DETERMINATION OF A DEVELOPMENT APPLICATION PURSUANT TO SECTION 101(8) OF THE UNAMENDED ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

I, the Minister for Urban Affairs and Planning, pursuant to Section 101(8) of the unamended Environmental Planning and Assessment Act, 1979 ("the Act") determine the development application ("the application") referred to in Schedule 1 by granting consent to the application subject to the conditions set out in Schedule 2.

The reasons for the imposition of the conditions are:

1. to minimise the adverse environmental impacts the development may cause; and
2. to provide for environmental monitoring and reporting.

sgnd Craig Knowles

Minister for Urban Affairs and Planning

Sydney, 25 February 1999 File No. W91001178

SCHEDULE 1

Application made by:	Tahmoor Coal Pty Ltd ACN 076 663 968 ("the Applicant").
To:	The Minister for Urban Affairs and Planning ("the Minister").
In respect of:	Certain lands shown in blue hatching or red in Figure 1.
For the following:	Extension to underground coal mining as part of Tahmoor North Coal Mine ("the Development").
Development Application:	DA 67/98 lodged with Wollondilly Shire Council on 30 March 1998 accompanied by an Environmental Impact Statement ("EIS") prepared by Olsen Environmental Consulting Pty Ltd dated 11 March 1998.

NOTES:

1. To ascertain the date upon which the consent becomes effective, refer to section 101(9) of the unamended Act. To ascertain the date upon which the consent is liable to lapse, refer to section 99 of the unamended Act.
2. Reference to the unamended EP&A Act 1979 means the Act in force on 1 July 1998.

Red type represents 30 November 2006 modification.
Blue type represents March 2012 modification.
Green type represents November 2012 modification
Purple type represents September 2018 modification.

SCHEDULE 2

Abbreviations and definitions

Act	*Environmental Planning & Assessment Act 1979*
Annual Review	the review required by Condition 45
ARTC	Australian Rail Track Corporation
Council	Wollondilly Shire Council
DA	development application
DA area	area to which the DA applies, described in Schedule 1 and shown on Figure 1
Day	the period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
DoI	Department of Industry – Lands and Water Division
DRG	Division of Resources and Geosciences, within the Department
EA (MOD 2)	Modification application dated 21 December 2010 to modify development consent DA 67/98 and accompanying Environmental Assessment titled *Redbank Tunnel Subsidence Management – Modification of Project Approval – Environmental Assessment*, dated September 2011 and prepared by GHD, including the associated Submissions Report
EA (MOD 3)	Modification application dated 18 September 2012 to modify development consent DA 67/98 and accompanying Environmental Assessment titled *Redbank Tunnel Rail Deviation – Subdivision of Land*, dated September 2012 and prepared by Cardno, including the associated Submissions Response letter dated 12 November 2012 and prepared by Cardno
EA (MOD 4)	Modification application dated 26 October 2017 to modify development consent DA 67/98, and accompanying Environmental Assessment titled *Environmental Assessment – Tahmoor Underground Modification 4,* dated October 2017, and Response to Submissions dated 18 December 2017
EIS	DA 67/98 and accompanying Environmental Impact Statement titled *Tahmoor North Underground Mine*, dated March 1998 and prepared for Austral Coal by Olsen Environmental Consulting Pty Ltd
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
Evening	the period from 6pm to 10pm
Feasible	Means what is possible and practical in the circumstances
first workings	establishment of mine access and ventilation roadways within the coal seam
Heritage Study	Wollondilly Heritage Study 1993

Incident	a set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in this consent
Material harm	Is harm that: • involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment) This definition excludes "harm" that is authorised under either this consent or any other statutory approval'
Mining operations	extraction, processing, handling, storage and transportation of coal on the site
Minister	NSW Minister for Planning, or delegate
Modification 4	The modification to the development as described in EA (MOD 4)
Night	the period from 10pm to 7am, Monday to Saturday, 10pm to 8am on Sundays and Public Holidays
NPWS	National Parks and Wildlife Service
OEH	Office of Environment and Heritage
POEO Act	*Protection of the Environment Operations Act 1997*
Privately-owned land	land that is not owned by a public agency, or a mining company (or its subsidiary)
Reasonable	reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Reasonable costs	The costs agreed between the Department and the Applicant for obtaining independent experts to review the adequacy of any aspects of an Extraction Plan
Redbank Tunnel rail deviation	the development described in the modification application dated 21 December 2010 (DA 67/98 – MOD 2) and accompanying EA titled Redbank Tunnel Subsidence Management – Modification of Project Approval – Environmental Assessment, dated September 2011, including the associated Submissions Report and Statement of Commitments
Resources Regulator	NSW Resources Regulator
SA NSW	Subsidence Advisory NSW
second workings	removal or extraction of coal left after first workings
Secretary	Planning Secretary under the EP&A Act, or nominee
SEE (MOD 1)	Modification application dated 19 May 2006 to modify

	development consent DA 67-5-2006 and accompanying document titled *Tahmoor Colliery Proposed Consent Modification – Statement of Environmental Effects*, dated May 2006 and prepared by Centennial Coal and the letter from Ms Donna Dryden representing Centennial Coal, dated 19 July 2006 and headed *Tahmoor Colliery – Proposed Modification to Development Consent (DA 67/98)*
Statement of Commitments	Statement of Commitments relating to the Redbank Tunnel rail deviation (see Appendix 1)
Tahmoor Mine	the development approved under this consent, together with the development approved under consent granted by Wollondilly Shire Council dated 20 March 1975 and the consent granted by the Land and Environment Court dated 7 September 1994 (DA 57-93), considered collectively (see Figure 2)

General

1. The Applicant must carry out the development generally in accordance with the:
   (i) EIS, SEE (MOD 1), EA (MOD 2), EA (MOD 3) and EA (MOD 4); and
   (ii) Statement of Commitments.

   Note: The Statement of Commitments is reproduced in Appendix 1.

1A. The Applicant must carry out the development in accordance with the conditions of this consent.

1B. The conditions of this consent and directions of the Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition 1 of Schedule 2. In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition 1 of Schedule 2, the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

Limit of approval

2. (i) No second workings shall be undertaken under land which was zoned Residential 2(a) in Redbank or South Picton at the date of lodgement of the DA with Council.

   (ii) Second workings must not be undertaken under land which was zoned Industrial 4(a) at the date of lodgement of the DA with Council unless the Applicant has a binding compensation agreement with the landowner to the satisfaction of the Secretary in consultation with DRG.

3. The Applicant must submit a revised mine plan to the Secretary and Council within three months from the date of granting of a mining lease pursuant to this consent.

4. The approval for mining is for a period of 21 years from the date of granting of a mining lease pursuant to this consent.

4A. Consistent with the requirements in this consent, the Secretary may make written directions to the Applicant in relation to:

(i) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Secretary; and

(ii) the implementation of any actions or measures contained in any such document referred to in condition 4A(i).

5. The Applicant must notify the Secretary and the Council in writing of the intended date of commencement of the first second workings in the area covered by this DA (DA 67/98) fourteen days prior to the commencement of such workings.

6. The Applicant must not:

(i) cause subsidence within the two areas shown in black crosshatching in Figure 2; or

(ii) cause moderate, severe or very severe structural damage to houses, sheds or pools within the DA area in excess of the percentages of such structures shown in the relevant column of Figure 3

without obtaining either an approval under Part 4 of the Act or a modification of consent under Part 4 of the Act.

Note: In this condition, "percentage of such structures" means the percentage of such structures as may exist from time to time, ie allowing for new buildings and demolition within the area affected by subsidence caused by mining within the DA area.

7. Mining is not to occur so as to result in the subsidence of any habitable floors to below the 1:100 year flood level (1% flood level).

Statutory requirements

8. The Applicant must ensure that all statutory requirements, including all relevant legislation, Regulations, Australian Standards, Codes, Guidelines and Notices, Conditions and Directions of the Council and relevant government agencies are met and approvals obtained.

Environmental Management Services

9. The Applicant must engage recognised Environmental Management Services throughout the life of the mine. The Environmental Management Services must:

(i) provide for the preparation of environmental management plans;

(ii) provide for considering and advising on matters specified in the conditions of this consent and compliance with such matters;

(iii) provide for receiving and responding to complaints in accordance with Condition 43;

(iv) be involved in the induction and training program for all persons involved with construction activities, mining and remedial activities (including surface drainage mitigation works);

(v) have the authority and independence to require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts. Failing the effectiveness of such steps immediately advise Senior Management of the mine of environmental implications and of any need to stop work; and

(vi) provide a representative to be a member of the Community Consultative Committee (Condition 47).

