

# Stratford Mining Complex Statement of Environmental Effects

## APPENDIX A

## NOISE ASSESSMENT

**Stratford Mining Complex  
Modification 1**

Report Number 610.09020.00700-R1

16 June 2016

Stratford Coal Pty Ltd  
PO Box 168  
GLOUCESTER NSW 2422

Version: Revision 0

# Stratford Mining Complex

## Modification 1

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## Table of Contents

|       |  |    |
|-------|--|----|
| 1     | INTRODUCTION   | 6  |
| 1.1   | Background   | 6  |
| 1.2   | The Modification   | 6  |
| 1.3   | Assessment Requirements  | 7  |
| 1.4   | Other Approved or Proposed Resource Projects                       | 8  |
| 2     | EXISTING STRATFORD MINING COMPLEX                                  | 8  |
| 2.1   | Overview   | 8  |
| 2.2   | Land Ownership and Land Zoning                                     | 8  |
| 2.3   | Existing Approvals   | 8  |
| 2.4   | Noise Management and Compliance                                    | 10 |
| 2.4.1 | Noise Management Plan  | 10 |
| 2.4.2 | Operator-attended Noise Compliance Results 2012                    | 11 |
| 2.4.3 | Operator-attended Noise Compliance Results 2013                    | 11 |
| 2.4.4 | Operator-attended Noise Compliance Results 2014                    | 11 |
| 2.4.5 | Operator-attended Noise Compliance Results 2015                    | 12 |
| 2.4.6 | Operator-attended Noise Compliance Results 2016 (to December 2015) | 12 |
| 2.5   | Noise and Blasting Complaints Summary                              | 12 |
| 3     | MODIFICATION   | 13 |
| 3.1   | Approved and Proposed Hours of Operation                           | 13 |
| 3.2   | Approved and Proposed SMC Development Schedule                     | 14 |
| 3.3   | Overview   | 14 |
| 3.4   | Off-site Rail Transport  | 15 |
| 3.5   | Off-site Road Transport  | 16 |
| 4     | EXISTING METEOROLOGICAL AND NOISE ENVIRONMENT                      | 16 |
| 4.1   | Meteorological Environment   | 16 |
| 4.2   | Noise Environment  | 17 |
| 5     | MODIFICATION NOISE ASSESSMENT CRITERIA                             | 18 |
| 5.1   | Construction Assessment Criteria                                   | 18 |
| 5.2   | Operating Assessment Criteria                                      | 18 |
| 5.3   | Voluntary Land Acquisition and Mitigation Policy                   | 19 |
| 5.4   | Sleep Disturbance Assessment Criteria                              | 21 |
| 6     | NOISE MODELLING METHODOLOGY  | 21 |
| 6.1   | Existing/Approved SMC Noise Mitigation and Management Measures     | 21 |
| 6.1.1 | Mobile Equipment and Fixed Plant Sound Power Levels                | 21 |
| 6.1.2 | SMC Noise Model Validation   | 22 |

## Table of Contents

|     |   |    |
|-----|---|----|
| 7   | OPERATING NOISE IMPACT ASSESSMENT                                       | 23 |
| 7.1 | Daytime Operating Intrusive Noise Levels                                | 23 |
| 7.2 | Privately-owned Receivers - Intrusive Noise Impact Assessment Summary   | 26 |
| 7.3 | Privately-owned Land - Impact Assessment                                | 27 |
| 7.4 | Resource Company-owned Receivers - Impact Assessment Summary            | 27 |
| 7.5 | Review of Existing SMC Noise Management Plan                            | 27 |
| 8   | CUMULATIVE NOISE AMENITY ASSESSMENT                                     | 27 |
| 8.1 | Other Approved or Proposed Industrial Developments                      | 27 |
| 8.2 | Cumulative Daytime Noise Amenity Assessment                             | 28 |
| 8.3 | Privately Owned Receivers - Cumulative Impact Assessment Summary        | 31 |
| 8.4 | Resource Company-owned Receivers - Cumulative Impact Assessment Summary | 31 |
| 9   | SUMMARY OF FINDINGS   | 31 |
| 9.1 | Construction Assessment Criteria  | 31 |
| 9.2 | Operating Assessment Criteria   | 31 |
| 9.3 | Modification and Cumulative Operating Noise Impact Assessment           | 32 |
| 10  | REFERENCES  | 34 |

## TABLES

|          |   |    |
|----------|---|----|
| Table 1  | Assessment Methodology and Procedure Guidelines - Relevant Report                         | 7  |
|          | Cross-references  |    |
| Table 2  | Other Approved or Proposed Resource Developments  | 8  |
| Table 3  | Current Operational Noise Monitoring Locations  | 10 |
| Table 4  | Approved SMC and Proposed Modification Hours of Operation                                 | 13 |
| Table 5  | Approved and Proposed SMC ROM Coal Processing Schedule                                    | 14 |
| Table 6  | Amended RHCP Proposed ROM Coal Truck Movements to the SMC                                 | 15 |
| Table 7  | Prevailing Wind Conditions in Accordance with the INP                                     | 16 |
| Table 8  | Daytime Calm (Neutral) Meteorological Modelling Parameters                                | 17 |
| Table 9  | Background Noise Environment for Assessment Purposes                                      | 17 |
| Table 10 | Intrusive LAeq(15minute) Construction Noise Management Levels                             | 18 |
| Table 11 | INP Acceptable and Maximum Noise Amenity Levels   | 19 |
| Table 12 | Approved SMC and Modification Plant and Equipment SWLs                                    | 22 |
| Table 13 | Daytime Year 2, Year 7 and Year 10 Intrusive LAeq(15minute) Noise                         | 24 |
| Table 14 | Approved or Proposed Resource Developments in the Vicinity of the Modification            | 27 |
| Table 15 | Cumulative Daytime (LAeq(11 hour)) Noise Amenity Levels                                   | 28 |
| Table 16 | Summary of Criteria Exceedances at Privately Owned Receivers <sup>1</sup> and Vacant Land | 33 |

## FIGURES

|          |  |    |
|----------|--|----|
| Figure 1 | Noise, Blasting and Rail Complaints 2007 to 2015 | 13 |
|----------|--|----|

## Table of Contents

### APPENDICES

|             |   |
|-------------|---|
| Appendix A  | Amended Rocky Hill Coal Project Private Haul Road                     |
| Appendix B1 | Land Ownership Plan   |
| Appendix B2 | Land Ownership Details  |
| Appendix B3 | Local Environmental Plan  |
| Appendix C  | Development Consent SSD - 4966 dated 29 May 2015                      |
| Appendix D  | Noise Monitoring Location Plan  |
| Appendix E  | Generalised Noise Impact Assessment Methodology                       |
| Appendix F  | NSW Government Voluntary Mitigation and Land Acquisition Policy       |
| Appendix G  | RING (Appendix 6) Definition of Feasible and Reasonable Mitigation    |
| Appendix H1 | Privately-owned Receivers with Intrusive PSNL Exceedances             |
| Appendix H2 | Resource Company-owned Receivers Intrusive Impact Assessment          |
| Appendix I1 | Modification Year 2 Daytime Intrusive LAeq(15minute) Noise Contours   |
| Appendix I2 | Modification Year 7 Daytime Intrusive LAeq(15minute) Noise Contours   |
| Appendix I3 | Modification Year 10 Daytime Intrusive LAeq(15minute) Noise Contours  |
| Appendix J  | Resource Company-owned Receivers Cumulative Amenity Impact Assessment |

# 1 INTRODUCTION

## 1.1 Background

Stratford Coal Pty Ltd (SCPL), a wholly owned subsidiary of Yancoal Australia Limited (Yancoal), owns and operates the Stratford Mining Complex (SMC). The existing and approved operation of the SMC incorporates the approved Stratford Extension Project (SSD-4966). The approved Stratford Extension Project provides for the continuation and extension of open cut coal mining and processing at the SMC and was approved by the NSW Planning and Assessment Commission in May 2015. SCPL is the owner and operator of the SMC.

In 1994, SCPL was granted approval to develop the Stratford Coal Mine, with production involving conventional open cut operations commencing in 1995. In 2001 SCPL was granted approval to develop the Bowens Road North Open Cut (BRNOC), with production commencing in 2003. The SMC is located approximately 100 kilometres (km) north of Newcastle, New South Wales (NSW) in the Gloucester Basin. Product coal from the SMC is transported by rail to Newcastle.

The nearby Duralie Coal Mine (DCM) is also owned by Yancoal and is located approximately 20 km south of the SMC. Sized run-of-mine (ROM) coal from the DCM is transported on the North Coast Railway to the SMC for processing.

SCPL received Development Consent (SSD-4966 dated 29 May 2015) to extend the SMC operations into additional open pit working areas with associated increased production of ROM coal up to approximately 2.6 million tonnes per annum (Mtpa), referred to as the Stratford Extension Project (SEP). The SEP includes completion of the BRNOC, extension of the existing Roseville West Pit (Roseville West Pit Extension) as well as the development of the new Avon North and Stratford East Open Cuts. The existing Stratford Main Pit would be utilised for the storage of waste rock, water and rejects from the coal handling and preparation plant (CHPP).

The BRNOC is scheduled for closure in Year 1 of the SEP.

## 1.2 The Modification

SCPL is seeking modification to the SMC Development Consent (the Modification) to facilitate proposed interactions between the SMC and the amended Rocky Hill Coal Project (the amended RHCP) (SSD-5156), a proposed open cut mining operation owned by Gloucester Resources Ltd (GRL), located approximately 5 km north of the SMC.

The Environmental Impact Statement (EIS) and related documents for the original Rocky Hill Coal Project were exhibited with the NSW Department of Planning and Environment (DP&E) in August 2013, however the original project was placed on hold by GRL in June 2015 as it was in negotiation regarding a potential commercial arrangement with Yancoal.

The proposed interactions relate to the transportation and processing of RHCP run-of-mine (ROM) coal using SCPL infrastructure. This integration would require the development of a dedicated private haul road between the SMC and the RHCP. The portion of the private haul road relevant to the SMC would be located within the north-eastern portion of SCPL's mining tenements, from which haul trucks would use existing SMC haul roads to allow transport of coal to the ROM pad (**Appendix A**).

The main changes to the operations of the SMC associated with the Modification include:

- Transport of sized ROM coal from the RHCP to the SMC during daytime hours only (0700 hours to 1800 hours Monday to Saturday);
- Extension of the SMC ROM pad to accommodate RHCP sized ROM coal;
- Extension of SMC heavy vehicle parking areas;

- Processing of RHCP coal at the SMC and transportation of the resulting product coal via rail from the SMC to the Port of Newcastle;
- Extension of on-site haul roads to accommodate RHCP haul trucks; and
- An at-grade level crossing (and associated controls) constructed at the intersection of Wenham Cox Road and the private haul road.

There will be no change to the approved product coal train movements from the SMC with the Modification.

SLR Consulting Australia Pty Ltd (SLR) has been engaged by SCPL to evaluate and assess the potential noise impacts associated with the Modification with particular focus on any incremental noise impacts by comparison with the approved SMC and associated noise limits.

### 1.3 Assessment Requirements

The noise impact assessment procedures for the Modification have been guided by the requirements presented in **Table 1**.

**Table 1 Assessment Methodology and Procedure Guidelines - Relevant Report Cross-references**

| Assessment Guideline <sup>1</sup>  | Representative Assessment Scenario  | Assessment Criteria               | Impact Assessment               |
|--|---|-----------------------------------|---------------------------------|
| <b>Modification Construction Noise</b><br>Guided by the requirements of the EPA's Interim Construction Noise Guideline (ICNG) (EPA, 2009) in relation to setting construction noise management levels (CNMLs).   | Site establishment and construction phase.  | <b>Section 5.1</b>                | <b>Section 5.1</b>              |
| <b>Modification Operating Noise</b><br>Guided by the requirements of the NSW Industrial Noise Policy (INP) and associated Application Notes dated 12 June 2013 in relation to setting project specific noise levels (PSNLs).   | Year 2;<br>Year 7; and<br>Year 10.  | <b>Section 5.2 and Appendix E</b> | <b>Section 7 and Appendix H</b> |
| <b>Cumulative Industrial Noise</b><br>Guided by the requirements of the NSW INP in relation to existing and successive industrial developments by setting cumulative LAeq(period) amenity levels for all industrial (i.e. non-transport related) noise in a receiver area.                                     | Existing and approved industrial developments in the vicinity of the Modified SEP.  | <b>Section 5.2</b>                | <b>Section 8 and Appendix J</b> |
| <b>Off-site Rail Transport Noise</b><br>Guided by the requirements of the EPA's Rail Infrastructure Noise Guideline (RING) (Appendix 2) in relation to land-use developments (other than rail projects) likely to generate additional rail traffic on an existing rail network.                                | Not Applicable - The Modification would not change the approved SMC rail movements and therefore, no further consideration of the RING is required.           |                                   |                                 |
| <b>Off-site Road Traffic Noise</b><br>Guided by the requirements of the EPA's Road Noise Policy (RNP) and associated Application Notes dated 15 February 2013 in relation to setting acceptable LAeq(period) noise levels for sub-arterial, principal haulage route and local roads and assessing any impacts. | Not Applicable - The Modification would not materially change the approved SMC road movements and therefore, no further consideration of the RNP is required. |                                   |                                 |

Note 1: The Environment Protection Authority (EPA) existed as a legal entity operated within the NSW Office of Environment and Heritage (OEH) which came into existence in 2011. The EPA became a separate statutory authority on 29 February 2012. The OEH was previously part of the NSW Department of Environment, Climate Change and Water (DECCW). The DECCW was also recently known as the NSW Department of Environment and Climate Change (DECC), and prior to that the NSW Department of Environment and Conservation.



In addition, more recently the DP&E has released its Voluntary Land Acquisition and Mitigation Policy (VLAMP): For State Significant Mining, Petroleum and Extractive Industry Developments (NSW Government, 2014) which must also be considered when assessing operational noise impacts from the Modification.

## 1.4 Other Approved or Proposed Resource Projects

Other existing, approved or proposed resource projects in the Gloucester Valley are summarised in **Table 2**. It is noted that in February 2016, AGL Upstream Infrastructure Investments Pty Ltd (AGL) announced that it was no longer proceeding with the Gloucester Gas Project. However, noise impacts from this approved resource project have been conservatively considered for potential cumulative noise impacts (**Section 8**).

**Table 2 Other Approved or Proposed Resource Developments**

| Proponent   | Project                         | Status  |
|---|---------------------------------|---|
| Gloucester Resources Ltd (GRL)                        | Amended Rocky Hill Coal Project | Proposed<br>SSD-5156 pending lodgement of an Amended EIS. |
| AGL Upstream Infrastructure Investments Pty Ltd (AGL) | AGL Gloucester Gas Project      | Project Approval dated 22 February 2011                   |

## 2 EXISTING STRATFORD MINING COMPLEX

### 2.1 Overview

Mining of ROM coal at the SMC involves conventional drill and blast, truck and shovel open cut extractive methods with on-site coal handling, washing and stockpiling. Mining operations are supported by existing on-site facilities including a CHPP, main infrastructure area, water management storages and rail loading and unloading infrastructure.

ROM coal is delivered to the ROM pad via haul trucks and is then transferred into a loading hopper and conveyed to the CHPP for processing. In addition, sized ROM coal from the DCM is transported on the North Coast Railway to the SMC for processing.

Coal products from the CHPP and bypass coal are conveyed to the product coal stockpiles and subsequent reclaim, and loaded onto trains for transport to domestic and export markets. Open cut mining at the SMC ceased in 2014 pending commencement of the Stratford Extension Project.

### 2.2 Land Ownership and Land Zoning

The Land Ownership Plan (**Appendix B1**) identifies the nearest privately-owned and resource company-owned receivers together with the Land Ownership Details (**Appendix B2**) including a list of property ID numbers, landowners and dwelling co-ordinates. The Gloucester Local Environmental Plan 2010 (LEP) (**Appendix B3**) shows the land use zones in the vicinity of the Modification being dominated by general rural zoning.

### 2.3 Existing Approvals

With respect to noise (and blasting) emissions, SCPL has consent to operate the SMC in accordance with the following approval and licence conditions:

- Development Consent SSD-4966 dated 29 May 2015 (relevant sections attached as **Appendix C**).
- SMC Environment Protection Licence (EPL) 5161 and EPL 11745.

In addition, NSW Work Cover Dangerous Goods Licences and/or Occupational Health and Safety legislation describe noise specifications for individual equipment, for health and safety purposes.

Development Consent SSD-4966 (**Appendix C**) includes conditions relating to acquisition upon request, additional mitigation upon request, noise criteria (i.e. the SMC approved noise limits) which are reproduced below:

#### Noise Criteria

4. *The Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 4 at any residence on privately-owned land.*

Table 4: Noise criteria dB(A)

| Land                                     | Day<br><i>L<sub>Aeq</sub>(15 min)</i> | Evening<br><i>L<sub>Aeq</sub>(15 min)</i> | Night<br><i>L<sub>Aeq</sub>(15 min)</i> | Night<br><i>L<sub>A1</sub>(1 min)</i> |
|--|---------------------------------------|---|---|---------------------------------------|
| 40/51/Cr1 –<br>L. Blanch                 | 43                                    | 43  | 43                                      | 50                                    |
| Cr7 – Pryce-Jones                        | 43                                    | 43  | 43                                      | 49                                    |
| 42 – D. Blanch                           | 42                                    | 42  | 42                                      | 50                                    |
| Cr 2 – Boorer                            | 41                                    | 41  | 41                                      | 49                                    |
| 31(1) – Isaac                            | 40                                    | 40  | 40                                      | 48                                    |
| 36 – Wallace                             | 39                                    | 39  | 39                                      | 47                                    |
| 44 – Cross / Jane                        |                                       |   |   |                                       |
| 60 – Healy /<br>Greenwood                | 39                                    | 39  | 39                                      | 45                                    |
| 37 – Worth                               | 38                                    | 38  | 38                                      | 46                                    |
| 29 – Ward                                | 38                                    | 38  | 37                                      | 45                                    |
| 23 – Bagnall                             | 37                                    | 37  | 37                                      | 45                                    |
| 31(2) – Isaac                            |                                       |   |   |                                       |
| 296 – Watson                             |                                       |   |   |                                       |
| 297 – Bosma                              |                                       |   |   |                                       |
| 298 – Yates                              | 36                                    | 36  | 36                                      | 45                                    |
| 15(3) – Falla                            | 39                                    | 35  | 35                                      | 45                                    |
| 15(2) – Falla                            | 36                                    | 35  | 35                                      | 45                                    |
| Stratford Village                        | 37                                    | 36  | 35                                      | 45                                    |
| All other privately-<br>owned residences | 35                                    | 35  | 35                                      | 45                                    |

- To interpret the locations referred to in Table 4 see the applicable figure(s) in Appendix 5.
- Stratford village is shown on the figure(s) in Appendix 5.

Noise generated by the development is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Applicant has a negotiated agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

The landowners that have (unexercised) acquisition upon request rights in Development Consent SSD-4966 are as follows: 40 (1) Leslie Allenby Blanch, 42 Blanch, 40(2) Blanch, 40(3) Blanch (properties 51 and Cr.1 are owned by Leslie Allenby Blanch and have been relabelled 40(2) and 40(3), respectively), Cr.2 Boorer, and Cr.7 Pryce-Jones.

The landowners that can request additional noise mitigation measures (such as double glazing, insulation, and/or air conditioning) are as follows: 31(1) Isaac, 44 Cross/-Jane, 37 Worth, 15(3) Falla, 60 Healy/Greenwood, 36 Wallace and 29 Ward.

SCPL has entered into landholder agreements with the following landowners: 14 Wenham & Wenham, 15 (1) Falla, 15 (2) Falla, 15 (3) Falla, 29 Ward, 31(1) Isaac, 31(2) Isaac, 32 McIntosh & McIntosh, 35 Dillon & Dillon, 37 Worth, 40 (1) Leslie Allenby Blanch, 42 Blanch, 297 Bosma, 298 Yates, Cr.2 Boorer.

## 2.4 Noise Management and Compliance

### 2.4.1 Noise Management Plan

A revised Noise Management Plan (NMP) for the SMC was prepared by SCPL and submitted to the Director-General (now Secretary) of the DP&E in May 2011 for approval. This document was subsequently revised in March 2012 and describes the current monitoring regime for the SMC. At the request of the EPA in August 2013, the operator-attended noise monitoring locations were revised to reflect SCPL's property acquisitions and landholder agreements. Noise monitoring was commenced at the revised locations in November 2014.

The current noise monitoring program comprises seven quarterly operator-attended noise monitoring locations, one continuous real-time noise monitoring site and an on-site Automatic Weather Stations (AWS) as shown on the Noise Monitoring Location Plan (**Appendix D**). In accordance with the NMP, operator-attended noise monitoring is used for demonstrating compliance with the SMC approved noise limits (**Appendix C**). Continuous real-time noise monitoring is used as a noise management tool to assist SCPL to take pre-emptive noise management actions.

Real-time noise investigation triggers are set at levels below the SMC approved noise limits and specified in the NMP. An exceedance of the real-time noise investigation triggers results in an investigation into the potential noise source, and implementation of management measures (e.g. relocation or temporary stand-down of equipment) as required and to prevent an exceedance of the approved noise limits.

A summary of the current noise monitoring locations, and associated monitoring frequency, are presented in **Table 3** together with a cross reference to the Land Ownership Details presented in **Section 2.2**.

**Table 3 Current Operational Noise Monitoring Locations**

| Receiver Type                    | Monitoring Sites <sup>1</sup>  | Parameter                    | Frequency              |
|----------------------------------|--|------------------------------|------------------------|
| Privately-owned receivers        | 26 Lowrey, 34 Hall, Cr.7 Pryce-Jones   | Operator-attended monitoring | Routine every 3 months |
| Resource company-owned receivers | 19 (47) SCPL (Clarke Gates), 19 (33) SCPL (Ellis), 13 AGL (Atkins), 19(7) SCPL (Van der Drift) | Operator-attended monitoring | Routine every 3 months |
|                                  | 19 SCPL (RTNM1)  | Real-time noise monitoring   | Continuous             |

Source: Carbon Based Environmental Pty Ltd, 2015a

Note 1: Refer to Noise Monitoring Location Plan **Appendix D**.

In accordance with Development Consent SSD-4966 Schedule 3 Condition 6, a new NMP for the SMC was due prior to 31 December 2015, however SCPL sought to amend this timing to be upon commencement of mining operations for the Stratford Extension Project.

#### 2.4.2 Operator-attended Noise Compliance Results 2012

As described in the *Stratford Coal Annual Review 2012* (SCAR 2012) (Carbon Based Environmental, 2012), operator-attended noise monitoring was undertaken on a quarterly basis (i.e. September 2011, December 2011, March 2012 and June 2012) for the 12 month reporting period to June 2012. In addition, SCPL installed a Sentinex real-time noise monitor to assist SCPL to take pre-emptive noise management actions to avoid potential non-compliances.

Based on the findings of the SCAR 2012, there were no recorded non-compliances of the relevant daytime, evening and night-time intrusive  $L_{Aeq}(15\text{minute})$  noise limits during the 2012 reporting period except as follows:

- September 2011 survey, during the evening at 31(1) Isaac, where the measured intrusive noise level was 40 A-weighted decibels (dBA) and moderately (4 dBA) above the approved noise limit of 36 dBA. However there is a private agreement between the landowner and SCPL.
- December 2011 survey, during the daytime at 19(7) SCPL (Van der Drift) (representative of Stratford village), where the measured intrusive noise level was 40 dBA and moderately (5 dBA) above the approved noise limit of 35 dBA. While this property is now owned by SCPL, the SCAR concluded that there were no similar excursions at this location over the past two years, and this result did not reflect a systemic (or sustained) breach of the approved noise limit.

#### 2.4.3 Operator-attended Noise Compliance Results 2013

As described in the *Stratford Coal Annual Review 2013* (SCAR 2013) (Carbon Based Environmental, 2013), operator-attended noise monitoring was undertaken on a quarterly basis (i.e. September 2012, December 2012, March 2013 and June 2013) for the 12 month reporting period to June 2013. The Sentinex real-time noise monitor remained in place to assist SCPL to take pre-emptive noise management actions to avoid potential non-compliances.

Based on the findings of the SCAR 2013, there were no recorded non-compliances of the relevant daytime, evening and night-time intrusive  $L_{Aeq}(15\text{minute})$  noise limits during the 2013 reporting period except as follows:

- September 2012 survey, during the daytime at the residence 15 (3) Falla, where measured intrusive daytime noise level was 38 dBA and marginally (3 dBA) above the approved noise limit of 35 dBA. A private agreement between the landowner and SCPL was subsequently put in place.
- Furthermore, as presented in **Section 2.3**, in accordance with Development Consent SSD-4966, residence 15 (3) Falla has an approved daytime intrusive noise limit of 39 dBA effective from the 29 May 2015.

#### 2.4.4 Operator-attended Noise Compliance Results 2014

As described in the *Stratford Coal Annual Review 2014* (SCAR 2014) (Carbon Based Environmental, 2014), operator-attended noise monitoring was undertaken on a quarterly basis (i.e. September 2013, December 2013, March 2014 and June 2014) for the 12 month reporting period to June 2014. The Sentinex real-time noise monitor remained in place to assist SCPL to take pre-emptive noise management actions to avoid potential non-compliances.

Based on the findings of the SCAR 2014, there were no recorded non-compliances of the relevant daytime, evening and night-time intrusive  $L_{Aeq}(15\text{minute})$  noise limits during the 2014 reporting period.

#### 2.4.5 Operator-attended Noise Compliance Results 2015

As described in the *Stratford Coal Annual Review 2015* (SCAR 2015) (Carbon Based Environmental, 2015a), operator-attended noise monitoring was undertaken on a quarterly basis (i.e. August 2014, November 2014, March 2015 and June 2015) for the 12 month reporting period to June 2015. The Sentinex real-time noise monitor remained in place to assist SCPL to take pre-emptive noise management actions to avoid potential non-compliances.

