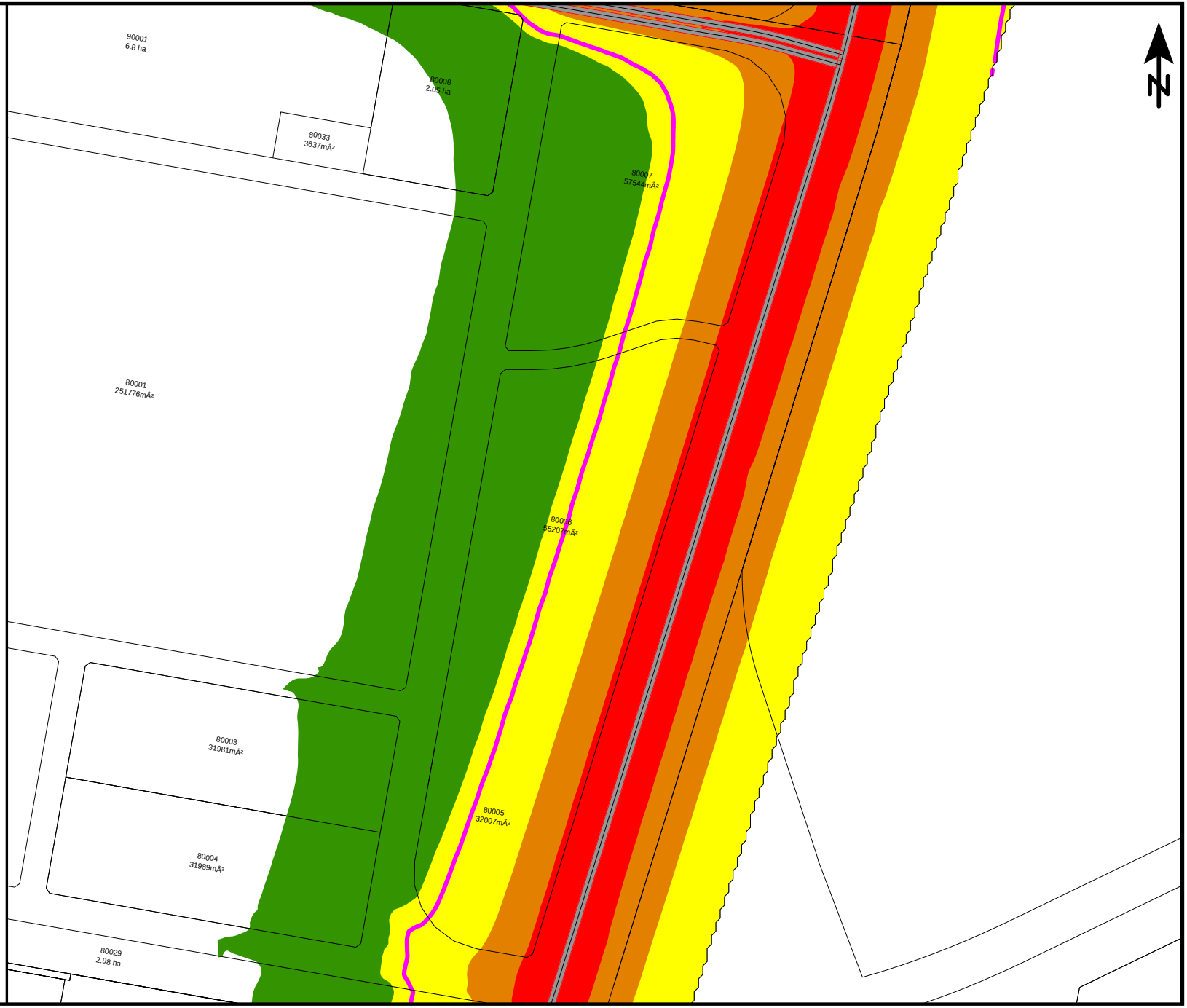
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- > 57.4 MP4.4 Category 1
- > 62.4 MP4.4 Category 2
- > 67.4 MP4.4 Category 3
- > 72.4 MP4.4 Category 4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:5090

