

Development Consent

Section 89E of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning, the Planning Assessment Commission approves the development application referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.



Joe Woodward PSM
Member of the Commission



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Member of the Commission

Sydney

28 May 2015

SCHEDULE 1

Application Number:	SSD-5251
Applicant:	Australian Zirconia Ltd
Consent Authority:	Minister for Planning
Land:	See Appendix 1
Development:	Dubbo Zirconia Project

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DEFINITIONS

Annual review	The review required by condition 4 of schedule 5
Applicant	Australian Zirconia Ltd, or anyone else who relies on this consent to carry out the development that is subject to this consent
ARI	Average recurrence interval
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
ARTC	Australian Rail Track Corporation
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EIS, and depicted conceptually in the figure in Appendix 6
Blast misfire	The failure of one or more holes in a blast pattern to initiate
Blast damage	Any permanent effect of blasting vibration that makes a building or site more unstable, causes the enlargement of existing cracks or the creation of new cracks, or accelerates the degradation of the building or site
CCC	Community Consultative Committee
Conditions of this consent	Conditions contained in schedules 1 to 5 inclusive
Council	Dubbo City Council
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Development	The development described in the EIS
Development area	All land to which the development application applies, as listed in Appendix 1 and shown in Appendix 2
Department	Department of Planning and Environment
DPI	Department of Primary Industries
DPI – Agriculture	Agriculture NSW within the Department of Primary Industries
DPI – Fisheries	Fisheries NSW within the Department of Primary Industries
DRE	Division of Resources and Energy within NSW Trade and Investment
EEC	Endangered ecological community, as defined under the <i>Threatened Species Conservation Act 1995</i>
EIS	Environmental impact statement titled <i>Dubbo Zirconia Project, Environmental Impact Statement</i> (3 volumes), dated September 2013, as modified by the Response to Submission titled, <i>Dubbo Zirconia Project, Response to Submissions</i> , dated December 2013, and the document titled <i>A Summary of the Minor Modifications to the Proposed Operations and/or Environmental Assessment of the Dubbo Zirconia Project</i> , dated April 2014.
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence issued under the POEO Act
Evening	The period from 6 pm to 10 pm
Feasible	Feasible relates to engineering considerations and what is practical to build or to implement
FM Act	<i>Fisheries Management Act 1994</i>
ha	Hectare
HDPE	High Density Polyethylene
Heritage item	An item as defined under the <i>Heritage Act 1977</i> and/or an Aboriginal object or Aboriginal place as defined under the <i>National Parks and Wildlife Act 1974</i>
Incident	A set of circumstances that: <ul style="list-style-type: none"> causes or threatens to cause material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria in this consent
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in Schedule 3 of this consent where it is defined to mean the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Linear infrastructure	Includes the rail line upgrade, construction of water and gas pipelines, and road re-alignments and upgrades
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial

Mine water	Water that is used in the processing of the ore, accumulates within, or drains from, active mining and infrastructure areas and any other areas where run-off may have come into contact with mineral ore, ore concentrate, or processing waste residue material
Mining operations	Includes the removal and emplacement of overburden and extraction, processing, handling, storage and transport of mineral ore / ore concentrate / refined ore products
Minister	Minister for Planning, or delegate
Minor	Not very large, important or serious
Mitigation	Activities associated with reducing the impacts of the development
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NOW	NSW Office of Water
NP&W Act	<i>National Parks and Wildlife Act 1974</i>
OEH	Office of Environment and Heritage within the Department of Planning and Environment
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or a mining company (or its subsidiary)
Ore Processing Facility	Infrastructure and plant associated with mining operations depicted in Figure 2 of Appendix 2
Public infrastructure	Infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc
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
Refined ore products	The saleable minerals produced after refining the ore at the ore processing facility
Rehabilitation	The restoration of land disturbed by the development to ensure it is safe, stable and non-polluting
ROM	Run-of-mine
Secretary	Secretary of the Department, or nominee
RMS	Roads and Maritime Services
Site	The land listed in Appendix 1, including any subdivided lot that may be created from the listed land lots
VPA	Voluntary Planning Agreement that is made under Division 6 of Part 4 of the EP&A Act
Waste Residue Storage Facilities	The collective term for the Solid Residue Storage Facility and Liquid Residue Storage Facility (see Appendix 2)
Zoo	Taronga Western Plain Zoo

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this consent, the Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.

TERMS OF CONSENT

2. The Applicant shall carry out the development generally in accordance with the:
 - (a) EIS;
 - (b) statement of commitments; and
 - (c) conditions of this consent.

Notes:

- *The general layout of the development is shown in Appendix 2.*
- *The statement of commitments is reproduced in Appendix 3.*

3. If there is any inconsistency between the above documents, the more recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent;
 - (b) any reports, reviews or audits commissioned by the Department regarding compliance with this consent; or
 - (c) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Mining Operations

5. The Applicant may carry out mining operations on the site until 31 December 2037.

Note: Under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of either the Secretary or DRE. 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.

Ore Extraction and Processing

6. The Applicant shall not
 - (a) extract more than 1 million tonnes of ore on site in any calendar year; and
 - (b) process more than 1 million tonnes of ore on site in any calendar year.

However, with the prior written agreement of the Secretary, the Applicant may extract and/or process up to 1.1 million tonnes of ore on the site in a calendar year to accommodate minor fluctuations in production.

Road and Rail Transport

7. The Applicant shall not:
 - (a) receive and dispatch more than 75 trucks to or from the site per day or more than 16 per hour; and
 - (b) dispatch more than 3 trains from the site per week or 1 loaded train per day.

Note: This condition does not include the receipt or dispatch of heavy vehicles associated with general maintenance or waste collection.

8. The Applicant shall use all reasonable endeavours to:
 - (a) restrict train movements to and from the site to between the hours of 9:30 am and 2:30 pm and 4:30 pm and 9:00 pm;
 - (b) minimise the unloading and loading of train wagons on the site during the night; and
 - (c) minimise the transport of material by road between the Newell Highway and the site during the night.

NOTIFICATION OF COMMENCEMENT

9. The Applicant shall notify the Department in writing prior to commencing mining operations under this consent.

STRUCTURAL ADEQUACY

10. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structure, are constructed in accordance with the relevant requirements of:
 - (a) the BCA; and
 - (b) AS 3959-2009 *Construction of buildings in bush fire-prone areas* or its latest version.

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

DEMOLITION

11. The Applicant shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

12. Unless the Applicant and the applicable authority agree otherwise, the Applicant shall:
 - (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

OPERATION OF PLANT AND EQUIPMENT

13. The Applicant shall ensure that all plant and equipment used on site or any monitoring equipment used off site for monitoring the performance of the development is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF STRATEGIES, PLANS OR PROGRAMS

14. To ensure the strategies, plans or programs under this consent are updated on a regular basis, and that they incorporate any appropriate mitigation measures to improve the environmental performance of the development, the Applicant may at any time submit revised strategies, plans or programs to the Secretary for approval. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.

With the agreement of the Secretary, the Applicant may revise any strategy, plan or program approved under this consent without consulting with all the parties nominated under the applicable conditions of consent.

Notes:

- While any strategy, plan or program may be submitted on a progressive basis, the Applicant must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and
- If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.

COMMUNITY ENHANCEMENT

15. The Applicant shall implement the VPA made with Council on 15 October 2014, to the satisfaction of the Secretary.
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SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

ACQUISITION UPON REQUEST

- Upon receiving a written request for acquisition from the owner of R50, the Applicant shall acquire the land in accordance with the procedures in conditions 4 and 5 of schedule 4.

Note: To interpret the land referred to in this condition, see the figure in Appendix 4.

NOISE

Noise Mitigation – Western Plains Zoo

- Prior to undertaking any construction on Obley Road between Camp Road and the Newell Highway, the Applicant shall construct a 3 m high and 1 km long road noise barrier on land owned by the Zoo and in consultation with the Zoo, to the satisfaction of the Secretary.

In the event that there is a dispute between the Applicant and the Zoo about the implementation of this condition, then either party may refer the matter to the Secretary for resolution.

Hours of Operation

- The Applicant shall comply with the operating hours set out in Table 1, unless the applicant has written approval from the Secretary to temporarily alter the operational hours due to an emergency situation.

Table 1: Operating Hours

Activity	Operating Hours
Mining operations (excluding the operation of the ore processing facility)	7 am to 6 pm, Monday to Friday 8 am to 5 pm, Saturday No activities on Sundays or Public Holidays
Operation of the ore processing facility and receipt of processing reagents	24 hours a day, 7 days a week
Construction of linear infrastructure	7 am to 6 pm, Monday to Friday 8 am to 1 pm, Saturday No construction to be undertaken on Sundays or Public Holidays
Other construction activities	7 am to 6 pm, Monday to Friday 8 am to 1 pm, Saturday No construction to be undertaken on Sundays or Public Holidays unless noise from these activities does not result in any exceedances of the noise criteria in Table 2 at any privately-owned residence
Dispatch of refined ore products and receipt of limestone products	6 am to 10 pm, Monday to Friday 8 am to 5 pm, Saturday No activities on Sundays or Public Holidays

Noise Criteria

- The Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land (excluding the noise generated by the construction of the project's linear infrastructure).

Table 2: Noise Criteria dB(A)

Location	Day	Evening	Night	
	<i>L_{Aeq} (15 min)</i>	<i>L_{Aeq} (15 min)</i>	<i>L_{Aeq} (15 min)</i>	<i>L_{A1} (1 min)</i>
All privately-owned residences	35	35	35	45

Noise generated by the development (excluding the noise generated by the construction of the project's linear infrastructure) is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy* (or its latest version). Appendix 5 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 written agreement with the relevant landowner to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Operating Conditions

5. The Applicant shall:
- (a) implement all reasonable and feasible measures to minimise the construction, operational, low frequency, road and rail noise of the development;
 - (b) ensure Australian Standard AS 2436-2010 *"Guide to Noise Control on Construction, Maintenance and Demolition Sites"* is implemented during the construction of any buildings on the site;
 - (c) operate a comprehensive noise management system on site that uses a combination of meteorological and noise monitoring data to guide the planning of operations and the implementation of noise mitigation measures to ensure compliance with the relevant conditions of this consent;
 - (d) minimise the noise impacts of the development during meteorological conditions when the noise criteria in this consent do not apply (see Appendix 5);
 - (e) ensure that its rail spur is only accessed by locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in the relevant rail authority's EPL;
 - (f) use its best endeavours to ensure that rolling stock is selected to minimise noise; and
 - (g) carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent and, if necessary, adjust the scale of operations on site to meet the criteria in this consent,
- to the satisfaction of the Secretary.

Construction – Linear Infrastructure

6. The Applicant shall manage noise from the construction of linear infrastructure in accordance with the noise management levels defined in the *Interim Construction Noise Guideline*.
7. In seeking any variations to the construction hours (see Table 2), the Applicant shall submit an Out of Hours Work Protocol to the Secretary. This protocol must:
- (a) be prepared in consultation with the EPA and any people who may be affected by the proposed variation; and
 - (b) address the relevant requirements of the *Interim Construction Noise Guideline*.

Noise Management Plan

8. 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 any development under this consent, unless the Secretary agrees otherwise;
 - (b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent and procedures within this plan, including procedures to minimise noise generated by construction activities and unloading and loading trains;
 - (c) describe the proposed noise management system in detail;
 - (d) include noise monitoring program that:
 - uses attended monitoring to evaluate the compliance of the development against the noise criteria in this consent;
 - evaluates and reports on:
 - the effectiveness of the noise management system;
 - compliance against the noise criteria in this consent; and
 - compliance against the noise operating conditions; and
 - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

BLASTING

Blasting Criteria

9. The Applicant shall ensure that blasting on the site does not cause exceedances of the criteria in Table 3.

Table 3: *Blasting criteria*

Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance
Residence on privately-owned land	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months
All other public infrastructure	-	50	0%

However, these criteria do not apply if the Applicant has a written agreement with the relevant owner to allow impacts above the criteria, and has advised the Department in writing of the terms of this agreement.

Blasting Hours

10. The Applicant shall only carry out blasting on site between 9 am and 5 pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Secretary.

Blasting Frequency

11. The Applicant shall carry out a maximum of:
- (a) 2 blasts a day; and
 - (b) 5 blasts a week, averaged over a calendar year, on the site.

This condition does not apply to blasts that generate ground vibration of 0.5 mm/s or less at any residence on privately-owned land, blast misfires or blasts required to ensure the safety of the mine or its workers.

Notes:

- For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the mine.
- For the avoidance of doubt, should an additional blast be required after a blast misfire, this additional blast and the blast misfire are counted as a single blast.
- In circumstances of recurring unfavourable weather conditions (following planned but not completed blast events), to avoid excess explosive sleep times and minimise any potential environmental impacts, the Applicant may seek agreement from the Secretary for additional blasts to be fired on a given day.

Property Inspections

12. If the Applicant receives a written request from the owner of any privately-owned land within 2 kilometres of the approved open cut mining pit on site for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, or to have a previous property inspection updated, then within 2 months of receiving this request the Applicant shall:
- (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to:
 - establish the baseline condition of any buildings and other structures on the land, or update the previous property inspection report; and
 - identify measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and/or structures; and
 - (b) give the landowner a copy of the new or updated property inspection report.

If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the property inspection report, either party may refer the matter to the Secretary for resolution.

Property Investigations

13. If the owner of any privately-owned land claims that buildings and/or structures on his/her land have been damaged as a result of blasting on the site, then within 2 months of receiving this claim the Applicant shall:
- (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to investigate the claim; and
 - (b) give the landowner a copy of the property investigation report.

If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant shall repair the damage to the satisfaction of the Secretary.

If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Secretary for resolution.

Operating Conditions

14. During mining operations on site, the Applicant shall:
- (a) implement best management practice to:
 - protect the safety of people and livestock in the surrounding area;
 - protect public or private infrastructure/property in the surrounding area from any damage; and
 - minimise the dust and fume emissions of any blasting;
 - (b) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site and any road closures; and
 - (c) monitor and report on compliance with the relevant blasting conditions in this consent, to the satisfaction of the Secretary.
15. The Applicant shall not undertake blasting on site within 500 metres of:
- (a) any public road; or
 - (b) any land outside the site that is not owned by the Applicant, unless:
 - the Applicant has a written agreement with the applicable roads authority or landowner to allow blasting to be carried out closer to the public road or land, and the Applicant has advised the Department in writing of the terms of this agreement; or
 - the Applicant has:
 - demonstrated to the satisfaction of the Secretary that the blasting can be carried out closer to the road or land without compromising the safety of people or livestock, or damaging buildings and/or structures; and
 - updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the road or land.

Blast Management Plan

16. The Applicant shall prepare and implement a Blast 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 undertaking any blasting under this consent;
 - (b) describe the measures that would be implemented to ensure compliance with the blasting criteria and operating conditions of this consent;
 - (c) propose and justify any alternative ground vibration limits for any public infrastructure or other structures in the vicinity of the site (if relevant); and
 - (d) include a monitoring program for evaluating the performance of the development, including:
 - compliance with the applicable criteria; and
 - minimising the fume emissions from the site.

AIR QUALITY

Odour

17. The Applicant shall ensure that no offensive odours, as defined under the POEO Act, are emitted from the site.

Air Quality Criteria

18. The Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the particulate emissions generated by the development do not exceed the criteria listed in Tables 4 to 6 at any residence on privately-owned land.

