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Environmental Impact Statement

Eulonga Quarry Proposed Extraction Area

Lot 158 DP 750984 and Lot 4 DP 1096529

Eulonga Quarries Pty Ltd

"Eulonga" Coolac NSW 2727

Prepared by: SLR Consulting Australia

SLR Proposal No.: 630.032007.00001

18 March 2025

Revision: 1

Making Sustainability Happen

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1	18 March 2025	Kale Langford	Jim Lawler	Jim Lawler

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Eulonga Quarries Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

Environmental Impact Statement Declaration

Proposal Details		
Proposal Name	Eulonga Quarry Proposed Extraction Area	
Address of the land in respect of which the development application is made	809 Gobarralong Road, Coolac NSW 2727 Lots 158 DP750984 and Lot 4 DP1096529	
Applicant Details		
Applicant Name	Eulonga Quarries Pty Ltd	
Applicant Address	"Eulonga" Coolac NSW 2727	
Details of Person by whom this EIS was Prepared		
Name	Kale Langford	
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Professional qualifications	Bachelor Environmental Science and Management	
Declaration by whom this EIS was Reviewed		
Name	James Lawler	
Organisation registered with	Technical Director – Planning, SLR Consulting Australia Pty Ltd Registered Planner Plus EIA, Planning Institute Australia.	
Declaration		

The undersigned declares that this EIS:

- Has been prepared in accordance with the Environmental Planning and Assessment Regulation 2021;
- Contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates;
- Does not contain information that is false or misleading;
- Addresses the Planning Secretary's environmental assessment requirements (SEARs) for the Proposal;
- Identifies and addresses the relevant statutory requirements for the Proposal, including any relevant matters for consideration in environmental planning instruments;
- Contains a simple and easy to understand summary of the Proposal as a whole, having regard to the
 economic, environmental and social impacts of the Proposal and the principles of ecologically
 sustainable development;
- Contains a consolidated description of the Proposal in a single chapter of the EIS;
- Contains an accurate summary of the findings of any community engagement; and
- Contains an accurate summary of the detailed technical assessment of the impacts of the Proposal as a whole.

Signature	HL
Date	18 March 2025

Executive Summary

Introduction

Eulonga Quarries Pty Ltd (Eulonga Quarries) proposes to establish a new extraction area (the Proposal) to support the continued operation of the existing Eulonga Quarry (the 'existing Quarry'). The Proposal is located at Lot 158 DP 750984 and Lot 4 DP 1096529, adjacent to the Murrumbidgee River, and is more generally referred to as 809 Gobarralong Road Coolac. The size, scale and nature of the Proposal is outlined in this document.

This environmental impact statement (EIS) has been prepared to satisfy the provisions of Part 4 of the NSW Environmental Planning & Assessment Act 1979 (EP&A Act).

Site Details

The proposed extraction area for the Proposal is located at Lot 158 DP 750984 and Lot 4 DP 1096529 and is located as part of the larger Eulonga Station property at 809 Gobarralong Road Coolac (refer to **Figure ES-1** below). The site is approximately 6 kilometres (km) south-east of Coolac in the Cootamundra – Gundagai local government areas (LGA).

The existing Quarry operates in two separate approved extraction areas within Lot 1 & 2 DP1096529 being a fine sand quarry pit, and a coarse sand quarry pit located within a sand bar an oxbow of the Murrumbidgee River. As mentioned above, the Proposal is located to the Southwest of the existing Quarry on land being described as Lot 158 DP750984 and Lot 4 1096529.

The existing Quarry and the Proposal are located within the Eulonga Station property, which is primarily used for agricultural purposes, within the valley of Murrumbidgee River. The site is identified as Zone RU1 Primary Production, used for agricultural purposes under the Gundagai Local Environmental Plan 2011 (the 'LEP'). The surrounding land has a small number of rural dwellings. The nearest sensitive receptors are located to the north of the Proposal being 'Sandy Falls' Homestead at 360 Sandy Falls Road, Coolac and a dwelling at 254 Sandy Falls Road, Coolac. Adjacent to the site is identified as Zone W1 Natural Waterways, commonly known as the Murrumbidgee River.

The existing Quarry relies on Darbalara Road and Gobarralong Road to access the Hume Highway.



FIGURE ES-1

Proposed Development

The Proposal is to establish a new extraction area within Lot 158 DP 750984 and Lot 4 DP 1096529 to support the continued operation of the existing Quarry without any changes to the approved annual extraction volume, truck movements, hours of operation or rehabilitation outcome or any other aspect of the existing Quarry.

It is proposed to extract sand from the proposed extraction area to a depth of 222m AHD, which is approximately 4m below existing ground level. It is anticipated this would yield approximately 700,000 tonnes of material. The Proposal includes an internal access between the existing Quarry and the proposed extraction area, but otherwise does not require any other construction (site office, staff amenities, parking, etc.)

The key aspects of the Proposal are summarised in **Table ES-1**. The plans of the Proposal are provided at Appendix B.

Parameter	Existing Quarry	Proposed
Tonnes per annum	172,000tpa	No Change
Extraction Area	Fine Sands: 8.5ha	Existing Fine Sands: No Change
	Coarse Sands: 8.2ha	Existing Coarse Sands: No Change
		Proposed Extraction Area: 13.91ha
Extraction Depth	Fine Sands: 8m deep	Existing Fine Sands: No Change
	Coarse Sands: 8m deep	Existing Coarse Sands: No Change
		Proposed Extraction Area: 4m deep
		(222m AHD)
Hours of Operation	• 7:00am to 6:00pm Monday	No Change
	to Saturday;	
	 No time on Sundays and 	
	Public Holidays.	

Table ES-1 Proposed Development

Legislation

Approval Pathway

Part 4, Division 4.3 of the EP&A Act specifically relates to the assessment of development which requires consent. The relevant declaration of a Proposal as Designated Development is in Schedule 3 of the EP&A Regulation 2021.

The Proposal is classified as a Regionally State Significant Development and will be determined by the Regional Planning Panel (RPP) under the provisions of the State Environmental Planning Policy (Planning Systems) 2021. As per Section 4.10 of the Act and Schedule 3 of the Environmental Planning and Assessment Regulation 2021, the Proposal is identified as 'Designated Development' being an extractive industry facility of more than 30,000m³ per year and a total surface area of 2ha of land.

The Proposal is also classified as 'Integrated Development' pursuant to Section 4.46 of the Act and an Environmental Protection License (EPL) from the NSW Environmental Protection Authority (EPA) is required. It is anticipated that the NSW EPA will provide general terms of approval for the Proposal which would then need to be integrated for the existing Quarry will through an application to amend the EPL.

The Proposal would be assessed pursuant to at least the following State planning instruments:

- State Environment Planning Policy (SEPP) Planning Systems 2021;
- SEPP Resources and Energy 2021;
- SEPP Biodiversity and Conservation 2021;
- SEPP Transport and Infrastructure 2021; and
- SEPP Resilience and Hazards 2021.

Under the Federal Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), referral is required to the Australian Government for proposed actions that have the potential to significantly impact Matters of Environmental Significance (MNES) or the environment of Commonwealth land. The Proposal will require the clearing of 0.17ha of native vegetation however is not considered to have a significant impact on MNES.

The Proposal is therefore assessed as Designated Development under the EP&A Act with Cootamundra-Gundagai Regional Council under the relevant consent authority.

Permissibility

The site occurs within the Cootamundra-Gundagai Local Government Area. The Gundagai Local Environmental Plan 2011 (GLEP) is the current local government planning policy for land administered by Cootamundra-Gundagai Regional Council. The site is located in the RU1 Primary Production zone. The proposed land use is defined as 'extractive industry' under the GLEP, with these facilities defined by the LEP (in accordance with the Standard Instrument) as follows:

"Extractive industry means the winning or removal of extractive materials (otherwise than from a mine) by methods such as excavating, dredging, tunnelling or quarrying, including the storing, stockpiling or processing of extractive materials by methods such as recycling, washing, crushing, sawing or separating, but does not include turf farming."

An extractive industry land use within the RU1 Primary Production Zone is permissible land use with development consent.

The objectives of zone RU1 are:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To encourage the efficient use and conservation of water resources.
- To protect significant scenic landscapes.
- To encourage development that does not adversely impact nearby agricultural activities.
- To protect, enhance and conserve the natural environment, including native vegetation, wetlands and wildlife habitat.
- To ensure development prevents or mitigates land degradation.

Environmental Impacts

Noise Impact

Noise impacts were considered as part of a Noise Impact Assessment (NIA) (refer to Appendix D.

Construction Noise

Construction noise sources associated with the Proposal include, construction of the access road would be conducted using a grader and trucks to deliver and spread the road base material. Construction noise levels are not predicted to exceed the relevant criteria at any of the nearby noise sensitive receivers, with the exception of R3 which saw a predicted a negligible 1 dB exceedance under noise enhancing weather conditions. Notwithstanding a negligible 1 dB exceedance at R3 under noise enhancing meteorological conditions during construction and compliance at all receivers during operation, all appropriate feasible and reasonable mitigation measures would be applied to minimise the potential impacts from the Proposal, as far as practicable.

Operational Noise

Operational noise sources associated with the Proposal include, the excavation, stockpiling and loading of material into an articulated haul truck within the new extraction area, and hauling material from the new extraction area to the existing processing area. It is understood that a single operator would operate the excavator and the haul truck, as such operation of the excavator and the articulated haul truck would not occur simultaneously. The results presented indicate that operational noise levels meet the relevant criteria and as such no modifying factor corrections to the predicted noise levels is triggered for the Proposal. The cumulative operational noise amenity noise levels are below the relevant criteria at all locations. As such no significant cumulative impacts are predicted due to the concurrent operation of the Proposal and the existing Eulonga Quarry.

Mitigation Measures

Mitigation / Management Measures

Required Mitigation / Management Measures

A single operator would operate the excavator and the haul truck, as such operation of the excavator and the articulated haul truck would not occur simultaneously.

Construction Mitigations:

- Use quieter construction methods where feasible and reasonable.
- Training would be provided to all personnel on noise requirements for the Proposal. Inductions and toolbox talks to be used to inform personnel of the location and sensitivity of surrounding receivers.
- All plant and equipment must be maintained in a proper and efficient condition, operated in a proper and efficient manner, and feature standard noise amelioration measures where applicable.
- Spot checks of equipment in operation would be completed to ensure individual items are operating as expected.
- Dropping materials from a height will be avoided.
- Truck movements would be kept to a minimum, i.e. trucks are fully loaded on each trip.
- In response to complaints received, where appropriately justified following an initial investigation, noise monitoring would be conducted. The exact nature and location of the noise monitoring would be dependent on the activities taking place.

Air Impact

Air quality impacts were considered as part of an Air Quality Impact Assessment (AQIA) has been undertaken and provided at Appendix E.

Existing Environment

Based on site inspection, the site was found to be well protected from strong winds due to surrounding high hills forming the river valley. Sands were moist underneath drier surface layers with a tendency to crust over if not being used. Other exposed areas had a high stony content with small river pebbles and clays contributing to stabilisation of surface layers. As such the areas identified as dust sources for this assessment were limited to unpaved roads and the working areas used by loaders and trucks. All other areas were thickly vegetated with grasses. Other dust sources identified were sand-screeners and excavators. No existing or potential future sources of odours were identified. The Air Quality Monitoring Station at Goulburn was considered to best represent the site conditions and provided PM_{10} and $PM_{2.5}$ concentrations. No Total Suspended Particulate data was available. Background PM_{10} and $PM_{2.5}$ maximum and annual average concentrations complied with relevant criteria across the previous 5 years.

Operational Impact

To assess the maximum cumulative 24-hour and average PM concentrations at each of the identified sensitive receptors, a contemporaneous analysis was performed.

The cumulative assessment results for $PM_{2.5}$, PM_{10} , TSP and deposited dust from the proposed extension, which included the effects due to operations in the existing approved areas, did not cause exceedances of air quality impact assessment criteria at the sensitive receptor locations.

Based on the results of this assessment, it is concluded that air quality impact does not represent a constraint to the Proposal.

Mitigation Measures

Mitigation / Management Measures

Required Mitigation / Management Measures

Maintain awareness of visible dust emissions – if a dust plume is heading in the direction of a sensitive receptor, modify or stop the relevant activity, which may include waiting until the wind direction shifts.

Use speed limits for parts of the site including the access roads to minimise wheel- generated dust. Practically, 60 km/h would be a reasonable speed limit for the access roads (40 km/h would be desirable). A speed limit of 10-20 km/h would be more appropriate for the stockpile/truck loading areas.

Dust emissions can be reduced by dropping loads carefully into trucks and sand-screeners and minimising drop heights.

Keep a detailed record of any dust complaints and address the complaints rapidly.

Voluntary Mitigation / Management Measures – Proposed Extraction Area

Water cart and wet suppression (water sprays) as required. A chemical dust suppressant could be used, noting crusting of EQ's stockpiles was observed due to clay content.

The speed limit on exposed, working areas could be limited to 10-20 km/hr.

Higher water cart rates (> 2 L/m²/hr) as required.

Minimise dust-generating activities during times of high wind speeds.

Reduction of the intensity/rate of activities in response to excessive dust generation.

Mitigation / Management Measures

Voluntary Mitigation / Management Measures – Existing Quarry

Cover loads leaving the site where practicable.

Minimising dust-generating activities during times of high wind speeds.

Relocation of plant and equipment to less sensitive areas.

Reduction of the intensity/rate of activities in response to excessive dust generation.

Surface Water

An assessment of surface water has been undertaken as part of the larger Surface and Groundwater Assessment provided at Appendix F

Existing Condition

There is no existing stormwater or drainage system or natural overland flow features within the proposed extraction area. There are currently no measures for stormwater runoff quality improvement within the proposed extraction area. The quality of surface water entering local watercourses would largely be a function of surrounding agricultural and rural land uses and the existing Quarry.

Operational Management

During quarrying operations, diversion of runoff from undisturbed catchments by use of small diversion drains and berms is required to maintain access to the extraction area. The proposed extraction area will be developed with similar water management features to the example from Figure D1 from Managing urban stormwater: soils and construction – Volume 2e mines and quarries.

Within the proposed extraction area, diversion measures such as berms and small drains will direct flow away from disturbed areas and the extraction area to a low collection sump within the pit. This will maintain access to the proposed extraction area and divert all potentially sediment-laden runoff from disturbed areas of the site within the proposed extraction area to a sediment storage area.

Runoff water captured within the proposed extraction area will be used for dust suppression.

Mitigation Measures

General Surface Water Mitigation / Management Measures	

Required Mitigation / Management Measures – Proposed Extraction Area

Design drainage elements within the proposed extraction area to minimise risk of localised surface water ponding.

A Soil and Water Management Plan (SWMP) will be prepared and implemented as part of the EMP. The SWMP will identify reasonably foreseeable risks relating to soil erosion and surface and groundwater quality and describe how these risks will be addressed during construction.

Site-specific Erosion and Sediment Control Plan/s will be prepared and implemented as part of the SWMP. The plan/s will include:

- arrangements for managing wet weather events, including monitoring of potential high-risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather.
- erosion and sediment controls appropriate for dispersive soils.

General Surface Water Mitigation / Management Measures

Stabilisation measures will be installed to control discharge from stormwater outlets to manage erosion and scour.

Where possible, the rehabilitation of disturbed areas will be undertaken progressively, as construction stages are completed, in accordance with the Appendix G (Rehabilitation recommendations) of *Managing Urban Stormwater – Soils and Construction – Volume 1* (Landcom, 2004)) and *Volume 2E – Mines and guarries* (DECC 2008).

During any construction and maintenance work where soils are exposed, sediment and erosion control devices would be installed in accordance with *Managing Urban Stormwater: Soils and Construction, Volume 1* (Landcom, 2004) and *Volume 2E – Mines and quarries* (DECC 2008).

Required Mitigation / Management Measures – Proposed Internal Access

Minimise regrading of terrain along the access road.

Install appropriately sized stormwater drainage pipes along the access road where applicable.

The impact of increased runoff to minor drainage lines should be managed by road design drainage mitigation measures.

Water Balance Measures

Voluntary Mitigation / Management Measures

Eulonga Quarry has advised SLR that Eulonga Station is a large land holding of more than 400ha and would have allowance of at least 28ML under the harvestable rights and therefore water for dust suppression if required will be sourced either from onsite supplies under the NSW 'Harvestable Rights' dam provisions or purchased from a licenced water supplier.