0 45 90 180 m

Job No: 8342
Aura - Precincts 7 to 10

Figure F.4A

Sub-Arterial Road Noise Contours With Proposed Noise Barriers

Ground Floor

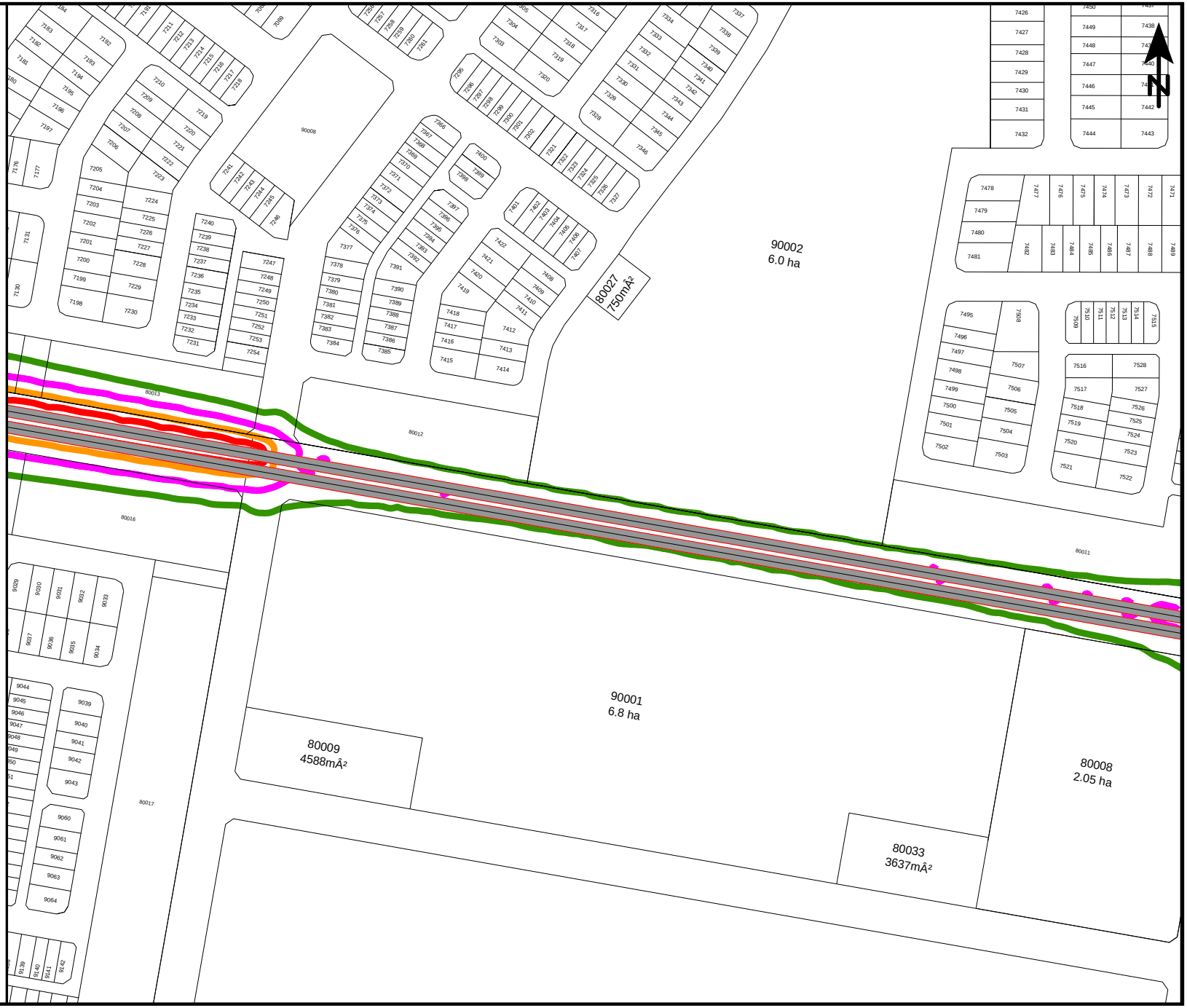
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:3287

0 30 60 120 m

Job No: 8342
Aura - Precincts 7 to 10

Figure F.4B

Sub-Arterial Road Noise Contours With Proposed Noise Barriers

Upper Floor

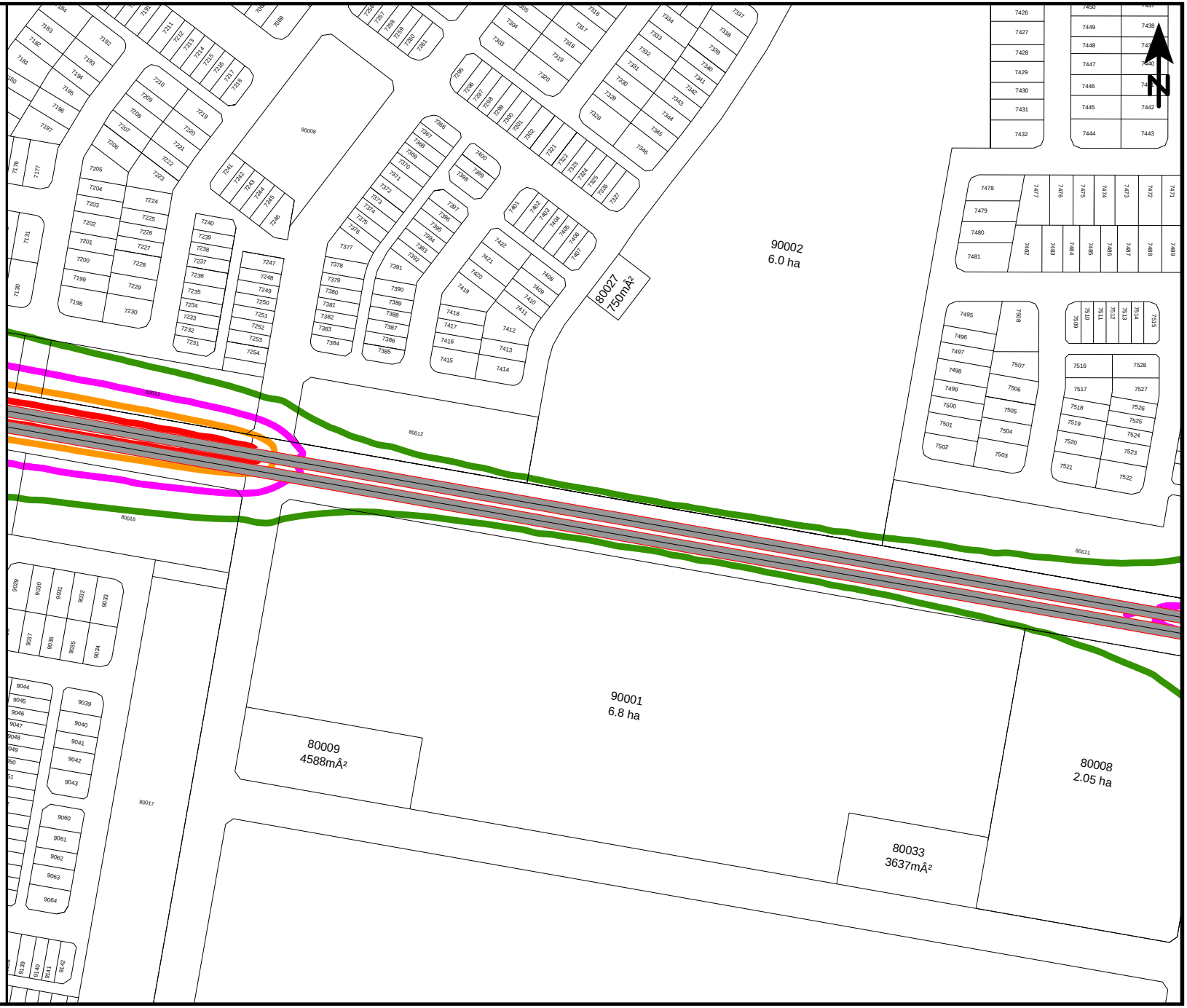
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:3287