Based on the findings of the SCAR 2015, there were no recorded non-compliances of the relevant daytime, evening and night-time intrusive LAeq(15minute) noise limits during the 2015 reporting period except as follows:

- June 2015 survey, during the night-time at Cr.7 Pryce-Jones, where measured intrusive noise level was 36 dBA and negligibly (1 dBA) above the (previously) approved noise limit of 35 dBA and therefore conditionally compliant (i.e. within 2 dB of the applicable noise criteria) in accordance with the INP.
- Furthermore, as presented in Section 2.3, in accordance with Development Consent SSD-4966, residence Cr.7 Pryce-Jones has an approved daytime, evening and night-time intrusive noise limit of 43 dBA effective from 29 May 2015. Hence the night-time intrusive noise level of 36 dBA at Cr.7 Pryce-Jones was therefore in compliance with the noise requirements from the current development consent.

#### 2.4.6 Operator-attended Noise Compliance Results 2016 (to December 2015)

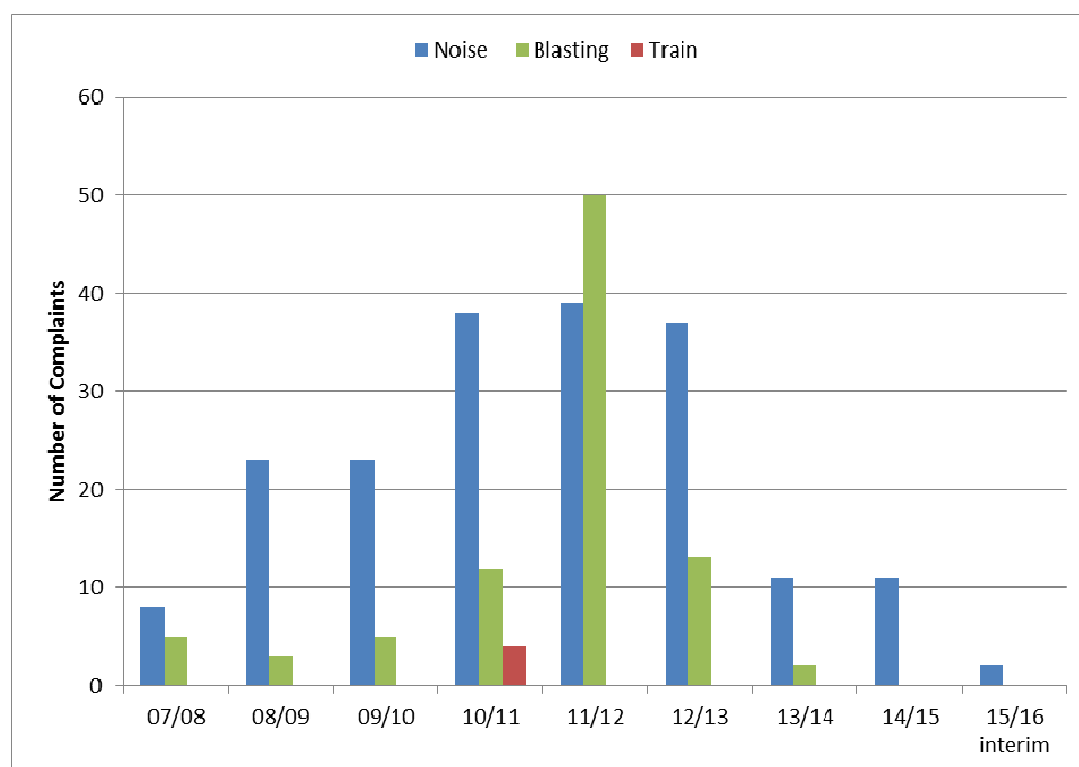
As described in the *Stratford Coal Interim Annual Review 2015* (SCIAR 2015) (Carbon Based Environmental, 2015b), operator-attended noise monitoring was undertaken on a quarterly basis (i.e. September 2015 and December 2015) for the six month reporting period to December 2015. The Sentinex real-time noise monitor remained in place to assist SCPL to take pre-emptive noise management actions to avoid potential non-compliances.

Based on the findings of the SCIAR 2015, there were no recorded non-compliances of the relevant daytime, evening and night-time intrusive LAeq(15minute) noise limits during the interim 2015 reporting period.

### 2.5 Noise and Blasting Complaints Summary

The numbers of complaints received relating to on-site operational noise, blasting and off-site rail are shown on **Figure 1**. As shown in **Figure 1**, whilst the overall number of noise and blasting complaints has fluctuated during this period, the number of complaints over the past two and half years have appreciably declined.

**Figure 1** Noise, Blasting and Rail Complaints 2007 to 2015



### 3 MODIFICATION

#### 3.1 Approved and Proposed Hours of Operation

There would be no change in the approved operating hours of the SMC due to the Modification as presented in **Table 4**.

**Table 4** Approved SMC and Proposed Modification Hours of Operation

| Operation          | Description   | Currently Approved <sup>1</sup>             | Modification  |
|--------------------|---|---|---|
| On-Site Operation  | Transport of sized ROM coal from the amended RHCP to the SMC  | n/a   | 0700 hours to 1800 hours Monday to Friday and Saturday <sup>2</sup> . |
|                    | Construction works; and Recovery and transportation of CHPP rejects   | 0700 hours to 1800 hours 7 days per week    | Unchanged   |
|                    | Bowens Road North and Roseville West Extension open-cut operations  | 0700 hours to 1800 hours 7 days per week    | Unchanged   |
|                    | Avon North and Stratford East open-cut operations; Coal processing, loading and dispatch of product coal trains; and Maintenance activities | 24 hours 7 days per week                    | Unchanged   |
|                    | Blasting Operations   | 0900 hours to 1700 hours Monday to Saturday | Unchanged   |
| Off-Site Operation | Rail Traffic (Main Northern Railway)  | 24 hrs 7 days per week                      | Unchanged   |
|                    | Road Traffic (Stratford main access road off The Bucketts Way)  | 24 hrs 7 days per week                      | Unchanged   |

Note 1: As per Development Consent SSD-4966 dated 29 May 2015 (relevant sections attached as **Appendix C**).

Note 2: In exceptional circumstances only (ie in the event protracted operational time is lost during weekdays).

### 3.2 Approved and Proposed SMC Development Schedule

There would be changes to the approved and proposed SMC development schedule due to the Modification as presented in **Table 5**.

**Table 5 Approved and Proposed SMC ROM Coal Processing Schedule**

| Project Year   | Approved Stratford Extension Project ROM Coal (Mtpa) | Western Co-Disposal Area Coal Recovery (Mtpa) | Total SMC ROM Coal (Mtpa) | RHCP Sized ROM Coal (Mtpa) | Total ROM Coal Processed <sup>2</sup> (Mtpa) |
|----------------|--|---|---------------------------|----------------------------|--|
| 1 <sup>1</sup> | 1.8  | 0.2   | 2.0                       | -                          | 2.0  |
| 2              | 1.7  | 0.2   | 1.9                       | 0.2                        | 2.1  |
| 3              | 1.7  | 0.2   | 1.9                       | 0.5                        | 2.4  |
| 4              | 1.7  | -   | 1.7                       | 0.5                        | 2.2  |
| 5              | 2.0  | -   | 2.0                       | 1.0                        | 3.0  |
| 6              | 1.8  | -   | 1.8                       | 1.3                        | 3.1  |
| 7              | 2.1  | -   | 2.1                       | 1.3                        | 3.4  |
| 8              | 2.2  | -   | 2.2                       | 1.3                        | 3.5  |
| 9              | 2.4  | -   | 2.4                       | 1.4                        | 3.8  |
| 10             | 2.6  | -   | 2.6                       | 1.4                        | 4.0  |
| 11             | 1.5  | -   | 1.5                       | 1.5                        | 3.0  |
| 12             | -  | -   | -                         | 1.6                        | 1.6  |
| 13             | -  | -   | -                         | 1.6                        | 1.6  |
| 14             | -  | -   | -                         | 1.6                        | 1.6  |
| 15             | -  | -   | -                         | 1.6                        | 1.6  |
| 16             | -  | -   | -                         | 0.9                        | 0.9  |
| 17             | -  | -   | -                         | 1.3                        | 1.3  |
| <b>Total</b>   | <b>21.5</b>  | <b>0.6</b>                                    | <b>22.1</b>               | <b>19.0</b>                | <b>41.1</b>                                  |

Note 1: The approved Stratford Extension Project is assumed to commence in 2018 (i.e. Year 1 is 2018) and RHCP commencement is in 2019 (i.e. Year 2). No further Duralie Coal Mine coal is currently planned for processing at the SMC beyond 2018.

Note 2: Combined ROM coal mined by the approved Stratford Extension Project, western co-disposal area coal recovery and RHCP.

### 3.3 Overview

As discussed in **Section 1.4**, the proposed interactions between the amended RHCP and the Modification relate to the transportation and processing of amended RHCP ROM coal using SMC infrastructure. This integration would require the development of a dedicated private haul road between the SMC and the amended RHCP (**Appendix A**). The portion of the private haul road relevant to the SMC would be located within the north-eastern portion of Stratford's mining tenements, from which point haul trucks would use existing SMC haul roads to allow transport of coal to the SMC ROM pad.

The main changes to the operations of the SMC associated with the Modification include:

- An at-grade level crossing (and associated controls) constructed at the intersection of Wenham Cox Road and the private haul road;
- Extension of on-site haul roads to accommodate the amended RHCP haul trucks;
- Transport of sized ROM coal from the amended RHCP to the SMC during daytime hours only (0700 hours to 1800 hours Monday to Saturday);
- Extension of the SMC ROM pad to accommodate the amended RHCP sized ROM coal;

- Extension of SMC heavy vehicle parking areas; and
- Processing of the amended RHCP coal at the SMC and transportation of the product coal via rail from the SMC to the Port of Newcastle.

Note, that the transport of amended RHCP ROM coal to the SMC (and return trips of empty haul trucks) within the Stratford mining tenements would be considered to be part of the Modification, with the remaining portion being part of the amended RHCP.

The amended RHCP haul trucks would be a multi-combination unit comprising a road registered Euro 5 standard compliant prime mover, two 10 metre (m) triaxle trailers and a dolly, having a nominal carrying capacity of 60 tonnes (t) of coal. The number of haul trucks would vary over the life of the amended RHCP commensurate with the rate of ROM coal production. The required and projected maximum number of haul trucks based on the scheduled annual amended RHCP ROM coal production rate is presented in **Table 6**.

**Table 6 Amended RHCP Proposed ROM Coal Truck Movements to the SMC**

| Year           | RHCP ROM Coal (Mtpa) | RHCP Sized ROM Coal (Mtpa) | Number of Trucks Required | Maximum Number of Trucks |
|----------------|----------------------|----------------------------|---------------------------|--------------------------|
| 1 <sup>1</sup> | -                    | -                          | -                         | -                        |
| 2              | 0.2                  | 0.2                        | 1                         | 2                        |
| 3              | 0.5                  | 0.5                        | 3                         | 4                        |
| 4              | 0.5                  | 0.5                        | 3                         | 4                        |
| 5              | 1.1                  | 1.0                        | 6                         | 7                        |
| 6              | 1.4                  | 1.3                        | 7                         | 9                        |
| 7              | 1.4                  | 1.3                        | 7                         | 9                        |
| 8              | 1.4                  | 1.3                        | 7                         | 9                        |
| 9              | 1.6                  | 1.4                        | 8                         | 9                        |
| 10             | 1.6                  | 1.4                        | 8                         | 9                        |
| 11             | 1.7                  | 1.5                        | 9                         | 10                       |
| 12             | 1.8                  | 1.6                        | 9                         | 10                       |
| 13             | 1.8                  | 1.6                        | 9                         | 10                       |
| 14             | 1.8                  | 1.6                        | 9                         | 10                       |
| 15             | 1.8                  | 1.6                        | 9                         | 10                       |
| 16             | 1.0                  | 0.9                        | 6                         | 7                        |
| 17             | 1.4                  | 1.3                        | 7                         | 8                        |

Note 1: The approved Stratford Extension Project is assumed to commence in 2018 (i.e. Year 1 is 2018) and RHCP commencement is in 2019 (i.e. Year 2). No further Duralie Coal Mine coal is currently planned for processing at the SMC beyond 2018.

### 3.4 Off-site Rail Transport

Product coal produced by the CHPP at the SMC would continue to be stockpiled prior to being reclaimed and loaded to trains for transport on the North Coast Railway to the Port of Newcastle.

With the existing/approved train lengths of approximately 1,300 m, there would be no change to the average and peak rail movements. The Modification would continue to require an average of 2.5 product coal trains (total) per day and a peak of six per day.

There would be no change to the approved SMC daily rail traffic generation or hours of operation due to the Modification and off-site rail transport is not further considered in this report.



### 3.5 Off-site Road Transport

There would be no material change in the approved SMC daily road traffic generation due to the Modification and off-site road transport noise is not further considered in this report.

## 4 EXISTING METEOROLOGICAL AND NOISE ENVIRONMENT

### 4.1 Meteorological Environment

The noise and meteorological monitoring program comprises eight quarterly operator-attended noise monitoring sites, one real-time continuous real-time noise monitoring site and an on-site AWS as shown on the Noise Monitoring Location Plan (**Appendix D**). In accordance with the NMP, operator-attended noise monitoring is used for demonstrating compliance with the SMC approved noise limits (**Appendix C**). Continuous real-time noise monitoring is used as a noise management tool to assist SCPL to take pre-emptive noise management actions.

As discussed in **Section 2.4.1**, SCPL maintains an on-site AWS as shown on the Noise Monitoring Location Plan (**Appendix D**). Relevant assessment meteorological conditions for SMC were established in accordance with the INP for the SEP Noise and Blasting Assessment (SEP NIA) (SLR, 2012).

An assessment of site specific wind velocities derived from the SMC AWS for the period 2012 to 2015 did not identify any additional dominant seasonal daytime wind velocities. It was therefore considered appropriate that the meteorological environment assessments (previously established in the SEP NIA in accordance with the INP) would be adopted for the Modification.

Section 5.3 of the INP (EPA, 2000) provides the following regarding wind effects:

*Wind effects need to be assessed where wind is a feature of the area. Wind is considered to be a feature where source to receiver wind speeds (at 10 m height) of 3 m/s or below occur for 30 percent of the time or more in any assessment period in any season.*

The prevailing winds less than (or equal to) 3 m/s with a frequency of occurrence greater than (or equal to) 30% and considered to be relevant to the SMC in accordance with the INP, are presented in Table 7.

**Table 7 Prevailing Wind Conditions in Accordance with the INP**

| Season | Winds $\pm 45$ degrees | 3 m/s with Frequency of Occurrence 30%   |            |
|--------|------------------------|--|------------|
|        | Daytime                | Evening  | Night-Time |
| Annual | Nil                    | Not applicable - the transport of sized ROM coal from the amended RHCP to the SMC is confined to daytime operations only (i.e. 0700 hours to 1800 hours Monday to Saturday) (refer <b>Table 4</b> ). |            |
| Summer | Nil                    |  |            |
| Autumn | Nil                    |  |            |
| Winter | Nil                    |  |            |
| Spring | Nil                    |  |            |

Section 5.2 of the INP (EPA, 2000) provides the following regarding temperature inversions:

*Where inversion conditions are predicted for at least 30% (or approximately two nights per week) of total night-time in winter, then inversion effects are considered to be significant and should be taken into account in the noise assessment.*

*Assessment of impacts is confined to the night noise assessment period (10 pm to 7 am), as this is the time likely to have the greatest impact—that is, when temperature inversions usually occur and disturbance to sleep is possible.*

As the transport of sized ROM coal from the amended RHCP to the SMC is confined to daytime operations only (i.e. 0700 hours to 1800 hours), then consistent with the INP, no assessment of noise impacts associated with temperature inversions is required. The daytime noise modelling meteorological parameters are presented in **Table 8**.

**Table 8 Daytime Calm (Neutral) Meteorological Modelling Parameters**

| Period  | Meteorological Parameter | Air Temperature | Relative Humidity | Wind Velocity | Temperature Gradient |
|---------|--------------------------|-----------------|-------------------|---------------|----------------------|
| Daytime | Calm                     | 18°C            | 60%               | 0 m/s         | 0°C/100 m            |

Note: °C = degrees Celsius, m/s = metres per second, °C/100 m = degrees Celsius per 100 metres.

## 4.2 Noise Environment

Given the existing SMC operations, the SEP NIA (Section 4.2) included a detailed review the pre-mining background noise data (from the SMC in 1994 and the BRNOC in 2000) to determine the relevant Rating Background Levels (RBLs) and noise amenity levels (LAeq(period)) in accordance with the INP procedures. In addition, supplementary ambient noise monitoring was conducted in November 2007 coinciding with SMC operations.

### Background Noise and Amenity Levels for the Modification Assessment Purposes

Consistent with the background noise outcomes presented in the SEP NIA and for the purposes of assessing the potential noise impacts from the Modification, the ambient noise level data have been previously distilled into two general localities namely:

- Stratford/Craven - including all privately owned residential dwellings within Stratford and Craven as shown on the Land Ownership Plan attached as **Appendices B1 and B2**.
- Other Rural - including all privately owned residential dwellings beyond Stratford and Craven (as defined above).

On the basis of the two localities and the measured noise levels presented in the SEP NIA (Section 4.2), the representative background noise levels are presented in **Table 9**. These Rating Background Levels (RBL) are also consistent with those established in the BRNOC EIS (Richard Heggie Associates Pty Ltd, 2001).

**Table 9 Background Noise Environment for Assessment Purposes (dBA re 20 micropascals [μPa])**

| Locality                     | RBL     |         |       | LAeq(period) <sup>1</sup><br>All Noise Sources |         |       | LAeq(period) <sup>1</sup><br>Industrial Noise Only |         |       |
|------------------------------|---------|---------|-------|--|---------|-------|--|---------|-------|
|                              | Daytime | Evening | Night | Daytime  | Evening | Night | Daytime  | Evening | Night |
| Stratford/Craven Residential | 32      | 31      | 30    | 50   | 48      | 45    | <44  | <39     | <34   |
| Other Rural                  | 30      | 30      | 30    | 49   | 48      | 44    | <44  | <39     | <34   |

Note 1: Daytime 0700 hrs to 1800 hrs, Evening 1800 hrs to 2200 hrs and Night-time 2200 hrs to 0700 hrs.

The background noise levels adopted for assessment purposes are generally representative of the pre-mine noise environment, with RBLs ranging from 32 dBA during the daytime to 30 dBA during the night with negligible industrial noise contributions.

The established background noise levels presented in **Table 9** are also generally consistent with the two localities of Stratford Village and All Other Privately-owned Residences as presented in the SMC Development Consent SSD-4966 (**Appendix C**) Schedule 3, Table 4 Noise Criteria.

## 5 MODIFICATION NOISE ASSESSMENT CRITERIA

### 5.1 Construction Assessment Criteria

As discussed in **Section 3.3**, the Modification will include the construction of an at-grade level crossing (and associated controls) at the intersection of Wenham Cox Road and the private haul road.

The SEP NIA anticipated similar works associated with the public road realignments (i.e. Wheatleys Lane and Bowens Road and Wenham Cox/Bowens Roads) involving bulk earthworks and other activities. The SEP construction noise levels were assessed (and subsequently approved) in accordance the EPA's ICNG where the ICNG is considered appropriate as the public road works are a discrete, short-term activity located beyond the open-cut perimeters.

The ICNG recommends a CNML equivalent to the daytime RBL plus 10 dBA within standard hours (i.e. daytime) and RBL plus 5 dBA outside standard hours (i.e. evening and night-time). The ICNG also contains "highly noise affected" daytime CNMLs which are set at 75 dBA LAeq(15minute). As the Modification construction works would be limited to daytime only, the ICNG construction noise management levels are as presented in **Table 10**.

**Table 10 Intrusive LAeq(15minute) Construction Noise Management Levels (dBA re 20 µPa)**

| Locality         | Daytime CNML<br>(noise affected)<br>RBL <sup>1</sup> plus 10 dBA | Daytime CNML<br>(highly noise affected) |
|------------------|--|---|
| Stratford/Craven | 42   | 75                                      |
| Other Rural      | 40   | 75                                      |

Note 1: Refer to **Table 9**.

The Modification construction work would be undertaken by a construction contractor and in consultation with the Mid-Coast Council. It would involve a relatively modest fleet and is anticipated to take up to approximately six weeks. The works are therefore consistent with the SEP NIA (and subsequent approval) and not further considered in this report.

### 5.2 Operating Assessment Criteria

As discussed in **Section 1.2**, this Modification noise assessment focuses on any incremental noise impacts by comparison with the approved SMC and associated noise limits (**Appendix C**). In addition, a generalised methodology for assessing noise impacts from the Modification against the relevant intrusive and amenity PSNLs is presented in **Appendix E** based on the requirements of the INP and VLAMP, and as further discussed below.

The EPA has regulatory responsibility for the control of noise from "scheduled premises" under the *Protection of the Environment Operations Act, 1997*. In implementing the INP, the EPA has two broad objectives:

- Controlling intrusive noise levels in the short-term; and
- Maintaining noise amenity levels for particular land uses over the medium to long-term.

The INP prescribes detailed calculation routines for establishing PSNLs (i.e. LAeq(15minute) intrusive criteria and LAeq(period) amenity criteria) at potentially affected receivers for an industrial development. Ideally, the intrusive noise level should not exceed the background level by more than 5 dBA. Similarly, the noise amenity level should not exceed the specified INP "acceptable" or "maximum" noise level appropriate for the particular land use. The applicable acceptable and maximum noise amenity levels for receivers in the vicinity of the SMC are shown in **Table 11**.

**Table 11 INP Acceptable and Maximum Noise Amenity Levels (dBA re 20 µPa)**

| Locality     | Gloucester LEP Zone <sup>3</sup>   | INP Noise Amenity Zone                      | Amenity LAeq(period) <sup>1</sup> Acceptable |  |       | Amenity LAeq(period) <sup>1</sup> Maximum |  |       |
|--------------|--|---|--|--|-------|---|--|-------|
|              |  |   | Day  | Evening  | Night | Day                                       | Evening  | Night |
| Stratford    | Village  | Rural Residential                           | 50   | Modification confined to daytime operations only (i.e. 0700 hours to 1800 hours) |       | 55  | Modification confined to daytime operations only (i.e. 0700 hours to 1800 hours) |       |
| Craven       | Primary Production   |   |  |  |       |   |  |       |
| Other Rural  |  |   |  |  |       |   |  |       |
| Parkers Road | Heavy Industry   | Industrial                                  | 70   |  |       | 75  |  |       |
| Any          | -  | School <sup>2</sup>                         | External 45 when in use                      |  |       | External 50 when in use                   |  |       |
| Any          | Special Activities (Cemetery)  | Church <sup>2</sup> , Cemetery <sup>2</sup> | External 50 when in use                      |  |       | External 55 when in use                   |  |       |
| Any          | Public Recreation  | Active Recreation                           | External 55 when in use                      |  |       | External 60 when in use                   |  |       |
| Note 1:      | Daytime 0700 hrs to 1800 hrs, Evening 1800 hrs to 2200 hrs, Night-time 2200 hrs to 0700 hrs. |   |  |  |       |   |  |       |
| Note 2:      | External criteria equivalent to internal criteria plus 10 dBA.                               |   |  |  |       |   |  |       |
| Note 3:      | Gloucester Shire now Mid-Coast Council.  |   |  |  |       |   |  |       |

As the INP acceptable noise amenity level sets the preferred total noise level from all industrial noise sources, cumulative impacts from the Modification are assessed against the amenity LAeq(period) acceptable noise levels specified in **Table 11**. In addition, DP&E's VLAMP (**Section 1.3**) and the amenity criteria are also used to determine any need for acquisition rights over land as further discussed in **Section 5.3**

### 5.3 Voluntary Land Acquisition and Mitigation Policy

The VLAMP (**Section 1.3**) describes the NSW Government's policy for voluntary mitigation and land acquisition to address noise (and dust) impacts from State Significant Mining, Petroleum and Extractive Industry Developments. The NSW Government has had long-standing processes in place for land acquisition and mitigation associated with mining developments and these procedures have now been formalised in the VLAMP, including:

- That industry needs to apply all reasonable and feasible measures to minimise noise (and dust) impacts;
- When noise and dust impacts are considered to be significant enough to warrant mitigation at the receiver or acquisition upon request;
- Requirements for negotiated agreements between proponents and landowners; and
- The measures that need to be offered to affected landholders when impacts are marginal or moderate (but within approval limits).

An extract from the VLAMP is attached as **Appendix F** that details how the policy applies to noise impacts and the key sections are reproduced as follows:

*Table 1 Characterisation of Noise Impacts and Potential Treatments*

| <b>Residual Noise Exceeds INP Criteria By</b>  | <b>Characterisation of Impacts</b>              | <b>Potential Treatment</b>  |
|--|---|---|
| 0-2 dBA above the project specific noise level (PSNL)  | Impacts are considered to be <b>negligible</b>  | The exceedances would not be discernible by the average listener and therefore would not warrant receiver based treatments or controls  |
| 3-5 dBA above the PSNL in the INP <u>but</u> the development would contribute less than 1 dB to the total industrial noise level | Impacts are considered to be <b>marginal</b>    | Provide mechanical ventilation/comfort condition systems to enable windows to be closed without compromising internal air quality/amenity   |
| 3-5 dBA above the PSNL in the INP <u>and</u> the development would contribute more than 1 dB to the total industrial noise level | Impacts are considered to be <b>moderate</b>    | As for marginal impacts but also upgraded facade elements like windows, doors, roof insulation etc. to further increase the ability of the building façade to reduce noise levels |
| >5 dBA above the PSNL in the INP   | Impacts are considered to be <b>significant</b> | Provide mitigation as for moderate impacts and see voluntary land acquisition provisions below  |

#### *Voluntary mitigation rights*

A consent authority should only apply voluntary mitigation rights where, even with the implementation of best practice management:

- The noise generated by the development would be equal to or greater than 3dB(A) above the INP project-specific noise level at any residence on privately owned land; or
- The development would increase the total industrial noise level at any residence on privately owned land by more than 1dB(A), and noise levels at the residence are already above the recommended amenity criteria in Table 2.1 of the INP; or
- The development includes a private rail line and the use of that private rail line would cause exceedances of the recommended acceptable levels in Table 6 of Appendix 3 of the RING (see Appendix B) by greater than or equal to 3dB(A) at any residence on privately owned land.

All noise levels must be calculated in accordance with the INP or RING (as applicable).