Table 4: Long term criteria for particulate matter

Pollutant	Averaging period	^d Criterion
Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 5: Short term criterion for particulate matter

Pollutant	Averaging period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³

Table 6: Long term criteria for deposited dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes to Tables 4 to 6:

- ^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to other sources);
- ^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own);
- ^c 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; and
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents, illegal activities or any other activity agreed to by the Secretary.

19. The Applicant shall ensure that all reasonable and feasible design, avoidance and mitigation measures are employed so that the gaseous emissions generated by the development do not exceed the criteria listed in Table 7 at any residence on privately-owned land.

Table 7: Criteria for Processing Plant Emissions

Pollutant	Averaging Period	Criteria
Sulphur Dioxide	10-minute	712 µg/m ³
	1-Hour	570 µg/m ³
	24-Hour	228 µg/m ³
	Annual	60 µg/m ³
Nitrogen Dioxide	1-Hour	246 µg/m ³
	Annual	62 µg/m ³
Hydrogen Chloride	1 hour	0.14 mg/m ³

Operating Conditions

20. The Applicant shall:
- implement all reasonable and feasible measures to minimise the:
 - odour, fume, dust and radon emissions of the development;
 - gaseous emissions from the ore processing facility; and
 - greenhouse gas emissions from the site;
 - minimise the surface disturbance of the site;
 - operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting and real-time air quality monitoring data to guide the day-to-day planning of mining operations and implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this consent;
 - minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note d to Tables 4 to 6 above), to the satisfaction of the Secretary.

Processing Plant Design and Validation

21. Prior to commissioning the ore processing facility on the site, the Applicant shall:
- finalise the detailed design of the emission control measures at the ore processing facility to ensure:
 - it has TM-1 compliant sample ports so sampling of emissions will comply with the EPA's *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW 2006* (or its latest version); and
 - compliance with the minimum stack height detailed in the EIS, unless otherwise agreed with the EPA; and
 - prepare a revised air quality impact assessment to predict the emissions from the development at surrounding sensitive receivers based on the final design of the ore processing facility, in consultation with the EPA and to the satisfaction of the Secretary.

*Note: The revised air quality impact assessment must be undertaken in accordance with the relevant methods and guidelines, including EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW 2005* (or latest version).*

22. Within 1 month of commissioning the ore processing facility, unless the Secretary agrees otherwise, the Applicant shall prepare an emissions validation report, which includes monitoring to compare the actual emissions with:
- the predicted emissions in the revised air quality impact assessment in condition 21 (b) above; and
 - the criteria in Table 7,
- in consultation with the EPA and to the satisfaction of the Secretary.

Air Quality Management Plan

23. The Applicant shall prepare and implement a detailed Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA, and be submitted for approval prior to the commencement of construction activities under this consent, unless the Secretary agrees otherwise;
 - describe the measures that would be implemented to ensure compliance with air quality criteria and operating conditions of this consent;
 - describe the proposed air quality management system;
 - include an air quality monitoring program that:
 - adequately supports the proactive and reactive air quality management system;
 - evaluates and reports on:
 - the effectiveness of the air quality management system; and
 - compliance with the air quality operating conditions; and
 - defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents; and
 - include procedures and a schedule for the preparation of emissions validation reports for the processing plant during the operation of the development.

METEOROLOGICAL MONITORING

24. Prior to undertaking any development on the site, the Applicant shall ensure that there is a suitable meteorological station operating in the vicinity of the site that:
- complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
 - is capable of measuring temperature inversion conditions (stability category) determined by the sigma-theta method in accordance with the *NSW Industrial Noise Policy*, unless a suitable alternative is approved by the Secretary following consultation with the EPA.

RADIATION MANAGEMENT

Radiation Management Plan

25. The Applicant shall prepare and implement a Radiation Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with EPA and DRE by a suitably qualified expert/s whose appointment has been approved by the Secretary;
 - be submitted for approval prior to commencing mining operations on the site, unless the Secretary agrees otherwise;
 - be consistent with the *Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing* (ARPANSA, 2005);
 - describe:
 - the measures that would be implemented to ensure compliance with the ARPANSA Public Dose Limit;

- potential sources of dose delivery pathways and potential doses;
 - operational and control measures, including:
 - details of appropriate equipment, staff, facilities and operational procedures;
 - a description of induction and training courses;
 - demonstration of access to professional expertise in radiation protection; and
 - waste generating processes and waste characterisation (including any disused plant and equipment that has the potential to be contaminated with radioactive substances as defined under the Radiation Control Act 1990);
 - reporting and periodic review procedures; and
 - emergency response procedures;
- (e) include a Radioactive Waste Management Plan which describes the procedures to ensure the processing waste residues are blended and that these waste residues and any disused plant and equipment that are regulated under a Radiation Management Licence, are disposed in a manner to achieve:
- an average concentration of radioactive material that does not exceed the average concentration of radioactive material in the original ore body;
 - the environmental goals listed in *Environmental Guidelines: Solid Waste Landfills* (DEC, 1996 or its latest version); and
- (f) include a Radiation Monitoring Program that:
- establishes background (existing) radiation levels in the ore body; and
 - measures radiation in processing waste residues prior to and following blending for disposal.

WATER

Water Supply

26. The Applicant shall
- (a) ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of mining operations to match its available water supply; and
 - (b) prioritise the use of water for environmental management over mining operations where a reduction in water use is required under this condition.

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain necessary water licences for the development.

Compensatory Water Supply

27. The Applicant shall provide a compensatory water supply to the owner of privately-owned land with riparian frontage within the 'undefined Macquarie River catchment' as identified within the EIS, whose basic landholder water rights (as defined in the *Water Management Act 2000*) are adversely and directly impacted as a result of the development. This supply must be provided in consultation with NOW, and to the satisfaction of the Secretary.

The compensatory water supply measures must provide an alternative long term supply of water that is equivalent to the loss attributable to the development. Equivalent water supply should be provided (at least on an interim basis) as soon as practicable from the loss being identified, unless otherwise agreed with the landowner.

If the Applicant and the landowner 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.

If the Applicant is unable to provide an alternative long term supply of water, then the Applicant shall provide alternative compensation to the satisfaction of the Secretary.

Note: The Water Management Plan (see condition 30) is required to include trigger levels for investigating potentially adverse impacts on basic landholder water rights.

Water Discharges

28. The Applicant shall ensure that all surface water discharges from the site comply with the discharge limits (both volume and quality) set for the development in any EPL.

Water Management Performance Measures

29. The Applicant shall comply with the performance measures in Table 8 to the satisfaction of the Secretary.

Table 8: Water management performance measures

Feature	Performance Measure
Water Management – General	<ul style="list-style-type: none"> Minimise the use of clean water on site. Minimise the need for make-up water from external supplies.
Construction and operation of infrastructure	<ul style="list-style-type: none"> Design, install and maintain all infrastructure within 40 m of watercourses to: <ul style="list-style-type: none"> minimise the impact on watercourse water quality, hydrology and function; minimise the impact on the habitat of aquatic species, populations or communities, consistent with the <i>Guidelines for fish habitat conservation and management – Chapter 4</i> (DPI 2013), or its latest version; ensure pipelines across perennial watercourses are installed by directional drilling (under-boring) or attached to rail or road bridge crossings; and be in accordance with NOW's <i>Guidelines for Controlled Activities on Waterfront Land</i> (2012), or the latest version(s).
Macquarie River Pumping Station	<ul style="list-style-type: none"> Design, construct and operate the water intake structure to prevent to the greatest extent practicable the entrapment and/or extraction of aquatic fauna species including juvenile fish and larvae.
Mine Water Management System - General	<ul style="list-style-type: none"> Design, install and/or maintain mine water storage infrastructure to prevent the discharge of mine water off-site (this does not apply to sediment control structures that can be designed to discharge in accordance with an EPL). On-site storages are suitably designed, installed and/or maintained to minimise permeability. Maintain adequate freeboard at all times to minimise the risk of discharge to surface waters.
Waste Residue Storage Facilities and Salt Encapsulation Cells	<ul style="list-style-type: none"> Nil discharge from site. Design, construct and maintain: <ul style="list-style-type: none"> in accordance with the recommendations of the NSW Dam Safety Committee; to be stable over the long term and under all expected loading conditions; in accordance with the standards set out in the <i>Environmental Guidelines – Management of Tailings Storage Facilities</i> (VIC DPI, 2006); and to be lined with HDPE liners or equivalent that complies with a minimum permeability standard of $< 1 \times 10^{-9}$ m/s in accordance with the <i>NSW Environmental Guidelines for Solid Waste Landfills</i> (EPA, 1996), unless otherwise agreed with the EPA; and to ensure the Solid Residue Storage Facility and Salt Encapsulation Cells are double-lined and include an adequate leak detection system. Ensure that at all times a freeboard of at least 600 mm (or 1000 mm for liquid residue storage facility) or a freeboard capable of accommodating a 1 in 100 year ARI, 72 hour rainfall event (or 1 in 10,000 year for the liquid residue storage facility) without overtopping, whichever is greater. Ensure any piping to or from these facilities has a suitable leak detection system.
Waste Rock Emplacement	<ul style="list-style-type: none"> Design, install and maintain the emplacement to encapsulate and prevent: <ul style="list-style-type: none"> migration of potentially acid forming material, and saline and sodic material; and and/or manage long term saline groundwater seepage.
Clean water diversion & storage infrastructure	<ul style="list-style-type: none"> Design, install and maintain the clean water diversion system to capture and convey the 100 year ARI flood around the perimeter of the site. Maximise as far as reasonable and feasible the diversion of clean water around disturbed areas on site.
Flood mitigation measures	<ul style="list-style-type: none"> Design, install and maintain flood mitigation measures ensuring that the Processing Plant, Administration areas, Waste Residue Storage Facilities, Salt Encapsulation Cells and Waste Rock Emplacement are appropriately protected from flooding up to the 1 in 100 ARI. Residual impacts downstream must be managed in an appropriate manner.
Sediment control structures	<ul style="list-style-type: none"> Design, install and maintain erosion and sediment controls generally in accordance with <i>Managing Urban Stormwater: Soils and Construction – Volume 1</i> and <i>Volume 2E Mines and Quarries</i>.
Chemical and hydrocarbon storage	<ul style="list-style-type: none"> Chemical and hydrocarbon products to be stored in covered, impervious bunded areas in accordance with the relevant Australian Standards.

<i>Feature</i>	<i>Performance Measure</i>
Aquatic and riparian ecosystem	<ul style="list-style-type: none"> • Maintain or improve baseline channel stability. • Develop site-specific in-stream water quality objectives in accordance with ANZECC 2000 and <i>Using the ANZECC Guidelines and Water Quality Objectives in NSW</i> procedures (DECC 2006), or its latest version

Water Management Plan

30. The Applicant shall prepare and implement a Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA, NOW and DPI, and be submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
 - in addition to the standard requirements for management plans (see condition 3 of schedule 5), include a:
 - Site Water Balance that:
 - includes details of:
 - sources and security of water supply, including contingency planning for future reporting periods;
 - water use and management on site, including water use priorities during periods of restricted water supply;
 - water transfers to/from the site and discharges; and
 - reporting procedures, including the preparation of a site water balance for each calendar year; and
 - investigates and implements all reasonable and feasible measures to minimise water use on site;
 - Surface Water Management Plan, that includes:
 - detailed baseline data on surface water flows and quality in the watercourses that could potentially be affected by the development;
 - a detailed description of the water management system on site, including the:
 - clean water diversion systems;
 - erosion and sediment controls (for the mine and associated linear infrastructure);
 - mine water management systems, including Waste Residue Storage Facilities, Salt Encapsulation Cells, Waste Rock Emplacement and ore processing facility; and
 - clean water storages;
 - detailed plans, including design objectives and performance criteria, for the:
 - design, construction and management of the Macquarie River water pumping station;
 - design, construction and management of the Waste Residue Storage Facilities and the Salt Encapsulation Cells;
 - design, construction and management of mine water storages and process water dams;
 - design and management of the final void; and
 - control of any potential water pollution from the rehabilitated areas of the site;
 - performance criteria for the following, including trigger levels for investigating any potentially adverse impacts associated with the development, including the:
 - mine water management system;
 - surface water flows and quality, including channel stability, stream and riparian vegetation health; and
 - basic landholder water rights for downstream landowners in the 'undefined Macquarie River catchment';
 - a program to monitor and report on:
 - the effectiveness of the mine water management system, including the Waste Residue Storage Facilities, Salt Encapsulation Cells and associated pipelines between water management structures;
 - surface water supplies for adjacent landowners;
 - the operation of the Macquarie River water pumping station; and
 - surface water flows and quality, including channel stability, stream and riparian vegetation health; and
 - a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the development; and
 - Groundwater Management Plan, which includes:
 - detailed baseline data on groundwater levels and quality in the region, and privately-owned groundwater bores, that could be affected by the development;
 - groundwater performance criteria, including trigger levels for investigating any potentially adverse groundwater impacts;
 - a program to monitor and report on:
 - groundwater inflows to the open cut pit, if relevant;

- the seepage/leachate from mine water storages, Waste Residue Storage Facilities and mine voids;
- the impacts of the development on:
 - regional and local (including alluvial) aquifers;
 - groundwater supply of potentially affected landowners; and
 - base flows to Wambangalang Creek; and
- a plan to respond to any exceedances of the groundwater performance criteria, and mitigate and/or offset any adverse groundwater impacts of the development.

BIODIVERSITY

Biodiversity Offset Strategy

31. The Applicant shall implement the Biodiversity Offset Strategy described in the EIS, as summarised in Table 9 and shown conceptually in Appendix 6, to the satisfaction of the Secretary.

Table 9: Summary of the Biodiversity Offsets

Offset Name	Offset Criteria	Minimum Size hectares (ha)
Dowds Hill Offset Area	Existing vegetation to be managed and enhanced	1,021

Security of Offsets

32. Within 2 years of this consent, unless the Secretary agrees otherwise, the Applicant shall make suitable arrangements to provide appropriate long term security for the offset area, to the satisfaction of the Secretary.

Note: Mechanisms to provide appropriate long term security to the land within the Biodiversity Offset Strategy include a Biobanking Agreement, or an alternative mechanism that provides for a similar conservation outcome. Any mechanism must remain in force in perpetuity.

Biodiversity Management Plan

33. The Applicant shall prepare and implement a Biodiversity Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with OEH and submitted to the Secretary for approval prior to the commencement of any development under this consent, unless the Secretary agrees otherwise;
 - (b) a description of the short, medium, and long term measures that would be implemented to:
 - manage the remnant vegetation and fauna habitat on the site;
 - implement the biodiversity offset strategy; and
 - (c) include detailed performance and completion criteria for evaluating the performance of the biodiversity offset strategy and triggering remedial action (if necessary);
 - (d) a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
 - minimising clearing and avoiding unnecessary disturbance associated with the construction and operation of the development;
 - protecting vegetation and fauna habitat outside the approved disturbance areas;
 - enhancing the quality of existing vegetation and fauna habitat on the site;
 - maximising the salvage of resources within the approved disturbance area - including vegetative and soil resources – for beneficial reuse in the enhancement of the offset area or the rehabilitation of the site;
 - collecting and propagating seed;
 - minimising the impacts on fauna on site, including undertaking pre-clearance surveys;
 - managing salinity using best practice dryland salinity management revegetation measures;
 - controlling weeds and feral pests;
 - controlling erosion;
 - managing grazing and agriculture on site;
 - controlling access; and
 - managing bushfire risk;
 - (e) include a seasonally-based program to monitor and report on the effectiveness of these measures;
 - (f) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks;
 - (g) include a Pink-tailed Worm Lizard Management Plan, which includes detailed information on the:
 - baseline data on the local Pink-tailed Worm lizard population and habitat on site, in the biodiversity offset areas and release areas;

- measures to mitigate and manage the identified impacts on Pink-tailed Worm-lizard, including:
 - progressive clearing in the project disturbance area; and
 - a detailed translocation procedures prepared generally in accordance with the *NPWS Policy and Procedure Statement No. 9 – Policy for the Translocation of Threatened Fauna in NSW*;
 - include a program to monitor:
 - resident Pink-tailed Worm-lizard, distribution and population size on site and in the biodiversity offset areas;
 - translocated Pink-tailed Worm lizard distribution and population size; and
 - existing and revegetated potential distribution and population size habitat; and
- (h) include details of who would be responsible for monitoring, reviewing, and implementing this plan.

