



ENVIRONMENTAL IMPACT STATEMENT
ASSESSMENT REPORT

MUGGA QUARRY OVERBURDEN EXPANSION PROJECT

AUGUST 2019

Pursuant to Section 222 of the *Planning and Development Act 2007 (PD Act)*, this report evaluates the revised environmental impact statement for the following application:

Ref no: 201800033

Document no: 1-2018/20470

Project: Mugga Quarry Overburden Expansion Project

Date scoping document took effect: 23 November 2018

Date draft EIS lodged: 14 January 2019

Date revised EIS lodged: 16 May 2019

Proponent: Boral Resources (Country) Pty Ltd

Applicant: EMM Consulting Pty Ltd

Location: Block 2031 Jerrabomberra

Street address: 321 Mugga Lane

As required by section 225A of PD Act, the planning and land authority (**the Authority**) has prepared this EIS Assessment Report (**the report**) for the Minister for Planning and Land Management. This report confirms that the Authority is satisfied that each matter raised in the scoping document for this proposal is addressed.

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Glossary and definitions

Term	Definition
ACT	Australian Capital Territory
CEMP	Construction environmental management plan
CHA	Cultural Heritage Assessment
DA	Development application
DoEE	Commonwealth Department of the Environment and Energy
EIA	Environmental impact assessment: the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals before major decisions and commitments are made.
EIS	Environmental impact statement: a document prepared to detail the expected environmental, social and economic effects of a development, and state commitments to avoid, mitigate or satisfactorily control and manage any potential adverse impacts of the development on the environment. In the ACT, an EIS is required for proposals in the impact track as per Section 127 of the <i>Planning and Development Act 2007</i> .
EMP	Environmental management plan
EPA	Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EPSDD	Environment, Planning and Sustainable Development Directorate
ESA	Emergency Services Agency
ESO	Environmental Significance Opinion
ha	Hectare
HSEQMS	Health, Safety, Environment and Quality Management System
km	Kilometre
MNES	Matter of National Environmental Significance (as per the EPBC Act)
M ²	Meter squared
NCA	National Capital Authority
PD Act	Planning and Development Act 2007 (ACT)
PD Regulation	Planning and Development Regulation 2008 (ACT)
SHE	Statement of Heritage Effect
SWA	Surface Water Assessment
TCCS	Transport Canberra and City Services
The Authority	The planning and land authority
The Council	ACT Heritage Council
The Minister	ACT Minister for Planning and Land Management
The Proponent	Boral Resources (Country) Pty Ltd
The Project	The Mugga Quarry Overburden Expansion project

1. Introduction

This report is to the ACT Minister for Planning and Land Management on the assessment of the EIS in relation to the Project.

The Project is a type of development that meets section 123 of the PD Act as it involves a matter mentioned in Schedule 4 of the PD Act, and therefore requires an EIS. The DA for this Project is required to include a completed EIS under the PD Act.

1.1. Project description

EMM Consulting Pty Ltd is acting as the applicant for this Project on behalf of the proponent Boral Resources (Country) Pty Ltd.

The Project is for the expansion of Boral's Mugga Quarry operations through the establishment of a new permanent bund for the overburden material and a temporary emplacement area to store weathered rock material to be progressively blended with other quarry products.

The proposed works consists of the following:

- construction of a new access road and surface water infrastructure to manage runoff;
- excavation of 620,000 m³ of overburden and weathered rock material from the approved quarry footprint to construct a new permanent bund and a temporary emplacement area;
- the permanent overburden bund will be approximately 500 metres x 80 metres wide and 15 - 20 metres high with a total footprint of 40,000m²; and
- the temporary emplacement area will be approximately 100 metres x 50 metres wide and 10 metres high with a total footprint of 5,000m².

As total production of the quarry will not be increasing, there will be no change to current operating hours, external traffic movements, groundwater management or employment.

A site plan is provided in Figure 1.



Figure 1 – Site Plan (EMM, 2019)

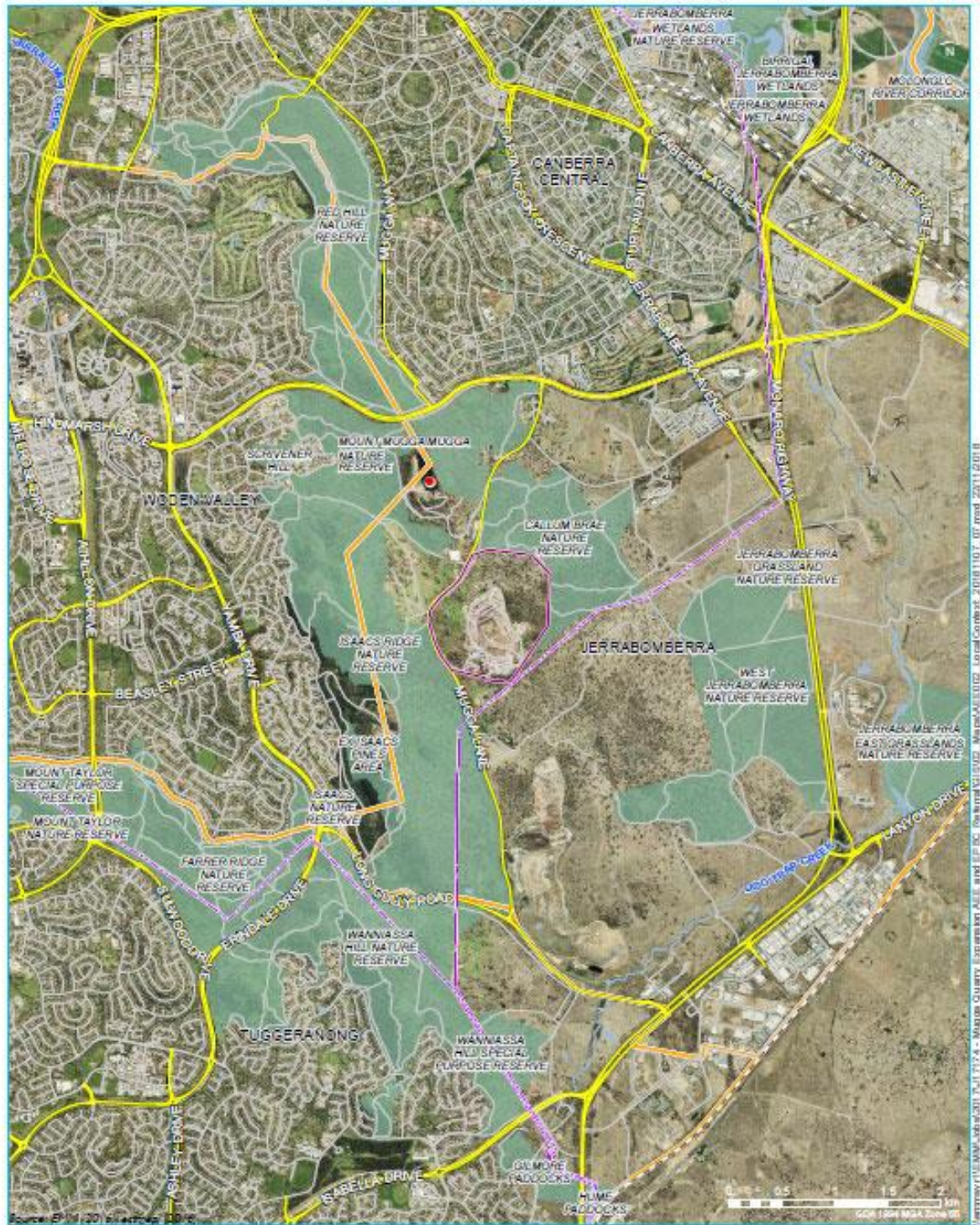
1.2. Project background

The proponent is currently operating at approximately 500 sites within Australia with operations relating to the production of construction material such as quarry products, cement, fly ash, pre-mi concrete and asphalt and building products such as bricks, pavers, tiles and masonry products. Mugga Quarry currently contains four operations, including an asphalt plant, a concrete batching plant, a recycling facility and the hard rock quarry. The objective of the Project is to enable the ongoing operations to continue to supply these materials to the ACT and surrounding NSW regional market.

1.3. Project location

The EIS relates to Block 2031 Jerrabomberra, ACT, located approximately 10 km to the south-east of central Canberra. The land is approximately 104.6 ha and zoned as the Non-urban Broadacre zone (NUZ1). The Project is located to the north of the existing quarry pit between Mugga Lane and Callum Brae Nature Reserve, within the approved extractive industry lease area (Site location - Figure 2)Figure 1.

The proposed expansion area is approximate 10.4 ha and 3.1 ha is within the approved quarry pit extent. The additional 7.3 ha consists of remnant vegetation and disturbed land as a result of quarrying activities. A plan showing the total disturbance area of the Project is provided in Figure 3.



Site local context

Boral - Mugga Quarry overburden expansion
 Environmental impact statement
 Figure 2.2



Figure 2 - Location of Mugga Quarry (EMM, 2019)

1.3.1. Legal land description and tenancy

The Project area is wholly within one block, Block 2031 Jerrabomberra. **Error! Reference source not found.** shows the legal land description for the block affected by the proposal and the details of tenancy type and tenant.

Table 1 - Legal land description and tenancy

Block	Division	Tenancy	Tenant
Directly affected land			
2031	Jerrabomberra	Leased Territory Land	Private Lessee

1.4. Alternatives to the Project

The following five options were considered by the Proponent as alternatives to the current proposal and a summary is provided for the viability of each alternative.

1) Placement within the existing Mugga Quarry pit

The total overburden material in-pit placement is not considered viable as it would begin to sterilise approved resource and shorten the lifespan of the quarry.

2) Placement within the ACT Government Mugga 2 Quarry pit

Based on haulage costs, even without a tipping fee, this option is not viable from a commercial perspective. Placement within the Mugga 2 pit would also prevent later re-use and blending of the weathered rock material.

3) Placement at another Boral Quarry

The closest Boral Quarry is the Hall Quarry at Jeir NSW which does not have development approval to receive overburden from external sites. In addition, the transport cost is not commercially viable and this option would also prevent later re-use and blending of the weathered rock material.

4) Alternative design

Alternative designs such as a smaller disturbance footprint (increased height) would affect the stability of the landform while a reduced height (larger footprint) would result in additional vegetation clearance and increased biodiversity impacts.

5) Not proceed

Boral would be unable to extract the remaining resource within the approved quarry pit. Modification of the pit boundary, once all accessible resources are extracted, would likely have potential for greater environmental impacts when compared to the current proposal.

The proposed option as described in the application was identified as the preferred option by the Proponent. This option was considered the most efficient, cost saving, stable and strategic option that would have the least environmental impacts on the area. The site provides sufficient available land within an existing Boral leased site that is appropriately zoned for the nature and scale of development.



Source: EMM (2018), Boral (2016), admap (2016), GA (2016)

KEY

- Site location - 321 Mugga Lane, Symonston
- ▭ Total disturbance area
- ▭ Approved pit extent
- ▭ Proposed new permanent overburden bund
- ▭ Proposed temporary emplacement area
- Electricity transmission line
- Main road
- ▭ Block boundary
- ▭ ACT reserve

The project area

Boral - Mugga Quarry overburden expansion
Environmental impact statement

Figure 2.7



Figure 3 - The Project area

2. The environmental impact assessment process

The environmental impact assessment process is used to identify, predict, plan for and manage the impacts of development proposals before the proposal is considered for approval under the development application (DA) process. A proposal is considered through an Environmental Impact Statement (EIS), EIS exemption or Environmental Significance Opinion (ESO), with the suitability of each application type dependent on the type, scale and impacts of the project. An EIS or EIS Exemption process is required to be undertaken for proposals in the impact track.

An EIS process is not an approval process. It ensures potential impacts and all mitigation measures have been fully investigated and documented in accordance with the requirements of a scoping document.

The EIS is used as a key assessment tool for any DA lodged for the Project. The EIS informs a subsequent DA that is lodged for the proposal and, if approved, will guide possible conditions or management strategies for the development prior, during or post construction. Figure 4 outlines the EIS process.

Under section 127 of the PD Act, a DA for a proposal in the impact track must include a completed EIS in relation to the proposal (unless the application is exempted under section 211 of the Act).

Section 123 of the PD Act states that the impact track applies to a development if:

- the relevant development table states that the impact track applies;
- the proposal is of a kind mentioned in Schedule 4 of the PD Act;
- the Minister makes a declaration under section 124;
- section 125 or section 132 applies to the proposal; or
- the Commonwealth Minister responsible for the EPBC Act advises the Minister in writing that the development is a controlled action under the EPBC Act, section 76.

2.1. Impact track triggers

The Project is in the impact track as the development is a kind mentioned in Schedule 4 of the PD Act. This proposal triggers the Schedule 4 items listed in Table 2.