Incorporate a dust suppressant additive to reduce water demand. For example, Vital Bon-Matt HR, a dust suppressant supplied by Vital Chemicals Pty Ltd, which has demonstrated reduction rates of up to 90% for haul road dust suppression.

Implement voluntary Air Quality mitigation management measures related to dust management to reduce the need to suppress dust.

Groundwater

An assessment of groundwater has been undertaken as part of the larger Surface and Groundwater Assessment provided at Appendix F.

Existing Conditions

The proposed extraction area is located within the fluvial zone of the Murrumbidgee River comprising of bedrock underlying river sands and gravel within the upper alluvial layer which forms the primary aquifer for the site.

The proposed extraction area will directly intersect the alluvial sediments of the Murrumbidgee River. Groundwater recharge to these sediments associated with the alluvial aquifer is predominantly through rainfall recharge with discharge to the Murrumbidgee River and through evapotranspiration where the groundwater level is close to the ground level. The aquifer is unconfined and in hydraulic connection with the Murrumbidgee River. Groundwater levels in the alluvial aquifer are expected to flow towards the river and are a subdued reflection of topography.

While the Murrumbidgee River is deemed to hold high potential for ground dependent ecosystems, no terrestrial or subterranean GDEs have been identified within one kilometre of the proposed extraction area.

Operational Impact

Based on the proposed quarry depth, the activity is unlikely to intercept the groundwater table. If intercepted, the anticipated inflow rate for the development would be 2ML/year of groundwater representing approximately 0.0002% of annual flow of the Murrumbidgee River (8km upstream). The resulting potential reduction in groundwater discharge to Murrumbidgee River would be expected to be offset by rainfall recharge.

Mitigation and Management Measures

Mitigation / Management Measures

Voluntary Mitigation / Management Measures

Impacts on groundwater will be minimised as far as practicable by:

- Limiting the depth of extraction to avoid intercepting groundwater.
- Minimising groundwater inflows.
- Managing any groundwater encountered during operation.

Flood Impact

Existing Conditions

The site is located on a broad alluvial floodplain on the inside meander bend and true left bank of the river. The floodplain is intersected by an unnamed anabranch that is periodically dry and forms in response to high flow events. Under the existing 5% AEP scenarios, the development area will see inundation across the extraction area. 50% and 20% AEP scenarios will see activation of the temporary anabranch and chute-cutoff respectively. Under all scenarios noted, water flows are capable of eroding material/sediments in inundated portion of the development area.

Operational Impacts

Depth of the extraction area will be less than the depth of the temporary anabranch i.e. approximately 4 m below the 2014 LiDAR surface elevation. This acts to reduce the hydraulic geometry and therefore capacity during high flow events. As long as the proposed extraction area remains shallower than the temporary anabranch, inundation and high bed-shear stress is less likely to lead to large-scale incision at the site.

Mitigation / Management Measures

Required Mitigation / Management Measures

Prepare high flow working and quarry flood risk management plans.

Undertake riparian planting along the northeastern boundary of the proposed extraction area.

Biodiversity

A BOS Evaluation has prepared by NGH (Appendix G). The BOS Evaluation investigates the impact of the proposed extraction area per the triggers the need for a Biodiversity Development Assessment Report under the Biodiversity Conservation Act 2016 and whether any offsets are required for clearing of native vegetation.

Existing Conditions

The vegetation within the subject land was a mixture of exotic and native groundcover. Trees visible on satellite imagery are remnant native trees. They mostly comprise *Eucalyptus camaldulensis* (River Red Gum) with occasional *Casuarina cunninghamiana* (River Sheoak).

The site can be described in two distinct areas:

- PCT 79 River Red Gum shrub/grass riparian tall woodland zone which contains all trees within the subject land. The woodland zone occurs as two patches, which have been defined according to the BAM where trees are within 100m of each other.
- Highly degraded grassland.

The PCT 79 areas are afforded a 30m buffer around the trees to provide ample protection to canopy and root systems. Based on this, 1.37ha of native woodland area is provided within the site with a total of 12.54ha of highly degraded grassland. A total of 8 hollow bearing trees were identified as part of the site visit.

Development Impacts and Management Measures

The Proposal will require the clearing of 0.17ha of native vegetation, refer to Figure ES-2.

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Figure ES-2 Proposed Tree and Vegetation Removal (Source: NGH)

To ensure the Proposal minimises impact on native vegetation, the following has been implemented in the design:

- · Retention of woodland areas and hollow-bearing trees
- Clearing of only the grassland area.

As a result of clearing less than 1ha of native vegetation the development does not trigger offsets and the need to undertake a Biodiversity Development Assessment Report under the Biodiversity Conservation Act 2016.

Aboriginal Cultural Heritage

An Aboriginal Heritage Due Diligence Assessment (AHDD) was undertaken by NGH and is provided at Appendix H. The AHDD was undertaken in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW 2010.

Existing Conditions

A desktop investigation of the site revealed no current recorded items or artifacts are located on the site per the Aboriginal Heritage Information Management System, with the nearest item located approximately 570m to the north of the site across the Murrumbidgee River. No other heritage items are identified within or proximate to the site per the Gundagai LEP 2011. Based on an assessment of site conditions, the development area has likely been subject to repeated flood events as it forms part of a former channel or bank of the Murrumbidgee River. This indicates a generally low potential for Aboriginal artifacts in the area however the significance of the Murrumbidgee River is considered significant to warrant further investigation. A visual inspection of the Proposal area was undertaken by NGH. The Proposal area encompasses a large flood plain extending to low hills east of the site. The landform is vegetated with grass with the riverbank consisting of coarse sand and river rolled gravels. Evidence of repeated flood scouring was present.

Impact

Due to the dynamic nature of the low-lying landform on the western edge of the Murrumbidgee River floodplain no Aboriginal objects were identified and there is no potential for Aboriginal objects to occur. It is more likely that habitation sites would have been concentrated closer to or on the low hills to the east outside of the flood zone. The hills are less than 1 km away and would have afforded more protection from flood waters, weather and they also would have provided a vantage point for surveying the floodplain. No further investigation is considered to be warranted based on requirements of the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW 2010.

Mitigation and Management Measures

Mitigation / Management Measures

Required Mitigation / Management Measures

All works must be constrained to the Proposal Area and other areas of existing disturbance.

All access to the Proposal Area must be within existing tracks and disturbed areas otherwise further visual inspection by a qualified archaeologist is required.

Any activity proposed outside of what has been considered in this assessment should be subject to further assessment by a qualified archaeologist.

No old growth trees may be disturbed without inspection by a qualified archaeologist for scarring or modification.

If any items suspected of being Aboriginal in origin are discovered during the work, all work in the immediate vicinity must stop and the NSW Environment Line (1300 361 967) notified. The find will need to be assessed and, if found to be an Aboriginal object, an AHIP may be required.

Traffic & Transport

A Traffic Impact Assessment has been prepared by SLR Consulting and has been provided at Appendix C.

Existing Conditions

The existing operation utilises Darbalara Road and Gobarralong Road which connect to the Hume Highway for transport of material from the site. Material and transported via heavy vehicles in a Truck and Dog configuration. Access to the existing operation is achieved via one (1) access location fronting Darbalara Road and allows for all turns in/out from the site.

Operational Impact

Noting the existing Quarry is currently in operation and the Proposal does not include any increase in annual extraction or direct access to the road network, the Proposal will not generate additional traffic from the operation.

The intersection of the Hume Highway and Gobarralong Road is currently a prioritycontrolled intersection (unsignalised). Based on a turn warrant assessment, the volume of traffic would be appropriately serviced by a basic left turn treatment however an auxiliary left turn (short) design has been implemented which exceeds the requirements of the intersection.

A SIDRA analysis of the Hume Highway and Gobarralong Road intersection has been undertaken based on existing and projected traffic growth. The SIDRA analysis identifies that the existing intersection form will operate at an acceptable performance level, with significant spare capacity, through the indicative Proposal lifespan (i.e. 2034) and beyond. Therefore, no upgrades to the existing intersection are required as part of the Proposal.

Waste

Waste generated on site is minimal, as all extracted product is taken off site and used. Office waste is also minimal and taken off site by staff when required.

The Proposal will not change any of the existing waste management measures currently implemented at the existing Quarry. Additional waste produced by the proposed extraction area is expected to be minimal.

If any waste is generated during construction or operation it will be disposed of correctly by the relevant contractors.

Hazards

Preliminary risk screening of the Proposal is required under the Resilience and Hazards SEPP to determine the need for a Preliminary Hazard Analysis (PHA).

The quantities of the storage and transportation materials do not exceed the relevant storage or transportation thresholds. Storage protocols will comply with relevant guidelines and standards, e.g. AS 1940-2017.

The storage and handling of dangerous goods to be routinely used or stored at the site and transported to/from the site is not considered potentially hazardous with regards to the screening thresholds contained in the Resilience SEPP.

It is the conclusion of this preliminary risk screening that the Proposal would be identified as a suitable development for the area.

Visual

A total of three (3) viewpoints located along Darbalara Road have been assessed as part of a visual impact assessment. The existing topography and vegetation around the proposed extraction area will be retained to screen the majority of the proposed extraction area from view. Noting that the Proposal represents a depression in the landscape with minimal other construction works proposed, the views to the proposed extraction area will be minimised.



The proposed internal access will be partially screened by existing vegetation. Additional vegetation planting would assist in mitigating potential visual amenity impacts for the dwellings to the north.

It is noted that the existing Quarry and the Proposal only operates during daylight hours and therefore impacts from light spill are not anticipated.

The overall visual impact of the Proposal is considered to be minor in nature due to distances from public areas, topography, and the nature of the Proposal, but additional mitigation measures are recommended including vegetation planting along the northern boundary of the proposed extraction area and along the internal access.

Social and Economic Impacts

The Proposal, like any development, has the potential to have both positive and negative impacts that extend beyond the immediate site. To address the potential impacts, it is crucial for the quarry operators and relevant authorities to conduct comprehensive environmental impact assessments, engage in effective monitoring and mitigation measures, and involve local communities in the decision-making process. The Proposal will facilitate the long-term viability of the Quarry, which provides a positive social and economic benefit:

- Ensuring ongoing employment for people directly involved in the operation of the quarry;
- Ensuring ongoing employment for people indirectly involved with the operation and management of the quarry, i.e. delivery drivers, contractors, etc;
- Provide ongoing income to the quarry operator;
- Providing ongoing income to the private landowner;
- Ensuring the environmental and amenity impacts are managed to avoid, mitigate and manage any potential adverse effects; and
- Providing for a suitable land use compatible with the surrounding rural land.

It is considered that the Proposal will result in an overall positive economic and social impact where the potential negative impacts can be avoided, mitigated and managed as outlined in this EIS.

Justification

The site is zoned RU1 Primary Production and the proposed use is permissible in the zone subject to consent and is actively supported and protected by the strategic documentation applying to the Cootamundra-Gundagai LGA. The Proposal will maximise the site's potential by providing an additional high quality, economical source of sand for the general market. The proposed extraction area will support the continued operation of the existing Quarry without any changes to the approved annual extraction volume, truck movements, hours of operation or rehabilitation outcome or any other aspect of the existing Quarry.

The site was selected to support the ongoing operation of the existing Quarry. The extraction area has previously been disturbed by historical farm activities. This arrangement is considered to be the best overall outcome as:

- Site history Proximity to the existing Quarry
- The proposed extraction area is not intended to increase the overall annual production of the existing Quarry.
- Appropriate zoning of land to facilitate development consent;

- Availability of existing access to the site via an establish road network;
- Selection of a site that would avoid and/or minimise impacts to high quality native vegetation and protected fauna.
- To avoid any additional noise, or air quality impacts, Eulonga Quarries will continue to implement the existing environmental management measures at the existing Quarry in addition to the management measures identified in this EIS for the proposed extraction area.
- The same approach to rehabilitation will also be implemented in the proposed extraction area, noting that the proposed area, like the current Quarry site is located adjacent to the Murrumbidgee River and the sand deposit will be replenished over time by floods.

Proposal Alternatives

Do Nothing

The existing Quarry could remain within its current footprint. However, this would result in the existing Quarry exhausting the approved resource and not being able to deliver locally sourced product to the local market to support the region. Material would then need to be sourced from sites further away with greater cost, environmental, and social impacts. Transport from further away would occur via truck, with increased greenhouse gas production and increased movements on rural roads, with the associated impacts on safety and congestion.

Alternative Sites

The proponent has not considered any other locations because construction materials resources are formed by fortuitous geological events and thus occur in fixed and limited locations.

Conclusion

The Proposal has been designed to avoid impacts in the first instance and where impacts remain implement appropriate design and management measures as necessary. A thorough and comprehensive assessment of existing environmental values and potential environmental impacts have been undertaken. Environmental aspects considered by this EIS include the following:

- Noise Impacts
- Air quality
- Surface Water
- Groundwater
- Flood Impact

Waste ManagementHazards and Risk

Traffic Impact

Aboriginal Cultural Heritage

Visual Impact

• Biodiversity

These matters were subject to detailed specialist assessments which identified mitigation measures to avoid and minimise potential environmental impacts.

The site provides for an advantageous and economically beneficial use of land in a landscape that has a history of extraction industry operations occuring alongside various rural land uses. The Proposal will provide both short-term and long-term benefits by ensuring the ongoing supply of construction materials to support the Cootamundra-Gundagai local government area and broader Riverina Murray region.

Through the implementation of best practice management and design, the potential environmental impacts associated with the Proposal can be appropriately mitigated and managed. Given the net benefit and commitment from Eulonga Quarries to appropriately manage the potential environmental impacts of the Proposal, it is considered it will result in a net benefit to the regional community and is worthy of Council's support.

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Acronyms and Abbreviations

AHD	Australian Height Datum	
AHDD	Aboriginal Heritage Due Diligence Assessment	
AHIP	Aboriginal Heritage Impact Permit	
Applicant	Eulonga Quarry Pty Ltd	
AQIA	Air Quality Impact Assessment	
AQMS	Air Quality Monitoring Station	
AWS	Automatic Weather Station	
BAM	Biodiversity Assessment Method	
BC Act	Biodiversity Conservation Act 2016	
BoM	Bureau of Meteorology	
Council	Cootamundra-Gundagai Regional Council	
CIV	Capital Investment Value	
CL Act	Contaminated Land Management Act 1997	
dBA	Decibel	
DCP	Development Control Plan	
DPHI	Department of Planning, Housing and Infrastructure	
EAR	Environmental Assessment Requirements	
EIS	Environmental Impact Statement	
EPA	Environment Protection Authority	
EP&A Act	Environmental Planning and Assessment Act, 1979	
EP&A Regs	Environmental Planning and Assessment Regulation, 2000	
EPBC Act	Environment Protection and Biodiversity Conservation Act, 1999	
EPI	Environmental Planning Instrument	
EPL	Environment Protection Licence	
GDE	Groundwater Dependant Ecosystem	
GLEP	Gundagai Local Environmental Plan 2011	
ha	Hectare	
Heritage Act	Heritage Act 1977	
kg	Kilogram	
kL	Kilolitre	
km	Kilometre	
Koala SEPP	State Environmental Planning Policy (Biodiversity and Conservation) 2021	
КТР	Key Threatening Process	
LGA	Local Government Area	
LEP	Local Environmental Plan	
m	Metres	
Mining Act	Mining Act 1992	
MNES	Matters of national environmental significance	
NSW	New South Wales	
NVIA	Noise and Vibration Impact Assessment	
NP&W Act	National Parks and Wildlife Act 1974	

NPfl	Noise Policy for Industry 2017
NRAR	National Resources Access Regulator
РНА	Preliminary Hazard Analysis
Planning Systems SEPP	State Environmental Planning Policy (Planning Systems) 2021
PM	Particulate Matter
POEO Act	Protection of the Environment Operations Act 1997
Proposal	Development Proposed
Quarry	Eulonga Quarry
Roads Act	Roads Act 1993
RLS	Rural Lands Strategy
RMRP 2041	Riverina Murray Regional Plan 2041
RPP	Regional Planning Panel
Rural Fires Act	Rural Fires Act 1997
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
Site	Subject Development Area
SWMP	Soil and Water Management Plan
TIA	Transport Impact Assessment
TfNSW	Transport for NSW
t	Tonnes
tpa	Tonnes per annum
TSP	Total Suspended Particulate
WMA 2000	Water Management Act 2000
μg	Micrograms

1.0 Introduction

This chapter provides an overview of the Proposal, including an introduction to the Proposal location, scope of works and planning approval process.