Conservation Bond

34. Within 6 months of the approval of the Biodiversity Management Plan, the Applicant shall lodge a conservation bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan.

The sum of the bond shall be determined by:

- (a) calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and
- (b) employing a suitably qualified quantity surveyor to verify the calculated costs, to the satisfaction of the Secretary.

The calculation of the conservation bond must be submitted to the Department for approval at least 1 month prior to lodgement of the final bond.

If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.

If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.

Notes:

- *Alternative funding arrangements for long term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate (or any other mechanism agreed with OEH) can be used to reduce the liability of the conservation bond.*
- *The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy or the completion of major milestones within the approved plan.*

HERITAGE

Heritage Management Plan

35. The Applicant shall prepare and implement a Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with OEH and the relevant Aboriginal stakeholders, and be submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
 - (b) include a program/procedures for:
 - the salvage, excavation and/or management of Aboriginal sites and potential archaeological deposits within the project disturbance area;
 - the assessment and removal of scarred trees;
 - the protection and monitoring of Aboriginal sites outside the project disturbance area;
 - managing the discovery of any new Aboriginal objects or skeletal remains during the development;
 - maintaining and managing access to archaeological sites by the relevant Aboriginal stakeholders; and
 - ongoing consultation and involvement of the relevant Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage on the site; and
 - (c) include a program to monitor and report on the effectiveness of the management measures carried out under the plan.

Historic Heritage Management Plan

36. The Applicant shall prepare and implement a Historic Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the Heritage Branch and Council, and submitted to the Secretary for approval prior to commencing rail upgrade construction works; and
 - (b) include a program/procedures for:
 - photographic and archival recording of potentially affected historic heritage items;
 - protection and monitoring of historic heritage items outside the project disturbance area; and
 - additional archival recording of any significant historic heritage items requiring demolition.

Fossil Hill

37. The Applicant shall avoid the recorded fossil locations at 'Fossil Hill', unless the Secretary agrees otherwise.

If the Secretary agrees it is not reasonable and feasible to avoid this area, then prior to construction of Area 4 of the Liquid Residue Storage Facility (refer Appendix 2) the Applicant shall prepare and implement a Fossil Management Plan, to the satisfaction of the Secretary, which must:

- (a) be prepared by a suitably qualified person, in consultation with DRE and Council;
- (b) be approved by the Secretary, and implemented prior to any disturbance of Fossil Hill;
- (c) include:
 - a program to undertake periodic inspections during construction of this facility by a suitably qualified person for paleontological evidence of fossilised plants;
 - procedures to record and document new paleontological information found during construction;
 - procedures to provide this information to the relevant government agencies; and
 - details of the employee(s) responsible for implementing the plan; and
- (d) include the details and design of the excavation area to be left exposed at 'Fossil Hill' for future reference and/or research, and how it would be integrated into the final landform as detailed in the Rehabilitation Management Plan.

TRANSPORT

Operating Conditions

38. The Applicant shall ensure that:
- (a) shift changes for shift workers does not occur between 7:00 am and 10:00 am and between 2:00 pm and 4:00 pm Monday to Friday, unless the Secretary agrees otherwise;
 - (b) the exterior surfaces of all heavy vehicles are cleaned of mud, dirt and dust prior to exiting the site;
 - (c) trucks loaded with processing reagents or refined ore products entering and leaving the site have their loads covered or contained;
 - (d) there is sufficient parking at the site for all project-related traffic, in accordance with Council's parking code; and
 - (e) the transportation of all dangerous goods to or from the site is undertaken in strict accordance with the:
 - *Australian Code for the Transport of Dangerous Goods by Road and Rail*; and
 - *Hazardous Industry Planning Advisory Paper No 11 'Route Selection'*.

Note: The restrictions on shift changes in this condition may be amended following further SIDRA modelling which confirms the acceptable operation of roads and intersections during peak traffic periods.

Monitoring of Transport

39. The Applicant shall:
- (a) keep accurate records of the:
 - number of trucks received at and dispatched from the site carrying processing reagents and refined mineral products; and
 - the date and time of all truck and rail movements from the site; and
 - (b) publish a summary of these records on its website on a quarterly basis.

Road Upgrades

40. Prior to transporting any processing reagents or refined ore products to and from the site, the Applicant shall complete the upgrade of Obley Road and Toongi Road between the Newell Highway and the mine. The upgrades must be designed and constructed:
- (a) in consultation with RMS (where relevant) and to the satisfaction of Council;
 - (b) to the satisfaction of NOW, for the road crossings of Hyandra Creek, Twelve Mile Creek and Wambangalang Creek;

- (c) in accordance with the relevant guidelines, including AUSTROADS guidelines and associated RMS supplements, and to include:
 - upgrades to the following intersections:
 - an extended channelised right turn at the intersection of Obley Road with the main entrance to the Zoo;
 - a channelised left turn and channelised right turn from Obley Road into Toongi Road; and
 - an auxiliary acceleration lane on Obley Road for vehicles turning right from Toongi Road;
 - upgrades of the crossings of Hyandra Creek, Twelve Mile Creek and Wambangalang Creek;
 - design capacity to accommodate B-double vehicles up to 26 m in length (Class PBS 2);
 - a pavement seal with a design life of at least 20 years;
 - an asphaltic concrete seal of Obley Road:
 - from the intersection with the Newell Highway to Camp Road; and
 - for a distance of 950 m north from the intersection with Toongi Road; and
 - additional pavement seal of the approach and exit at existing bus stops, where relevant; and
- (d) to maintain or improve safe access to and from properties along Obley Road, to the satisfaction of the Secretary.

Independent Road Safety Audit

41. Prior to commencing operations, and every three years thereafter, the Applicant shall commission an independent suitably qualified and experienced person endorsed by the Secretary to undertake a road safety audit of the haulage route between the Newell Highway and the mine (including the intersection of the haulage route with the Newell Highway, the intersection of the Newell Highway with Boothenba Road and Purvis Lane). This audit must:
 - (a) be undertaken by a suitably qualified person approved by the RMS, and undertaken in consultation with Council and RMS;
 - (b) identify any non-compliances with applicable design and safety standards, including consideration of:
 - the recommendations of the preceding Road Safety Audits;
 - the appropriateness of the speed limit along Obley Road past the Zoo;
 - haulage records;
 - accident records on the haulage route;
 - infringements of the code of conduct and any incidents involving mine-related vehicles;
 - community complaints register; and
 - minutes of CCC meetings.

Within 1 month of receiving the audit report, unless the Secretary agrees otherwise, the Applicant shall submit a copy of the report to the Secretary, with a detailed response to any non-compliances identified in the audit report, including a timetable for the implementation of any reasonable and feasible measures proposed to address the non-compliances.

Any road works recommended in the Independent Road Safety Audit must be undertaken in accordance with this timetable and to the satisfaction of the relevant road authority, unless otherwise agreed with the Secretary.

In the event that there is a dispute between the Applicant and the relevant road authority about the implementation of this condition, then either party may refer the matter to the Secretary for resolution.

Note: This preparation work for this report can be undertaken in conjunction with the Independent Environmental Audit detailed in condition 9 of schedule 5.

Transport Options Review

42. Three years after commencing development (as notified in accordance with condition 9 of schedule 2), the Applicant shall review the feasibility of transport options for the development. The feasibility review shall:
 - (a) be prepared in consultation with Transport for NSW, RMS and Council by a suitably qualified expert/s whose appointment has been approved by the Secretary;
 - (b) investigate the reasonable and feasible options to maximise the use of rail and minimise the use of public roads to transport chemical reagents and mineral concentrate to and from the site over the approved and projected life of the development;
 - (c) analyse the capital, construction and operating costs of the alternative transport options;
 - (d) review the capacity of Boothenba Road and associated intersections to cater for heavy vehicles associated with the project;
 - (e) consider the results of the Road Safety Audit undertaken in accordance with condition 41;
 - (f) compare the potential social and environmental impacts of each option; and
 - (g) assess the viability of the use of rail transport for the development.

Within 3 months of receiving the review, unless the Secretary agrees otherwise, the Applicant shall submit a copy of the report to the Secretary, with a detailed response to the recommendations contained in the review, including a timetable for the implementation of any reasonable and feasible measures proposed to address the recommendations in the review.

Any works recommended in the review must be undertaken in accordance with this timetable to the satisfaction of the relevant rail authority and RMS and Council (where relevant) for level crossings, unless otherwise agreed with the Secretary.

In the event that there is a dispute between the Applicant and the relevant rail or road authority about the implementation of this condition, then any of the relevant parties may refer the matter to the Secretary for resolution.

Rail Transport

43. Prior to commencing the movement of trains to or from the site the Applicant shall:
- (a) upgrade the Molong-Dubbo rail line from Dubbo to Toongi and signalling within the Dubbo Rail Junction to the satisfaction of the relevant rail authority, and RMS and Council (where relevant) for level crossings and:
 - in accordance with Australian Level Crossing Assessment Model (ALCAM) and AS 1742.7-2007 *Manual of Uniform Traffic Devices – Railway Crossings*; and
 - in consultation with residents within 50 m of the rail line, and
 - (b) develop and implement a Train Network Pathway Plan in consultation with the relevant rail authority, to the satisfaction of the Secretary.

Transport Management Plan

44. The Applicant shall prepare and implement a Transport Management Plan to the satisfaction of the Secretary. This plan shall:
- (a) be prepared in consultation with RMS, Council and the Zoo, and be submitted to the Secretary for approval prior to commencing construction, unless the Secretary agrees otherwise;
 - (b) include a Construction Transport Management Plan which incorporates:
 - the final detailed designs of the Toongi Road and Obley Road upgrades;
 - measures to ensure that oversized vehicles can safely navigate the road network and the delivery of goods to the site or offsite construction locations; and
 - a management strategy and measures to minimise disruption to other road users during the construction of the development, detailing procedures and timing for the temporary, partial or whole road closures required for the development, in particular during public and school holidays.
 - (c) include an Operational Transport Management Plan, to be submitted to the Secretary for approval prior to commencing mining operations, which includes:
 - details of measures to minimise truck movements at night;
 - a description of the designated haulage routes to be used within the Dubbo local government area;
 - measures to maximise the use of a low frequency (regular) trucking schedule rather than an intermittently-high frequency (campaign) trucking schedule, especially during the peak hours;
 - measures to reduce the noise generated by road transport vehicles along Obley Road;
 - contingency plans to apply during disruptions of the designated haulage route within the Dubbo local government area, including procedures for notifying relevant agencies and affected communities of the need to implement such contingency plans;
 - procedures to ensure that all haulage trucks associated with the development have relevant contact details displayed;
 - procedures for receiving and addressing complaints from the community concerning traffic issues associated with truck movements to and from the site;
 - measures to ensure that the provisions of this plan are implemented (e.g. driver training in the heavy vehicle Driver Code of Conduct and contractual agreements with heavy vehicle operators appropriate penalties for infringements of the Code); and
 - (d) include a Road Transport Protocol for all drivers transporting processing reagents or refined ore products to and from the site, which includes measures to:
 - ensure drivers adhere to the designated haulage routes within the Dubbo local government area;
 - verify that these heavy vehicles are completely covered whilst in transit;
 - co-ordinate the staggering of heavy vehicle departures to minimise impacts on the road network, where practicable;
 - minimise disruption to school bus timetables;
 - manage worker fatigue during trips to and from the site;
 - manage appropriate driver behaviour including adherence to speed limits, safe overtaking and maintaining appropriate distances between vehicles (i.e. a Driver Code of Conduct);
 - inform drivers of relevant drug and alcohol policies;

- regularly inspect vehicles maintenance and safety records;
- implement contingency procedures when the haulage route is disrupted;
- respond to emergencies;
- transport processing reagents safely; and
- ensure compliance with and enforcement of the protocol.

VISUAL

Visual Bund

45. The Applicant shall design, construct and maintain the proposed visual bund (Soil Stockpile 1) to the satisfaction of the Secretary. The bund must provide screening of the processing plant and be completed as soon as practicable, and prior to commencing mining under this consent.

Visual & Lighting

46. The Applicant shall:
- implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development;
 - ensure no fixed outdoor lights shine above the horizontal or above the building line or any illuminated structure;
 - ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version;
 - take all practical measures to shield views of mining operations from users of public roads and privately-owned residences, to the satisfaction of the Secretary.

Additional Visual Mitigation Measures

47. Upon receiving a written request from the owner of any residence on privately-owned land who has, or would have, significant direct views of the mining operations from this residence and/or its associated facilities (such as pool or barbeque area) during the development, the Applicant shall implement additional visual impact mitigation measures on the land in consultation with the landowner. These measures must be reasonable and feasible, and directed towards reducing the visibility of mining operations from the residence and/or its associated facilities.

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.

Notes:

- *The additional visual impact mitigation measures must be aimed at reducing the visibility of the mining operations on site from significantly affected residences, and do not require measures to reduce the visibility of the mining operations from other locations on the affected properties.*
- *The additional visual impact mitigation measures do not necessarily have to include the implementation of measures on the affected property itself (i.e. the additional measures could involve the implementation of measures outside the affected property boundary that provide an effective reduction in visual impacts).*
- *Except in exceptional circumstances, the Secretary will not require additional visual impact mitigation to be undertaken for residences that are more than 5 kilometres from the mining operations.*

HAZARDS MANAGEMENT

Operability and Final Analysis

48. One month prior to the construction of the Processing Plant, unless the Secretary agrees otherwise, the Applicant must prepare and submit for approval a:
- Hazard and Operability Study, to be conducted by a suitably qualified and experienced team and chaired by a suitably qualified and independent person, whose appointments have been endorsed by the Secretary. The study shall be consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 8: 'HAZOP Guidelines'*. The final report for the study must be accompanied by a program for the implementation of all recommendations made within the report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented; and
 - Final Hazard Analysis, prepared by suitably qualified person(s) approved by the Secretary consistent with the Department's *Hazardous Industry Advisory Paper No. 6, 'Hazard Analysis'*. The Final Hazard Analysis must report on the implementation of the recommendations made by the Preliminary Hazard Analysis, within the EIS.

Emergency Plan

49. Two months prior to commissioning the Processing Plant, unless the Secretary agrees otherwise, the Applicant shall submit for approval a comprehensive Emergency Plan, prepared by suitably qualified person(s) approved by the Secretary, that is consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'*. The plan must contain detailed emergency procedures for the development and include consideration of the safety of all people outside of the development who may be at risk from the development.