10. The Applicant must notify the Secretary, EPA, DoI, DRG, Council, the Community Consultative Committee of the role, responsibility, authority, accountability and reporting of personnel relevant to environmental management, including the name and contact details of the principal person responsible for overseeing environmental management of the mine. This principal person must be a person who has the authority to stop work if an adverse impact on the environment is likely to occur.

Revision of subsidence predictions

11. As part of any application to DRG for approval of a Subsidence Management Plan for longwalls up to and including Longwall 32:

(i) the Applicant must revise subsidence predictions and the impacts on bridge structures, culverts and embankments based on the final mine plan and prepare management plans in consultation with the relevant authorities;

(ii) the Applicant must revise subsidence predictions and the impacts on mains and overhead cables based on the final mine plan and prepare management plans in consultation with the relevant authorities;

(iii) for mining that may change drainage patterns of floodprone land, the Applicant must revise subsidence predictions and prepare management plans for those lands in consultation with Council and relevant landowners; and

(iv) high frequency monitoring, along with detailed structural sensitivity analyses, for Picton High School during second workings in Longwall 32; and

(v) undertake additional flood modelling for events up to and including the Probable Maximum Flood, prior to undertaking second workings in Longwall 32.

Any such revisions of subsidence predictions must be reported in the Annual Review (Condition 45).

Subsidence monitoring

12. For longwalls up to and including Longwall 32, the Applicant must undertake a detailed and ongoing monitoring program of subsidence resulting from mining to the satisfaction of the Secretary and in consultation with DRG and Council from the date of commencement (Condition 5) and for a period of at least three years after the completion of mining, or other such period as

determined by the Secretary in consultation with DRG and Council. Monitoring must include the following:

(i) impacts on dams that may be affected by subsidence occurring in the DA area;

(ii) a survey of the stream channel system;

(iii) monitoring of groundwater levels and quality;

(iv) monitoring of remedial measures;

(v) a comparison of predicted impacts with actual impacts, including mapping of subsidence profiles in residential areas and of anomalous events;

(vi) strains and impacts in the vicinity of the Nepean Fault Zone; and

(vii) the angle of draw.

The Applicant must include information on monitoring conducted and the interpreted results in the Annual Review (Condition 45).

13. For longwalls up to and including Longwall 32, if determined necessary by the Secretary in consultation with Council and DoI, the Applicant must carry out works in accordance with an Erosion and Sediment Control Plan, prepared to the requirements of DoI, to restore any damage to watercourses (including the banks) resulting from the mining operations, subject to any other necessary approvals.

SUBSIDENCE

Performance Measures – Natural and Heritage Features etc.

13A. The Applicant must ensure that extraction of Longwall 33 and subsequent longwalls does not cause any exceedances of the performance measures in Table 1.

Table 1: *Subsidence impact performance measures – natural and heritage features etc*

Feature	***Performance Measures***
Biodiversity	
Threatened species, threatened populations, or endangered ecological communities	• Negligible environmental consequences
Heritage sites	
Heritage sites shown in the figures in Appendix 7	• Negligible subsidence impacts or environmental consequences • Negligible loss of heritage value
Other Aboriginal and heritage sites	• Negligible subsidence impacts or environmental consequences

Feature	*Performance Measures*
Mine workings	
First workings	• To remain long term stable and non-subsiding
Second workings	• To be carried out only within the approved mine plan, in accordance with an approved Extraction Plan

Note: *The Applicant will be required to define more detailed performance indicators (including impact assessment criteria) for each of these performance measures in the various management plans that are required under this consent.*

13B. Measurement and monitoring of compliance with performance measures and performance indicators in this consent is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans and monitoring programs. In the event of a dispute over the appropriateness of proposed methods, the Secretary will be the final arbiter.

Additional Offsets

13C. If the Applicant exceeds the performance measures in Table 1 and the Secretary determines that:

(i) it is not reasonable or feasible to remediate the subsidence impact or environmental consequence; or

(ii) remediation measures implemented by the Applicant have failed to satisfactorily remediate the subsidence impact or environmental consequence,

then the Applicant must provide a suitable offset to compensate for the subsidence impact or environmental consequence, to the satisfaction of the Secretary.

13D. The offset must give priority to like-for-like physical environmental offsets, but may also consider payment into any NSW Offset Fund established by OEH, or funding or implementation of supplementary measures such as:

(i) actions outlined in threatened species recovery programs;

(ii) actions that contribute to threat abatement programs;

(iii) biodiversity research and survey programs; and/or

(iv) rehabilitating degraded habitat.

Note: *Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence*

Performance Measures – Built Features

13E. The Applicant must ensure that extraction of Longwall 33 and subsequent longwalls does not cause any exceedances of the performance measures in Table 2.

Table 2: *Subsidence impact performance measures – built features*

Feature	***Performance Measures***
Key Public Infrastructure	
• Main Southern Railway; • Picton Mittagong Loop Line; and • Electricity transmission lines and towers.	• Always safe and serviceable. • Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.
Other Infrastructure	
• Electricity distribution lines, poles and associated towers;	• Always safe.
• Unsealed roads and road culverts, fire trails, fences and other built features; and • Other public infrastructure	• Serviceability should be maintained wherever practicable. • Loss of serviceability must be fully compensated.
• Privately-owned residences	
• Other privately-owned built features and improvements, including farm dams, swimming pools, tennis courts, roads, tracks and fences	• Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.
Public safety	
• Public Safety	• Negligible additional risk.

Notes

- *The Applicant will be required to define more detailed performance measures in the Built Features Management Plans or Public Safety Management Plan.*
- *Requirements regarding safety or serviceability do not prevent preventative or mitigatory actions being taken prior to or during mining in order to achieve or maintain these outcomes.*
- *Requirements under this condition may be met by measures undertaken in accordance with the Coal Mine Subsidence Compensation Act 2017.*

13F. Any dispute between the Applicant and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 2 is to be settled by the Secretary, following consultation with the Resources Regulator. Any decision by the Secretary shall be final.

First Workings

13G. The Applicant may carry out first workings within the underground mining area approved mine plan, other than in accordance with an approved Extraction Plan, provided that the Resources Regulator is satisfied that the first workings are designed to remain stable and non-subsiding in the long - term, except insofar as they may be impacted by approved second workings.

Notes:

- *The intent of this condition is not to require an additional approval for first workings, but to ensure that first workings are built to geotechnical and engineering standards sufficient to ensure long term stability, with negligible resulting direct subsidence impacts.*
- *DRG should be consulted when designing first workings in order to provide comment on matters relating to coal resource recovery.*

Extraction Plan

13H. The Applicant must prepare an Extraction Plan for all second workings in Longwall 33 and subsequent longwalls to the satisfaction of the Secretary. Each Extraction Plan must:

(i) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;

(ii) be prepared in consultation with DRG, Resources Regulator, OEH, DSC, WaterNSW and DoI;

(iii) include detailed plans of existing and proposed first and second workings and overlying surface features, including any applicable adaptive management measures;

(iv) include adequate consideration of mine roof and floor conditions, pillar width to height ratio, final pillar design dimensions and the long-term stability of pillars which has been undertaken in consultation with the Resources Regulator;

(v) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed mining covered by the Extraction Plan, incorporating any relevant information obtained since this consent;

(vi) describe in detail the performance indicators to be implemented to ensure compliance with the performance measures in Table 1 and Table 2, and manage or remediate any impacts and/or environmental consequences;

(vii) include a:

a. **Subsidence Monitoring Program** which has been prepared in consultation with the Resources Regulator to:
   - describe the ongoing conventional and non-conventional subsidence monitoring program:
   - provide data to assist with the management of risks associated with conventional and non-conventional subsidence;
   - validate the conventional and non-conventional subsidence predictions;
   - analyse the relationship between the predicted and resulting conventional and non-conventional subsidence effects and predicted and resulting impacts under the plan and any ensuring environmental consequences; and
   - inform the adaptive management process;

b. **Built Features Management Plan** which has been prepared in consultation with the Resources Regulator, to manage the potential subsidence impacts of the proposed underground workings on built features, and which:

- has been prepared in consultation with the owners of potentially affected features;
- addresses in appropriate detail all items of key public infrastructure (with particular consideration of transmission lines and towers (including angle towers), other public infrastructure and all classes of other built features;
- recommends appropriate pre-mining mitigation measures to reduce subsidence impacts;
- recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate predicted impacts on potentially affected built features in a timely manner; and
- in the case of all key public infrastructure, and other public infrastructure except roads, trails and associated structures, reports external auditing for compliance with ISO 31000 (or alternative standard agreed with the infrastructure owner), and provides for annual auditing of compliance and effectiveness during extraction which may impact the infrastructure;

c. **Water Management Plan** which has been prepared in consultation with EPA, DoI, Resources Regulator and WaterNSW, which provides for the management of potential impacts and environmental consequences of the proposed underground workings on watercourses and aquifers, including:
   - detailed baseline data on:
     - surface water flows and quality in watercourses and/or water bodies that could be affected by subsidence; and
     - groundwater levels, yield and quality in the region, including for privately-owned licensed bores;
   - surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;
   - a surface water monitoring program to monitor and report on:
     - stream flows and quality;
     - stream and riparian vegetation health; and
     - channel and bank stability;
   - a groundwater monitoring program to monitor and report on:
     - springs, their discharge quantity and quality, as well as associated groundwater dependent ecosystems;
     - groundwater inflows to the underground mining operations;
     - the height of groundwater depressurization;
     - background changes in groundwater yield/quality against mine-induced changes, in particular, on groundwater bore users in the vicinity of the site;
     - permeability, hydraulic gradient, flow direction and connectivity of the deep and shallow groundwater aquifers;
   - a flood management protocol to:
     - identify secondary access routes for those properties that could potentially be adversely impacted by 1% AEP flood events;

- regularly consult with landowners that would not have either a primary or secondary access route during 1% AEP flood events;
- provide up-to-date information (including subsidence and flooding predictions) to the State Emergency Service and Council regarding privately-owned residences that could be adversely affected by lack of access during 1% AEP flood events; and
- work with landowners, State Emergency Service and Council to develop evacuation plans to ensure landowners know what to do in the event of emergency as a result of a 1% AEP flood event;

- a description of any adaptive management practices implemented to guide future mining activities in the event of greater than predicted impacts on aquatic habitat;
- a program to validate the surface water and groundwater models for the development, and compare monitoring results with modelled predictions; and
- a plan to respond to any exceedances of the surface water and groundwater assessment criteria;

d. **Biodiversity Management Plan** which has been prepared in consultation with OEH, which establishes a baseline data for the existing habitat on the site, including water table depth, vegetation condition, stream morphology and threatened species habitat, and provides for the management of potential impacts and environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats, EECs and groundwater dependent ecosystems;
e. **Land Management Plan** which has been prepared in consultation with any affected public authorities, which provides for the management of potential impacts and/or environmental consequences of the proposed underground workings on land in general, with a specific focus on cliffs, minor cliffs, rock face features, steep slopes and agricultural enterprises;
f. **Heritage Management Plan** which has been prepared in consultation with OEH and relevant stakeholders for heritage items which provides for the management of potential environmental consequences of the proposed second workings on heritage items;
g. **Public Safety Management Plan** which has been prepared in consultation with the Resources Regulator, which ensures public safety and manages access on the site;
h. **Trigger Action Response Plan/s** addressing all features in Table 1 and Table 2, which contain:
    - appropriate triggers to warn of increased risk of exceedance of any performance measure; and
    - specific actions to respond to high risk of exceedance of any performance measure to ensure that the measure is not exceeded;

- an assessment of remediation measures that may be required if exceedances occur and the capacity to implement the measures; and
- adaptive management where monitoring indicates that there has been an exceedance of any performance measure in Table 1 or Table 2, or where any such exceedance appears likely; and

i. **Contingency Plan** that expressly provides for:

- adaptive management where monitoring indicates that there has been an exceedance of any performance measure in Table 1 and Table 2, or where any such exceedance appears likely; and
- an assessment of remediation measures that may be required if exceedances occur and the capacity to implement those measures; and
- includes a program to collect sufficient baseline data for future Extraction Plans.

13I. The Applicant must not undertake second workings following the extraction of Longwall 32 except in accordance with an Extraction Plan approved by the Secretary and must implement Extraction Plans as approved by the Secretary.

***Notes**:*

- *The preparation and implementation of Extraction Plans may be staged, with each plan covering a defined area of underground workings. In addition, these plans are only required to contain management plans that are relevant to the specific underground workings that are being carried out.*
- *The burden of proof that any declines in performance of privately-owned registered bores and wells were not due to mining impacts rests with the Applicant.*

Payment of Reasonable Costs

13J. The Applicant must pay all reasonable costs incurred by the Department to engage a suitably qualified, experienced and independent person/s to review the adequacy of any aspect of an Extraction Plan.

Water Quality

14. The Applicant must prepare a plan to monitor and manage any subsidence impacts on septic tanks or package sewage treatment plants. The plan must be prepared to the satisfaction of the Secretary and in consultation with Council. The Applicant must implement the plan as approved by the Secretary.

Notifications and pre-mining structural inspections

15. (i) The Applicant must notify each relevant landowner/occupier under whose property it intends to commence first workings at least one (1) month prior to commencement of such workings; and

(ii) The Applicant must notify in writing each landowner/occupier within a 35 degree angle of draw of its intentions to proceed with second workings at least three (3) months prior to making an application to DRG for approval of a Subsidence Management Plan or application to the Secretary for the approval of an Extraction Plan.

Notification of second workings must include:

(a) pre-mining inspection rights including a copy of consent conditions 15 to 26 inclusive;

(b) revised subsidence predictions using updated monitoring data;

(c) identification of potential damage to improvements;

(d) owner's obligation of disclosure under insurance policies and mortgage agreements;

(e) rights of claiming consequential loss under the Mining Act; and

(f) advice as to where an unabridged copy of these conditions of consent are available for public inspection.

16. If determined necessary by DRG or the Secretary, the Applicant must cause a pre-mining structural inspection to be carried out on substantial improvements on land identified by the DRG or the Secretary at least one month prior to commencement of second workings taking place that may cause subsidence impacts on the relevant property. These inspections must:

(i) be conducted with the consent of the landowner/occupier and in consultation with SA NSW;

(ii) include a report prepared on the structural integrity of all buildings in their entirety (including roofs, ceilings, openings, foundations and household sewage treatment and disposal systems);

(iii) be conducted by an independent and technically qualified person;

(iv) include permanent reference marks on each corner of all substantial improvements with level tied to Australian Height Datum to a stable point in the area; and

(v) include soil sampling for moisture content and soil type as appropriate.

A copy of the inspection report must be provided to the landowner/occupier upon completion.

17. Where a pre-mining structural inspection under Condition 16 involves a building identified in the Wollondilly Heritage Study the report must be prepared with the assistance of a qualified heritage expert. The Secretary may also require such a report on a building which is not identified in the Wollondilly Heritage Study be prepared with the assistance of a qualified heritage expert if the Secretary is satisfied, on the basis of available information, that the building may be older than 50 years and have heritage significance. Prior notice of such inspections must be provided to the Secretary by the Applicant to enable a decision to be made.

Note: Structural inspections by the Applicant are in addition to any pre-mining surveys conducted by the Mine Subsidence Board.

Management, compensation and acquisition

18. Where a dwelling within the DA area is, or is likely to be, subject to damage as a result of the development, upon receipt of notification under Condition 15(ii) the landowner may request the Applicant in writing to:

    (i) carry out such works as agreed by the landowner to remedy or mitigate any damage or compensate the landowner for such effects in accordance with the Mine Subsidence Compensation Act 1961 and/or the Mining Act 1992 (except where such works are the responsibility of the Mine Subsidence Board); or

    (ii) where damage is, or is likely to be, severe, very severe or unrepairable (as defined in the EIS referred to in condition 1), acquire the whole of the property, or such part of the property requested by the landowner if subdivision is approved, except where purchase is agreed by the Mine Subsidence Board.

    The Applicant must comply with any such request for acquisition in accordance with Conditions 20-22. If necessary to confirm the impact, the Applicant must, at the request of the landowner in writing, conduct a follow-up structural inspection to one carried out under Conditions 16-17. Any inspection or assessment under this Condition must be conducted as if it were conducted under Conditions 16-17.

19. The Applicant must, if requested by the Mine Subsidence Board, ensure that any substantial improvements, including homes, sheds and pools, which are subject to residual tilts in the range of 4 mm/m to 7 mm/m as a result of mining or mining related activities, are relevelled within six months of receipt of a written request from the landowner.

Note: Relevelling of residual tilt of greater than 7 mm/m is the responsibility of the Mine Subsidence Board.