1.1 Overview

Eulonga Quarries Pty Ltd (Eulonga Quarries) proposes to establish a new extraction area to the southwest of the existing Eulonga Quarry (the 'existing Quarry') operation. The proposed extraction area for the Proposal is located at Lot 158 DP 750984 and Lot 4 DP 1096529 and is located as part of the larger Eulonga property at 809 Gobarralong Road, Coolac NSW 2727 also known as 338 Darbalara Road, Coolac NSW 2727 (henceforth referred to as the 'Proposal').

The Proposal is designated development due to the following:

- Relates to an existing facility with extraction exceeding 30,000m³ per year;
- The Proposal disturbs an area greater than 2ha; and
- The site is within 40m of a watercourse.

The Proposal requires assessment and approval in accordance with Part 4, Division 4.3 of the Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act).

Eulonga Quarries have engaged SLR Consulting Australia Pty Ltd (SLR) to prepare the Environmental Impact Statement (EIS) to address the requirements of the Planning Secretary's Environmental Assessment Requirements (SEARS), issued by the Department of Planning, Housing and Infrastructure (DPHI), issued 5 September 2024

1.2 Proponent

The proponent for the Proposal is Eulonga Quarries Pty Limited (Eulonga Quarries), a family owned and operated Australian company. The Eulonga group recently diversified into sand and rock quarrying whilst continuing its pastoral and animal production enterprises. The products from Eulonga Quarries include:

Fine sand

•

Coarse sand

River rock Cement premix

• Sand blend

The family organisation has an excellent understanding of the requirements and challenges associated with the Proposal based on their experience operating the existing Quarry. They have a proven track record delivering sand products for a variety of establishments such as sporting ovals, golf courses and top dressing of existing ovals/ courses. Their products are also suitable for concreating, paving, drainage, landscaping and fill.

1.3 Existing Operations

The existing Quarry is currently operated in accordance with the following consents and licences:

- Development Consent DA 2007/78 granted on 11 December 2007, noting that the Development Consent was modified on 17 July 2019 and 8 June 2023 by the Cootamundra-Gundagai Regional Council (Council) through Development Consent 2019/59/1 and 2019/59/2; and
- Environment Protection Licence (EPL) 12835.

The development consent was modified in 2019 to permit an extraction limit of up to 172,000 tonnes per annum (tpa) from two approved extraction areas within Lot 1 & 2 DP1096529 (the 'existing operation'), refer to Figure 1. The development consent was further modified in 2023 to permit an increased depth of extraction from 4m to 8m within the approved extraction areas within Lot 1 & 2 DP1096529. The existing Quarry is located at 809 Gobarralong Road Coolac NSW 2727 however is undertaken on Lot 1 & 2 DP1096529, and Lot 4 & 5 DP133499.

The operation extracts up to 172,000 tonnes of material per annum (tpa) of sand and river rock from the banks of the Murrumbidgee River. The existing operations generally involve:

- Removal of topsoil;
- Removal of raw material by excavation;
- Screening of raw material in mobile processing plants and stockpiling products;
- Material handling of materials; and
- Off-site transport of products via road.

No change to the existing operations is proposed as part of this application.

1.4 Proposal Overview

1.4.1 Key Components of the Proposal

It is proposed to establish a new 13.91ha extraction area within Lot 158 DP750984 and Lot 4 DP1096529, which is southwest of the existing Quarry see **Figure 1** and **Figure 2**. Eulonga Quarries has advised SLR that the proposed extraction area contains a similar resource to that found at the existing Quarry (refer to Appendix I). The Proposal aims to secure an additional supply of material to support the continued operation of the existing Quarry. It is proposed to extract sand from the proposed extraction area to a depth of 222m AHD, which is approximately 4m below existing ground level. It is anticipated this would yield approximately 700,000 tonnes of material. The Proposal includes an internal access between the existing Quarry and the proposed extraction area but otherwise does not require any other construction (site office, staff amenities, parking, etc.). The Proposal requires the removal of up to 0.17ha of native dominated grassland.

Figure 1 Drone Image of Project Location





1.5 Site and Surrounds

1.5.1 Site Location

The 'site' for the proposed extraction area is specifically located on Lots 158 DP750984 and Lot 4 DP1096529 as part of the larger Eulonga property generally referred to as 809 Gobarralong Road, Coolac NSW 2727 or 338 Darbalara Road, Coolac per Council record.

The development involves the establishment of the proposed extraction area associated with an existing quarry known as the Eulonga Quarry. The existing Quarry is located on Lot 1 & 2 DP1096529, and Lot 4 & 5 DP133499. The existing Quarry includes a fine sand quarry pit, and a coarse sand quarry pit located within a sand bar on an oxbow of the Murrumbidgee River operated by Eulonga Quarries Pty Ltd.

The site is irregular in shape and zoned RU1 Primary Production under the Gundagai Local Environmental Plan 2011 (GLEP).

1.5.2 Site Context

The site is formed by several fragmented lots within the rural context. Of note is the location of the existing Quarry with associated access road, office and other associated infrastructure.

A number of rural residential dwellings are located within 809 Gobarralong Road, Coolac including at Lot 1 DP1096529 and Lot 102 DP753599. The Murrumbidgee River forms the western, northern, and eastern boundaries of the site whilst the southern boundary adjoins further rural lands.

Darbalara Road passes through the larger 809 Gobarralong Road, Coolac property holding and provides connection to Gobarralong Road and by extension to the Hume Highway.

The site forms part of a larger rural area largely consisting of agricultural activities and associated rural residential dwellings. This is reflected in the GLEP, which identifies the site and surroundings within the RU1 zone.

The site is located within the Cootamundra-Gundagai Local Government Area (LGA), refer to Figure 3. The town of Coolac is located approximately 6km to the north of the site with Gundagai located approximately 8km to the southwest of the site. More broadly, the site is situated approximately 91km east of the city of Canberra and 80km west of Wagga Wagga.



1.5.3 Receivers

The proximate sensitive receivers are listed in **Table 1** and shown in **Figure 4**. All sensitive receivers consist of rural residential dwellings.

Receptor	Receptor Type	Location (m, UTM)		Distance from Receptor
שו		Easting	Northing	to "Proposed Extraction Area" (m)
R1	Residential	608,064	6,127,920	369.14
R2	Residential	608,454	6,128,361	551.30
R3	Residential	608,779	6,128,168	439.73
R4	Residential	608,998	6,128,407	759.28
R5	Residential	611,613	6,129,684	3,606.69
R6	Residential	611,811	6,128,551	3,357.08
R7	Residential (Eulonga Quarry landowner & operator)	611,884	6,128,109	3,337.54
R8	Residential (Eulonga Quarry landowner & operator)	610,527	6,128,255	2,040.00

Figure 4 Receptor Map



1.6 EIS Purpose and Structure

Designated development to which Part 4 Division 4.3 of the Environmental Planning and Assessment act 1979 (EP&A Act) applies is identified within Schedule 3 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation). The Proposal is designated development as it meets the triggers for being an extractive facility within Schedule 3 of the EP&A Regulation 2021.

The development application must be prepared in accordance with the issued SEARs. The Cootamundra-Gundagai Regional Council is the consent authority for the Proposal and a development application is required to be lodged to Council accompanied by an EIS.

The EIS will be placed on public exhibition for a period of at least 28 days to allow public submissions to be lodged, after which the proponent may be requested to respond to issues raised in the submissions.

This EIS has been undertaken to assess the significance of the potential environmental impacts associated with the construction and operation of the Proposal. The EIS has been undertaken in accordance with the EP&A Act and EP&A Regulation.

The EIS has been based on the SEARs issued by DPHI on 5th September 2024 with a range of other government agencies. The SEARs and additional agency requirements are provided at Appendix A, with cross references to where each requirement is addressed within this EIS.

Alongside the SEARs, the NSW EPA issued correspondence providing input on the Proposal and includes items to be addressed as part of the EIS preparation.

Chapter or Appendix	Inclusion			
Volume 1				
Chapter 1 Introduction	This section provides the context for the detailed			
	assessment of the Proposal.			
Chapter 2 Strategic Context	This section provides the key strategic context issues that			
	are relevant to the assessment of the Proposal.			
Chapter 3 Proposal	This section provides a consolidated description of the			
Description	Proposal that the proponent is seeking approval for.			
Chapter 4 Statutory Context	This section identifies the relevant statutory requirements			
	for the Proposal.			
Chapter 5 Community and	This section summarises the findings of the community			
Stakeholder Engagement	engagement that was carried out for the Proposal during			
	the preparation of the EIS and describes what further			
	community engagement will be carried if the Proposal is			
	approved.			
Chapter 6 Assessment of	This section provides a detailed summary of the results of			
Impacts	the assessment of the potential impacts of the Proposal.			
Chapter 7 Proposal	This section provides a justification and evaluation of the			
Justification and Conclusion	Proposal as a whole.			
Volume 2				
Appendix A	Secretary's Environmental Assessment Requirements and			
	Response			
Appendix B	Development Plans and Mapping			
Appendix C	Traffic Impact Assessment			
Appendix D	Noise Impact Assessment			
Appendix E	Air Quality Impact Assessment			

Table 2EIS Structure and Inclusions

Chapter or Appendix	Inclusion
Appendix F	Surface and Groundwater Assessment
Appendix G	BOS Evaluation
Appendix H	Aboriginal Heritage Due Diligence Assessment
Appendix I	Eulonga Quarries Resource Statement

2.0 Strategic Context

This chapter provides a summary of the strategic context of the Proposal on a national, State, and regional context. This chapter also details site and environmental context and identifies and assesses the cumulative impacts of the Proposal.

2.1 Riverina Murray Regional Plan 2041

The Riverina Murray Regional Plan 2041 (RMRP 2041) outlines a strategic vision for the development and sustainability of the Riverina Murray region in New South Wales as a 20-year growth plan. The RMRP 2041 encompasses three parts aimed at achieving the vision for the region as a diversified economy founded on Australia's food bowl, iconic waterways and a network of vibrant connected communities. The Riverina Murray Regional Context is provided at Figure 5.

The Cootamundra-Gundagai region is identified within the broader framework of the Riverina Murray Regional Plan 2041, which emphasizes sustainable growth and economic diversification. This area plays a crucial role in the regional economy, with extractive industries being significant contributors to local employment and development.

The RMRP 2041 has 3 sections with 18 objectives which will guide the growth of the region over the next 20 years. The proposed new extraction area aligns with Objective 12 *Strategically Plan for Rural Industries* which is valued for facilitating a range of land uses including extractive industries such as a quarry.

The RMRP2041 aims to protect extractive industries from land uses which would constrain operations and consider their life cycle to ensure operations are able to continue providing employment opportunities and contribute to regional growth.



Figure 5 Riverina Murray Regional Context Map

2.2 NSW Sand and Gravel Extraction Policy for Non Tidal Rivers

The NSW Sand and Gravel Extraction Policy for Non Tidal Rivers (the Policy) provides guidelines to ensure the following is achieved:

- 1. To ensure that extraction of sand and gravel from the State's non tidal rivers is undertaken on a sustainable use basis.
- 2. To manage such extraction in a way which minimises any detrimental effects on the riverine environment thereby protecting other river uses and values.
- 3. To ensure that the extraction policy is consistent with the aims of other Government policies and initiatives.

Whilst the majority of the Policy relates to governmental mechanisms to manage non-tidal rivers, the Policy calls for the use of management plans for sand and gravel extraction operations.

The Proposal includes a range of mitigation measures that will effectively manage environmental impacts. This is to be reinforced per appropriate conditions of consent imposed by Council along with an updated Environmental Protection Licence issued by the NSW EPA.

The Proposal is considered to achieve the objectives of the Policy through the proposed mitigations and required approvals and licencing.

2.3 Cootamundra-Gundagai Local Strategic Planning Statement

Cootamundra-Gundagai Local Strategic Planning Statement (LSPS) provides a high-level strategic planning strategy to guide the area's future growth and sustainability. The LSPS identifies key planning matters and outlines how it will enhance planning opportunities within the Cootamundra-Gundagai local government area (LGA).

The relevant Planning Priorities identified in the LSPS relevant to the Proposal are:

- Productivity
 - Priority 7: opportunities to grow agricultural industries
 - Priority 9: opportunities to support the freight network
- Sustainability
 - Priority 4: opportunities to protect and enhance agricultural land
 - Priority 6: opportunities to be a leader in waste recovery and contaminated land management
- Infrastructure and Planning
 - Priority 13: opportunities to promote active transport
 - Priority 15: opportunities to provide a quality utility service

The Proposal aims to provide a new extraction area support the continued operation of the existing Quarry which provides construction materials which are essential to infrastructure and development locally and more broadly in the region.

The Proposal will rely on the existing Quarry for processing and sale of the material extracted from the proposed extraction area. This avoids the need to operate a processing plant and other related infrastructure in the proposed extraction area. This directly reduces the potential for impacts from noise, air and water emissions from the Proposal.

2.3.1 Draft Cootamundra-Gundagai Rural Lands Strategy

The Draft Cootamundra-Gundagai Rural Lands Strategy (RLS) has been exhibited and is available for view on Council's website and as such has been considered.

The RLS serves not only as a land use planning document, but as a plan for economic success and growth through the shared identity of agriculture by leveraging the agricultural strengths, connections to logistics hubs, and capitalise on recreation and tourism trends.

The Proposal directly aligns with Direction Three which aims to encourage the diversity of rural industries in rural lands within the LGA. Quarries for sand and rock are directly identified as the main area of extractive industries in the region.
3.0 Proposal Description

This chapter provides a consolidated description of the Proposal that the proponent is seeking approval for.

3.1 **Proposal Overview**

Eulonga Quarries propose to establish a new extraction area (the 'Proposal') to the southwest of the existing quarry operation, on Lot 158 DP750984 and Lot 4 DP1096529.

An overview of the development parameters is provided in Figure 2.

Parameter	Existing	Proposed	
Tonnes Per Annum	172,000tpa	No Change	
Extraction Area	Existing Quarry: 16.7ha	Existing Quarry: No Change	
		Proposed Extraction Area: 13.91ha	
Extraction Depth	Existing Quarry: 8m	Existing Quarry: No Change	
		Proposed Extraction Area: 4m (222m AHD)	
Hours of Operation	7:00am to 6:00pm Monday to Saturday;	No Change	
	No time on Sundays and Public Holidays.		

Table 3 Proposed Development Overview

3.1.1 Extraction Area

The proposed extraction area is to support the existing Quarry without any changes to the approved annual extraction volume for the existing Quarry, which would remain capped at the current approved rate of 172,000 tonnes per annum, or increase truck movements, hours of operation or rehabilitation outcome or any other aspect of the existing quarry operation on Lot 1 & 2 DP1096529. Rather, the proposed extraction area is intended to feed into and provide improved security of the resource for the ongoing operation of the existing Quarry.

The proposed extraction area is approximately 13.91 hectares, and the extraction of material would occur in the same way as the current site to a depth of 4m (222m AHD). It is anticipated the proposed extraction area would yield approximately 700,000 tonnes of material. The proposed extraction area is approximately 1,300m southwest (downstream) of the existing Quarry. Prior to commencing activities in the proposed extraction area, Eulonga Quarries would have a surveyor identify, peg and mark the boundaries of the proposed extraction area.

3.1.2 Ancillary Operations

The proposed area is for extraction only. No processing of material will occur in the proposed extraction area. All extracted material will be transported to the existing Quarry for processing, stockpiling and transport to market by the approved haulage routes. It is anticipated that the only machinery required in the additional extraction area is an excavator to extract the sand and then load the off-road haul truck which will transport the material back to the existing Quarry for processing. This arrangement avoids the need for a processing plant within the proposed extraction area, directly reducing the potential noise and air emissions that could be generated by the Proposal.

3.1.3 Services and Infrastructure

An internal access between the proposed extraction area and the existing Quarry is proposed to facilitate vehicle movements.

Operations within the proposed extraction area do not require any connection to reticulated water, power or telephone infrastructure. All amenities required to service the proposed extraction area are available at the existing Quarry.

3.1.4 Water Use

The main use of water for the proposed quarry will be for dust suppression within the quarry and the proposed internal link road. The proposed extraction area will use captured runoff water within the pit for dust suppression. This dust suppression will be by use of a single water cart applying water as required at a maximum rate of 12,000L/h.