The selection of mitigation measures should be guided by the potential treatments identified in Table 1 above.

#### *Voluntary land acquisition rights*

A consent authority should only apply voluntary land acquisition rights where, even with the implementation of best practice management:

- The noise generated by the development would be more than 5dB(A) above the project specific noise level at any residence on privately owned land; or
- The noise generated by the development would contribute to exceedances of the recommended maximum noise levels in Table 2.1 of the INP on more than 25% of any privately owned land where there is an existing dwelling or where a dwelling could be built under existing planning controls<sup>7</sup>; or

- *The development includes a private rail line and the use of that private rail line would cause exceedances of the recommended maximum criteria in Table 6 of Appendix 3 of the RING at any residence on privately owned land.*

*All noise levels must be calculated in accordance with the INP or RING (as applicable).*

- <sup>7</sup> *Voluntary land acquisition rights should not be applied to address noise levels on vacant land other than to vacant land specifically meeting these criteria.*

It is also noteworthy that:

*A consent authority can apply voluntary mitigation and voluntary land acquisition rights to reduce:*

- *Operational noise impacts of a development on privately owned land; and*
- *Rail noise impacts of a development on privately owned land near non-network rail lines (private rail lines) on or exclusively servicing industrial sites (see Appendix 3 of the RING);*

*But not:*

- *Construction noise impacts, as these impacts are shorter term and can be controlled;*
- *Noise impacts on the public road or rail network; or*
- *Modifications of existing developments with legacy noise issues, where the modification would have beneficial or negligible noise impacts. In such cases, these legacy noise issues should be addressed through site-specific pollution reduction programs under the Protection of the Environment Operations Act 1997.*

## 5.4 Sleep Disturbance Assessment Criteria

As presented in **Table 4**, the proposed hours of operation for the Modification is confined to daytime from 0700 hours to 1800 hours Monday to Saturday (i.e. with no evening or night-time operations). Night-time sleep disturbance is therefore not considered further in this assessment.

## 6 NOISE MODELLING METHODOLOGY

### 6.1 Existing/Approved SMC Noise Mitigation and Management Measures

SCPL is obligated to manage noise levels in accordance with the SMC approved noise limits specified in SMC Development Consent SSD-4966 (**Appendix C**) using reasonable and feasible mitigation measures (**Appendix G**).

An appreciable level of effort has been applied by SCPL to identify and implement reasonable and feasible on-site noise controls since the commencement of mining, particularly to minimise the impact of night-time noise emissions. The SEP NIA (Section 6) includes a detailed discussion of the existing, approved and proposed noise mitigation and management measures associated with the SEP. The Modification does not alter the implementation and maintenance of these commitments.

#### 6.1.1 Mobile Equipment and Fixed Plant Sound Power Levels

The potential for machinery to emit noise is quantified as the sound power level (SWL) expressed in dBA re 1 picowatt (pw). At the receiver, the received noise is quantified as the sound pressure level (SPL) expressed in dBA re 20 µPa. The INP's energy equivalent ( $L_{eq}$ ) assessment parameter has introduced greater mathematical rigour to the prediction of received noise levels as it enables the use of  $L_{eq}$  SWL as noise model inputs. In general terms, any variation in mine site  $L_{eq}$  SWL would produce a similar variation in the  $L_{eq}(15\text{minute})$  SPL at the receiver.

Plant and equipment SWLs at the SMC have been the subject of ongoing measurements in accordance with the NMP (refer **Section 2.3**) and SCPL have refined the SWLs for individual fleet items. Comparative plant and equipment fleets are presented in **Table 12** together with the overall mine site Leq SWLs from the SEP NIA and the Modification.

**Table 12 Approved SMC and Modification Plant and Equipment SWLs (dBA re 1 pW)<sup>1</sup>**

| Equipment Description <sup>2</sup> | Approved SMC Plant and Equipment |            |           |            |           |            | Modification Plant and Equipment |            |           |            |                 |            |
|------------------------------------|----------------------------------|------------|-----------|------------|-----------|------------|----------------------------------|------------|-----------|------------|-----------------|------------|
|                                    | Year 2                           |            | Year 7    |            | Year 10   |            | Year 2                           |            | Year 7    |            | Year 10         |            |
|                                    | No Items                         | SWL        | No Items  | SWL        | No Items  | SWL        | No Items                         | SWL        | No Items  | SWL        | No Items        | SWL        |
| Drills                             | 4                                | 122        | 3         | 121        | 3         | 121        | 4                                | 122        | 3         | 121        | 3               | 121        |
| Excavators                         | 11                               | 125        | 11        | 125        | 11        | 125        | 11                               | 125        | 11        | 125        | 11              | 125        |
| 789 Haul Trucks                    | 9                                | 127        | 8         | 126        | 8         | 126        | 9                                | 127        | 8         | 126        | 8               | 126        |
| 785 Haul Trucks                    | 9                                | 125        | 8         | 124        | 8         | 124        | 9                                | 125        | 8         | 124        | 8               | 124        |
| 775 Haul Trucks                    | 12                               | 132        | 12        | 132        | 10        | 131        | 12                               | 132        | 12        | 132        | 10              | 131        |
| A40D Haul Trucks                   | 4                                | 119        | 4         | 119        | 4         | 119        | 4                                | 119        | 4         | 119        | 4               | 119        |
| Dozers                             | 10                               | 130        | 9         | 130        | 9         | 130        | 10                               | 130        | 9         | 130        | 9               | 130        |
| Water Cart                         | 3                                | 123        | 3         | 123        | 3         | 123        | 3                                | 123        | 3         | 123        | 3               | 123        |
| Loaders (ROM)                      | 1                                | 112        | 1         | 112        | 1         | 112        | 1                                | 112        | 1         | 112        | 1               | 112        |
| Graders                            | 3                                | 117        | 3         | 117        | 3         | 117        | 3                                | 117        | 3         | 117        | 3               | 117        |
| Haul Trucks (60t)                  | -                                | -          | -         | -          | -         | -          | 2                                | 111        | 9         | 118        | 10 <sup>4</sup> | 118        |
| <b>Mobile Fleet</b>                | <b>66</b>                        | <b>136</b> | <b>62</b> | <b>136</b> | <b>60</b> | <b>136</b> | <b>68</b>                        | <b>136</b> | <b>71</b> | <b>136</b> | <b>70</b>       | <b>136</b> |
| Primary Crusher                    |                                  | 108        |           | 108        |           | 108        |                                  | 108        |           | 108        |                 | 108        |
| Rotary Breaker                     |                                  | 112        |           | 112        |           | 112        |                                  | 112        |           | 112        |                 | 112        |
| Secondary Crusher                  |                                  | 109        |           | 109        |           | 109        |                                  | 109        |           | 109        |                 | 109        |
| CHPP                               |                                  | 116        |           | 116        |           | 116        |                                  | 116        |           | 116        |                 | 116        |
| Stockpile Dozer                    | 1                                | 112        | 1         | 112        | 1         | 112        | 1                                | 112        | 1         | 112        | 1               | 112        |
| Coal Stockyard                     |                                  | 115        |           | 115        |           | 115        |                                  | 115        |           | 115        |                 | 115        |
| Trains/Rail Loadout                |                                  | 115        |           | 115        |           | 115        |                                  | 115        |           | 115        |                 | 115        |
| Rail Loading                       |                                  | 109        |           | 109        |           | 109        |                                  | 109        |           | 109        |                 | 109        |
| Coal Handling <sup>3</sup>         |                                  | 122        |           | 122        |           | 122        |                                  | 122        |           | 122        |                 | 122        |
| <b>Overall Total</b>               | <b>1</b>                         | <b>136</b> | <b>1</b>  | <b>136</b> | <b>1</b>  | <b>136</b> | <b>1</b>                         | <b>136</b> | <b>1</b>  | <b>136</b> | <b>1</b>        | <b>136</b> |

Note 1: pW = picowatt.

Note 2: Exclusive of construction mobile equipment associated with public road realignments.

Note 3: Coal Handling Infrastructure includes relevant conveyor SWLs.

Note 4: The maximum number of haul trucks at any point during the life of the Modification is 10 haul trucks (Years 11-15). This number has been used in the Year 10 scenario (as opposed to nine haul trucks set out in **Table 6**) in order to model the potential impacts of the maximum number of haul trucks.

### 6.1.2 SMC Noise Model Validation

The SMC noise model was prepared using Renzo Tonin Associates' Software Environmental Noise Model (ENM for Windows, Version 3.06), a commercial software system developed in conjunction with the NSW EPA. The acoustical algorithms utilised by this software have been endorsed by the Australian and New Zealand Environment Council and all State Environmental Authorities throughout Australia as representing one of the most appropriate predictive methodologies currently available. ENM has been used for all major noise assessments at the SMC.

As described in the SEP NIA, the SEP was reviewed to determine representative scenarios to assess potential SEP noise impacts. The same assessment scenarios have been adopted for the purposes of assessing noise impacts from the Modification, as follows:

### **Modification Year 2 - SEP Year 2 plus amended RHCP sized ROM coal haulage and processing**

Representative of approximately 1.7 Mtpa ROM coal production rate arising from the first full year of the Roseville West Pit Extension operation (daytime only), the initial Avon North Open Cut operation (24 hours) and Stratford East Open Cut (waste operations daytime only and coal 24 hours) and 0.2 Mtpa from the Western Co-Disposal Area Coal Recovery. This scenario also coincides with placement of waste on the elevated portions of the Northern Waste Emplacement Extension.

This is the first year RHCP sized ROM coal (approximately 0.2 Mtpa) would be transported to the SMC for processing at the CHPP.

### **Modification Year 7 - SEP Year 7 plus amended RHCP sized ROM coal haulage and processing**

Representative of approximately 2.1 Mtpa ROM coal production rate arising from the continuation of the Roseville West Pit Extension operation (daytime only), and the full operation of the Stratford East Open Cut 24 hours a day.

There would be approximately 1.3 Mtpa of RHCP sized ROM coal transported to the SMC for processing at the CHPP.

### **Modification Year 10 - SEP Year 10 plus amended RHCP sized ROM coal haulage and processing**

Representative of approximately 2.6 Mtpa ROM coal production rate arising from the continuation of the Roseville West Pit Extension operation (daytime only), the cessation of operations in the Avon North Open Cut and including operation of the southern extent of Stratford East Open Cut (operating 24 hours a day when at the maximum waste and coal production rate).

There would be approximately 1.4 Mtpa of RHCP sized ROM coal transported to the SMC for processing at the CHPP.

The three operational noise modelling scenarios include all existing and proposed plant items operating concurrently to simulate the overall maximum energy equivalent (i.e. LAeq[15minute]) intrusive noise level. A large proportion of the mobile equipment is operated in repeatable routines and a relatively smaller proportion of the emissions emanate from continuous fixed plant items.

## **7 OPERATING NOISE IMPACT ASSESSMENT**

### **7.1 Daytime Operating Intrusive Noise Levels**

The predicted daytime operating LAeq(15minute) intrusive levels from the Modification Year 2, Year 7 and Year 10 operating scenarios for privately-owned receivers are presented in **Table 13**, together with the SMC approved noise limits (**Appendix C**).



**Table 13 Daytime Year 2, Year 7 and Year 10 Intrusive LAeq(15minute) Noise (dBA re 20 µPa)**

| ID No and Landowner                     | Modification<br>Year 2 Calm | Modification<br>Year 7 Calm | Modification<br>Year 10 Calm | SMC Approved<br>Noise Limit |
|---|-----------------------------|-----------------------------|------------------------------|-----------------------------|
| <b>Stratford/Craven Rural Receivers</b> |                             |                             |                              |                             |
| 1 Fraser                                | 28                          | 24                          | 24                           | 35                          |
| 5(1) Bignell                            | 29                          | 25                          | 25                           | 35                          |
| 5(2) Bignell                            | 28                          | 24                          | 24                           | 35                          |
| 9(1) Williams                           | 32                          | 28                          | 28                           | 35                          |
| 9(2) Williams                           | 32                          | 29                          | 29                           | 35                          |
| 10 Whatmore & Whatmore                  | 32                          | 29                          | 28                           | 35                          |
| 11 Walker, Walker, Walker & Walker      | 32                          | 29                          | 29                           | 35                          |
| 16 Pickett                              | 32                          | 30                          | 30                           | 35                          |
| 17 Fisher & Smith                       | 32                          | 31                          | 30                           | 35                          |
| 23 Bagnall                              | 33                          | 27                          | 25                           | 35                          |
| 24 Harris                               | 17                          | 17                          | 17                           | 35                          |
| 25 Thompson                             | 32                          | 29                          | 30                           | 35                          |
| 26 Lowrey & Lowrey                      | 31                          | 29                          | 29                           | 35                          |
| 27 Gloucester Shire Council             | 33                          | 32                          | 31                           | 35                          |
| 34 Hall & Hall                          | 27                          | 26                          | 26                           | 35                          |
| 36 Wallace & Wallace                    | 29                          | 29                          | 28                           | 39                          |
| 36a(1) Berecra                          | 10                          | 9                           | 9                            | 35                          |
| 36a(2) Berecra                          | 13                          | 11                          | 11                           | 35                          |
| 38 Johnson & Johnson                    | 31                          | 28                          | 28                           | 35                          |
| 43 Moseley                              | 30                          | 27                          | 27                           | 35                          |
| 44 Cross & Jane                         | 29                          | 28                          | 27                           | 39                          |
| 47 Digges, Digges, Hart & Hart          | 14                          | 15                          | 18                           | 35                          |
| 48 Rounsley                             | 14                          | 15                          | 16                           | 35                          |
| 50 Porter                               | 11                          | 12                          | 13                           | 35                          |
| 53 Barnes & Barnes                      | 13                          | 15                          | 19                           | 35                          |
| 54 Hughes & Carrysong Pty Ltd           | 13                          | 14                          | 17                           | 35                          |
| 55 Hancock & Hancock                    | 12                          | 13                          | 15                           | 35                          |
| 56 McCalden & McCalden                  | 11                          | 11                          | 13                           | 35                          |
| 58(1) Blanch & Blanch                   | 17                          | 18                          | 19                           | 35                          |
| 58(2) Blanch & Blanch                   | 16                          | 17                          | 19                           | 35                          |
| 59 Blanch                               | 17                          | 20                          | 22                           | 35                          |
| 60 Healy & Greenwood                    | 17                          | 17                          | 23                           | 39                          |
| 65 Weismantle                           | 16                          | 16                          | 16                           | 35                          |
| 69 Hooper & Bartholmew                  | 18                          | 19                          | 19                           | 35                          |
| 70 Knight                               | 17                          | 17                          | 20                           | 35                          |
| 71 Burnet & Burnet                      | 19                          | 19                          | 18                           | 35                          |
| 202 Wenham                              | 32                          | 31                          | 30                           | 35                          |
| 265 Hawkins                             | 20                          | 18                          | 18                           | 35                          |
| 274 Wilson & Wilson                     | 23                          | 21                          | 21                           | 35                          |
| 275 (1) Pace Farm Pty Ltd               | 24                          | 23                          | 23                           | 35                          |
| 276 Luscombe & Luscombe                 | 21                          | 19                          | 19                           | 35                          |
| 279 Tomb                                | 26                          | 24                          | 24                           | 35                          |
| 281 Lewis & Lewis                       | 33                          | 32                          | 31                           | 35                          |
| 282 Ross                                | 27                          | 24                          | 24                           | 35                          |
| 283 Nolan                               | 30                          | 26                          | 26                           | 35                          |

| ID No and Landowner                       | Modification<br>Year 2 Calm | Modification<br>Year 7 Calm | Modification<br>Year 10 Calm | SMC Approved<br>Noise Limit |
|---|-----------------------------|-----------------------------|------------------------------|-----------------------------|
| 284 Perrin & Perrin                       | 28                          | 28                          | 27                           | 35                          |
| 285 Carter & Carter                       | 26                          | 24                          | 24                           | 35                          |
| 287 Sinderberry & Rinkin                  | 24                          | 24                          | 24                           | 35                          |
| 288 Perrin                                | 25                          | 24                          | 23                           | 35                          |
| 289 McIntosh                              | 29                          | 29                          | 28                           | 35                          |
| 290 Pickett                               | 25                          | 24                          | 23                           | 35                          |
| 291 Crawley & Crawley                     | 27                          | 26                          | 26                           | 35                          |
| 292(1) Fisher & Fisher                    | 20                          | 20                          | 20                           | 35                          |
| 293 Braunton                              | 23                          | 22                          | 22                           | 35                          |
| 294 Morcom & Morcom                       | 24                          | 23                          | 22                           | 35                          |
| 295 Bush & Bush                           | 24                          | 23                          | 22                           | 35                          |
| 296 Watson & Watson                       | 27                          | 26                          | 25                           | 37                          |
| 303 JSTC Newcastle Pty Ltd                | 21                          | 21                          | 20                           | 35                          |
| 304 Abeysekera & Abeysekera               | 19                          | 19                          | 18                           | 35                          |
| 307 Wolfenden & Wolfenden                 | 18                          | 18                          | 17                           | 35                          |
| 316 Country Rail Infrastructure Authority | 32                          | 31                          | 31                           | 35                          |
| <b>Craven</b>                             |                             |                             |                              |                             |
| Cr.7 Pryce-Jones                          | 30                          | 31                          | 29                           | 43                          |
| <b>Stratford</b>                          |                             |                             |                              |                             |
| S1 Rees                                   | 33                          | 32                          | 31                           | 37                          |
| S3 Yeatman                                | 34                          | 33                          | 32                           | 37                          |
| S4 Grady & Grady                          | 32                          | 31                          | 30                           | 37                          |
| S5 Britnell                               | 33                          | 32                          | 31                           | 37                          |
| S6 Threadgate & Threadgate                | 32                          | 31                          | 31                           | 37                          |
| S8 Forbes                                 | 33                          | 32                          | 32                           | 37                          |
| S9 Greenham & Greenham                    | 33                          | 32                          | 31                           | 37                          |
| S10 Germon                                | 33                          | 32                          | 32                           | 37                          |
| S11 Glew                                  | 33                          | 32                          | 31                           | 37                          |
| S12 Mitchell & Mitchell                   | 33                          | 32                          | 31                           | 37                          |
| S13 Wells & Wells                         | 34                          | 32                          | 32                           | 37                          |
| S14 Bignell                               | 33                          | 31                          | 31                           | 37                          |
| S15 Minister for Education                | 34                          | 33                          | 32                           | 37                          |
| S19 Carroll                               | 35                          | 34                          | 33                           | 37                          |
| S20 Rastall                               | 33                          | 32                          | 32                           | 37                          |
| S21 Booral Service Centre Pty Ltd         | 33                          | 32                          | 32                           | 37                          |
| S23 Bartlett                              | 33                          | 32                          | 32                           | 37                          |
| S24 Hughes                                | 33                          | 32                          | 32                           | 37                          |
| S26 Young                                 | 33                          | 32                          | 32                           | 37                          |
| S27 Tilley                                | 34                          | 32                          | 32                           | 37                          |
| S28 Morris & Morris                       | 34                          | 32                          | 32                           | 37                          |
| S29 Bagnall & Bagnall                     | 34                          | 33                          | 32                           | 37                          |
| S30 Baker                                 | 34                          | 33                          | 32                           | 37                          |
| S31 Richards                              | 34                          | 33                          | 33                           | 37                          |
| S33 Langtry, Gilbert & Gilbert            | 34                          | 33                          | 33                           | 37                          |
| S34 Ashby                                 | 34                          | 33                          | 33                           | 37                          |
| S35 Rodgers & Bekker                      | 34                          | 33                          | 33                           | 37                          |
| S36 Pools                                 | 34                          | 33                          | 33                           | 37                          |

| ID No and Landowner  | Modification<br>Year 2 Calm | Modification<br>Year 7 Calm | Modification<br>Year 10 Calm | SMC Approved<br>Noise Limit |
|--|-----------------------------|-----------------------------|------------------------------|-----------------------------|
| S37 Pryor & Pryor  | 35                          | 33                          | 33                           | 37                          |
| S38 Kirkman  | 35                          | 34                          | 33                           | 37                          |
| S39(1) Nicholls & Husband  | 35                          | 34                          | 33                           | 37                          |
| S39(2) Nicholls & Husband  | 35                          | 34                          | 33                           | 37                          |
| S40 Curtis   | 33                          | 32                          | 32                           | 37                          |
| S41 (1) McCure & Aplin   | 33                          | 32                          | 32                           | 37                          |
| S43 Squire   | 33                          | 32                          | 32                           | 37                          |
| S47 Potts  | 34                          | 33                          | 33                           | 37                          |
| S48 Farley & Farley  | 34                          | 33                          | 33                           | 37                          |
| S49 Blanch   | 34                          | 33                          | 33                           | 37                          |
| S50 Van der Drift & Blanch   | 34                          | 33                          | 33                           | 37                          |
| S51 Trenholme  | 34                          | 33                          | 33                           | 37                          |
| S52 Farley & Barry   | 34                          | 33                          | 33                           | 37                          |
| S53 Arthur   | 34                          | 33                          | 33                           | 37                          |
| S54 Adams  | 34                          | 33                          | 33                           | 37                          |
| S56 Collins & Collins  | 33                          | 32                          | 32                           | 37                          |
| S57 Gam  | 33                          | 32                          | 32                           | 37                          |
| S58 Harrigan   | 33                          | 32                          | 32                           | 37                          |
| S59 Grady & Grady  | 33                          | 32                          | 32                           | 37                          |
| <b>Receivers subject to Landholder Agreement</b>   |                             |                             |                              |                             |
| 14 Wenham & Wenham   | 34                          | 32                          | 32                           | 35                          |
| 15(1) Falla  | 34                          | 32                          | 32                           | 35                          |
| 15(2) Falla  | 36                          | 34                          | 34                           | 36                          |
| 15(3) Falla  | 39                          | 37                          | 37                           | 39                          |
| 29 Ward  | 35                          | 34                          | 35                           | 38                          |
| 31(1) Isaac  | 35                          | 34                          | 34                           | 40                          |
| 31(2) Isaac  | 34                          | 33                          | 33                           | 37                          |
| 37 Worth   | 29                          | 28                          | 27                           | 38                          |
| 40 (1) Leslie Allenby Blanch   | 34                          | 34                          | 33                           | 43                          |
| 42 Blanch  | 32                          | 32                          | 32                           | 42                          |
| 297 Bosma  | 27                          | 26                          | 26                           | 37                          |
| 298 Yates  | 26                          | 26                          | 25                           | 36                          |
| Cr.2 Boorer  | 33                          | 33                          | 32                           | 41                          |
| Note 1: Predicted LAeq(15minute) noise level complies with the SMC approved noise limit. |                             |                             |                              |                             |
| Note 2: <b>Bold text</b> indicates the approved noise limit is greater than 35 dBA.      |                             |                             |                              |                             |

## 7.2 Privately-owned Receivers - Intrusive Noise Impact Assessment Summary

In summary, the predicted daytime operating intrusive LAeq(15minute) noise levels (**Table 13**) at privately-owned receivers show:

- No exceedances of the daytime SMC approved noise limits at any privately-owned receivers (i.e. predicted daytime noise levels remain lower than, or equal to, those approved for the SEP); and
- General conformance with the relevant intrusive and amenity PSNLs when assessed in accordance with the generalised methodology for assessing noise impacts from the Modification (**Appendix E**) as presented in **Appendix H1**.

### 7.3 Privately-owned Land - Impact Assessment

The daytime intrusive LAeq(15minute) intrusive noise contours for Year 2, Year 7 and Year 10 are presented in **Appendices I1, I2 and I3**, respectively. The calculation of the noise contours involves numerical interpolation of a noise level array with a graphical accuracy of up to approximately  $\pm 2$  dBA. This means that in some cases the contour locations presented in **Appendices I1 to I3** will differ slightly from the values in **Table 13**, which are calculated at the individual receptor locations and are therefore more accurate predictions.

Noise impacts on land have been assessed in accordance with the VLAMP on the basis that any land is permitted to have a dwelling. In Year 2, Year 7 and Year 10 the daytime 50 dBA intrusive LAeq(15minute) noise contour is predicted to fall well short of the nearest privately-owned land and therefore remain well below the maximum recommended rural residential daytime (LAeq(11 hour)) noise amenity level of 55 dBA in accordance with the INP.

### 7.4 Resource Company-owned Receivers - Impact Assessment Summary

The predicted daytime operating LAeq(15minute) intrusive levels from the Modification Year 2, Year 7 and Year 10 operating scenarios for resource company-owned receivers are presented in **Appendix H2**, together with a summary of noise impacts.

### 7.5 Review of Existing SMC Noise Management Plan

It is recommended that the current NMP (**Section 2.4.1**) be revised for the Modification to include updated operator-attended noise monitoring network to reflect current land ownership.

## 8 CUMULATIVE NOISE AMENITY ASSESSMENT

### 8.1 Other Approved or Proposed Industrial Developments

The INP Chapter 2, Industrial Noise Criteria, provides cumulative noise assessment guidelines that address existing and successive industrial development by setting acceptable (and maximum) cumulative LAeq(period) noise amenity levels for all industrial noise sources only (i.e. non-transport related) for a particular land use. It is noted that the INP does not set acceptable cumulative LAeq(15minute) intrusive criteria for all industrial noise sources, but rather seeks to control cumulative noise via the LAeq(period) noise amenity criterion (**Table 11**).

As discussed in **Section 1.4**, other existing, approved or proposed resource developments in the vicinity of the Modification are presented in **Table 14**, together with the source of the SMC noise amenity levels. These project noise amenity levels are then used to conservatively determine the cumulative sum daytime and evening noise amenity levels.

**Table 14 Approved or Proposed Resource Developments in the Vicinity of the Modification**

| Proponent   | Project                         | Status  | Source of Project Noise Amenity Levels  |
|---|---------------------------------|---|---|
| Gloucester Resources Ltd (GRL)                        | Amended Rocky Hill Coal Project | Proposed Project Application SSD-5156             | As presented in this assessment report  |
| AGL Upstream Infrastructure Investments Pty Ltd (AGL) | AGL Gloucester Gas Project      | Approved Project Approval dated 22 February 2011. | AGL Gloucester Gas Project (GGP) Environmental Assessment (EA) AECOM Volume 3 Appendix H dated October 2009. SEP NIA details assumptions used to determine relevant noise amenity levels. |

It should be noted that for each of the projects identified above, the likelihood of the existing, approved and proposed developments emitting maximum noise emissions simultaneously is remote, due to the range of development locations and directional and other differences in the noise enhancing (and diminishing) weather effects.