Acquisition Procedure

20. Upon receipt of a written request to purchase property in accordance with any Condition 18(ii), unless mining proposals are altered to avoid this property purchase mechanism, the Applicant must negotiate and purchase the whole of the property (unless the request specifically requests acquisition of only part of the property and subdivision has already been approved) within six months of receipt of the request. The Applicant must pay the landowner an acquisition price resulting from proper consideration of:

    (i) a sum not less than the current market value of the owner's interest in the land, whosoever is the occupier, having regard to:

    - the existing use and permissible use of the land in accordance with the applicable planning instruments at the date of the written request; and
    - the presence of improvements on the land and/or any Council approved building or structure which although substantially commenced at the date of the request is completed subsequent to that date,

as if the land was unaffected by the development proposal;

(ii) the owner's reasonable compensation for disturbance allowance and relocation within the Wollondilly local government area, or within such other location as may be determined by the Secretary in exceptional circumstances;

(iii) the owner's reasonable costs for obtaining legal advice and expert witnesses for the purposes of determining the acquisition price for the land and the terms upon which it is to be acquired; and

(iv) the purchase price determined by reference to points (i), (ii) and (iii) must be reduced by the amount of any compensation awarded to a landowner pursuant to the Mining Act, 1992 or other legislation providing for compensation in relation to coal mining but limited to compensation for dwellings, structures and other fixed improvements on the land, unless otherwise determined by the Secretary in consultation with the DRG or SA NSW.

21. An offer by the Applicant to purchase a property under Conditions 18(ii) and 20 must remain open to the landowner three years after completion of mining of longwall panels that affect the property.

22. Notwithstanding any other condition of this consent, the landowner and the Applicant may enter into any other agreed arrangement regarding compensation; or the Applicant may, upon request of the landowner, acquire any property affected by the Tahmoor Mine during the course of this consent on terms agreed to between the Applicant and the landowner.

Independent Valuation

23. In the event that the Applicant and the landowner cannot agree within three months upon the acquisition price of the land and/or the terms upon which it is to be acquired under the terms of this consent, then either party may refer the matter to the Secretary who must request an independent valuation to determine the acquisition price. The independent valuer must consider any submissions from the landowner and the Applicant in determining the acquisition price.

24. If the independent valuer requires guidance on any contentious legal, planning or other issues, the independent valuer must refer the matter to the Secretary, who, if satisfied that there is a need for a qualified panel, must arrange for the constitution of the panel. The panel must consist of:

(i) the appointed independent valuer;

(ii) the Secretary; and/or

(iii) the President of the Law Society of NSW or nominee.

The qualified panel must, on the advice of the valuer, determine the issue referred to it and advise the valuer.

25. The Applicant must bear the costs of any independent valuation or survey assessment requested by the Secretary.

26. The Applicant must, within fourteen days of receipt of a valuation by the independent valuer, offer in writing to acquire the relevant land at a price not less than the said valuation.

Heritage Items

27. The Applicant must not cause damage to any building or structure which is a Heritage Item without the prior approval of Council. The application for such approval must include a detailed report assessing:

    (i) likely subsidence and the potential damage to the item arising from subsidence;
    (ii) impacts of expected damage on the historical significance of the Item (prepared by a qualified heritage expert endorsed by Council); and
    (iii) appropriate mitigation, management or restoration measures.

    Note: In this condition, "Heritage Item" means an item either listed in Schedule 1 of the Wollondilly Local Environmental Plan 1991, or its latest version or identified in the Wollondilly Heritage Study 1993. The power for Council to issue an "approval" is established under this condition, and should not be read as establishing any requirement for the application for and grant of development consent under the Act.

28. When applying for the approval of Council under condition 27, the Applicant must provide a copy of the application and detailed report to the owner or owners of affected buildings or structures and to the Community Consultative Committee.

29. Prior to commencement of mining the Applicant must comply with the statutory requirements of NPWS in relation to works affecting Aboriginal sites.

30. If the Applicant becomes aware of any heritage or archaeological material that may be affected by mining or subsidence, all work likely to affect the material must cease immediately and the relevant authorities consulted about an appropriate course of action prior to recommencement of work. The relevant authorities may include NPWS, OEH, the Heritage Office, and the Local Aboriginal Land Council. Any necessary permits or consents must be obtained and complied with prior to recommencement of work.

Counselling services

31. The Applicant must provide funding to Council for independent counselling services for landowners who may request support on stress-related matters resulting from the development. These counselling services must be available to landowners from two years prior to mining of longwall panels that affect the landowner's property and until three years after completion of mining of longwall panels that affect the landowner's property.

Modification to the Court's consent

32. Prior to commencement of mining under this consent, the Applicant must obtain any necessary modifications to the 1994 approval by the Land and Environment Court arising out this consent. The Applicant must supply copies of any such application for modification to the Department, Council and the Community Consultative Committee upon lodgement with the Court.

NOISE

Noise Management Plan

33. The Applicant must prepare a Noise Management Plan for the Tahmoor Mine to the satisfaction of the Secretary. This plan must:

(a) be prepared in consultation with EPA, and submitted for approval to the Secretary by 31 October 2012;
(b) describe the noise mitigation measures that would be implemented to ensure compliance with all relevant conditions of consent for the Tahmoor Mine;
(c) outline procedures to manage responses to any complaints or issues raised by the owners of affected residences; and
(d) include a noise monitoring program that includes a protocol for determining exceedances of all relevant conditions of consent for the Tahmoor Mine.

The Applicant must implement the Noise Management Plan as approved by the Secretary.

Redbank Tunnel rail deviation

34. The Applicant must ensure that construction work for the Redbank Tunnel rail deviation is carried out from 7 am to 6 pm Monday to Friday (inclusive) and 8 am to 1 pm on Saturday, unless at the request or direction of the ARTC.

If construction may result in exceedances of the *Interim Construction Noise Guidelines (*DECCW, 2009), the Applicant must undertake community consultation and implement associated mitigation measures in accordance with the 'Additional Mitigation Measures Matrix' in the *Construction Noise Strategy* (Transport Construction Authority, 2010).

35. The Applicant must prepare a Construction Noise Management Plan for the Redbank Tunnel rail deviation to the satisfaction of the Secretary. This plan must:

(a) be prepared in accordance with the Construction Noise Strategy;
(b) be submitted for approval to the Secretary prior to the commencement of construction work;
(c) describe the noise mitigation measures that would be implemented to minimise the noise impacts from construction activities;
(d) describe the proposed noise monitoring program; and
(e) outline procedures to manage responses to any complaints or issues raised by the owners of affected residences.

The Application must implement the Construction Noise Management Plan as approved by the Secretary.

Note: construction work in Conditions 34 and 35 does not include surveys, acquisitions, fencing, investigative drilling or excavation, minor clearing, minor access roads, minor adjustments to services/utilities, works which allow isolation of the site so that access for construction can be provided (including service relocations) and establishing temporary facilities for construction (including for example an office and amenities compound, construction compound, materials storage compound, maintenance workshop, testing laboratory or material stockpile areas).

AIR QUALITY & GREENHOUSE GASES

Greenhouse Gas Emissions

36. The Applicant must implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the Tahmoor Mine, to the satisfaction of the Secretary.

Air Quality Assessment Criteria

37. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the Tahmoor Mine do not exceed the criteria listed in Table 3 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.

Table 3: *Air quality criteria*

Pollutant	***Averaging Period***	***Criterion***	
Particulate matter < 10 µm (PM_{10})	Annual	[a,c] 25 µg/m^3	
Particulate matter < 10 µm (PM_{10})	24 hour	[b] 50 µg/m^3	
Particulate matter < 2.5 µm ($PM_{2.5}$)	Annual	[a,c] 8 µg/m^3	
Particulate matter < 2.5 µm ($PM_{2.5}$)	24 hour	[b] 25 µg/m^3	
Total suspended particulates (TSP)	Annual	[a,c] 90 µg/m^3	
[d] Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

Notes:

[a] *Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).*

[b] *Incremental impact (i.e. incremental increase in concentrations due to the project on its own).*

[c] *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary.*

[d] *Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.*

Operating Conditions

38. The Applicant must:

(a) implement best practice air quality management at the Tahmoor Mine, including all reasonable and feasible measures to minimise the off-site odour and dust emissions including those generated by any spontaneous combustion;

(b) minimise any visible air pollution generated by the Tahmoor Mine;

(c) regularly assess the air quality monitoring and meteorological forecasting data, and modify and/or suspend operations on site to ensure compliance with all relevant conditions of consents for the Tahmoor Mine,

to the satisfaction of the Secretary.

Air Quality & Greenhouse Gas Management Plan

39. The Applicant must prepare an Air Quality & Greenhouse Gas Management Plan for the Tahmoor Mine to the satisfaction of the Secretary. This plan must:

(a) be prepared in consultation with EPA, and submitted for approval to the Secretary by 31 October 2012;
(b) describe the measures that would be implemented to ensure compliance with all relevant conditions of consents for the Tahmoor Mine;
(c) describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the Tahmoor Mine; and
(d) include an air quality monitoring program, that includes a protocol for determining exceedances with all relevant conditions of consents for the Tahmoor Mine.