Based on the water balance provided as part of the larger Hydrology Assessment (Appendix F), the Proposal is calculated to require less than 2.0ML/year with the implementation of the recommended dust management measures. That water demand can be met through the harvestable rights allowance for Eulonga Station. Alternatively, water may also be purchased from a licenced water supplier if required.

3.1.5 Rehabilitation

The proposed extraction area, like the existing Quarry is located adjacent to the Murrumbidgee River and the sand deposit will be replenished over time by floods. The final landform will be suitable for the re-establishment of the existing rural and agricultural land use through the natural regeneration of pasture grasses.

4.0 Statutory Context

This chapter describes the statutory context and the planning approval process for the Proposal as well as other relevant environmental and statutory planning requirements.

4.1 Commonwealth Legislation

4.1.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) aims to protect matters deemed to be of national environmental significance (MNES). A search of the protected matters each tool was undertaken on 14 November 2024.

NES Matter	Comment
World heritage properties	There are no World heritage properties listed within 10km of the site.
National heritage places	There are no National heritage places listed within 10km of the site.
Wetlands of national importance	A total of four Ramsar Wetlands were identified as part of the MNES search however these wetlands are between 500km and 800km away from the site.
Great Barrier Reef marine park	The site is not located within or adjacent to the Great Barrier Reef marine park.
Commonwealth marine area	The site is not located within or adjacent to the Commonwealth marine area.
Listed threatened ecological communities	There are three (3) listed threatened ecological communities (TECs) located within 10 km of the Proposal (listed at Appendix G).
Listed threatened species	There are 46 listed threatened species located within 10km of the Proposal (listed at Appendix G).
Listed migratory species	There are 8 listed migratory species located within 10km of the Proposal (listed at Appendix G).

Table 4 Results of MNES Search

4.2 State Legislation

4.2.1 Environmental Planning and Assessment Act 1979

The EP&A Act and the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) form the statutory framework for planning approval and environmental assessment in NSW. The statutory trigger for development consent is included in Section 4.2(1) of the EP&A Act.

4.2.1.1 Objects of the Act

It is a requirement to consider the objects as listed within Clause 1.3 of the EP&A Act as part of the EIS. A response against each of the objects has been provided in **Table 5**.

Table 5Objects of the Act Response

Object	Response
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,	The Proposal will expand an existing quarry which will extend the life of the quarry while restricting impacts to the existing quarry location rather than impacting an alternative location. This manages the available natural resources, with appropriate mitigation measures, for the economic benefit of the region.
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	Relevant economic, environmental, and social considerations have been explored as part of this application to enable appropriate assessment and decision making per the objective.
<i>(c) to promote the orderly and economic use and development of land,</i>	an existing quarry enabling the orderly use and development of the land.
(d) to promote the delivery and maintenance of affordable housing,	The Proposal is not considered to limit the delivery of affordable housing elsewhere.
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	The Proposal has considered environmental impacts including ecological impacts on threatened species, ecological communities, and their habitats. Through appropriate mitigations the development is able to suitably manage environmental impacts.
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	Historic and Aboriginal Cultural Heritage have been considered as part of this EIS. The development is considered to have minimal impact on historic and Aboriginal cultural heritage.
(g) to promote good design and amenity of the built environment,	Amenity impacts on surrounding sensitive receivers have been considered as part of this EIS. Through appropriate mitigations the development is able to suitably manage amenity impacts.
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	Construction works are minimal and are to be managed in accordance with any future approval for the alongside the requirements to obtain any post-approval certifications.
<i>(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,</i>	The Proposal is expected to be referred to a range of State agencies for input on the Proposal ensuring sharing of responsibilities is undertaken during assessment.
(j) to provide increased opportunity for community participation in environmental planning and assessment.	Consultation during the preparation of the EIS has been undertaken with findings discussed within.

4.2.1.2 Designated Development

Schedule 3 of the EP&A Regulation defines the types of designated development that will have a high impact or are in or near an environmentally sensitive area and warrant a detailed environmental impact statement.

In accordance with Schedule 3, clause 19 of the EP&A Regulation, the following is *deemed designated development:*

"(1) Extractive industries (being industries that obtain extractive materials by methods including excavating, dredging, tunnelling or quarrying or that store,

stockpile or process extractive materials by methods including washing, crushing, sawing or separating)—

- (a) that obtain or process for sale, or reuse, more than 30,000 cubic metres of extractive material per year, or
- (b) that disturb or will disturb a total surface area of more than 2 hectares of land by—
 - (i) clearing or excavating, or
 - (ii) constructing dams, ponds, drains, roads or conveyors, or
 - (iii) storing or depositing overburden, extractive material or tailings, or
- (c) that are located—
 - (i) in or within 40 metres of a natural waterbody, wetland or an environmentally sensitive area, or
 - (ii) within 200 metres of a coastline, or
 - (iii) in an area of contaminated soil or acid sulphate soil, or
 - (iv) on land that slopes at more than 18 degrees to the horizontal, or
 - (v) if involving blasting, within 1,000 metres of a residential zone or within 500 metres of a dwelling not associated with the development, or
 - (vi) within 500 metres of the Site of another extractive industry that has operated during the last 5 years."

The Proposal is designated development under Schedule 3, Clause 19 of the EP&A Regulation as it meets the criteria of clause 1(a), 1(b), and 1(c)(i), it will disturb approximately 13.91ha of additional land beyond the existing disturbed area, resulting in a total disturbed area of approximately 30.61ha and will occur within 40m of a watercourse.

Extraction tonnage already exceeds the 30,000 cubic metres of material per year threshold.

4.2.2 Biodiversity Conservation Act 2016

The Biodiversity Conservation Act 2016 (BC Act) provides a framework for the management of flora and fauna on lands within NSW. Under this Act the principles of ecologically sustainable development are used to achieve the conservation and protection of biodiversity values.

In conjunction with the BC Act 2016, the Biodiversity Assessment Method (BAM) is a model for undertaking biodiversity assessments on all major Proposals. The BAM provides a classification and credit system to ensure that there is no net loss of biodiversity values across the state.

A BOS Evaluation has been undertaken by NGH (Appendix G) which includes an assessment of the vegetation present at the site and investigation of the presence of any threatened species or ecological communities.

The BOS Evaluation found the site contained remnant native trees and native grassland. Areas mapped as containing Biodiversity Value have been avoided as part of the development footprint. The development will require clearing of less than 1ha of native grassland and as a result, the development will not require offsets in accordance with the Biodiversity Offset Scheme of the BC Act.

4.2.3 **Protection of Environment Operations Act (POEO 1997)**

Under the POEO Act, the Environmental Protection Agency (EPA) is the appropriate regulatory authority for all scheduled activities.

Under Schedule 1, Part 1, Clause 19 the threshold for extractive industries:

19 Extractive activities

- 1 This clause applies to extractive activities, meaning the extraction (by any method, including by excavation, dredging, blasting or tunnelling) or processing of extractive materials.
- 2 However, this clause does not apply to the following—
 - (a) cut and fill operations, or the excavation of foundations or earthworks, that are ancillary to development that is subject to development consent or approval under the Environmental Planning and Assessment Act 1979,
 - (b) extractive activities to which clauses 33 or 35 applies.
- 3 The activities to which this clause applies are declared to be scheduled activities if they involve the extraction or processing of more than—
 - (a) for maintenance dredging of a navigation channel for vessels carried out by or on behalf of a public authority—30,000 cubic metres of extractive materials per year, or
 - (b) otherwise—30,000 tonnes extractive materials per year, where 0.65 cubic metres of extractive material that is wet is taken to weigh 1 tonne.
- 4 For the purposes of this clause, if more than 30,000 tonnes of extractive material is transported in a year from premises at which extraction occurs, more than 30,000 tonnes of extractive material are taken to have been extracted in that year at the premises.
- 5 In this clause, extractive materials means clay, sand, soil, stone, gravel, rock, sandstone or similar substances that are not minerals within the meaning of the Mining Act 1992.

The existing development holds an EPL (EPL-12835). In accordance with the POEO, the proponent would seek a variation to the licence to align with any new consent issued for the Proposal.

4.2.4 Water Management Act 2000

The Water Management Act 2000 (WMA 2000) aims to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations. If a 'controlled activity' is to occur within 40m of the 'high bank' of 'waterfront land', a controlled activity approval is required from the National Resources Access Regulator (NRAR).

A controlled activity may include:

- Erecting a building;
- Carrying out works: including the construction of bridges, roads, controls measures, sea walls, and more;
- Removing material from waterfront land: including plants, rocks, gravel and more;
- Depositing material on waterfront land: including gravel or fill; and
- Any activity which affects the quantity or flow of water in a water source.

The site of the proposed extraction area adjoins the Murrumbidgee River and as such a controlled activity approval is required.

The existing Quarry has a Water Supply Works approval under s90 of the WMA 2000. No water extraction or water use from the Murrumbidgee River is proposed.





4.3 Fisheries Management Act 1994

The Fisheries Management (FM) Act contains provisions for the conservation of fish stocks, key fish habitat, biodiversity, threatened species, populations and ecological communities. The FM Act regulates the conservation of fish, marine vegetation and some aquatic macroinvertebrates and the development and sharing of fishery resources of NSW for present and future generations. Part 7 of the FM Act identifies requirements for the protection of aquatic habitats, while Part 7A of the FM Act lists threatened species, populations and ecological communities and key threatening processes (KTPs) for species, populations and ecological communities in NSW waters. Section 220ZZ of the FM Act outlines significant impact considerations to threatened species, populations and ecological communities to species listed under the FM Act are assessed using the Test of Significance, also known as the 7-Part Test (NSW DPI 2013).

The indicative KFH map provided by NSW DPI within the vicinity of the Study Area indicates that the Murrumbidgee River is identified as a Key Fish Habitat, see **Figure 7**. Part 2 and Part 7 of the FM Act describe the requirements for permits for dredging and/or reclamation works, to obstruct fish passage and to harm marine vegetation. The anabranches/tributaries that cross the Proposal site are highly degraded, ephemeral streams with no marine vegetation therefore the requirements of Part 2 and Part 7 of the FM Act do not apply.

Figure 7 Key Fish Habitat Extract

4.4 Other NSW Legislation Considered

Table 6 lists the NSW legislation relevant to the Proposal.

Table 6	Other Relevant	NSW	Legislation
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Legislation	Requirement
Contaminated Land Management Act 1997 (CL Act)	The site is not listed in the Contaminated Land Register and is not known to the contaminated. The development is not a change of use, rather it will establish a new extraction are for the existing quarry operation.
	Additional contamination assessment is not considered to be necessary as the existing use of the site has low probability of contamination and not identified as subject to contamination.
Mining Act 1992 (Mining Act)	The quarry is existing with the Proposal related to a new quarry extraction area. Any existing licence will be updated to reflect the approval if necessary.
<i>Heritage Act 1977</i> (Heritage Act)	Approval under the Heritage Act must be sought under Section 60 if the Proposal is likely to impact an item of heritage significance listed on the State Heritage Register.
	Potential for the Proposal to contain any items of non-Aboriginal heritage subject to the Heritage Act is considered negligible and is not considered to be required to inform the EIS for the Proposal.
	Heritage impacts are considered within the Aboriginal and Historical Heritage Due Diligence Assessment provided at Appendix H.

Legislation	Requirement	
National Parks and Wildlife Act 1974 (NP&W Act)	The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW, 2010) provides guidance on he to identify activities that may harm an Aboriginal object or place, and to determine whether they should apply for consent to harm an Aboriginal object or place in the form of an Aboriginal Heritage Impact Permit (AF under Section 90A of the Act.	
	An Aboriginal Heritage Due Diligence Assessment has been provided at Appendix H . The report concludes that no Aboriginal objects were identified and there is no potential for Aboriginal objects to occur due to site context. Further discussion has been provided at Section 6.7 .	
Roads Act 1993 (Roads Act)	Section 138 of the Roads Act requires consent from the relevant road authority for the carrying out of work in, on or over a public road.	
	Subject to Section 138(3) of the Roads Act, " <i>if the applicant is a public authority, the roads authority and, in the case of a classified road, RMS must consult with the applicant before deciding whether or not to grant consent or concurrence.</i> "	
	No works within a road reserve with a Section 138 application not required.	
<i>Rural Fires Act 1997</i> (Rural Fires Act)	Section 100B of the Rural Fires Act identifies that a bush fire safety authority is required for subdivision or a special fire protection purpose.	
	Portions of the development area are impacted by bushfire prone land categories 1, 2, and vegetation buffer per the published Bushfire Prone Land Map.	
	The Proposal does not fit the development type criteria and further consideration of bushfire would not be required.	

4.5 Environmental Planning Instruments

4.5.1 State Environmental Planning Policy (Planning Systems) 2021

The State Environmental Planning Policy (Planning Systems) 2021 (SRD SEPP) identifies development that is State significant development (SSD), State significant infrastructure (SSI), and regionally significant development (RSD).

State Significant Development

Schedule 1, clause 1 of the SRD SEPP specifies the following development type relevant to the Proposal:

- "1 Development for the purpose of extractive industry that—
 - (a) extracts more than 500,000 tonnes of extractive materials per year, or
 - (b) extracts from a total resource (the subject of the development application) of more than 5 million tonnes, or
 - (c) extracts from an environmentally sensitive area of State significance.
- 2 Subclause (1)(c) does not apply to extraction—
 - (a) by a public authority in maintenance dredging of a tidal waterway, or
 - (b) in maintenance dredging of oyster lease areas, or adjacent areas, in Wallis Lake.



- 3 Development for the purpose of extractive industry related works (including processing plants, water management systems, or facilities for storage, loading or transporting any construction material or waste material) that—
 - (a) is ancillary to or an extension of another State significant development Proposal, or
 - (b) has a capital investment value of more than \$30 million.
- 4 This clause does not apply to development for the purpose of extractive industry or extractive industry related works that is part of a single Proposal if any other part of the development is State significant infrastructure.
- 5 This clause does not apply to development specified in Schedule 1 to State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007."

The Proposal does not trigger any of the criteria listed in the clauses above and is therefore not SSD.

Regionally Significant Development

Under Schedule 6 clause 7 of the SEPP a development is deemed regionally significant for extractive industries that are designated development:

7 Particular designated development

1 Development for the purposes of—

(a) extractive industry facilities that meet the requirements for designated development under the Environmental Planning and Assessment Regulation 2021, Schedule 3, section 26, ...

As outlined in the section above the Proposal triggers items under section 26, therefore the consent authority is the Southern Regional Planning Panel.

4.5.2 State Environmental Planning Policy (Resources and Energy) 2021

Under Part 2.2 Clause 2.9(3)(a) of State Environmental Planning Policy (Resources and Energy) 2021 extractive industries are permissible with consent on land for the purpose of agriculture or industry. As outlined in Section 4.3.1 below the site is zoned for rural purposes and as such is permissible with consent under the SEPP. Part 2.3 of the SEPP provides the matters for consideration with the relevant clauses discussed below.

2.16 Non-discretionary development standards for mining

Section 2.16 provides for several items which must be complied with for mining and extractive industries such as the proposed extraction area. An assessment against these development standards is provided in **Table 7**.

Table 7 Non-discretionary development standards for mining Assessment

Development Standard	Response
3 Cumulative noise level The development	The Noise and Vibration Impact Assessment
does not result in a cumulative amenity	(refer Appendix D), demonstrates that the
noise level greater than the recommended	cumulative operational noise amenity noise
amenity noise levels, as determined in	levels are below the NPfI recommended
accordance with Table 2.2 of the Noise	amenity level at all locations.

Development Standard	Response
Policy for Industry, for residences that are private dwellings.	
4 Cumulative air quality level The development does not result in a cumulative annual average level greater than 25 μ g/m3 of PM10 or 8 μ g/m3 of PM2.5 for private dwellings.	Air quality is discussed in Section 6.2 and Appendix E . The Air Quality Impact Assessment demonstrates that the Proposal will not exceed the criteria.
5 Air blast overpressure Airblast overpressure caused by the development does not exceed—	No explosive use is proposed.
(a) 120 dB (Lin Peak) at any time, and	
(b) 115 dB (Lin Peak) for more than 5% of the total number of blasts over any period of 12 months, measured at any private dwelling or sensitive receiver.	
6 Ground vibration Ground vibration caused by the development does not exceed—	No explosive use is proposed.
(a) 10 mm/sec (peak particle velocity) at any time, and	
(b) 5 mm/sec (peak particle velocity) for more than 5% of the total number of blasts over any period of 12 months, measured at any private dwelling or sensitive receiver.	
7 Aquifer interference Any interference with an aquifer caused by the development does not exceed the respective water table, water pressure and water quality requirements specified for item 1 in columns 2, 3 and 4 of Table 1 of the Aquifer Interference Policy for each relevant water source listed in column 1 of that Table.	A Surface and Groundwater Assessment has been provided at Appendix F with discussion provided at Section 6.3 and 6.4. The Proposal has been designed to avoid interference with groundwater.