Table 2 - Impact track triggers per Schedule 4 of the PD Act

Item Number	Description	Project Component
Part 4.3, item 1	proposal that is likely to have a significant adverse environmental impact on 1 or more of the following, unless the conservator of flora and fauna provides an environmental significance opinion indicating that the proposal is not likely to have a significant adverse environmental impact: (a) a critically endangered species; (b) an endangered species; (c) a vulnerable species;	The proposed development will impact on an area that supports an endangered ecological community.

Item Number	Description	Project Component
	<ul style="list-style-type: none"> (d) a conservation dependent species; (e) a regionally threatened species; (f) a regionally conservation dependent species; (g) a provisionally listed threatened species; (h) a listed migratory species; (i) a threatened ecological community; (j) a protected native species; (k) a Ramsar wetland; (l) any other protected matter 	
Part 4.3, item 2	<p>proposal involving—</p> <ul style="list-style-type: none"> (a) the clearing of more than 0.5ha of native vegetation in a native vegetation area, other than on land that is designated as a future urban area under the territory plan, unless the conservator of flora and fauna produces an environmental significance opinion that the clearing is not likely to have a significant adverse environmental impact; 	The proposal includes the clearing of 7.28 ha of native vegetation.

2.2. EIS process

The flowchart below outlines the EIS application process.

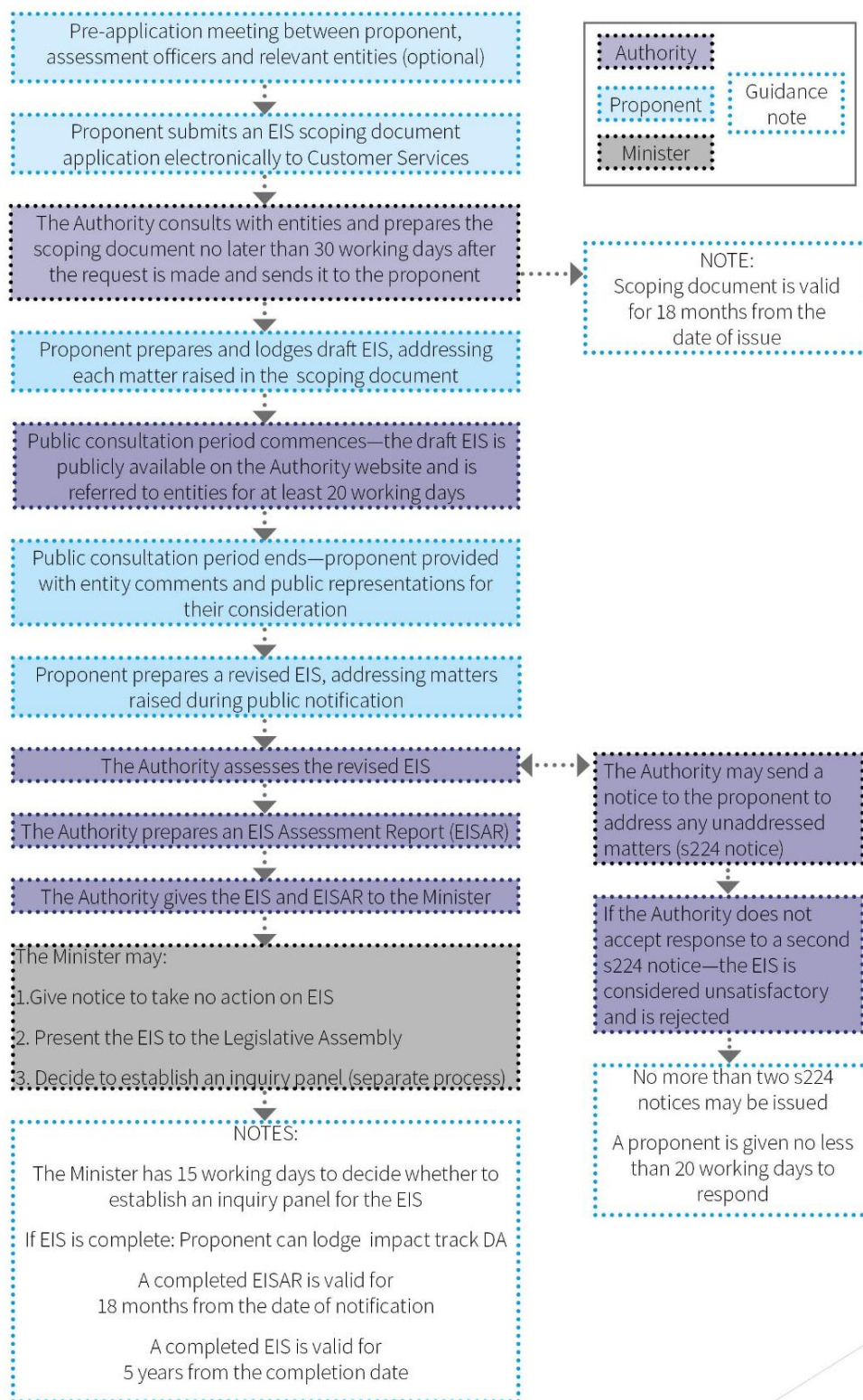


Figure 4 - The EIS process

2.3. Scoping Document

A scoping document is prepared by the Authority to outline the content and areas of investigation required for the proposal.

The planning and land authority (the Authority) within EPSDD prepares a scoping document in response to an application made for the proposal. In considering the contents of the scoping document, the Authority must consult with entities prescribed in section 51 of the *Planning and Development Regulation 2008 (PD Regulation)* about the scoping document application.

On 7 September 2018, EMM Consulting Pty Ltd lodged a request for a scoping document for an EIS pursuant to section 212(1) of the PD Act. The Authority referred the scoping document application to the prescribed entities, inviting written comments. The entities were given 15 working days to provide comment. The consulted entities and dates of responses are shown in Table 3.

Table 3 - Entity comments on scoping document application

Entity consulted	Entity response date
Evoenergy - Electricity	11 September 2018
Icon Water	27 September 2018
Environment Protection Policy	26 September 2018
Conservator of Flora and Fauna	18 September 2018
Emergency Services Commissioner	28 September 2018
Environment Protection Authority	26 September 2018
ACT Heritage Council	4 October 2018
ACT Health	28 September 2018
TCCS	3 October 2018
Strategic Planning	2 October 2018
Canberra Airport	4 October 2018

In developing the scoping document, a risk-based approach was used so that the EIS could focus on those matters that potentially result in a significant environmental impact. Matters raised by entities were considered by the Authority and were incorporated into the preparation of the scoping document.

On 19 October 2018, the scoping document was issued by the Authority to the Proponent pursuant to section 212(2) of the PD Act (Appendix 1). The scoping document set out the matters to be addressed in the EIS and contained, at a minimum, the requirements of section 50 of the PD Act and section 54 of the PD Regulation.

The scoping document was notified on the ACT Legislation Register and the EPSDD website on 22 November 2018.

Pursuant to section 214 of the PD Act, the scoping document was issued within 30 working days after the application was made.

After receiving the scoping document and pursuant to section 216(2) of the PD Act, the Proponent is required to:

- a) prepare a draft EIS that addresses each matter raised in the final scoping document for the proposal
- b) give the draft EIS to the Authority for public notification

A cross-reference document (Appendix 2) was included as an appendix to the EIS to cross reference the contents of the EIS to the contents required in the scoping document.

2.4. Draft EIS

The purpose of the draft EIS is to identify and describe the potential environmental, social and economic impacts of the proposal, including cumulative, regional, temporal and spatial considerations. The draft EIS is required to fulfil the requirements of the scoping document.

On 14 January 2019, EMM Consulting Pty Ltd submitted a draft EIS to the Authority, under section 216(2) of the PD Act.

2.4.1. Public notification of draft EIS

Pursuant to section 217 of the PD Act, the Authority publicly notified the draft EIS from 17 January 2019 to 15 February 2019, being 20 working days, in accordance with section 218 of the PD Act.

During the public consultation period, a copy of the draft EIS was available on the Authority's website and at the Access Canberra Shopfront in Dickson. This public consultation process provided interested stakeholders and the community with the opportunity to make representations on the Project or in respect to specific environmental issues of concern.

No public representations were received during the initial public consultation period.

2.4.2. Extended Public notification of draft EIS

Pursuant to section 219 of the PD Act, the Authority extended the notification period due to an error in the original notification of the draft EIS. The Proponent was provided with written notification in accordance with section 219(4) of the PD Act. The draft EIS was notified from 15 February 2019 to 18 March 2019 in accordance with the PD Act.

No public representations were received during the extended consultation period.

2.4.3. Entity referral of EIS

On 17 January 2019 the draft EIS was referred to each of the entities who provided comments on the application for the scoping document. The referral took place at the draft EIS stage so that the Proponent could address entity comments in revising their EIS. Additional comments were sought on the revised EIS where the entity had requested further information from the Proponent. Comments on the draft EIS are summarised in Table 4.

Table 4 - Summary of entity comments on the draft EIS

Referred entity	Key Matters Raised	Entity response date
Evoenergy - Electricity	Evoenergy Electricity has no comment or objection to the proposed EIS.	12 February 2019
Icon Water	Based on the referred EIS scoping document, no impacts or changes to existing supply / load is anticipated. Therefore, there are no further comments on the EIS.	15 March 2019
Jemena	On behalf of Evoenergy Gas, Jemena have no comment to make in relation to Draft EIS EIS201800033 – Mugga Quarry Overburden Expansion Project.	12 February 2019
Environment Protection Policy	No Comment from EPP, the activity is regulated under the <i>Environment Protection Act 1997</i> , so environmental impacts associated with the construction and operation will be managed by the EPA.	12 February 2019
Conservator of Flora and Fauna	<p>The documentation has some inconsistencies with regards to the number of hollow bearing trees within the project area. Figure 5.4 shows 26 such trees (out of 63) located within the total disturbance area, yet the text claims that only 19 are within the area, with ten of these being suitable for Superb Parrot. Please clarify.</p> <p>In addition to the measures within the EIS document, the following should be conditions of approval in the Development Application:</p> <ul style="list-style-type: none"> • That prior to the commencement of construction a Construction Environment Management Plan is developed and approved by the Planning and Land Authority that includes: <ul style="list-style-type: none"> ○ A Weed Management Plan; ○ A Tree Management Plan that clearly shows the trees that are to be removed and which trees are hollow bearing; and ○ A Management Plan detailing the recovery and re-use of the hollows. • That all vehicles, machinery and equipment are washed down prior to entering the site to reduce the risk of weed spread. 	6 February 2019
Emergency Services Commissioner	ACTF&R has reviewed the draft EIS - Mugga Quarry Overburden Expansion Project (Jerrabomberra) and are satisfied with the scope of this document is adequate from an agency perspective and have no comments or objections at this time.	20 and 22 February 2019
Environment Protection Authority	The review has raised no concerns regarding environmental pollution, however, the site will continue to be managed under the existing Environmental Authorisation issued by the Environment Protection Authority under the <i>Environment Protection Act 1997</i> .	14 February 2019

ACT Heritage Council	<p>The draft EIS is endorsed as the heritage values of the project area have been adequately investigated and managed in accordance with <i>Heritage Act 2004</i> requirements.</p> <p>The draft EIS describes the heritage assessment and management outcomes for the project, as approved by the Council on 3 October 2018, and is therefore endorsed subject to compliance with the following conditions:</p> <ul style="list-style-type: none"> • Salvage of Aboriginal places within the project area is required prior to the commencement of works; • A separate heritage report on the salvage of Aboriginal objects is to be submitted to the Council within six months of salvage occurring; • Salvaged Aboriginal objects are to be deposited with ACT Heritage for temporary storage following their collection; and • A Return to Country proposal for the salvaged objects is to be submitted to the Council within 12 months of salvage occurring. 	15 February 2019
ACT Health	<p>The comments raised by the HPS in September 2018 in regards to the scoping document for the EIS have been addressed.</p> <p>There are no further public health concerns in relation to the proposed project.</p>	11 February 2019
TCCS	<p>TCCS have reviewed the draft EIS documents and have no further comments.</p>	19 March 2019
Strategic Planning	<p>The Proponent has appropriately and adequately responded to the matters requested by Strategic Planning in the scoping of the EIS.</p>	4 February 2019
Canberra Airport	<p>No impact on aviation for aircraft on arrival to, departure from Canberra Airport or aircraft doing training circuits.</p>	12 February 2019

2.4.4. Request for revision of draft EIS

The Authority provided their preliminary review of the draft EIS and entity comments to the Proponent. The Proponent was required to revise the draft EIS and take into consideration comments from the Authority and referral entities and address matters raised in the revised EIS.