Pre and Post Start-up Compliance Report

50. One month prior to the commissioning of the Processing Plant, the Applicant shall submit to the Secretary, a report detailing compliance with conditions 48 and 49, including the:
- (a) dates of submission and approval of these studies and the construction and proposed commissioning dates of the Processing Plant; and
 - (b) actions taken or proposed, to implement recommendations made in the studies.
51. Three months after the commissioning of the Processing Plant, the Applicant shall submit to the Secretary, a report verifying that:
- (a) transport routes specified under condition 44 are being followed; and
 - (b) the Emergency Plan required under condition 49 is effectively in place and that at least one emergency exercise has been conducted.

Hazard Audit Report

52. Within one year of commencement, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall undertake a Hazard Audit that is:
- (a) prepared in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'*; and
 - (b) conducted by a suitably qualified and experienced team whose appointment has been endorsed by the Secretary;

Unless the Secretary agrees otherwise, the Applicant shall submit a copy of the report to the Department, within 6 weeks of its completion together with its response to any recommendations contained in the report. The Applicant's response should also include a timetable for the implementation of any measures proposed to address the recommendations in the report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.

Note: This preparation work for this report can be undertaken in conjunction with the Independent Environmental Audit detailed in condition 9 of Schedule 5.

Bushfires

53. The Applicant shall:
- (a) ensure that the development is suitably equipped to respond to any fires on site; and
 - (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.

Gas Pipeline

54. The Applicant shall design and construct the gas pipeline in accordance with the relevant Australian Standards, in particular *AS2885 Pipelines – Gas and Liquid Petroleum*, or its latest version.

Soil Contamination

55. Prior to any construction activities being undertaken in any areas that were identified as potentially contaminated in the EIS, the Applicant must assess and manage the soil in general accordance with the relevant EPA guidelines including the *National Environment Protection (Assessment of Site Contamination) Measure 1999*, or its latest version, to the satisfaction of the Secretary.

WASTE

56. The Applicant shall:
- (a) implement all reasonable and feasible measures to minimise the waste generated by the development;
 - (b) ensure that the waste generated by the development is appropriately stored, handled and disposed of; and

- (c) monitor and report on the effectiveness of the waste minimisation and management measures each calendar year,
to the satisfaction of the Secretary.

REHABILITATION

Rehabilitation Objectives

57. The Applicant shall rehabilitate the site to the satisfaction of DRE and the Secretary. This rehabilitation must be generally consistent with the proposed rehabilitation strategy depicted conceptually in the figures in Appendix 7, and comply with the objectives in Table 11.

Table 11: Rehabilitation objectives

Feature	Objective
The site (as a whole)	<p>Safe, stable and non-polluting</p> <p>Final landforms to:</p> <ul style="list-style-type: none"> • be designed to minimise the visual impacts of the development; • be in keeping with the natural terrain features of the area; • incorporate micro-relief; and • drain to the natural environment (excluding the final void, Waste Residue Storage Facilities, Salt Encapsulation Cells and Waste Rock Emplacement).
Final void	<p>Minimise the size and depth of the final void and its drainage catchment as far as is reasonable and feasible, subject to meeting the objectives below</p> <p>Minimise risk of overflow or flood interaction</p> <p>Negligible high wall instability risk</p>
Surface infrastructure	To be decommissioned and removed, unless DRE agrees otherwise
Waste Storage Facilities, Salt Encapsulation Cells and Waste Rock Emplacement	<p>To be long-term stable and to meet original design standards</p> <p>Final landform and vegetation cover to be stable, self-sustaining, free draining and consistent with surrounding rehabilitated areas</p>
Agriculture	Use all reasonable and feasible measures to return at least 539 ha of land disturbed by the development to its former agricultural productivity
Woodland areas and other vegetated land	<p>Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of:</p> <ul style="list-style-type: none"> • local native species; and • a landform consistent with the surrounding environment
Community	<p>Ensure public safety</p> <p>Minimise adverse socio-economic effects associated with mine closure</p>

Progressive Rehabilitation

58. The Applicant shall rehabilitate the site progressively as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim rehabilitation strategies shall be employed when areas prone to dust generation cannot be permanently rehabilitated.

Note: It is accepted that some parts of the site that are progressively rehabilitated may be subject to further disturbance at some later stage of the development.

Rehabilitation Management Plan

59. The Applicant shall prepare and implement a Rehabilitation Management Plan for the development to the satisfaction of DRE and the Secretary. This plan must:

- (a) be prepared in consultation with the Department, NOW, OEH, DPI - Agriculture, Council and the CCC;
- (b) be submitted to DRE for approval prior to commencing mining under this consent, unless the Secretary agrees otherwise;
- (c) be prepared in accordance with any relevant DRE guideline;
- (d) describe how the rehabilitation of the site would be integrated with the implementation of the biodiversity offset strategy;
- (e) include a detailed soil balance for the development;
- (f) include a detailed plan for reinstatement and review of agricultural land capability across the site, including a protocol for periodic trials to demonstrate that the land capability is being achieved;
- (g) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);
- (h) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including mine closure, final landform, and final land use;
- (i) describe the establishment of an appropriate bond to ensure successful rehabilitation of the site and long-term containment of process residue wastes and any disused plant and equipment that are regulated under a Radiation Management Licence;
- (j) include interim rehabilitation where necessary to minimise the area exposed for dust generation;
- (k) include a program to monitor, independently audit and report on the effectiveness of the measures, and progress against the detailed performance and completion criteria; and
- (l) build to the maximum extent practicable on the other management plans required under this consent.

AGRICULTURE

60. The Applicant shall use its best endeavours to ensure that the agricultural productivity and production of non-operational project-related land is maintained or enhanced.

This includes properties primarily used for agriculture that are acquired by the Applicant. However, it does not include land:

- where disturbance is permitted under the conditions of this consent; or
 - that forms part of the biodiversity offset strategy.
-

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS/TENANTS

1. Within one month of the date of this consent, the Applicant shall:
 - (a) notify in writing the owners of
 - R50 that they have the right to require the Applicant to acquire their land in accordance with the procedures in conditions 4 and 5 below at any stage during the development; and
 - any privately-owned land within 2 kilometres of the approved open cut mining pit/s that they are entitled to ask for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated; and
 - (b) send a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the EIS identify that dust emissions generated by the development are likely to be greater than the relevant air quality criteria in schedule 3 at any time during the life of the development.
2. As soon as practicable after obtaining monitoring results showing:
 - (a) an exceedance of any relevant criteria in schedule 3, the Applicant shall notify the affected landowners in writing of the exceedance, and provide regular monitoring results to these landowners until the development is again complying with the relevant criteria; and
 - (b) an exceedance of any relevant air quality criteria in schedule 3, the Applicant shall send a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).

INDEPENDENT REVIEW

3. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development 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 shall:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine their concerns;
 - conduct monitoring to determine whether the development is complying with the relevant criteria in schedule 3;
 - if the development 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.

LAND ACQUISITION

4. Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant shall make a binding written offer to the landowner based on:
 - (a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the development, having regard to the:
 - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
 - presence of improvements on the land and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of additional noise and/or air quality mitigation measures implemented by the Applicant;
 - (b) the reasonable costs associated with:
 - relocating within the Dubbo local government area, or to any other local government area determined by the Secretary; and
 - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and
 - (c) reasonable compensation for any disturbance caused by the land acquisition process.

However, if at the end of this period, the Applicant and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Secretary for resolution.

Upon receiving such a request, the Secretary shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:

- consider submissions from both parties;
- determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;
- prepare a detailed report setting out the reasons for any determination; and
- provide a copy of the report to both parties.

Within 14 days of receiving the independent valuer's report, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Secretary for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Secretary will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report of the party that disputes the independent valuer's determination and any other relevant submissions.

Within 14 days of this determination, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the Secretary's determination.

If the landowner refuses to accept the Applicant's binding written offer under this condition within 6 months of the offer being made, then the Applicant's obligations to acquire the land shall cease, unless the Secretary determines otherwise.

5. The Applicant shall pay all reasonable costs associated with the land acquisition process described in condition 4 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.
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SCHEDULE 5

ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval prior to the commencement of an activity associated with the development;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (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 development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

Adaptive Management

2. The Applicant shall assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
- (c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.

Management Plan Requirements

3. The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed 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 development 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 development;
 - effectiveness of any management measures (see c above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (f) a program to investigate and implement ways to improve the environmental performance of the development 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

4. By the end of September each year, unless the Secretary agrees otherwise, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must:
 - (a) describe the development (including any rehabilitation) that was carried out in the past financial 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 development over the past financial year, which includes a comparison of these results against the:
 - 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 EIS;
 - (c) identify any non-compliance over the past financial 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 development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the current financial year to improve the environmental performance of the development.

Revision of Strategies, Plans and Programs

5. Within 3 months of:
 - (a) the submission of an annual review under Condition 4 above;
 - (b) the submission of an incident report under Condition 7 below;
 - (c) the submission of an audit report under Condition 9 below; or
 - (d) any modification to the conditions of this consent (unless the conditions require otherwise),the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.

Where this review leads to revisions in any such document, then within 4 weeks of the review, unless the Secretary agrees otherwise, the revised document must be submitted to the Secretary for approval.

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 development.

Community Consultative Committee

6. The Applicant shall establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Developments* (Department of Planning, 2007, or its latest version), and be operating within 6 months of the date of this consent, unless the Secretary agrees otherwise.

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, and the local community.*

REPORTING

Incident Reporting

7. The Applicant shall immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

8. The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

AUDITING

Independent Environmental Audit

9. Within one year of commencing development under this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- (a) be 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;
 - (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this consent 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; and
 - (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under the abovementioned approvals.

Note: This audit team must be led by a suitably qualified auditor and include experts in water resource management, ecology, transport and road design and hazardous materials management and any other field specified by the Secretary.

10. Within 6 weeks of the completion of this audit, unless the Secretary agrees otherwise, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report, including a timetable for the implementation of any measures proposed to address the recommendations in the audit report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.

ACCESS TO INFORMATION

11. Within 6 months of the date of this consent, the Applicant shall:
- (a) make copies of the following publicly available on its website:
 - the EIS;
 - current statutory approvals for the development;
 - approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - a complaints register, which summaries the complaints received and is updated quarterly;
 - minutes of CCC meetings;
 - the annual reviews of the development (for the last 5 years, if applicable);
 - any independent environmental audit of the development, 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.
-

**APPENDIX 1
SCHEDULE OF LAND**

Table 1: Development Area Land Titles

DZP Site		Macquarie River Water Pipeline	Toongi–Dubbo Rail and Gas Pipeline Corridor
Part Lot 311 DP595631	Lot 271 DP593668	Lot 311 DP595631	Toongi – Dubbo Rail Reserve
Part Lot 35 DP753220	Part Lot 1 DP133581	Lot 27 DP753220	Purvis Lane Reserve
Part Lot 18 DP753252	Lot A & B DP439352	Lot 62, 63 DP753220	Public Road Network
Lot 19 DP 753252	Part Lot A DP391069	Lot 1, 2, 3, 5 & 30 DP753220	Toongi Road Reserve
Lot 55 DP 753252	Lot B DP 391069	Road Reserves of	Obley Road Reserve
Lot X DP 405495	Lot 211 DP595631	– Toongi Road (as it traverses Lot 311 DP595631); and	
Lot 1 DP818802	Lot 50 DP 753252	– Benolong Road (between Lot 63 and 30 DP753220)	
Lot 7300 DP1149010		Unformed crown road reserves:	
Lots 1-8 DP1201149		– between Lots 27 and 62 of DP753220;	
		– between Lots 1 and 30 of DP753320; and	
		– between Lots 3 and 5 of DP753320.	