2.17 Compatibility of proposed mine, petroleum production or extractive industry with other land uses

Land use compatibility with surrounding land uses is a consideration under Section 2.17 of the SEPP. The Proposal is for a new extraction area for an existing quarry within a rural landscape. The potential impacts of the development including cumulative impacts have been assessed as part of this EIS with all recommended mitigation and management measures to be implemented to minimise the projected impacts. These assessments included consideration of surrounding sensitive receivers with impacts quantified as these locations. The Draft Cootamundra-Gundagai Rural Lands Strategy (RLS), which has been exhibited, directly encourages rural industries in rural lands within the LGA and further identified sand and rock quarries as the main area of extractive industries in the region.

With the implementation of appropriate mitigation measures to effectively manage impacts on the environment and surrounding sensitive receivers along with the use being directly referenced as appropriate in rural lands, the Proposal is considered to be a compatible land use.

4.5.3 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 3 of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (the 'Koala SEPP 2020') previously known as *State Environmental Planning Policy (Koala Habitat Protection) 2020* commenced on 30 November 2020 and reinstates the policy framework of the former SEPP 44 to 74 Local Government Areas (LGA) in NSW. With regard to development applications, the Koala SEPP 2020 applies when the subject land:

- is in land use zones Zone RU1 Primary Production, Zone RU2 Rural Landscape or Zone RU3 Forestry.
- is in a LGA listed in Schedule 1 of *State Environmental Planning Policy (Koala Habitat Protection) 2021*, but not if the LGA is marked with an.*

The subject land is zoned RU1 however the Cootamundra-Gundagai is not listed within Schedule 2. Therefore, the Policy does not require further consideration.

4.5.4 State Environmental Planning Policy (Transport and Infrastructure) 2021

2.122 Traffic-generating development

Gobarralong Road and Darbalara Road are local roads with access greater than 90m from a classified road for the purposes of Section 2.122 Schedule 3. The Proposal will not generate more than 50 motor vehicles per hour it is not considered traffic generating development. The Proposal does not include any new direct access to the road network. There are no changes proposed to the existing Quarry access. The Proposal does not require referral to Transport for NSW.

4.5.5 State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 4 Remediation of Land

A search of the Environmental Protection Agency (EPA) Contaminated Land Record database was undertaken in November 2024 and identified two sites within the LGA with no records within the suburb of Coolac.

A search of the EPA POEO Act Public Register resulted in 24 licences having been granted, 16 of which are active. A total of four licences have been granted within Coolac including the current licence for the subject site.

A search of the NSW EPA list of Notified Sites shows one record located in the town of Coolac being the service station with a further record located in Gundagai itself.

Noting the lack of records for contamination in the area and the existing use of the site for agricultural purposes, the site is considered to be low risk for potential contamination and further testing not required.

4.5.6 Gundagai Local Environment Plan 2011

The site is subject to the Gundagai Local Environment Plan 2011 (GLEP). Under the GLEP the site is zoned RU1 - Primary Production, refer to Figure 8.



FIGURE 8

Zone RU1 Primary Production

1 Objectives of zone

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To encourage the efficient use and conservation of water resources.
- To protect significant scenic landscapes.
- To encourage development that does not adversely impact nearby agricultural activities.
- To protect, enhance and conserve the natural environment, including native vegetation, wetlands and wildlife habitat.
- To ensure development prevents or mitigates land degradation.

2 Permitted without consent

Extensive agriculture; Environmental protection works; Home occupations; Intensive plant agriculture

3 Permitted with consent

Aquaculture; Dwelling houses; <u>Extractive industries</u>; Farm buildings; Function centres; Intensive livestock agriculture; Local distribution premises; Open cut mining; Roads; Roadside stalls; Any other development not specified in item 2 or 4

4 Prohibited

Amusement centres; Attached dwellings; Business premises; Cemeteries; Centre-based child care facilities; Community facilities; Dual occupancies; Eco-tourist facilities; Entertainment facilities; Exhibition homes; Exhibition villages; Hardware and building supplies; Health services facilities; Home occupation (sex services); Industrial retail outlets; Industrial training facilities; Marinas; Mooring pens; Mortuaries; Multi dwelling housing; Office premises; Public administration buildings; Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Semi-detached dwellings; Seniors housing; Service stations; Sex services premises; Shop top housing; Specialised retail premises; Storage premises; Timber yards; Vehicle body repair workshops; Vehicle sales or hire premises; Wharf or boating facilities; Wholesale supplies

Extractive industries are permitted with consent under the Gundagai LEP 2011. The Proposal is generally in alignment with the zone objectives as it will expand an existing primary industry enhancing the resource base while being located and designed to avoid and or minimise impacts on any other land zone areas.

Definition:

extractive industry means the winning or removal of extractive materials (otherwise than from a mine) by methods such as excavating, dredging, tunnelling or quarrying, including the storing, stockpiling or processing of extractive materials by methods such as recycling, washing, crushing, sawing or separating, but does not include turf farming.

4.5.7 Other Relevant LEP Sections

Clause 5.10 Heritage Conservation

The site does not contain any heritage significant items or places, nor is it within a conservation area. No heritage items are located in proximity to the site.

Clause 6.1 Biodiversity Protection

The development area is mapped as containing areas of biodiversity protection under the LEP 2011, see **Figure 9**. Under the Section, the consent authority must consider any adverse impact of the Proposal on the following elements:

- (a) native ecological communities,
- (b) the habitat of any threatened species, populations or ecological community,
- (c) regionally significant species of fauna and flora or habitat,
- (d) habitat elements providing connectivity.

A site investigation was undertaken as part of the BOS Evaluation prepared by NGH (Appendix G). The investigation was undertaken to establish the presence of any ecological communities, threatened species or associated habitat. Communities present at the site include PCT 79 *River Red Gum shrub/grass riparian tall woodland zone* and native grassland.

The vegetation within the site is a mixture of exotic and native groundcover with only remnant native trees present. No threatened species or threatened ecological communities were identified as part of site visit. The condition of the grassland area is considered to be poor with minimal ecological value.

The Proposal has minimal impact on native ecological communities with the trees either avoided or to be protected from removal. Only areas of grassland are proposed to be removed.

The Proposal is considered to be consistent with the requirements of Clause 6.1 through preservation of trees and minimisation of impacts to low quality grassland areas.

Clause 6.2 Land Protection

This section aims to protect vulnerable land with the consent authority to consider elements such as geotechnical stability and erosion processes.

Portions of the development area are located within the land protection area under the LEP 2011, see **Figure 10**.

The development includes the extraction of sand material from an area adjoining the Murrumbidgee River.

An assessment of surface water impacts has been undertaken as part of the larger Surface and Groundwater Assessment at Appendix F. The assessment considered impacts of the Proposal on land stability related to surface water flows. All recommendations of the assessment are to be implemented so that potential erosion and land degradation risks are appropriately managed.

Clause 6.3 Water Protection

The site is mapped within a water protection area under the LEP 2011, see **Figure 11**. The aim of the Clause is to maintain the hydrological functions of riparian land, waterways, and aquifers with the following to be considered:

- (a) the water quality of receiving waters,
- (b) the natural flow regime,
- (c) the natural flow paths of waterways,
- (d) the stability of the bed, shore and banks of waterways,
- (e) the flows, capacity and quality of groundwater systems.

An assessment of surface and groundwater has been undertaken by SLR Consulting and is provided at Appendix F. It includes consideration of water quality impacts, water flow, land stability, and groundwater impacts. Per the assessment, mitigation measures are proposed so that potential impacts on the river system are minimised and managed.

Clause 6.6 Essential Services

The Proposal must not be granted consent unless suitable arrangements for the listed services are provided to the development. Noting the site is currently operating as a quarry, no new services are proposed to be connected to the proposed location with current arrangements to continue to adequately service the existing Quarry.



FIGURE 9





5.0 Engagement

This chapter provides a description of the consultation undertaken with the local community and key stakeholders.

5.1 Agency Consultation

The agency consultation was undertaken as part of the SEARs process and included the agencies listed below, their response is provided at **Appendix A** and throughout **Section 6** of this EIS.

- Transport for NSW
- Crown Land
- Department of Planning and Environment Biodiversity and Conservation Division
- Department of Agriculture
- Fisheries NSW
- Natural Resources Access Regulator
- Environmental Protection Agency
- Waster NSW
- Cootamundra Gundagai Regional Council

A meeting was held with Cootamundra Gundagai Regional Council on 6 February 2025. The purpose was to provide Council with an update on the development including changes since the SEARs were issued along with providing Council with an opportunity to provide input on the development.

5.2 Community Consultation

The nearest receptors (R1 to R7) were contacted via letter box drop and phone calls conducted between the 7th and 14th February 2025. A summary of the discussion is provided at **Table 8**.

Receptor	Date contacted	Input
R1	07/02/2025	Eulonga Quarries contacted R1 by phone and letter/email.
R2	07/02/2025	Eulonga Quarries contacted R2 by phone and letter/email.
	10/02/2025	SLR spoke with R2 by phone. Primary concerns raised included potential noise, dust and visual amenity impacts and implications for the flow of the river during and after floods. R2 indicated that they were likely to make a submission against the Proposal.
R3	07/02/2025	Eulonga Quarries contacted R3 by phone and letter/email.
	11/02/2025	SLR spoke with R3 by phone. Primary concerns included potential noise, dust and visual amenity impacts and implications for the flow of the river during and after floods. R3 referred to the provisions of the Sand and Gravel Extraction Policy for Non Tidal Rivers. R3 indicated that

Table 8 Consultation Responses

Receptor	Date contacted	Input
	40/00/0005	they were likely to make a submission against the Proposal.
12/02/2025		R3 provided a letter to SLR by email on 12/02/2025. Concerns raised included noise, dust, visual impact, property values, and potential impact on biodiversity, including the Sandy Falls Reserve on the northern side of the river. The correspondence reiterated that R3 would be objecting to the Proposal.
R4	07/02/2025	Eulonga Quarries contacted R4 by phone.
	11/02/2025	SLR spoke with R4 by phone. R4 also raised concerns with noise, dust, visual impact, property values, and potential impact on biodiversity. R4 proposed that the internal access should be moved further away. R4 indicated that they were likely to make a submission against the Proposal.
R5	07/02/2025	Eulonga Quarries contacted R5 by phone.
R6	07/02/2025	Eulonga Quarries contacted R6 by phone.
R7	-	Proponent
R8	-	Proponent

6.0 Assessment of Impacts

This chapter provides a detailed assessment of the key environmental issues and recommended mitigation measures for the Proposal and addresses the requirements of the SEARs and outlines the mitigation measures proposed to address any potential impacts. The below discussion provides a summary of the specialist studies prepared, which are appended to the EIS.

6.1 Noise Impact

This section presents the findings of a Noise and Vibration Impact Assessment (NVIA) prepared in response to the SEARs. The NIA include:

- A description of all potential noise and vibration sources during both construction and operation including potential cumulative impacts.
- A description and appraisal of noise and vibration mitigation and monitoring measures.

The report assesses the potential construction and operational noise and vibration impacts associated with the Proposal at Appendix D.

6.1.1 Existing Environment

The proximate receptors are listed within **Table 9** and displayed at **Figure 4**. All receptors consist of single dwellings located within the rural setting which includes the closest receiver.

Receptor	Receptor Type	Location (r	Distance from	
ID		Easting	Northing	Receptor to "Proposed Extraction Area" (m)
R1	Residential	608,064	6,127,920	369.14
R2	Residential	608,454	6,128,361	551.30
R3	Residential	608,779	6,128,168	439.73
R4	Residential	608,998	6,128,407	759.28
R5	Residential	611,613	6,129,684	3606.69
R6	Residential	611,811	6,128,551	3357.08
R7	Residential (Eulonga Quarry landowner & operator)	611,884	6,128,109	3337.54
R8	Residential (Eulonga Quarry landowner & operator)	610,527	6,128,255	2040.00

Table 9 Receiver List

Figure 12 Receptor Map



6.1.2 Construction Noise Impact

Construction of the access road would be conducted using a grader and trucks to deliver and spread the road base material.

Construction noise levels are not predicted to exceed the relevant criteria at any of the nearby noise sensitive receivers, with the exception of R3 which saw a predicted a 1 dB exceedance under noise enhancing weather conditions. Given the results are based on construction equipment being in use on the access road at the closest point to each receiver, there would frequently be periods when construction noise levels are much lower than the worst-case noise levels presented as works occur further away. Given the minor exceedance at R3 under noise enhancing conditions, impacts are likely to be minor.

Notwithstanding a negligible 1 dB exceedance at R3 under noise enhancing meteorological conditions during construction and compliance at all receivers during operation, all appropriate feasible and reasonable mitigation measures would be applied to minimise the potential impacts from the Proposal, see **Table 12**.



6.1.3 Operational Noise Impact

Noise sources associated with the Proposal include:

- The excavation, stockpiling and loading of material into an articulated haul truck within the new extraction area,
- Hauling material from the new extraction area to the existing processing area.

To minimise potential noise emissions a single operator would operate the excavator and the haul truck, as such operation of the excavator and the articulated haul truck would not occur simultaneously.

Predicted operational noise levels at the nearest potentially affected residential receivers are provided in **Table 10**.

Receiver	Meteorological Condition	Predicted Construction Noise Level LAeq(15minute) (dBA)		PNTL (dBA)
		Scenario 1 Excavation	Scenario 2 Hauling	
R1	Standard	37	26	40
	Noise-Enhancing	40	29	40
R2	Standard	34	28	40
	Noise-Enhancing	37	31	40
R3	Standard	36	36	40
	Noise-Enhancing	39	39	40
R4	Standard	30	35	40
	Noise-Enhancing	33	38	40
R5	Standard	8	10	40
	Noise-Enhancing	11	14	40
R6	Standard	9	11	40
	Noise-Enhancing	12	14	40
R7	Standard	9	10	40
	Noise-Enhancing	12	14	40

 Table 10
 Predicted Operational Noise Levels

The results presented indicate that operational noise levels meet the PNTL at all residential receivers surrounding the Proposal. Analysis of the results indicates that the Proposal does not result in any tonal, impulsive or low frequency components as per the definitions of 'modifying factor corrections' in accordance with the NPfI. As such no modifying factor corrections to the predicted noise levels is triggered for the Proposal.

Cumulative impacts of the proposed extraction area with consideration to the existing Quarry operations areas have been modelled as part of the assessment. To provide a conservative cumulative assessment in the absence of measured noise emissions, the Eulonga Quarry noise criteria contained in EPL 12835 and predicted Proposal noise levels at receivers surrounding the Proposal have been cumulatively assessed and provided at **Table 11**.

Rid	Period	Intrusiveness No	ise Levels LAeq(1	Total Cumulative	NPfl Recommended	
		Existing Eulonga Quarry¹	Proposal Operation ²	Total Cumulative Intrusiveness Noise Level	Amenity Noise Level ³ LAeq(period) (dBA)	Amenity Noise Level LAeq(period) (dBA)
R1	Day	35	40	41	38	50
R2	Day	35	37	39	36	50
R3	Day	35	39	40	37	50
R4	Day	35	38	40	37	50
R5	Day	35	14	35	32	50
R6	Day	35	14	35	32	50
R7	Day	35	14	35	32	50

Table 11 Cumulative Operational Noise Levels

The cumulative operational noise amenity noise levels are below the NPfI recommended amenity level at all locations. As such no significant cumulative impacts are predicted due to the concurrent operation of the Proposal and the existing Eulonga Quarry.

6.1.4 Noise Management Measures

A number of potential mitigation measures for construction and operation activities that would be applied to the Proposal are detailed in **Table 12**.

Table 12 Noise Mitigation and Management Measures

Mitigation / Management Measures

Required Mitigation / Management Measures

A single operator would operate the excavator and the haul truck, as such operation of the excavator and the articulated haul truck would not occur simultaneously.