## 8.2 Cumulative Daytime Noise Amenity Assessment

The predicted daytime cumulative LAeq(11hour) noise amenity levels from the Modification Year 2, Year 7 and Year 10 operating scenarios for privately-owned receivers are presented in **Table 15**, together with the relevant INP acceptable daytime LAeq(11hour) noise amenity criteria (**Table 11**).

**Table 15 Cumulative Daytime (LAeq(11 hour)) Noise Amenity Levels (dBA re 20 µPa)**

| Property Number/Landowner               | Modification | Amended RHCP | AGL (Gas Field) | AGL (Process Facility) | Cumulative Sum | INP Acceptable Amenity Criteria |
|---|--------------|--------------|-----------------|------------------------|----------------|---------------------------------|
| <b>Stratford/Craven Rural Receivers</b> |              |              |                 |                        |                |                                 |
| 1 Fraser                                | 28           | 30           | 30              | 29                     | 35             | 50                              |
| 5(1) Bignell                            | 29           | 29           | 16              | 29                     | 34             | 50                              |
| 5(2) Bignell                            | 28           | 29           | 30              | 33                     | 36             | 50                              |
| 9(1) Williams                           | 32           | 28           | 21              | 29                     | 35             | 50                              |
| 9(2) Williams                           | 32           | 28           | 18              | 29                     | 35             | 50                              |
| 10 Whatmore & Whatmore                  | 32           | 17           | 4               | 26                     | 33             | 50                              |
| 11 Walker, Walker, Walker & Walker      | 32           | 26           | 7               | 26                     | 34             | 50                              |
| 16 Pickett                              | 32           | 16           | 17              | 25                     | 33             | 50                              |
| 17 Fisher & Smith                       | 32           | 16           | 21              | 26                     | 33             | 50                              |
| 23 Bagnall                              | 33           | 17           | 19              | 21                     | 34             | 50                              |
| 24 Harris                               | 17           | 9            | 0               | 22                     | 23             | 50                              |
| 25 Thompson                             | 32           | 14           | 14              | 27                     | 33             | 50                              |
| 26 Lowrey & Lowrey                      | 31           | 14           | 14              | 27                     | 33             | 50                              |
| 27 Gloucester Shire Council             | 33           | 15           | 20              | 27                     | 34             | 50                              |
| 34 Hall & Hall                          | 27           | 11           | 0               | 28                     | 31             | 50                              |
| 36 Wallace & Wallace                    | 29           | 11           | 5               | 28                     | 32             | 50                              |
| 36a(1) Berecra                          | 10           | 19           | 0               | 21                     | 23             | 50                              |
| 36a(2) Berecra                          | 13           | 16           | 0               | 22                     | 23             | 50                              |
| 38 Johnson & Johnson                    | 31           | 14           | 4               | 26                     | 32             | 50                              |
| 43 Moseley                              | 30           | 13           | 0               | 26                     | 31             | 50                              |
| 44 Cross & Jane                         | 29           | 11           | 17              | 28                     | 32             | 50                              |
| 47 Digges, Digges, Hart & Hart          | 18           | 11           | 0               | 21                     | 23             | 50                              |
| 48 Rounsley                             | 16           | 12           | 0               | 21                     | 23             | 50                              |
| 50 Porter                               | 13           | 11           | 0               | 20                     | 21             | 50                              |
| 53 Barnes & Barnes                      | 19           | 11           | 0               | 22                     | 24             | 50                              |
| 54 Hughes & Carrysong Pty Ltd           | 17           | 11           | 0               | 21                     | 23             | 50                              |
| 55 Hancock & Hancock                    | 15           | 11           | 0               | 20                     | 22             | 50                              |
| 56 McCalden & McCalden                  | 13           | 11           | 0               | 19                     | 21             | 50                              |
| 58(1) Blanch & Blanch                   | 19           | 9            | 0               | 23                     | 25             | 50                              |
| 58(2) Blanch & Blanch                   | 19           | 10           | 3               | 24                     | 25             | 50                              |
| 59 Blanch                               | 22           | 10           | 1               | 23                     | 26             | 50                              |
| 60 Healy & Greenwood                    | 23           | 10           | 0               | 21                     | 25             | 50                              |
| 65 Weismantle                           | 16           | 8            | 0               | 20                     | 22             | 50                              |
| 69 Hooper & Bartholmew                  | 19           | 9            | 0               | 21                     | 23             | 50                              |

| Property Number/Landowner                 | Modification | Amended RHCP | AGL (Gas Field) | AGL (Process Facility) | Cumulative Sum | INP Acceptable Amenity Criteria |
|---|--------------|--------------|-----------------|------------------------|----------------|---------------------------------|
| 70 Knight                                 | 20           | 9            | 0               | 19                     | 23             | 50                              |
| 71 Burnet & Burnet                        | 19           | 9            | 0               | 22                     | 24             | 50                              |
| 202 Wenham                                | 32           | 16           | 21              | 25                     | 33             | 50                              |
| 265 Hawkins                               | 20           | 15           | 0               | 20                     | 24             | 50                              |
| 274 Wilson & Wilson                       | 23           | 17           | 0               | 22                     | 26             | 50                              |
| 275 (1) Pace Farm Pty Ltd                 | 24           | 24           | 0               | 24                     | 29             | 50                              |
| 276 Luscombe & Luscombe                   | 21           | 15           | 0               | 21                     | 24             | 50                              |
| 279 Tomb                                  | 26           | 18           | 0               | 24                     | 29             | 50                              |
| 281 Lewis & Lewis                         | 33           | 15           | 21              | 28                     | 34             | 50                              |
| 282 Ross                                  | 27           | 12           | 0               | 24                     | 29             | 50                              |
| 283 Nolan                                 | 30           | 13           | 0               | 23                     | 31             | 50                              |
| 284 Perrin & Perrin                       | 28           | 13           | 0               | 27                     | 31             | 50                              |
| 285 Carter & Carter                       | 26           | 12           | 0               | 24                     | 28             | 50                              |
| 287 Sinderberry & Rinkin                  | 24           | 11           | 0               | 25                     | 28             | 50                              |
| 288 Perrin                                | 25           | 12           | 0               | 25                     | 28             | 50                              |
| 289 McIntosh                              | 29           | 12           | 9               | 31                     | 33             | 50                              |
| 290 Pickett                               | 25           | 10           | 0               | 25                     | 28             | 50                              |
| 291 Crawley & Crawley                     | 27           | 11           | 0               | 28                     | 30             | 50                              |
| 292(1) Fisher & Fisher                    | 20           | 10           | 0               | 23                     | 25             | 50                              |
| 293 Braunton                              | 23           | 10           | 0               | 23                     | 26             | 50                              |
| 294 Morcom & Morcom                       | 24           | 10           | 0               | 23                     | 27             | 50                              |
| 295 Bush & Bush                           | 24           | 10           | 0               | 24                     | 27             | 50                              |
| 296 Watson & Watson                       | 27           | 10           | 0               | 27                     | 30             | 50                              |
| 303 JSTC Newcastle Pty Ltd                | 21           | 9            | 0               | 22                     | 25             | 50                              |
| 304 Abeysekera & Abeysekera               | 19           | 9            | 0               | 21                     | 23             | 50                              |
| 307 Wolfenden & Wolfenden                 | 18           | 8            | 0               | 20                     | 22             | 50                              |
| 316 Country Rail Infrastructure Authority | 32           | 15           | 22              | 28                     | 34             | 50                              |
| <b>Craven</b>                             |              |              |                 |                        |                |                                 |
| Cr.7 Pryce-Jones                          | 31           | 11           | 30              | 29                     | 35             | 50                              |
| <b>Stratford</b>                          |              |              |                 |                        |                |                                 |
| S1 Rees                                   | 33           | 16           | 22              | 26                     | 34             | 50                              |
| S3 Yeatman                                | 34           | 16           | 26              | 26                     | 35             | 50                              |
| S4 Grady & Grady                          | 32           | 15           | 20              | 26                     | 33             | 50                              |
| S5 Britnell                               | 33           | 15           | 20              | 27                     | 34             | 50                              |
| S6 Threadgate & Threadgate                | 32           | 15           | 20              | 27                     | 34             | 50                              |
| S8 Forbes                                 | 33           | 15           | 21              | 27                     | 34             | 50                              |
| S9 Greenham & Greenham                    | 33           | 15           | 22              | 26                     | 34             | 50                              |
| S10 Germon                                | 33           | 15           | 21              | 27                     | 34             | 50                              |
| S11 Glew                                  | 33           | 15           | 22              | 27                     | 34             | 50                              |
| S12 Mitchell & Mitchell                   | 33           | 15           | 22              | 27                     | 34             | 50                              |
| S13 Wells & Wells                         | 34           | 15           | 23              | 27                     | 35             | 50                              |
| S14 Bignell                               | 33           | 15           | 19              | 27                     | 34             | 50                              |
| S15 Minister for Education                | 34           | 15           | 22              | 27                     | 35             | 50                              |
| S19 Carroll                               | 35           | 15           | 30              | 27                     | 36             | 50                              |
| S20 Rastall                               | 33           | 15           | 18              | 27                     | 34             | 50                              |

| Property Number/Landowner                        | Modification | Amended RHCP | AGL (Gas Field) | AGL (Process Facility) | Cumulative Sum | INP Acceptable Amenity Criteria |
|--|--------------|--------------|-----------------|------------------------|----------------|---------------------------------|
| S21 Booral Service Centre Pty Ltd                | 33           | 15           | 18              | 27                     | 34             | 50                              |
| S23 Bartlett                                     | 33           | 15           | 18              | 27                     | 34             | 50                              |
| S24 Hughes                                       | 33           | 15           | 19              | 27                     | 34             | 50                              |
| S26 Young  | 33           | 15           | 20              | 27                     | 35             | 50                              |
| S27 Tilley                                       | 34           | 15           | 21              | 27                     | 35             | 50                              |
| S28 Morris & Morris                              | 34           | 15           | 21              | 27                     | 35             | 50                              |
| S29 Bagnall & Bagnall                            | 34           | 15           | 22              | 27                     | 35             | 50                              |
| S30 Baker  | 34           | 15           | 23              | 27                     | 35             | 50                              |
| S31 Richards                                     | 34           | 15           | 23              | 27                     | 35             | 50                              |
| S33 Langtry, Gilbert & Gilbert                   | 34           | 15           | 24              | 27                     | 35             | 50                              |
| S34 Ashby  | 34           | 15           | 24              | 28                     | 36             | 50                              |
| S35 Rodgers & Bekker                             | 34           | 15           | 25              | 28                     | 36             | 50                              |
| S36 Poots  | 34           | 15           | 26              | 28                     | 36             | 50                              |
| S37 Pryor & Pryor                                | 35           | 15           | 26              | 28                     | 36             | 50                              |
| S38 Kirkman                                      | 35           | 15           | 27              | 28                     | 36             | 50                              |
| S39(1) Nicholls & Husband                        | 35           | 15           | 30              | 28                     | 37             | 50                              |
| S39(2) Nicholls & Husband                        | 35           | 15           | 30              | 28                     | 37             | 50                              |
| S40 Curtis                                       | 33           | 15           | 20              | 28                     | 34             | 50                              |
| S41 (1) McClure & Aplin                          | 33           | 15           | 21              | 28                     | 34             | 50                              |
| S43 Squire                                       | 33           | 15           | 21              | 28                     | 35             | 50                              |
| S47 Potts  | 34           | 15           | 22              | 28                     | 35             | 50                              |
| S48 Farley & Farley                              | 34           | 15           | 23              | 28                     | 35             | 50                              |
| S49 Blanch                                       | 34           | 15           | 23              | 28                     | 35             | 50                              |
| S50 Van der Drift & Blanch                       | 34           | 15           | 24              | 28                     | 35             | 50                              |
| S51 Trenholme                                    | 34           | 15           | 24              | 28                     | 35             | 50                              |
| S52 Farley & Barry                               | 34           | 15           | 25              | 28                     | 36             | 50                              |
| S53 Arthur                                       | 34           | 15           | 25              | 28                     | 36             | 50                              |
| S54 Adams  | 34           | 15           | 26              | 28                     | 36             | 50                              |
| S56 Collins & Collins                            | 33           | 15           | 25              | 28                     | 35             | 50                              |
| S57 Gam  | 33           | 15           | 27              | 29                     | 35             | 50                              |
| S58 Harrigan                                     | 33           | 15           | 30              | 29                     | 36             | 50                              |
| S59 Grady & Grady                                | 33           | 15           | 30              | 29                     | 36             | 50                              |
| <b>Receivers subject to Landholder Agreement</b> |              |              |                 |                        |                |                                 |
| 14 Wenham & Wenham                               | 34           | 17           | 21              | 26                     | 35             | 50                              |
| 15(1) Falla                                      | 34           | 18           | 24              | 26                     | 35             | 50                              |
| 15(2) Falla                                      | 36           | 18           | 30              | 27                     | 37             | 50                              |
| 15(3) Falla                                      | 39           | 18           | 30              | 26                     | 39             | 50                              |
| 29 Ward  | 35           | 15           | 30              | 30                     | 37             | 50                              |
| 31(1) Isaac                                      | 35           | 14           | 30              | 26                     | 36             | 50                              |
| 31(2) Isaac                                      | 34           | 14           | 30              | 31                     | 37             | 50                              |
| 37 Worth   | 29           | 11           | 17              | 30                     | 32             | 50                              |
| 40 (1) Leslie Allenby Blanch                     | 34           | 11           | 30              | 35                     | 38             | 50                              |
| 42 Blanch  | 32           | 11           | 30              | 30                     | 36             | 50                              |
| 297 Bosma  | 27           | 10           | 2               | 27                     | 30             | 50                              |
| 298 Yates  | 26           | 10           | 11              | 28                     | 30             | 50                              |

| Property Number/Landowner                         | Modification | Amended RHCP | AGL (Gas Field) | AGL (Process Facility) | Cumulative Sum | INP Acceptable Amenity Criteria |
|---|--------------|--------------|-----------------|------------------------|----------------|---------------------------------|
| Cr.2 Boorer                                       | 33           | 11           | 30              | 30                     | 36             | 50                              |
| <b>Stratford/Craven Non-Residential Receivers</b> |              |              |                 |                        |                |                                 |
| 30 Stratford Cemetery                             | 34           | 15           | 26              | 28                     | 36             | 50                              |
| S15 Stratford Public School                       | 33           | 15           | 18              | 27                     | 34             | 45                              |
| S25 St John's Anglican Church                     | 34           | 15           | 20              | 27                     | 35             | 50                              |

Note 1: Predicted cumulative LAeq(period) amenity noise level complies with 50 dBA (daytime) amenity noise level.

### 8.3 Privately Owned Receivers - Cumulative Impact Assessment Summary

In summary, predicted daytime cumulative LAeq(11 hour) noise amenity levels (**Table 15**) at privately-owned receivers show that:

- No privately-owned receiver exceeds the INP acceptable amenity noise level of 50 dBA; and
- No non-residential receiver exceeds the relevant INP acceptable amenity noise level.

### 8.4 Resource Company-owned Receivers - Cumulative Impact Assessment Summary

The predicted daytime cumulative LAeq(11hour) noise amenity levels from the Modification Year 2, Year 7 and Year 10 operating scenarios for resource company-owned receivers are presented in **Appendix J**, together with a summary of noise impacts.

## 9 SUMMARY OF FINDINGS

### 9.1 Construction Assessment Criteria

As discussed in **Section 3.3**, the Modification will include the construction of an at-grade level crossing (and associated controls) at the intersection of Wenham Cox Road and the private haul road.

The SEP NIA anticipated similar works associated with the public road realignments (i.e. Wheatleys Lane and Bowens Road and Wenham Cox/Bowens Roads) involving bulk earthworks and other activities. The SEP construction noise levels were assessed (and subsequently approved) in accordance the EPA's ICNG where the ICNG is considered appropriate as the public road works are a discrete, short-term activity located beyond the open-cut perimeters.

The Modification construction work would be undertaken by a construction contractor and in consultation with the Mid-Coast Council. It would involve a relatively modest fleet and is anticipated to take up to approximately six weeks. The works are therefore consistent with the SEP NIA (and subsequent approval).

### 9.2 Operating Assessment Criteria

As discussed in **Section 1.2**, this Modification noise assessment focuses on any incremental noise impacts by comparison with the approved SMC and associated noise limits. Development Consent SSD-4966 dated 19 May 2015 (**Appendix C**) includes conditions relating to acquisition upon request, additional mitigation upon request, noise criteria (i.e. the SMC approved noise limits) which are reproduced below:



## Noise Criteria

4. The Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 4 at any residence on privately-owned land.

Table 4: Noise criteria dB(A)

| Land                                     | Day<br>$L_{Aeq}(15 \text{ min})$ | Evening<br>$L_{Aeq}(15 \text{ min})$ | Night<br>$L_{Aeq}(15 \text{ min})$ | Night<br>$L_{A1}(1 \text{ min})$ |
|--|----------------------------------|--------------------------------------|------------------------------------|----------------------------------|
| 40/51/Cr1 –<br>L. Blanch                 | 43                               | 43                                   | 43                                 | 50                               |
| Cr7 – Pryce-Jones                        | 43                               | 43                                   | 43                                 | 49                               |
| 42 – D. Blanch                           | 42                               | 42                                   | 42                                 | 50                               |
| Cr 2 – Boorer                            | 41                               | 41                                   | 41                                 | 49                               |
| 31(1) – Isaac                            | 40                               | 40                                   | 40                                 | 48                               |
| 36 – Wallace                             | 39                               | 39                                   | 39                                 | 47                               |
| 44 – Cross / Jane                        |                                  |                                      |                                    |                                  |
| 60 – Healy /<br>Greenwood                | 39                               | 39                                   | 39                                 | 45                               |
| 37 – Worth                               | 38                               | 38                                   | 38                                 | 46                               |
| 29 – Ward                                | 38                               | 38                                   | 37                                 | 45                               |
| 23 – Bagnall                             | 37                               | 37                                   | 37                                 | 45                               |
| 31(2) – Isaac                            |                                  |                                      |                                    |                                  |
| 296 – Watson                             |                                  |                                      |                                    |                                  |
| 297 – Bosma                              |                                  |                                      |                                    |                                  |
| 298 – Yates                              | 36                               | 36                                   | 36                                 | 45                               |
| 15(3) – Falla                            | 39                               | 35                                   | 35                                 | 45                               |
| 15(2) – Falla                            | 36                               | 35                                   | 35                                 | 45                               |
| Stratford Village                        | 37                               | 36                                   | 35                                 | 45                               |
| All other privately-<br>owned residences | 35                               | 35                                   | 35                                 | 45                               |

- To interpret the locations referred to in Table 4 see the applicable figure(s) in Appendix 5.
- Stratford village is shown on the figure(s) in Appendix 5.

Noise generated by the development is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Applicant has a negotiated agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

In addition, a generalised methodology for assessing noise impacts from the Modification against the relevant intrusive and amenity PSNLs is presented in **Appendix E** based on the requirements of the INP and VLAMP.

## 9.3 Modification and Cumulative Operating Noise Impact Assessment

A summary of the exceedances at privately-owned receivers and land of the SMC approved noise limits, PSNLs and INP's acceptable noise amenity levels is presented in **Table 16**.

**Table 16 Summary of Criteria Exceedances at Privately Owned Receivers<sup>1</sup> and Vacant Land**

| Exceedance Range                            | 1 to 2 dBA above PSNL           | 3 to 5 dBA above PSNL      | > 5 dBA above PSNL           |
|---|---------------------------------|----------------------------|------------------------------|
| SMC Approved Noise Limits LAeq(15minute)    | -                               | -                          | -                            |
| Exceedance Range                            | 1 to 2 dBA above PSNL           | 3 to 5 dBA abovePSNL       | > 5 dBA above PSNL           |
| Intrusive PSNL LAeq(15minute)               | 15(2) <sup>2</sup>              | 15(3) <sup>2</sup>         | -                            |
| Exceedance Range                            | 1 to 2 dBA above PSNL           | 3 to 5 dBA above PSNL      | > 5 dBA above PSNL           |
| Amenity PSNL LAeq(11 hour)                  | -                               | -                          | -                            |
| Exceedance Range                            | 1 to 2 dBA above INP Acceptable | 3 dBA above INP Acceptable | > 3 dBA above INP Acceptable |
| Cumulative Amenity LAeq(11 hour)            | -                               | -                          | -                            |
| Exceedance Range                            | 1 to 5 dBA above acceptable     |                            | > 5 dBA above acceptable     |
| Land acceptable amenity level LAeq(11 hour) | -                               | -                          | -                            |

Note 1: Refer to **Appendix B** for land ownership details.

Note 2: Properties subject to an existing landholder agreement.

In summary, the predicted daytime operating intrusive LAeq(15minute) noise levels (**Table 13**) at privately-owned receivers show that:

- No exceedance of the daytime approved noise limits at any privately-owned receivers (i.e. predicted daytime noise levels remain lower than, or equal to, those approved for the SEP);
- Negligible exceedance of up to 1 dBA above the intrusive PSNL 35 dBA at receiver 15(2) Falla (receiver subject to landholder agreement);
- Moderate exceedance of up to 4 dBA above the intrusive PSNL 35 dBA at receiver 15(3) Falla (receiver subject to landholder agreement); and
- No exceedance of the intrusive PSNLs (i.e. 35 dBA to 37 dBA) at all other privately-owned receivers.

As a result of the Modification, there are no additional privately-owned receivers predicted to be within the noise management zone (which would attract mitigation rights) or noise affectation zones (which would attract acquisition rights) in accordance with the VLAMP.

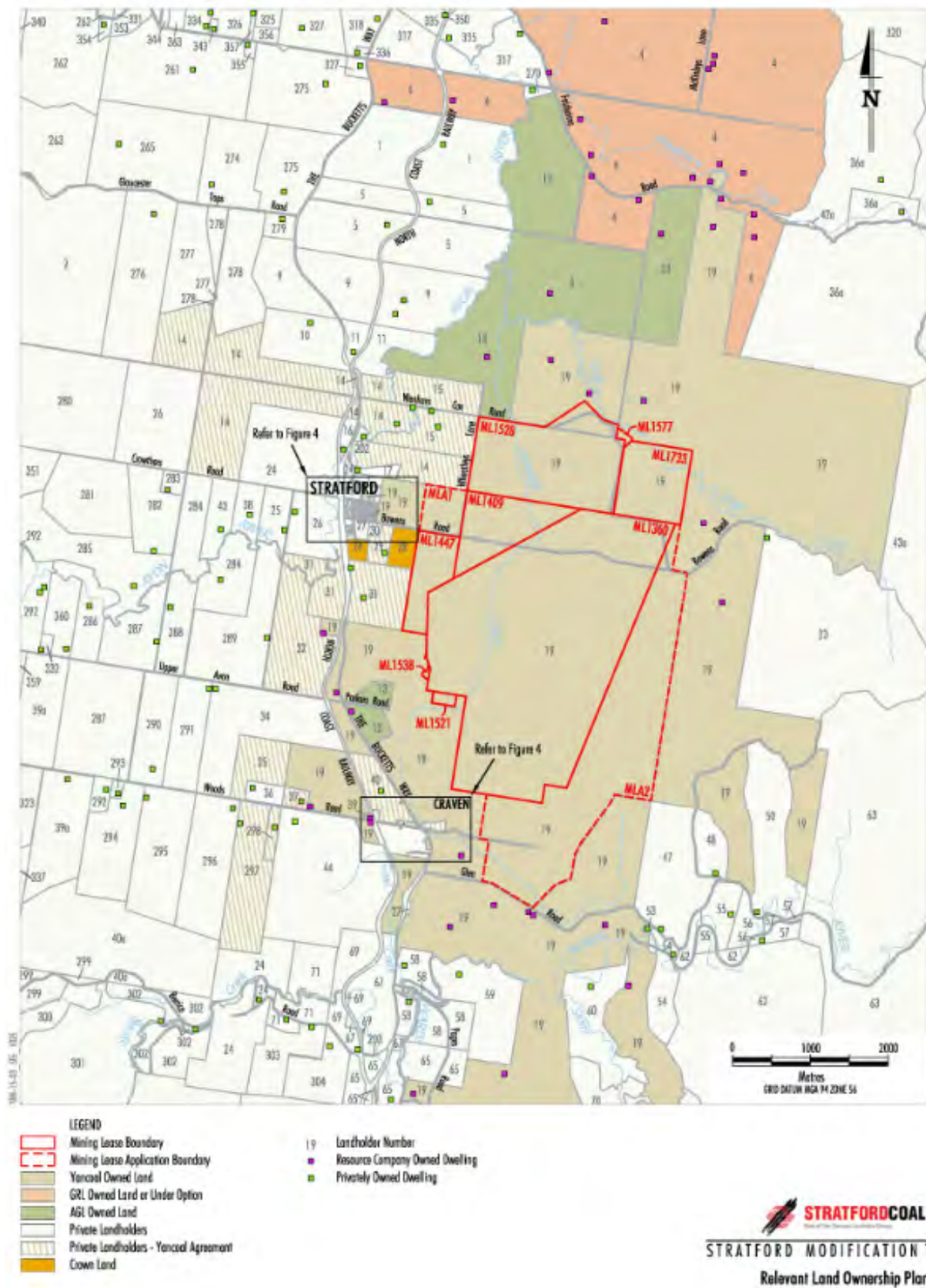
## 10 REFERENCES

- Bowens Road North Project: Operating and Transportation Noise and Blasting Impact Assessment (Richard Heggie Associates Pty Ltd, 2001)
- Duralie Modification Noise and Blasting Assessment (SLR, 2014)
- Interim Construction Noise Guideline (EPA, 2009)
- Noise Management Plan (Stratford Coal Pty Ltd, 2012)
- NSW Industrial Noise Policy (EPA, 2000)
- NSW Road Noise Policy (DECCW, 2011)
- Protection of the Environment Operations Act 1997
- Rail Infrastructure Noise Guideline (EPA, 2013)
- Renzo Tonin Associates Environmental Noise Model (RTA, Version 3.06)
- Stratford Coal Annual Review 2012 (Carbon Based Environmental Pty Ltd, 2012)
- Stratford Coal Annual Review 2013 (Carbon Based Environmental Pty Ltd, 2013)
- Stratford Coal Annual Review 2014 (Carbon Based Environmental Pty Ltd, 2014)
- Stratford Coal Annual Review 2015 (Carbon Based Environmental Pty Ltd, 2015a)
- Stratford Coal Interim Annual Review 2015 (Carbon Based Environmental Pty Ltd, 2015b)
- Stratford Extension Project Noise and Blasting Assessment (SLR, 2012)
- Voluntary Land Acquisition and Mitigation Policy: For State Significant Mining, Petroleum and Extractive Industry Developments (NSW Government, 2014)