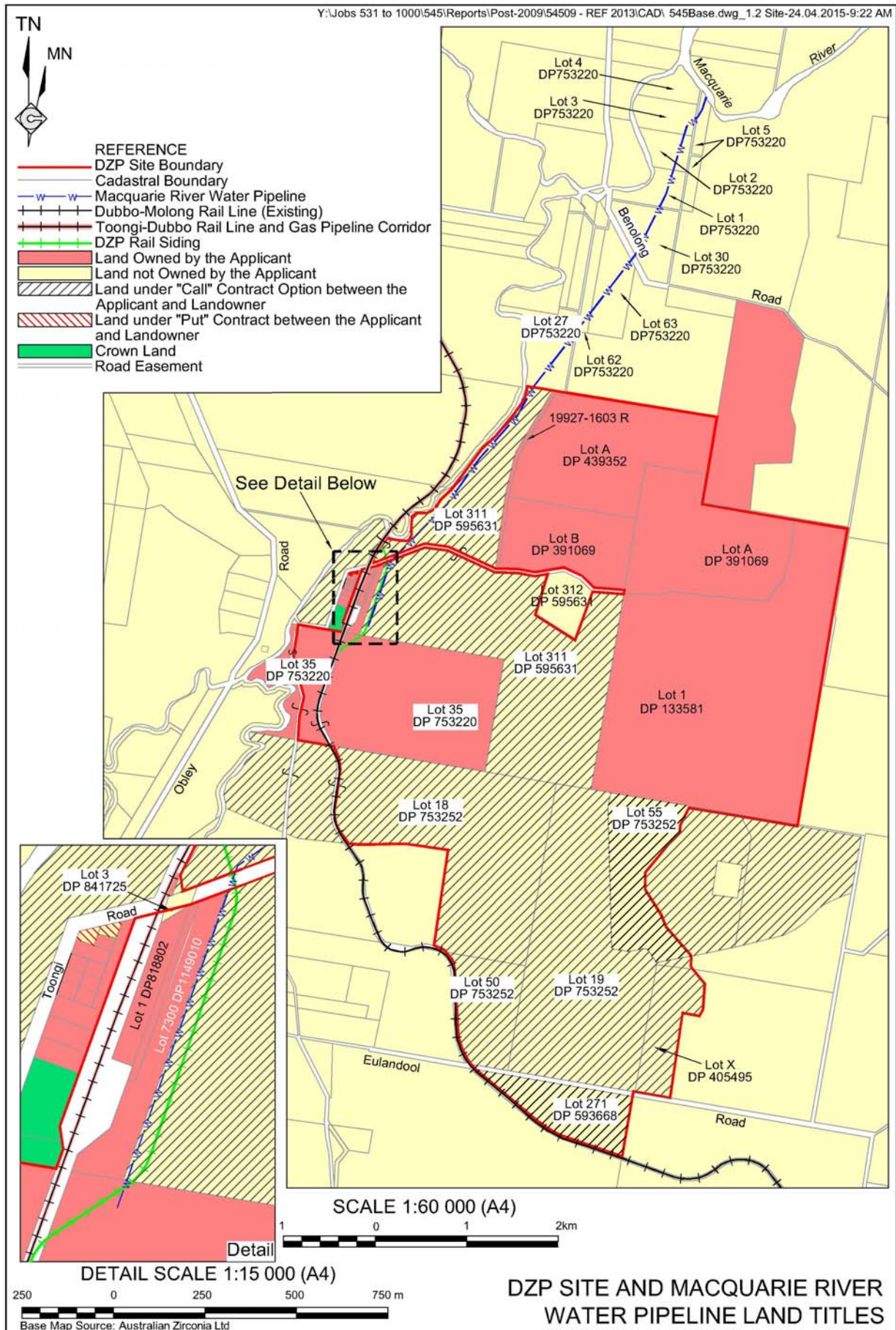


Figure 1: Dubbo Zirconia Site Land Titles

APPENDIX 2 DEVELOPMENT LAYOUT

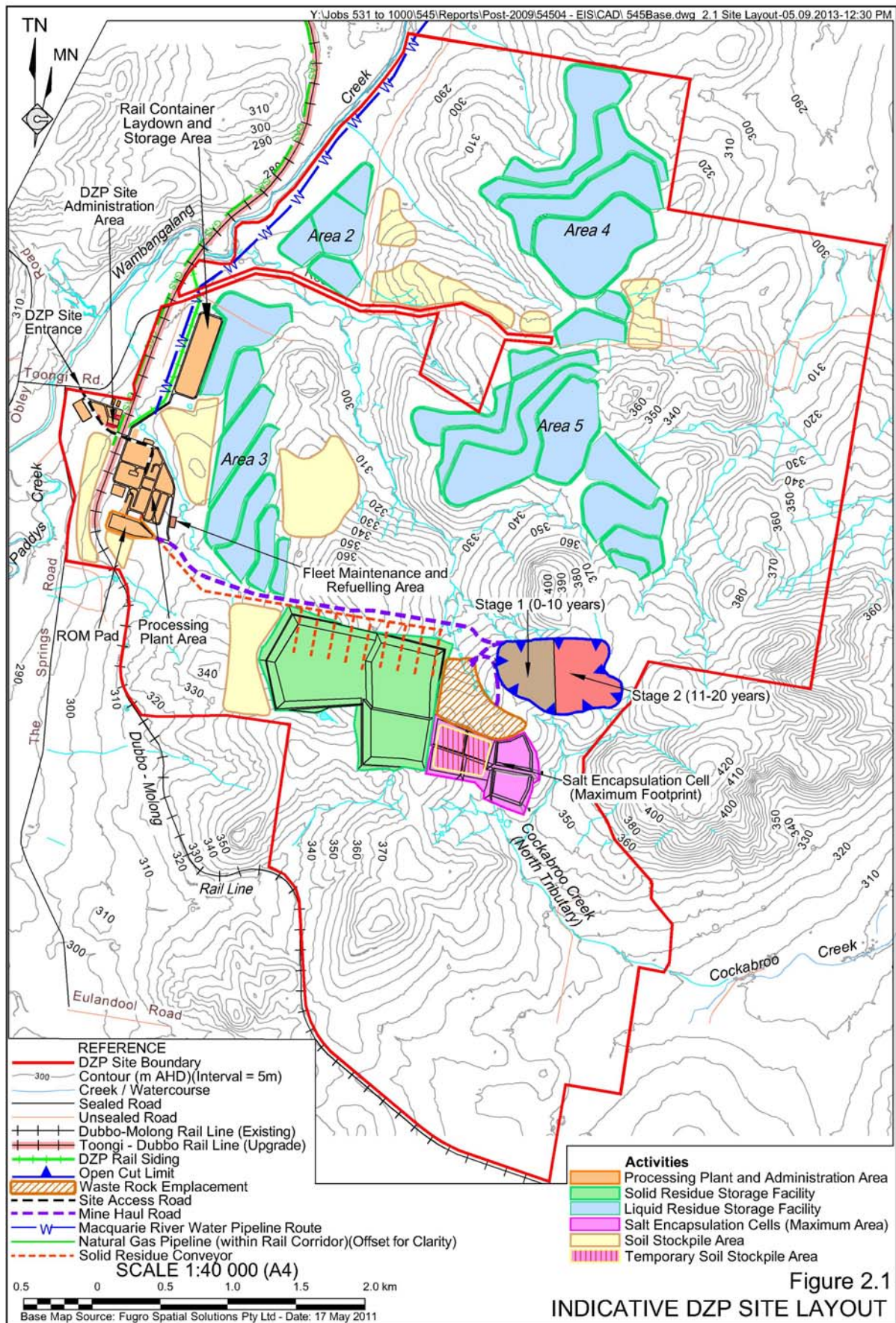


Figure 1: General Site Layout

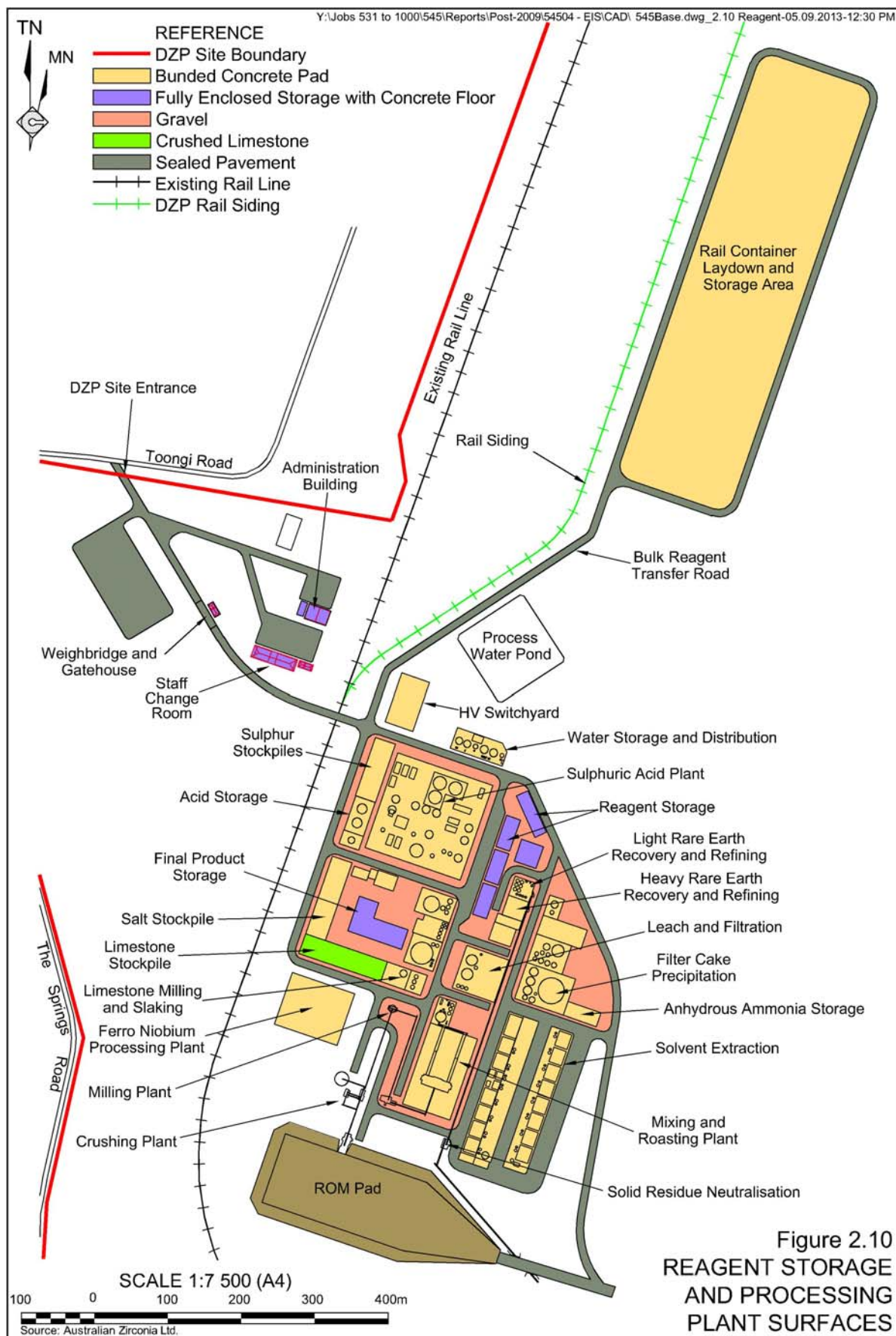


Figure 2: General Processing Facility Layout

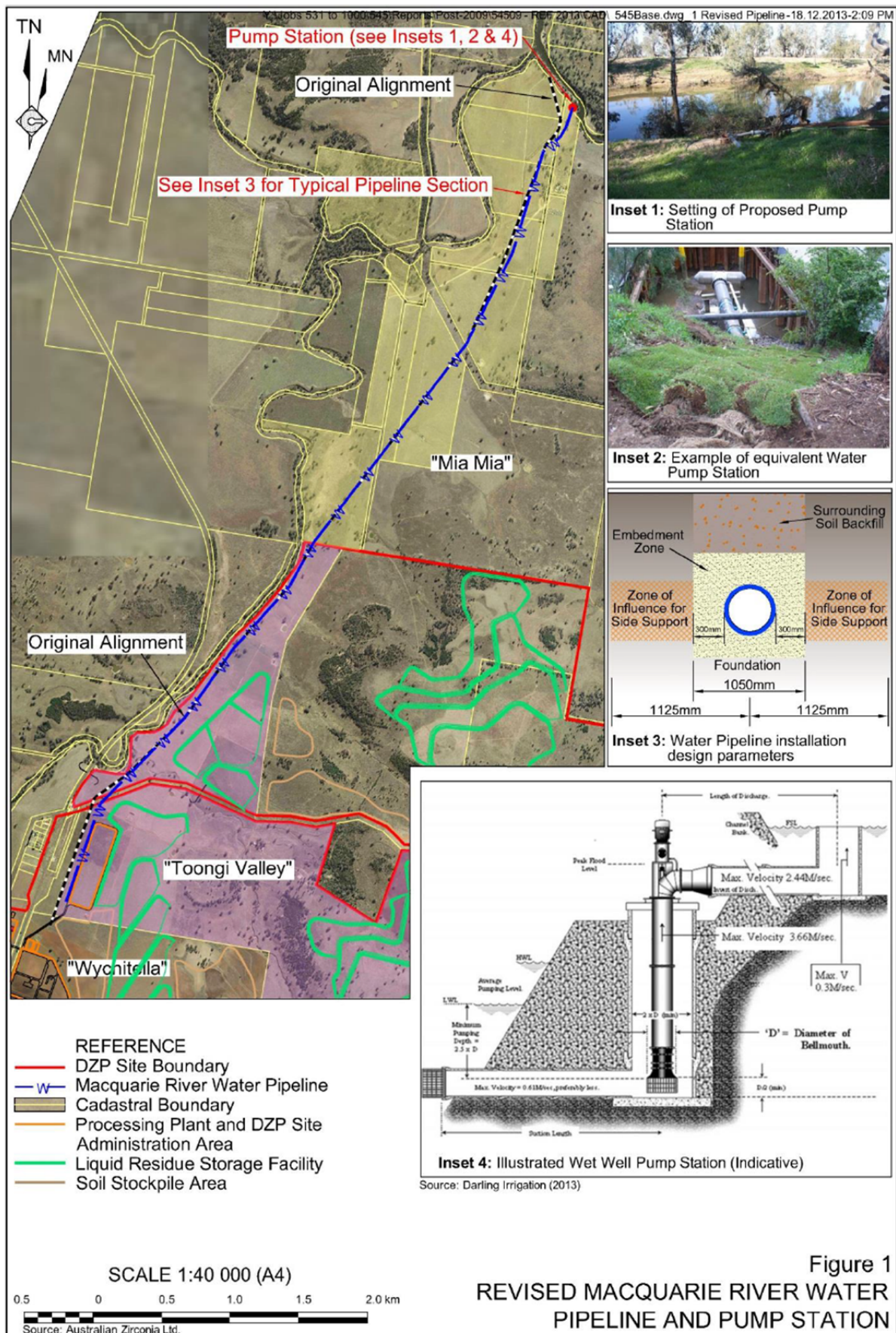


Figure 3: General Layout of Water Pipeline and Macquarie River Pumping Station

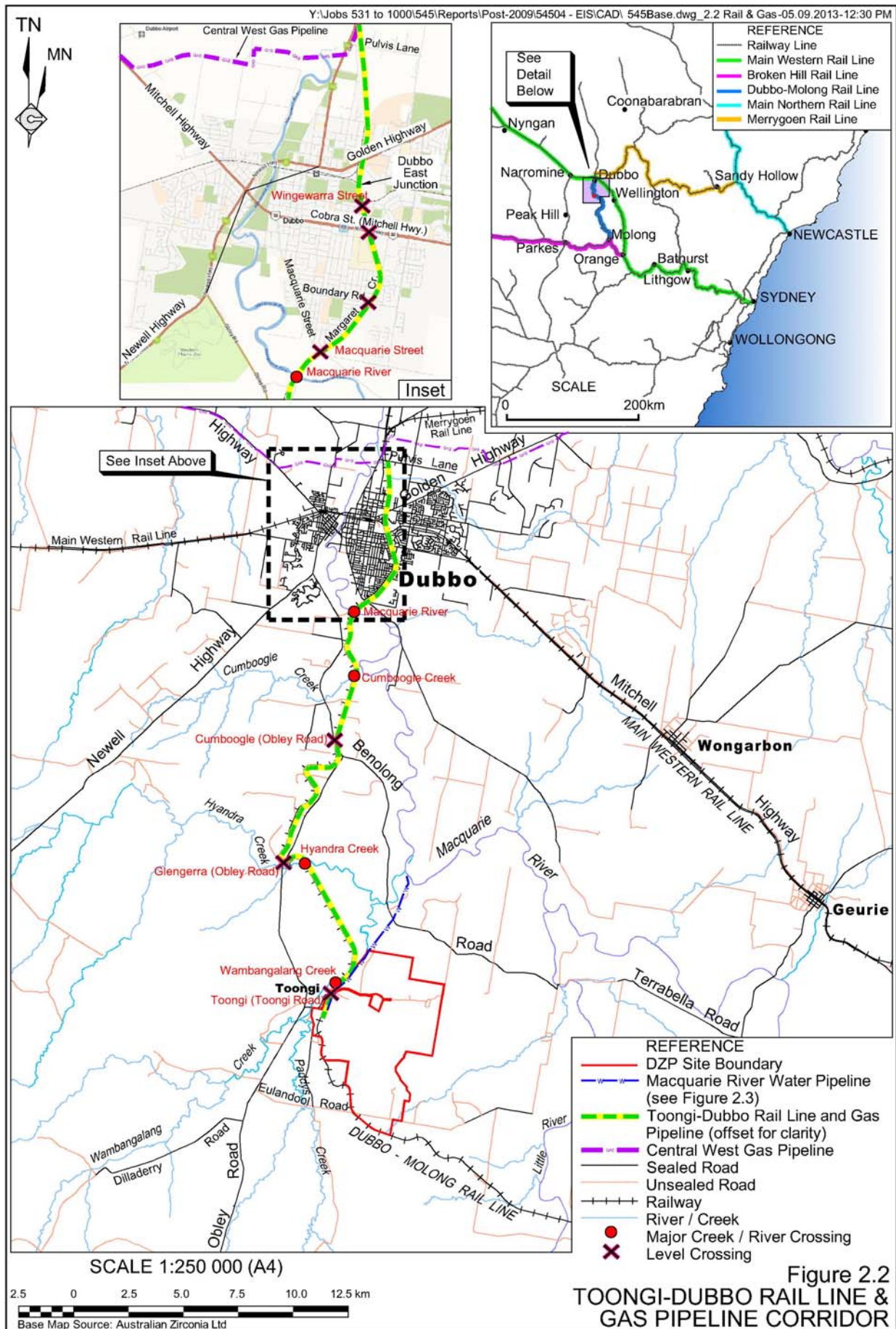


Figure 4: Indicative Gas Pipeline Corridor.