0 30 60 120 m

Job No: 8342
Aura - Precincts 7 to 10

Figure F.5A

Sub-Arterial Road Noise Contours With Proposed Noise Barriers

Ground Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:3287

0 30 60 120 m

Job No: 8342
Aura - Precincts 7 to 10

Figure F.5B

Sub-Arterial Road Noise Contours With Proposed Noise Barriers

Upper Floor

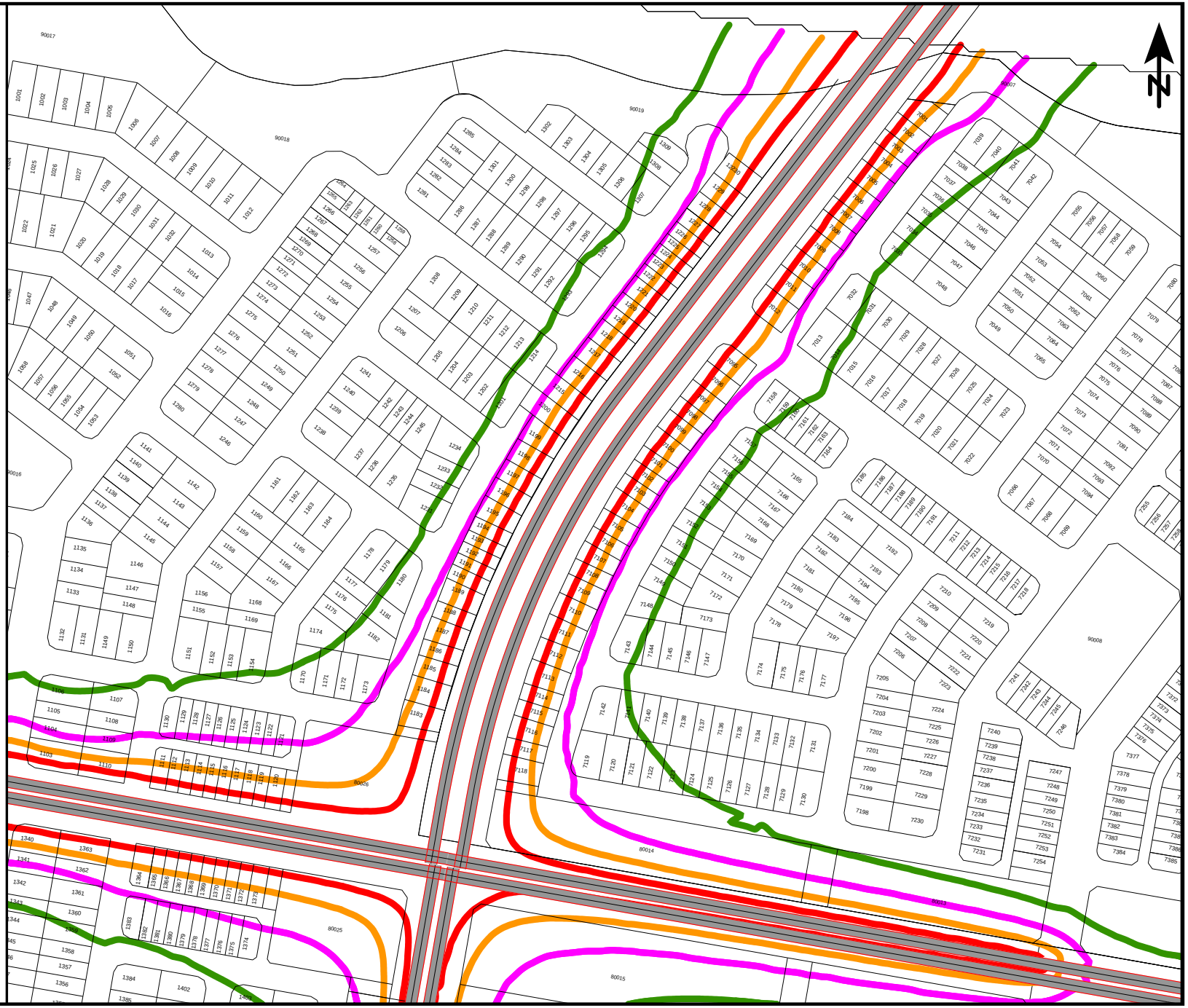
Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line