The Applicant must implement the Air Quality and Greenhouse Gas Management Plan as approved by the Secretary.

NOTIFICATION OF LANDOWNERS

40. Within 2 weeks of obtaining monitoring results showing an exceedance of the relevant criteria in Tables 1-3, the Applicant must notify the affected landowner and tenants in writing of the exceedance, and provide monitoring results to each of these parties until the Tahmoor Mine is complying with the relevant criteria again.

INDEPENDENT REVIEW

41. If an owner of privately-owned land considers the Tahmoor Mine to be exceeding the relevant criteria in Tables 1-3, then he/she may ask the Secretary in writing for an independent review of the impacts of the Tahmoor Mine on his/her land.

If the **Secretary** is satisfied that an independent review is warranted, then within 2 months of the **Secretary**'s decision the Applicant **must**:

(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the **Secretary**, to:
- consult with the landowner to determine his/her concerns;
- conduct monitoring to determine whether the Tahmoor Mine is complying with the relevant criteria in Tables 1-3; and
- if the Tahmoor Mine is not complying with these criteria, then identify the measures that could be implemented to ensure compliance with the relevant criteria; and

(b) give the **Secretary** and landowner a copy of the independent review.

42. If the independent review determines that the Tahmoor Mine is complying with the relevant criteria in Tables 1-3, then the Applicant may discontinue the independent review with the approval of the Secretary.

If the independent review determines that the Tahmoor Mine is not complying with the relevant criteria in Tables 1-3 and that Tahmoor Mine is primarily responsible for this non-compliance, then the Applicant must:

(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the Tahmoor Mine complies with the relevant criteria to the satisfaction of the Secretary; or

(b) secure a written agreement with the landowner to allow exceedances of the relevant criteria.

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

43. The Applicant must prepare an Environmental Management Strategy for the Tahmoor Mine to the satisfaction of the Secretary. This strategy must:

(a) be submitted for approval to the Secretary by 31 October 2012;

(b) provide the strategic framework for the environmental management of the Tahmoor Mine;

(c) identify the statutory approvals that apply to the Tahmoor Mine;

(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the Tahmoor Mine;

(e) describe the procedures that would be implemented to:

- keep the local community and relevant agencies informed about the operation and environmental performance of the Tahmoor Mine, including a 24-hour contact telephone number
- receive, handle, respond to, and record complaints;
- resolve any disputes that may arise during the course of the Tahmoor Mine;
- respond to any non-compliance and any incident;
- respond to emergencies; and

(f) include:

- references to any strategies, plans and programs approved under the conditions of consent for the Tahmoor Mine; and
- a clear plan depicting all the monitoring required to be carried out under the conditions of consent for the Tahmoor Mine.

The Applicant must implement the Environmental Management Strategy as approved by the Secretary.

Management Plan Requirements

44. The Applicant must ensure that the management plans required under conditions of consent for the Tahmoor Mine are prepared in accordance with any relevant guidelines, and include:

(a) a summary of relevant background or baseline data;

(b) a description of:

- the relevant statutory requirements (including any relevant approval, licence or lease conditions);
- any relevant limits or performance measures/criteria;
- the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Tahmoor Mine or any management measures;

(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;

(d) a program to monitor and report on the:
- impacts and environmental performance of the Tahmoor Mine;
- effectiveness of any management measures (see c above);

(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;

(f) a program to investigate and implement ways to improve the environmental performance of the Tahmoor Mine over time;

(g) a protocol for managing and reporting any:
- incidents;
- complaints;
- non-compliances with statutory requirements; and
- exceedances of the impact assessment criteria and/or performance criteria; and

(h) a protocol for periodic review of the plan.

Note: The Secretary *may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*

Annual Review

45. By 31 March of each year, the Applicant must prepare an Annual Review of the environmental performance of the Tahmoor Mine to the satisfaction of the Secretary. This review must:

(a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the next year;

(b) include a comprehensive review of the monitoring results and complaints records of the Tahmoor Mine over the past calendar year, which includes a comparison of these results against:
- relevant statutory requirements, limits or performance measures/criteria;
- requirements of any plan or program required under this consent;
- monitoring results of previous years; and
- relevant predictions in the documents listed in condition 1(i) of Schedule 2;

(c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance;

(d) identify any trends in the monitoring data over the life of the Tahmoor Mine;

(e) identify any discrepancies between the predicted and actual impacts of the Tahmoor Mine, and analyse the potential cause of any significant discrepancies;
(f) describe what measures will be implemented over the next year to improve the environmental performance of the Tahmoor Mine; and
(g) assess the performance of the mine against the conditions of the consents and other licences and approvals relating to the mine.

Copies of the Annual Review must be submitted to Council and made available to the Community Consultative Committee and any interested person upon request.

Note: the first Annual Review must *be prepared by 31 March 2013.*

Revision of Strategies, Plans and Programs

46. Within 3 months of:

(a) the submission of an Annual Review under Condition 45;
(b) the submission of an incident report under Condition 48;
(c) the submission of an audit under Condition 50; and
(d) any modification to the conditions of this consent (unless the conditions require otherwise),

the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Tahmoor Mine.

Community Consultative Committee

47. The Applicant must establish and operate a Community Consultative Committee (CCC) for the Tahmoor Mine in general accordance with the *Department's Community Consultative Committee Guidelines: State Significant Projects (2016)* to the satisfaction of the Secretary.

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*
- *In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Applicant, Council, recognised environmental groups and the local community.*
- *This condition does not require the re-constitution of any CCC established under previous conditions of consent.*

REPORTING

Incident Reporting

48. The Applicant must notify the Secretary and any other relevant agencies of any incident that has caused, or has the potential to cause, significant risk of material harm to the environment, at the earliest opportunity. For any other incident associated with the Tahmoor Mine, the Applicant must notify the

Secretary and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

49. The Applicant must provide regular reporting on the environmental performance of the Tahmoor Mine on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent, and to the satisfaction of the Secretary.

INDEPENDENT ENVIRONMENTAL AUDIT

50. By 30 September 2011 and every 3 years following, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the Tahmoor Mine. This audit must:

(a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
(b) include consultation with the relevant agencies and the Community Consultative Committee;
(c) assess the environmental performance of the Tahmoor Mine and assess whether it is complying with the requirements in all relevant development consents and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);
(d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;
(e) recommend appropriate measures or actions to improve the environmental performance of the Tahmoor Mine, and/or any assessment, plan or program required under the abovementioned approvals; and

(f) be conducted and reported to the satisfaction of the Secretary.

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

51. Within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Secretary.

ACCESS TO INFORMATION

52. From 31 October 2012, the Applicant must:

(a) make copies of the following publicly available on its website:

- all relevant statutory approvals for the Tahmoor Mine;
- all approved strategies, plans and programs required under the conditions of this consent;
- a comprehensive summary of the monitoring results of the Tahmoor Mine, reported in accordance with the specifications in any approved plans or programs required under the conditions of this or any other approval;
- a complaints register, which is to be updated on a monthly basis;
- minutes of CCC meetings;
- the annual reviews required under this consent;
- any independent environmental audit of the Tahmoor Mine, and the Applicant's response to the recommendations in any audit;
- any other matter required by the Secretary; and

(b) keep this information up-to-date,

to the satisfaction of the Secretary.

Note:
Nothing in these conditions removes or lessens any obligations by the Applicant under the mining lease, mining legislation or other legislation in relation to matters covered by these conditions.