Construction Mitigations:

- Use quieter construction methods where feasible and reasonable.
- Training would be provided to all personnel on noise requirements for the Proposal. Inductions and toolbox talks to be used to inform personnel of the location and sensitivity of surrounding receivers.
- All plant and equipment must be maintained in a proper and efficient condition, operated in a proper and efficient manner, and feature standard noise amelioration measures where applicable.
- Spot checks of equipment in operation would be completed to ensure individual items are operating as expected.
- Dropping materials from a height will be avoided.
- Truck movements would be kept to a minimum, i.e. trucks are fully loaded on each trip.
- In response to complaints received, where appropriately justified following an initial investigation, noise monitoring would be conducted. The exact nature and location of the noise monitoring would be dependent on the activities taking place.

6.2 Air Quality

An Air Quality Impact Assessment (AQIA) has been undertaken and provided at Appendix E. It describes the existing environment and projected impacts from the Proposal. A summary is provided below.

6.2.1 Existing Environment

Site Investigation

A site inspection of the existing operations and the proposed extraction area was undertaken on 22/12/2024 by an experienced air quality specialist. The existing Quarry and proposed extraction area site was found to be well protected from strong winds due to surrounding high hills forming the river valley.

The site inspection revealed the EQ sands to be moist underneath drier surface layers with a tendency to crust over if not being used. For example, sand stockpiles were well crusted, and moist underneath. Other exposed areas had a high stony content with small river pebbles and clays contributing to stabilisation of surface layers. As such the areas identified as dust sources for this assessment were limited to unpaved roads and the working areas used by loaders and trucks. All other areas were thickly vegetated with grasses. Other dust sources identified were sand-screeners and excavators.

No existing or potential future sources of odours were identified.

Ambient Conditions

Local meteorological conditions were based on data collected by the Automatic Weather Station (AWS) located in Gundagai and operated by the Bureau of Meteorology (BoM). The local meteorological conditions are described in **Table 13**.

Meteorology	Condition
Temperature	Mean maximum temperatures range from 13.1°C in winter to 32.7°C in summer, while mean minimum temperatures range from 2.6°C in winter to around 16.9°C in summer. Maximum temperatures of 45.2°C and minimum temperatures less than -5.5°C have been recorded.
Rainfall	The average monthly rainfall is relatively high between late spring and early autumn, generally reducing from mid-autumn to mid-spring with the lowest average of 32.1 mm/month recorded during April. On average, all months recorded an average of greater than six days of rain days per month except February. The highest average monthly rainfall of 202.6 mm/month occurs in February, with an average of 5.5 rain days recorded in this month. The highest daily rainfall recorded over the time period examined was 78.4 mm recorded on 4 March 2012.
Relative Humidity	Morning humidity levels range from an average of around 55% in mid- spring to around 91% in early autumn to mid-summer. Afternoon humidity levels are lower, at around 31% in late summer and 67% in winter.
Wind	 Calm wind conditions were predicted to occur approximately 5.9% of the time over the 5-year period reviewed. The seasonal wind roses indicate that typically: In summer, winds predominantly blow from the east and northeast quadrants with a very low frequency of winds from the north and south

Table 13 Local Meteorology

Meteorology	Condition
	quadrants. On average, calm winds are experienced 3.1% of the time during summer.
	• In autumn, a similar wind pattern in summer. On average, calm winds are experienced 7.0% of the time during autumn.
	• In winter, winds predominantly blow from the eastern and western quadrants, with the lowest frequency of winds from the northern and southern quadrants. On average, calm winds are experienced 8.8% of the time during winter.
	• In spring, a similar wind pattern as in winter is experienced with the lowest frequency from the northern and southern quadrants. On average, calm winds were experienced 4.6% of the time during spring.

Background Particulate Matter (PM)

The nearest Air Quality Monitoring Station (AQMS) operated by the Department of Planning and Environment considered to best represent the Site is Goulburn, which measures continuous PM₁₀ and PM_{2.5} concentrations, located approximately 140 km to the northeast of the Site. Other monitoring stations include Junee and Wagga Wagga located approximately 70 km west of the Site, however, considering the topography and surrounding land uses Goulburn is identified as the most representative AQMS for the Site.

No Total Suspended Particulate (TSP) monitoring is conducted by the Goulburn AQMS or other nearby AQMS.

A summary of the yearly conditions recorded by the Goulburn AQMS for years 2020 to 2024 are provided at **Table 14**.

Background PM_{10} and $PM_{2.5}$ maximum and annual average concentrations complied with relevant criteria across the previous 5 years.

Year	Maximum 24-hour Concentration (µg/m³)	Maximum Exceedances (days/year)	Annual Concentration (µg/m³)				
PM ₁₀							
Criterion	50		25				
2020	556.7	18	19.2				
2021	30.1	0	9.1				
2022	19.6	0	7.3				
2023	23.8	0	10.4				
2024	23.9	0	10.4				
PM _{2.5}							
Criterion	25		8				
2020	516.1	16.0	11.8				
2021	25.4	0	5.6				
2022	15.0	0	4.1				
2023	17.7	0	5.9				
2024	20.8	0	5.7				

Table 14 Summary of Goulburn AQMS for 2020-2024

6.2.2 Operational Conditions

To assess the air quality impacts at each of the identified sensitive receptors, a contemporaneous analysis was performed, with each daily incremental 24-hour and annual average prediction for each receptor added to the corresponding day's background

concentration measured by the Goulburn AQMS, to calculate the cumulative average PM impacts. Additional testing was undertaken to analyse TSP and dust deposition generated by the Proposal. The findings are summarised at **Table 15**.

Parameter	Condition
Maximum 24-hour	There are no predicted exceedances of the criterion modelled with
PM _{2.5}	the effects dominated by the background PM _{2.5} . When the
	maximum 24-hour background concentration occurs, the
	incremental impact of the Site on those days is negligible. The
	contribution of Site towards the maximum cumulative PM _{2.5} 24-hour
	average concentrations is negligible.
Annual Average	The predicted cumulative concentrations at receptors are below the
PM _{2.5}	annual average PM _{2.5} criterion of 8 µg/m ³ .
Maximum 24-hour	No predicted exceedances of the criterion were modelled with the
PM ₁₀	results remaining dominated by background PM ₁₀ . When the
	maximum 24-hour background concentration occurs, the
	incremental impact of the Site on those days is negligible. The
	contribution of Site towards the maximum cumulative PM ₁₀ 24-hour
	average concentrations is negligible.
Annual Average PM ₁₀	The cumulative annual average PM ₁₀ concentrations at both
Concentrations	receptors are below the annual average PM_{10} criterion of 25 μ g/m ³ .
Total Suspended	No TSP monitoring is conducted by the Goulburn AQMS or other
Particulate	nearby AQMS. For cumulative analysis purposes, the annual
	average background TSP concentration was estimated to be 26
	µg/m ³ . The predicted cumulative concentrations at both receptors
	are below the annual average TSP criterion of 90 µg/m ³ .
Dust Deposition	The predicted incremental and cumulative annual average dust
	deposition rates at receptors are well below the criterion of 2
	g/m ² /month (incremental increase in dust deposition) and below 4
	g/m ² /month (cumulative dust deposition). The incremental impacts
	predicted due to the estimated emissions from the Site are very low
	and represent a negligible contribution to the total cumulative
	concentrations.

 Table 15
 Summarised Air Quality Impacts

The cumulative assessment results for $PM_{2.5}$, PM_{10} , TSP, and deposited dust from the Proposal, which included the effects due to operations in the existing Quarry, did not cause exceedances of air quality impact assessment criteria at the sensitive receptor locations.

Based on the results of this assessment, it is concluded that air quality impact does not represent a constraint to the Proposal.

6.2.3 Management and Mitigation Measures

Based on the assumptions and general best practice, the mitigation measures provided in **Table 16** are recommended to be implemented.

Table 16 Proposed Air Quality Mitigation Measures

Mitigation / Management Measures

Required Mitigation / Management Measures

Maintain awareness of visible dust emissions – if a dust plume is heading in the direction of a sensitive receptor, modify or stop the relevant activity, which may include waiting until the wind direction shifts.

Mitigation / Management Measures

Use speed limits for parts of the site including the access roads to minimise wheel- generated dust. Practically, 60 km/h would be a reasonable speed limit for the access roads (40 km/h would be desirable). A speed limit of 10-20 km/h would be more appropriate for the stockpile/truck loading areas.

Dust emissions can be reduced by dropping loads carefully into trucks and sand-screeners and minimising drop heights.

Keep a detailed record of any dust complaints and address the complaints rapidly.

Voluntary Mitigation / Management Measures – Proposed Extraction Area

Water cart and wet suppression (water sprays) as required. A chemical dust suppressant could be used, noting crusting of EQ's stockpiles was observed due to clay content.

The speed limit on exposed, working areas could be limited to 10-20 km/hr.

Higher water cart rates (> 2 L/m²/hr) as required.

Minimise dust-generating activities during times of high wind speeds.

Reduction of the intensity/rate of activities in response to excessive dust generation.

Voluntary Mitigation / Management Measures – Existing Quarry

Cover loads leaving the site where practicable.

Minimising dust-generating activities during times of high wind speeds.

Relocation of plant and equipment to less sensitive areas.

Reduction of the intensity/rate of activities in response to excessive dust generation.

6.3 Surface Water

An assessment of surface water impacts has been undertaken as part of the larger Surface and Groundwater Assessment provided at Appendix F. It describes the existing environment and projected impacts from the Proposal. A summary is also provided below.

6.3.1 Existing Water Management

There is currently no water management infrastructure, either permanent or temporary on the site. There are no means of water extraction storage or discharge to the Murrumbidgee River.

6.3.2 Existing Surface Water Quality

There is no existing stormwater or drainage system on the site or natural overland flow features. There are currently no measures for stormwater runoff quality improvement within the proposed extraction area. The quality of surface water entering local watercourses would largely be a function of grazing on the site. Typical surface pollutants from the pre-developed Proposal site could include:

- Sediment from surface runoff
- Nutrients, including nitrogen and phosphorous, primarily from cattle grazing and pasture management practices
- Gross pollutants including vegetation and debris

The Annual Surface Water Quality Report for Murrumbidgee Valley has been assessed for the purposes of determining water quality within the Murrumbidgee River in the location of the proposed Quarry. The published water quality data shows:

- Clear correlations between total nitrogen, total phosphorus and turbidity, with all three parameters positively correlated to flow. This suggests nutrients attached onto soil particles is the most likely transport mechanism at the site. Electrical conductivity does not show a correlation to flow.
- The annual median total nitrogen, total phosphorus and turbidity results are all below the respective Basin Plan targets, except for 2010/2011. Median dissolved oxygen and pH is within the upper and lower limits.
- Electrical conductivity fluctuates through time and would be based on upstream elements (Blowering Dam, Burrunjuck Dam or tributary inflow) rather than local environmental factors.

6.3.3 Operational Water Management

During quarrying operations, diversion of runoff from undisturbed catchments by use of small diversion drains and berms is required to maintain access to the extraction area. The layout will be developed with similar water management features to the example from Figure D1 from Managing urban stormwater: soils and construction – Volume 2e mines and quarries. See **Figure 13** for an example quarry layout concept.

Figure 13 Conceptual Layout Example Quarry



This will also prevent flow from undisturbed areas and off site from entering quarrying operations. The site will be progressively rehabilitated (vegetation) following quarrying.

Within the proposed extraction area, diversion measures such as berms and small drains will direct flow away from disturbed areas and the extraction area to a sump within the pit. This will maintain access to the extraction area and divert all potentially sediment-laden runoff from disturbed areas of the site within the quarry pit to a sediment storage area.

The Proposal will use captured runoff and water within the pit for dust suppression. This dust suppression will be by use of a single water cart applying water as required at a maximum rate of 12,000 litres per hour. Dust suppression will occur on an as-needs basis.

6.3.4 Operational Water Balance

As part of the larger Hydrology Assessment (Appendix F), a preliminary water balance model (WBM) has been developed for the operation of the quarry. A conceptual model for the surface water management on site is provided at **Figure 14**.

Figure 14 Conceptual Water Balance Model



The main use of water for the Proposal will be for dust suppression. The WBM based the demand to $2.0L/m^2/h$ per the submitted AQIA (Appendix E) with the proposed road area of 0.75ha.

The Proposal is calculated to require 7.5ML/year. However, this is reduced to less than 2.0ML/year through the implementation of water management measures (see **Table 17**).

Eulonga Station has an allowance of at least 28ML under the harvestable rights and therefore water for dust suppression when required will be sourced either from the sump within the proposed extraction area or onsite supplies under the NSW 'Harvestable Rights' dam provisions. Water may also be purchased from a licenced water supplier if required.

A range of mitigation and management measures are recommended in **Table 17**.

6.3.5 Operational Surface Water Quality

The Proposal could present a risk to water quality in receiving watercourses/ waterbodies if mitigation and management measures are not effectively implemented. Without implementation of management measures, potential sources of water quality impacts include the following:

- Topsoil/overburden stripping
- Increased sediment loads from exposed soil being transported off site during rainfall events.
- Increased levels of nutrients, metals and other pollutants from extraction
- Spills or leaks
- Organic leachate from vegetation stockpiles or the like.

Based on these the downstream impacts on water quality of the Murrumbidgee River may include:

- Increased potential for bioaccumulation of heavy metals in aquatic species
- Reduced dissolved oxygen levels that could impact aquatic species
- Increased sedimentation smothering aquatic life and affecting aquatic ecosystems
- Increased turbidity levels affecting aquatic species and the aesthetics of the water for recreational activities

• Changes to water temperature due to reduced light penetration.

The likelihood and magnitude of the potential impact would vary depending on the stage of extraction, area of disturbance, occurrence of rainfall or wind events.

Potential impacts to water quality would be minimised by implementing the measures, including those defined by the Blue Book, to minimise potential impacts to water quality during operation of the proposed Quarry. The Blue Book requires that treated runoff discharging from a construction site contain TSS concentrations of no greater than 50 mg/L and have a pH of between 6.5 and 8.5.

6.3.6 Surface Water Management Measures

Based on the projected impacts of the Proposal, a range of mitigation and management measures are to be implemented and are listed in **Table 17**.

Table 17 Proposed Surface Water Management Measures

General Surface Water Mitigation / Management Measures

Required Mitigation / Management Measures – Proposed Extraction Area

Design drainage elements within the proposed extraction area to minimise risk of localised surface water ponding.

A Soil and Water Management Plan (SWMP) will be prepared and implemented as part of the EMP. The SWMP will identify reasonably foreseeable risks relating to soil erosion and surface and groundwater quality and describe how these risks will be addressed during construction.

Site-specific Erosion and Sediment Control Plan/s will be prepared and implemented as part of the SWMP. The plan/s will include:

- arrangements for managing wet weather events, including monitoring of potential high-risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather.
- erosion and sediment controls appropriate for dispersive soils.

Stabilisation measures will be installed to control discharge from stormwater outlets to manage erosion and scour.

Where possible, the rehabilitation of disturbed areas will be undertaken progressively, as construction stages are completed, in accordance with the Appendix G (Rehabilitation recommendations) of *Managing Urban Stormwater – Soils and Construction – Volume 1* (Landcom, 2004)) and *Volume 2E – Mines and quarries* (DECC 2008).

During any construction and maintenance work where soils are exposed, sediment and erosion control devices would be installed in accordance with *Managing Urban Stormwater: Soils and Construction, Volume 1* (Landcom, 2004) and *Volume 2E – Mines and quarries* (DECC 2008).

Required Mitigation / Management Measures – Proposed Internal Access

Minimise regrading of terrain along the access road.

Install appropriately sized stormwater drainage pipes along the access road where applicable.

The impact of increased runoff to minor drainage lines should be managed by road design drainage mitigation measures.

Water Balance Measures

General Surface Water Mitigation / Management Measures

Voluntary Mitigation / Management Measures

Eulonga Quarry has advised SLR that Eulonga Station is a large land holding of more than 400ha and would have allowance of at least 28ML under the harvestable rights and therefore water for dust suppression if required will be sourced either from onsite supplies under the NSW 'Harvestable Rights' dam provisions or purchased from a licenced water supplier.

Incorporate a dust suppressant additive to reduce water demand. For example, Vital Bon-Matt HR, a dust suppressant supplied by Vital Chemicals Pty Ltd, which has demonstrated reduction rates of up to 90% for haul road dust suppression.

Implement voluntary Air Quality mitigation management measures related to dust management to reduce the need to suppress dust.