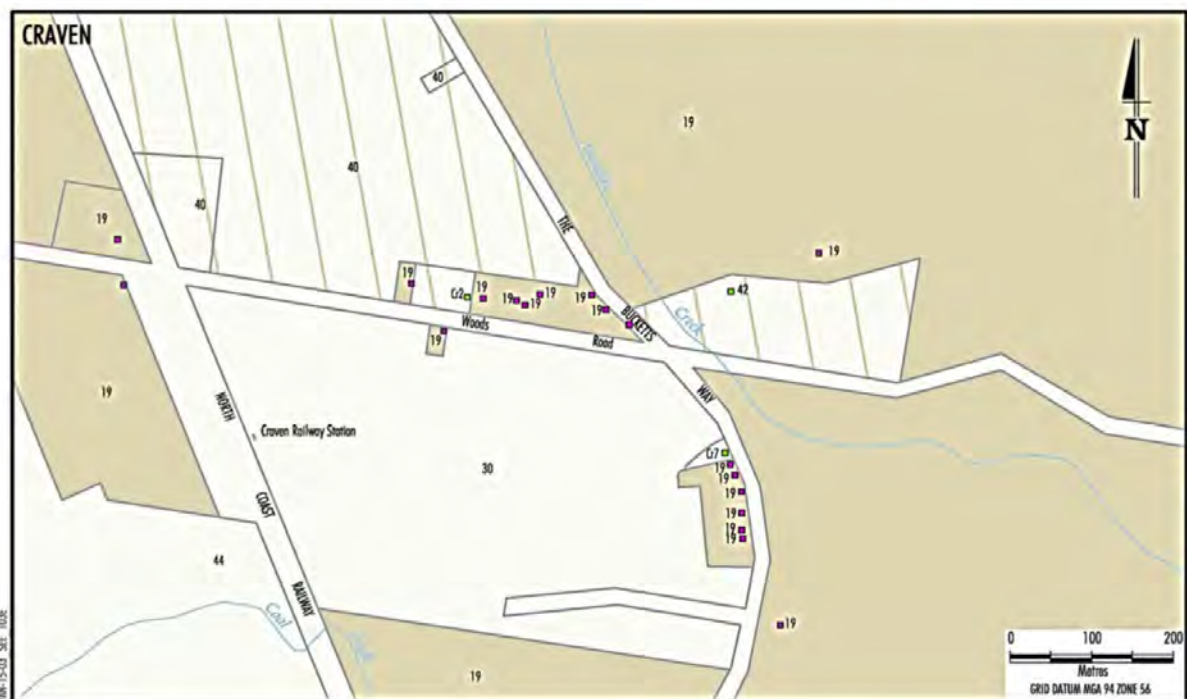


**LAND OWNERSHIP PLAN**



**Figure 3**

**LAND OWNERSHIP PLAN**



- LEGEND**
- Private Landholders
  - Private Landholders - Yancoal Agreement
  - Crown Land
  - Yancoal Owned Land
  - Landholder Number
  - 19

 Resource Company Owned Dwelling
  - 19

 Privately Owned Dwelling

**STRATFORDCOAL**  
Part of the Yancoal Australia Group

**STRATFORD MODIFICATION 1**  
Relevant Land Ownership Plans  
Stratford and Craven

Source: SCP1(2016); DFS-LPI (2016) and DPI-C&L (2012)

**Figure 4**



## LAND OWNERSHIP PLAN

|     |  |     |   |      |   |
|-----|--|-----|---|------|---|
| 1   | Wendy Jane Fisser  | 263 | Patrick Michael Ryan  | 357  | Christopher John Rose & Sarah Jane Rose                             |
| 2   | Fairley (Gloucester) Pty. Limited                          | 265 | Jeffrey Charles Hawkins   | 359  | William Kilpatrick Hunter/ Kay Edith Hunter                         |
| 4   | Gloucester Resources Limited                               | 270 | Jason David Collins & Michelle Isabel Barrett                       | 360  | Tor Geoffrey Mason/ Sandra Jay Mason/ Vaida Doreen                  |
| 5   | Norman Edward Bignell                                      | 274 | Warren Neil Wilson & Colleen Therese Wilson                         | 361  | Helen Teresa Whelan   |
| 6   | AGL Gloucester Le Pty Ltd in 70/100 Share & AGL Gloucester | 275 | Paco Farm Pty Limited   | 363  | Linda Trudgema  |
|     | NG Pty Ltd in 30/100 Share as Tenants in Common            | 276 | Alan Lacombe & Carol Lacombe  | 364  | Hootsco Pty Limited   |
| 9   | Norman John Williams                                       | 277 | John William Farley   | Cr 2 | Rodger Malcolm Bower  |
| 10  | Kenneth James Whatmore & Anne Grace Whatmore               | 278 | Mark Anthony Campbell & Roseleen Linette Campbell                   | Cr 7 | David Robert Pryce Jones  |
| 11  | Brian Keith Walker, Lesley Jane Walker, Tyson Brian Walker | 279 | William Alexander Tomb & Gillian Margaret Tomb                      | 51   | Gary Owen Ross  |
|     | & Lucy Marie Walker  | 280 | Kenneth Bruce Bagnall/ Clifford John Bromley & Terri Louise Bromley | 53   | Irene Myrtle Yeatman  |
| 12  | AGL Upstream Investments Pty Limited                       | 281 | Colin William Lewis & Lesley Ann Lewis                              | 54   | Belinda Maree Gandy & Terry Raymond Gandy                           |
| 13  | AGL Energy Limited   | 282 | Peter Stephen Ross  | 55   | Christopher James Britnell  |
| 14  | Allen James Wenham & Pamela Diane Wenham                   | 283 | Janet Nolan   | 56   | Gary Wayne Throodgate & Julie Frances Throodgate                    |
| 15  | GS & CL Folia Superannuation Pty Limited                   | 284 | Alec Gregory Perrin & Noreen Rita Jean Perrin                       | 57   | Raymond James Crawley & Lucinda Crawley                             |
| 16  | Judith Helen Pickett                                       | 285 | Marshall Luan Carter & Theresa Kathleen Carter                      | 58   | Neville Charles Forbes  |
| 17  | Doreen James Fisher & Claire Louise Smith                  | 286 | Gerard Roland Burley  | 59   | Peter John Greenham & Beverley Mary Greenham                        |
| 19  | Tancred Australia Limited                                  | 287 | Dorothy Kay Sindenberry & Conle Martin Kinkin                       | S10  | Louise Frances Gannon   |
| 23  | Ross Lewis Bagnall   | 288 | Alec Gregory Perrin   | S11  | Adam John Glow  |
| 24  | Geoffrey Lawrence Harris                                   | 289 | Eliza Ann Ruth McIntosh   | S12  | Grant James Mitchell & Cecily Maree Mitchell                        |
| 25  | Maria Thompson   | 290 | Kelly Pickett   | S13  | Ion Mark Wells & Jody Ann Wells                                     |
| 26  | Kevin John Lowrey & Robyn Lowrey                           | 291 | Trevor Allan Crawley & Colleen Dawn Crawley                         | S14  | Kathleen Edith Bignall  |
| 27  | The Council of the Shire of Gloucester                     | 292 | James Reginald Fisher & Rhonda Patricia Fisher                      | S15  | Minister for Education  |
| 28  | Crown Land   | 293 | Kerry Elizabeth Branton   | S19  | Rodney Lawrence Carroll   |
| 29  | Edwin Dennis Ward & Rhonda Fay Ward                        | 294 | Gregory Vincent Horcum & Karen Marcom                               | S20  | Sue Ann Restall & Peter John Restall                                |
| 30  | The State of New South Wales                               | 295 | William John Bush & Danielle Elizabeth Bush                         | S21  | Bosant Service Centre Pty Limited                                   |
| 31  | Allen Stanley Isaac  | 296 | Peter Geoffrey Watson & Heather Irene Watson                        | S22  | Telstra Corporation Limited   |
| 32  | Eliza Ann Ruth McIntosh & Ronald Keith McIntosh            | 297 | William Marion Bosma  | S23  | Mario Fay Bartlett  |
| 34  | Graham Wesley Hall & Kim Louziane Hall                     | 298 | Eric Allan Yates  | S24  | Michael John Hughes & Brenda Alison Hughes                          |
| 35  | Leo John Dillon & Isabel Robyn Dillon                      | 299 | Malcolm Ronald Lee  | S25  | The Trustees of Church Property for the Diocese of Newcastle        |
| 36  | Graham Lindsay Wallace & Marion Frances Wallace            | 300 | Beynon Douglas Hokin & Di Hokin                                     | S26  | Margaret Elaine Young   |
| 36a | Anthony Stanford Boney                                     | 301 | Felia Identifier Pty Limited  | S27  | Robert William Tilley   |
| 37  | Timothy James Worth  | 302 | Edwin John Walton & Wendy Walton                                    | S28  | David Charles Morris & Yvette Marie Morris                          |
| 38  | Paul Michael Johnson & Judith Anne Johnson                 | 303 | ISTC Newcastle Pty Limited  | S29  | Robert Charles Bagnall & Lyndell Joy Bagnall                        |
| 39a | Woods Road Pty Ltd   | 304 | Ernie Dorell Aboyskern & Sharon Ann Aboyskern                       | S30  | Kim Daryl Baker   |
| 40  | Leslie Allanby Blanch                                      | 306 | Gregory Hunt & Catherine Hunt                                       | S31  | Tancy Louise Richards   |
| 40a | Howard Keri Williams & Margaret Russell Williams           | 307 | Graham John Wallenda & Rosalind Mary Wallenda                       | S32  | Peter Kelly   |
| 42  | Douglas John Blanch  | 311 | Paul Berthold & Carolyn Berthold                                    | S33  | Genta Alexandra Langtry, Jennifer Gilbert & Neville Bertram Gilbert |
| 42a | William Rainsford Ribbons                                  | 312 | Allen James Harrison & Darlene Marie Harrison                       | S34  | Edward George Ashby   |
| 43  | Vicki Colleen Massey                                       | 316 | Country Rail Infrastructure Authority                               | S35  | Mark Rodgros & Koniam Yvette Bekker                                 |
| 43a | Lyncom Holdings Pty Limited                                | 317 | Adrian Kenneth Boney/ Beverley Ruth Boney                           | S36  | David Thomas Poos   |
| 44  | Peter Michael Cross & Kylie Jane                           | 318 | Albert Malcolm Timothy Sophia/ Gloria Jane Sophia                   | S37  | Malcolm Neville Pryor & Helen Leone Pryor                           |
| 47  | David Charles Digges, Carolyn Denise Digges,               | 320 | Andrew Charles Vintner/ Kevin Thomas Vintner                        | S38  | Stephen Russell Kirkman   |
|     | Timothy Charles Hart & Elizabeth Mary Hart                 | 323 | Burnah Pastoral Co Pty Limited                                      | S39  | Lizabeth Joye Nicholls & Raymond John Husband                       |
| 48  | Maria Iris Roussley  | 325 | Charles Robert Norman   | S40  | Peter John Curtis   |
| 50  | Neil James Porter  | 326 | Charnick Pty Limited  | S41  | Desmond Bruce McClure & Carol Ann Aplin                             |
| 53  | William Charles Barnes & Cheryl Freda Barnes               | 327 | Debbie Louise Wilson  | S43  | Deanne Donna Squire   |
| 54  | Kenneth John Hughes & Connyung Pty Limited                 | 328 | Daphne May Chapman  | S44  | Ann Elizabeth Flack   |
| 55  | Allen James Hancock & Lynda Margaret Hancock               | 331 | Delese Elken May Buckton  | S45  | Daniel John Keywood, Dale Martin Keywood, Kelly Hazel               |
| 56  | Gerald McCalden & Patricia Broadley McCalden               | 332 | Erol William Hastings/ Lorraine Hastings                            |      | Keywood & Amanda Margaret Hawkins                                   |
| 57  | Pamela Broadley Harrison                                   | 333 | Gary Bruce Grant  | S46  | Stephen Thomas Parker & Jean Marie Parker                           |
| 58  | Douglas William Blanch & Evelyn Fay Blanch                 | 334 | Gary Douglas Randall/ Gai Lorraine Randall                          | S47  | John Victor Potts   |
| 59  | Guy William Cassar & Cecile Elizabeth Cassar               | 335 | Groome Harold Harts   | S48  | James Bryson Farley & Glenda Laurel Farley                          |
| 60  | Groome Harty & Philip Weston Greenwood                     | 336 | Gregory James Chinnon/ Tonin Alice Edmunds                          | S49  | Lindy Jayne Blanch  |
| 62  | Dorothy May Boedon   | 337 | Gregory Thomas Price/ Dianne Elizabeth Price                        | S50  | Sheryl Fay Vanderdrift & Lindy Jane Blanch                          |
| 63  | National Parks and Wildlife Service                        | 338 | Jason Bruce Stewart/ Maria Elenna Stewart                           | S51  | Gregory John Tanaholme  |
| 65  | Nadine Elizabeth Weismantle                                | 339 | John Andersen   | S52  | Ronald John Farley & Theresa Jane Barry                             |
| 67  | Ion Robert Bowen   | 340 | John Robert Higgins   | S53  | Trevor Arthur   |
| 68  | Julie Dawn Lyford  | 343 | Kerrie Banks  | S54  | Scott Anthony Adams   |
| 69  | Ralph Hooper & Rowyn Ann Bartholomew                       | 344 | Kerry Anne Harrison/ Antonino Virzi                                 | S55  | Beryl Veronica Mastyn & Tony James Mastyn                           |
| 70  | Robert George Knight                                       | 345 | Liam Woolfey  | S56  | Graham John Collins & Elizabeth Collins                             |
| 71  | Anthony Douglas Burnet & Robyn Annette Burnet              | 346 | Lorraine Bruce  | S57  | Mavis Jean Gam  |
| 73  | Rodney John Penca & Anne Jannette Penca                    | 350 | Raymond Keith Saunders/ Barbara Jayne Saunders                      | S58  | Marilyn Dorothy Harrigan  |
| 75  | Godfrey Ashton Wilson                                      | 351 | Roger Sponight/ Elisabeth Aili Maria Sponight                       | S59  | Terry Raymond Gandy & Belinda Maree Gandy                           |
| 87  | Pacific Property Investments Ltd                           | 352 | Ross Selwyn Edwards   | S60  | Deanne Donna Squires  |
| 202 | Paul Phillip Wenham  | 353 | Ryan Garth Harris   |      |   |
| 203 | Samuel Taylor  | 354 | Scott Ernest Hoy/ Leanne Margaret Bennett                           |      |   |
| 261 | Frank Murray Hooker & Susan Elizabeth Hooker               | 355 | Sue Ellen Margaret Kingston/ Anthony Gerard Kingston                |      |   |
| 262 | Mark Penicision Johnson & Ruth Edna Johnson                | 356 | Thelma Elaine Hart  |      |   |

Source: SLPL (2016), DFS-LPI (2016) and DPL-CBL (CLO) (2012)

Figure 5

**LAND OWNERSHIP DETAILS**

| Property Number/ Landholder  |                                    | MGA Dwelling Co-ordinates |           | ENM Dwelling Co-ordinates |           |               |
|--|------------------------------------|---------------------------|-----------|---------------------------|-----------|---------------|
| Full Name  | Abbreviated Name                   | East (m)                  | North (m) | East (m)                  | North (m) | Elevation (m) |
| <b>Stratford/Craven Rural Properties</b>   |                                    |                           |           |                           |           |               |
| 1 Wendy Jane Fraser  | 1 Fraser                           | 401091                    | 6450637   | 5091                      | 14637     | 121           |
| 5(1) Norman Edward Bignell   | 5(1) Bignell                       | 400375                    | 6449598   | 4375                      | 13598     | 125           |
| 5(2) Norman Edward Bignell   | 5(2) Bignell                       | 400913                    | 6449897   | 4913                      | 13897     | 112           |
| 9(1) Norman John Williams  | 9(1) Williams                      | 400585                    | 6448630   | 4585                      | 12630     | 122           |
| 9(2) Norman John Williams  | 9(2) Williams                      | 400476                    | 6448456   | 4476                      | 12456     | 126           |
| 10 Kenneth James Whatmore & Anne Grace Whatmore  | 10 Whatmore & Whatmore             | 399785                    | 6448103   | 3785                      | 12103     | 135           |
| 11 Brian Keith Walker, Lesley Jane Walker, Tyson Brian Walker & Lacey Maree Walker         | 11 Walker, Walker, Walker & Walker | 399938                    | 6447966   | 3938                      | 11966     | 126           |
| 16 Judith Helen Pickett  | 16 Pickett                         | 399809                    | 6446707   | 3809                      | 10707     | 120           |
| 17 Darren James Fisher & Claire Louise Smith   | 17 Fisher & Smith                  | 399989                    | 6446442   | 3989                      | 10442     | 116           |
| 23 Ross Lewis Bagnall  | 23 Bagnall                         | 405264                    | 6445571   | 9264                      | 9571      | 164           |
| 24 Geoffrey Lawrence Harris  | 24 Harris                          | 398719                    | 6439632   | 2719                      | 3632      | 120           |
| 25 Marisa Thompson   | 25 Thompson                        | 399051                    | 6445673   | 3051                      | 9673      | 136           |
| 26 Kevin John Lowrey & Robyn Lowrey  | 26 Lowrey & Lowrey                 | 399182                    | 6445907   | 3182                      | 9908      | 126           |
| 27 Gloucester Shire Council  | 27 Gloucester Shire Council        | 399924                    | 6446165   | 3924                      | 10165     | 122           |
| 34 Graham Wesley Hall & Kim Lorraine Hall  | 34 Hall & Hall                     | 398163                    | 6443633   | 2163                      | 7633      | 136           |
| 36 Graham Lindsay Wallace & Marion Frances Wallace   | 36 Wallace & Wallace               | 398636                    | 6442359   | 2637                      | 6359      | 156           |
| 36a(1) Anthony Stanford Berecny  | 36a(1) Berecny                     | 406999                    | 6449768   | 10999                     | 13768     | 144           |
| 36a(2) Anthony Stanford Berecny  | 36a(2) Berecny                     | 406734                    | 6450180   | 10734                     | 14180     | 158           |
| 38 Paul Michael Johnson & Judith Anne Johnson  | 38 Johnson & Johnson               | 398602                    | 6445871   | 2602                      | 9871      | 144           |
| 43 Vicki Collen Moseley  | 43 Moseley                         | 398229                    | 6445679   | 2229                      | 9679      | 146           |
| 44 Peter Michael Cross & Kylie Jane  | 44 Cross & Jane                    | 399186                    | 6441925   | 3186                      | 5925      | 156           |
| 47 David Charles Digges, Carolyn Denise Digges, Timothy Charles Hart & Elizabeth Mary Hart | 47 Digges, Digges, Hart & Hart     | 403899                    | 6440541   | 7899                      | 4541      | 175           |
| 48 Marion Iris Rounsley  | 48 Rounsley                        | 404600                    | 6441264   | 8600                      | 5264      | 250           |
| 50 Neil James Porter   | 50 Porter                          | 405132                    | 6440758   | 9132                      | 4758      | 200           |
| 53 William Charles Barnes & Cheryl Freda Barnes  | 53 Barnes & Barnes                 | 403724                    | 6440543   | 7724                      | 4543      | 167           |
| 54 Kenneth John Hughes & Carrysong Pty Limited   | 54 Hughes & Carrysong Pty Ltd      | 404051                    | 6440211   | 8051                      | 4211      | 160           |
| 55 Allan James Hancock & Lynda Margret Hancock   | 55 Hancock & Hancock               | 404795                    | 6440729   | 8795                      | 4729      | 233           |
| 56 Gerald McCalden & Patricia Brawdley McCalden  | 56 McCalden & McCalden             | 405199                    | 6440389   | 9199                      | 4389      | 208           |
| 58(1) Douglas William Blanch & Evelyn Fay Blanch   | 58(1) Blanch & Blanch              | 400651                    | 6439599   | 4651                      | 3599      | 93            |
| 58(2) Douglas William Blanch & Evelyn Fay Blanch   | 58(2) Blanch & Blanch              | 400595                    | 6440074   | 4595                      | 4074      | 98            |
| 59 Leslie Allenby Blanch   | 59 Blanch                          | 401301                    | 6439953   | 5301                      | 3953      | 100           |
| 60 Graeme Healy & Philip Weston Greenwood  | 60 Healy & Greenwood               | 402995                    | 6439798   | 6995                      | 3798      | 158           |
| 65 Noeline Elizabeth Weismantle  | 65 Weismantle                      | 400419                    | 6438342   | 4419                      | 2342      | 86            |
| 69 Ralph Hooper & Bronwyn Ann Bartholmew   | 69 Hooper & Bartholmew             | 399996                    | 6438993   | 3996                      | 2993      | 100           |
| 70 Robert George Knight  | 70 Knight                          | 403112                    | 6438451   | 7112                      | 2451      | 184           |
| 71 Anthony Douglas Burnet & Robyn Annette Burnet   | 71 Burnet & Burnet                 | 399079                    | 6439371   | 3079                      | 3371      | 118           |



**LAND OWNERSHIP DETAILS**

| Property Number/ Landholder                           |   | MGA Dwelling Co-ordinates |           | ENM Dwelling Co-ordinates |           |               |
|---|---|---------------------------|-----------|---------------------------|-----------|---------------|
| Full Name   | Abbreviated Name                          | East (m)                  | North (m) | East (m)                  | North (m) | Elevation (m) |
| 202 Paul Phillip Wenham                               | 202 Wenham                                | 400073                    | 6446873   | 4074                      | 10873     | 116           |
| 265 Jeffrey Charles Hawkins                           | 265 Hawkins                               | 396917                    | 6450640   | 917                       | 14640     | 152           |
| 274 Warren Neil Wilson & Colleen Therese Wilson       | 274 Wilson & Wilson                       | 398111                    | 6450114   | 2111                      | 14114     | 160           |
| 275 (1) Pace Farm Pty Limited                         | 275 (1) Pace Farm Pty Ltd                 | 399045                    | 6450024   | 3045                      | 14024     | 152           |
| 276 Alan Luscombe & Carol Luscombe                    | 276 Luscombe & Luscombe                   | 397368                    | 6449746   | 1368                      | 13746     | 154           |
| 279 William Alexander Tomb & Gillian Margaret Tomb    | 279 Tomb                                  | 399024                    | 6449675   | 3024                      | 13675     | 154           |
| 281 Colin William Lewis & Lesley Ann Lewis            | 281 Lewis & Lewis                         | 399829                    | 6445897   | 3829                      | 9897      | 123           |
| 282 Peter Stephen Ross                                | 282 Ross                                  | 397369                    | 6445406   | 1369                      | 9406      | 146           |
| 283 Janet Nolan                                       | 283 Nolan                                 | 397543                    | 6446191   | 1543                      | 10191     | 200           |
| 284 Alec Gregory Perrin & Noreen Nita Jean Perrin     | 284 Perrin & Perrin                       | 398225                    | 6445031   | 2225                      | 9031      | 132           |
| 285 Marshall Leon Carter & Theresa Kathleen Carter    | 285 Carter & Carter                       | 397115                    | 6444952   | 1115                      | 8952      | 150           |
| 287 Dorothy Kay Sinderberry & Carole Martha Rinkin    | 287 Sinderberry & Rinkin                  | 397408                    | 6444238   | 1408                      | 8239      | 142           |
| 288 Alec Gregory Perrin                               | 288 Perrin                                | 397578                    | 6444676   | 1578                      | 8676      | 136           |
| 289 Eliza Ann Ruth McIntosh                           | 289 McIntosh                              | 398823                    | 6444282   | 2823                      | 8282      | 132           |
| 290 Kelly Pickett                                     | 290 Pickett                               | 397348                    | 6442601   | 1348                      | 6601      | 154           |
| 291 Trevor Allan Crawley & Coleen Dawn Crawley        | 291 Crawley & Crawley                     | 398079                    | 6443632   | 2079                      | 7632      | 136           |
| 292(1) James Reginald Fisher & Rhonda Patricia Fisher | 292(1) Fisher & Fisher                    | 396751                    | 6442336   | 751                       | 6336      | 154           |
| 293 Kerry Elizabeth Braunton                          | 293 Braunton                              | 396904                    | 6442283   | 904                       | 6283      | 163           |
| 294 Gregory Vincent Morcom & Karen Morcom             | 294 Morcom & Morcom                       | 396973                    | 6442131   | 973                       | 6131      | 166           |
| 295 William John Bush & Danielle Elizabeth Bush       | 295 Bush & Bush                           | 397270                    | 6442231   | 1270                      | 6231      | 155           |
| 296 Peter Geoffrey Watson & Heather Irene Watson      | 296 Watson & Watson                       | 398386                    | 6442098   | 2386                      | 6098      | 158           |
| 303 JSTC Newcastle Pty Limited                        | 303 JSTC Newcastle Pty Ltd                | 399400                    | 6439276   | 3400                      | 3276      | 126           |
| 304 Ernie Danzil Abeysekera & Sharee Ann Abeysekera   | 304 Abeysekera & Abeysekera               | 399634                    | 6439030   | 3634                      | 3030      | 114           |
| 307 Graham John Wolfenden & Rosalind Mary Wolfenden   | 307 Wolfenden & Wolfenden                 | 399631                    | 6437981   | 3631                      | 1981      | 109           |
| 316 Country Rail Infrastructure Authority             | 316 Country Rail Infrastructure Authority | 399779                    | 6445870   | 3779                      | 9870      | 120           |
| <b>Craven</b>   |   |                           |           |                           |           |               |
| Cr.7 David Robert Pryce-Jones                         | Cr.7 Pryce-Jones                          | 400906                    | 6441710   | 4906                      | 5710      | 138           |
| <b>Stratford</b>                                      |   |                           |           |                           |           |               |
| S1 Gary Owen Rees                                     | S1 Rees                                   | 400026                    | 6446310   | 4026                      | 10311     | 118           |
| S3 Irene Myrtle Yeatman                               | S3 Yeatman                                | 400164                    | 6446274   | 4164                      | 10274     | 120           |
| S4 Belinda Maree Grady & Terry Raymond Grady          | S4 Grady & Grady                          | 399925                    | 6446294   | 3925                      | 10294     | 116           |
| S5 Christopher James Britnell                         | S5 Britnell                               | 399943                    | 6446233   | 3944                      | 10233     | 120           |
| S6 Gary Wayne Threadgate & Julie Frances Threadgate   | S6 Threadgate & Threadgate                | 399927                    | 6446209   | 3927                      | 10209     | 120           |
| S8 Neville Charles Forbes                             | S8 Forbes                                 | 399972                    | 6446200   | 3972                      | 10200     | 121           |
| S9 Peter John Greenham & Beverley May Greenham        | S9 Greenham & Greenham                    | 400003                    | 6446267   | 4003                      | 10267     | 120           |
| S10 Louise Frances Germon                             | S10 Germon                                | 399990                    | 6446196   | 3990                      | 10196     | 121           |
| S11 Adam John Glew                                    | S11 Glew                                  | 400008                    | 6446193   | 4008                      | 10193     | 122           |