2.5. Revised EIS

On 10 May 2019, EMM Consulting Pty Ltd submitted a revised EIS to the Authority pursuant to section 221 of the PD Act. A brief adequacy review was undertaken to confirm that all appropriate sections and appendices had been included. The revised application was circulated to relevant entities to confirm that matters raised in earlier comments have been addressed. Following this, the Authority commenced assessment of the EIS in accordance with section 222 of the PD Act. The Authority reviewed the revised EIS for:

- adherence to the final scoping document and legislative requirements; and
- consideration and incorporation of the Authority's and entity comments provided at the draft EIS stage.

Matters to be considered during the assessment include possible conditions of approval for any subsequent DAs for the Project, as identified in Section 6 of this report.

The Authority is satisfied the Proponent adequately addressed the Authority's and entity comments. No public submissions were received during the consultation period on the draft EIS and the revised application has stated this.

2.6. Giving the EIS to the Minister for Planning and Land Management

Following the Proponent's response to issues raised through the draft EIS stage, the Authority accepted the revised EIS under section 222 of the PD Act. The findings and outcomes of the review of the EIS are included in this report, which is provided to the Minister, with the EIS, in accordance with section 225. Once the Minister has received the EIS the Minister may:

- choose to take no action on the EIS; or
- decide not to establish an inquiry panel to inquire about the EIS and present the EIS to the Legislative Assembly; or
- establish an inquiry panel to inquire about the EIS. The Minister must make this decision within 15 working days of receiving the EIS from the Authority. The requirements for establishing an inquiry panel are detailed under Part 8.3 of the PD Act.

Under section 209 of the PD Act, an EIS is completed if the Minister:

- gives the Authority a notice of no action under section 226;
- has not decided to establish an inquiry panel to inquire about the EIS;
- has established an inquiry panel for the EIS and:
 - the Panel has reported the results of the inquiry; or
 - the time for reporting under section 230 has ended.

The Authority's recommendation to the Minister can be found in section 7 of this report.

2.7. Lodging a development application

Once the EIS has been completed the Proponent can lodge a DA in the impact track. Any subsequent DA related to the EIS must include the completed EIS. Pursuant to section 227A of the PD Act, the EIS expires five years after the day it is completed.

2.8. Commonwealth environmental impact assessment requirements

Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on an MNES without approval from the Commonwealth Minister for the Environment and Energy. It is the responsibility of the person proposing the action to refer the project to the Commonwealth Minister if the action proposed is likely to have a significant impact on an MNES, the environment in general (for actions on Commonwealth land) or the environment on Commonwealth land (for actions outside Commonwealth land).

On 5 February 2018, the applicant referred the Project to the Commonwealth Minister for the Environment and Energy for potential impacts on threatened species and endangered ecological communities.

The delegate for the Commonwealth Minister for the Environment and Energy determined, on 20 March 2018, that the Project was a controlled action to be assessed by Preliminary Documentation (2018/8151). In accordance with the requirements of the EPBC Act, the Preliminary Documentation was published for public consultation between 10 January 2019 and 23 January 2019.

On 10 July 2019, the Commonwealth approved the Project subject to conditions (Appendix 3)

2.9. Documentation referenced in this report

The documentation referenced in the Authority's assessment report is summarised as follows:

- EPBC referral documentation and attachments
- revised EIS and supporting documentation
- entity comments.

3. Assessment of impacts

This section summarises issues identified in the scoping document that had to be assessed in the EIS. For each set of identified issues, the results of the Proponent's assessment are summarised under the following headings:

- impacts;
- key findings;
- mitigation and avoidance; and
- scoping document requirements.

3.1. Biodiversity

The proposed development has the potential to impact on the conservation values of the project site, including native vegetation, endangered ecological community and threatened species habitat.

In support of the EIS, an Ecological Assessment was prepared by EMM (2018) (refer to Appendix F of the revised EIS), to review the existing flora and fauna on site and to identify the impacts during construction and operational phases.

3.1.1. Impacts

The following impacts associated with biodiversity were identified:

- clearance of 7.28 ha of native vegetation, including 4.73 ha of moderate to low condition Yellow Box-Red Gum Grassy Woodland;
- loss of 10 hollow-bearing trees which may be used by Superb Parrot;
- indirect impact on native flora and fauna from noise and dust;
- indirect impact on native flora and fauna from changed hydrology; and
- weed invasion and root rot fungus introduced to the site.

3.1.2. Key findings

Ecological surveys were undertaken to assess the vegetation and fauna habitats within the Project area. The surveys found that the vegetation within the area comprise of a combination of moderate to poor condition Yellow Box-Red Gum Grassy Woodland and Red Stringybark (see Figure 5). Although there were many native species present in parts of the understorey, the ecology surveys confirm that no threatened plant species were found on the subject site.

Targeted searches were undertaken for nests of the Coconut Ant (*Papyrius nitidus*) and found no nests or other evidence of Coconut Ant's presence within the Project area.

Potential habitat for threatened bird species including the White-winged Triller, Varied Sittella, Scarlet Robin and the Superb Parrot was identified within the woodland habitat. The White-winged Triller was recorded on the Project area. The Varied Sittella, Scarlet Robin and Superb Parrot have been recorded adjacent to the Project area within Callum Brae Nature Reserve.

The Project area and surrounding land supports a large number of old woodland eucalypts, of which a substantial portion contains hollows, suitable habitat for the Superb Parrot. A

total of 63 hollow bearing trees were recorded in the survey area and 19 were recorded within the direct impact area which will be removed. The EIS states that 10 Superb Parrot habitat trees will be removed. However, the Superb Parrot was not recorded on site during the field survey and there are no known records of it breeding in the Project area. Furthermore, foraging habitat critical to the survival of the species is not present within the Project area. Therefore, the EIS considers that the Superb Parrot is unlikely to use the habitat within the Project area on a regular basis.

The proponent has provided mitigation measures to minimise the impacts on threatened bird species and the Yellow Box-Red Gum Grassy Woodland. The EIS concludes that the proposal will result in a residual impact of 4.73 ha of Yellow Box-Red Gum Grassy Woodland and 10 Superb Parrot nesting trees. To compensate for this loss the Proponent has identified offsets in accordance with the ACT and EPBC Act offset policies.



Figure 5 – Native Vegetation and ecological communities

3.1.3. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS:

Table 5 - Avoidance and mitigation measures (Biodiversity)

Proposed mitigation measures	Stage of implementation
Loss of hollow bearing trees to be minimised where possible and trees to be felled outside the spring woodland bird breeding season.	Design and construction

Trunks and large branches from trees felled to be used as part of site rehabilitation to provide fauna habitat.	Construction and operation
Upon completion of the new permanent bund, the landform is to be rehabilitated with topsoil and reseeded for stability.	Operation
A program of native tree and shrub planting to be undertaken to screen or cover the emplaced overburden material.	Construction
Dust and noise suppression techniques recommended in the Air Quality Impact Assessment and the Noise Impact Assessment to be incorporated in the existing Environmental Management Plan control measures.	Construction and operational
Continue to implement a surface water monitoring program including additional measures to reduce water quality risks through either chemical application to reduce sediment or through dewatering sediment dams to prevent overflow into surrounding native vegetation.	Construction and operation
No additional foot or vehicle movement outside of project disturbance footprint to prevent the spread of root rot fungus (<i>Phytophthora cinnamomi</i>).	Construction and Operation
Annual inspection of retained vegetation, with any weed infestations identified.	Operation
Treatment of any identified weed infestations using qualified bush regeneration contractors.	Operation

3.1.4. Scoping document requirements

The table below details the risks associated with Biodiversity as defined in the EIS.

Table 6 - Scoping document requirements (Biodiversity)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Impacts to flora and fauna	High	Likely	Minor	Medium
Impacts to ecological communities	High	Likely	Minor	Medium

3.1.5. Offset

The EIS notes that the Project will result in a residual impact on the Yellow Box-Red Gum Grassy Woodland and Superb Parrot habitat. The Proponent has undertaken an assessment in accordance with the EPBC Act *Environmental Offset Policy* (DSEWPaC, 2012) to determine the offset requirements.

The EIS identified that an offset site has been located north-west of Crookwell, and this will be delivered through the NSW Biobanking Scheme. Commonwealth conditions of approval

require the offset (170 credits under the Biobanking Scheme) to be acquired and retired prior to commencing the action.

The offset proposal was developed in reference to the EPBC Act *Environmental Impacts Policy*. In accordance with the *ACT Environmental Offset Policy* (ACT Government, 2015), additional environmental offsets are not required for this project.

3.2. Air emissions (dust)

The Project has the potential to impact on air quality via dust emissions from the excavation, transport and emplacement of the materials during the expansion of Boral's Mugga Quarry.

The EIS provides assessments of the direct and indirect air quality impacts associated with the proposal and the proposed mitigation measures to ensure minimal impacts are maintained throughout the Project life.

An air quality impact assessment prepared by Ramboll Australia Pty Ltd was provided as a supporting document of the EIS.

3.2.1. Impacts

The impacts identified in the EIS were:

- dust emissions from site during construction; and
- dust emissions from site during operation.

3.2.2. Key findings

The main contributors to air emissions and dust generation associated with the Project include vehicular and machinery movement, material handling, excavation activities, construction of the new bund area, crushing and screening components, and quarry and asphalt production.

Ramboll's air quality impact assessment found that the proposed overburden handling and construction of the new emplacement represents a significant proportion of annual emissions. The air quality assessment identified that the key contributor to the annual emission is likely to be associated with wind erosion, while the fine particulates emission is a result of the asphalt plant.

The modelling showed that the predicted project-only emissions are likely to occur below the applicable ACT and NSW air quality assessment criteria. The EIS notes that the cumulative impacts (combine project and ambient air quality) for all emission was found to be below the applicable criteria across all receptor level.

Noting the current operation procedures and existing dust emission control measures, the EIS concludes that the operation of the Project is highly unlikely to result in exceedances of the applicable air quality criteria for any of the surrounding receptors.

3.2.3. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS:

Table 7 - Avoidance and mitigation measures (Air Emissions (dust))

Proposed mitigation measures	Stage of implementation
Water sprays on permanent bund, temporary emplacement area and on vehicle transport routes to minimise fugitive dust emissions.	Construction and operation
Planting of native groundcover on the overburden bund to prevent dust emissions (within 12 months).	Construction and operation
Maintaining vehicle speeds below 40 km/hr to assist in minimising dust emissions from hauling on unpaved roads.	Construction and operation

3.2.4. Scoping document requirements

The table below details the risks associated with air emissions (dust) as defined in the EIS.

Table 8 - Scoping document requirements (Air Emissions (dust))

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Potential dust generation or dust movement during construction	Medium	Possible	Minor	Low
Potential impacts on existing air quality caused by the use of the site	Medium	Possible	Minor	Low

3.3. Aboriginal cultural heritage

Aboriginal places/objects are known within proximity of the proposal. The EIS identified nine stone artefact sites in the Project area, comprising five isolated artefacts and four artefact scatters. Boral were granted a Statement of Heritage Effect (SHE) approval by ACT Heritage Council (the Council) on 3 October 2018 to salvage the discovered Aboriginal objects.

3.3.1. Impacts

The EIS notes that the Project has the potential to impact both Aboriginal and non-Aboriginal cultural heritage.

3.3.2. Key findings

EMM consulting Pty Ltd, as part of the EIS process prepared a Cultural Heritage Assessment (CHA) and applied for a SHE. The CHA identified the cultural heritage values on site and documents the methods, results and the management measures proposed for the Project area.

The investigations for the EIS identified nine stone artefact sites consisting of five isolated artefacts and four artefact scatters that would be impacted by the Project. In addition to the

nine Aboriginal places, the Project area contains another pre-identified Aboriginal place, Mugga Q1.

The creation of an emplacement involves truck movements, deposition of large amounts of overburden materials and landscaping. Artefacts below the surface will not be retrievable once the emplacement is created. The EIS states that these impacts constitute a total loss of all the Aboriginal places identified within the Project area.

On 3 October 2018, the Council approved the SHE application subject to conditions. Comments received from the Council have been incorporated into Section 6 of this report.

3.3.3. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS:

Table 9 - Avoidance and mitigation measures (Aboriginal Cultural Heritage)

Proposed mitigation measures	Stage of implementation
Collect and provide a record of all collected archaeological surface sites of Aboriginal heritage items to ensure all information about the Aboriginal history of the area is not lost.	Prior to construction
Prior to ground disturbance activities within the project area, site collection method need be undertaken.	Prior to construction
Prepare and implement repatriation protocols for the collected archaeological material.	Prior to construction
Develop procedures that specify actions to be taken in the unlikely event of discovery of human skeletal remains and discovery of new Aboriginal places or objects.	Prior to construction
A separate heritage report on the salvage of Aboriginal objects is to be submitted to the Council within six months of salvage occurring.	Prior to construction
Salvaged Aboriginal objects are to be deposited with ACT Heritage for temporary storage following their collection.	Prior to construction
A Return to Country proposal for the salvaged objects is to be submitted to the Council within 12 months of salvage occurring.	After salvage occurring

3.3.4. Scoping document requirements

The table below details the risks associated with Aboriginal Cultural Heritage as defined in the EIS.