**APPENDIX 3
STATEMENT OF COMMITMENTS**

Final Statement of Commitments

1 of 9

Desired Outcome	Action	Timing
1. Environmental Management		
Compliance with all conditional requirements in all approvals licences and leases.	1.1 Comply with all commitments recorded in this table.	Continuous and as required.
	1.2 Comply with all conditional requirements included in the: <ul style="list-style-type: none"> • Development consent; • Environment Protection Licence; • Mining Lease(s); • Approval under the EPBC Act; and • any other approvals. 	Ongoing.
2. Area of Activities		
All approved activities are undertaken generally in the location(s) nominated on the figures shown in Sections 2 and 4.	2.1 Mark, and where appropriate, survey the boundaries of the areas of proposed disturbance on the DZP Site.	Prior to the commencement of site establishment and construction in the respective component area.
	2.2 Mark, and where appropriate, survey the alignment of the Toongi – Dubbo Rail Line and Gas Pipeline Corridor.	Prior to the commencement of the relevant activity.
	2.3 Mark, and where appropriate, survey the alignment of the Macquarie River Water Pipeline.	Prior to the commencement of the relevant activity.
	2.4 Mark, and where appropriate, fence boundaries relevant to the Biodiversity Offset Area.	In accordance with an approved Biodiversity Offset Management Plan.
Undertake earthworks with regard to paleontological record of 'Fossil Hill'.	2.5 Undertake (or provide for) an inspection of the 'Fossil Hill' location by a qualified person for any further geological and paleontological information.	Prior to earthworks over or in the vicinity of 'Fossil Hill'.
	2.6 Retain at least one exposure for future reference.	Ongoing.
3. Noise		
Noise generated by construction and operational activities does not exceed criteria.	3.1 Implement noise controls in accordance with a approved Noise Management Plan.	Ongoing.
	3.2 Notify local residences of plans for nearby construction, duration of construction and plans in place to mitigate noise impacts.	As required during construction.
	3.3 Educate all contractors and personnel regarding the sensitivities relating to noise	Ongoing and as part of site induction.
	3.4 Avoid night time loading and unloading of trains (unless necessary to meet allocated rail path).	Ongoing.

Final Statement of Commitments (Cont'd)

2 of 9

Desired Outcome	Action	Timing
3. Noise (Cont'd)		
Noise generated by blasting does not exceed criteria.	3.5 Design and implement blasting events by a suitably qualified blasting engineer or experienced shot-firer to ensure all relevant noise and safety criteria are met.	Ongoing.
Noise generated by DZP traffic does not exceed criteria.	3.6 Implement noise controls in accordance with a approved Noise Management Plan.	Ongoing.
Noise generated by the DZP is monitored and procedures developed and implemented to respond to ensure compliance is maintained.	3.7 Install noise monitoring and communication equipment in accordance with an approved Noise Monitoring Program.	Prior to commencement of operations.
	3.8 Establish noise monitoring procedures for identifying and managing elevated noise levels.	
	3.9 Ensure that a 24-hour complaints telephone line is maintained and that the surrounding community is made aware of the number.	Prior to the commencement of operations.
	3.10 Ensure that prompt action is taken to identify the nature of any complaint received and verify the relevant noise levels using the real-time noise monitoring equipment.	Within 24 hours of receipt of complaint.
4. Air Quality		
Dust generated during the operations stage does not exceed the nominated air quality criteria	4.1 Implement dust control measures in accordance with an approved Air Quality Management Plan.	Ongoing and as required.
Minimise emissions to the atmosphere from the processing plant.	4.2 Regulate emissions from the stacks and vents by operating within the prescribed in-stack concentrations limits.	Ongoing.
	4.3 Undertake periodic extractive monitoring to demonstrate compliance with in-stack limits.	In accordance with an approved Air Quality Management Plan.
	4.4 Implement a regular and documented maintenance and inspection program for all plant items where emissions to air are deemed likely.	Prior to commencement of processing and then ongoing.

Desired Outcome	Action	Timing
5. Radiation		
Provide for appropriate controls to minimise potential for discharge or dispersal of radiation. / Ensure only authorised access to the DZP Site.	5.1 Implement radiation control measures in accordance with an approved Radiation Management Plan.	Ongoing.
Appropriately classify work areas to allow for implementation of appropriate OHS management.	5.2 Define and operate the DZP Site as a "supervised area" (as defined in ARPANSA, 2005).	Prior to commencement of mining and processing.
	5.3 Define and operate "controlled areas" (as defined in ARPANSA, 2005).	
	5.4 Define and designate employees working in the controlled areas as designated radiation workers.	
	5.5 Ensure "designated workers" change into work clothes at the commencement of their shift and then shower and change into "street clothes" at the end of their shift.	
	5.6 Launder dirty clothes on-site, with waste water sent to an on-site water treatment plant.	
Establishment of site-wide administrative controls.	5.7 Ensure pre-employment and routine medical checks for workers.	Prior to employment.
	5.8 Ensure inductions and regular training of all employees and contractors.	As part of induction and then ongoing.
	5.9 Develop safe work procedures which will include: <ul style="list-style-type: none"> radiation safety aspects; procedures to segregate, isolate and clean up contamination or contaminated equipment; and procedures for equipment or materials leaving the controlled area. 	Prior to commencement of operations.
	5.10 Enforce mandatory use of personal hygiene facilities (wash facilities) at entrances to lunch rooms and offices.	Ongoing.
	5.11 Employ suitably qualified and experienced radiation safety professionals to assist during the final design, construction and the operational phases of the Proposal.	As required.
	5.12 Use a computer-based data management system to store and manage all information relating to radiation management and monitoring.	Develop prior to commencement and operate for the life of the DZP.

Final Statement of Commitments

4 of 9

Desired Outcome	Action	Timing
6. Surface Water		
Design and construct surface water management structures to prevent the discharge of polluted water from the DZP Site and minimise impacts on environmental flows	6.1 Ensure that all potentially salt or chemical-laden water is retained within the DZP Site and either used for processing operations or is sent to the LRSF.	Ongoing.
	6.2 Complete an analysis of wave run-up and (if necessary) provide for additional management measures.	Prior to LRSF construction.
	6.3 Ensure that all Mine Water, as defined by the development consent, is directed to pump equipped storage basins capable of accepting double the 1 in 100 ARI storm event.	Ongoing.
	6.4 Ensure that all potentially sediment-laden water is managed in accordance with a Surface Water Management Plan.	Ongoing.
Site infrastructure does not compromise surface water management.	6.5 Ensure that all mine-related roads within the DZP Site are constructed in accordance with Soils and Construction: Managing Urban Stormwater Vol. 2b (DECC, 2008b).	Prior to the commencement of the relevant activity.
	6.6 Ensure that all areas where reagents or processing-related chemicals are used or stored are bunded and, where appropriate, covered. If not covered, include a suitable sump for the collection and removal of incident rainfall.	
	6.7 Maintain a >20m buffer between the DZP Site Administration Area and Watercourse C, unless reduced buffer approved within the Water Management Plan for the DZP.	Ongoing.
Water access does not exceed harvestable rights.	6.8 Ensure that the capacity of existing and proposed water storages to be constructed does not exceed the Applicant's harvestable rights (182ML at the time of development consent).	Ongoing.
7. Groundwater		
Minimisation of groundwater contamination from the SRSF and SEC's.	7.1 Construct each cell of the SRSF and SEC with a double liner, at least one of which is HDPE.	Prior to the commencement of processing operations.
	7.2 Construct the SRSF and each SEC cell with a leak detection system and leak / seepage collection mechanisms.	
	7.3 Maintain the leak detection system following the completion of the SECs until such time as leakage is deemed (by hydrogeologist) to be unlikely.	
	7.4 Install groundwater monitoring bores around the SRSF and SECs to monitor for changes in water chemistry which could indicate a leak.	

Desired Outcome	Action	Timing
7. Groundwater (Cont'd)		
Minimisation of groundwater contamination from the LRSF.	7.5 Construct each cell of the LRSF with a HDPE (or equivalent) liner.	During construction.
	7.6 Weld the liner to form a continuous barrier over the internal embankments.	During construction.
	7.7 Drill and hydraulically test additional boreholes along the perimeters of the proposed LRSF to evaluate aquifer properties. If high permeability alluvial aquifers are identified below the proposed LRSF, either: <ul style="list-style-type: none"> • modify the extent of the LRSF to avoid potential interaction with high permeability aquifer; • construct the LRSF cells with a double liner system, leakage detection and capability to pump any leakage similar to the SRSF; and/or • design and/or install a quick response seepage interception system as part of the Water Management Plan. 	As part of the final design phase of the LRSF As required
	7.8 Monitor the water balance within each cell in accordance with an approved Water Management Plan.	Ongoing following approval of Water Management Plan.
	7.9 Monitor groundwater levels and quality beyond the downstream toe of external embankments in accordance with an approved Water Management Plan.	As defined by the Water Management Plan.
	7.10 Design and implement a <i>Leak Detection Response Strategy</i> .	Prior to commencement of discharge to the LRSF.
	7.11 Harvest precipitated salts in accordance with a <i>Salt Harvesting Protocol</i> .	Prior to and during salt harvesting campaigns.
Minimise potential for dryland salinity	7.12 Establish deep rooted vegetation between LRSF Areas 2 and 3 within the proposed Biodiversity Offset Area.	Over initial 5 years of operations.
8. Terrestrial Ecology		
Avoid impacts on native flora and fauna.	8.1 Limit disturbance to those areas identified in the EIS.	Ongoing.
	8.2 Clearly mark areas of ground disturbance prior to commencement of activities and disturbance restricted to these areas.	During site establishment phase.
Manage impacts to remnant biodiversity.	8.3 Undertake biodiversity management in accordance with a Biodiversity Management Plan.	Ongoing.
	8.4 Include and implement a plan of management for the Pink-tailed Worm-lizard in the Biodiversity Management Plan.	
Rehabilitate disturbed areas to create a final landform that maintains or improves biodiversity values.	8.5 Undertake rehabilitation in accordance with a Rehabilitation Management Plan.	Ongoing and as required.
	8.6 Monitor all areas of progressive and final rehabilitation, in accordance with the Rehabilitation Management Plan, and undertake remedial action in the event that rehabilitation does not comply with the relevant completion criteria.	

Desired Outcome	Action	Timing
9. Aquatic Ecology		
Avoid, minimise or mitigate impacts as a result of DZP construction activities on aquatic biota and habitats	9.1 Undertake all earthworks on waterfront land in accordance with the most up to date Controlled Activity Approval guideline documents (or equivalent) issued by the NSW Office of Water.	During construction.
	9.2 Mark exclusion zones around riparian vegetation to avoid potential impacts.	Ongoing.
	9.3 Enforce pumping protocols that require pumping rates gradually increase and decrease and the commencement and cessation of pumping cycles.	Ongoing.
10. Aboriginal Heritage		
Manage Aboriginal heritage sites and values in accordance with the wishes of the Registered Aboriginal Parties (RAPs) for the DZP	10.1 Prepare an Aboriginal Cultural Heritage Management Plan in consultation with the RAPs and Office of Environment and Heritage. The Plan should consider the following. <ul style="list-style-type: none"> • Consultation with the Aboriginal stakeholders. • Personnel awareness of the locations of Aboriginal sites. • Involvement of suitably qualified archaeologists. • Inductions for crews working on the DZP Site. • Monitoring of disturbance to Aboriginal sites. 10.2 Complete all works of the DZP in accordance with the Aboriginal Cultural Heritage Management Plan.	Prior to commencement of surface disturbing activities.
Manage future finds in accordance with relevant legislative requirements	10.3 Prepare and maintain an <i>Unanticipated Finds Protocol</i> .	Prior to surface disturbing activities.
	10.4 Ensure if any other objects or Aboriginal sites are identified during construction the <i>Unanticipated Finds Protocol</i> is implemented.	As required.
11. Historic Heritage		
Minimise the potential for adverse Proposal-related impacts on historic heritage sites within and surrounding the DZP Site.	11.1 Identify all identified sites on plans and ensure that activities in the vicinity of those sites are appropriately managed.	Prior to surface disturbing activities.
	11.2 Avoid impacts on sites DZP-HIF1 and DZP-HIF2 by establishing a fence and buffer zone around the sites.	Ongoing.
	11.3 Ensure that unless unavoidable due to rail line upgrade, avoid DZP HS1.	Ongoing.
12. Soils and Land Capability		
Undertake soil stripping such that impacts on the quality of the soil for future rehabilitation is maximised.	12.1 Plan and implement soil stripping in accordance with an approved Mining Operations Plan. Ensure the MOP considers the following. <ul style="list-style-type: none"> • Moisture of the soil to be stripped. Material should not be stripped in either an excessively dry or wet condition. • Potential for compaction. • Immediate re-use of soils (where practical). 	Ongoing.

Desired Outcome	Action	Timing
12. Soils and Land Capability (Cont'd)		
Stockpile soil such that impacts on the quality of the soil for future rehabilitation is maximised.	12.2 Plan and implement soil stockpiling in accordance with an approved Mining Operations Plan (MOP). Ensure the MOP considers the following. <ul style="list-style-type: none"> Minimising the operation of machinery on soil stockpiles to minimise compaction. Maximum stockpile height considerations. Grazing on stockpiles. 	Ongoing.
Respread soil such that impacts on the quality of the soil for future rehabilitation is maximised.	12.3 Plan and implement soil resspreading in accordance with an approved MOP. Ensure the MOP considers the following. <ul style="list-style-type: none"> Tests to be undertaken prior to reuse to ensure that it is not toxic to plant growth. Moisture condition of the soil. Density of replaced soil. Treatment of replaced soil. Soil placement procedures. Measures to minimise operation of machinery after resspreading. Establishment of vegetation. 	Prior to soil resspreading.
13. Traffic and Transportation		
Achieve safe and efficient transport operations.	13.1 Prepare and implement a Transport Management Plan.	Prior to construction and then transport operations.
Manage future and changing traffic environment to maintain safe and efficient transport operations	13.2 Ensure that the approved heavy vehicle transportation route is amended to include the use of the intersection of the Newell Highway and Boothenna Road.	Prior to transport operations.
	13.3 Contribute to the construction of a right turn acceleration lane on the Newell Highway (from Obley Road), if recommended by the independent technical specialist engaged to review the RSA on the basis of: <ul style="list-style-type: none"> reasonable safety grounds unfettered by capacity considerations; or capacity grounds where the DZP is shown to be a significant contributor to the intersection volume. <p>Note: Contribution to the upgrade works would be negotiated with the road authority. AZL is committed to providing a proportion commensurate with the contribution of the DZP to the safety or capacity impact(s).</p>	To be negotiated with the road authority(ies) following the completion of the independent technical specialist's report.
14. Visual Amenity		
Manage the impact of activities on the visual amenity surrounding the DZP Site.	14.1 Construct the processing plant and other infrastructure within the DZP Site from predominantly non-reflective, neutral coloured material.	During construction.