ask ACOUSTICS & AIR QUALITY

Length Scale 1:3287

0 30 60 120 m

Job No: 8342
Aura - Precincts 7 to 10

Figure F.6A

Sub-Arterial Road Noise Contours With Proposed Noise Barriers

Ground Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

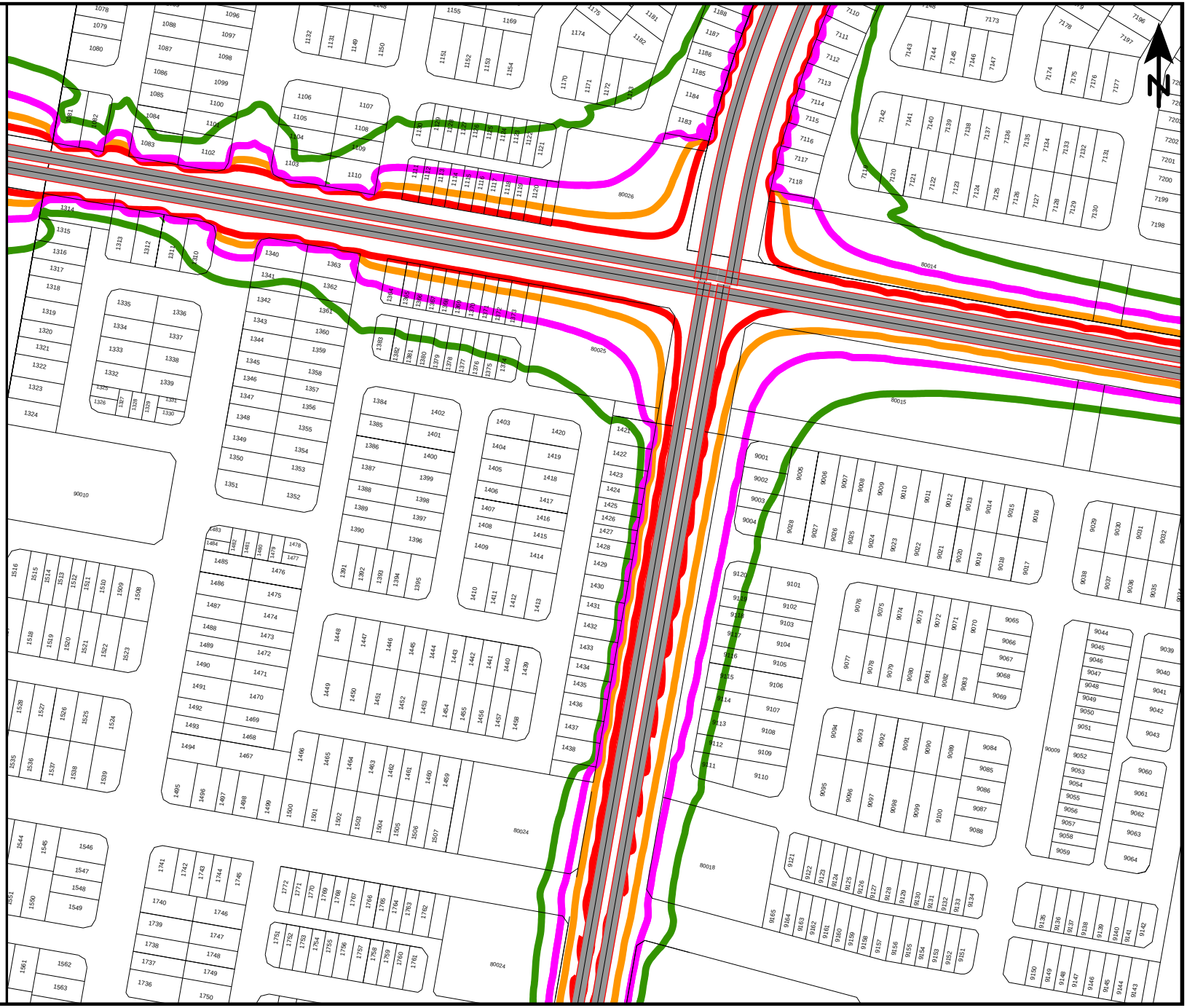
Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