Appendix 1 – Development layout and prohibited areas

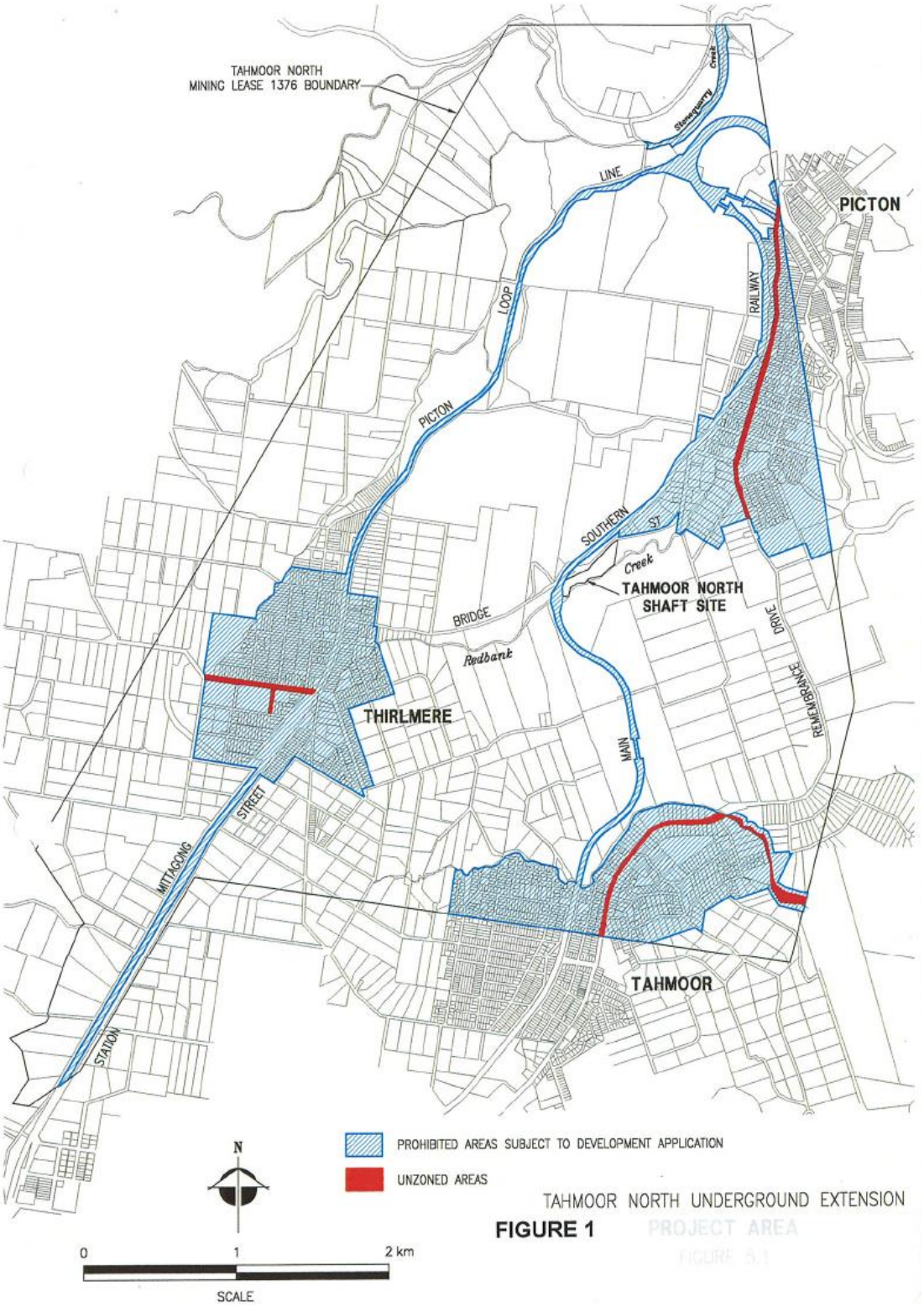

Figure 2: Map of Tahmoor Mine showing two areas (in black crosshatching) where subsidence is not permitted under condition 6(i) of this consent.

Appendix 2 – Structural damage impacts

Damage Assessment Category	Houses		Sheds		Pools		Total	
	Number (1998)	Equiv't percent	Number (1998)	Equiv't percent	Number (1998)	Equiv't percent	Number (1998)	Equiv't percent
0 (Negligible)	756	83.17	389	95.34	63	96.92	1208	87.41
1 (Very Slight)	104	11.44	16	3.92	2	3.08	122	8.83
2 (Slight)	36	3.96	2	0.49	<1	<1.54	38	2.75
3 (Moderate)	13	1.43	<1	<0.25	0	0	13	0.94
4 (Severe)	<1	<0.11	0	0	0	0	<1	<0.07
5 (Very Severe)	0	0	0	0	0	0	0	0

Figure 3: Structural damage impacts associated with subsidence within the DA area as predicted in the EIS dated March 1998 (numbers only) and equivalent percentages (see condition 6(ii)).

Appendix 3 - Statement of Commitments

Ref No.	Objective	Commitment	Timing
Biodiversity			
Construction Planning			
SC1	Minimise the potential impacts that may occur during construction phase	A Construction Environmental Management Plan (CEMP) would be developed for the Project and include, where applicable, the construction impact mitigation measures and principles listed below.	Pre-construction
SC2	Construction Staging	It is intended that areas of open water at the Project site would be progressively drained to allow relocation of native aquatic vertebrate fauna as appropriate.	Construction
SC3	Soil and surface water management	The CEMP would include specific surface water management measures, which would include as a minimum the following principles to manage surface water:	Construction
		◗ Minimise the area of disturbance, thus minimising the volume of 'dirty' surface water runoff. The clearing and construction method would generally result in soils only being exposed immediately prior to construction, with the remainder of the Project site covered by permanent infrastructure or retained or replanted vegetation.	Construction
		◗ Minimise handling of soils through direct replacement onto landscaped open space areas and careful selection of soil stockpile locations.	Construction
		◗ Separation wherever possible of 'clean' and 'dirty' surface water runoff.	Construction
		◗ Install appropriate erosion control devices (such as silt fences, hay bales or equivalent) around the disturbance footprint.	Construction
SC4	Runoff and water management practices	◗ Runoff from disturbed and rehabilitated areas would be diverted into sediment ponds or other measures and not directly discharged into the natural system.	Construction
		◗ Where practicable a setback is required from the base of soil stockpiles when adjoining remnant native vegetation to prevent sediment from entering waterways.	Construction
SC5	Site Management	Restrict access into adjacent remnant vegetation during construction by appropriate marking and/or fencing of the construction impact zone.	Pre-construction and Construction
SC6	Fauna Management	Fauna management would involve a two-step process: fauna pre-clearance survey and management during construction.	Construction

Ref No.	Objective	Commitment	Timing
		This would involve: • An active search for birds, nests, roosts and microchiropteran bats (stag watches with Anabat II detector). Sedentary fauna detected within the area to be cleared are to be managed in accordance with a fauna management protocol that is implemented as part of the CEMP during the construction period. • Identification and marking of habitat trees during pre-clearing surveys (habitat trees include: trees with a DBH > 70 cm; trees with resident fauna or associated signs of occupation; and/or any trees with hollows). • Additional consideration for the retention of habitat trees (avoidance) during construction activities, where practicable.	Pre-construction and Construction
SC7	Pre-clearance surveys and CEMP	• The CEMP would include specific protocols for the management of any fauna detected during pre-clearing surveys or during clearing (tree hollow clearing protocol, fallen log, tree hollow compensatory measures). Appropriate actions would be documented according to type and conservation significance of the fauna in question. The OEH would be notified if roosting threatened species are detected within the construction footprint and construction may have to be modified or delayed to further reduce the risk of injury.	Pre-construction and Construction
		• During clearing operations, all cleared habitat trees would be retained as intact as practicable and placed on the surface of nearby revegetation and rehabilitation areas under the supervision of an ecologist. Where it is practical to separate any leaves, branches and seeds from native species, these items would be used for brush mulching in revegetation and rehabilitation works.	Construction

Ref No.	Objective	Commitment	Timing
SC8	Groundcover Clearance Protocol	The following protocols would be included in the CEMP: ◗ A pre-clearing survey for Cumberland Land Snails is to be performed and if any individuals are found, they would be relocated, along with relevant shelter substrate, to the nearest area of intact suitable habitat outside the disturbance footprint. Translocation of the species would only be performed in consultation with OEH. ◗ As part of the pre-clearing survey, large woody debris with habitat value (excluding exotic weed material) would be identified that warrants salvage and relocation. ◗ During construction, remove identified large woody debris using excavator grabs, where practicable and place within nearby areas of retained vegetation or revegetation areas.	Construction
SC9	Weed and Pest Management	The following measures would be adopted to manage environmental weeds during construction: ◗ Controlling noxious weed species in line with legislative obligations prior to the initiation of vegetation clearance works. Monitor seed bank reprisals after topsoil movements and emplacement in rehabilitation areas. ◗ The transfer of seeds from non-native species through contaminated soil and vegetative material to revegetation areas would be avoided through appropriate vegetation and topsoil management. Management would include the use of herbicides prior to clearing, sterile crop covers and use of native grasses in revegetation and rehabilitation scheme – particularly Kangaroo Grass. ◗ Stockpiles of fill or vegetation would only be placed within existing cleared areas. ◗ Incorporate control measures, such as appropriately placed silt fences in the design of the proposed works to limit the spread if weed propagules downstream of the site.	