Table 10 - Scoping document requirements (Aboriginal Cultural Heritage)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Adverse impacts to Aboriginal and non-Aboriginal cultural heritage	High	Possible	Moderate	Medium

3.4. Visual

The proposal will include a proposed new permanent overburden bund and temporary emplacement area. The overburden bund will cover an area of 25 metres wide and 500 metres in length and will have a finished height of 725 metres above Australian Height Datum (approximately 15m above current ground level). Due to the scale of the overburden bund there will be a visual impact from a number of publicly accessible areas.

A Visual Impact Assessment prepared by EMM was provided with the EIS to address the visual impact of the Project.

3.4.1. Impacts

The EIS states that the Project has the potential to impact on the visual amenity of the surrounds.

3.4.2. Key findings

The subject site is situated within a broadacre rural setting surrounded by low density rural blocks and established remnant native vegetation.

The visual impact assessment has been conducted from a number of public and private receptor viewpoints and has identified that the proposed development would be most visually dominant when viewed from Mugga Lane and Monaro Highway. The assessment confirmed that the views from Mugga Lane is largely screened by the surrounding natural landscape, natural topography, and established vegetation. Visual impacts to road users of Monaro Highway are currently interrupted by industrial built form and likely to be reduced by distance.

The EIS notes the Project is expected to be completed in 14- 16 months and the visual impacts will only be temporary. During this time the overburden bund will be constructed progressively and the emplacement area will only be required for a period of 12 months. The EIS states that the visual impacts will diminish over time as the overburden material mixes into existing quarry products and the final landform is rehabilitated blending onto the natural surrounds.

The EIS concludes that the Project is unlikely to transform the visual character of the locality or change the local perception of the surrounding area.

3.4.3. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS:

Table 11 - Avoidance and mitigation measures (Visual)

Proposed mitigation measures	Stage of implementation
Protection and preservation of existing native vegetation to uphold the visual integrity of the locality with only the proposed disturbance area vegetation being removed.	Construction and operation
Within 12 months of completion of the proposed overburden bund emplacement, rehabilitation of the final land form with topsoil and reseeding with native species to promote revegetation.	Operation

3.4.4. Scoping document requirements

The table below details the risks associated with visual impacts as defined in the EIS.

Table 12 - Scoping document requirements (Visual)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Adverse impacts to the visual amenity of the surrounds	High	Possible	Moderate	Medium

3.5. Soil and hydrology

The Project is expected to alter surface water runoff and has the potential to cause deterioration in surface water quality, increase flooding risk and will have adverse impacts to the existing surface flow regime.

A Surface Water Assessment prepared by EMM was provided with the EIS which assesses the Project's impacts on the existing surface flow regime.

3.5.1. Impacts

The potential impacts identified in the EIS were:

- impacts to current surface water quality;
- the potential for flooding on site; and
- adverse impacts to the existing surface flow regime.

3.5.2. Key findings

The EIS notes that the Project area contains a number of drainage lines which flow into four separate water management areas. All of the drainage lines are considered ephemeral with surface flows limited to short periods of time during and shortly after rainfall. The EIS notes that based on monitoring wells the ground water is approximately 14 m beneath the site and is unlikely to be impacted during construction or operation of the Project.

The EIS considers the potential flooding and adverse impacts to the existing surface flow regime. This also includes assessing the surface water quality from sediment laden water and the potential impacts on and off site, as well as to local waterways downstream from the Project.

Water quality

The surface water quality study records the existing water quality of the relatively undisturbed downstream waterway and the quarry sump as base data for future water quality monitoring. The EIS notes that water quality may be impacted through discharge of sediment laden water and seepage from the emplacement areas. To manage the water quality risk, it is proposed that runoff and seepage from the emplacement areas will be captured in sedimentation dams. The Proponent has also committed to undertake water

quality monitoring for all proposed sedimentation dams and downstream receiving water locations to ensure the proposed work will not significantly impact the water quality.

Surface flow regimes

The waterway inspection undertaken by EMM observed drainage lines to be generally dry despite the significant rainfall. The SWA confirms that no material disturbance of surface flow is expected as the proposed emplacement design will minimise the realignment of catchment boundaries. Furthermore, the proposed sedimentation dams will capture the initial 15 mm of runoff from each rainfall event.

Flooding

Although the local area is not prone to flooding, the proposed development will change landform and potentially increase flooding risk. The EIS states that the proposed sedimentation dams will treat all runoff from the disturbed area and mitigate flooding risk to downstream waterways. The EIS further confirms that during and following intense rainfall, runoff volumes and peak flows from the northern emplacement area are expected to be similar to or less than runoff from the existing landform.

The referred entities did not raise any concern in relation to water quality or flooding risks associated with the proposal.

3.5.3. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS:

Table 13 - Avoidance and mitigation measures (Soil and Hydrology)

Proposed mitigation measures	Stage of implementation
The establishment of surface water drains to manage runoff from the project area, including rock armouring to manage erosion and scour risks.	Design, construction and operation
Capture all runoff from disturbed areas in three purpose built sedimentation dams and treat runoff prior to release.	Design, construction and operation
Treatment and dewatering all three sedimentation dams to 20% following rainfall event.	Operation
Surface water monitoring during construction and operation of the Project (Minimum of 2 years).	Construction and operation
If monitoring identifies that sedimentation dams are proving ineffective then additional chemical water treatment such as gypsum or low toxicity flocculants will be undertaken.	Construction and operation
Dewater sedimentation dams to the quarry pit for future use as dust suppression.	Construction and operation
Monitor weather forecasts to provide indication of predicted heavy rainfall events.	Operation

3.5.4. Scoping document requirements

The table below details the risks associated with soil and hydrogen as defined in the EIS.

Table 14 - Scoping document requirements (Soil and Hydrology)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Surface Water Quality	Medium	Possible	Minor	Low
Flooding Potential	Medium	Possible	Minor	Low
Adverse impacts to the existing surface flow regime	Medium	Possible	Minor	Low

3.6. Noise and vibration

The operation and associated construction activities for the new permanent overburden bund and temporary emplacement area will generate noise that could potentially impact the amenity of sensitive receptors proximate to the Project.

3.6.1. Impacts

The potential impacts identified in the EIS include site noise impacts including sleep disturbance during construction and operation.

3.6.2. Key findings

A Noise Impact Assessment (NIA) was undertaken by EMM (Appendix M of the EIS) to assess the impacts of noise and vibration to sensitive receptors surrounding the site. The NIA states that vibration emissions from the Project would be similar to existing levels of the current operations therefore vibration impacts are considered unlikely and have not been assessed.

Ten sensitive receptor sites were identified with three being broadacre/residential and the others being broadacre/commercial and broadacre/industrial. Noise monitoring carried out by EMM identifies that site noise emission levels are predicted to meet the noise limits at all assessment locations during the daytime period. An exceedance of up to 2dB is predicted to occur at one assessment location during the night time period. The NIA states that this change is deemed 'typically indiscernible' to the human ear and unlikely to be detected by nearby residents. EMM concluded that it is unlikely that Project noise emissions would cause adverse impacts at any assessment locations.

3.6.3. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS:

Table 15 - Avoidance and mitigation measures (Noise and Vibration)

Proposed mitigation measures	Stage of implementation
Hours of operation during construction and operation of the project between 7:00 am and 6:00 pm, Monday to Saturday. No works to be undertaken on Sundays or public holidays.	Construction and operation

Regular identification of noisy activities and adoption of improvement techniques.	Construction and operation
Avoidance of the use of any unnecessary portable radios, public address systems or other methods of communication that may cause impacts to sensitive receptors.	Construction and operation
Where possible, avoiding the use of equipment that generates impulsive noise.	Construction and operation
Implementation of one-way site traffic routes to minimise the need for reversing traffic noise.	Construction and operation
Use of broadband audible reverse alarms on vehicles where necessary.	Construction and operation
Unnecessary metal-on-metal contact, movement of materials and plant use to be minimised where necessary.	Construction and operation
Mandatory respite periods scheduled for intensive work.	Construction and operation

3.6.4. Scoping document requirements

The table below details the risks associated with noise and vibration as defined in the EIS.

Table 16 - Scoping document requirements (Noise and Vibration)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Site noise impacts including sleep disturbance during construction	Medium	Possible	Minor	Low
Site noise impacts including sleep disturbance during operation	Medium	Possible	Minor	Low

3.7. Hazards and risks

The proposal is to establish a new permanent overburden bund and temporary stockpile area to store and process overburden and weathered rock material. The EIS process has identified a number of potential impacts that if unmitigated have the potential to cause harm, such as fire, flooding (see section 3.5), accident, and trade waste.

3.7.1. Impacts

The potential impacts identified in the EIS were:

- fire from equipment failure impacting on surrounding properties;
- flooding potential;
- accident and emergency response;
- public access;
- non-domestic trade waste; and
- design and construction of all water bodies.

3.7.2. Key findings

In regards to the impacts identified above the EIS states that:

- The proposal will not change the bushfire risk as no buildings or structures are proposed. In addition the new overburden bund, access road and emplacement area will provide a firebreak across the northern portion of the site.
- Hazard identification and risk management of all works and operations and emergency response is covered by the existing Health, Safety, Environment and Quality Management System (HSEQMS).
- The proposal is not expected to increase traffic volumes or impact on existing traffic and the surrounding network. Additional vehicles movements will be contained within the site, therefore unlikely to increase the risk of accidents.
- The Project area will be secured to prevent unauthorised public access, and works will be set back from the property. In addition the site will be under continual surveillance.
- No changes is proposed to the exiting utilities supply to the site and no non-domestic sewage will be produced by the Project.
- No permanent waterbodies are proposed as the sedimentation dams will be dewatered following rainfall therefore, no material increase in mosquito breeding habitat is expected.

A number of procedures are in place for the current quarry operations, as well as existing mitigation measures that will reduce the possibility potential impacts associated with the proposal.

3.7.3. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS:

Table 17 - Avoidance and mitigation measures (Hazards and Risk)

Proposed mitigation measures	Stage of implementation
All mobile equipment is to be fitted with spark arresting mufflers.	Construction and operation
All flammable liquids are to be stored in a bunded area and isolated from any vegetation for a distance of 10 m.	Construction and operation
All buildings and mobile equipment are to have fire extinguishers. Fire extinguishers are to be serviced regularly.	Construction and operation
Boral are to operate and regularly maintain a water cart and pumps suitable for firefighting at the site.	Construction and operation
All buildings are to be clear of vegetation build-up such as leaf litter and grass.	Operation
Adequate water supply must be maintained on site at all times. Especially during periods of dry weather or high fire danger days.	Construction and operation

All staff are to be trained in fire awareness and must be instructed in basic firefighting procedures.	Operation
The existing Environmental Management Plan and measures must be implemented to minimise any potential environmental impacts.	Construction and operation

3.7.4. Scoping document requirements

The table below details the risks associated with hazards and risk as defined in the EIS.

Table 18 - Scoping document requirements (Hazards and Risk)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Fire from equipment failure impacting on surrounding properties	High	Unlikely	Major	Medium
Flooding potential	Low	Possible	Minor	Low
Accident and emergency response	Low	Possible	Minor	Low
Public access	Low	Possible	Minor	Low
Non-domestic trade waste	Low	Possible	Minor	Low
Design and construction of all water bodies	Medium	Possible	Minor	Low

3.8. Environmental Management Plan (EMP)

The EIS states that Mugga Quarry is currently operating under an existing EMP which sets out the performance criteria (where relevant), mitigation and management and environmental performance monitoring for the relevant impacts of the proposal. The EIS states that all Project personnel will receive inductions and be expected to fully comply with the requirements of the EMP.

The EMP objectives and implementation are facilitated through the Boral's HSEQMS. The EMP and HSEQMS ensure Project activities are identified, risks are assessed, and appropriate controls are applied.

The key strategies included in the EMP are summarised below:

- roles and responsibilities;
- mitigation measures to be implemented to address dust emission, surface water quality, noise, traffic, flooding, and site security;
- requirements for handling hazardous materials;
- compliance governance;
- environmental training and inductions;

- project records requirements;
- incident response and contacts details;
- distribution of the EMP;
- complaints response; and
- environmental monitoring and performance.