ACOUSTICS & AIR QUALITY

Length Scale 1:3098

0 25 50 100 m



Job No: 8342
Aura - Precincts 7 to 10

Figure F.6B

Sub-Arterial Road Noise Contours With Proposed Noise Barriers

Upper Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

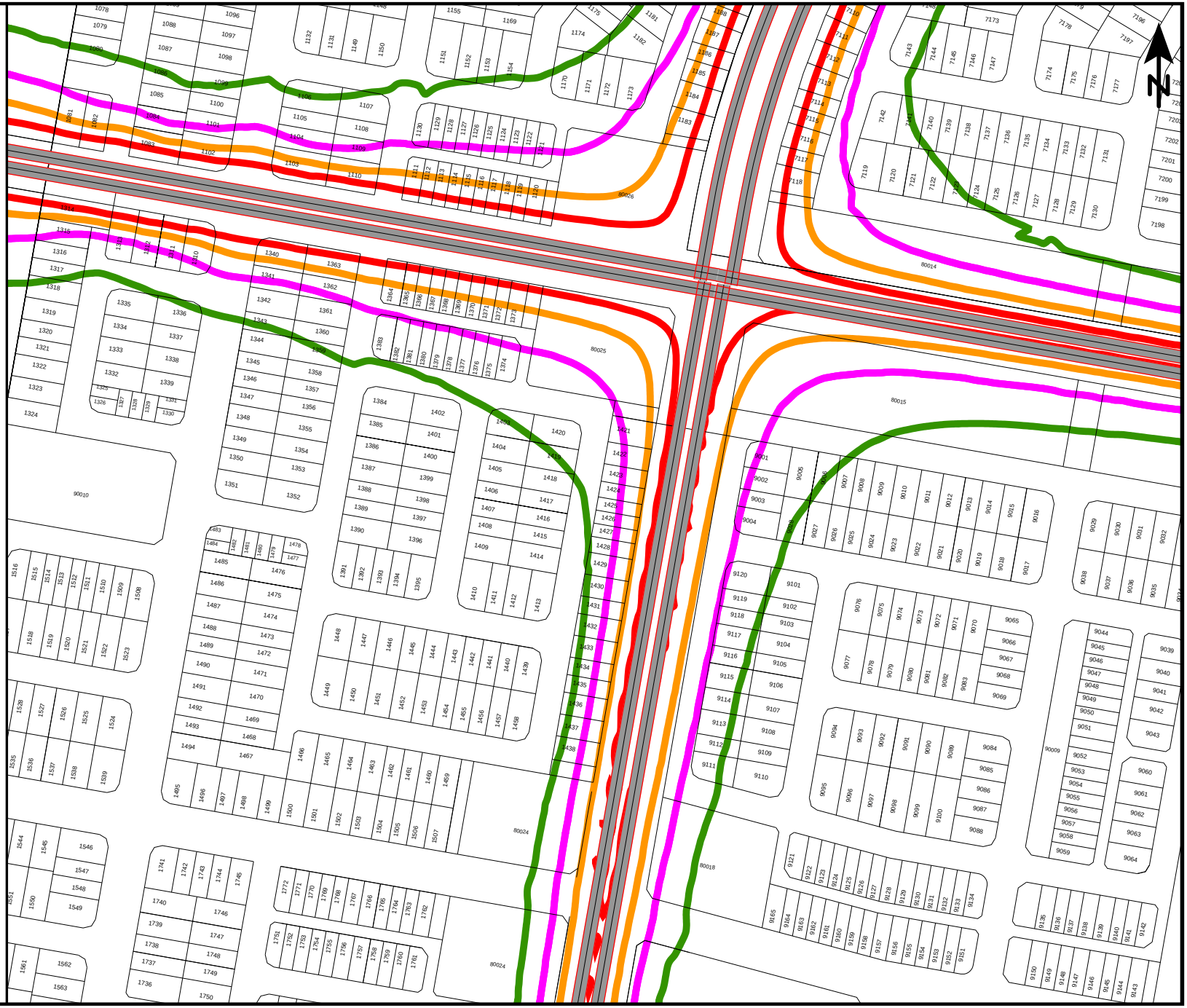
Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:3098

0 25 50 100 m



Job No: 8342
Aura - Precincts 7 to 10

Figure D.7A

Sub-Arterial Road Noise Contours With Proposed Noise Barriers

Ground Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

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Length Scale 1:3524

0 30 60 120 m

Job No: 8342
Aura - Precincts 7 to 10

Figure D.7B

Sub-Arterial Road Noise Contours With Proposed Noise Barriers

Upper Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd

Road Noise Level L10 (18 Hour) dB(A) (Facade Corrected)