Ref No.	Objective	Commitment	Timing
Post Construction			
SC10	Revegetation and Rehabilitation	There is potential for the rehabilitation of land reclaimed from filling redundant sections of the rail line. The following vegetation cover is proposed for these rehabilitated areas: ◗ Pasture (in consultation with the landholder). ◗ Approximately 1.1 ha of native vegetation similar to the floristics of Shale Hills Woodland.	Post-construction
SC11	Native vegetation rehabilitation	Proposed works within the 1.1 ha native vegetation rehabilitation area : ◗ Place logs recovered from clearing works parallel with the contour of the rehabilitated surface.	Post-construction
SC12	Biodiversity Offset	Secure an offsite site or sites to be managed under effective and secure long term management through the retirement of biobanking credits (where appropriate credits are available). The nature of this offset would be determined in consultation with OEH in accordance with the NSW OEH interim policy on assessing and offsetting biodiversity impacts of Part 3A, State significant development (SSD) and State significant infrastructure (SSI) projects. The offset site or sites must contain sufficient ecosystem credits to match the development site credit profile unless varied by the Interim Policy. The composition of ecosystem credits would be defined by the Interim Policy and may comprise the following: ◗ Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin [HN528]. ◗ Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin [HN556]. or alternative suitable vegetation types. The location of the offset site or sites would be determined by the guiding principles outlined in the Interim Policy. A Biodiversity Offsets Package will be prepared for approval by the Director-General DOP&I that will provide the biobanking assessment of the development and biobank sites, and recommended management and monitoring measures. The offset site or sites must be secured within 12 months of the approval date of the Biodiversity Offsets Package.	Within 12 months of the approval date of the Biodiversity Offsets Package.

Ref No.	Objective	Commitment	Timing
Visual Amenity			
SC13	Minimise and/or manage adverse visual impacts of the project during the construction phase	◗ Avoid loss or damage to vegetation including the protection of trees prior to construction and/or trimming of vegetation to avoid total removal, particularly behind residences on Remembrance Driveway.	Detailed design and construction
		◗ Where site lighting is required, minimise light spillage to neighbouring properties.	Construction and Operation
		◗ Temporary hoardings, barriers, traffic management and signage would be removed when no longer required.	Construction
		◗ Materials and machinery would be stored tidily during the works.	Construction
		◗ Haul routes and roads providing access to the construction sites would be maintained free of dust and mud as far as reasonably practicable. Dust from construction sites would be minimised as much as possible.	Construction
SC14	Minimise and/or manage adverse visual impacts of the project during the operation phase	◗ Prepare Landscape plan that: - Integrates infrastructure (such as noise mitigation structures, structures, embankments/cuttings, bridges) into the surrounding environment. - Includes planting of vegetation on fill batters where practicable.	Detailed design, Construction and Operation
SC15	Screening	◗ Maintain screening planting following the establishment phase to provide continual / improved visual screening over time.	Operation
Traffic			
SC16	Manage the potential construction traffic impacts	◗ A traffic management plan would be developed to reduce the impact of construction related traffic on the local road network.	Pre-construction and Construction
SC17	Undertake design and construction works in consultation with Council	◗ Undertake design and construction works for the project access in Remembrance Driveway in consultation with Wollondilly Shire Council.	Pre-construction
SC18	Road dilapidation survey	◗ A road dilapidation survey would be undertaken prior to construction and affected roads restored post construction if required.	Construction

Ref No.	Objective	Commitment	Timing
SC19	Management of construction vehicles	◗ Use traffic controllers on Remembrance Driveway during periods of high activity, generally during set up and at the conclusion of construction. ◗ Minimise truck movements on the local road network between 7 – 9 am and 3 – 5 pm where possible.	Construction
Noise and Vibration			
SC20	Construction Hours	The standard hours for construction activities associated with the Project will be 7 am to 6 pm Monday to Friday and 8 am to 1 pm on Saturdays.	Construction
SC21	Correct use of tools and equipment	All construction vehicles and machinery would be fitted with appropriate noise suppression devices and maintained. Fixed equipment (pumps, generators, compressors) would be located as far as possible from the nearest residences. Where possible, no plant or equipment would be left idling when operating in the vicinity of residential properties.	Construction
SC22	Amend and undertake work activities to minimise noise and vibration generation	Practical and reasonable measure would be implemented to minimise the noise and vibration impacts of construction activities on local sensitive receivers. Work methods would be reviewed with a preference for quieter and non-vibration generating methods wherever possible. This is particularly important for any out-of-hours and night-time activities.	Construction
SC23	Pile driving management	Pile driving control plans would be prepared if undertaken as part of the project construction activities.	Construction
SC24	Inform all site workers of potential impacts	All site workers (including subcontractors and temporary workforce) would be informed of the potential for noise and vibration impacts upon local residents and encouraged to take practical and reasonable measures to minimise noise during the course of their activities.	Construction
SC25	Manage movement of materials	All vehicular movements to and from the site would comply with the requirements of the appropriate regulatory authority requirements for such activities.	Construction
Aboriginal Heritage			

Ref No.	Objective	Commitment	Timing
SC26	Minimise impacts on Aboriginal heritage	If feasible, impacts would be avoided to the identified Aboriginal sites Redbank Tunnel 3/A, 15/A and 35/A, and the associated area of potential for sub-surface deposits of research value at site 3/A.	Construction and detailed design
		Where impacts would be avoided to the identified heritage evidence, appropriate protective measures would be implemented for those sites in close proximity to the construction works.	Pre-construction
		If impacts cannot be avoided to the identified Aboriginal sites Redbank Tunnel 3/A, 15/A and 35/A, an Aboriginal Heritage Impact Permit (AHIP) is to be gained for disturbance of this evidence, in consultation with the registered Aboriginal parties.	Pre-construction
		As a general principle, all relevant contractors and staff engaged on the Project would receive heritage awareness training prior to commencing work on-site.	Pre-construction
SC27	Consultation with Aboriginal stakeholders	Where requested by the registered Aboriginal parties, these stakeholders and a qualified archaeologist would be engaged to collect any identified surface artefacts that may be subject to impacts, and implement other measures as may be identified by the Aboriginal community in order to minimise the impacts of development on the identified heritage evidence and potential deposits at site 3/A.	Pre-construction
SC28	Approval of Aboriginal heritage management	An AHIP would be obtained for the entire impact area (where A unit soil is present) prior to the proposed works being undertaken.	Pre-construction
		Should any previously unrecorded Aboriginal sites or objects be detected prior to or during the course of development which are not covered by an AHIP, work in the immediate vicinity of those objects would need to promptly cease and the finds be reported to OEH and advice sought as to the appropriate course of action.	Construction
SC29	Management of skeletal remains	If human skeletal remains are identified, work would stop immediately and the appropriate authorities, including the Police and OEH, would be notified. If impacts cannot be avoided, an AHIP is required prior to any impacts occurring.	Construction
Non-Aboriginal Heritage			
SC30	Management of heritage structures	Protective Measures would be installed at Culverts Nos. 1 and 2.	Pre-construction
		Prior to the filling or removal of Redbank Tunnel, a photographic archival recording of the tunnel would be made in accordance with guidelines established by the Heritage Office.	Pre-construction

Ref No.	Objective	Commitment	Timing
SC31	Management of previously undiscovered artefacts	In accordance with Section 146 of the *Heritage Act* 1977 the accidental discovery of relics, other than those discussed in this report, would be reported immediately to the Heritage Council.	Construction
SC32	Management of heritage structures	Measures would be implemented along the Redbank Tunnel deviation to lessen the visual impact of the new rail deviation on the rural heritage landscape and, in particular, views to and from Tahmoor House. Such measures would include screens of natural vegetation in keeping with existing corridors of natural vegetation along Myrtle and Redbank Creeks and the existing railway line as well as the use of sound walls and mounds.	Post Construction
Air Quality			
SC33	Minimise dust generation and adverse air quality impacts during construction phase	Construction traffic would be controlled by designating specific routes for haulage and access. Vehicle speeds on unsealed surfaces would be limited to 40 km/hr with a further restriction of 20 km/hr when within 100 m of a site exit/entry point.	Construction
		All trucks hauling dirt, sand, soil or other loose materials to and from the construction site would be covered when travelling on public roads.	Construction
		Wheel wash units or rumble pads would be installed where required. Wash-off equipment for trucks and any equipment would be available for any vehicles leaving the site to remove excessive dirt, mud or debris from tyres and other under-surfaces. Material spillage on sealed roads would be cleaned up as soon as possible.	Construction
		All construction vehicles, mobile plant and machinery would be maintained and operated to minimise exhaust emissions.	Construction
		A line of communication would be established between the construction contractor and the local community prior to the start of construction as part of a community consultation process. All complaints lodged by nearby residents would be recorded on a complaints register, which would also document the investigation into the source of the emission giving rise to the complaint, as well as any corrective actions taken to rectify the cause of complaint.	Construction
Contamination			
SC34	Develop and implement potentially contaminated material management procedures	The CEMP for the proposed works would detail appropriate procedures for the handling, stockpiling and assessment of potentially contaminated fill and ballast materials during the works.	Pre-construction