The EIS states that site supervisor and the Boral HSE advisor would perform periodic compliance inspections and audits. Any non-conformances to the EMP or regulatory requirements will be documented and an environmental incident report will be registered in the Boral Incident Management System. In addition, the EPA has confirmed that the site will continue to be managed under the existing Environmental Authorisation issued by the EPA under the *Environment Protection Act 1997*.

The draft EMP provided by the Proponent has been assessed and is considered to be effective in reducing the impacts from the proposal.

3.9. Conclusion of impact assessment

The supporting studies and the comments of relevant entities provide sufficient information on all impacts of the proposal as identified above. Further investigations into the impacts associated with the proposal is not required.

4. Policy considerations

A number of ACT policies were considered in the preparation of this EIS as outlined below.

4.1. ACT Planning Strategy

The ACT Planning Strategy provides long-term planning policy and goals to promote sustainable development, consistent with the social, environmental and economic aspirations of the people. The ACT Planning Strategy is reflected in the statement of strategic directions in the Territory Plan 2008 and is discussed below.

4.2. Territory Plan 2008

4.2.1. Territory Plan Statement of Strategic Directions

The statement of strategic directions recognises that the ACT must be planned as both the setting for the National Capital and as a self-governing community in its own right. The statement also has a focus on principles for sustainable development relating to environmental, economic and social sustainability as well as spatial planning and urban design principles.

Some of the key principles in the statement of strategic directions include a balanced approach to economic, social and environmental impacts to ensure sustainable practices.

The EIS documentation is considered to be consistent with the statement of strategic directions in the Territory Plan. Relevant principles have been considered in the EIS documentation.

4.2.2. Territory Plan codes

The Jerrabomberra Precinct Map and Code and Non-urban Zones Development Code is applicable to the proposal, in addition to various general codes. The EIS states that the development is generally consistent with the requirements of the Territory Plan. The subsequent DA related to the EIS must be assessed against all relevant codes of the Territory Plan.

4.3. National Capital Plan (NCP)

The object of the NCP is to ensure that Canberra and the Territory are planned and developed in accordance with their national significance. The NCP provides guidance for the planning, design and development of Designated Areas and other areas identified in the NCP with special requirements. The EIS states that Extractive Industry (Mugga Quarry) is a permitted land use for the subject site under the NCP.

4.4. AP2 – ACT Climate Change Strategy

The AP2 – ACT Climate Change Strategy sets out the ACT Government responsibilities in reaching greenhouse gas emission targets and provides guidance for policy in implementing actions for residential and non-residential sectors as well as actions relating to climate change adaptation.

The EIS has considered the impacts of climate change associated with the proposal such as greenhouse gases emission and dust emission. The proposal is considered to be consistent with the ACT Climate Change Strategy.

4.5. Other policies addressed in the EIS

Other policies, outside the requirements of the Scoping Document, have been addressed in the EIS. These were included in the EIS by the Proponent as part of consideration of general government policies. The information detailed in the EIS demonstrated that the proposal was consistent with:

- *Nature Conservation Act 2014*
- *Heritage Act 2004*
- *Water Resources Act 2007*
- *Environmental Protection Biodiversity Conservation Act 1999*
- Sustainability Policies
- *Environment Protection Act 1997*

5. Other considerations

5.1. Principles of ecologically sustainable development

The following ecologically sustainable development principles have been considered in the EIS documentation and by the Authority. It is considered that economic, environmental, social and equitable considerations are contained within the EIS documentation and inform decision making through the implementation of the following principles.

5.1.1. The precautionary principle

The precautionary principle has been addressed in the EIS and was considered by the Authority in the preparation of this assessment report.

The Project avoids significant environmental damage through use of an existing site. The Proponent has thoroughly addressed all impacts in the EIS and supporting documentation, and that a precautionary approach has been taken wherever relevant.

5.1.2. The integration principle

The long-term and short-term economic, environmental, social and equitable consideration have been considered by the Authority in the preparation of this assessment report. These included the cumulative impacts of all past and present developments within the area, including known future proposals. The Authority is satisfied that the cumulative impacts have been addressed appropriately.

5.1.3. The principle of inter-generational equity

The principle of inter-generational equity has been addressed in the EIS and was considered by the Authority in the preparation of this assessment report.

The EIS and supporting documentation has addressed short and long term impacts and provided mitigation measures to reduce the impacts. The impacts have been considered by this assessment report and determined to be reduced to a suitable level.

5.1.4. The conservation of biological diversity and ecological integrity

The conservation of biological diversity and ecological integrity has been addressed in the EIS and was considered by the Authority in the preparation of this assessment report (refer section 3.1).

5.1.5. Improved valuation, pricing and incentive mechanisms

Improved valuation, pricing and incentive mechanisms have been addressed in the EIS and was considered by the Authority in the preparation of this assessment report. As noted above the EIS has addressed environmental impacts of the development and therefore have considered the environmental cost of the proposal. The impacts have been considered by this assessment report and determined to be reduced to a suitable level.

5.2. Proponent's environment history

The EIS states that the site has no reported history of causing an 'environmental nuisance' in terms of noise, air emissions or water quality discharge and has not received any complaints in recent times. As the proposed development is for the continuation of the existing quarry, there are no predicted significant impacts arising from the proposal.

6. Recommended conditions

After considering the revised EIS, the Authority recommends DA considerations to assist with avoidance and mitigation of adverse environmental impacts, as outlined in Table 19.

Any DA related to the completed EIS must include the DA considerations as part of the application. In deciding a development application in the impact track, the Authority must consider matters raised in the completed EIS and EIS assessment report.

Table 19 - Conditions of DA for Mugga Quarry Overburden Expansion Project

No.	Condition contents	Endorsement/approval	Construction stage	Draft condition of approval
1	General	EPSDD, and relevant agencies as part of the detailed assessment of the DAs	Detailed design	All mitigation measures identified in section 8 of the revised EIS, for the detailed design, must be incorporated into the plans that will be submitted as part of the subsequent DAs. Where mitigation measures cannot be incorporated into the design each residual mitigation measure must be outlined in the CEMP-see recommended condition 2.
2	CEMP	Conservator of Flora and Fauna, the Authority	Prior to Construction	<ul style="list-style-type: none"> • Prior to the commencement of construction a CEMP is prepared, and submitted the Authority for approval. The CEMP must include: <ul style="list-style-type: none"> ○ A Weed Management Plan to reduce the risk of weed spread; ○ A Tree Management Plan that clearly shows the trees that are to be removed and which trees are hollow bearing; and ○ A Rehabilitation Plan detailing the recovery and re-use of the hollows from felled trees, the plant species to be used and rehabilitation cover targets. Clump plantings should occur so that the disturbance area is eventually rehabilitated back to being small woodland bird habitat.
3	Heritage	ACT Heritage Council	Prior to Construction	<ul style="list-style-type: none"> • Salvage of Aboriginal places within the project area is required prior to the commencement of works; • A separate heritage report on the salvage of Aboriginal objects is to be submitted to the Council within six months of salvage occurring; • Salvaged Aboriginal objects are to be deposited with ACT Heritage for temporary storage following their collection; and

				<ul style="list-style-type: none"> • A Return to Country proposal for the salvaged objects is to be submitted to the Council within 12 months of salvage occurring.
4	Removal of hollow bearing trees	EPSDD, Conservator of Flora and Fauna	During Construction Post Construction	<p>Loss of hollow bearing trees to be minimised where possible and felling of trees must occur outside the spring woodland bird breeding season.</p> <p>Trunks and large branches from trees felled to be placed amongst the remaining woodland on the lease area.</p>
5	EMP	Conservator of Flora and Fauna, EPA, the Authority	Prior to construction	Upgrade the existing EMP to provide guidance to employees and contractors on the environmental management and mitigation measures that will be implemented.
6	CEMP	The Authority	During construction	All works must be in accordance with the endorsed CEMP and sub plans.

7. Recommended action on this EIS

Having regard to the documentation and information provided, the Authority has assessed the revised EIS and supporting reports for the Project as meeting the requirements of an EIS under Chapter 8 of the PD Act.

It is the Authority's assessment that the revised EIS and supporting reports have provided sufficient information to the ACT Government and the community to allow an informed evaluation of potential environmental impacts which could be attributed to the Mugga Quarry Overburden Expansion proposal. The supporting information and referral entities have proposed a range of avoidance, mitigation and management measures and conditions to reduce or avoid potential environmental impacts arising from construction and operational activities associated with the Project. It is considered that any potential adverse impacts can be adequately addressed and reduced by implementing these measures and the development application conditions specified in this report.

In regards to the MNES, the Commonwealth has assessed the Project separately under the EPBC Act and provided approval subject to conditions. The conditions include the requirement for an offset site (170 credits under the Biobanking Scheme) to be acquired and retired prior to commencing the action.

The Authority's recommendation is that the Minister need take no action in relation to the revised EIS.

Appendix 1 – Final scoping document



ACT
Government

**Environment, Planning and
Sustainable Development**

Scoping Document

Under Division 8.2.2 of the *Planning and Development Act 2007*

APPLICATION NUMBER: 201800033		DATE OF THIS NOTICE: 19 October 2018	
DATE LODGED: 7 September 2018		DATE OF EXPIRY OF THIS NOTICE: 19 April 2020	
PROJECT: Mugga Quarry Overburden Expansion Project			
BLOCK: 2031	SECTION: 0		DISTRICT: Jerrabomberra
ADDRESS: 321 Mugga Lane			
PROPONENT: Boral Resources (Country) Pty Ltd			
APPLICANT: EMM Consulting Pty Ltd			
LAND CUSTODIAN OF BLOCK 2031: Boral Resources (Country) Pty Ltd			

SCOPING DOCUMENT

The planning and land authority (the Authority) within the Environment, Planning and Sustainable Development Directorate received your application under section 212(1) of the *Planning and Development Act 2007* (the PD Act) for Scoping of an Environmental Impact Statement (EIS) for the above proposed development. Pursuant to section 212(2) of the PD Act, the Authority has:

- a) Identified the matters that are to be addressed by an EIS in the relation to the development proposal; and
- b) Prepared a written notice (the **scoping document**) of the matters.

NB: The EIS must conform to the requirements of this scoping document. This document does not indicate approval or support in any way.

TERM OF SCOPING DOCUMENT

Pursuant to section 213(2) of the PD Act, the proponent must give the draft EIS to the Authority by the end of the period of 18 months starting on the day the Authority gives the scoping document for the development proposal to the applicant.

FORM AND FORMAT OF EIS

The proponent must engage a suitably qualified independent consultant to prepare an EIS, OR the proponent must submit, with the draft EIS, an independent review of the draft EIS undertaken by a suitably qualified consultant. The EIS must be in the following form and format:

- The EIS must be prepared in accordance with section 50 of the *Planning and Development Regulation 2008*.
- The EIS must be written in plain English and avoid the use of jargon as much as possible.
- The EIS is required to be provided in the same structure as described in this Scoping Document, as closely as possible. A table that cross-references the EIS to the scoping document must be included in the EIS submission.



ACT
Government

**Environment, Planning and
Sustainable Development**

Scoping Document

Under Division 8.2.2 of the *Planning and Development Act 2007*

- The report must reference any figures or supporting information used to the supporting appendix and page number, table or figure.
- Additional technical detail, including relevant data, technical reports and other sources of the EIS analysis must be provided in appendices.
- Maps, diagrams and other illustrative material should be included in the EIS to assist readers to interpret information.
- The EIS document is to be sized A4 with maps and drawings in A4 or A3 format.
- The proponent must supply a copy of all draft EIS and revised EIS documents in electronic formats for circulation and web posting. These are to be supplied by email, USB, or another agreed method.
- Digital files must not exceed 20 MB each.
- The proponent must supply three hard copies of the draft EIS and 2 copies on individual USB's once it has been accepted for lodgement and three hard copies and 3 copies on individual USB's of the revised EIS once it had been accepted for lodgement.

COST OF PREPARATION OF EIS

The proponent is responsible for the preparation of the draft and revised EIS and any related applications and associated costs. This includes additional copies of the draft and revised EIS and other associated documents as required by the Authority from time to time.

NEXT STEPS

The proponent is now required to prepare a document (a **draft EIS**) that addresses each matter raised in the scoping document for the proposal within the timeframe provided in this scoping document. Once the draft EIS has been accepted for lodgement, a public notification fee is payable in order for notification, referrals and assessment to commence. After the notification period has closed, the Authority will provide comments and any public representations received for the proponent to address in preparing a **revised EIS**, and any further instructions on the application.

If you have any queries about the requirements outlined in this scoping document, please contact Jacob Treloggen to arrange a suitable time to discuss.