- = 60.4
- = 63.4
- = 66.4
- = 69.4

Legend

- External Noise Limit (63 dBA L10 (18 Hour))
- Road axis
- Emission line

ask ACOUSTICS & AIR QUALITY

Length Scale 1:3524

0 30 60 120 m

Appendix G MP4.4 Construction Requirements

Table G.1 Acceptable Forms of Construction

Component of Buildings External Envelope	Minimum Acoustic Rating (R_w)	Acceptable Forms of Construction
Noise Category 4		
Glazing	43	Double glazing consisting of two panes of minimum 5mm thick glass with at least 100mm air gap and full perimeter acoustically rated seals.
External walls	52	Two leaves of clay brick masonry, at least 270mm in total, with subfloor vents fitted with noise attenuators.
Roof	45	Concrete or terracotta tile or sheet metal roof with sarking, acoustically rated plasterboard ceiling at least 13mm thick fixed to ceiling joists, cellulose fibre insulation at least 100mm thick with a density of at least 45kg/m^3 in the cavity. OR Concrete or terracotta tile or sheet metal roof with sarking, 2 layers of acoustically rated plasterboard at least 16mm thick fixed to ceiling joists, glass wool insulation at least 50mm thick with a density of at least 11kg/m^3 or polyester insulation at least 50mm thick with a density of at least 20kg/m^3 in the cavity.
Floors	51	Concrete slab at least 150mm thick.
Entry doors	35	Solid core timber not less than 45mm thick, fixed so as to overlap the frame or rebate of the frame by not less than 10mm, with full perimeter acoustically rated seals.
Noise Category 3		
Glazing	38 (where total area of glazing for a habitable room is greater than 1.8m^2)	Minimum 14.38mm thick laminated glass, with full perimeter acoustically rated seals; OR Double glazing consisting of one pane of minimum 5mm thick glass and one pane of minimum 6mm thick glass with at least 44mm air gap, and full perimeter acoustically rated seals
	35 (where total area of glazing for a habitable room is less than or equal to 1.8m^2)	Minimum 10.38mm thick laminated glass, with full perimeter acoustically rated seals.

Component of Buildings External Envelope	Minimum Acoustic Rating (R_w)	Acceptable Forms of Construction
External walls	47	Two leaves of clay brick masonry at least 110mm thick with: (i) cavity not less than 50mm between leaves; and (ii) 50mm thick mineral insulation or 50mm thick glass wool insulation with a density of 11kg/m^3 or 50mm thick polyester insulation with a density of 20kg/m^3 in the cavity. OR Two leaves of clay brick masonry at last 110mm thick with: (i) cavity not less than 50mm between leaves; and (ii) at least 13mm thick cement render on each face OR Single leaf of clay brick masonry at least 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) Mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m^3 positioned between studs; and (iii) One layer of plasterboard at least 13mm thick fixed to outside face of studs. OR Single leaf of minimum 150mm thick masonry of hollow, dense concrete blocks, with mortar joints laid to prevent moisture bridging.
Roof	41	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling joists, glass wool insulation at least 50mm thick with a density of at least 11kg/m^3 or polyester insulation at least 50mm thick with a density of at least 20kg/m^3 in the cavity. OR Concrete suspended slab at least 100mm thick.
Floors	45	Concrete slab at least 100mm thick OR Tongued and grooved boards at least 19mm thick with: (i) timber joists not less than 175mm x 50mm; and (ii) mineral insulation or glass wool insulation at least 75mm thick with a density of at least 11kg/m^3 positioned between joists and laid on plasterboard at least 10mm thick fixed to underside of joists; and (iii) mineral insulation or glass wool insulation at least 25mm thick with a density of at least 11kg/m^3 laid over entire floor, including tops of joists before flooring is laid; and (iv) secured to battens at least 75mm x 50mm; and (v) the assembled flooring laid over the joists, but not fixed to them, with battens lying between the joists.

Component of Buildings External Envelope	Minimum Acoustic Rating (R_w)	Acceptable Forms of Construction
Entry doors	33	Fixed so as to overlap the frame or rebate of the frame by not less than 10mm, fitted with full perimeter acoustically rated seals and constructed of - (i) solid core, wood, particleboard or blockboard not less than 45mm thick; and/or (ii) acoustically laminated glass not less than 10.38mm thick.
Noise Category 2		
Glazing	35 (where total area of glazing for a habitable room is greater than 1.8m^2)	Minimum 10.38mm thick laminated glass, with full perimeter acoustically rated seals.
	32 (where total area of glazing for a habitable room is less than or equal to 1.8m^2)	Minimum 6.38mm thick laminated glass with full perimeter acoustically rated seals.
External walls	41	Two leaves of clay brick masonry at least 110mm thick with cavity not less than 50mm between leaves OR Single leaf of clay brick masonry at last 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m3 positioned between studs; and (iii) One layer of plasterboard at least 10mm thick fixed to outside face of studs OR Single leaf of brick masonry at least 110mm thick with at least 13mm thick render on each face OR Concrete brickwork at least 110mm thick OR In-situ concrete at least 100mm thick OR Precast concrete at least 100mm thick and without joints.
Roof	38	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling cavity, mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m^3.