Ref No.	Objective	Commitment	Timing
Surface Water			
SC35	Minimise water quality decline	Temporary and permanent sediment and erosion control measures to be established, in accordance with a Spoil and Fill Management Plan (SFMP) as part of the Construction Environmental Management Plan (CEMP). Both the SFMP and the CEMP would include details of the proposed control measures, where and how the measures are to be applied, as well as a response plan and monitoring.	Pre-Construction and Construction
SC36	Minimise the impact of excavation, storage and placement of material on the surface and groundwater systems during construction	◗ Minimise area of disturbance.	Construction
		◗ Land adjacent to waterways to remain undisturbed for as long as possible.	Construction
		◗ Temporary catch and diversion drains to divert runoff from upslope land and reduce erosion hazard.	Construction
		◗ Temporary diversions would outlet to stable discharge areas with additional protection as necessary.	Construction
		◗ Progressively revegetate disturbed areas to encourage infiltration.	Construction
		◗ Direct sediment laden runoff through a sediment trap or basin to minimise discharge of pollutants to downstream environment.	Construction
		◗ Direct smaller volumes of sediment laden runoff to sediment filters such as straw bale filters and sediment fences.	Construction
		◗ Locate stockpiles clear of flood prone areas, stream banks, channels and stormwater drainage areas.	Construction
		◗ Stabilise stockpiles that are to be in place for longer than 10 days.	Construction
		◗ Divert flows around stockpiles by bunds/diversion drains.	Construction
		◗ Place sediment fences downstream to capture sediment and minimise sediment discharge to downstream environment.	Construction
SC37	Permanent sediment and erosion control measures	◗ Permanent catch and diversion drains to divert runoff from upslope land and reduce erosion hazard to be installed.	Operation
		◗ Establish permanent diversions to outlet to stable discharge areas with protection as necessary.	Operation

Ref No.	Objective	Commitment	Timing
		◗ Revegetate disturbed areas to encourage infiltration.	Operation
		◗ Locate permanent areas of fill emplacement clear of flood prone areas, stream banks, channels and stormwater drainage areas.	Operation
		◗ Install scour protection to structures and embankments as necessary.	Operation
		◗ Provide permanent diversion of flows around fill emplacement areas and quarries by bunds/diversion drains.	Operation
		◗ Permanent areas of fill emplacement to have maximum batter slopes engineered for the purpose and stabilised by vegetation.	Operation
SC38	Emergency Response Plan and Spill Containment	◗ Develop an Emergency Response Plan, as a component of the SFMP that would address the steps required in the event that the capacities of sediment control measure were exceeded.	Construction
		◗ During construction, refuelling of plant and machinery would be undertaken either by fuel trucks with spill trays or within bunded areas or off-site in appropriate locations wherever possible and, where topography and track elevations allow, consideration be given to the provision of a secondary containment measure to limit the discharge of spills to waterways.	
SC39	Revegetation	◗ Primary revegetation would be focused on quickly minimising the likelihood of erosion of recently disturbed areas using species that provide rapid groundcover. Following this a second revegetation phase would be undertaken that provides a permanent method of surface stabilisation.	
		◗ Where the first phase of the revegetation cannot be completed for practical reasons the use of mulch or a rolled erosion control product would be used.	
SC40	Surface Water Monitoring	◗ A surface water monitoring program would be established prior to commencement of construction.	Pre-construction and Construction
		◗ During construction, a surface water monitoring program would be maintained at each of the previously monitored waterways as part of the CEMP.	
		◗ Any seepage of water from the rock cutting would be tested prior to discharge to the environment.	

Ref No.	Objective	Commitment	Timing
SC41	Minimise impacts to waterways	◗ Disturbance of waterways as a result of construction activities would require suitable protection and rehabilitation works to minimise these impacts. These could include silt fences and sediment traps.	Construction
		◗ Rock beaching would be provided to protect and stabilise the bed and banks of watercourses from erosion and to minimise the velocity of stormwater flows.	Operation
SC42	Minimise blockage of low flows	Where practicable, diversion of flows around the work area (up to the 2 year ARI) would occur.	Construction
SC43	Reduce impact of waterway structures on hydrology	To minimise the potential impact on flood levels and to maintain low flows, the existing open waterway area at each waterway crossing would be maintained throughout construction activities where possible. In locations where it is feasible, the open waterway areas would be increased.	Construction
SC44	Appropriate design of causeways	Where required, either a bed level crossing through the invert of the waterway or a low level crossing with low flow culverts beneath to allow base flows to be conveyed, would be provided. Temporary crossings would also include a lower section for higher flows to pass with culverts extending beyond the toe of fill embankments. These crossings would be removed when not required, and the waterway rehabilitated.	Construction
SC45	Prevent pollution of creeks	Closely associated with the mitigation against water quality decline and increases in scour, the placement of fill would be completed in a manner that would not result in the pollution of Myrtle or Redbank creeks.	Construction
SC46	Minimise impacts to surface water	A Surface Water Management Plan (SWMP) would be prepared that would include all measures provided in SC34-SC44. The SWMP would be prepared to the satisfaction of the NOW prior to commencement of construction.	Pre-construction
SC47	Minimise impacts to groundwater	A Groundwater Management Plan would be prepared that would detail the response to the interception of groundwater, including licensing arrangements and proposed methods of disposal for the intercepted groundwater. The SWMP would be prepared to the satisfaction of the NOW prior to commencement of construction.	
Greenhouse Gas Emissions			
SC48	Reduce impacts of greenhouse gases	Use Biodiesel blends (diesel that has a percentage of the fuel replaced with biodiesel) for construction vehicle use where practicable.	Construction

Ref No.	Objective	Commitment	Timing
Subsidence			
SC49	Mitigate against subsidence	◗ Prevent the collapse of the Redbank Tunnel void by filling the tunnel. ◗ Monitoring of rail track condition to be undertaken in accordance with the Subsidence Management Plan to be prepared for Longwalls 27-30. ◗ Monitoring of Subsidence in Area 3 if required, to be undertaken in accordance with the Subsidence Management Plan to be prepared for longwalls 27-30.	Pre-construction, Construction and Operation
Waste Management			
SC50	Manage waste appropriately	◗ Excavated material would, wherever possible, be re-used on site, although some material may require offsite disposal. ◗ Topsoil would be reused in revegetation and rehabilitation of cleared areas. ◗ Where practical, vegetative matter, not including weeds, would be chipped and reused on-site. Logs and tree limbs suitable for habitat and or fauna refuge would be collected during clearing and placed in a location identified as suitable. ◗ Any green waste containing weeds would be stockpiled separately and appropriately and would be disposed of at appropriate waste management facilities. ◗ Demolition waste materials would be recycled and/or reused on site, or transported to an approved recycling or waste management facility, as appropriate. ◗ Construction materials would be sourced and ordered in appropriate quantities to avoid the creation of excess waste, recycled and/or reused on site or on other projects where possible, or transported to an approved recycling facility. ◗ Suitable waste bins/receptacles would be provided throughout the work site to capture all waste streams. ◗ Separate containers would be provided for recyclable and non-recyclable materials. These materials would be transported to an approved recycling or waste management facility, as appropriate. ◗ Waste would be transported from the site when storage facilities are filled. The waste storage area would be kept tidy and well maintained.	Pre-construction, Construction

Ref No.	Objective	Commitment	Timing
		◗ Liquid waste such as chemicals, fuel and lubricants, and their containers, would be disposed of in accordance with the requirements of the *Waste Classification Guidelines Part 1: Classifying Waste* (Department of Environment, Climate Change and Water 2009). ◗ Portable toilet facilities would be installed on site and emptied periodically by an approved contractor. ◗ The use of packaging materials would be minimised and where possible packaging products would be returned. ◗ A regular site clean-up would be undertaken as required and general site waste would be managed in accordance with the waste reduction hierarchy of avoidance, reduce, re-use and recycle. ◗ Site spill clean-up material (spill kits) would be available for both fuels and chemicals. ◗ Suitable containment and absorbent products would be stored on site in a readily accessible location. ◗ All emergency contacts would be provided in the CEMP.	