Delegate of the planning and land authority

George Cilliers
A/g Executive Director
Planning Delivery Division
Environment, Planning and
Sustainable Development Directorate

Contact

Jacob Treloggen
Assessment Officer
Impact Assessment and Business Improvement
Environment, Planning and
Sustainable Development Directorate
E: Jacob.treloggen@act.gov.au
T: (02) 6205 7391

GENERAL REQUIREMENTS FOR THE EIS

1. Cover Page

The cover page must clearly display the following:

- The name of the proposal (project title)
- The block identifier(s) and street address for the proposal
- The date of the preparation of the document
- Full name and postal address of the designated proponent
- Full name and postal address of the designated applicant
- Name and contact details of the person/organisation who prepared the documents (if different to the above)

2. Glossary

Provide a glossary of technical terms, acronyms and abbreviations used in the EIS.

3. Executive Summary

Provide a non-technical summary of the EIS including a description of the proposal, key findings and recommendations.

4. Introduction

Summarise the proposal background and justification for the proposal.

5. Proposal Details

5.1. Project Description

Provide a description of the proposal, including:

- a) The objectives and justification for the proposal;
- b) The location of the land to which the proposal relates, including detailed maps;
- c) The division and/or district names and block and/or section numbers of the land under the *Districts Act 2002*;
- d) If the land is leased – the lessee's name;
- e) If the land is unleased or public land – the custodian of the land;
- f) The purposes for which the land may be used;
- g) A clear identification of all lands subject to direct disturbance from the proposal and associated infrastructure and geomorphic features such as waterways and wetlands. This is to be supported by a map showing all affected lands;
- h) An outline of any developments that have been, or are being, undertaken by the proponent, or other person(s) or entities, within the proposal area and broadly in the region. Describe how the proposal relates to those in the region affected by the proposal;
- i) A description of all the components of the proposal, including the proposal specifications, the predicted timescale for implementation (design, approvals, construction and decommissioning) and project life;

-
- j) A plan/description of the precise location of any works to be undertaken, structures to be built or elements of the proposal that may have relevant impacts; and
 - k) A description of the construction methodologies for the proposal.

5.2. Alternatives to the proposal

Provide details of any alternatives to the proposal considered in developing the proposal including a description of:

- a) Any alternatives to the proposal and provide reasons for selecting the preferred option with an analysis of site selection as an attachment to the EIS;
- b) The criteria used for assessing the performance of any alternative to the proposal considered;
- c) Any matters considered to avoid or reduce potential impacts prior to the selection of the preferred option; and
- d) Details of the consequences of not proceeding with the proposal.

6. Legislative and Strategic Context

A description of the EIS process including any statutory approvals obtained or required for the proposal, and how the proposal is aligned with strategic priorities for the ACT.

6.1. Statutory requirements

The description must include information on statutory requirements for the preparation of an EIS:

- *Planning and Development Act 2007*
- *Planning and Development Regulation 2008*
- Related statutory approvals.

6.2. Climate change

The EIS must include information on how the proposal will reduce the risks from climate change impacts and include proposed adaptation measures to reduce vulnerability and increase resilience of the community and the Territory, particularly the extreme events of heatwaves, droughts, storms with flash flooding and bushfires. The information must address impacts on the local microclimate and how it will avoid contribution to urban heat and positively contribute to urban cooling measures.

Additionally, the EIS must address the contribution the proposal will make to reducing greenhouse gas emissions and meeting the legislated target for a net zero emissions Territory (by 2050 at the latest). Preparation of the EIS must consider the ACT Government's policies:

- ACT Climate Change Adaptation Strategy, 2016
- AP2 – A new climate change strategy and action plan for the Australian Capital Territory, 2012

6.3. Other requirements

The description must also include information on how each of the following has been considered in the preparation of the EIS and the development of the proposal:

- Territory Plan 2008
- ACT Planning Strategy
- National Capital Plan

- Sustainability Policies
- Environment Protection Act
- Any relevant Master Plan
- Other relevant planning and environmental guidelines and management plans.

6.3.1. Ecologically sustainable development (ESD)

Provide a description of how the proposed development demonstrates ESD. This is to include long-term and short-term considerations related to economic development, social development and environmental protection at local, regional and national scales. The proponent should ensure that the EIS adequately addresses the ESD principles as defined by section 9 of the PD Act.

6.3.2. Territory Plan strategic directions

A statement must be provided regarding the proposal's consistency with the principles in the Statement of Strategic Directions in the Territory Plan 2008 (Section 2.1 - Strategic Direction).

7. Risk Assessment

7.1. Risk Assessment Methodology

Provide a risk assessment in accordance with the Australian and New Zealand Standard for risk management AS/NZS ISO 31000:2009 *Risk Management – Principles and guidelines*. The proposed criteria for determining which risks are potentially significant impacts must be described. This should be based upon the Preliminary Risk Assessment (PRA) submitted with your request for the scoping application.

Should any risk levels change during the preparation of the EIS or any new risks become apparent, these must be assessed and included within the EIS, and where relevant, the residual risk assessment.

-Assessment guide-			
Provide a table with the headings below to describe the risks identified and the original risk rating without any mitigation strategies in place. This table format is one option, however alternative formats can be used provided the methodology is clearly described and in accordance with AS/NZS ISO 31000:2009 <i>Risk Management – Principles and guidelines</i>			
Risk	Likelihood	Consequence	Risk rating

8. Assessment of Impacts

Sufficient information is required to provide the Authority with an adequate understanding of the environmental impacts associated with the proposal. Each potentially significant impact rated with a risk rating of medium and above as identified in the risk assessment must be addressed with the information required by sections 8.1.1- 8.1.7 of this scoping document.

Table 1 identifies the issues that the Authority has identified as potentially significant risks, and the relevant sections of the scoping document that must be addressed in the EIS. The risks and their associated risk levels were determined from the information submitted with the PRA, comments received from entities on the request for scoping document application and the Authority's assessment.

Table 1 – Identified impacts and requirements to be addressed in the EIS

Environmental Theme	Risk identified	See section/s below for further detail
Biodiversity	<ul style="list-style-type: none"> Impacts to Flora and Fauna Impacts to ecological communities 	8.1.1
Air Emissions (Dust)	<ul style="list-style-type: none"> Impacts off-site during construction Impacts off-site during operation 	8.1.2
Aboriginal cultural heritage	<ul style="list-style-type: none"> Impacts to known Aboriginal cultural heritage Impacts to unknown Aboriginal cultural heritage 	8.1.3
Visual	<ul style="list-style-type: none"> Visual impacts on the non-urban area, including lighting 	8.1.4
Soil and hydrology	<ul style="list-style-type: none"> Impacts to the existing surface flow regime Flooding during construction and operation 	8.1.5
Noise and Vibration	<ul style="list-style-type: none"> Noise during operation 	8.1.6
Hazards and risks	<ul style="list-style-type: none"> Fire from equipment failure impacting on surrounding properties Liquid trade waste 	8.1.7

8.1. Required detail for addressing impacts (Table 1)

The following items (sections 8.1.1 - 8.1.7), relate to the potentially significant environmental impacts identified in Table 1. They must be addressed in detail in the EIS.

NOTE: The information provided under the following headings is not an exhaustive list of matters that may be required to accurately detail the assessment scenarios.

8.1.1. Biodiversity

- Describe all ecological communities and protected species present in the proposed area of construction.
- Describe whether any ecological communities or species that have the potential to occur in the proposed area are listed as critically endangered, endangered, vulnerable or conservation dependent, or protected, under any of the following Acts:

-
- Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
 - Nature Conservation Act 2014
 - Tree Protection Act 2005
 - Ecological studies must be conducted and provided as part of the draft EIS to determine the presence, or absence, of environmental values including but not limited to native vegetation, threatened species and ecological communities, and within the impact zone (EPBC Act and NC Act).
 - Define any areas where habitat rehabilitation will occur after the completion of works.
 - Identify the potential direct and indirect impacts associated with the proposal on native vegetation and threatened ecological communities and threatened species (and their habitats), within, or surrounding, the impact zone and any offsets proposed.
 - Provide tree assessment/plans indicating the tree type, health, size, species and canopy and outline strategies to minimise the impact on planted and native trees along the corridor.
 - Identify if coconut ants are present on site and if so, search for the caterpillars, pupae, eggs and butterflies of the Small Ant Blue Butterfly, a rare species known to occur in the area.
 - Describe all avoidance measures for the proposed development and associated works including measures relating to critical habitat within proximity of the site.
 - Include a description of mitigation measures aimed at reducing impacts on ecological communities and protected species.

8.1.2. Air Emissions (Dust)

- An air quality and odour impact assessment must be completed by a suitably qualified environmental consultant and in accordance with the South Australian EPA's *Ambient Air Quality Assessment August 2016*.
- Detail potential dust generation or dust movement during construction.
- Detail any potential impacts on existing air quality caused by the use of the site.

8.1.3. Aboriginal Cultural Heritage

- Indicate how any unexpected Aboriginal places or objects will be managed during construction.
- Describe reporting techniques that will be used for the discovery of any Aboriginal sites or artefacts that are encountered during construction.
- Provide a copy of the Statement of Heritage Effects (SHE) & Cultural Heritage Assessment (CHA) to be incorporated as part of the EIS.

8.1.4. Visual

- Conduct a visual impact assessment that details predicted impacts the proposal may have on the landscape character of the site and surrounds.
- Provide perspectives and/or a visual analysis of the proposal from local vantage points.
- The visual assessment should include information as to the maximum height of the new permanent bund and temporary emplacement area.
- Detail restoration methods for disturbed areas which will ensure that landscaped areas will be restored to their original condition in accordance with the land custodian's requirements.

8.1.5. Soil and Hydrology

- Describe how groundwater runoff will be managed.
- Outline any potential impacts to surrounding blocks.
- Describe how overland water flow will be managed if a significant rain event occurs during construction.
- Describe all mitigation measures that will be implemented to reduce the impact from

construction runoff into surrounding areas.

- Provide information on stormwater/waste water management during construction.

8.1.6. Noise and Vibration

- Describe the staging for the construction of the development including expected completion of each stage.
- Describe the proposed time of day that the construction will be undertaken.
- Describe any mitigation measures to reduce the impact of noise and vibration on existing surrounding uses.

8.1.7. Hazards and Risk

- Describe the potential for hazard and risk associated with the construction and operation of the project including fire, flooding and accidents.
- Identify, assess and detail mitigation measures for any risks associated with the impacts.
- Identify potential public hazards from construction and describe mitigation measures to reduce the risk.
- Include any temporary management measures for public areas.
- Outline whether there will be any non-domestic sewage produced at the proposed facility during operation. If non-domestic sewage (trade waste or liquid trade waste) is produced, details are required for how the proposed wastewater will be in accordance with Icon Water’s liquid trade waste requirements.
- The design and construction of all water bodies to minimise the potential for them to become a local mosquito nuisance.

8.2. Investigating impacts (Table 1)

Each potentially significant environmental impact identified within Table 1 should be addressed/structured as per sections 8.2.1 - 8.2.5.

-Assessment Guide-		
<p>Assessment Scenarios: The proponent should describe and use baseline case, application case and planned development case in their EIS to describe and address impacts at all stages of the project (construction, operation, decommissioning and reclamation)</p>		
<p>Baseline case The baseline case establishes and describes the conditions that exist prior to the development or if the project were not developed. Describe the environmental conditions that include the effects of existing land uses of the area.</p>	<p>Application case The application case describes the baseline case with the effects of the proposal added. Information is provided to allow regulators to determine how project operations should be controlled and how adverse effects can be mitigated and managed.</p>	<p>Planned development case The planned development case describes the environmental conditions of the project when integrated with the existing conditions and any other planned projects which can be reasonable expected to occur.</p>

8.2.1. Environmental conditions and values

Describe the environmental conditions and identify the environmental values for the environmental themes identified in Table 1. This section should discuss the baseline conditions for the area.

8.2.2. Investigations

Identify the findings and results of any environmental investigation in relation to the land to which the proposal relates.

8.2.3. Impacts

Describe the effects of the environmental impact as a result of construction and operation for the environmental themes identified in Table 1 (including cumulative, consequential and indirect effects) on physical and ecological systems and human communities. Particular emphasis should be placed on the potentially significant impacts identified in the risk assessment and this scoping document. Include a discussion of the timeframes of impacts i.e. short or long term, their nature and extent and whether they are reversible or irreversible, unknown or unpredictable. Include an analysis of the significance of the relevant impacts. Information must include any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

8.2.4. Mitigation and potential offsets

Discuss the proposed safeguards and mitigation measures proposed to be taken for the environmental management of the land to which the proposal relates for the environmental themes identified in Table 1. This is to include:

- a) A description and an assessment of the proposed impact prevention, mitigation or offsetting measures to deal with the environmental impact of the proposal
- b) A description of the expected or predicted effectiveness of the mitigation measures
- c) Any statutory or policy basis for the mitigation measures
- d) An outline of an environmental management plan (EMP) that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing
- e) The frequency, duration and objectives of monitoring proposed
- f) The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program
- g) A description of the cost effectiveness of environmental mitigation or rehabilitation measures proposed and the expected or predicted effectiveness of those measures

A description of any offsets proposed in relation to the site. If offsets are proposed, the offset package must provide compensation for any unavoidable impacts arising from the proposal on listed threatened species and communities. The offset package must include, but not be limited to, measures to address the long-term protection and management of relevant listed threatened species and communities at offset sites in the ACT (or surrounding area) and may also include management measures to improve the ecological values. Further information on the provision of Commonwealth offsets is detailed in the *following link*: <http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy> available on the Commonwealth Department of Environment and Energy website.