Component of Buildings External Envelope	Minimum Acoustic Rating (R_w)	Acceptable Forms of Construction
Floors	45	Concrete slab at least 100mm thick OR Tongued and grooved boards at least 19mm thick with: (i) timber joists not less than 175mm x 50mm; and (ii) mineral insulation or glass wool insulation at least 75mm thick with a density of at least 11kg/m^3 positioned between joists and laid on plasterboard at least 10mm thick fixed to underside of joists; and (iii) mineral insulation or glass wool insulation at least 25mm thick with a density of at least 11kg/m^3 laid over entire floor, including tops of joists before flooring is laid; and (iv) secured to battens at least 75mm x 50mm; and (v) the assembled flooring laid over the joists, but not fixed to them, with battens lying between the joists.
Entry doors	33	Fixed so as to overlap the frame or rebate of the frame by not less than 10mm, fitted with full perimeter acoustically rated seals and constructed of - (i) solid core, wood, particleboard or blockboard not less than 45mm thick; and/or (ii) acoustically laminated glass not less than 10.38mm thick.
Noise Category 1		
Glazing	27 (where total area of glazing for a habitable room is greater than 1.8m^2)	Minimum 4mm thick glass with full perimeter acoustically rated seals
	24 (where total area of glazing for a habitable room is less than or equal to 1.8m^2)	Minimum 4mm thick glass with standard weather seals
External walls	35	Single leaf of clay brick masonry at least 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) One layer of plasterboard at least 10mm thick fixed to outside face of studs OR Minimum 6mm thick fibre cement sheeting or weatherboards or plank cladding externally, minimum 90mm deep timber stud or 92mm metal stud, standard plasterboard at least 13mm thick internally.
Roof	35	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling cavity.

Component of Buildings External Envelope	Minimum Acoustic Rating (R_w)	Acceptable Forms of Construction
Entry doors	28	Fixed so as to overlap the frame or rebate of the frame, constructed of - (i) Wood, particleboard or blockboard not less than 33mm thick; or (ii) Compressed fibre reinforced sheeting not less than 9mm thick; or (iii) Other suitable material with a mass per unit area not less than 24.4kg/m^2; or (iv) Solid core timber door not less than 35mm thick fitted with full perimeter acoustically rated seals.
Noise Category 0		
No additional acoustic treatment required – standard building assessment provisions apply.		

Appendix H Predicted Rail Noise Contours (Without Barriers)