**LAND OWNERSHIP DETAILS**

| Property Number/ Landholder   |                                   | MGA Dwelling Co-ordinates |           | ENM Dwelling Co-ordinates |           | Elevation (m) |
|---|-----------------------------------|---------------------------|-----------|---------------------------|-----------|---------------|
| Full Name   | Abbreviated Name                  | East (m)                  | North (m) | East (m)                  | North (m) |               |
| S12 Grant James Mitchell & Cecily Maree Mitchell                        | S12 Mitchell & Mitchell           | 400030                    | 6446189   | 4030                      | 10189     | 122           |
| S13 Ian Mark Wells & Jody Ann Wells                                     | S13 Wells & Wells                 | 400067                    | 6446167   | 4067                      | 10167     | 123           |
| S14 Kathleen Edith Bignell  | S14 Bignell                       | 399896                    | 6446166   | 3896                      | 10166     | 121           |
| S15 Minister for Education  | S15 Minister for Education        | 400001                    | 6446076   | 4001                      | 10076     | 125           |
| S19 Rodney Lawrence Carroll   | S19 Carroll                       | 400230                    | 6446040   | 4230                      | 10040     | 123           |
| S20 Sue Ann Rastall & Peter John Rastall                                | S20 Rastall                       | 399834                    | 6446056   | 3834                      | 10056     | 125           |
| S21 Booral Service Centre Pty Ltd                                       | S21 Booral Service Centre Pty Ltd | 399817                    | 6446016   | 3817                      | 10016     | 125           |
| S23 Marie Fay Bartlett  | S23 Bartlett                      | 399862                    | 6446047   | 3862                      | 10047     | 125           |
| S24 Michael John Hughes & Brenda Alison Hughes                          | S24 Hughes                        | 399895                    | 6446037   | 3896                      | 10037     | 125           |
| S26 Margaret Elaine Young   | S26 Young                         | 399933                    | 6445969   | 3933                      | 9969      | 125           |
| S27 Robert William Tilley   | S27 Tilley                        | 399961                    | 6446030   | 3961                      | 10030     | 125           |
| S28 David Charles Morris & Yvette Marie Morris                          | S28 Morris & Morris               | 399983                    | 6446032   | 3983                      | 10032     | 125           |
| S29 Robert Charles Bagnall & Lyndell Joy Bagnall                        | S29 Bagnall & Bagnall             | 400005                    | 6446027   | 4005                      | 10027     | 125           |
| S30 Kam Daryl Baker   | S30 Baker                         | 400042                    | 6446015   | 4042                      | 10015     | 125           |
| S31 Tracey Louise Richards  | S31 Richards                      | 400065                    | 6446017   | 4065                      | 10017     | 125           |
| S33 Greta Alexandra Langtry, Jennifer Gilbert & Neville Bertram Gilbert | S33 Langtry, Gilbert & Gilbert    | 400083                    | 6446020   | 4084                      | 10020     | 125           |
| S34 Edward George Ashby   | S34 Ashby                         | 400110                    | 6445933   | 4110                      | 9933      | 125           |
| S35 Mark Rodgers & Korinna Yvette Bekker                                | S35 Rodgers & Bekker              | 400129                    | 6445930   | 4129                      | 9930      | 125           |
| S36 David Thomas Poots  | S36 Poots                         | 400154                    | 6445926   | 4155                      | 9926      | 125           |
| S37 Malcolm Neville Pryor & Helen Leone Pryor                           | S37 Pryor & Pryor                 | 400169                    | 6445928   | 4169                      | 9928      | 125           |
| S38 Stephen Russell Kirkman   | S38 Kirkman                       | 400192                    | 6445922   | 4192                      | 9922      | 125           |
| S39(1) Lizabeth Joye Nicholls & Raymond John Husband                    | S39(1) Nicholls & Husband         | 400220                    | 6445969   | 4220                      | 9969      | 124           |
| S39(2) Lizabeth Joye Nicholls & Raymond John Husband                    | S39(2) Nicholls & Husband         | 400216                    | 6445921   | 4216                      | 9921      | 124           |
| S40 Peter John Curtis   | S40 Curtis                        | 399826                    | 6445931   | 3826                      | 9931      | 124           |
| S41(1) Desmond Brice McClure & Coral Ann Aplin                          | S41(1) McClure & Aplin            | 399876                    | 6445913   | 3876                      | 9913      | 124           |
| S43 Deanne Donne Squire   | S43 Squire                        | 399926                    | 6445913   | 3926                      | 9913      | 124           |
| S47 John Victor Potts   | S47 Potts                         | 400026                    | 6445907   | 4026                      | 9907      | 125           |
| S48 James Bryson Farley & Glenda Laurel Farley                          | S48 Farley & Farley               | 400043                    | 6445904   | 4043                      | 9904      | 125           |
| S49 Lindy Jayne Blanch  | S49 Blanch                        | 400065                    | 6445875   | 4065                      | 9875      | 125           |
| S50 Sheryl Fay Van der Drift & Lindy Jane Blanch                        | S50 Van der Drift & Blanch        | 400078                    | 6445832   | 4078                      | 9832      | 125           |
| S51 Gregory John Trenholme  | S51 Trenholme                     | 400102                    | 6445885   | 4102                      | 9885      | 125           |
| S52 Ronald John Farley & Theresa Jane Barry                             | S52 Farley & Barry                | 400125                    | 6445879   | 4125                      | 9879      | 125           |
| S53 Trevor Arthur   | S53 Arthur                        | 400143                    | 6445879   | 4143                      | 9879      | 125           |
| S54 Scott Anthony Adams   | S54 Adams                         | 400158                    | 6445821   | 4158                      | 9821      | 125           |
| S56 Graham John Collins & Elizabeth Collins                             | S56 Collins & Collins             | 399874                    | 6445730   | 3875                      | 9730      | 123           |
| S57 Mavis Jean Gam  | S57 Gam                           | 399933                    | 6445687   | 3933                      | 9687      | 124           |
| S58 Marilyn Dorothy Harrigan  | S58 Harrigan                      | 399924                    | 6445668   | 3924                      | 9668      | 124           |
| S59 Terry Raymond Grady & Belinda Maree Grady                           | S59 Grady & Grady                 | 399901                    | 6445620   | 3901                      | 9620      | 124           |

**LAND OWNERSHIP DETAILS**

| Property Number/ Landholder                                      |                               | MGA Dwelling Co-ordinates |           | ENM Dwelling Co-ordinates |           |               |
|--|-------------------------------|---------------------------|-----------|---------------------------|-----------|---------------|
| Full Name  | Abbreviated Name              | East (m)                  | North (m) | East (m)                  | North (m) | Elevation (m) |
| <b>Privately Owned Receivers subject to Landholder Agreement</b> |                               |                           |           |                           |           |               |
| 14 Allen James Wenham & Pamela Diane Wenham                      | 14 Wenham & Wenham            | 400501                    | 6447037   | 4501                      | 11037     | 115           |
| 15(1) GS & GL Falla Superannuation Pty Limited                   | 15(1) Falla                   | 400704                    | 6447249   | 4704                      | 11249     | 116           |
| 15(2) GS & GL Falla Superannuation Pty Limited                   | 15(2) Falla                   | 400945                    | 6447205   | 4945                      | 11205     | 120           |
| 15(3) GS & GL Falla Superannuation Pty Limited                   | 15(3) Falla                   | 401025                    | 6446996   | 5025                      | 10996     | 126           |
| 29 Ward <sup>1</sup>   | 29 Ward                       | 400338                    | 6445378   | 4338                      | 9378      | 128           |
| 31(1) Allan Stanley Isaac <sup>1</sup>                           | 31(1) Isaac                   | 400069                    | 6444804   | 4069                      | 8804      | 128           |
| 31(2) Allan Stanley Isaac  | 31(2) Isaac                   | 399905                    | 6445182   | 3905                      | 9182      | 126           |
| 37 Timothy James Worth   | 37 Worth                      | 399196                    | 6442224   | 3196                      | 6224      | 148           |
| 40 (1) Leslie Allenby Blanch <sup>1</sup>                        | 40 (1) Leslie Allenby Blanch  | 400303                    | 6442317   | 4303                      | 6317      | 132           |
| 42 Douglas John Blanch   | 42 Blanch                     | 400904                    | 6441904   | 4904                      | 5904      | 140           |
| 297 Bosma  | 297 Bosma                     | 398468                    | 6441900   | 2468                      | 5900      | 160           |
| 298 Eric Allan Yates   | 298 Yates                     | 398929                    | 6441852   | 2929                      | 5852      | 151           |
| Cr.2 Boorer  | Cr.2 Boorer                   | 400586                    | 6441898   | 4586                      | 5898      | 136           |
| <b>Stratford/Craven Non-Residential Receivers</b>                |                               |                           |           |                           |           |               |
| 30 Stratford Cemetery  | 30 Stratford Cemetery         | 400157                    | 6445746   | 4157                      | 9746      | 125           |
| S15 Minister for Education - Stratford Public School             | S15 Stratford Public School   | 399856                    | 6446112   | 3856                      | 10112     | 123           |
| S25 St John's Anglican Church                                    | S25 St John's Anglican Church | 399924                    | 6446040   | 3924                      | 10040     | 125           |
| <b>Resource company-owned Receivers</b>                          |                               |                           |           |                           |           |               |
| 6 AGL Energy Limited   | 6 AGL                         | 402468                    | 6448722   | 6468                      | 12722     | 120           |
| 13(1) AGL Energy Limited   | 13(1) AGL                     | 401661                    | 6447896   | 5661                      | 11896     | 115           |
| 13(2) AGL Energy Limited   | 13(2) AGL                     | 399911                    | 6443332   | 3911                      | 7332      | 140           |
| 13 (3) AGL Energy Limited  | 13 (3) AGL                    | 403898                    | 6449487   | 7898                      | 13487     | 124           |
| 4(1) Gloucester Resources Limited                                | 4(1) GRL                      | 400334                    | 6451184   | 4334                      | 15184     | 147           |
| 4(2) Gloucester Resources Limited                                | 4(2) GRL                      | 403609                    | 6449924   | 7609                      | 13924     | 108           |
| 4(4) Gloucester Resources Limited                                | 4(4) GRL                      | 404308                    | 6450210   | 8309                      | 14210     | 108           |
| 4(5) Gloucester Resources Limited                                | 4 (5) GRL                     | 404654                    | 6450379   | 8654                      | 14380     | 116           |
| 4(6) Gloucester Resources Limited                                | 4(6) GRL                      | 404671                    | 6449935   | 8671                      | 13935     | 126           |
| 4(7) Gloucester Resources Limited                                | 4(7) GRL                      | 405093                    | 6449734   | 9093                      | 13734     | 132           |
| 4(8) Gloucester Resources Limited                                | 4(8) GRL                      | 405101                    | 6449443   | 9101                      | 13443     | 148           |
| 4(9) Gloucester Resources Limited                                | 4(9) GRL                      | 404957                    | 6450271   | 8957                      | 14271     | 136           |
| 4(12) Gloucester Resources Limited                               | 4(12) GRL                     | 401211                    | 6451189   | 5211                      | 15189     | 112           |
| 4(15) Gloucester Resources Limited                               | 4(15) GRL                     | 402856                    | 6450955   | 6856                      | 14955     | 106           |
| 4(16) Gloucester Resources Limited                               | 4(16) GRL                     | 402998                    | 6450505   | 6998                      | 14505     | 112           |
| 4(18) Gloucester Resources Limited                               | 4(18) GRL                     | 403009                    | 6450229   | 7009                      | 14229     | 115           |
| 19(1) Stratford Coal Pty Ltd                                     | 19(1) SCPL                    | 399383                    | 6442114   | 3383                      | 6114      | 155           |
| 19(2) Stratford Coal Pty Ltd                                     | 19(2) SCPL                    | 399716                    | 6443576   | 3716                      | 7576      | 132           |
| 19(4) Stratford Coal Pty Ltd                                     | 19(4) SCPL                    | 400065                    | 6446084   | 4065                      | 10084     | 125           |
| 19(5) Stratford Coal Pty Ltd                                     | 19(5) SCPL                    | 400117                    | 6446058   | 4117                      | 10059     | 125           |
| 19(6) Stratford Coal Pty Ltd                                     | 19(6) SCPL                    | 400157                    | 6441916   | 4157                      | 5917      | 138           |
| 19(7) Stratford Coal Pty Ltd                                     | 19(7) SCPL                    | 400176                    | 6445817   | 4176                      | 9817      | 125           |
| 19(8) Stratford Coal Pty Ltd                                     | 19(8) SCPL                    | 400556                    | 6441861   | 4556                      | 5861      | 135           |

**LAND OWNERSHIP DETAILS**

| Property Number/ Landholder                        |                        | MGA Dwelling Co-ordinates |           | ENM Dwelling Co-ordinates |           |               |
|--|------------------------|---------------------------|-----------|---------------------------|-----------|---------------|
| Full Name  | Abbreviated Name       | East (m)                  | North (m) | East (m)                  | North (m) | Elevation (m) |
| 19(9) Stratford Coal Pty Ltd                       | 19(9) SCPL             | 400653                    | 6441889   | 4653                      | 5890      | 135           |
| 19(10) Stratford Coal Pty Ltd                      | 19(10) SCPL            | 400670                    | 6441902   | 4670                      | 5902      | 135           |
| 19(11) Stratford Coal Pty Ltd                      | 19(11) SCPL            | 400712                    | 6438416   | 4713                      | 2416      | 102           |
| 19(12) Stratford Coal Pty Ltd                      | 19(12) SCPL            | 400741                    | 6441910   | 4741                      | 5910      | 136           |
| 19(13) Stratford Coal Pty Ltd                      | 19(13) SCPL            | 400753                    | 6441890   | 4753                      | 5890      | 136           |
| 19(14) Stratford Coal Pty Ltd                      | 19(14) SCPL            | 400780                    | 6441865   | 4780                      | 5865      | 137           |
| 19(15) Stratford Coal Pty Ltd                      | 19(15) SCPL            | 400909                    | 6441695   | 4909                      | 5696      | 140           |
| 19(16) Stratford Coal Pty Ltd                      | 19(16) SCPL            | 400910                    | 6441680   | 4910                      | 5680      | 140           |
| 19(17) Stratford Coal Pty Ltd                      | 19(17) SCPL            | 400918                    | 6441633   | 4918                      | 5633      | 140           |
| 19(18) Stratford Coal Pty Ltd                      | 19(18) SCPL            | 400918                    | 6441612   | 4918                      | 5612      | 141           |
| 19(19) Stratford Coal Pty Ltd                      | 19(19) SCPL            | 400920                    | 6441603   | 4920                      | 5603      | 142           |
| 19(20) Stratford Coal Pty Ltd                      | 19(20) SCPL            | 400920                    | 6441660   | 4920                      | 5660      | 142           |
| 19(21) Stratford Coal Pty Ltd                      | 19(21) SCPL            | 400965                    | 6441497   | 4965                      | 5497      | 142           |
| 19(22) Stratford Coal Pty Ltd                      | 19(22) SCPL            | 401183                    | 6440571   | 5183                      | 4571      | 136           |
| 19(23) Stratford Coal Pty Ltd                      | 19(23) SCPL            | 401324                    | 6441493   | 5324                      | 5493      | 145           |
| 19(25) Stratford Coal Pty Ltd                      | 19(25) SCPL            | 401747                    | 6440848   | 5747                      | 4848      | 147           |
| 19(26) Stratford Coal Pty Ltd                      | 19(26) SCPL            | 401882                    | 6438673   | 5882                      | 2673      | 146           |
| 19(27) Stratford Coal Pty Ltd                      | 19(27) SCPL            | 401887                    | 6437822   | 5887                      | 1822      | 148           |
| 19(28) Stratford Coal Pty Ltd                      | 19(28) SCPL            | 402195                    | 6440756   | 6195                      | 4756      | 170           |
| 19(29) Stratford Coal Pty Ltd                      | 19(29) SCPL            | 402478                    | 6447861   | 6478                      | 11861     | 115           |
| 19(30) Stratford Coal Pty Ltd                      | 19(30) SCPL            | 402973                    | 6447427   | 6973                      | 11427     | 122           |
| 19(31) Stratford Coal Pty Ltd                      | 19(31) SCPL            | 403177                    | 6440591   | 7177                      | 4591      | 205           |
| 19(32) Stratford Coal Pty Ltd                      | 19(32) SCPL            | 403484                    | 6439810   | 7484                      | 3810      | 182           |
| 19(33) Stratford Coal Pty Ltd                      | 19(33) SCPL            | 403679                    | 6447341   | 7679                      | 11341     | 130           |
| 19(34) Stratford Coal Pty Ltd                      | 19(34) SCPL            | 404536                    | 6450159   | 8537                      | 14160     | 112           |
| 19(35) Stratford Coal Pty Ltd                      | 19(35) SCPL            | 400048                    | 6437153   | 4048                      | 1153      | 86            |
| 19(36) Stratford Coal Pty Ltd                      | 19(36) SCPL            | 400187                    | 6436589   | 4187                      | 589       | 96            |
| 19(37) Stratford Coal Pty Ltd                      | 19(37) SCPL            | 400180                    | 6437098   | 4180                      | 1098      | 86            |
| 19(38) Stratford Coal Pty Ltd                      | 19(38) SCPL            | 404569                    | 6449579   | 8569                      | 13579     | 136           |
| 19(39) Stratford Coal Pty Ltd                      | 19(39) SCPL            | 400642                    | 6441894   | 4642                      | 5894      | 136           |
| 19(40) Stratford Coal Pty Ltd                      | 19(40) SCPL            | 404449                    | 6445763   | 8449                      | 9763      | 167           |
| 19(41) Stratford Coal Pty Ltd                      | 19(41) SCPL            | 399550                    | 6444348   | 3550                      | 8348      | 126           |
| 19(42) Stratford Coal Pty Ltd                      | 19(42) SCPL            | 401013                    | 6441953   | 5013                      | 5953      | 145           |
| 19(43) Stratford Coal Pty Ltd                      | 19(43) SCPL            | 402251                    | 6440714   | 6251                      | 4714      | 170           |
| 19(45) Stratford Coal Pty Ltd                      | 19(45) SCPL            | 400513                    | 6441915   | 4513                      | 5915      | 136           |
| 19(46) Stratford Coal Pty Ltd                      | 19(46) SCPL            | 400606                    | 6441897   | 4606                      | 5897      | 136           |
| 19(47) Stratford Coal Pty Ltd                      | 19(47) SCPL            | 404687                    | 6444736   | 8687                      | 8736      | 248           |
| 19(48) Stratford Coal Pty Ltd                      | 19(48) SCPL            | 400155                    | 6441970   | 4155                      | 5970      | 138           |
| 19(49) Stratford Coal Pty Ltd                      | 19(49) SCPL            | 400154                    | 6446054   | 4154                      | 10054     | 125           |
| <b>Vacant Land</b>                                 |                        |                           |           |                           |           |               |
| 32 Eliza Ann Ruth McIntosh & Ronald Keith McIntosh | 32 McIntosh & McIntosh | -                         | -         | -                         | -         | -             |
| 35 Leo John Dillon & Isobel Robyn Dillon           | 35 Dillon & Dillon     | -                         | -         | -                         | -         | -             |
| 51 Leslie Allenby Blanch                           | 51 Blanch              | -                         | -         | -                         | -         | -             |
| 40 (3) Leslie Allenby Blanch                       | 40 (3) Blanch          | -                         | -         | -                         | -         | -             |

**Appendix B2**

Report Number 610.09020.00700-R1

Page 6 of 6

**LAND OWNERSHIP DETAILS**

| Property Number/ Landholder  |   | MGA Dwelling<br>Co-ordinates |              | ENM Dwelling<br>Co-ordinates |              |                  |
|--|---|------------------------------|--------------|------------------------------|--------------|------------------|
| Full Name  | Abbreviated Name                              | East<br>(m)                  | North<br>(m) | East<br>(m)                  | North<br>(m) | Elevation<br>(m) |
| 262 Mark Paroissien Johnson & Ruth Edna Johnson                        | 262 Johnson & Johnson                         | -                            | -            | -                            | -            | -                |
| 275 (2) Pace Farm Pty Limited  | 275 (2) Pace Farm Pty Ltd                     | -                            | -            | -                            | -            | -                |
| 280 Kenneth Bruce Bagnall/Clifford John Bramley & Terri Louise Bramley | 280 Subdivided<br>(Bagnell/Bramley & Bramley) | -                            | -            | -                            | -            | -                |
| 292 (2) James Reginald Fisher & Rhonda Patricia Fisher                 | 292 (2) Fisher & Fisherp                      | -                            | -            | -                            | -            | -                |
| S41 (2) Desmond Brice McClure & Coral Ann Aplin                        | S41 (2) McClure & Aplin                       | -                            | -            | -                            | -            | -                |
| 327 Debbie Louise Wilson   | 327 Wilson                                    | -                            | -            | -                            | -            | -                |
| 357 Christopher John Rose & Sarah Jane Rose                            | 357 Rose & Rose                               | -                            | -            | -                            | -            | -                |



## DEVELOPMENT CONSENT SSD-4966 DATED 29 MAY 2015

## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### LIMITS ON CONSENT

#### Mining Operations

5. The Applicant may carry out mining operations on the site until 31 December 2025.

*Note: Under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of both the Secretary and the Deputy Secretary, Resources and Energy. Consequently, this consent will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.*

#### Coal Extraction

6. The Applicant shall not extract more than 2.6 million tonnes of ROM coal from the site in any calendar year.

#### Coal Processing

7. The Applicant shall not process on site more than 5.6 million tonnes of ROM coal in any calendar year.

#### Coal Transport

8. The Applicant shall ensure that:
- (a) all product coal is transported from the site by rail;
  - (b) no more than an average of 2.5 laden trains leave the site each day over any calendar year;
  - (c) no more than 6 laden trains leave the site in any 24-hour period; and
  - (d) no more than 2 laden trains leave the site during any night.

*Note: This condition does not apply to movements of the Duralie shuttle train.*

## SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

### ACQUISITION UPON REQUEST

1. Upon receiving a written request for acquisition from an owner of the land listed in Table 1, the Applicant shall acquire the land in accordance with the procedures in conditions 5-6 of Schedule 4.

*Table 1: Land subject to acquisition upon request*

| <b>Property ID</b>    |                |
|-----------------------|----------------|
| 40/51/Cr1 – L. Blanch | 42 – D. Blanch |
| Cr7 – Pryce-Jones     | Cr 2 – Boorer  |

*Note: To interpret the location referred to in Table 1 see the applicable figure in Appendix 5.*

However, the obligation to acquire a property does not apply if the Applicant has a negotiated agreement with the owner/s of the relevant land that sets aside acquisition under the terms of this consent, and the Applicant has advised the Department in writing of the terms of this agreement.

## DEVELOPMENT CONSENT SSD-4966 DATED 29 MAY 2015

**ADDITIONAL MITIGATION UPON REQUEST**

2. Upon receiving a written request from the owner of any residence on the land listed in Tables 1 and 2, the Applicant shall implement additional noise mitigation measures (such as double glazing, insulation, and/or air conditioning) at the residence in consultation with the owner. These measures must be reasonable and feasible and directed towards reducing the noise impacts of the development on the residence. If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.

*Table 2: Land subject to additional noise mitigation upon request*

| <b>Property ID</b> | <b>Property ID</b>     |
|--------------------|------------------------|
| 31(1) – Isaac      | 60 – Healy / Greenwood |
| 44 – Cross / Jane  | 36 – Wallace           |
| 37 – Worth         | 29 – Ward              |
| 15(3) – Falla      |                        |

*Note: To interpret the locations referred to in Table 2 see the applicable figure in Appendix 5.*

However, the obligation to implement noise mitigation measures does not apply if the Applicant has a negotiated agreement with the owner/s of the relevant residence or land that sets aside noise mitigation measures under the terms of this consent, and the Applicant has advised the Department in writing of the terms of this agreement.