8.2.5. Residual risk

Provide a table that details the residual risk for the potentially significant impacts identified for the environmental themes in Table 1. A residual risk assessment is only required where the significance of the impact is determined as medium or above. The calculation of the residual risk should take into account the influence of implementation of mitigation or offsetting measures on the impacts

identified by the risk assessment. A discussion of how the calculations were determined should also be included.

-Assessment Guide-				
Provide a table with the headings below to describe the risks identified and the original risk rating without any mitigation. The residual risk assessment will include the consideration of management, mitigation and monitoring strategies applied to each risk identified. The residual risk rating describes the final risk with the mitigation measures in place.				
Risk identified in Section 7.1	Original risk rating from items identified in 7.1	Residual likelihood	Residual consequence	Residual risk rating

9. Community and stakeholder consultation

9.1. Consultation must be undertaken with:

- Lease holders and land managers of land potentially impacted by the proposal;
- Any recreational groups which may be affected by the proposal;
- Any volunteer conservation, landscape management or land care groups active in the area to be affected by the proposal; and
- The local community.

9.2. Methods

Describe the community consultation undertaken (methodology and criteria for identifying stakeholders and the communication methods used).

9.3. Consideration of community feedback

Describe how any concerns have been considered in light of the proposal and any future development planned.

9.4. Consideration of public representations from Draft EIS notification

The revised EIS must include the representations received, issues raised in the representations and a response to the issues and values identified. The summary response must clearly identify the representation(s) to which the responses relate.

10. Recommendations

Provide a summary of any commitments to impact prevention, mitigation measures, offsetting measures and other actions within the EIS.

Describe the monitoring parameters, monitoring points, frequency, data interpretation and reporting proposals.

11. Other relevant information

The proponent may wish to include issues outside the scope of the EIS as a separate section of the EIS. This allows the proponent to identify matters not required to be addressed in the EIS, but that would be subject to development assessment consideration and notification. This can provide additional context for members of the public regarding management of environmental issues, by ensuring that the public is aware that these issues will be addressed in the detailed design of the proposal.

12. References

A reference list using standard referencing systems must be included.

13. Required Appendices

13.1. Scoping document for the EIS

A copy of the scoping document should be included in the EIS. Where it is intended to bind appendices in a separate volume from the main body of the EIS, the scoping document should be bound with the main body of the EIS for ease of cross-referencing.

13.2. Scoping Document Reference

Include a table that cross-references the EIS to the scoping document.

13.3. Proponent's Environmental History

Provide details of any proceedings under a Commonwealth or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

- The person proposing to take the action
- For an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation, then provide details of the corporation's environmental policy and planning framework. Enough information is required to satisfy s136(4) of the EPBC Act.

13.4. Information Sources

For information given the following must be stated:

- The author or any reports or studies
- The publication date
- The source of the information
- How recent the information is (i.e. when a study was conducted or when primary sources were produced)
- How the reliability of the information was tested
- What uncertainties (if any) are in the information.

13.5. Study team

The qualifications and experience of the study team and specialist sub-consultants and expert reviewers must be provided.

13.6. Specialist studies

All reports generated based on specialist studies undertaken as part of the EIS are to be included as appendices.

13.7. Research

Any proposals for researching alternative environmental management strategies or for obtaining any further necessary information should be outlined in an appendix.

Attachment A**14. ENTITY REQUIREMENTS**

Where not otherwise identified as a potentially significant impact, provide information in accordance with the requirements of the entities. If the issues raised by entities have been addressed in other sections of the EIS, this must be cross referenced in this section.

A1. Conservator of Flora and Fauna

- The Scoping Document Application adequately addresses our information requirements in regards to the impacts on Box-Gum Woodland and Superb Parrot habitat. The only additional information is a search for coconut ants and if present then a search for the caterpillars, pupae, eggs and butterflies of the Small Ant Blue Butterfly, a rare species known to occur in the area.

A2. Heritage

- No further approvals under the Heritage Act 2004 will be required for the proposal once the SHE process is complete, as it will address the heritage issues arising from the proposal.
- The outcomes of the SHE/CHA process should be incorporated into the EIS documents when they are prepared.

A3. ICON Water

- Icon Water notes the following information contained on pg. 23 of the Boral Resources EIS Scoping Document Application as follows;
 - *“Boral has a waste management procedure which is currently in place on site. The purpose of the waste management procedure is to describe how to manage any impact arising from waste in the operation of the plant.”*
 - *“No new septic tank(s) will be constructed as part of the project.”*
- With respect to Icon Water’s liquid trade waste requirements the EIS Scoping Document provided does not outline whether there will be any non-domestic sewage produced at the proposed facility in the operation of the plant for the Mugga Quarry Expansion Project. If non-domestic sewage (also known as “trade waste” or “liquid trade waste”) is produced, the proposed wastewater needs to be characterised and any required onsite treatment controls incorporated into the project to ensure connection is permitted to the sewage network with discharge able to be effectively treated at the Lower Molonglo Water Quality Control Centre. Information on trade waste is available on the Icon Water website: <http://www.iconwater.com.au/My-Business/Tradewaste.aspx>
- For additional information please contact the Icon Water Liquid Trade Waste Team; Email: Trade.Waste@iconwater.com.au Phone: 02 6248 3222

A4. Health

- The design and construction of all water bodies to minimise the potential for them to become a local mosquito nuisance.
- Any influence upon existing air quality including potential dust generation or dust movement during construction.

A5. Canberra Airport

- No Comment

A6. Environment, Planning and Sustainable Development Directorate

Strategic Planning

- The EIS's visual assessment should include information as to the maximum height of the new permanent bund and temporary emplacement area to ensure a thorough assessment.

A7. EPA

- No Comment

A8. EPP

- No Comment

A9. ESA

- No Comment

A10. EvoEnergy Electricity

- No Comment

A11. TCCS

- No Comment

Attachment B**GLOSSARY**

Controlled Action (EPBC): An action defined under the EPBC Act, section 67.

Development application (DA): Application for development as defined under the PD Act.

Environment: As defined under the *Planning and Development Act 2007* (the PD Act), each of the following is part of the environment:

- (a) the soil, atmosphere, water and other parts of the earth;
- (b) organic and inorganic matter;
- (c) living organisms;
- (d) structures, and areas, that are manufactured or modified;
- (e) ecosystems and parts of ecosystems, including people and communities;
- (f) qualities and characteristics of areas that contribute to their biological diversity, ecological integrity, scientific value, heritage value and amenity;
- (g) interactions and interdependencies within and between the things mentioned in paragraphs (a) to (f);
- (h) social, aesthetic, cultural and economic characteristics that affect, or are affected by, the things mentioned in paragraphs (a) to (f).

Environmental Impact Statement (EIS): As defined under the PD Act.

EPBC Act: *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

Impact Track: An assessment track that applies to a development proposal defined under the PD Act, section 123.

Long term: Greater than 15 years duration.

Medium term: Greater than three (3) years to 15 years duration.

PD Act: *Planning and Development Act 2007* (ACT)

Regulated waste: waste defined under the *Environment Protection Act 1997*

Scoping: The process of identifying the matters that are to be addressed by an EIS in relation to the development proposal - see the PD Act, Section 212 (2).

Short term: Zero to three (3) years duration.

Socio-economic: Involving both social and economic factors.

Appendix 2 – Cross reference table between EIS and the final scoping document

B.1 EIS scoping document cross referencing checklist

EIS Scoping Document	EIS
1. Cover page	First page
2. Glossary	Page 157
3. Executive summary	ES.3-9
4. Introduction	Section 1
5. Proposal details	Section 2
5.1 Project description	Section 2.3
5.2 Alternatives to the proposal	Section 2.4
6. Legislative and Strategic Context	Section 3
6.1 Statutory requirements	Sections 3.1, 3.2, 3.4
6.2 Climate change	Section 3.5
6.3 Other requirements	Section 3.7
6.3.1 Ecological sustainable development	Section 3.6
6.3.2 Territory Plan strategic directions	Section 3.3
7. Risk Assessment	Section 4
7.1 Risk Assessment Methodology	Section 4.1
8. Assessment of Impacts	Section 5
8.1 Required detail for addressing impacts	-
8.1.1 Biodiversity	Section 5.1
8.1.2 Air Emissions	Section 5.2
8.1.3 Aboriginal Cultural Heritage	Section 5.3
8.1.4 Visual	Section 5.4
8.1.5 Soil and Hydrology	Section 5.5
8.1.6 Noise and Vibration	Section 5.6
8.1.7 Hazards and Risk	Section 5.7
8.2 Investigating Impacts	-
8.2.1 Environmental conditions and values	Sections 5.1.2, 5.2.2, 5.3.2, 5.4.2, 5.5.2, 5.6.2, 5.7.2
8.2.2 Investigations	Sections 5.1.3, 5.2.3, 5.3.3, 5.4.3, 5.5.3, 5.6.3,
8.2.3 Impacts	Sections 5.1.5, 5.2.4, 5.3.4, 5.4.4, 5.5.4, 5.6.4, 5.7.3
8.2.4 Mitigation and potential offsets	Sections 5.1.6, 5.2.5, 5.3.5, 5.4.5, 5.5.5, 5.6.5, 5.7.4
8.2.5 Residual risk	Sections 5.1.7, 5.2.6, 5.3.6, 5.4.6, 5.5.6, 5.6.6, 5.7.5
9. Community and stakeholder consultation	Section 7

9.1 Consultation must be undertaken with:

- Lease holders and land managers of land potentially impacted by the proposal Section 7.4
- Any recreational groups which may be affected by the proposal
- Any volunteer conservation, land management or land care groups active in the area to be affected by the proposal; and
- The local community

9.2 Methods

Section 7.2

9.3 Consideration of community feedback

None received

9.4 Consideration of public representations from Draft EIS notification

None received

10. Recommendations

Section 8

11. Other relevant information

Section 9

12. References

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13. Required appendices

Appendices A - P

13.1 Scoping document for the EIS

A.1

13.2 Scoping document reference

B.1

13.3 Proponent's environmental history

Section 6

13.4 Information Sources

Page 153

13.5 Study team

Appendix Q

13.6 Specialist studies

Appendices F - N

13.7 Research

N/A

Appendix 3 – EPBC Act (Commonwealth) Approval Decision Notice



APPROVAL

Mugga Quarry Overburden Expansion Project, Symonston, ACT (EPBC 2018/8151)

This decision is made under sections 130(1) and 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*. Note that section 134(1A) of the **EPBC Act** applies to this approval, which provides in general terms that if the approval holder authorises another person to undertake any part of the action, the approval holder must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other person complies with any such condition.

Details

Person to whom the approval is granted (approval holder)	Boral Resources (Country) Pty. Limited
ACN of approval holder	000 187 002
Action	To extend the existing Mugga Quarry to create a new permanent bund and temporary stockpile area at Symonston, ACT.

Approval decision

My decision on whether or not to approve the taking of the action for the purposes of the controlling provision for the action is as follows.

Controlling Provisions

Listed Threatened Species and Communities	
Section 18	Approve
Section 18A	Approve

Period for which the approval has effect

This approval has effect until 31 March 2039

Decision-maker

Name and position	Louise Vickery Assistant Secretary of Assessments and Waste Branch Department of the Environment and Energy
--------------------------	---

Signature	
Date of decision	10th July 2019

Conditions of approval

This approval is subject to the conditions under the EPBC Act as set out in ANNEXURE A.



ANNEXURE A – CONDITIONS OF APPROVAL

Part A – Conditions specific to the action

Impacts

1. The approval holder must ensure that clearing of **Box Gum Woodland** within the **proposed action area** is limited to the area marked as 'total disturbance area' in **Attachment 1**.

Note: This condition does not preclude the approval holder from continuing their operations within the area marked as 'Approved Pit Extent' in **Attachment 1**.