Job No: 8342
Aura - Precincts 7 to 10

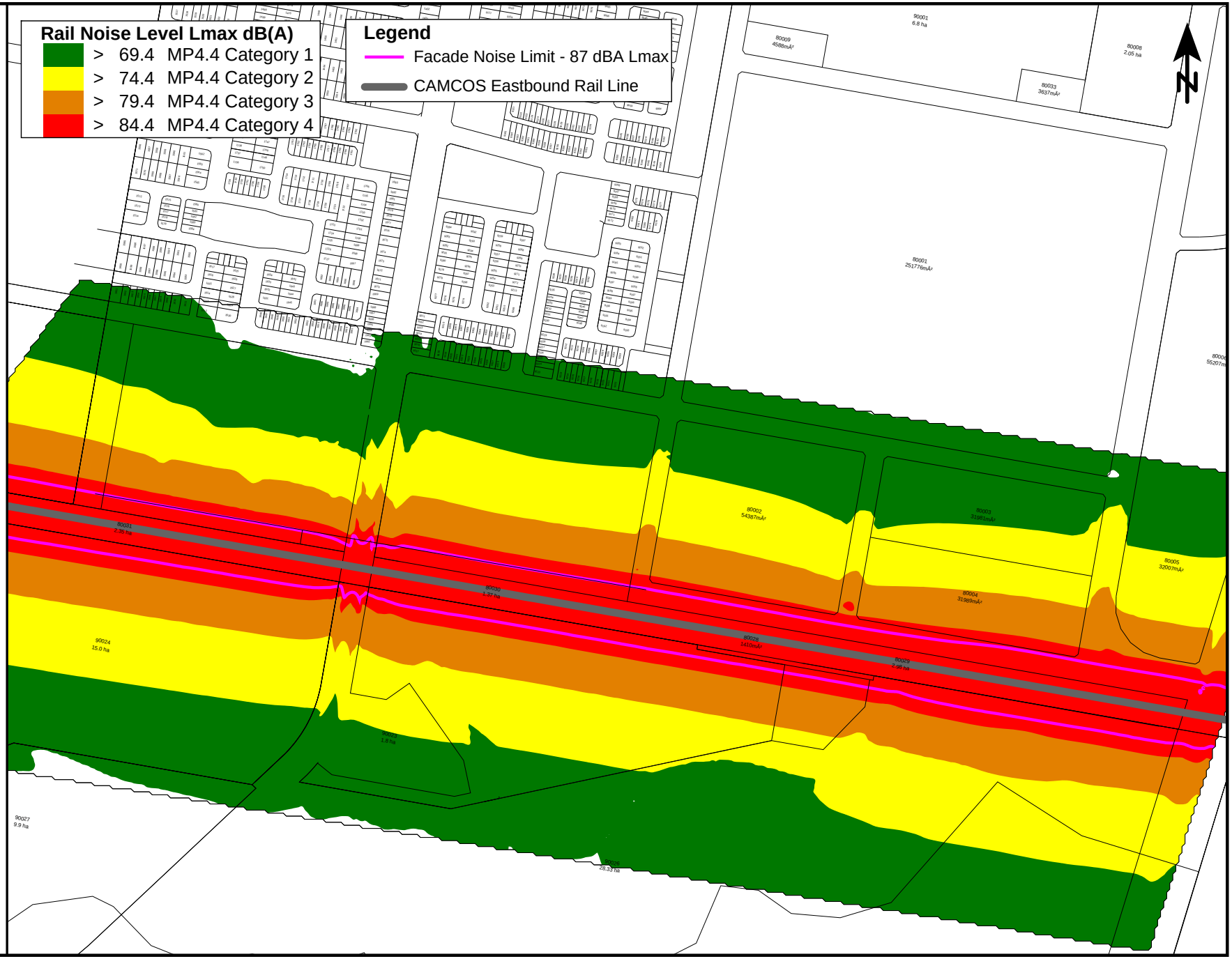
Figure H.1A

CAMCOS Rail Corridor Lmax Noise Levels dBA and MP4.4 Noise Categories

No Noise Barrier

Ground Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd



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Length Scale 1:6920

0 50 100 200 m

Job No: 8342
Aura - Precincts 7 to 10

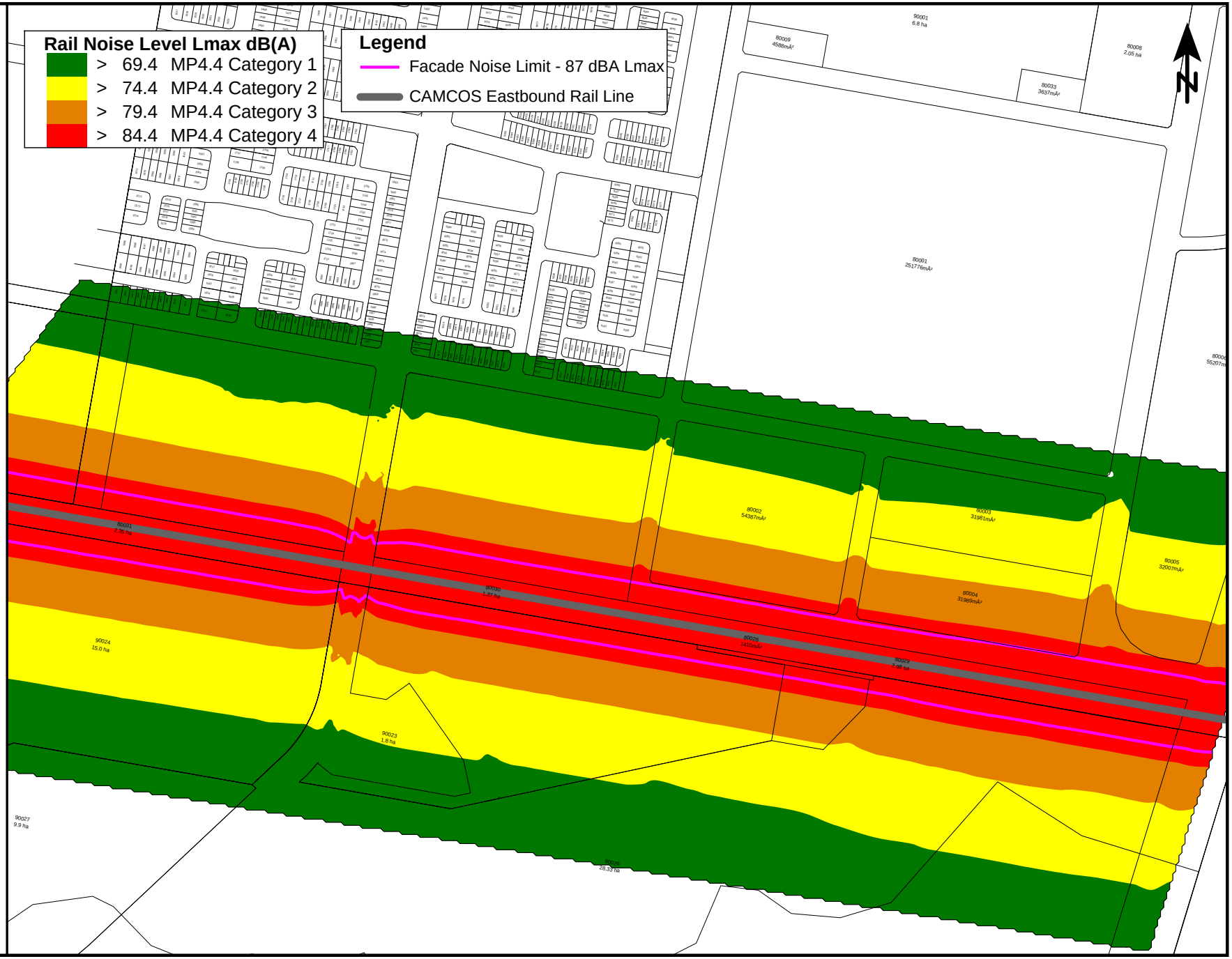
Figure H.1B

CAMCOS Rail Corridor Lmax Noise Levels dBA and MP4.4 Noise Categories

No Noise Barrier

Upper Floor

Date: 13/05/2016
Drawn By: MR
Prepared For:
Stockland Development Pty Ltd



ask ACOUSTICS & AIR QUALITY

Length Scale 1:6920

0 50 100 200 m