**NOISE****Hours of Operation**

3. The Applicant shall comply with the operating hours in Table 3.

*Table 3: Operating hours*

| <b>Activity</b>   | <b>Operating Hours</b>          |
|---|---------------------------------|
| <ul style="list-style-type: none"> <li>Open cut mining operations in the Bowens Road North and Roseville West Extension pits</li> <li>Recovery and transport of CHPP rejects for re-processing</li> <li>Construction of the noise mitigation bunds on the western side of the Avon North, Roseville West Extension and Stratford East pits</li> </ul> | 7 am to 6 pm, 7 days per week   |
| <ul style="list-style-type: none"> <li>Open cut mining operations in the Avon North and Stratford East pits</li> <li>Coal processing, loading and dispatch of product coal trains</li> <li>Maintenance activities</li> </ul>  | 24 hours a day, 7 days per week |



## DEVELOPMENT CONSENT SSD-4966 DATED 29 MAY 2015

**Noise Criteria**

4. The Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 4 at any residence on privately-owned land.

*Table 4: Noise criteria dB(A)*

| <b>Land</b>                              | <b>Day</b><br><i>L<sub>Aeq</sub>(15 min)</i> | <b>Evening</b><br><i>L<sub>Aeq</sub>(15 min)</i> | <b>Night</b><br><i>L<sub>Aeq</sub>(15 min)</i> | <b>Night</b><br><i>L<sub>A1</sub>(1 min)</i> |
|--|--|--|--|--|
| 40/51/Cr1 –<br>L. Blanch                 | 43   | 43   | 43   | 50   |
| Cr7 – Pryce-Jones                        | 43   | 43   | 43   | 49   |
| 42 – D. Blanch                           | 42   | 42   | 42   | 50   |
| Cr 2 – Boorer                            | 41   | 41   | 41   | 49   |
| 31(1) – Isaac                            | 40   | 40   | 40   | 48   |
| 36 – Wallace                             | 39   | 39   | 39   | 47   |
| 44 – Cross / Jane                        |  |  |  |  |
| 60 – Healy /<br>Greenwood                | 39   | 39   | 39   | 45   |
| 37 – Worth                               | 38   | 38   | 38   | 46   |
| 29 – Ward                                | 38   | 38   | 37   | 45   |
| 23 – Bagnall                             | 37   | 37   | 36   | 45   |
| 31(2) – Isaac                            |  |  |  |  |
| 296 – Watson                             |  |  |  |  |
| 297 – Bosma                              |  |  |  |  |
| 298 – Yates                              | 36   | 36   | 36   | 45   |
| 15(3) – Falla                            | 39   | 35   | 35   | 45   |
| 15(2) – Falla                            | 36   | 35   | 35   | 45   |
| Stratford Village                        | 37   | 36   | 35   | 45   |
| All other privately-<br>owned residences | 35   | 35   | 35   | 45   |

- To interpret the locations referred to in Table 4 see the applicable figure(s) in Appendix 5.
- Stratford village is shown on the figure(s) in Appendix 5.

Noise generated by the development is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Applicant has a negotiated agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

**Operating Conditions**

5. The Applicant shall:
- implement best management practice to minimise the construction, operational, road and rail noise of the development;
  - operate a comprehensive noise management system that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day-to-day planning of mining operations, and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this consent;
  - minimise the noise impacts of the development during meteorological conditions under which the noise limits in this consent do not apply (see Appendix 6);

**DEVELOPMENT CONSENT SSD-4966 DATED 29 MAY 2015**

- (d) only use locomotives and rolling stock that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No. 3142);
- (e) co-ordinate noise management on site with the noise management of the Gloucester Gas Project to minimise cumulative noise impacts; and
- (f) carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.

**Noise Management Plan**

6. The Applicant shall prepare and implement a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA, and submitted to the Secretary for approval prior to 31 December 2015, unless otherwise agreed by the Secretary;
  - (b) describe the measures that would be implemented to ensure:
    - compliance with the noise criteria and operating conditions of this consent; and
    - the noise impacts of the project are minimised during meteorological conditions when the noise limits of this consent do not apply;
  - (c) describe the proposed noise management system in detail;
  - (d) include a monitoring program that:
    - includes monitoring of inversion strength at an appropriate sampling rate to determine compliance with noise limits;
    - provides for the biennial validation of the noise model for the project.
    - evaluates and reports on:
      - the effectiveness of the on-site noise management system;
      - compliance against the noise criteria in this consent; and
      - compliance with the noise operating conditions;
    - includes a program to calibrate and validate real-time noise monitoring results with attended monitoring results over time (so the real-time noise monitoring program can be used as a better indicator of compliance with the noise criteria and as a trigger for further attended monitoring); and
    - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

**Night-time Noise**

7. Within 2 years of the commencement of night-time mining operations, and every 2 years thereafter, the Applicant shall engage an independent acoustic expert to undertake a review of compliance with the relevant conditions of consent for night-time operations, to the satisfaction of the Secretary.

Should any review report show that night-time mining operations have been/are non-compliant, the Applicant must modify its operations and conduct another independent review within 30 days.

If this second review demonstrates compliance, the Applicant may continue its modified night-time mining operations. If not, the Applicant must immediately cease night-time mining operations.

Night-time mining operations may only restart if the Secretary is satisfied that the proposed operations would be compliant with the relevant conditions of consent.

**Record of Noise Limit Exemptions**

8. The Applicant shall record and make available on its website:
- (a) when the real-time monitoring and management system detects any potential exceedance of the noise limits;
  - (b) when exemptions from noise limits due to meteorological conditions apply;
  - (c) the specific reasonable and feasible measures that were taken when either (a) or (b) apply; and
  - (d) facilitate the regular review of this information by the CCC, to the satisfaction of the Secretary.

## DEVELOPMENT CONSENT SSD-4966 DATED 29 MAY 2015

**METEOROLOGICAL MONITORING**

24. For the life of the development, the Applicant shall ensure that there is a meteorological station in the vicinity of the site that:
- (a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline and the NSW Industrial Noise Policy; and
  - (b) is capable of continuous real-time measurement of temperature lapse rate data that are able to be transformed accurately and repeatably, and no more favourably, to those that would be obtained by the use of a 60 m tower, to the satisfaction of the EPA.

**APPENDIX 6  
NOISE COMPLIANCE ASSESSMENT**

**Applicable Meteorological Conditions**

1. The noise criteria in Table 4 in Schedule 3 are to apply to a receiver under all meteorological conditions except under:
- (a) wind speeds greater than 3 m/s at 10 m above ground level; or
  - (b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or
  - (c) temperature inversion conditions greater than 3°C/100 m.

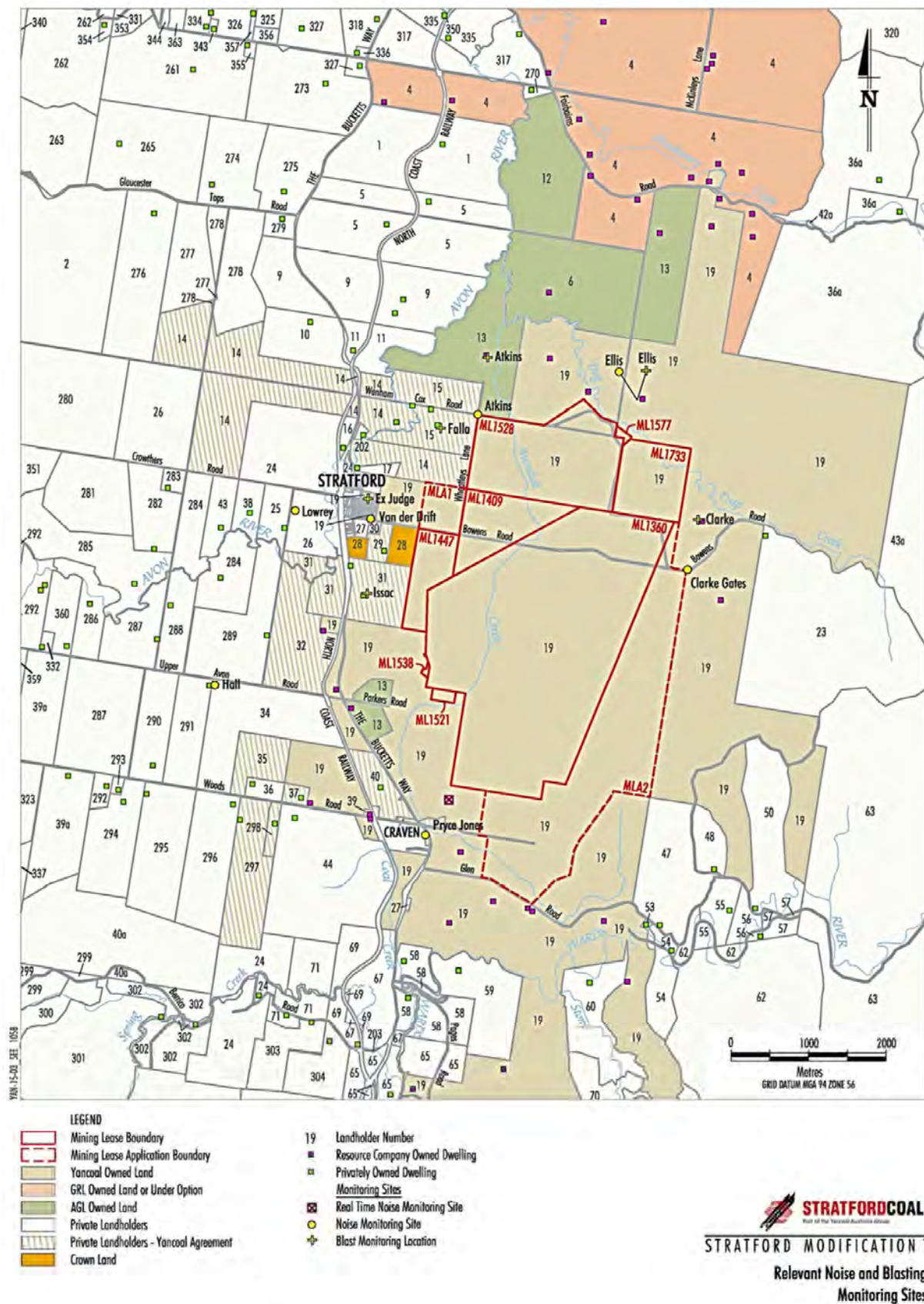
**Determination of Meteorological Conditions**

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station required under condition 25 of Schedule 3.

**Compliance Monitoring**

3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this consent.
4. This monitoring must be carried out at least 12 times in each calendar year (i.e. at least once in every calendar month), unless the Secretary directs otherwise.
5. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:
- (a) monitoring locations for the collection of representative noise data;
  - (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
  - (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
  - (d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing at any individual residence if low frequency noise is present (in accordance with the INP) and before comparison with the specified noise levels in the consent.

# NOISE MONITORING LOCATION PLAN



**Figure 8**

# GENERALISED NOISE IMPACT ASSESSMENT METHODOLOGY

In accordance with the INP's Chapter 2, Industrial Noise Criteria and associated Application Notes (12 June 2013), the PSNLs for the various localities in the vicinity of the SMC are presented in **Table E1** for both the intrusive noise level and noise amenity level. These criteria are nominated for the purposes of assessing potential noise impacts from the Modification.

**Table E1 Project-specific Noise Levels and Assessment Criteria (dBA re 20 µPa)**

| Locality         | Land Use                                    | Intrusive LAeq(15minute) <sup>1</sup>   |  |       | Amenity LAeq(period) <sup>1</sup> |  |       |
|------------------|---|---|--|-------|-----------------------------------|--|-------|
|                  |   | Day                                     | Evening  | Night | Day                               | Evening  | Night |
| Stratford/Craven | Village Residential <sup>2</sup>            | 37                                      | Modification confined to daytime operations only (i.e. 0700 hours to 1800 hours) |       | 50                                | Modification confined to daytime operations only (i.e. 0700 hours to 1800 hours) |       |
| Other Rural      | Rural Residential <sup>2</sup>              | 35                                      |  |       | 50                                |  |       |
| Parkers Road     | Industrial                                  | Intrusive noise criteria not applicable |  |       | 70                                |  |       |
| Any              | School <sup>3</sup>                         | Intrusive noise criteria not applicable |  |       | External 45 when in use           |  |       |
| Any              | Church <sup>3</sup> , Cemetery <sup>3</sup> | Intrusive noise criteria not applicable |  |       | External 50 when in use           |  |       |
| Any              | Active Recreation                           | Intrusive noise criteria not applicable |  |       | External 55 when in use           |  |       |

Note 1: Daytime 0700 hrs to 1800 hrs, Evening 1800 hrs to 2200 hrs, Night-time 2200 hrs to 0700 hrs.

Note 2: At the most-affected point within 30 m of the residential area.

Note 3: External criteria equivalent to internal criteria plus 10 dBA.

The INP states that the PSNLs are based on preserving the amenity of at least 90% of the population living in the vicinity of industrial noise sources by limiting the adverse effects of noise for at least 90% of the time. Provided the PSNLs are achieved, then most people would consider the resultant noise levels acceptable. In those cases where the PSNLs are not achieved, it does not automatically follow that all people exposed to the noise would find the noise "unacceptable". In subjective terms, the VLAMP characterises noise impacts resulting from residual noise exceedances of the PSNLs generally as follows:

- If the residual noise exceedance is 0-2 dBA above the PSNL, then noise impacts are considered to be negligible (i.e. not noticeable by all people).
- If the residual noise exceedance is 3-5 dBA above the PSNL, and the development would contribute less than 1 dB to the total industrial noise level, then noise impacts are considered to be marginal (i.e. not noticeable by most people).
- If the residual noise exceedance is 3-5 dBA above the PSNL, and the development would contribute more than 1 dB to the total industrial noise level, then noise impacts are considered to be moderate (i.e. not noticeable by some people but may be noticeable by others).
- If the residual noise exceedance is >5 dBA above the PSNL in the INP, then noise impacts are considered to be significant (i.e. noticeable by most people).

# GENERALISED NOISE IMPACT ASSESSMENT METHODOLOGY

In view of the foregoing, **Table E2** presents the generalised methodology for assessing the Modification operational noise levels against the relevant intrusive and amenity PSNLs (**Table E1**) together with cumulative amenity noise levels (**Table 11**) for assessing noise amenity levels from existing, approved and proposed resource developments in the vicinity of the Modification.

**Table E2 Generalised Noise Impact Assessment Methodology (dBA re 20µPa)**

| Mine Operations                          | Assessment Parameter     | Assessment Criteria | Noise Management Zone <sup>1</sup>   |                                      | Affectionation Zone <sup>2</sup>               |
|--|--------------------------|---------------------|--------------------------------------|--------------------------------------|--|
|  |                          |                     | Negligible                           | Marginal to Moderate                 |  |
| Affected residences                      | PSNL Intrusive           | RBL plus 5 dBA      | 1 to 2 dBA above assessment criteria | 3 to 5 dBA above assessment criteria | > 5 dBA above assessment criteria              |
|  | PSNL Amenity             | INP acceptable      |                                      |                                      |  |
| Affected land                            | PSNL Amenity             | INP acceptable      | Not applicable                       | Not applicable                       | > 5 dBA above assessment criteria <sup>3</sup> |
| All industrial noise affected residences | Cumulative Amenity Level | INP acceptable      | 1 to 2 dBA above assessment criteria | 3 dBA above assessment criteria      | > 3 dBA above assessment criteria              |

Note 1: Noise Management Zone - depending on the range of exceedance of the PSNL assessment parameters, potential project noise impacts range from negligible to moderate in accordance with the VLAMP.

Note 2: Noise Affectionation Zone - noise exceedances greater than 5 dBA above the PSNL assessment parameters may result in significant project noise impacts in accordance with the VLAMP.

Note 3: Noise Affectionation Zone - equivalent to a noise exceedance of the INP's maximum noise amenity level on more than 25% of any privately-owned land, and a residence could be built on that land under existing planning controls in accordance with the VLAMP.

**NSW GOVERNMENT VOLUNTARY MITIGATION AND LAND ACQUISITION POLICY****NOISE**

This section details how the policy applies to noise impacts.

**Assessment criteria**

Applicants are required to assess the impacts of the development in accordance with the:

- NSW Industrial Noise Policy (EPA 2000) (INP);
- Rail Infrastructure Noise Guideline (EPA 2013) (RING);
- Road Noise Policy (DECCW 2011) (RNP); and the
- Interim Construction Noise Guideline (DECC 2009) (ICNG).

These policies and guidelines seek to strike an appropriate balance between supporting the economic development of NSW and protecting the amenity and wellbeing of the community. They recommend standards for regulating the construction, operational, road and rail noise impacts of a development, and require applicants to implement all reasonable and feasible avoidance and mitigation measures.

These standards are generally conservative, and it does not automatically follow that exceedances of the relevant criteria will result in unacceptable impacts.

**Mitigation and acquisition criteria**

A consent authority can apply voluntary mitigation and voluntary land acquisition rights to reduce:

- Operational noise impacts of a development on privately-owned land; and
- Rail noise impacts of a development on privately-owned land near non-network rail lines (private rail lines) on or exclusively servicing industrial sites (see Appendix 3 of the RING);

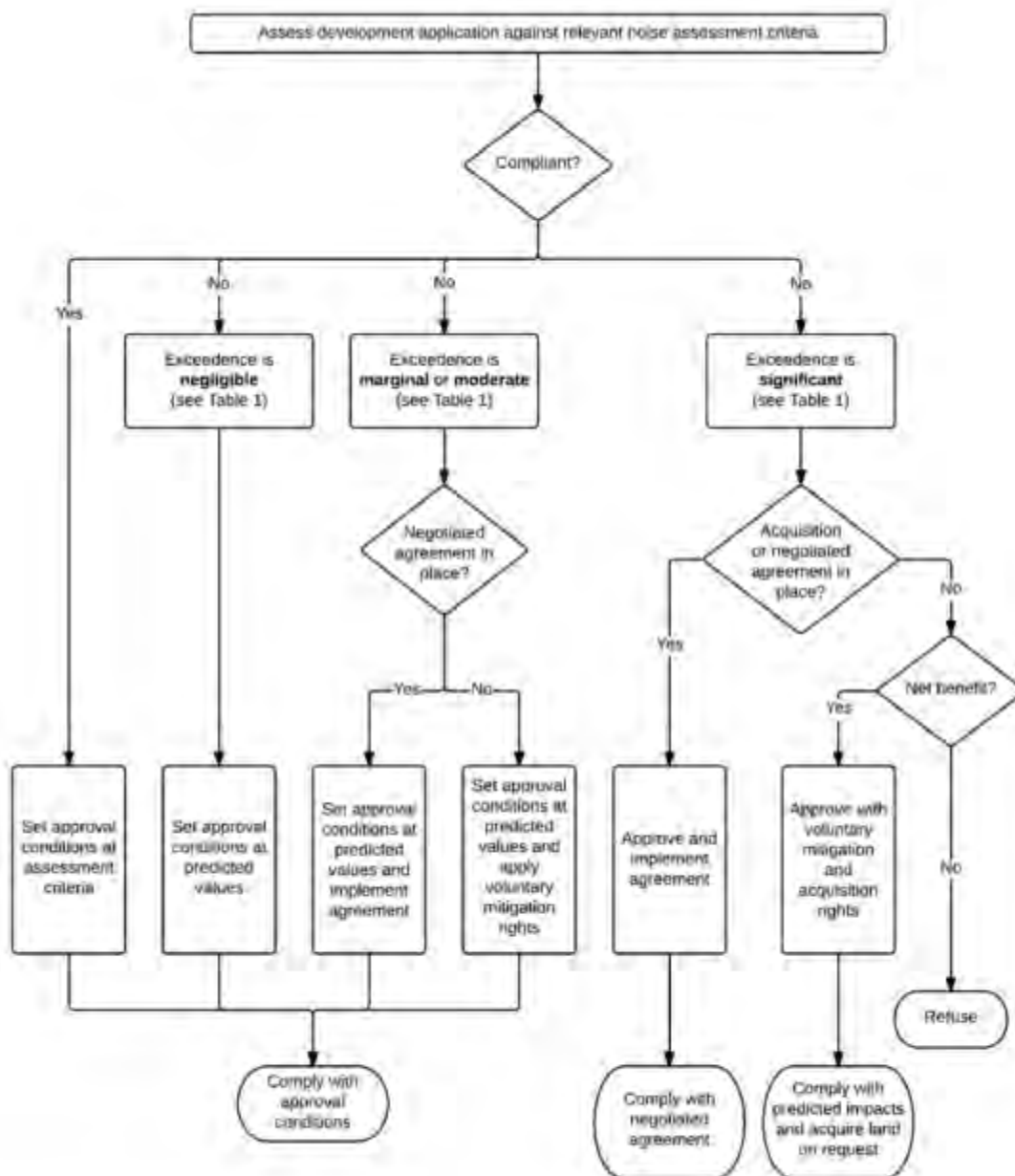
But not:

- Construction noise impacts, as these impacts are shorter term and can be controlled;
- Noise impacts on the public road or rail network; or
- Modifications of existing developments with legacy noise issues, where the modification would have beneficial or negligible noise impacts. In such cases, these legacy noise issues should be addressed through site-specific pollution reduction programs under the *Protection of the Environment Operations Act 1997*.

**Process for decision-making on noise impacts**

The decision-making process which should be applied by a consent authority under this policy is summarised in Figure 4 below.

## NSW GOVERNMENT VOLUNTARY MITIGATION AND LAND ACQUISITION POLICY



**Figure 4 – Decision-making process for noise impacts.**

Table 1 below summarises the NSW Government's interpretation of the significance of any potential exceedences of the relevant noise assessment criteria, and identifies potential treatments for these exceedences.



NSW GOVERNMENT VOLUNTARY MITIGATION AND LAND ACQUISITION POLICY

Table 1 - Characterisation of noise impacts & potential treatments

| Residual noise exceeds INP criteria by   | Characterisation of impacts                     | Potential treatment  |
|--|---|--|
| 0-2dB(A) above the project specific noise level (PSNL)   | Impacts are considered to be <b>negligible</b>  | The exceedances would not be discernable by the average listener and therefore would not warrant receiver based treatments or controls   |
| 3-5dB(A) above the PSNL in the INP <u>but</u> the development would contribute less than 1dB to the total industrial noise level | Impacts are considered to be <b>marginal</b>    | Provide mechanical ventilation / comfort condition systems to enable windows to be closed without compromising internal air quality / amenity.                                     |
| 3-5dB(A) above the PSNL in the INP <u>and</u> the development would contribute more than 1dB to the total industrial noise level | Impacts are considered to be <b>moderate</b>    | As for marginal impacts but also upgraded façade elements like windows, doors, roof insulation etc. to further increase the ability of the building façade to reduce noise levels. |
| >5dB(A) above the PSNL in the INP  | Impacts are considered to be <b>significant</b> | Provide mitigation as for moderate impacts and see voluntary land acquisition provisions below.  |

### Voluntary mitigation rights

A consent authority should only apply voluntary mitigation rights where, even with the implementation of best practice management:

- The noise generated by the development would be equal to or greater than 3dB(A) above the INP project specific noise level at any residence on privately owned land; or
- The development would increase the total industrial noise level at any residence on privately owned land by more than 1dB(A) and noise levels at the residence are already above the recommended amenity criteria in Table 2.1 of the INP; or
- The development includes a private rail line and the use of that private rail line would cause exceedances of the recommended acceptable levels in Table 6 of Appendix 3 of the RING (see Appendix B) by greater than or equal to 3dB(A) at any residence on privately owned land.

All noise levels must be calculated in accordance with the INP or RING (as applicable).

The selection of mitigation measures should be guided by the potential treatments identified in Table 1 above.

### Voluntary land acquisition rights

A consent authority should only apply voluntary land acquisition rights where, even with the implementation of best practice management:

- The noise generated by the development would be more than 5dB(A) above the project specific noise level at any residence on privately owned land; or
- The noise generated by the development would contribute to exceedances of the recommended maximum noise levels in Table 2.1 of the INP on more than 25% of any privately owned land where there is an existing dwelling or where a dwelling could be built under existing planning controls<sup>7</sup>; or
- The development includes a private rail line and the use of that private rail line would cause exceedances of the recommended maximum criteria in Table 6 of Appendix 3 of the RING at any residence on privately owned land.

All noise levels must be calculated in accordance with the INP or RING (as applicable).

<sup>7</sup> Voluntary land acquisition rights should not be applied to address noise levels on vacant land other than to vacant land specifically meeting these criteria.

## RING (APPENDIX 6) DEFINITION OF FEASIBLE AND REASONABLE MITIGATION

## Feasible and Reasonable Mitigation

'Feasible' and 'reasonable' mitigation is defined as follows.

A **feasible** mitigation measure is a noise mitigation measure that can be engineered and is practical to build, given project constraints such as safety, maintenance and reliability requirements. It may also include options such as amending operational practices (e.g. changing timetable schedules) to achieve noise reduction.

Selecting **reasonable** measures from those that are feasible involves judging whether the overall noise benefits outweigh the overall adverse social, economic and environmental effects, including the cost of the mitigation measure. To make such a judgement, consider the following.

- Noise impacts:
  - existing and future levels, and projected changes in noise levels
  - level of amenity before the project, e.g. the number of people affected or annoyed
  - any noise performance criteria for the development, e.g. internal noise levels for certain rooms
  - the amount by which the triggers are exceeded.
- Noise mitigation benefits:
  - the amount of noise reduction expected, including the cumulative effectiveness of proposed mitigation measures - ideally, a noise wall/mound should be able to reduce noise levels by at least 5 decibels
  - the number of people protected.
- Cost effectiveness of noise mitigation:
  - the total cost of mitigation measures, taking into account the physical attributes of the site, e.g. topography, geology, and the cost variation to the project given the expected benefit
  - noise mitigation costs compared with total project costs, taking into account capital and maintenance costs
  - ongoing operational and maintenance cost borne by the community, e.g. running air conditioners or mechanical ventilation.
  - Community views:
    - engage with affected land users when deciding about aesthetic and other impacts of noise mitigation measures
    - determine the views of all affected land users, not just those making representations, through early community consultation
    - consider noise mitigation measures that have majority support from the affected community.

Take into account the above considerations when determining which locations should be mitigated first. In practice, the detail of the mitigation measures applied will largely depend on project-specific factors. The outcome this process aims to achieve is to balance the project's benefits for the wider community against the costs and benefits of mitigation measures. These are the measures that minimise, as far as practicable, the local impacts of the project. Project approval conditions that flow from this process should be achievable. They need to provide clarity and confidence for the proponent, local community, regulators and the ultimate operator that the proposed mitigation measures can achieve the predicted level of environmental protection.

## PRIVATELY-OWNED RECEIVERS WITH INTRUSIVE PSNL EXCEEDANCES

In summary, the predicted daytime operating intrusive  $L_{Aeq}(15\text{minute})$  noise levels (**Table 13**) at privately-owned receivers show that:

- Negligible exceedance of up to 1 dBA above the intrusive PSNL 35 dBA at receiver 15(2) Falla (receiver subject to landholder agreement);
- Moderate exceedance of up to 4 dBA above the intrusive PSNL 35 dBA at receiver 15(3) Falla (receiver subject to landholder agreement); and
- No exceedance of the intrusive PSNLs (i.e. 35 dBA to 37 dBA) at all other privately-owned receivers.