Compensation measures

2. To offset the impacts to 4.73 hectares (ha) of **Box Gum Woodland**, the approval holder must acquire or **retire** no less than 170 **Biodiversity credits** for **Box Gum Woodland** prior to the **commencement of the action**.
3. As evidence that **Biodiversity credits** as required by Condition 2 have been **retired**, the approval holder must submit a **Bio Banking Credit Retirement Report** to the **Department**, within 10 **business days** of **retiring** the **Biodiversity credits**.

Environmental management plan

4. At least 30 **business days** prior to the **commencement of the action**, the approval holder must submit an environmental management plan (EMP) for the **Minister's** approval to avoid and mitigate potential indirect **impacts** on **Box Gum Woodland** as a result of **construction**. If the **Minister** approves the EMP, then the approved EMP must be implemented.
5. The approval holder must not **commence the action** unless the **Minister** has approved the EMP described in condition 4 in writing.
6. The EMP described in condition 4 must be consistent with the **Department's Environmental Management Plan Guidelines**, and must include:
 - a. The EMP environmental objectives, relevant to **Box Gum Woodland** and a reference to **EPBC Act** approval conditions to which the EMP refers;
 - b. A table of commitments made in the EMP to achieve the objectives, and a reference to where the commitments are detailed in the EMP;
 - c. Details of the parties responsible for undertaking management actions;
 - d. A description of management actions that will be implemented pre, during and post construction, including for stormwater discharge and road runoff, sediment and erosion control, invasion by exotic species and weeds, and fencing and access;
 - e. Hygiene protocols to minimise the risk of spread of *Phytophthora cinnamomi*;
 - f. Reporting and review mechanisms, and documentation standards to demonstrate compliance with the EMP;
 - g. An assessment of risks to achieving the EMP environmental objectives and risk management strategies that will be applied;
 - h. **Impact** avoidance, mitigation and/or repair measures, and their timing; and



- i. A monitoring program, which must include:
 - i. measurable performance indicators;
 - ii. trigger values for corrective actions;
 - iii. the timing and frequency of monitoring to detect changes in the performance indicators and timely detection of trigger values; and
- j. proposed corrective actions, if trigger values are reached.

Part B – Standard administrative conditions

Notification of date of commencement of the action

7. The approval holder must notify the **Department** in writing of the date of **commencement of the action** within 10 **business days** after the date of **commencement of the action**.
8. If the **commencement of the action** does not occur within 5 years from the date of this approval, then the approval holder must not **commence the action** without the prior written agreement of the **Minister**.

Compliance records

9. The approval holder must maintain accurate and complete **compliance records**.
10. If the **Department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **Department** within the timeframe specified in the request.

Note: **Compliance records** may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the **Department's** website or through the general media.

Preparation and publication of plans

11. The approval holder must:
 - a. submit **plans** electronically to the **Department** for approval by the **Minister**;
 - b. publish each **plan** on the **website** within 20 **business days** of the date the **plan** is approved by the **Minister** or of the date a revised action management plan is submitted to the **Minister**, unless otherwise agreed to in writing by the **Minister**;
 - c. exclude or redact **sensitive ecological data** from **plans** published on the **website** or provided to a member of the public; and
 - d. keep **plans** published on the **website** until the end date of this approval.

Annual compliance reporting

12. The approval holder must prepare a **compliance report** for each 12 month period following the date of **commencement of the action**, or as otherwise agreed to in writing by the **Minister**. The approval holder must:



- a. publish each **compliance report** on the **website** within 60 **business days** following the relevant 12 month period;
- b. notify the **Department** by email that a **compliance report** has been published on the **website** within five **business days** of the date of publication;
- c. keep all **compliance reports** publicly available on the **website** until this approval expires;
- d. exclude or redact **sensitive ecological data** from **compliance reports** published on the **website**; and
- e. where any **sensitive ecological data** has been excluded from the version published, submit the full **compliance report** to the **Department** within 5 **business days** of publication.

Note: **Compliance reports** may be published on the **Department's** website. The first **compliance report** may report a period less than 12 months so that it and subsequent **compliance reports** align with the similar requirement under state/territory approval.

Reporting non-compliance

13. The approval holder must notify the **Department** in writing of any: **incident**; non-compliance with the conditions; or non-compliance with the commitments made in **plans**. The notification must be given as soon as practicable, and no later than two **business days** after becoming aware of the **incident** or non-compliance. The notification must specify:
 - a. the condition which is or may be in breach; and
 - b. a short description of the **incident** and/or non-compliance.
14. The approval holder must provide to the **Department** the details of any **incident** or non-compliance with the conditions or commitments made in **plans** as soon as practicable and no later than 10 **business days** after becoming aware of the **incident** or non-compliance, specifying:
 - a. any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;
 - b. the potential **impacts** of the **incident** or non-compliance; and
 - c. the method and timing of any remedial action that will be undertaken by the approval holder.

Independent audit

15. The approval holder must ensure that **independent audits** of compliance with the conditions are conducted as requested in writing by the **Minister**.
16. For each **independent audit**, the approval holder must:
 - a. provide the name and qualifications of the independent auditor and the draft audit criteria to the **Department**;
 - b. only commence the **independent audit** once the audit criteria have been approved in writing by the **Department**; and



- c. submit an audit report to the **Department** within the timeframe specified in the approved audit criteria.
17. The approval holder must publish the audit report on the **website** within 10 **business days** of receiving the **Department's** approval of the audit report and keep the audit report published on the **website** until the end date of this approval.

Revision of action management plans

18. The approval holder may, at any time, apply to the **Minister** for a variation to an action management plan approved by the **Minister** under condition 4, or as subsequently revised in accordance with this condition, by submitting an application in accordance with the requirements of section 143A of the **EPBC Act**. If the **Minister** approves a revised action management plan (RAMP) then, from the date specified, the approval holder must implement the RAMP in place of the previous action management plan.
19. The approval holder may choose to revise an action management plan approved by the **Minister** under condition 4, or as subsequently revised in accordance with this condition, without submitting it for approval under section 143A of the **EPBC Act**, if the taking of the action in accordance with the RAMP would not be likely to have a **new or increased impact**.
20. If the approval holder makes the choice under condition 19 to revise an action management plan without submitting it for approval, the approval holder must:
- a. notify the **Department** in writing that the approved action management plan has been revised and provide the **Department** with:
 - i. an electronic copy of the RAMP;
 - ii. an electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP;
 - iii. an explanation of the differences between the approved action management plan and the RAMP;
 - iv. the reasons the approval holder considers that taking the action in accordance with the RAMP would not be likely to have a **new or increased impact**; and
 - v. written notice of the date on which the approval holder will implement the RAMP (RAMP implementation date), being at least 20 **business days** after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the **Department**.
 - b. subject to condition 22, implement the RAMP from the RAMP implementation date.
-
21. The approval holder may revoke its choice to implement a RAMP under condition 19 at any time by giving written notice to the **Department**. If the **approval holder** revokes the choice under condition 19, the **approval holder** must implement the previous action management plan approved by the **Minister**.



22. If the **Minister** gives a notice to the approval holder that the **Minister** is satisfied that the taking of the action in accordance with the RAMP would be likely to have a **new or increased impact**, then:
- a. condition 19 does not apply, or ceases to apply, in relation to the RAMP; and
 - b. the approval holder must implement the action management plan specified by the **Minister** in the notice.
23. At the time of giving the notice under condition 22, the **Minister** may also notify that for a specified period of time, condition 19 does not apply for one or more specified action management plans.

Note: conditions 19, 20, 21 and 22 are not intended to limit the operation of section 143A of the **EPBC Act** which allows the approval holder to submit a revised action management plan, at any time, to the **Minister** for approval.

Completion of the action

24. Within 30 days after the **completion of the action**, the approval holder must notify the **Department** in writing and provide **completion data**.

Part C - Definitions

25. In these conditions, except where contrary intention is expressed, the following definitions are used:
- a. **Bio Banking** means the New South Wales Government's biodiversity credit and offset scheme of that name created under the *Threatened Species Conservation Act 1995 (NSW)*, as amended and repealed or an equivalent scheme under a **successor mechanism** under the Biodiversity Conservation Act 2016 (NSW).
 - b. **Bio Banking Credit Retirement Report** has the meaning given under the under the Threatened Species Conservation Act 1995 (NSW), as amended and repealed or an equivalent report under a successor mechanism under the Biodiversity Conservation Act 2016 (NSW).
 - c. **Biodiversity credits** - has the meaning given under the under the Threatened Species Conservation Act 1995 (NSW), as amended and repealed, or an equivalent report under a **successor mechanism** under the Biodiversity Conservation Act 2016 (NSW).
 - d. **Box Gum Woodland** means the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland ecological community listed as critically endangered under the **EPBC Act**.
 - e. **Business days** means a day that is not a Saturday, a Sunday or a public holiday in the Australian Capital Territory.
 - f. **Commencement/Commencement of the action/ Commence the action** means the first instance of any specified activity associated with the action including clearance of vegetation and **construction** of any infrastructure except for minor physical disturbance necessary to:
 - i. undertake pre-clearance surveys or monitoring programs;
 - ii. undertake geotechnical investigations;
 - iii. install signage and /or temporary fencing to prevent unapproved use of the **proposed action area**; and



- iv. protect environmental and property assets from fire, weeds and pests, including erection or **construction** of fencing and signage, and maintenance or use of existing surface access tracks, if agreed in writing by the **Department**.
- g. **Completion data** means an environmental report and spatial data information clearly detailing how the conditions of this approval have been met. The **Department's** preferred spatial data format is ESRI shapefile, including containing '.shp', '.shx' and '.dbf' files and other files capturing attributes including at least the EPBC reference and a '.prj' file or specification of the projection/geographic coordinate system used.
- h. **Completion of the action** means the time at which all approved conditions (except condition 24) have been fully met.
- i. **Compliance records** means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession or that are within the approval holder's power to obtain lawfully;
- j. **Compliance reports** means written reports:
 - i. providing accurate and complete details of compliance, **incidents**, and non-compliance with the conditions and the **plans**;
 - ii. consistent with the **Department's Annual Compliance Report Guidelines (2014)**
 - iii. include a shapefile of any clearance of any **protected matters**, or their habitat, undertaken within the relevant 12 month period; and
 - iv. annexing a schedule of all **plans** prepared and in existence in relation to the conditions during the relevant 12 month period.
- k. **Construction** means the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; preliminary site preparation work which involves breaking of the ground; and any associated excavation work; but excluding the installation of fences and signage.
- l. **Department** means the Australian Government agency responsible for administering the **EPBC Act**.
- m. **EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.
- n. **Impact/ Impacted** means any measureable direct or indirect disturbance/change that occurs as a result of any activity associated with the proposed action.
- o. **Incident** means any event which has the potential to, or does, **impact** on **Box Gum Woodland**.
- p. **Independent audit**: means an audit conducted by an independent and **suitably qualified person** as detailed in the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines (2015)*.
- q. **Minister** means the Australian Government Minister administering the EPBC Act including any delegate thereof.
- r. **New or increased impact** means a new or increased environmental **impact** or risk relating to any **protected matter**, when compared to the likely **impact** of implementing the action management plan that has been approved by the **Minister** under condition 4, including any subsequent revisions approved by the **Minister**, as outlined in the *Guidance on 'New or Increased Impact' relating to changes to approved management plans under EPBC Act environmental approvals (2017)*.



- s. **Plan(s)** means any of the documents required to be prepared, approved by the **Minister**, and/or implemented by the approval holder and published on the **website** in accordance with these conditions (includes action management plans and/or strategies).
- t. **Proposed action area** means the area as shown in Attachment 1.
- u. **Retire or retirement** means a change in the status of a credit such that the credit has been used to offset the development impact or achieve a conservation outcome, and can no longer be bought or sold.
- v. **Sensitive ecological data** means data as defined in the Australian Government Department of the Environment (2016) Sensitive Ecological Data – Access and Management Policy V1.0.
- w. **Shapefile** means an ESRI Shapefile containing .shp, .shx, .dbf and prj files and other files capturing attributes of the **proposed action area**, including the shape (including specification of the projection or coordinate system used), EPBC reference ID number and EPBC protected matters present at the relevant site. Attributes should also be captured in .xls format.
- x. **Successor mechanism** means any biodiversity offsetting mechanism legislated and implemented by the New South Wales Government to replace, or as a successor to, BioBanking. Such a mechanism is only acceptable for the purposes of this approval if it:
 - i. is included in a bilateral agreement under the EPBC Act (either referenced directly in the agreement, or as part of a wider process that is adopted in a bilateral agreement)
OR
 - ii. has been agreed by the Department in writing to the approval holder or the title holder as being an appropriate successor mechanism.
- y. **Suitably qualified person** means a person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.
- z. **website** means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

ATTACHMENTS

Attachment 1 – Map showing proposed action area (marked as total disturbance area)



ATTACHMENTS

Attachment 1 – Map showing proposed action area (marked as total disturbance area).