6.4 Groundwater

A Groundwater Assessment has been undertaken as part of the larger Hydrology Assessment provided at Appendix F and describes the existing environment and projected impacts from the Proposal. A summary is also provided below.

6.4.1 Existing Environment

Layer Composition

The proposed extraction area is located within the fluvial zone of the Murrumbidgee River in the Gundagai/Coolac region, characterised by deep deposits of river sands and gravels of the Murrumbidgee Alluvium overlying fractured rocks of the eastern part of the Lachlan Fold Belt

The proposed extraction area comprises of bedrock underlying river sands and gravel within the upper alluvial layer which forms the primary aquifer for the site.

Groundwater Connectivity

The alluvial aquifer in the proposed extraction area is unconfined and is in hydraulic connection with the Murrumbidgee River. Hydraulic recharge of the sediment is via rainfall. Groundwater exchange between the alluvium and the underlying rock is expected to be insignificant in the context of the groundwater resources.

Discharge of water is projected to be via evapotranspiration near ground level or flow into the Murrumbidgee River.

Water Quality

Based on the Murrumbidgee Alluvium Water Quality Management Plan (DPHI, 2022), salinity in the shallow aquifer generally ranged from 150 to 1,660 μ S/cm and is fresh (<500 μ S/cm) adjacent to the Murrumbidgee River.

Groundwater Conceptual Model

Based on the hydrogeological setting and groundwater occurrence within the alluvium, a conceptual groundwater model is shown in **Figure 15**.

The proposed extraction area will directly intersect the alluvial sediments of the Murrumbidgee River. Groundwater recharge to these sediments associated with the alluvial aquifer is predominantly through rainfall recharge with discharge to the Murrumbidgee River

and through evapotranspiration where the groundwater level is close to the ground level. The aquifer is unconfined and in hydraulic connection with the Murrumbidgee River. Groundwater levels in the alluvial aquifer are expected to flow towards the river and are a subdued reflection of topography.

The Proposal is not proposed to intersect with the groundwater table. Regardless, from an abundance of caution, if groundwater was to be used for the Proposal, a calculation of the required water use demonstrates the required 2ML/year represents approximately 0.0002% of annual flow of the Murrumbidgee River (8km upstream) and would be expected to be offset by rainfall recharge.

Groundwater Dependent Ecosystems

A review of the Groundwater Dependant Ecosystem (GDE) Atlas map from the Bureau of Meteorology (BOM, 2017) found the Murrumbidgee River to be a high potential aquatic GDE from a national assessment scale. No terrestrial or subterranean GDEs have been identified within one kilometre of the Proposal.

6.4.2 Operational Impact

Groundwater Level

It is proposed to extract to a depth of 222m AHD. The groundwater table is anticipated to be at approximately 219m to 220m AHD. Based on the proposed depth of extraction, the activity is unlikely to intercept the groundwater table. If intercepted, it is projected the flow rate would be 2ML/year of groundwater. The resulting potential reduction in groundwater discharge to Murrumbidgee River would be expected to be negligible representing approximately 0.0002% of annual flow of the Murrumbidgee River 8km upstream from the site. This would be offset by rainfall recharge.

Based on the 2ML/year figure, drawing on groundwater over a period of 50 years will see limited drawdown which is constrained within the boundary of the quarry. Any extracted water via bores will be utilised as dust suppression for the operational areas including unsealed road.

Groundwater Quality

There is potential for contamination of groundwater as a result of accidental spills (e.g., chemical and/ or fuel), disturbance of sediment, and/ or stormwater mismanagement during the operational phase of the Proposal. Any accidental spill that interacts with the neighbouring groundwater environment could result in a degradation of groundwater quality.

Should any spills occur, the contaminated source of material will be immediately excavated and removed to minimise potential contamination to groundwater.

Where potential groundwater quality impacts may occur, they are anticipated to be minor due to the short-term (temporary) nature of quality impacts in the water environment where attenuation is anticipated. The Murrumbidgee River downgradient receptors are vulnerable to adverse effects from any quality issues that may arise at the Proposal.





6.4.3 Post-Operations Impact

Post-operations, the base of the proposed extraction area will be at 222 mAHD which is above the expected groundwater level. Hence there will be no groundwater intercepted, but there may be increased losses from evapotranspiration. However, this is not expected to be a significant impact on groundwater levels, flow and connectivity or groundwater quality.

6.4.4 Groundwater Management Measures

Based on the projected impacts of the Proposal a range of mitigation and management measures are recommended in **Table 18**.

Table 18 Proposed Groundwater Management Measures

Mitigation / Management Measures

Voluntary Mitigation / Management Measures

Impacts on groundwater will be minimised as far as practicable by:

- Limiting the depth of extraction to avoid intercepting groundwater.
- Minimising groundwater inflows.
- Managing any groundwater encountered during operation.

6.5 Flood Impact

An assessment of surface water impacts has been undertaken as part of the larger Hydrology Assessment provided at Appendix F and describes the existing environment and projected impacts from the Proposal. Flood behaviour upstream and downstream of the Proposal during the operation period has been modelled using TUFLOW software.

6.5.1 Existing Environment

Site Characteristics

The site is located on the Murrumbidgee River approximately 90km downstream of Burrinjuck Dam and approximately 25km upstream from the township of Gundagai. The Murrumbidgee River is a single thread meandering river and within this reach can be characterised by a partly confined margin-controlled continuous floodplain sandy bed river.

The site is located on a broad alluvial floodplain on the inside meander bend and true left bank of the river. The floodplain is intersected by an unnamed anabranch that is periodically dry and forms in response to high flow events. Anabranches are typically formed in high energy flow conditions where the channel avulses to another position in the valley, whilst maintaining the original channel pathway.

The floodplain appears to have been formed by point bar accretion with evidence of numerous palaeochannels and old meander pathways crossing the floodplain. Other floodplain features include the development of a chute-cutoff directly adjacent to and on the true left bank of the anabranch and an avulsion located along the eastern margin of the proposed extraction area. The lower portion of the floodplain is grassed with mature riparian vegetation lining the channel and anabranch margins and an avulsed channel to the southeast of the anabranch.

Flow Characteristics

Under the existing scenario, flows of a 50% AEP inundate and activate the temporary anabranch to a maximum depth of 3.3 m and a maximum bed shear stress of approximately 95 N/m². Flows of the 50% AEP are able to erode gravel sized (>150 mm) sediments and thus are capable of eroding material/sediments within the anabranch.

Under a 20% AEP event, flows extend to inundate the chute-cutoff and activate the eastern avulsion, with flood depths up to approximately 3.8 m and a max bed shear stress between 4 N/m2 to 120 N/m2 within the avulsion. Under this scenario flood waters encroach upon the northern margin of the extraction site and are capable of eroding materials within the chute-cutoff and the avulsion channel.

Under a 5% AEP event, flows inundate the proposed extraction area with depths between 1 m to 3.5 m. Bed shear stress values across the submerged quarry site range from 6 N/m2 to
30 N/m2, which exceeds the threshold for cohesive alluvial soils, sands and medium-grained gravels. Under this scenario flood waters are capable of eroding materials across the existing floodplain.

6.5.2 Operational Impact

Inundation of the development area has been modelled. Bed levels for the proposed extraction area are 4m lower than the existing floodplain elevation and sit at approximately the same bed level as the eastern avulsion. Flood levels and shear stress results are shown at **Table 19** and represented at **Figure 16**.

Quarry Impact Assessment	50% AEP FI	ow Scenario	20% AEP Flow Scenario		
	Inundation depth (m)	Bed shear stress (N/m²)	Inundation depth (m)	Bed shear stress (N/m²)	
Operational Scenario	0.5	0.9 to 8	2.9	2 to 120	
Final Landform Scenario	3.8	2 to 200	6.9	2 to 200	

Table 19 Hydraulic results of quarry impact assessment





6.5.3 Flood Management Measures

Based on the projected impacts of the Proposal a range of mitigation and management measures are recommended in **Table 20**.

Table 20 Flood Management Measures



6.6 Biodiversity

A BOS Evaluation has prepared by NGH (Appendix G). The BOS Evaluation investigates whether the Proposal triggers the need for a Biodiversity Development Assessment Report under the Biodiversity Conservation Act 2016 and whether any offsets are required for clearing of native vegetation.

6.6.1 Existing Conditions

NGH undertook a site inspection with the aim of inspecting ground cover, identify tree species, and ascertain any potential for threatened flora and fauna habitats.

The vegetation within the subject land was a mixture of exotic and native groundcover. Trees visible on satellite imagery are remnant native trees. They mostly comprise *Eucalyptus camaldulensis* (River Red Gum) with occasional *Casuarina cunninghamiana* (River Sheoak).

The site can be described in two distinct areas:

- PCT 79 River Red Gum shrub/grass riparian tall woodland zone which contains all trees within the subject land. The woodland zone occurs as two patches, which have been defined according to the BAM where trees are within 100m of each other.
- Highly degraded grassland.

The PCT79 areas are afforded a 30m buffer around the trees to provide ample protection to canopy and root systems. Based on this, 1.37ha of native woodland area is provided within the site with a total of 12.54ha of highly degraded grassland.

A total of 8 hollow bearing trees were identified as part of the site visit.

Refer to **Figure 17** for site visit information along with identification of site areas and hollow bearing trees.

Figure 17 PCT and Site Features (Source: NGH)



6.6.2 Impact and Management

To ensure the Proposal minimises impact on native vegetation, the following has been implemented in the design:

- Retention of woodland areas and hollow-bearing trees
- Clearing of only the grassland area.

Subsequently, the Proposal will only require the clearing of 0.17ha of native vegetation in the form of grassland (shown in yellow hatching below), which is dominated by native grass species, see **Figure 18**.

As a result of clearing less than 1ha of native vegetation the development does not trigger offsets or the need to undertake a Biodiversity Development Assessment Report under the Biodiversity Conservation Act 2016.

Figure 18 Proposed Tree and Vegetation Removal (Source: NGH)



6.7 Aboriginal Cultural Heritage

An Aboriginal Heritage Due Diligence Assessment (AHDD) was undertaken by NGH and is provided at Appendix H. The AHDD was undertaken in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* 2010.

6.7.1 Existing Conditions

Desktop Investigation

A desktop investigation of the site revealed no current recorded items or artifacts are located on the site per the Aboriginal Heritage Information Management System, with the nearest item located approximately 570m to the north of the site across the Murrumbidgee River. No other heritage items are identified within or proximate to the site per the Gundagai LEP 2011.



Based on an assessment of site conditions, the development area has likely been subject to repeated flood events as it forms part of a former channel or bank of the Murrumbidgee River. This indicates a generally low potential for Aboriginal artifacts in the area. However, the significance of the Murrumbidgee River is considered to warrant further investigation.

Site Inspection

A visual inspection of the Proposal area was undertaken by NGH. The Proposal area encompasses a large flood plain extending to low hills east of the site. The landform is vegetated with grass with the riverbank consisting of coarse sand and river rolled gravels. Evidence of repeated flood scouring was present.

6.7.2 Assessment

Due to the dynamic nature of the low-lying landform on the western edge of the Murrumbidgee River floodplain no Aboriginal objects were identified and there is no potential for Aboriginal objects to occur. It is more likely that habitation sites would have been concentrated closer to or on the low hills to the east outside of the flood zone. The hills are less than 1 km away and would have afforded more protection from flood waters, weather and they also would have provided a vantage point for surveying the floodplain.

No further investigation is considered to be warranted based on requirements of the *Due Diligence Code* of *Practice* for the *Protection* of *Aboriginal Objects* in NSW 2010.

6.7.3 Mitigation Measures

NGH recommended the following mitigation measures for the Proposal, see Table 21.

Table 21 Aboriginal Cultural Heritage Mitigation Measures

Mitigation / Management Measures

Required Mitigation / Management Measures

All works must be constrained to the Proposal Area and other areas of existing disturbance.

All access to the Proposal Area must be within existing tracks and disturbed areas otherwise further visual inspection by a qualified archaeologist is required.

Any activity proposed outside of what has been considered in this assessment should be subject to further assessment by a qualified archaeologist.

No old growth trees may be disturbed without inspection by a qualified archaeologist for scarring or modification.

If any items suspected of being Aboriginal in origin are discovered during the work, all work in the immediate vicinity must stop and the NSW Environment Line (1300 361 967) notified. The find will need to be assessed and, if found to be an Aboriginal object, an AHIP may be required.

6.8 Traffic Impact

A Traffic Impact Assessment has been prepared by SLR Consulting and has been provided at Appendix C.

6.8.1 Existing Operation

The existing Quarry utilises Darbalara Road and Gobarralong Road which connect to the Hume Highway for transportation of material to customers. Material is transported via heavy vehicles in a Truck and Dog configuration. Access to the existing Quarry is achieved via one (1) access location onto Darbalara Road, see **Figure 19.** The access allows for all turns in/out from the site.

Figure 19 Proposed Extraction Area and Existing Quarry Site



6.8.2 Operational Traffic Impact

Traffic Generation

Noting the existing Quarry is currently in operation, and that the Proposal includes no increase in yearly extraction, the Proposal will not generate additional traffic from the operation.

Intersection Assessment

The intersection of the Hume Highway and Gobarralong Road is currently a prioritycontrolled intersection (unsignalised). A turn warrant assessment has been undertaken to confirm the suitability of the existing turn treatment

The results of the undertaken turn warrant assessment for both the AM and PM peak periods indicate that based on the traffic volumes at the design horizon, a basic left turn treatment (BAL) is warranted. As an Auxiliary Left Turn (Short) (AUL(s)) is already provided, this is deemed sufficient to facilitate left-turn movements from the Hume Highway for existing



and future traffic demands, including the existing (and ongoing) traffic demands associated with the development.

A SIDRA analysis of the Hume Highway and Gobarralong Road intersection has been undertaken based on existing and projected traffic growth. The SIDRA analysis identifies that the existing intersection form will operate at an acceptable performance level, with significant spare capacity, through the indicative Proposal lifespan (i.e. 2034) and beyond. Therefore, no upgrades to the existing intersection are required as part of the Proposal.

6.9 Waste Management

Waste generated as part of the existing Quarry is minimal and is disposed of through a licenced waste contractor. Additional waste produced by the Proposal is also expected to be minimal. Therefore, the Proposal is unlikely to change any of the existing waste management measures and procedures currently implemented for the existing Quarry.

6.10 Hazards and Risk

Preliminary risk screening of the Proposal is required under the Resilience and Hazards SEPP to determine the need for a Preliminary Hazard Analysis (PHA). The preliminary screening assesses the storage of specific dangerous goods classes that have the potential for significant, off-site effects. Specifically, the assessment involves the identification of classes and quantities of all dangerous goods to be used, stored or produced on site with respect to storage depot locations as well as transported to and from the site.

The dangerous goods that will require storage at, and transportation to and from, the site are identified in **Table 22** and **Table 23**.

Class	Category	Item/Usage	SEPP Threshold	Proposal Storage
Class 2.2	Non-flammable Non-toxic	Fire Extinguishers Fire Suppression Gas	N/A	No storage in the development location. Extinguishers located as part of vehicle
Class 3	Flammable Liquids	Fuel (diesel) ¹	N/A refer also Section 4.2	No storage in the development location. Fuel located as part of existing operation
Class 3	Flammable Liquids	Lubricating and Hydraulic Oils, Grease	N/A	No storage in the development location. Located as part of existing operation
Class 6.1	Toxic Substances	Pesticides (Herbicides) for ground cover management	2.5 tonne	No storage in the development location. Transported as part of operation

Table 22 ADG Classification of SEPP-Related Dangerous Goods - Storage

Class	Catagony	SEPP Threshold		Proposal		
Class	Category	Quantity	Movements	Quantity	Movements	
Class 2.2	Fire Suppression Gas	N/A				
Class 3 PGII, C1	Fuel (diesel) ¹	N/A – refer also Section 4.2				
Class 3 PGII, C2	Lubricating and Hydraulic Oils, Grease	N/A				
Class 6.1 PGII	Pesticides (Herbicides)	1 tonne (bulk) 3 tonne (packs)	All	<100kg	<1 per 6mo	

Table 23 ADG Classification of SEPP-Related Dangerous Goods - Transport

The storage and transportation quantities of the materials listed in **Table 22** and **Table 23** does not exceed the relevant storage or transportation thresholds. Storage protocols will comply with relevant guidelines and standards, e.g. AS 1940-2017.