All of the privately-owned receivers with predicted exceedances of the PSNLs listed above were previously identified in the SEP NIA as being in either the noise management or noise affectation zone as presented in **Table H1**. As a result of the Modification, there are no additional privately-owned receivers predicted to be within the noise management or affectation zones.

**Table H1 Privately-owned Receivers<sup>1</sup> with Intrusive PSNL Exceedances**

| Period  | Noise Management Zone        |                              | Noise Affection Zone  |
|---------|------------------------------|------------------------------|-----------------------|
|         | 1 dBA to 2 dBA<br>above PSNL | 3 dBA to 5 dBA<br>above PSNL | > 5 dBA<br>above PSNL |
| Daytime | 15(2) <sup>2</sup>           | 15(3) <sup>2</sup>           | -                     |

Note 1: Refer to **Appendix B** for land ownership details.

Note 2: Receivers subject to an existing landholder agreement.

## RESOURCE COMPANY-OWNED RECEIVERS INTRUSIVE IMPACT ASSESSMENT

The predicted daytime operating LAeq(15minute) intrusive levels from the Modification Year 2, Year 7 and Year 10 operating scenarios for resource company-owned receivers are presented in **Table H2**.

**Table H2 Daytime Year 2, Year 7 and Year 10 Intrusive LAeq(15minute) Noise Level (dBA re 20 µPa)**

| ID No and Landowner                     | Modification<br>Year 2 Calm | Modification<br>Year 7 Calm | Modification<br>Year 10 Calm | Intrusive PSNL |
|---|-----------------------------|-----------------------------|------------------------------|----------------|
| <b>Resource company-owned Receivers</b> |                             |                             |                              |                |
| 6 AGL                                   | 35                          | 31                          | 31                           | 35             |
| 13(1) AGL                               | 38                          | 34                          | 34                           | 35             |
| 13(2) AGL                               | 38                          | 38                          | 38                           | 35             |
| 13 (3) AGL                              | 27                          | 24                          | 23                           | 35             |
| 4(1) GRL                                | 25                          | 22                          | 22                           | 35             |
| 4(2) GRL                                | 25                          | 21                          | 20                           | 35             |
| 4(4) GRL                                | 23                          | 20                          | 19                           | 35             |
| 4 (5) GRL                               | 24                          | 21                          | 19                           | 35             |
| 4(6) GRL                                | 25                          | 22                          | 20                           | 35             |
| 4(7) GRL                                | 24                          | 22                          | 21                           | 35             |
| 4(8) GRL                                | 24                          | 21                          | 20                           | 35             |
| 4(9) GRL                                | 25                          | 21                          | 21                           | 35             |
| 4(12) GRL                               | 25                          | 22                          | 22                           | 35             |
| 4(15) GRL                               | 24                          | 21                          | 21                           | 35             |
| 4(16) GRL                               | 26                          | 23                          | 22                           | 35             |
| 4(18) GRL                               | 27                          | 23                          | 23                           | 35             |
| 19(1) SCPL                              | 31                          | 31                          | 30                           | 35             |
| 19(2) SCPL                              | 35                          | 35                          | 35                           | 35             |
| 19(4) SCPL                              | 34                          | 33                          | 32                           | 35             |
| 19(5) SCPL                              | 34                          | 33                          | 33                           | 35             |
| 19(6) SCPL                              | 33                          | 32                          | 31                           | 35             |
| 19(7) SCPL                              | 34                          | 34                          | 33                           | 35             |
| 19(8) SCPL                              | 32                          | 32                          | 32                           | 35             |
| 19(9) SCPL                              | 33                          | 32                          | 32                           | 35             |
| 19(10) SCPL                             | 33                          | 33                          | 32                           | 35             |
| 19(11) SCPL                             | 18                          | 19                          | 18                           | 35             |
| 19(12) SCPL                             | 33                          | 33                          | 32                           | 35             |
| 19(13) SCPL                             | 33                          | 33                          | 32                           | 35             |
| 19(14) SCPL                             | 32                          | 32                          | 32                           | 35             |
| 19(15) SCPL                             | 31                          | 32                          | 30                           | 35             |
| 19(16) SCPL                             | 30                          | 32                          | 30                           | 35             |
| 19(17) SCPL                             | 30                          | 31                          | 30                           | 35             |
| 19(18) SCPL                             | 30                          | 32                          | 30                           | 35             |
| 19(19) SCPL                             | 31                          | 32                          | 30                           | 35             |
| 19(20) SCPL                             | 31                          | 32                          | 31                           | 35             |
| 19(21) SCPL                             | 30                          | 31                          | 29                           | 35             |
| 19(22) SCPL                             | 24                          | 25                          | 25                           | 35             |
| 19(23) SCPL                             | 30                          | 33                          | 31                           | 35             |

## RESOURCE COMPANY-OWNED RECEIVERS INTRUSIVE IMPACT ASSESSMENT

| ID No and Landowner | Modification<br>Year 2 Calm | Modification<br>Year 7 Calm | Modification<br>Year 10 Calm | Intrusive PSNL |
|---------------------|-----------------------------|-----------------------------|------------------------------|----------------|
| 19(25) SCPL         | 25                          | 28                          | 30                           | 35             |
| 19(26) SCPL         | 21                          | 22                          | 23                           | 35             |
| 19(27) SCPL         | 18                          | 19                          | 20                           | 35             |
| 19(28) SCPL         | 28                          | 30                          | 41                           | 35             |
| 19(29) SCPL         | 40                          | 33                          | 34                           | 35             |
| 19(30) SCPL         | 46                          | 34                          | 34                           | 35             |
| 19(31) SCPL         | 16                          | 18                          | 25                           | 35             |
| 19(32) SCPL         | 14                          | 15                          | 20                           | 35             |
| 19(33) SCPL         | 39                          | 34                          | 34                           | 35             |
| 19(34) SCPL         | 24                          | 20                          | 19                           | 35             |
| 19(35) SCPL         | 15                          | 15                          | 15                           | 35             |
| 19(36) SCPL         | 15                          | 16                          | 15                           | 35             |
| 19(37) SCPL         | 15                          | 15                          | 15                           | 35             |
| 19(38) SCPL         | 28                          | 23                          | 22                           | 35             |
| 19(39) SCPL         | 33                          | 33                          | 32                           | 35             |
| 19(40) SCPL         | 41                          | 33                          | 31                           | 35             |
| 19(41) SCPL         | 32                          | 32                          | 32                           | 35             |
| 19(42) SCPL         | 32                          | 33                          | 32                           | 35             |
| 19(43) SCPL         | 27                          | 29                          | 40                           | 35             |
| 19(45) SCPL         | 33                          | 33                          | 32                           | 35             |
| 19(46) SCPL         | 33                          | 33                          | 32                           | 35             |
| 19(47) SCPL         | 40                          | 34                          | 30                           | 35             |
| 19(48) SCPL         | 33                          | 32                          | 32                           | 35             |
| 19(49) SCPL         | 35                          | 33                          | 33                           | 35             |

Note 1: Predicted LAeq(15minute) noise level complies with the intrusive PSNL.

Note 2: Predicted negligible noise exceedance 1 to 2 dBA above intrusive PSNL.

Note 3: Predicted marginal to moderate noise exceedance 3 to 5 dBA above intrusive PSNL.

Note 4: Predicted significant noise exceedance > 5 dBA above intrusive PSNL.

The existing and historic property acquisition strategy has resulted in a 'buffer' of SCPL-owned lands surrounding parts of the SMC. Consequently, predicted noise levels are elevated at some resource company-owned properties. In addition, a number of properties in the vicinity of the Modification are owned by GRL and AGL.

In summary, the predicted operating intrusive LAeq(15minute) noise levels (**Table 13**) at resource company-owned receivers show that:

- Up to six resource company-owned receivers are within the Noise Management Zone and three receivers are in the Noise Affection Zone.

All of the resource company-owned receivers with predicted exceedances of the PSNLs listed above were previously identified in the SEP NIA as being in either the noise management or noise affection zone as presented in **Table H3**. As a result of the Modification, there are no additional resource company-owned receivers predicted to be within the noise management or affection zones.

## RESOURCE COMPANY-OWNED RECEIVERS INTRUSIVE IMPACT ASSESSMENT

**Table H3** Resource Company-owned Receivers<sup>1</sup> with Intrusive PSNL Exceedances

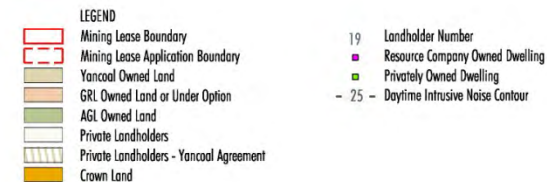
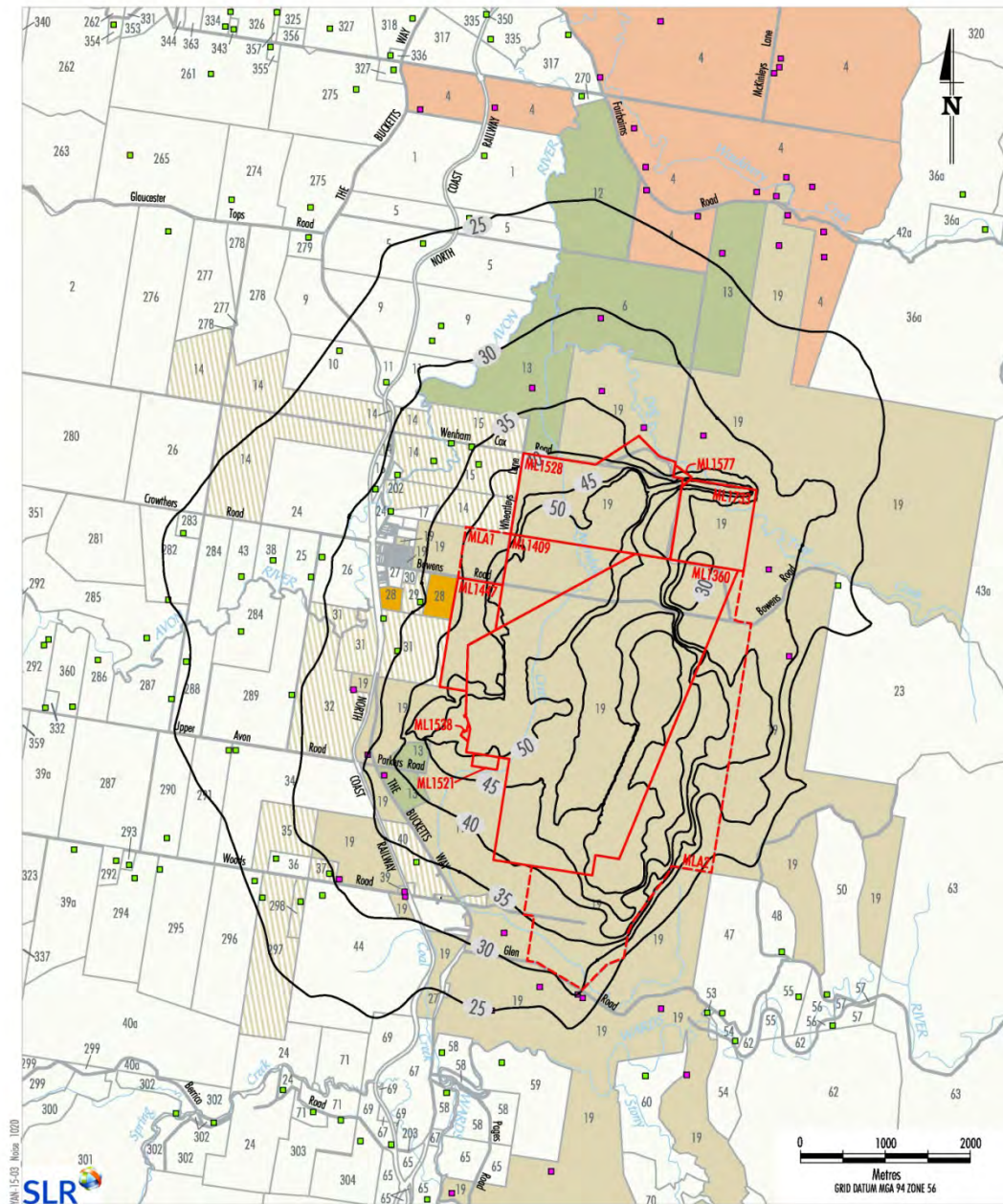
| Period  | Noise Management Zone        |   | Noise Affection Zone   |
|---------|------------------------------|---|------------------------|
|         | 1 dBA to 2 dBA<br>above PSNL | 3 dBA to 5 dBA<br>above PSNL                    | > 5 dBA<br>above PSNL  |
| Daytime | -                            | 13(1), 13(2), 19(29), 19(33),<br>19(43), 19(47) | 19(28), 19(30), 19(40) |

Note 1: Refer to **Appendix B** for land ownership details.





**MODIFICATION YEAR 7 DAYTIME INTRUSIVE LAEQ(15MINUTE) NOISE CONTOURS**



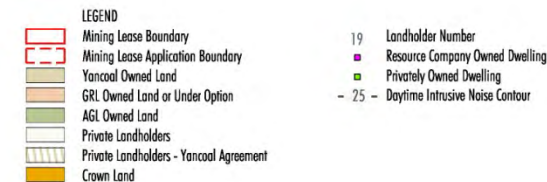
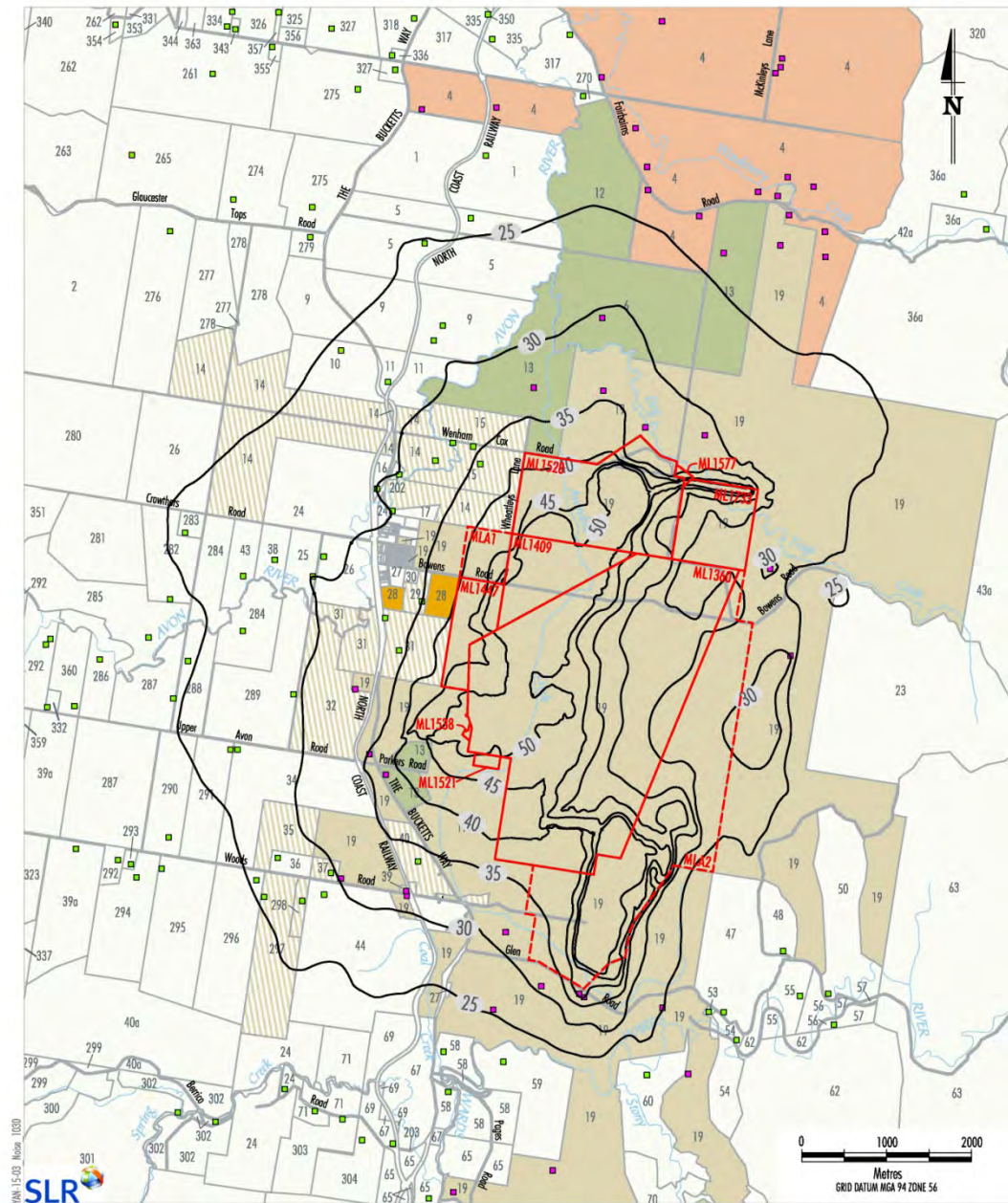
**STRATFORD COAL**  
Part of the Yancoal Australia Group  
**STRATFORD MODIFICATION 1**  
Project Daytime Intrusive  
Noise Contours - Year 7

Source: SCPL (2016); DFS-LPI (2016) and DPI-CGL (2012)

**Figure I2**



**MODIFICATION YEAR 10 DAYTIME INTRUSIVE LAEQ(15MINUTE) NOISE CONTOURS**



**STRATFORDCOAL**  
Part of the Yancoal Australia Group

**STRATFORD MODIFICATION 1**

**Project Daytime Intrusive  
Noise Contours - Year 10**

Source: SCPL (2016); DFS-LPI (2016) and DPI-CGL (2012)

**Figure I3**

## RESOURCE COMPANY-OWNED RECEIVERS CUMULATIVE AMENITY IMPACT ASSESSMENT

The predicted daytime cumulative LAeq(11hour) noise amenity levels from the Modification Year 2, Year 7 and Year 10 operating scenarios for resource company-owned receivers are presented in **Table J1**, together with the relevant INP acceptable daytime LAeq(11hour) noise amenity criteria (**Table 11**).

**Table J1 Cumulative Daytime (LAeq(11 hour)) Noise Amenity Levels (dBA re 20 µPa)**

| Property Number/Landowner               | Modification | Amended RHCP | AGL (Gas Field) | AGL (Process Facility) | Cumulative Sum | INP Acceptable Amenity Criteria |
|---|--------------|--------------|-----------------|------------------------|----------------|---------------------------------|
| <b>Resource company-owned Receivers</b> |              |              |                 |                        |                |                                 |
| 6 AGL                                   | 35           | 24           | 30              | 26                     | 37             | 50                              |
| 13(1) AGL                               | 38           | 20           | 30              | 45                     | 46             | 50                              |
| 13(2) AGL                               | 38           | 12           | 30              | 43                     | 44             | 50                              |
| 13(3) AGL                               | 27           | 43           | 30              | 34                     | 44             | 50                              |
| 4(1) GRL                                | 25           | 23           | 15              | 26                     | 30             | 50                              |
| 4(2) GRL                                | 25           | 34           | 30              | 32                     | 37             | 50                              |
| 4(4) GRL                                | 23           | 55           | 30              | 28                     | 55             | 50                              |
| 4(5) GRL                                | 24           | 55           | 30              | 27                     | 55             | 50                              |
| 4(6) GRL                                | 25           | 60           | 30              | 27                     | 60             | 50                              |
| 4(7) GRL                                | 24           | 40           | 30              | 26                     | 41             | 50                              |
| 4(8) GRL                                | 24           | 49           | 30              | 26                     | 49             | 50                              |
| 4(9) GRL                                | 25           | 51           | 30              | 26                     | 51             | 50                              |
| 4(12) GRL                               | 25           | 26           | 30              | 28                     | 34             | 50                              |
| 4(15) GRL                               | 24           | 41           | 30              | 30                     | 41             | 50                              |
| 4(16) GRL                               | 26           | 37           | 30              | 32                     | 39             | 50                              |
| 4(18) GRL                               | 27           | 34           | 30              | 29                     | 37             | 50                              |
| 19(1) SCPL                              | 31           | 11           | 22              | 30                     | 34             | 50                              |
| 19(2) SCPL                              | 35           | 12           | 30              | 39                     | 41             | 50                              |
| 19(4) SCPL                              | 34           | 15           | 23              | 27                     | 35             | 50                              |
| 19(5) SCPL                              | 34           | 15           | 25              | 27                     | 36             | 50                              |
| 19(6) SCPL                              | 33           | 11           | 30              | 31                     | 36             | 50                              |
| 19(7) SCPL                              | 34           | 15           | 26              | 28                     | 36             | 50                              |
| 19(8) SCPL                              | 32           | 11           | 30              | 30                     | 36             | 50                              |
| 19(9) SCPL                              | 33           | 11           | 30              | 30                     | 36             | 50                              |
| 19(10) SCPL                             | 33           | 11           | 30              | 30                     | 36             | 50                              |
| 19(11) SCPL                             | 19           | 9            | 0               | 20                     | 23             | 50                              |
| 19(12) SCPL                             | 33           | 11           | 30              | 30                     | 36             | 50                              |
| 19(13) SCPL                             | 33           | 11           | 30              | 30                     | 36             | 50                              |
| 19(14) SCPL                             | 32           | 11           | 30              | 29                     | 35             | 50                              |
| 19(15) SCPL                             | 32           | 11           | 30              | 29                     | 35             | 50                              |
| 19(16) SCPL                             | 32           | 11           | 30              | 29                     | 35             | 50                              |
| 19(17) SCPL                             | 31           | 11           | 30              | 28                     | 35             | 50                              |
| 19(18) SCPL                             | 32           | 11           | 30              | 28                     | 35             | 50                              |
| 19(19) SCPL                             | 32           | 11           | 30              | 28                     | 35             | 50                              |
| 19(20) SCPL                             | 32           | 11           | 30              | 28                     | 35             | 50                              |
| 19(21) SCPL                             | 31           | 11           | 30              | 28                     | 35             | 50                              |
| 19(22) SCPL                             | 25           | 10           | 14              | 25                     | 28             | 50                              |
| 19(23) SCPL                             | 33           | 11           | 30              | 27                     | 35             | 50                              |
| 19(25) SCPL                             | 30           | 11           | 20              | 25                     | 32             | 50                              |

## RESOURCE COMPANY-OWNED RECEIVERS CUMULATIVE AMENITY IMPACT ASSESSMENT

| Property Number/Landowner | Modification | Amended RHCP | AGL (Gas Field) | AGL (Process Facility) | Cumulative Sum | INP Acceptable Amenity Criteria |
|---------------------------|--------------|--------------|-----------------|------------------------|----------------|---------------------------------|
| 19(26) SCPL               | 23           | 9            | 0               | 20                     | 25             | 50                              |
| 19(27) SCPL               | 20           | 8            | 0               | 19                     | 23             | 50                              |
| 19(28) SCPL               | 41           | 11           | 18              | 24                     | 41             | 50                              |
| 19(29) SCPL               | 40           | 32           | 30              | 32                     | 41             | 50                              |
| 19(30) SCPL               | 46           | 20           | 30              | 29                     | 46             | 50                              |
| 19(31) SCPL               | 25           | 11           | 9               | 22                     | 27             | 50                              |
| 19(32) SCPL               | 20           | 10           | 0               | 21                     | 24             | 50                              |
| 19(33) SCPL               | 39           | 21           | 30              | 27                     | 40             | 50                              |
| 19(34) SCPL               | 24           | 47           | 30              | 27                     | 47             | 50                              |
| 19(35) SCPL               | 15           | 8            | 0               | 19                     | 21             | 50                              |
| 19(36) SCPL               | 16           | 7            | 0               | 18                     | 20             | 50                              |
| 19(37) SCPL               | 15           | 8            | 0               | 18                     | 20             | 50                              |
| 19(38) SCPL               | 28           | 36           | 30              | 28                     | 38             | 50                              |
| 19(39) SCPL               | 33           | 11           | 30              | 30                     | 36             | 50                              |
| 19(40) SCPL               | 41           | 18           | 30              | 23                     | 41             | 50                              |
| 19(41) SCPL               | 32           | 13           | 26              | 34                     | 37             | 50                              |
| 19(42) SCPL               | 33           | 11           | 30              | 30                     | 36             | 50                              |
| 19(43) SCPL               | 40           | 11           | 17              | 24                     | 40             | 50                              |
| 19(45) SCPL               | 33           | 11           | 30              | 30                     | 36             | 50                              |
| 19(46) SCPL               | 33           | 11           | 30              | 30                     | 36             | 50                              |
| 19(47) SCPL               | 40           | 16           | 21              | 22                     | 40             | 50                              |
| 19(48) SCPL               | 33           | 11           | 30              | 31                     | 36             | 50                              |
| 19(49) SCPL               | 35           | 15           | 26              | 27                     | 36             | 50                              |

In summary, predicted daytime cumulative LAeq(11 hour) noise amenity levels (**Table J1**) at company-owned receivers show that:

- All but four resource company-owned receivers comply with the INP acceptable amenity noise level of 50 dBA; and
- During the daytime, one resource company-owned receiver is within the Noise Management Zone and up to three receivers are in the Noise Affection Zone.

All of the resource company-owned receivers with predicted exceedances of the INP acceptable amenity noise level of 50 dBA listed above were previously identified in the SEP NIA as being in either the noise management or noise affection zone as presented in **Table J2**. As a result of the Modification, there are no additional resource company-owned receivers predicted to be within the noise management or affection zones.

**Table J2 Resource Company-owned Receivers<sup>1</sup> with INP Acceptable Amenity Level Exceedances**

| Period  | Noise Management Zone     |                  | Noise Affection Zone |
|---------|---------------------------|------------------|----------------------|
|         | 1 dBA to 2 dBA above PSNL | 3 dBA above PSNL | > 3 dBA above PSNL   |
| Daytime | 4(9)                      |                  | 4(4), 4(5), 4(6)     |

Note 1: Refer to **Appendix B** for land ownership details.

Cumulative noise exceedances are largely dominated by the amended RHCP.