Desired Outcome	Action	Timing
15. Hazards		
Prevent the escape of reagents from the Processing Plant and DZP Site Administration Area.	15.1 Complete all tanker deliveries over sealed areas with kerbing and drainage design preventing any runoff to the environment if a spill occurs.	Ongoing.
	15.2 Provide spill kits as appropriate, enabling recovery of small quantities of spilt materials.	Ongoing.
Prepare appropriately for the possibility of a bush fire event.	15.3 Prepare bush fire management procedures in consultation with appropriate stakeholders.	Prior to commencement of operations.
Manage a local bush fire to minimise the potential for property damage or personnel injury.	15.4 Implement bush fire management procedures in accordance with an approved plan developed in consultation with appropriate stakeholders.	Ongoing.
Minimise risks associated with initiation of a bush fire.	15.5 Prepare risk minimisation and mitigation procedures and include within a Bush Fire Management Plan.	Ongoing.
Avoid conflict between aircraft and stacks of the processing plant	15.6 Consult with the Civil Aviation Safety Authority (CASA) and, if requested by CASA, install obstacle lighting in accordance with Part 139 of the <i>Civil Aviation Safety Regulations 1998</i> ¹ .	Prior to commencement of construction of the stack.
16. Social-economic Setting		
Maximise the positive impacts and minimise any actual or perceived adverse impacts on the social fabric or facilities available to the community surrounding the DZP Site.	16.1 Engage the community surrounding the Proposal in regular dialogue in relation to the proposed and ongoing operation of the Project and maintain an "open door" policy for any member of the community who wishes to discuss any aspect of the DZP.	Ongoing.
	16.2 Proactively and regularly consult with those residents most likely to be adversely impacted by the DZP.	Ongoing.
	16.3 Give preference when engaging new employees, where practicable, to candidates who live within the Dubbo Local Government Area over equivalent candidates with equivalent experience and qualifications based elsewhere.	Ongoing.
	16.4 Encourage the involvement of the local Aboriginal community in the workforce.	Ongoing.
	16.5 Ensure that infrastructure and services installed for the Proposal, including the gas pipeline, electricity transmission line, appropriate buildings and hardstand areas, remain available for alternative uses following completion of the Proposal	Post-Proposal.
	16.6 Maintain agricultural operations on land not required for active mining or biodiversity offsetting purposes.	Ongoing.

¹ The proposed structures of the DZP Site do not meet the requirements specified by Section 9.4.1.2 of the Manual of Standards Part 139—Aerodromes, Version 1.6: June 2011 published by the Civil Aviation Safety Authority.

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Desired Outcome	Action	Timing
16. Social-economic Setting (Cont'd)		
Maintain ongoing consultation with the local community and Council.	16.7 Regularly brief the CCC on activities within the DZP Site and seek feedback in relation to Proposal-related impacts whether real or perceived.	As necessary.
Respond to environmental complaints.	16.8 Establish and maintain an environmental complaints line and register of complaints in accordance with the requirements of the Environment Protection Licence, once issued.	Within 6 months of receipt of development consent.
	16.9 Respond promptly to any issue of concern or complaint raised by the community or a government agency.	Ongoing.
17. Waste		
Manage waste appropriately on the DZP Site.	17.1 Maintain a register of the types and quantities of wastes produced on the DZP Site.	Ongoing.
	17.2 Segregate and retain recyclable and non-recyclable waste in designated storage areas prior to removal from the DZP Site.	
	17.3 Keep the DZP Site in a clean and tidy condition.	
	17.4 Ensure waste is regularly removed from the DZP Site by a licensed contractor.	
Manage potentially restricted or hazardous waste and/or dangerous goods appropriately	17.5 Classify all wastes to be disposed of in accordance with the NSW Waste Classification Guidelines. Restricted or hazardous wastes would not leave the DZP Site without obtaining prior EPA approval.	Ongoing
	17.6 Clean used bulky bags, drums and pallets within the relevant covered and bunded storage areas in accordance with the product MSDS or relevant Australian Standard.	
	17.7 Complete a visual (or other required) inspection to confirm any remnant reagent has been removed.	
	17.8 Remove waste materials from the DZP Site by licensed waste removal contractor.	

APPENDIX 4 RECEIVER LOCATION PLANS AND LAND OWNERSHIP

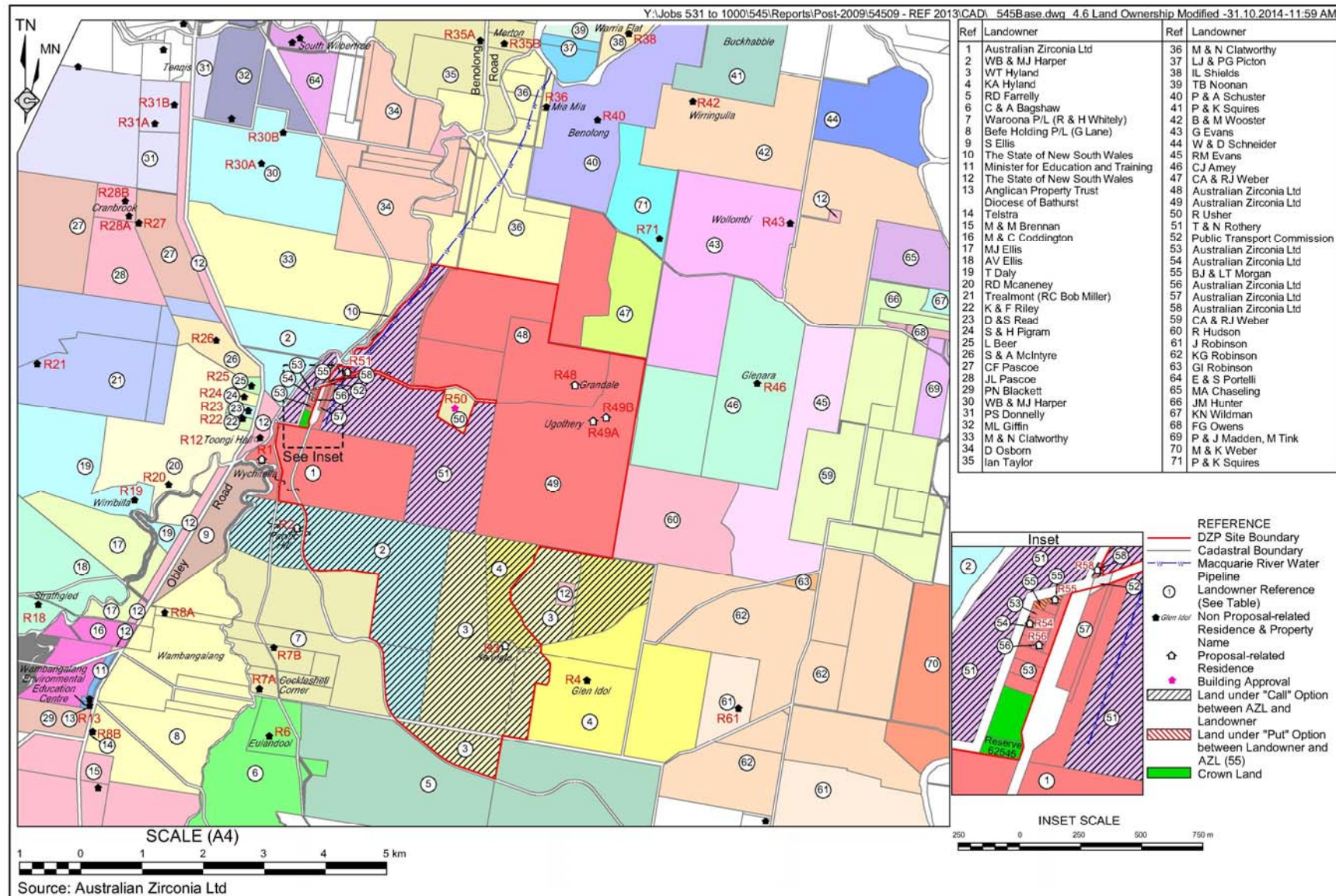


Figure 1: Receiver Locations and Land Ownership

APPENDIX 5 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 2 of schedule 3 are to apply under all meteorological conditions except the following:
 - a) Wind speeds greater than 3 m/s at 10 metres above ground level; or
 - b) Stability category F temperature inversion conditions and wind speeds greater than 2 m/s at 10 m above ground level; or
 - c) Stability category G temperature inversion conditions

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 located on the site.

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 once a month (but at least two weeks apart), unless the Secretary directs otherwise.
5. Unless otherwise agreed with the Secretary, 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) meteorological conditions during which collection of noise data is not appropriate;
 - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
 - (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