The storage and handling of dangerous goods to be routinely used or stored at the site and transported to/from the site is not considered potentially hazardous with regards to the screening thresholds contained in the Resilience SEPP.

It is the conclusion of this preliminary risk screening that the Proposal would be identified as a suitable development for the area.

6.11 Visual Impact

As identified in **Figure 4** the nearest residents are northwest of the proposed extraction area.

A total of three (3) viewpoints located along Darbalara Road have been assessed as part of the assessment. See **Figure 20** which shows the location and direction of each of the viewpoints along with **Figures 21 to 23** for the viewpoint itself.

The existing topography and vegetation around the proposed extraction area will be retained to screen the majority of the proposed extraction area from view. Noting that the Proposal represents a depression in the landscape with minimal other construction works proposed, the views to the proposed extraction area will be minimised.

The proposed internal access will be partially screened by existing vegetation. Additional vegetation planting would assist in mitigating potential visual amenity impacts for the dwellings to the north.

It is noted that the existing Quarry and the Proposal only operates during daylight hours and therefore impacts from light spill are not anticipated.

The overall visual impact of the Proposal is considered to be minor in nature due to distances from public areas, area topography, and the nature of the Proposal, but additional mitigation measures are recommended including vegetation planting along the northern boundary of the proposed extraction area and along the internal access.

Figure 20 Viewpoints



Figure 21 Viewpoint 1 (Source: Google Streetview)



Figure 22 Viewpoint 2 (Source: Google Streetview)



Figure 23 Viewpoint 3 (Source: Google Streetview)



6.12 Social and Economic Impacts

The Proposal, like any development, has the potential to have both positive and negative impacts that extend beyond the immediate site. To address the potential impacts, it is crucial for the quarry operators and relevant authorities to conduct comprehensive environmental impact assessments, engage in effective monitoring and mitigation measures, and involve local communities in the decision-making process. The Proposal will facilitate the long-term viability of the Quarry, which provides a positive social and economic benefit:

- Ensuring ongoing employment for people directly involved in the operation of the quarry;
- Ensuring ongoing employment for people indirectly involved with the operation and management of the quarry, i.e. delivery drivers, contractors, etc;
- Provide ongoing income to the quarry operator;
- Providing ongoing income to the private landowner;
- Ensuring the environmental and amenity impacts are managed to avoid, mitigate and manage any potential adverse effects; and
- Providing for a suitable land use compatible with the surrounding rural land.

It is considered that the Proposal will result in an overall positive economic and social impact where the potential negative impacts can be avoided, mitigated and managed as outlined in this EIS.

7.0 Justification and Conclusion

This section provides a justification and evaluation of the Proposal and conclusion to the EIS. It includes discussion of the design of the Proposal, taking into consideration the economic, environmental, and social impacts and opportunities of the development. This section outlines consistency of the Proposal with its strategic context and its compliance with relevant statutory requirements.

7.1 Justification

The site is zoned RU1 Primary Production and the proposed use is permissible in the zone subject to consent and is actively supported and protected by the range of strategic documentation applying to the Cootamundra-Gundagai LGA. The Proposal will maximise the site's potential by providing a high quality, economical source of sand for the general market. The proposed extraction area will support the continued operation of the existing Quarry without any changes to the approved annual extraction volume, truck movements, hours of operation or rehabilitation outcome or any other aspect of the existing Quarry operation within Lot 1 & 2 DP1096529.

The site was selected to support the ongoing operation of the existing Quarry. The extraction area has previously been disturbed by historical farm activities. This arrangement is considered to be the best overall outcome as:

- Site history Proximity to the existing Quarry
- The proposed extraction area is not intended to increase the overall annual production of the existing Quarry.
- Appropriate zoning of land to facilitate development consent;
- Availability of existing access to the site via an establish road network;
- Selection of a site that would avoid and/or minimise impacts to high quality native vegetation and protected fauna.
- To avoid any additional noise, or air quality impacts, Eulonga Quarries will continue to implement the existing environmental management measures at the existing Quarry in addition to the management measures identified in this EIS for the proposed extraction area.
- The same approach to rehabilitation will also be implemented in the proposed extraction area, noting that the proposed area, like the current Quarry site is located adjacent to the Murrumbidgee River and the sand deposit will be replenished over time by floods.

7.2 Consolidated Mitigation Measures

To ensure impacts are avoided, mitigated and appropriately managed, a range of mitigation and management measures are recommended as outlined in **Table 24**.

Table 24 Consolidated Mitigation Measures

Operational Mitigation / Management Measures

Required Mitigation / Management Measures

The depth of extraction is limited to 222m AHD.

A maximum of 0.17ha of native vegetation is permitted to be cleared as shown in Figure 19.

A single operator would operate the excavator and the haul truck, as such operation of the excavator and the articulated haul truck would not occur simultaneously.

Prior to commencing activities in the proposed extraction area, Eulonga Quarries would have a surveyor identify, peg and mark the boundaries of the proposed extraction area.

Prior to commencing activities in the proposed extraction area, Eulonga Quarries would have a surveyor identify, peg and mark the trees and vegetation that is to be retained.

Noise Mitigation / Management Measures

Required Mitigation / Management Measures

A single operator would operate the excavator and the haul truck, as such operation of the excavator and the articulated haul truck would not occur simultaneously.

Construction Mitigations:

- Use quieter construction methods where feasible and reasonable.
- Training would be provided to all personnel on noise requirements for the Proposal. Inductions and toolbox talks to be used to inform personnel of the location and sensitivity of surrounding receivers.
- All plant and equipment must be maintained in a proper and efficient condition, operated in a proper and efficient manner, and feature standard noise amelioration measures where applicable.
- Spot checks of equipment in operation would be completed to ensure individual items are operating as expected.
- Dropping materials from a height will be avoided.
- Truck movements would be kept to a minimum, i.e. trucks are fully loaded on each trip.
- In response to complaints received, where appropriately justified following an initial investigation, noise monitoring would be conducted. The exact nature and location of the noise monitoring would be dependent on the activities taking place.

Air Quality Mitigation / Management Measures

Required Mitigation / Management Measures

Maintain awareness of visible dust emissions – if a dust plume is heading in the direction of a sensitive receptor, modify or stop the relevant activity, which may include waiting until the wind direction shifts.

Use speed limits for parts of the site including the access roads to minimise wheel- generated dust. Practically, 60 km/h would be a reasonable speed limit for the access roads (40 km/h would be desirable). A speed limit of 10-20 km/h would be more appropriate for the stockpile/truck loading areas.

Air Quality Mitigation / Management Measures

Dust emissions can be reduced by dropping loads carefully into trucks and sand-screeners and minimising drop heights.

Keep a detailed record of any dust complaints and address the complaints rapidly.

Voluntary Mitigation / Management Measures – Proposed Extraction Area

Water cart and wet suppression (water sprays) as required. A chemical dust suppressant could be used, noting crusting of EQ's stockpiles was observed due to clay content.

The speed limit on exposed, working areas could be limited to 10-20 km/hr.

Higher water cart rates (> $2 L/m^2/hr$) as required.

Minimise dust-generating activities during times of high wind speeds.

Reduction of the intensity/rate of activities in response to excessive dust generation.

Voluntary Mitigation / Management Measures – Existing Quarry

Cover loads leaving the site where practicable.

Minimising dust-generating activities during times of high wind speeds.

Relocation of plant and equipment to less sensitive areas.

Reduction of the intensity/rate of activities in response to excessive dust generation.

General Surface Water Mitigation / Management Measures

Required Mitigation / Management Measures – Proposed Extraction Area

Design drainage elements within the proposed extraction area to minimise risk of localised surface water ponding.

A Soil and Water Management Plan (SWMP) will be prepared and implemented as part of the EMP. The SWMP will identify reasonably foreseeable risks relating to soil erosion and surface and groundwater quality and describe how these risks will be addressed during construction.

Site-specific Erosion and Sediment Control Plan/s will be prepared and implemented as part of the SWMP. The plan/s will include:

- arrangements for managing wet weather events, including monitoring of potential high-risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather.
- erosion and sediment controls appropriate for dispersive soils.

Stabilisation measures will be installed to control discharge from stormwater outlets to manage erosion and scour.

Where possible, the rehabilitation of disturbed areas will be undertaken progressively, as construction stages are completed, in accordance with the Appendix G (Rehabilitation recommendations) of *Managing Urban Stormwater – Soils and Construction – Volume 1* (Landcom, 2004)) and *Volume 2E – Mines and quarries* (DECC 2008).

During any construction and maintenance work where soils are exposed, sediment and erosion control devices would be installed in accordance with *Managing Urban Stormwater: Soils and Construction, Volume 1* (Landcom, 2004) and *Volume 2E – Mines and quarries* (DECC 2008).

Required Mitigation / Management Measures – Proposed Internal Access

Minimise regrading of terrain along the access road.

General Surface Water Mitigation / Management Measures

Install appropriately sized stormwater drainage pipes along the access road where applicable.

The impact of increased runoff to minor drainage lines should be managed by road design drainage mitigation measures.

Water Balance Measures

Voluntary Mitigation / Management Measures

Eulonga Quarry has advised SLR that Eulonga Station is a large land holding of more than 400ha and would have allowance of at least 28ML under the harvestable rights and therefore water for dust suppression if required will be sourced either from onsite supplies under the NSW 'Harvestable Rights' dam provisions or purchased from a licenced water supplier.

Incorporate a dust suppressant additive to reduce water demand. For example, Vital Bon-Matt HR, a dust suppressant supplied by Vital Chemicals Pty Ltd, which has demonstrated reduction rates of up to 90% for haul road dust suppression.

Implement voluntary Air Quality mitigation management measures related to dust management to reduce the need to suppress dust.

Groundwater Mitigation / Management Measures

Voluntary Mitigation / Management Measures

Impacts on groundwater will be minimised as far as practicable by:

- Limiting the depth of extraction to avoid intercepting groundwater.
- Minimising groundwater inflows.
- Managing any groundwater encountered during operation.

Flood Mitigation / Management Measures

Required Mitigation / Management Measures

Prepare high flow working and quarry flood risk management plans.

Undertake riparian planting along the northeastern boundary of the proposed extraction area.

Aboriginal Cultural Heritage Mitigation / Management Measures

Required Mitigation / Management Measures

All works must be constrained to the Proposal Area and other areas of existing disturbance.

All access to the Proposal Area must be within existing tracks and disturbed areas otherwise further visual inspection by a qualified archaeologist is required.

Any activity proposed outside of what has been considered in this assessment should be subject to further assessment by a qualified archaeologist.

Aboriginal Cultural Heritage Mitigation / Management Measures

Required Mitigation / Management Measures

No old growth trees may be disturbed without inspection by a qualified archaeologist for scarring or modification.

If any items suspected of being Aboriginal in origin are discovered during the work, all work in the immediate vicinity must stop and the NSW Environment Line (1300 361 967) notified. The find will need to be assessed and, if found to be an Aboriginal object, an AHIP may be required.

Visual Amenity Mitigation / Management Measures

Required Mitigation / Management Measures

Undertake riparian planting along the northeastern boundary of the proposed extraction area.

Undertake riparian planting along the north of the proposed internal access.

7.3 Alternative Options

7.3.1 Do Nothing

The Quarry could remain within its current footprint. However, this would result in the Quarry exhausting the approved resource and not being able to deliver locally sourced product to the local market to support the region. Material would then need to be sourced from sites further away with greater cost, environmental, and social impacts. Transport from further away would occur via truck, with increased greenhouse gas production and increased movements on rural roads, with the associated impacts on safety and congestion.

7.3.2 Alternative Site Locations

The proponent has not considered any other locations because construction materials resources are formed by fortuitous geological events and thus occur in fixed and limited locations.

7.4 Ecologically Sustainable Development

The National Strategy for Ecologically Sustainable Development (1992) defines ESD as "using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased."

The EP&A Act utilises the definition of ESD from Part 3, Clause 6(2) of the Protection of the Environment Administration Act 1991, wherein ESD can be achieved through the implementation of a set of principles and programs. The Proposal has been assessed under these principles in the sections below.

The Proposal is overall considered consistent with the principles of ESD as it is located within proximity of the existing Quarry to support the continued operation of the existing Quarry rather than opening a new quarry site elsewhere. The development has been based soundly on economic and environmental considerations, and the likely environmental impacts of the Proposal have been identified and are predictable and able to be managed



effectively. Furthermore, the Proposal does not unreasonably impact biological diversity or ecology, whilst providing a valuable asset for future generations.

7.4.1 The Precautionary Principle

The precautionary principle states that if there are threats of serious or irreversible environmental damage, the lack of full scientific certainty should not be used as a reason for postponing measures to prevent said damage.

Detailed investigations relating to the environmental, social and economic aspects of the Proposal have been undertaken with the aim to produce an optimal Proposal design and siting. The Proposal assessed in this EIS and the supporting technical assessments provides the current optimised Proposal option, which takes into consideration all physical, environmental, social, heritage, and economic aspects which are required to be addressed.

The Proposal has been designed and sited within proximity of the existing Quarry to maintain the existing local development structure and minimise amenity impacts on the surrounding land holdings. Potential impacts of the Proposal have been identified and appropriate mitigation measures recommended to avoid serious or irreversible harm to the environment. Therefore, the Proposal addresses the precautionary principle, as there will be no serious or irreversible environmental damage.

The technical assessments were prepared by qualified and experienced technical specialists relevant to their field. The potential implications of the Proposal have been understood through the contents of this EIS and its accompanying appendices, and the management strategies, mitigation measures, and proposed monitoring activities required to ensure potential impacts are appropriately minimised has also been documented.

7.4.2 Inter-Generational Equity

Inter-generational equity refers to the principle that the current generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations.

Overall, the Proposal would provide positive economic outcomes through ongoing employment opportunities and support of local and regional construction. The Proposal aims to provide an ongoing supply of materials to support regional growth into the future.

The environmental, social, cultural, and economic impacts of the Proposal are described in this EIS. The Proposal has proposed mitigation measures to manage impacts and is not predicted to result in significant impacts.

7.4.3 Conservation Of Biological Diversity and Maintenance of Ecological Values

The third principle of ESD states that the conservation of biological diversity and ecological integrity should be a fundamental consideration in development applications.

The potential environmental impacts of the Proposal have been detailed throughout this EIS, with mitigation measures detailed.

The Proposal has been the subject of a thorough ecological assessment as detailed in Section 6.1 and as informed by the BOS Evaluation provide at Appendix G.

7.4.4 Improved Valuation, Pricing, And Incentive Mechanisms

The final principle of ESD concerns improved valuation and the pricing of environmental resources which establishes the need to determine economic values for services provided by the natural environment.

The development of policy to guide pricing and incentive mechanisms in delivering ecologically sustainable development is the responsibility of governments and regulatory stakeholders.

7.5 Conclusion

The Proposal has been designed to avoid impacts in the first instance and where impacts remain implement appropriate design and management measures as necessary. A thorough and comprehensive assessment of existing environmental values and potential environmental impacts have been undertaken. Environmental aspects considered by this EIS include the following:

- Noise Impacts
- Air quality
- Surface Water
- Groundwater
- Flood Impact
- Biodiversity

- Aboriginal Cultural Heritage
- Traffic Impact
- Waste Management
- Hazards and Risk
- Visual Impact

These matters were subject to detailed specialist assessments which identified Proposal specific mitigation measures to avoid and minimise potential environmental impacts.

The site provides for an advantageous and economically beneficial use of land in a landscape that has a history of extraction alongside various rural land uses. The Proposal will provide both short-term and long-term benefits to construction and industry by ensuring the ongoing supply of construction materials to support the Cootamundra-Gundagai local government area and broader Riverina Murray region.

Through the implementation of best practice management and design, the potential environmental impacts associated with the Proposal can be appropriately mitigated and managed. Given the net benefit and commitment from Eulonga Quarries to appropriately manage the potential environmental impacts of the Proposal, it is considered it will result in a net benefit to the regional community and is worthy of Council's support.



Appendix A Secretary's **Environmental** Assessment **Requirements and** Response





Appendix B Development Plans and Mapping





Appendix C Traffic Impact Assessment





Appendix D Noise Impact Assessment





Appendix E Air Quality Impact Assessment





Appendix F Surface and Groundwater **Assessment**





Appendix G BOS Evaluation





Appendix H Aboriginal Heritage **Due Diligence** Assessment





Appendix I

Eulonga Quarries Resource Statement





Making Sustainability Happen