APPENDIX 6 BIODIVERSITY OFFSET STRATEGY

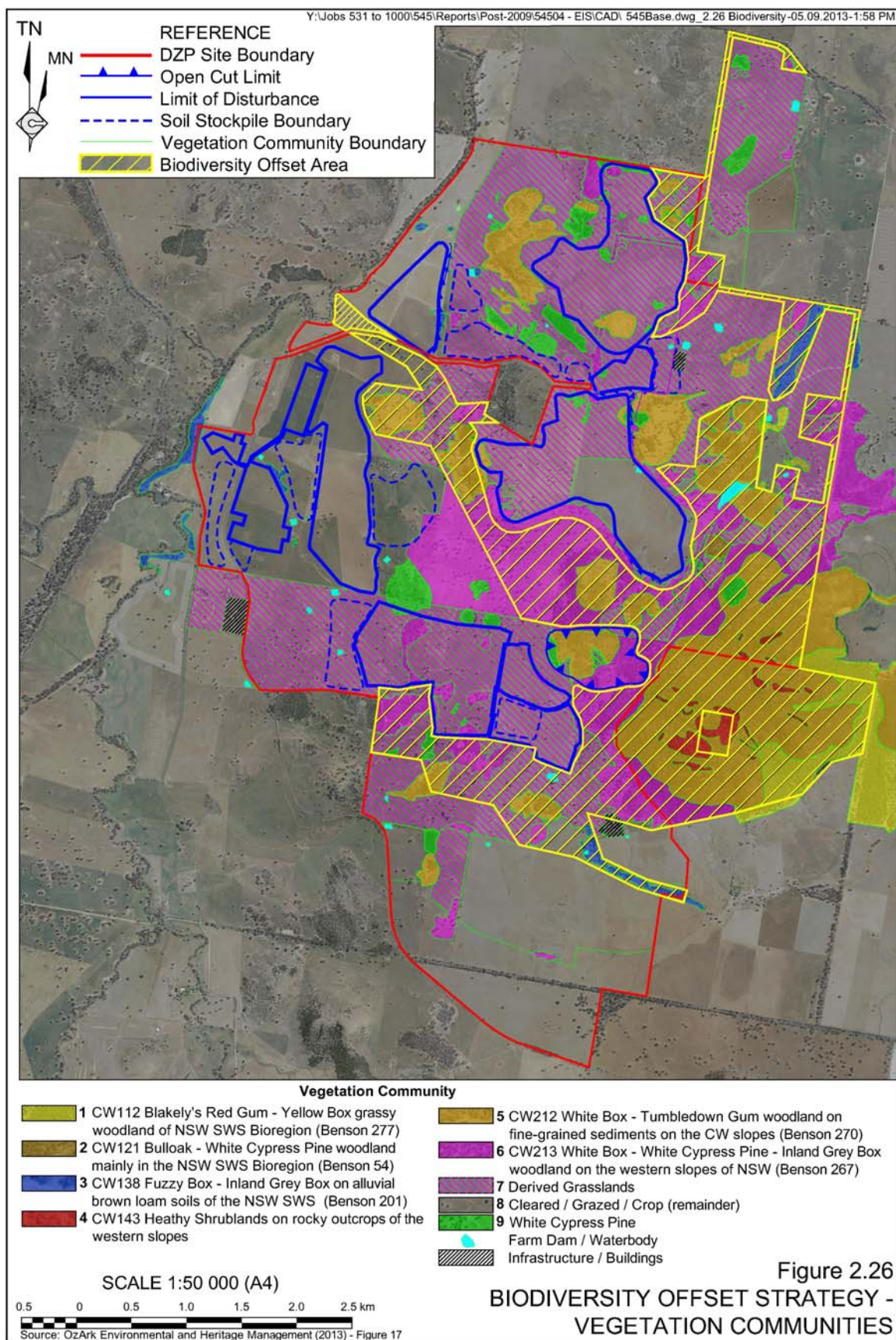


Figure 1: Dowds Hill Biodiversity Offset Strategy

APPENDIX 7 REHABILITATION

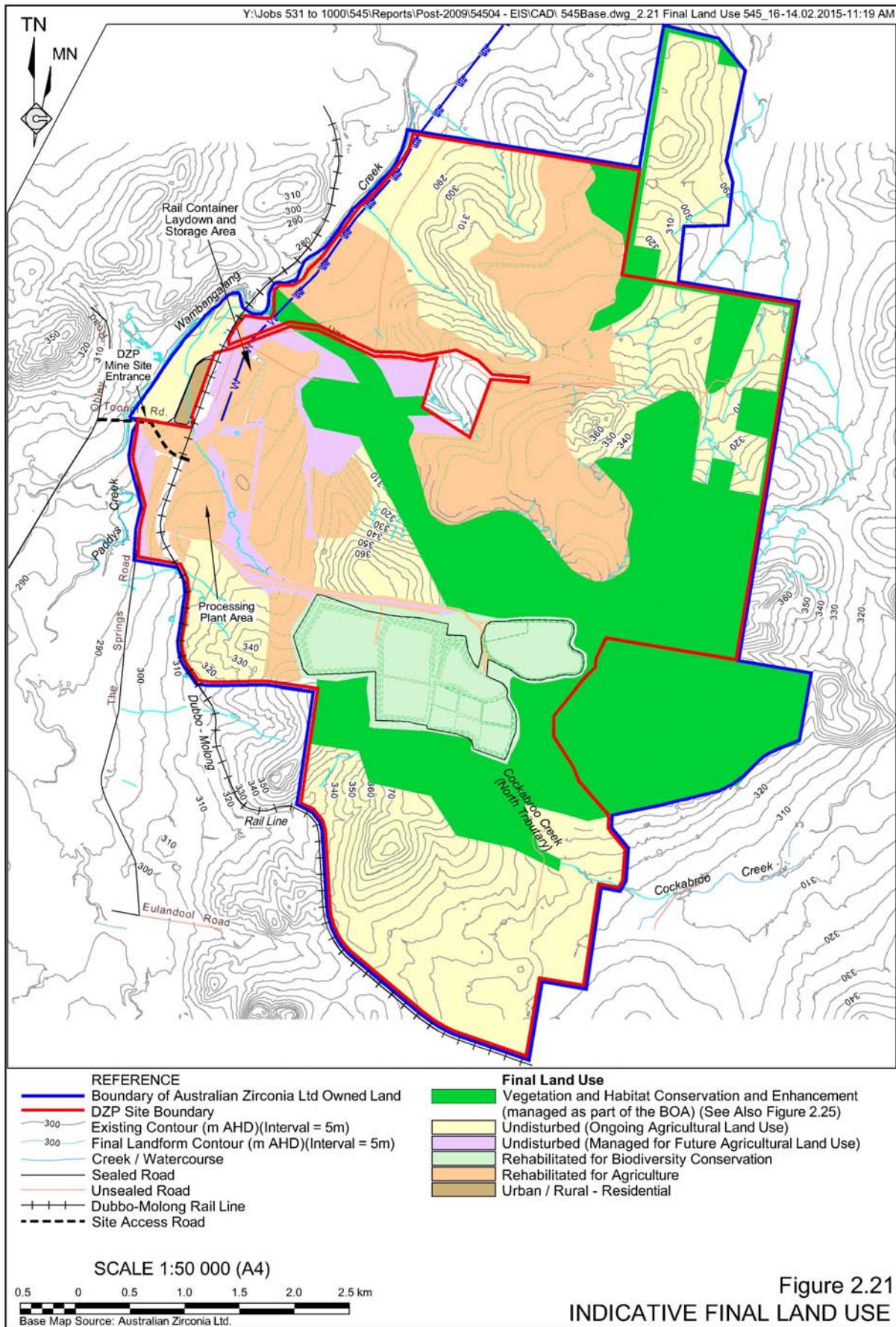


Figure 1: Indicative Final Land Use

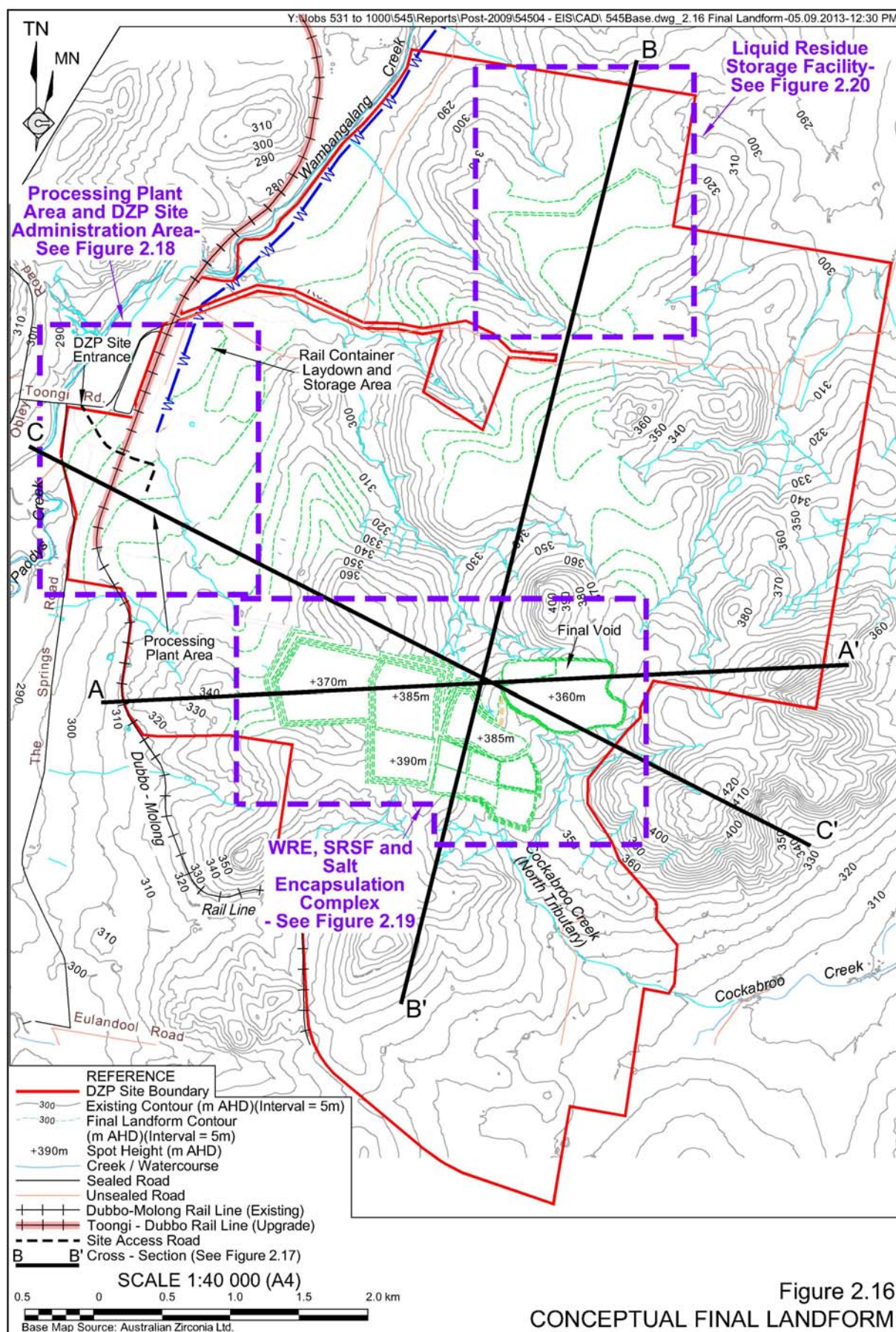


Figure 2: Overall Conceptual Final Landform

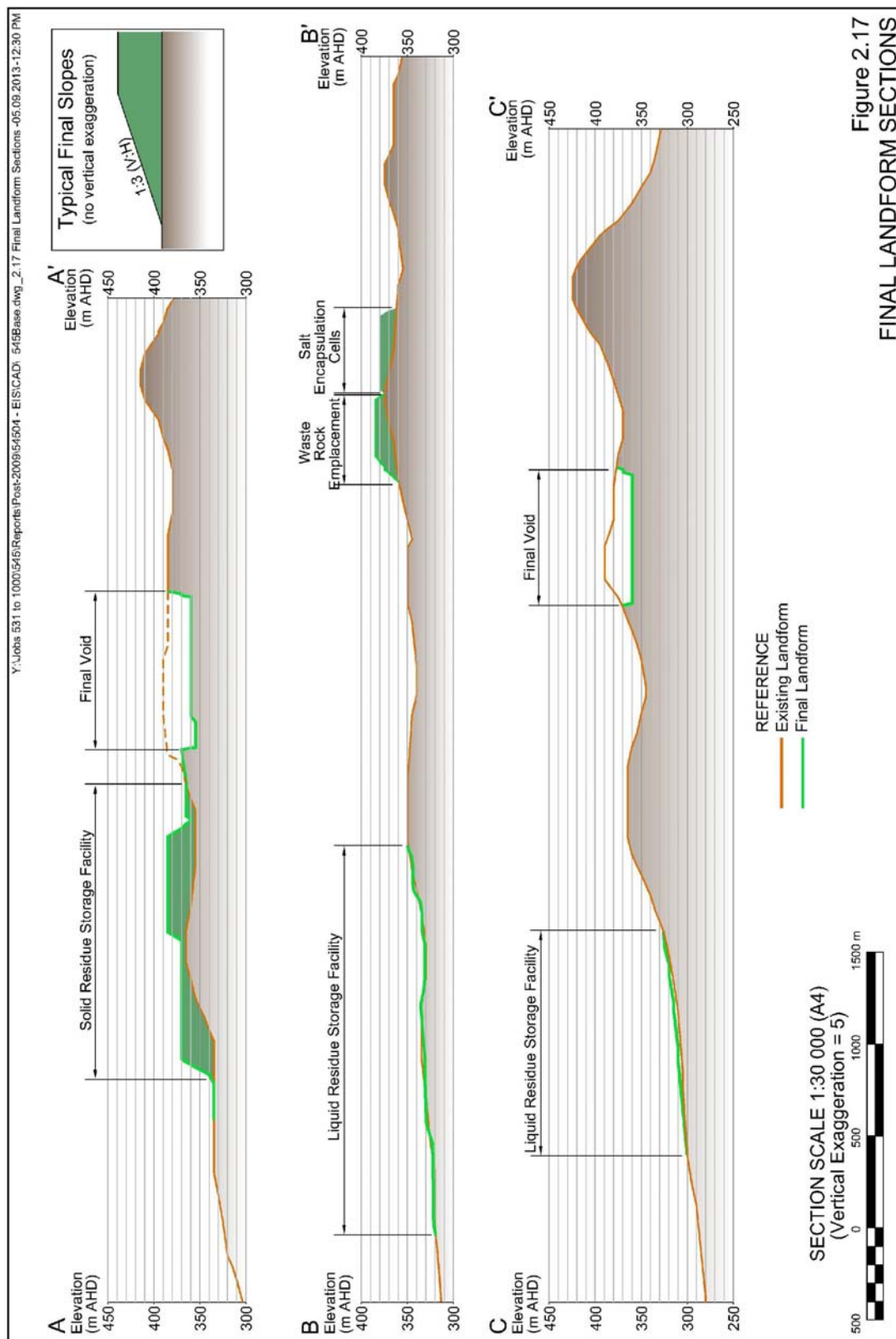


Figure 2.17
FINAL LANDFORM SECTIONS

Figure 3: Conceptual Final Landform Cross Sections – Final Landform, Waste Rock Emplacement and Waste Residue Storage Structures

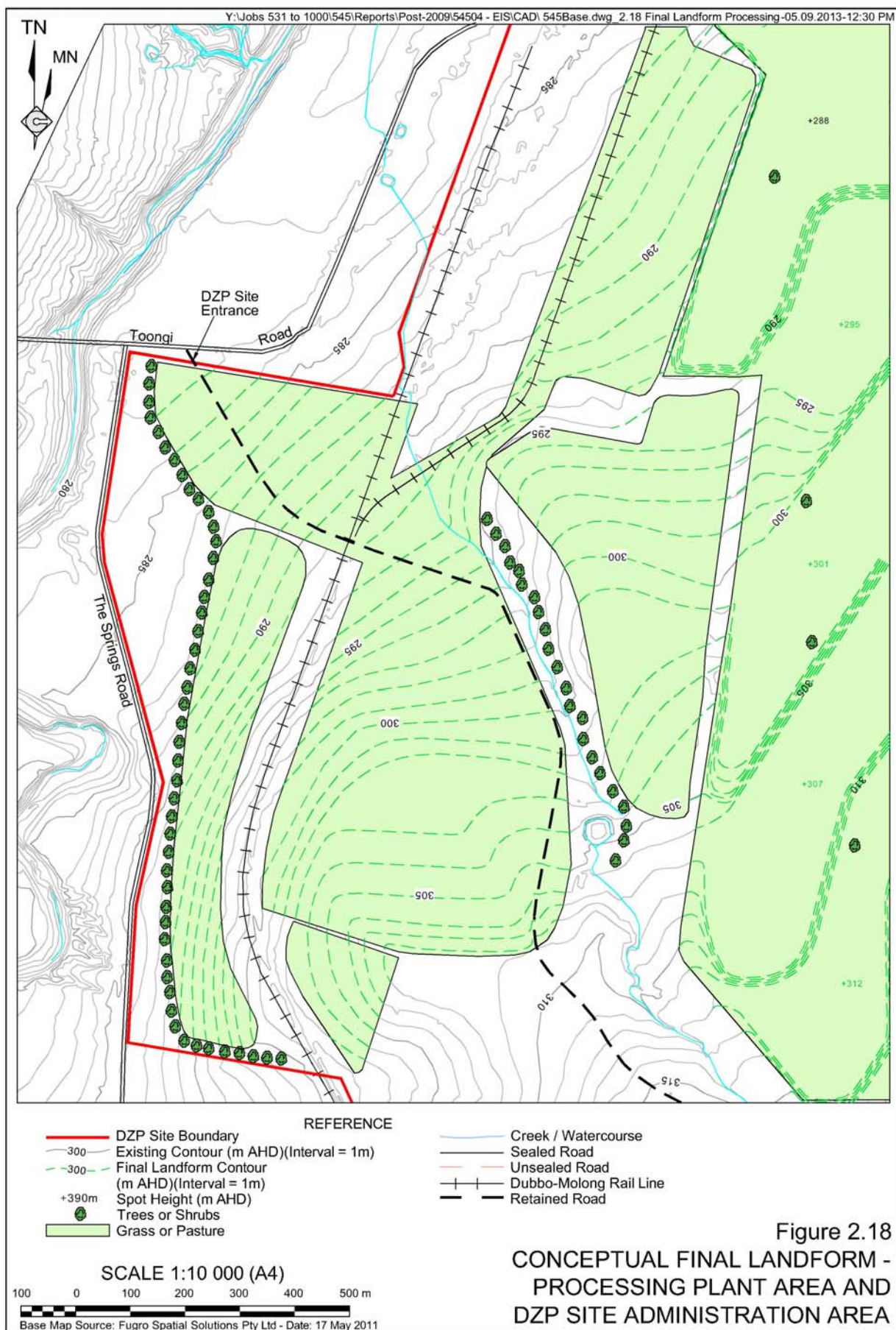


Figure 4: Final Landform – Processing Plant Area and Site Administration Area

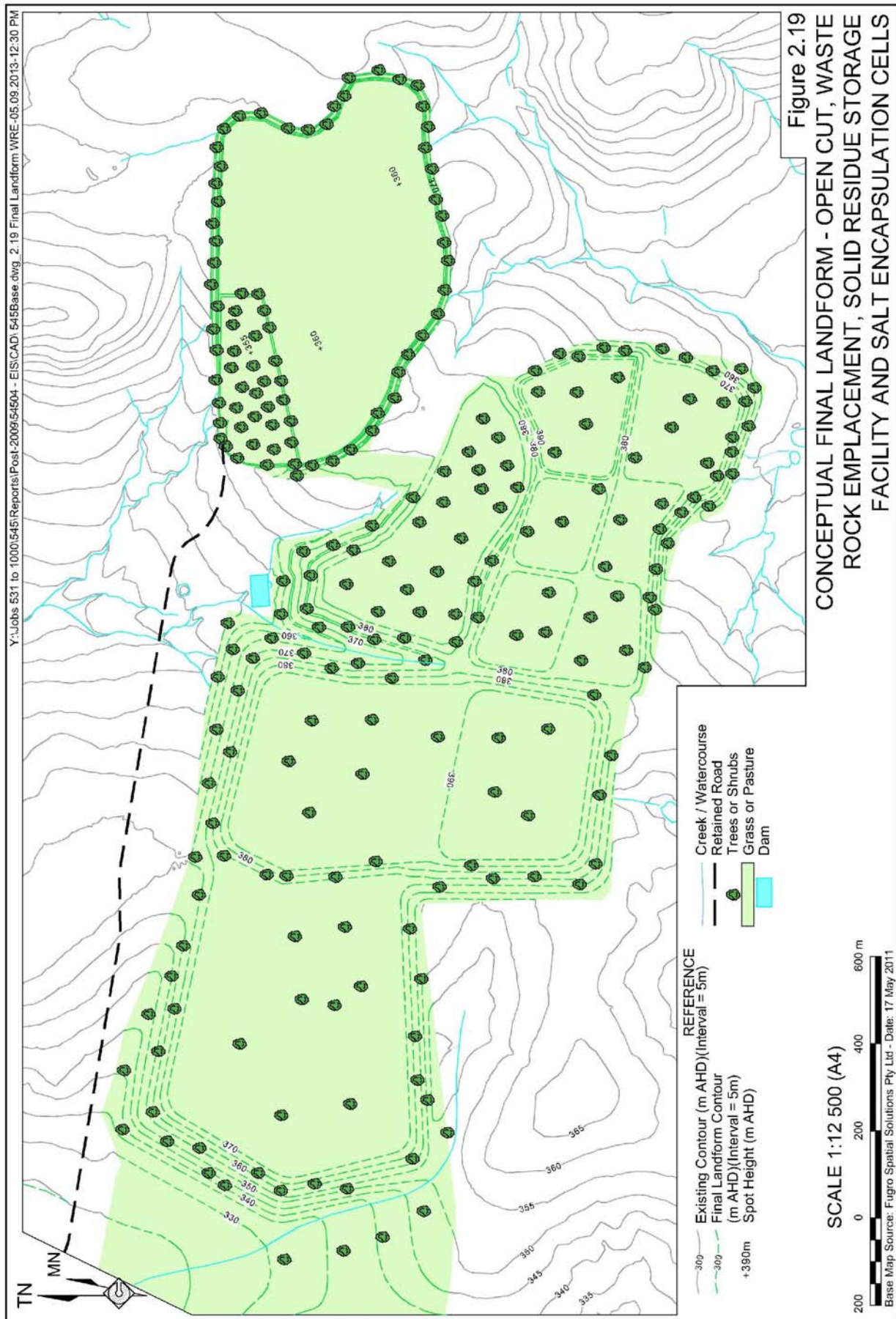


Figure 5: Final Landform - Waste Rock Emplacement and Waste Residue Storage Structures

